User Guide

TouchLink®

TLI Pro 101

TouchLink Pro Interface Control Systems

Extron

68-1817-01 Rev. E
04 20

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**.

Sicherheitsanweisungen • Deutsch

WARNUNG: Dieses Symbol ⚠ auf dem Produkt soll den Benutzer darauf aufmerksam machen, dass im Inneren des Gehäuses dieses Produktes gefährliche Spannungen herrschen, die nicht isoliert sind und die einen elektrischen Schlag verursachen können.

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

Weitere Informationen über die Sicherheitsrichtlinien, Produkthandhabung, EMI/EMF-Kompatibilität, Zugänglichkeit und verwandte Themen finden Sie in den Extron-Richtlinien für Sicherheit und Handhabung (Artikelnummer 68-290-01) auf der Extron-Website, **www.extron.com**.

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 recogidas en la documentación proporcionada con el equipo.

Para obtener información sobre directrices de seguridad, cumplimiento de normativas, compatibilidad electromagnética, accesibilidad y temas relacionados, consulte la Guía de cumplimiento de normativas y seguridad de Extron, referencia 68-290-01, en el sitio Web de Extron, **www.extron.com**.

Instructions de sécurité • Français

AVERTISSEMENT : Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur la présence à l'intérieur du boîtier du produit d'une tension électrique dangereuse susceptible de provoquer un choc électrique.

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 le matériel.

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.

安全说明 • 简体中文

警告: ⚠产品上的这个标志意在警告用户该产品机壳内有暴露的危险 电压，有触电危险。

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。

关于我们产品的安全指南、遵循的规范、EMI/EMF 的兼容性、无障碍使用的特性等相关内容，敬请访问 Extron 网站 , **www.extron.com**，参见 Extron 安全规范指南，产品编号 68-290-01。

安全記事 • 繁體中文

警告:⚠若產品上使用此符號，是為了提醒使用者，產品機殼內存在著可能會導致觸電之風險的未絕緣危險電壓。

注意 ⚠ 若產品上使用此符號，是為了提醒使用者，設備隨附的用戶手冊中有重要的操作和維護（維修）說明。

有關安全性指導方針、法規遵守、EMI/EMF 相容性、存取範圍和相關主題的詳細資訊，請瀏覽 Extron 網站：**www.extron.com**，然後參閱《Extron 安全性與法規遵守手冊》，準則編號 68-290-01。

安全上のご注意 • 日本語

警告: この記号⚠が製品上に表示されている場合は、筐体内に絶縁されていない高電圧が流れ、感電の危険があることを示しています。

注意: この記号 ⚠ が製品上に表示されている場合は、本機の取扱説明書に記載されている重要な操作と保守(整備)の指示についてユーザーの注意を喚起するものです。

安全上のご注意、法規厳守、EMI/EMF適合性、その他の関連項目については、エクストロンのウェブサイト **www.extron.com** より『Extron Safety and Regulatory Compliance Guide』(P/N 68-290-01) をご覧ください。

안전 지침 • 한국어

경고: 이 기호 ⚠ 가 제품에 사용될 경우, 제품의 인클로저 내에 있는 접지되지 않은 위험한 전류로 인해 사용자가 감전될 위험이 있음을 경고합니다.

주의: 이 기호 ⚠ 가 제품에 사용될 경우, 장비와 함께 제공된 책자에 나와 있는 주요 운영 및 유지보수(정비) 지침을 경고합니다.

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.

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.

NOTE: 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.

Battery Notice

This product contains a battery. **Do not open the unit to replace the battery.** If the battery needs replacing, return the entire unit to Extron (for the correct address, see the **Extron Warranty** section on the last page of this guide).

CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

ATTENTION : Risque d'explosion. Ne pas remplacer la pile par le mauvais type de pile. Débarrassez-vous des piles utilisées selon le mode d'emploi.

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Conventions Used in this Guide

In this user guide, the following are used:

Notifications

WARNING: Potential risk of severe injury or death.
AVERTISSEMENT : Risque potentiel de blessure grave ou de mort.

CAUTION: Risk of minor personal injury.
ATTENTION : Risque de blessure mineure.

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

NOTE: A note draws attention to important information.

Software Commands

Commands are written in the fonts shown here:

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

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

```
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, **www.extron.com**.

Extron Glossary of Terms

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

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Introduction

This guide describes the function, installation, and operation of the TLI Pro 101. Unless otherwise stated, the terms “interface” and “TouchLink Pro interface” refer to the TLI Pro 101.

This section provides an overview of the TLI Pro 101:

- **About the TLI Pro 101**
- **Features**
- **Application Diagram**
- **Requirements**

About the TLI Pro 101

The Extron TLI Pro 101 is a TouchLink Interface that works with any Extron IP Link Pro control processor to allow a third-party touchscreen display to be used as a point of control within an Extron Pro Series control system. The scaled output supports displays with resolutions up to 2K.

Events such as button presses on the touchpanel trigger signals to the TLI Pro 101. These signals are converted to a form that can be understood by an IP Link Pro Control Processor. When the control processor sends return signals, the TLI Pro 101 outputs a video signal to the touchpanel showing the status of feedback events. When the third-party touchpanel and TLI Pro 101 have been set up correctly, they have control system capabilities similar to other Extron TLP Pro products.

Features

Compatible with third-party touchscreen displays — integrates third-party touchscreen displays up to 2K or touchpanels with ultra-low radiation emission into Extron systems.

Fast processing and ample memory — allows for quicker configuration uploads and more storage for GUI pages.

Compatible with all IP Link Pro control processors — providing control for a wide range of systems.

Compliant with the requirements of Power over Ethernet (PoE) 802.3af, class 3 — receives power and control over a single Ethernet cable, eliminating the need for a local power supply (the power injector is sold separately).

Supports HDCP-compliant HDMI — for full-motion video preview and monitoring.

Advanced Extron video signal processing — with a high performance scaling engine.

One USB 2.0 port — for third-party touchscreens or HID support. Increases device functionality.

Automatic clock synchronization — for accurate time and date display.

Adjustable sleep timer — puts interface into sleep mode.

Fully customizable using Extron control system software — GUI Designer combined with Global Configurator Plus and Global Configurator Professional.

Supports TouchLink for iPad and TouchLink for Web

Energy-efficient external universal power supply included — provides worldwide compatibility, low power consumption, and reduced operating costs.

Application Diagram

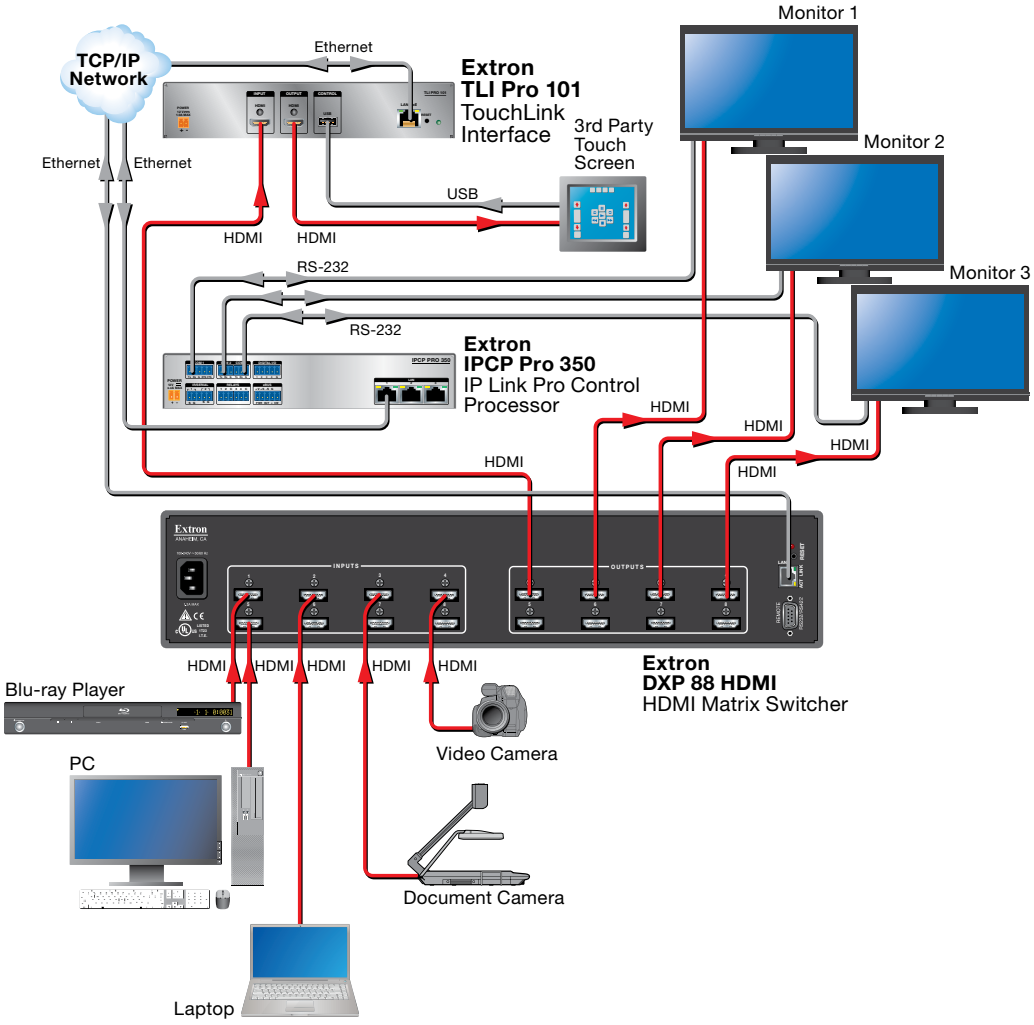


Figure 1. TLI Pro 101 Application Diagram

Requirements

Software

For a complete list of the requirements for running GUI Designer, Global Configurator Plus and Professional, Global Scripter, or Toolbelt, see the Extron Web page for the appropriate software.

NOTE: The TLI Pro 101 is not compatible with Global Configurator 3 or GUI Configurator.

Hardware

An Extron IP Link Pro control processor must be connected to the same network domain as the TLI Pro 101. See **www.extron.com** for a list of suitable controllers.

NOTE: The TLI Pro 101 is not compatible with Extron IP Link (non-Pro) control processors.

Installation Overview

1. Before starting, download and install the latest versions of the following software:
   - ☐ **GUI Designer** — for designing layouts for Extron TouchLink Pro touchpanels and third party touch interfaces.
   - ☐ **Global Configurator Plus and Professional** — for setting up and configuring the control processor and touchpanel.
   - ☐ **Toolbelt** — provides device discovery, device information, firmware updates, and configuration of network settings, system utilities, and user management for TouchLink Pro devices.
   - ☐ **Global Scripter** — Provides an integrated development environment for Extron control systems programming.

   See **Configuration Software** on page 23.
2. Obtain the following network information from your network administrator:
   - ☐ **DHCP setting** (On or Off). If the DHCP setting is Off, you also need:
     - ☐ **TLI Pro 101 IP address**
     - ☐ **Subnet mask**
     - ☐ **Gateway IP address**
   - ☐ **User name** — by default these are either `admin` or `user`.
   - ☐ **Passwords** — the factory configured passwords for all accounts on this device have been set to the device serial number. Passwords can be changed during configuration. They are case sensitive.

     NOTE: If the device is reset to default settings, the passwords are reset to the default password, which is `extron` (for either `admin` or `user`).
   - ☐ **MAC address** — make a note of the TLI Pro 101 MAC address.
3. Mount the units. Stand the TLI Pro 101 on a convenient surface, mount it in a standard rack, or use an under-table mounting kit (see **Mounting** on page 29). To mount the third-party touchpanel follow the instructions provided by the manufacturer.
4. Connect cables to the TLI Pro 101 (see **TLI Pro 101 Rear Panel Features and Connections** on page 5).
   - ☐ Connect the HDMI output from the TLI Pro 101 (**figure 2**, **C** on page 5) to the third-party touchpanel.
   - ☐ Connect the USB port from the TLI Pro 101 (**D**) to the third-party touchpanel.

   NOTE: The USB connection passes information to the TLI Pro 101 about where on the screen the touchpanel was pressed. To use a normal monitor instead of a touchscreen, connect a mouse to the TLI Pro 101 USB connection. Use the mouse to click on screen icons.

5. Connect the power cords and power on all devices (see **Power** on page 6 or **Network and Power over Ethernet (PoE) Connector** on page 10).

ATTENTION:

- Do not power on the interfaces or control processors until you have read the **Attention** on page 7 (12 VDC power supply) or on **page 11** (power injector).
- Ne branchez pas les interfaces ou les contrôleurs avant d'avoir lu les **mises en garde** page 7 (source d'alimentation 12 VCC) ou **page 11** (injecteur PoE).

6. Set up the interface for Network Communication:
   - ☐ Connect the PC that you will use for setup, the control processor, and the TLI Pro 101 to the same Ethernet subnetwork.
   - ☐ Use the **Setup Menu** (see page 13) or Toolbelt (see the *Toolbelt Help File*) to set the DHCP status and, if necessary, the IP address, subnet mask, gateway, and related settings for the interface.
7. Configure the Interface — the *Global Configurator Professional and Global Configurator Plus Help File* and the *GUI Designer Help File* provide step-by-step instructions and detailed information.

   The *Global Configurator Professional and Global Configurator Plus Help File* includes an introduction to the software and sections on how to start a project and configuration.

   Global Scripter provides an Extron-exclusive Python library (ControlScript) and Global Scripter modules to get you started. See the *GlobalScripter Help File* for more information.

Panel Features, Connections, and Setup

This section describes:

- **TLI Pro 101 Rear Panel Features and Connections**
- **TLI Pro 101 Front Panel Features**

TLI Pro 101 Rear Panel Features and Connections

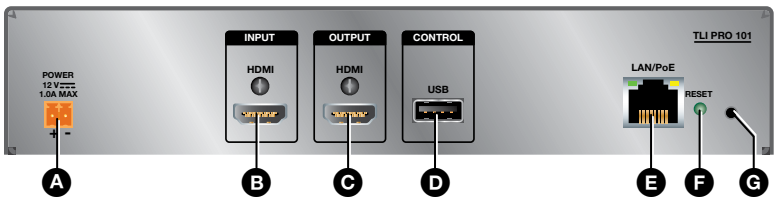


Figure 2. **TLI Pro 101 Rear Panel**

- **A** **Power** (see page 6)
- **B** **HDMI Input** (see page 8)
- **C** **HDMI Output** (see page 8)
- **D** **USB Connector** (see page 9)
- **E** **Network and Power over Ethernet (PoE) Connector** (see page 10)
- **F** **Reset mode LED** (see page 12)
- **G** **Reset button** (see page 12)

Ⓐ **Power** (see **figure 2**, Ⓐ, on page 5)— Connect the 2-pole, 3.5 mm captive screw connector from the provided 12 VDC power supply to the power supply socket on the rear panel. Figure 3 shows how to wire the connector. Ensure the connections have the correct polarity.

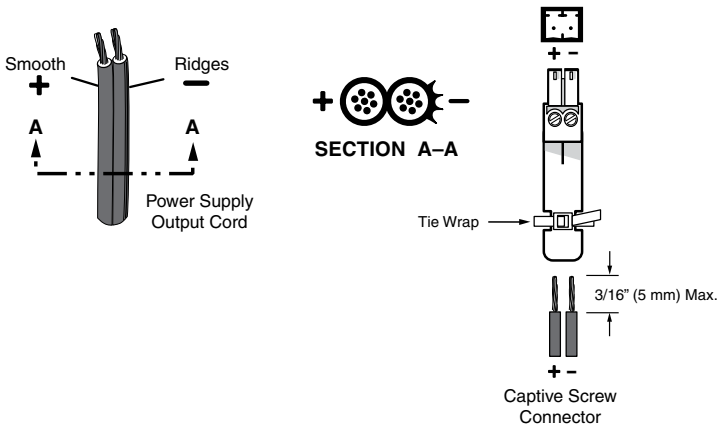


Figure 3. Wiring the Power Connector

WARNING: The two DC output cables must be kept separate from each other while the power supply is plugged in. Remove power before wiring.

AVERTISSEMENT : Les deux câbles de sortie CC doivent être séparés les uns des autres tant que la source d'alimentation est branchée. Coupez l'alimentation avant d'effectuer les raccordements.

CAUTION: **Risk of Explosion** if the battery is replaced by an incorrect type. Dispose of used batteries according to the Instructions.

ATTENTION : **Risque d'explosion.** Ne pas remplacer la pile par le mauvais type de pile. Débarrassez-vous des piles utilisées selon le mode d'emploi.

ATTENTION:

- Do not power on the interfaces or control processors until you have read the **Attention** on page 7 (12 VDC power supply) or on **page 11** (power injector).
- Ne branchez pas les interfaces ou les contrôleurs avant d'avoir lu les **mises en garde** page 7 (source d'alimentation 12 VCC) ou **page 11** (injecteur PoE).

NOTES:

- The TLI Pro 101 ships with a 12 VDC, 1.5 A power supply and is also Power over Ethernet (PoE 802.3af, class 3) compliant. The power injector must be purchased separately.
- If a 12 VDC power supply and a PoE power injector are both connected to the TLI Pro 101, the power injector takes precedence. If a PoE power loss is detected, the interface switches seamlessly to the 12 VDC supply without needing a system reboot.

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 conformité réglementaire et peut endommager la source d'alimentation ainsi que le produit final.

- This product is intended for use with a UL Listed power source marked "Class 2" or "LPS" and rated 12 VDC, minimum 1.0 A. or 48 VDC (PoE), minimum 0.35 A.
- Ce produit est destiné à une utilisation avec une source d'alimentation listée UL avec l'appellation « Classe 2 » ou « LPS » et normée 12 Vcc, 1,0 A minimum ou 48 Vcc (PoE), 0,35 A minimum.

- Extron power supplies are certified to UL/CSA 60950-1 and are classified as LPS (Limited Power Source). Use of a non-LPS or unlisted power supply will void all regulatory compliance certification.
- Les sources d'alimentation Extron sont qualifiées UL/CSA 60950-1 et sont classées LPS (Limited Power Source). L'utilisation d'une source d'alimentation non-listée ou non-listée LPS annulera toute certification de conformité réglementaire.

- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron AV processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium, or desk.
- Sauf mention contraire, les adaptateurs AC/DC ne sont pas appropriés pour une utilisation dans les espaces d'aération ou dans les cavités murales. La source d'alimentation doit être située à proximité de l'équipement de traitement audiovisuel dans un endroit ordinaire, avec un degré 2 de pollution, fixé à un équipement de rack à l'intérieur d'un placard, d'une estrade, ou d'un bureau.

- 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.
- Cette installation doit toujours être en accord avec les mesures qui s'applique au National Electrical Code ANSI/NFPA 70, article 725, et au Canadian Electrical Code, partie 1, section 16.

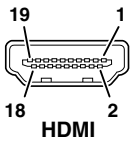
- The power supply shall not be permanently fixed to the building structure or similar structure.
- La source d'alimentation ne devra pas être fixée de façon permanente à une structure de bâtiment ou à une structure similaire.

- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inches (5 mm). If they are longer, the exposed wires may touch, causing a short circuit between them. If they are shorter, the wires can be easily pulled out even if tightly fastened by the captive screws.
- La longueur des câbles exposés est primordiale lorsque l'on entreprend de les dénuder. La longueur idéale est de 5 mm (3/16 inches). S'ils sont un peu plus longs, les câbles exposés pourraient se toucher et provoquer un court circuit. S'ils sont un peu plus courts, ils pourraient sortir, même s'ils sont attachés par les vis captives.

- Do not tin the wire leads before installing into the connector. Tinned wires are not as secure in the connector and could be pulled out.
- Ne pas étamer les conducteurs avant de les insérer dans le connecteur. Les câbles étamés ne sont pas aussi bien fixés dans le connecteur et pourraient être retirés.

B **HDMI Input** (see **figure 2** on page 5) — Plug the cable from the input source device into this female HDMI type A connector. Secure the HDMI connector to the TLI Pro 101 with the provided LockIt HDMI lacing bracket (see "LockIt HDMI Lacing Bracket Installation", below).

The wiring of the connector follows the HDMI single link format. The diagram to the right and the table below show the HDMI pin configuration.



Type A Receptacle

Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS data 2+	7	TMDS data 0+	13	CE control
2	TMDS data 2 shield	8	TMDS data 0 shield	14	Reserved (NC)
3	TMDS data 2-	9	TMDS data 0-	15	SCL
4	TMDS data 1+	10	TMDS clock+	16	SDA
5	TMDS data 1 shield	11	TMDS clock shield	17	DDC/CEC ground
6	TMDS data 1-	12	TMDS clock-	18	+5 V power
				19	Hot plug detect

C **HDMI Output** — Connect this female HDMI type A connector to a third-party touch screen. A full list of supported **Screen Resolutions** for video output is shown on the following page.

LockIt HDMI Lacing Bracket Installation:

Secure the HDMI connector to the TLI Pro 101 with the provided LockIt HDMI lacing bracket by following these instructions:

1. Plug the source HDMI cable into this input port.
2. Loosen the HDMI connection mounting screw from the TLI Pro 101 rear panel enough to allow the LockIt lacing bracket to be placed over it. The screw does not have to be removed.
3. Place the LockIt lacing bracket on the screw and against the HDMI connector, then tighten the screw to secure the bracket.

ATTENTION:

- Do not overtighten the HDMI connection mounting screw. The shield it fastens to is very thin and can easily be stripped.
- Ne serrez pas trop la vis de montage du connecteur 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 as shown.
5. While holding the connector securely against the lacing bracket, tighten the tie wrap, then remove any excess length.

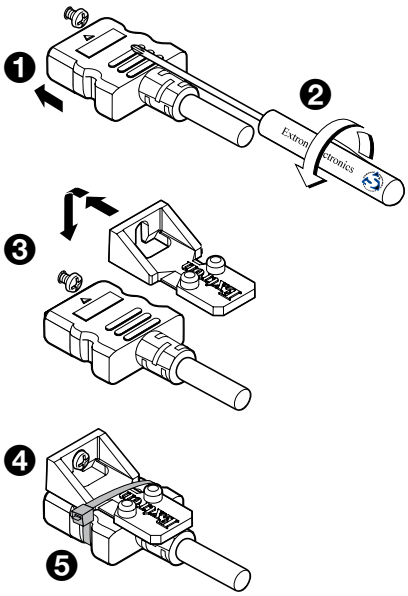


Figure 4. **Securing the HDMI Connector**

Screen Resolutions

Resolution	23.98 Hz	24 Hz	25 Hz	29.97 Hz	30 Hz	50 Hz	59.94 Hz	60 Hz
800x600								X
1024x768								X
1280x768								X
1280x800								X
1280x1024								X
1360x768								X
1366x768								X
1440x900								X
1400x1050								X
1600x900								X
1680x1050								X
1600x1200								X
1920x1200								X
720p			X	X	X	X	X	X
1080p	X	X	X	X	X	X	X	X
2048x1080	X	X	X	X	X	X	X	X
Custom 1	For new resolutions (field support only)							

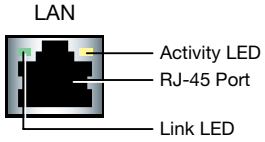
Ⓓ **USB Connector** (see **figure 2** on page 5) — Supports High-speed USB 2.0 control. Plug a USB cable from the third-party touchpanel into this female type B connector.

The USB connection passes information to the TLI Pro 101 about where on the screen the touchpanel was pressed. To use a normal monitor instead of a touchscreen, connect a mouse to the TLI Pro 101 USB connection. Use the mouse to click screen icons.

E **Network and Power over Ethernet Connector** (see **figure 2** on page 5) — Connect the interface to the LAN using a twisted pair cable, terminated with an RJ-45 connector. Use a straight-through Ethernet cable to connect the panel to a switch or router. Use a crossover cable to connect the panel directly to a computer.

An Extron IPL Pro Control Processor must also be connected to the same network domain as the interface. See the **www.extron.com** for a list of suggested models.

The network port has two LEDs. The green LED lights steadily to indicate that the interface is connected correctly to a network. The amber LED blinks to indicate that data is being passed to or from the interface.



Although a 12 VDC, 1.5 A power supply is provided, the TLI Pro 101 is compliant with the requirements of PoE 8.203af, class 3, which means the unit can be powered by Power over Ethernet. To use Power over Ethernet, connect this port to a PoE power injector (not provided).

ATTENTION:

- The TLI Pro 101 can use a 12 VDC desktop power supply and is also Power over Ethernet (PoE 802.3af, class 3) compliant. Do not connect either power supply before reading the **Attention** on page 7 or **page 11**.
- Le TLI Pro 101 peut utiliser une source d'alimentation externe 12 Vcc, et est également compatible avec l'alimentation POE via Ethernet (PoE 802.3af, classe 3). Ne branchez pas de sources d'alimentation externes avant d'avoir lu les **mises en garde** dans la section « Power Supply » sur page 7 ou **page 11**.

Use a straight-through Ethernet cable to connect the power injector to a switch or router. This cable carries network information from the switch or router to the power supply input. A second straight-through cable carries the network information and power from the power supply to the TLI Pro 101. Connect the IEC power cord to a convenient 100 VAC to 240 VAC, 50-60 Hz power source.

The figure below shows the Extron XTP PI 100. Your power injector may look different.

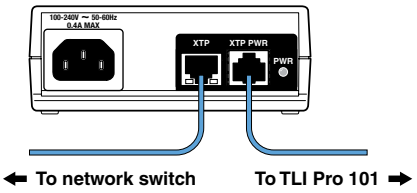


Figure 5. Connecting the Power Injector

CAUTION: **Risk of Explosion** if the battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

ATTENTION : **Risque d'explosion.** Ne pas remplacer la pile par le mauvais type de pile. Débarrassez-vous des piles utilisées selon le mode d'emploi.

ATTENTION:

- The TLI Pro 101 is intended for connection to a Power over Ethernet circuit for intra-building use only and is considered to be part of a Network Environment 0 per IEC TR62101.
- Le TLI Pro 101 est conçu pour une connexion à un circuit PoE pour une utilisation intérieure seulement et est considéré comme faisant partie d'un environnement réseau 0 par IEC TR62101.

- 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 conformité réglementaire et peut endommager la source d'alimentation ainsi que le produit final.

- This product is intended for use with a UL Listed power source marked "Class 2" or "LPS" and rated 12 VDC, minimum 1.0 A. or 48 VDC (PoE), minimum 0.35 A.
- Ce produit est destiné à une utilisation avec une source d'alimentation listée UL avec l'appellation « Classe 2 » ou « LPS » et normée 12 Vcc, 1,0 A minimum ou 48 Vcc (PoE), 0,35 A minimum.

- Extron power supplies are certified to UL/CSA 60950-1 and are classified as LPS (Limited Power Source). Use of a non-LPS or unlisted power supply will void all regulatory compliance certification.
- Les sources d'alimentation Extron sont qualifiées UL/CSA 60950-1 et sont classées LPS (Limited Power Source). L'utilisation d'une source d'alimentation non-listée ou non-listée LPS annulera toute certification de conformité réglementaire.

- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron AV processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium, or desk.
- Sauf mention contraire, les adaptateurs AC/DC ne sont pas appropriés pour une utilisation dans les espaces d'aération ou dans les cavités murales. La source d'alimentation doit être située à proximité de l'équipement de traitement audiovisuel dans un endroit ordinaire, avec un degré 2 de pollution, fixé à un équipement de rack à l'intérieur d'un placard, d'une estrade, ou d'un bureau.

- Power over Ethernet (PoE) is intended for indoor use only. It is to be connected only to networks or circuits that are not routed to the outside plant or building.
- L'alimentation via Ethernet (PoE) est destinée à une utilisation en intérieur uniquement. Elle doit être connectée seulement à des réseaux ou des circuits qui ne sont pas routés au réseau ou au bâtiment extérieur.

- 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.
- Cette installation doit toujours être en accord avec les mesures qui s'applique au National Electrical Code ANSI/NFPA 70, article 725, et au Canadian Electrical Code, partie 1, section 16.

- The power supply shall not be permanently fixed to the building structure or similar structure.
- La source d'alimentation ne devra pas être fixée de façon permanente à une structure de bâtiment ou à une structure similaire.

F **Reset mode LED** (see **figure 2** on page 5) — Provides feedback about the reset status when the reset button is pressed (see **Reset Modes** on page 30).

G **Reset button (recessed)** — Allows the unit to be reset in any of three different modes (see **Reset Modes**).

TLI Pro 101 Front Panel Features

Figure 6. **TLI Pro 101 Plus Front Panel**

A **Power LED** — Lights when the unit is powered on.

B **Menu button (recessed)** — Opens the **Setup Menu** (see the following page) and **Calibration Screen** (see page 22) for the interface:

Setup Menu

1. Press the button briefly (less than 2 seconds) to open the setup menu screens.
2. Press the button briefly for a second time to exit the setup menu.

Calibration Screen

1. Press and hold the button (at least 3 seconds) to open the calibration screen. Follow the on-screen instructions to calibrate the touchpanel.
2. Complete the calibration process or press the button briefly (less than 2 seconds) for a second time to exit the Calibration screen.

C **100 Mb network LED** — Lights when the unit is connected to a 100 Mb network.

D **Network link LED** — Lights when the unit is connected to a network.

E **Network activity LED** — Flashes when there is activity on the network connection.

On-screen Menus

On-screen menus allow initial configuration of the TLI Pro 101.

- **Setup Menu**
- **Calibration Screen**

Setup Menu

To access the setup menus, press the recessed front-panel **Menu** button (see **figure 6**, **B**, on page 12).

The menu opens at the Status screen. There are six different screens (**Status**, **Network**, **Output**, **Audio**, **Input**, and **Advanced**) that can be selected by pressing the appropriate button in the navigation panel at the top of the screen.

There is also a red **Exit** button in the top right corner of the screen. Pressing this button applies and saves any changes and closes the menu screens.

Status

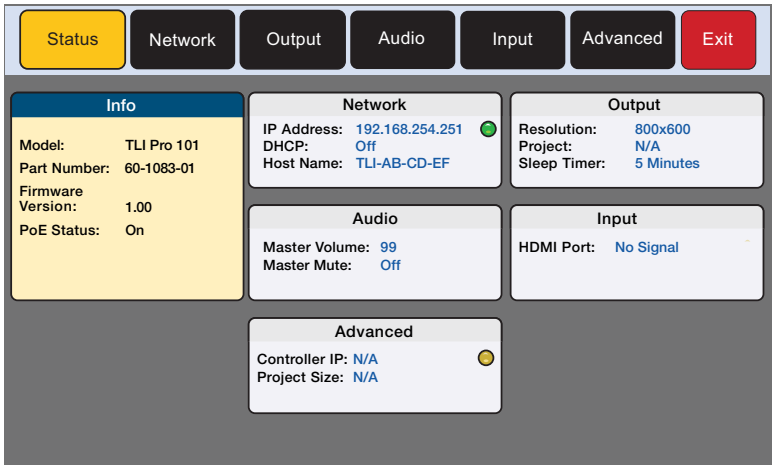


Figure 7. Status Screen

This is a read-only screen. The `Info` panel provides basic information about the TLI Pro 101. Each of the other five panels shows a summary of the information on the other screens. Pressing any of the panels opens the corresponding screen in exactly the same way as pressing the buttons in the top navigation panel.

The bubble in the `Network` panel lights green when there is a network connection or amber if there is no connection. The bubble in the `Advanced` panel lights green when a control processor is connected or amber if none is connected.

Network

Press the **Network** button in the navigation panel at the top of the screen to open the Network screen.

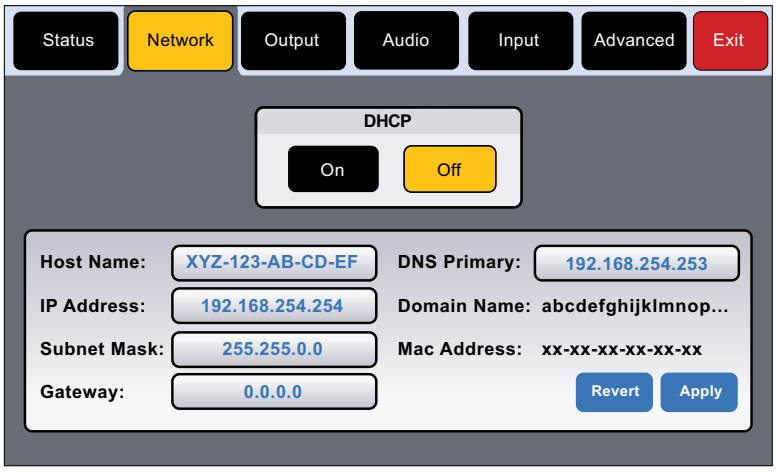


Figure 8. Network Screen

1. If IP addresses are assigned by DHCP, press **On**. If the IP address is to be assigned manually, press **Off**.
   - When DHCP is off, the Host Name is grayed out and cannot be edited. All addresses can be edited.
   - When DHCP is on, the Host Name can be edited. The addresses are grayed out and cannot be edited because they are set by the DHCP server.
2. If DHCP is on, press the **Host Name** button to edit the host name. The Host Name dialog box opens:

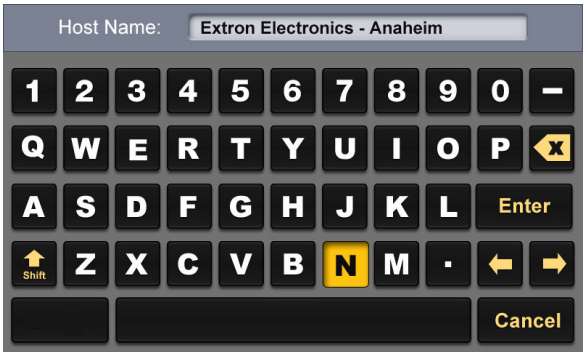


Figure 9. Host Name Dialog Box

Use the keypad to enter a new name, which appears in the Host Name text box.

3. If DHCP is disabled, set the unit IP address, subnet mask, gateway address, and DNS server address.

   a. Press the button for the address to be edited. A dialog box opens, showing the address and a numerical keypad.

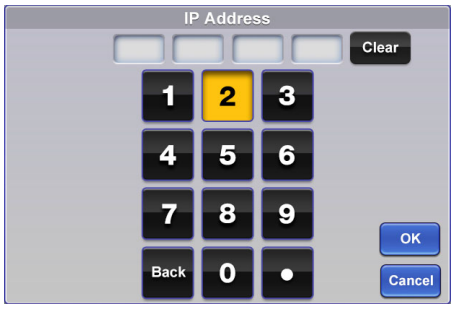


Figure 10. Numeric Pad for Setting IP Addresses

   b. Enter the 3-digit value for that octet (leading zeroes in an octet are ignored).

NOTES:

- Octets can have any value between **0** and **255**.
- If you attempt to enter an invalid number, for example **892**, you are able to enter the **89** but the **2** cannot be entered.
- When a valid 3-digit value is entered, the next octet is automatically selected.

   c. Press **OK** to save the changes and return to the **Network** screen or press **Cancel** to return to the Network screen without saving the changes.

4. If you have changed any of the values in the **Network** screen, the background color of the button changes to blue. Press **Apply** to apply the new values or press **Revert** to return to the previous values without saving the changes. The button returns to gray.

   If you have not made any changes, the **Apply** and **Revert** buttons are grayed out.

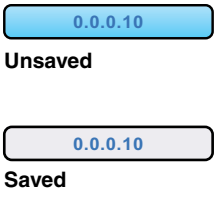


Figure 11. IP Address, unsaved (top) and saved (bottom).

Output

Press the **Display** button in the navigation panel at the top of the screen to open the Display screen.

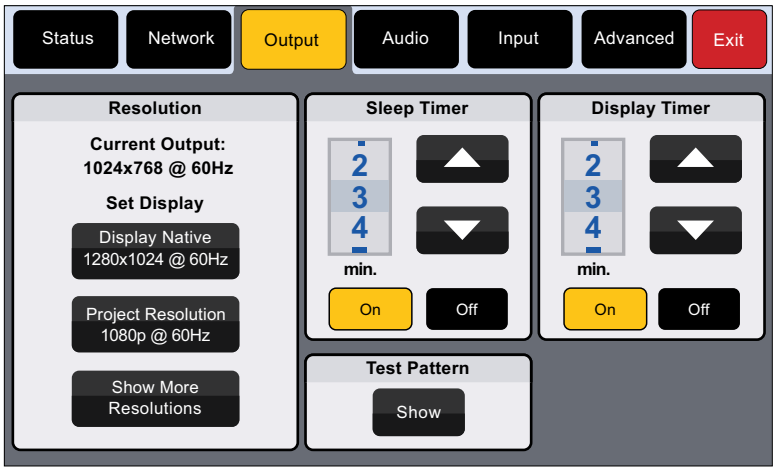


Figure 12. Output Screen

Resolution

The Resolution panel shows the current resolution of the TLI Pro 101 output signal and offers three main options for setting the resolution of the TouchPanel display.

- Click **Display Native** to set the resolution of the TLI Pro 101 output to the native resolution of the display device.
- Click **Project Resolution** to use an imported GUI Designer project to set the resolution of the TLI Pro 101 output.
- Click **Show More Resolutions** for more options:

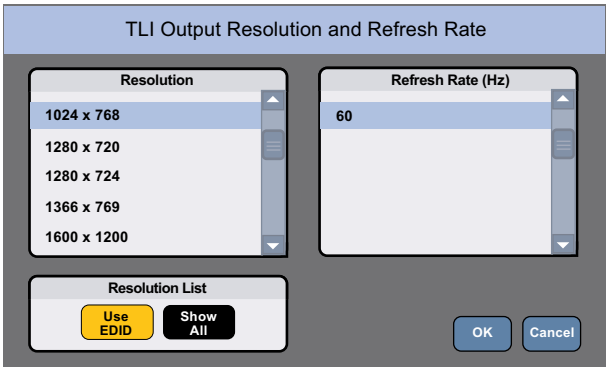


Figure 13. TLI Pro 101 Output Resolution and Refresh Rate

When the panel opens, by default, **Use EDID** is selected. The resolutions for which EDID files are available are listed on the left. When a resolution is selected, the list of refresh rates available for that resolution can be seen on the right.

Click **Show All** to display all the resolutions and refresh rates supported by the interface (for a complete list, see **Screen Resolutions** on page 9).

Sleep timer

The **Sleep Timer** can be toggled between **On** and **Off**.

- If the sleep timer is **On**, after a period of inactivity, the screen goes dark to save power (Sleep mode). Use the up and down arrows to set how long the period of inactivity should be. The value can be between 1 and 120 minutes.
- If the sleep timer is **Off**, the panel does not enter sleep mode.

Display timer

The **Display Timer** can be toggled between **On** and **Off**. If it is **On**, it determines how long the panel is inactive before the output sync is disconnected.

- To deactivate the display timer, click **Off**. The controls for the Display Timer are grayed out.
- To set the display timer, ensure the function is activated by clicking **On**. Adjust the time. The value can be between 1 and 120 minutes.

NOTES:

- When the sleep timer is used to deactivate the screen, the screen goes dark, which provides partial energy savings. The screen reactivates quickly when it is touched.
- When the display timer is used to deactivate the screen, the output sync is disconnected and the screen switches off. This provides better energy savings but the screen takes longer to reactivate when it is touched.

Test patterns

The TLI Pro 101 provides eight test patterns, which can be used to calibrate the third-party touchpanel display. Click the **Show** button to open the test pattern menu.

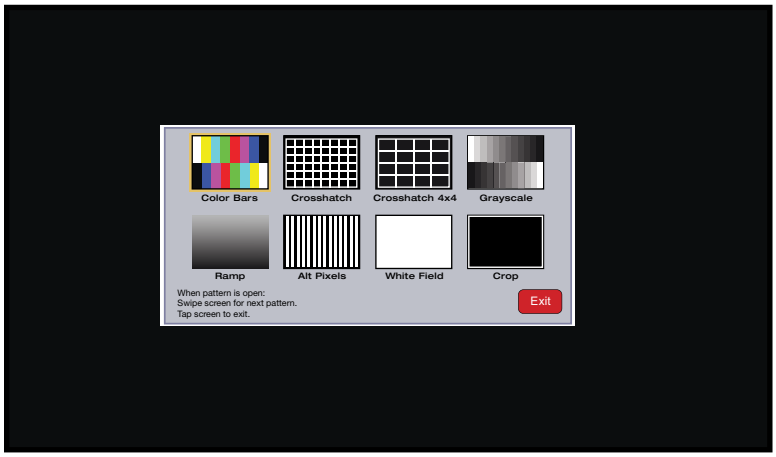


Figure 14. Test Pattern Menu

1. Select the test pattern you need by pressing the icon.
2. Swipe the screen from left to right to show the previous test pattern or swipe the screen from right to left to show the next test pattern.
3. Touch any part of the screen to show the menu box.
4. Click **Exit** to close the Test Patterns dialog and return to the Output window.

Audio

Press **Audio** in the navigation panel to open the Audio screen.

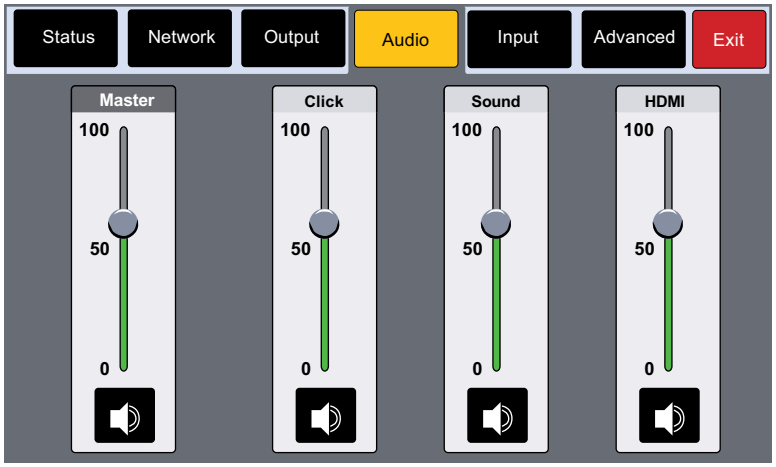


Figure 15. Audio Screen

Use the slider control to adjust the Master, Click, Sound, and HDMI In settings. The slider adjusts the volume setting from 0 to 100% in 1% increments. By default all sliders are set to 80%.

- **Master** volume sets the maximum volume for all the other sound volume settings. For example, if the master volume is set to 80% (80 percent of maximum), and the the Sound volume is set to 75%, the overall Sound volume is 60% of maximum (75% of 80%).
- **Click** sets the level for audible feedback that accompanies events such as a screen button being pressed.
- **Sound** sets the audio level from any audio file playback.
- **HDMI** sets the HDMI audio input level.

Underneath each slider control is the mute button, which toggles the volume between audio mute and the value set by the corresponding slider. When the Master volume is muted, all other settings (Click, Sound, and HDMI) are also muted.

Input

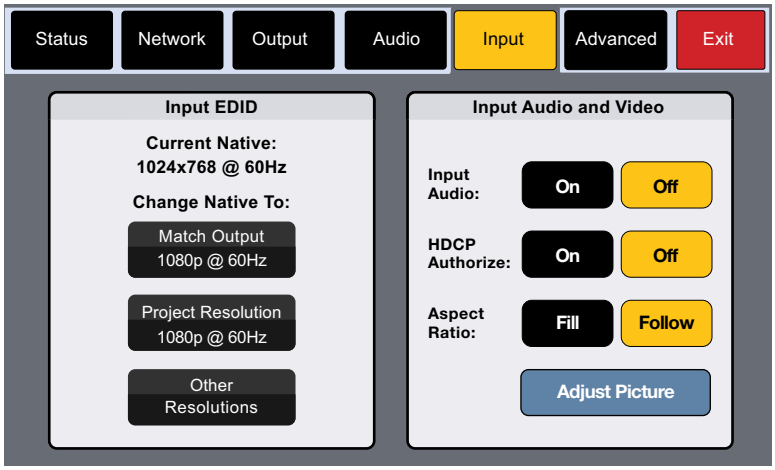


Figure 16. Input Screen

Input EDID

The EDID file is stored by the interface and passed to the video source to ensure that the signal generated by the source is compatible with the display. It determines the resolution and refresh rate of the signal produced by the video source.

Press one of the three **Input EDID** buttons to determine which EDID will be stored by the interface and passed to the video source:

Match Output (default setting) — The EDID matches the native resolution and refresh rate of the display connected to the HDMI output.

Project Resolution — The EDID is the one set in the GUI Designer project and can be altered only by changing the GUI Designer project file.

Show More Resolutions — Opens a dialog (see figure 15, below) that allows you to select the resolution and refresh rate for the EDID that will be used.

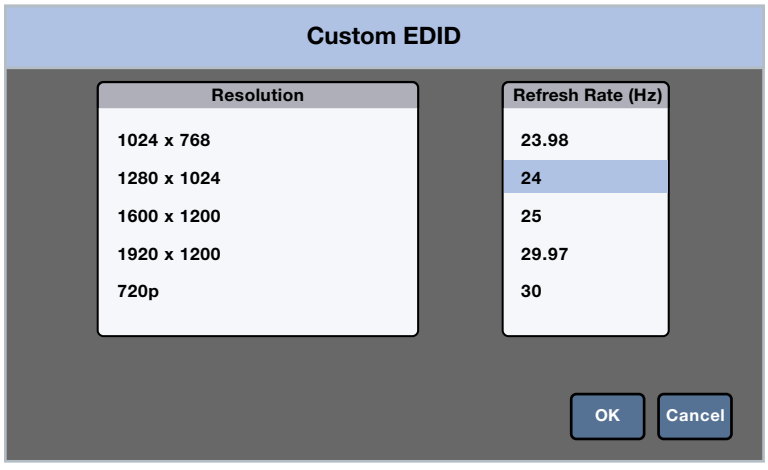
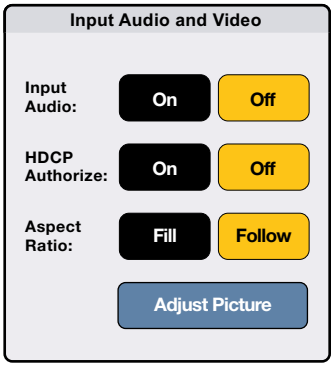


Figure 17. Custom EDID Dialog

1. Select the resolution and refresh rate from the lists.
2. Click **OK** to save this EDID or click **Cancel** to close the dialog without changing the EDID.

Input Audio and Video



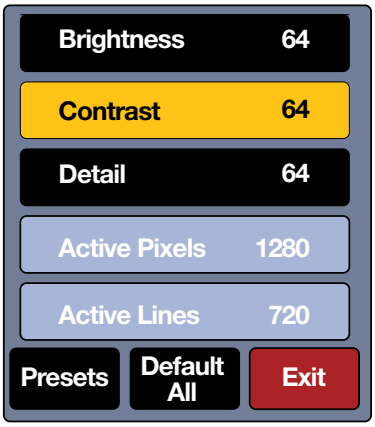
The two pairs of buttons on the right of the screen allow three settings to be toggled On and Off.

`Input Audio` — Enables 2CH PCM support on input EDID. Input Audio is On by default.

`HDCP Authorize` — When this setting is enabled, HDCP-encrypted input signals pass to the output display. HDCP Authorize is On by default.

`Aspect Ratio` — Press **`Fill`** to stretch the image so that it fills the entire screen. Press **`Follow`** for the image to maintain the aspect ratio of the input signal.

`Adjust Picture` — Press **`Adjust Picture`** to open a dialog to adjust the input video picture. Press **`Brightness`**, **`Contrast`**, or **`Detail`** to adjust those values. `Active Pixels` and `Active Lines` are read-only and cannot be edited.



`Brightness` — `0` to `127` (default `64`)

`Contrast` — `0` to `127` (default `64`)

`Detail` — `0` to `127` (default `64`)

`Active Pixels` (status only)

`Active Lines` (status only)

`Presets` — Allows the current values to be saved as a preset and opens the `Presets` dialog (see figure 16, below).

`Default all` — Returns the picture values to their default settings.

`Exit` — Closes the dialog.

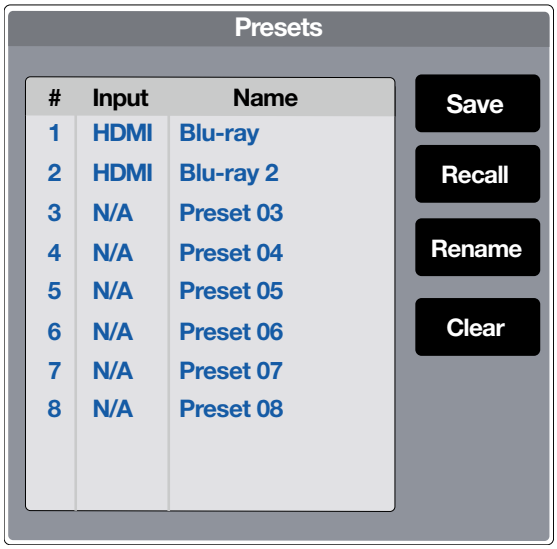


Figure 18. Presets Dialog

`Save` — Highlight one of the presets and press **`Save`** to save the current Brightness, Contrast, and Detail settings to that preset.

`Recall` — Highlight one of the presets and press **`Recall`** to replace the current settings for Brightness, Contrast and Detail with those saved by that preset.

`Rename` — Highlight one of the presets and press **`Rename`** to assign a new name to the preset.

`Clear` — Highlight one of the presets and press **`Clear`** to clear the values stored by that preset.

Advanced

The Advanced window provides additional information about the interface and the GUI Designer project that is uploaded to it.

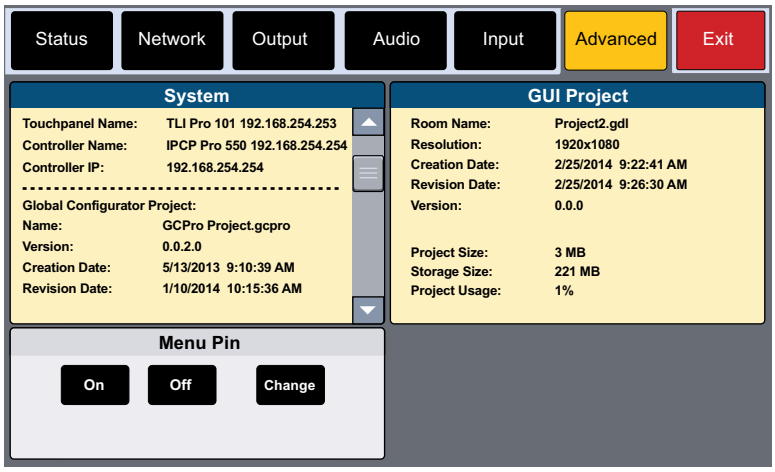


Figure 19. Advanced Screen

System and GUI Project Panels

These panels are read only, providing information about the system, the Global Configurator Project, and the GUI Designer Project.

Menu PIN

To prevent unauthorized access to the setup menu, users can set a PIN, which is a 4-digit number. Each digit can have any value from 0-9. The PIN setup options allow you to enable, disable, or change the setup menu PIN.

By default, PIN use is disabled.

1. Enter a four-digit PIN.

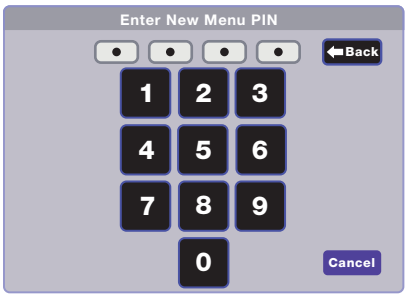


Figure 20. Numeric Keypad for Setting PIN

   The title bar changes to Confirm New Menu Pin.

2. Enter the PIN a second time. When the PIN entered on the second occasion matches the PIN entered on the first occasion, the PIN is set and the dialog closes.

Calibration Screen

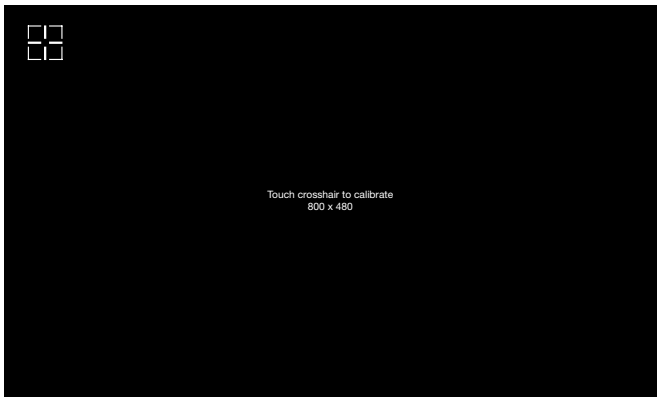


Figure 21. Touch Calibration Screen

1. Press and hold down the recessed front-panel **Menu** button (see **figure 6**, B, on page 12) for at least 3 seconds.
2. Release the button. The calibration screen opens to show cross-hairs (see figure 21, above).
3. Press the cross-hairs on the screen until they move to another area of the screen.
4. Repeat step 3 until you have pressed all five sets of cross-hairs (one in each corner and one in the center of the screen).

   The touchpanel exits the calibration screen once the calibration process is completed.

Configuration Software

This section of the user guide provides information about:

- **Configuration Software**
- **TLI Pro 101 Web Page**
- **Updating the Firmware**

Configuration Software

Toolbelt, GUI Designer, Global Configurator Plus and Professional, and Global Scripter can be downloaded from **www.extron.com**.

NOTES:

- You will need an Extron Insider account to run Global Scripter or Global Configurator Plus and Professional. To obtain one, contact the Extron Sales Department.
- The TLI Pro 101 is not compatible with earler Extron software (GUI Configurator or Globlal Configurator 3). Ensure you are downloading GUI Designer and Global Configurator Plus and Professional.

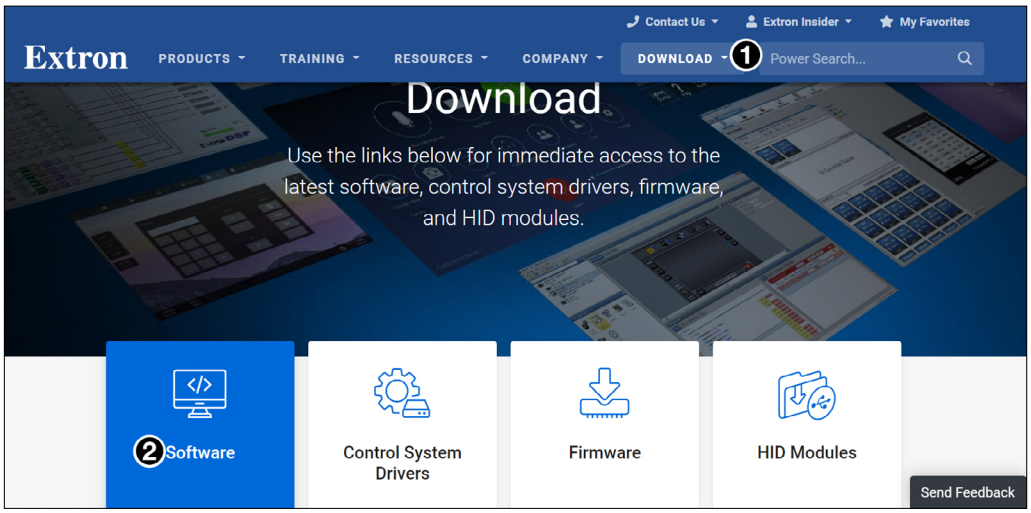


Figure 22. Software Downloads from the Extron Website

1. Open **www.extron.com** and select the **`Download`** tab (❶).
2. Click **`Software`** (❷)

   The Download Center Software page opens:

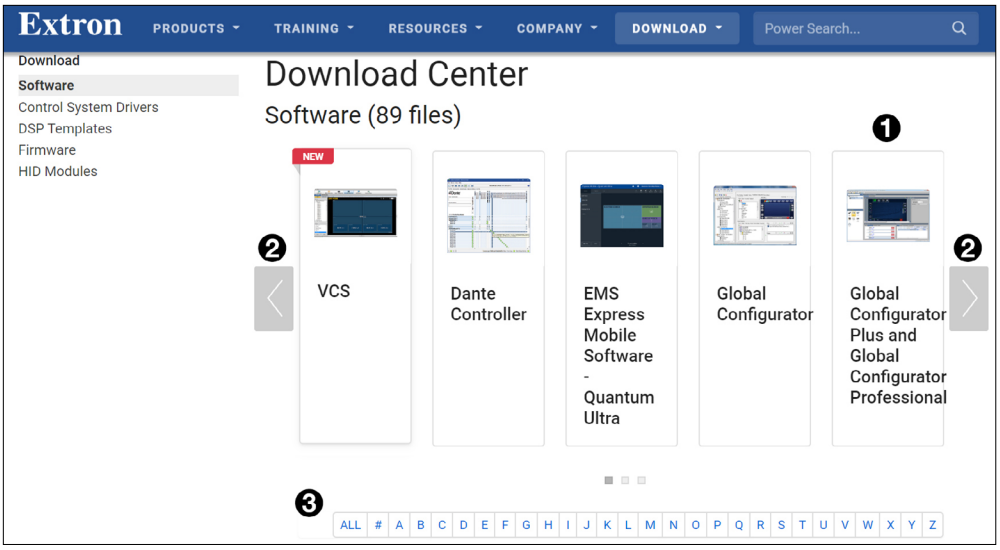


Figure 23. Selecting Software to Download

3. The software may be shown in the panels at the top of the page. Figure 23 (❶) shows Global Configurator Plus and Professional.

   You may need to use the left (**<**) or right (**>**) arrows (❷) to find the software. If the software is still not shown, click on the initial letter of the program in the alphabet menu (❸).

Downloading software from the product page

Clicking on the panels at the top of the page takes you to the software product page on the Extron website. Figure 24 shows the GCP product page.

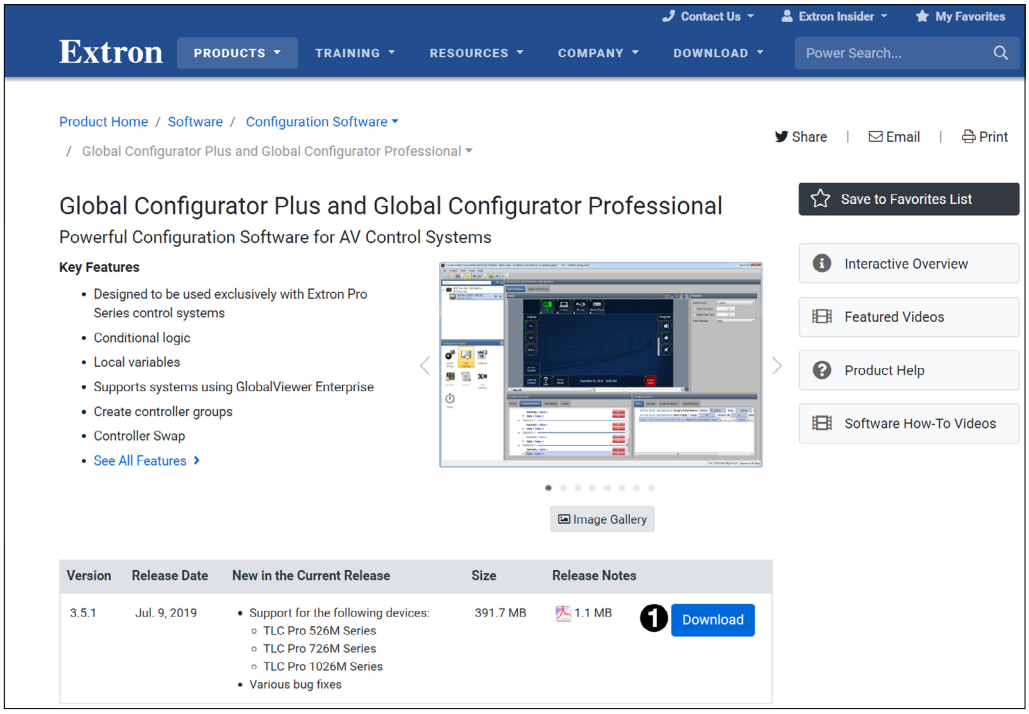


Figure 24. GCP Product Page

To download and install the product, click **`Download`** (❶) and follow the onscreen instructions.

The software is downloaded and installed on your PC. By default, the software is saved in a newly created folder: `C:\Program Files (x86)\Extron\<Software Name>`.

Downloading software from the alphabet menu

Clicking on the initial letter of the software product (see **figure 23**, ❸, on the previous page) generates a list of software products with that initial letter.

1. Scroll down to the product you wish to download. Figure 25 shows the panel for Toolbelt.

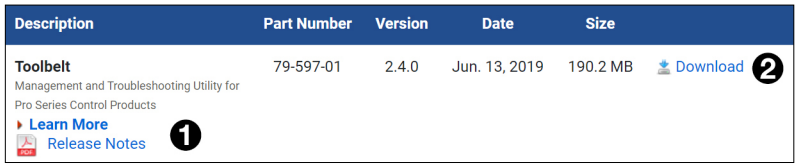


Figure 25. Downloading from the Alphabet Menu

2. Click **`Learn More`** (❶) to go to the software product page.
3. Click **`Release Notes`** (❶) to find out what has been updated in the software since the previous release.
4. To download and install the product, click **`Download`** (❷) and follow the onscreen instructions. By default, the software is saved in a newly created folder: `C:\\Program Files (x86)\Extron\<Software Name>`.

Using the Software

NOTE: You need an Extron Insider account to run Global Configurator. To obtain one, contact the **Extron Sales Department**.

Use the appropriate software help file for step-by-step instructions and more detailed information. The *Global Configurator Help File* also includes an introduction to the software and sections on how to start and configure a project.

Toolbelt

Use Toolbelt to provide device information, firmware updates, certificate management, and configuration of network settings, system utilities (reset, reboot), and user management (username and password) for TouchLink Pro devices.

GUI Designer

Design the layout of the screen text and graphics using GUI Designer, which is a Windows®-based application. You can either customize one of several existing templates or create an entirely new interface.

After the user interface has been designed, the project is saved, built, and imported into Global Configurator Plus and Professional or Global Scripter.

Global Configurator Plus and Professional

Use Global Configurator Plus and Professional to assign functions to the screen text and graphics.

After assigning the control functions, the project is rebuilt and uploaded to the control processor and touchpanel.

Global Scripter

You can use Global Scripter as an alternative to GCP. Global Scripter provides an integrated development environment for Extron control systems programming, including an Extron-exclusive Python library (ControlScript) and Global Scripter modules to get you started. See the *GlobalScripter Help File* for more information.

TLI Pro 101 Web Page

To access the TLI Pro 101 default web page, enter the IP address of the unit into the web browser of a PC connected to the same subnet.

A dialog opens asking for your user name and password.

NOTES:

- The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords can be changed during configuration. They are case sensitive.
- If the device is reset to default settings, the passwords are reset to the default password, which is **extron** (for either **admin** or **user**).

The single page provides general and network information about the unit. It also allows you to upgrade the unit firmware.

Use the **Setup Menu** (see page 13) or Toolbelt to configure the network settings of the TLI Pro 101.

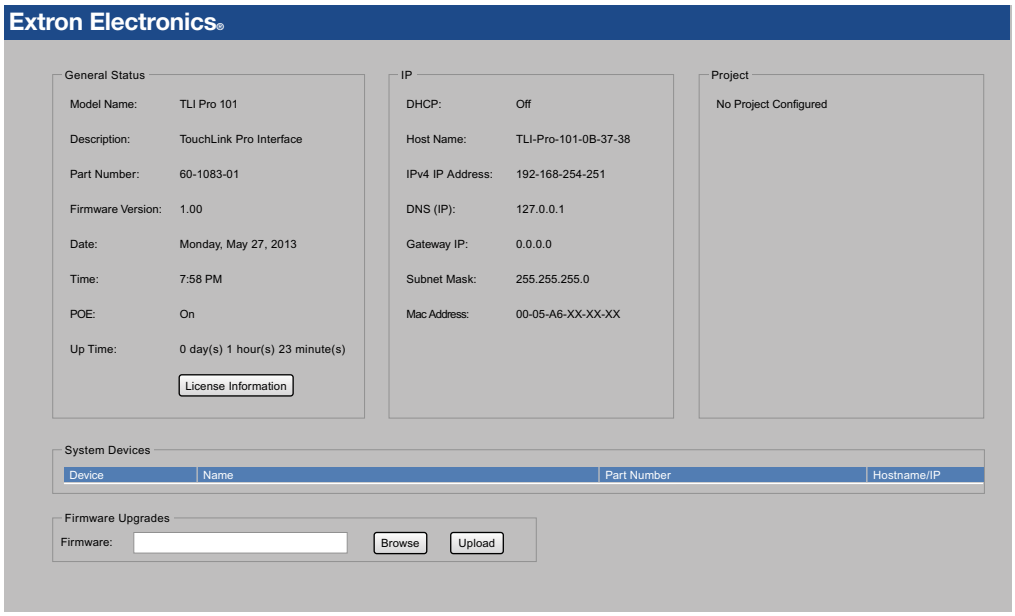


Figure 26. TLI Pro 101 Web Page

Updating the Firmware

Firmware for the TLI Pro 101 can be upgraded using Toolbelt or the TLI Pro 101 web page. Before starting, consult your IT team and ensure that the interface has a unique IP address.

To update firmware, first download and run the file from the Extron website. Then use Toolbelt or the TLI Pro 101 web page to upload the file to the touchpanel.

Downloading Firmware Using Extron Firmware Loader

1. The firmware must be downloaded to a PC on the same sub-network as the TLI Pro 101.

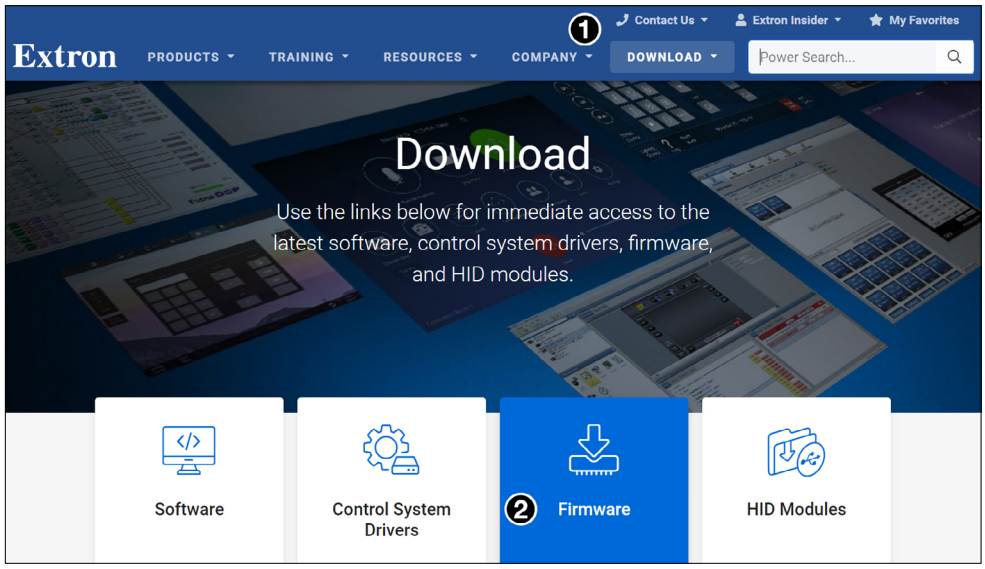


Figure 27. Firmware Download Center

2. Go to **www.extron.com** and click **`Download`** (❶).
3. Click **`Firmware`** (❷).

   The `Download Firmware` page opens:

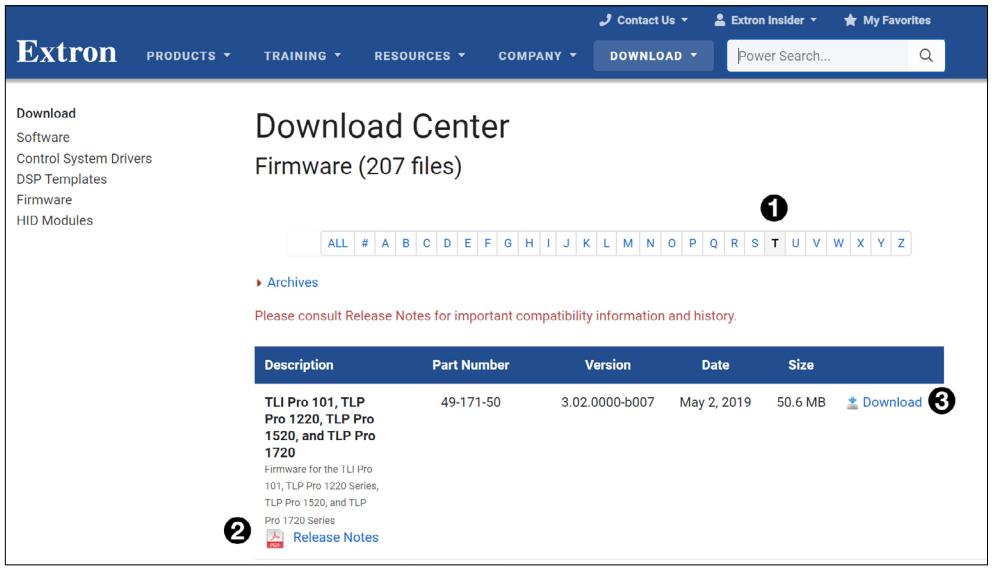


Figure 28. Selecting Firmware to Download.

4. Click the letter **T** from the list of letters (❶).

5. Scroll down the page until you find the firmware for the TLI Pro 101.

   NOTE: Your product will appear in this list only if a new version of the firmware has been released since the product was first introduced.

6. (Optional) Click **Release Notes** for more information about the firmware (see **figure 28**, ❷, on the previous page).
7. Click **Download** (❸).
8. Follow the on-screen instructions to download the program. An executable file is downloaded to the PC.
9. Go to the **Downloads** folder and click on the file to install the firmware on the PC. By default, it is stored at `C:\Program Files (x86)\Extron\Firmware\<product name>\<firmware version>`.
10. Use Toolbelt or the Touchpanel web page to upload this file to the touchpanel (see the Toolbelt Help File or the following section).

Updating Firmware Using the Touchpanel Web Page

1. If you have not already done so, download the firmware file to a computer on the same network as the touchpanel (see the previous section).
2. Open the **TLI Pro 101 Web Page** (see page 26).

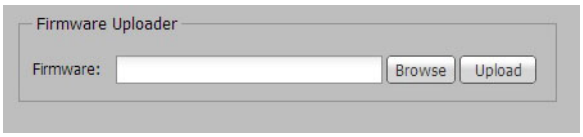


Figure 29. Touchpanel Web Page: Firmware Uploader

3. Click **Browse** and navigate to the firmware location.
4. Click on the file to highlight it.
5. Click **Upload**. The firmware file is uploaded to the touchpanel. Follow the on-screen instructions.

Mounting

This section outlines the various options for mounting the TLI Pro 101.

- **Tabletop Placement**
- **Rack Mounting**
- **Under-desk Mounting**

Tabletop Placement

Attach the four provided rubber feet to the bottom of the unit and place it in any convenient location.

Rack Mounting

Underwriters Laboratories Guidelines for Rack Mounting

The following Underwriters Laboratories (UL) guidelines are relevant to the safe installation of these products in a rack:

Elevated operating ambient temperature — If the unit is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the equipment in an environment compatible with the maximum ambient temperature (Tma: +122 °F, +45 °C) specified by Extron.

Reduced air flow — Install the equipment in the rack so that the equipment gets adequate air flow for safe operation.

Mechanical loading — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.

Circuit overloading — Connect the equipment to the supply circuit and consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Give appropriate consideration to the 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).

Rack Mounting the TLI Pro 101

The TLI Pro 101 can be mounted on any Extron standard rack system (not provided). See **www.extron.com** for a list of appropriate kits and follow the instructions included with the kit.

Under-desk Mounting

Mount the unit under a desk or podium, using an Extron under-desk mounting kit (not provided). See **www.extron.com** for a list of appropriate kits and follow the instructions included with the kit.

Reference Material

This section describes:

- **Network Port Requirements and Licensed Third-party Software Used by the Touchpanels**
- **Reset Modes**
- **Secure Sockets Layer (SSL) Certificates**
- **IEEE 802.1X Certificates**

Network Port Requirements and Licensed Third-party Software Used by the Touchpanels

For information about network port requirements and licensed third-party software for all the touchpanels described in this guide, please refer to the *Pro Series Control Product Network Ports and Licenses Guide*, which is available at **www.extron.com**.

Reset Modes

The TLI Pro 101 has three reset modes that are initiated by pressing the Reset button:

- **Use Factory Firmware**
- **Reset All IP Settings**
- **Reset to Factory Defaults**
- **Enable or Disable the DHCP Client**

The **Reset** button is found on the rear panel (see **figure 2**, G on page 5).

Use Factory Firmware

This mode is used to boot up the unit with factory-installed firmware for a single power cycle if a firmware update fails or incompatibility issues arise with user-loaded firmware.

Activation

To start the Use Factory Firmware reset mode and replace firmware:

1. Remove power from the touchpanel.
2. On the touchpanel, hold down the recessed **Reset** button (see **figure 2**, G) while applying power to the unit. When power is restored, the Reset LED (F) lights. Hold the **Reset** button for a further two seconds before releasing it. The touchpanel enters factory firmware mode.
3. Upload new firmware to the unit as desired (see **Updating the Firmware** on page 27).

NOTE: Do not continue to operate the touchpanel using the factory firmware version. If you want to use the factory default firmware, you must upload that version again (see **Updating the Firmware**).

Result

The unit reverts to factory-installed firmware. Event scripting does not start if the unit is powered on in this mode. All user files and settings such as drivers, adjustments, and IP settings are maintained.

NOTE: To return the unit to the firmware version that was running prior to the reset, cycle power to the unit.

Reset All IP Settings

This mode resets all IP settings to factory defaults.

Activation

To reset all IP settings:

1. Hold down the **Reset** button (see **figure 2**, G on page 5) for about 6 seconds until the Reset LED (F) blinks twice (once at 3 seconds, again at 6 seconds).
2. Release and press the **Reset** button momentarily (for <1 second) within 1 second. Nothing happens if the momentary press does not occur within 1 second.

Result

- Resets All IP Settings mode:
- Sets the IP address back to factory default (`192.168.254.251`)
- Sets the subnet mask back to factory default (`255.255.255.0`)
- Sets the gateway address to the factory default (`0.0.0.0`)
- Sets all other IP settings, addresses, and domain and host names back to factory default
- Turns DHCP off

Reset to Factory Defaults

This mode resets all IP settings and touchpanel settings, including passwords, to factory defaults and removes all configurations. It allows you to start over with configuration and uploading.

NOTES:

- The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords can be changed during configuration. They are case sensitive.
- If the device is reset to default settings, the passwords are reset to the default password, which is `extron` (for either `admin` or `user`).

Activation

To reset the unit to all factory default settings:

1. Hold down the **Reset** button for about 9 seconds until the Reset LED blinks three times (once at 3 seconds, again at 6 seconds, again at 9 seconds).
2. Release and press the **Reset** button momentarily (for <1 second) within 1 second. Nothing happens if the momentary press does not occur within 1 second.

Result

Reset to Factory Defaults mode performs a complete reset to factory defaults (except the firmware).

- Does everything Reset All IP Settings mode does.
- Removes touchpanel user interface layout and configurations.
- Resets all touchpanel settings to factory default.

Enable or Disable the DHCP Client

This mode toggles between DHCP enabled and DHCP disabled. This can also be carried out from the Network screen of the **Setup Menu** (see page 13) and from the device **Network** tab in Toolbelt (see the *Toolbelt Help File*).

Activation

To enable or disable the DHCP client for the LAN port:

1. Press the **Reset** button five times, consecutively (see **figure 2**, G on page 5).
2. Release the button. Do not press the button within 3 seconds, following the fifth press.

Result

- If DHCP was enabled, it is now disabled. The Reset LED (F) blinks three times.
- If DHCP was disabled, it is now enabled. The Reset LED blinks six times.

NOTES:
- By default DHCP is off and the unit uses a static IP address.
- When you disable DHCP, the unit reverts to using the previously-set static IP address.

Secure Sockets Layer (SSL) Certificates

Extron TouchLink Pro products ship with factory-installed SSL certificates created by Extron. If you want or are required to use a different SSL certificate at your installation site, then you can use system utilities in the Toolbelt software to change the SSL certificate at any time. The *Toolbelt Help File* provides instructions on how to apply an SSL certificate.

NOTES:
- You must run Toolbelt as an administrator.
- Some certificates require a passphrase that is created when the certificate is created. If a passphrase is required, you must enter that passphrase before uploading and applying the certificate.

These devices support standard OpenSSL certificate encodings such as .pem (Privacy-enhanced Electronic Mail) and .der (Distinguished Encoding Rules) file types. PEM file types are ASCII encoded and are the required format for uploading to the Extron control product. DER file types are binary encoded and can typically have several file extension variations, such as .crt and .cer. There are many standard tools that can convert from DER to PEM file encodings if needed.

NOTE: A DER format file must be converted to PEM encoding before uploading it to the button panel, control processor, or collaboration receiver.

To properly create the certificate for uploading to Extron control devices, ensure that the certificate file meets the following requirements:

- contains X.509 certificate information
- contains public and private keys
- uses PEM encoding

NOTE: ITU-T standard X.509 covers aspects of public key encryption, digital cryptography, certificates, and validation.

Contact your IT administrator for more information on what tools and policies are required to obtain or create the SSL certificate and, if necessary, the corresponding passphrase.

IEEE 802.1X Certificates

IEEE 802.1X is a standard that enables port-based network access control via an authentication server. The protocol requires that all devices must be authenticated before gaining privileges to access the secure part of the network.

The Extron implementation of 802.1X supports PEAP - MSCHAPV2 and EAP - TLS methods of authentication. This section of the guide details the Certificate File Requirements and the Private Key File Requirements to be used in the system.

Extron provides resources for learning about 802.1X implementation:

The *Extron 802.1X Technology Reference Guide*, available from **www.extron.com**, is the primary resource for background information, system planning, topology, and how to set up these systems.

The *Toolbelt Help File* provides detailed step-by-step information on using the software to set up 802.1X for IP Link Pro control systems and on troubleshooting.

The *802.1X Primer white paper*, also available from **www.extron.com**, provides a general overview of the protocol and its use within a control system.

NOTES:

- You must run Toolbelt as an administrator.
- Machine certificates require a private key file, which can be encrypted.

Certificate File Requirements

PEM (Privacy-enhanced Electronic Mail) file types are ASCII encoded, and they are the required format for 802.1X authentication for the TouchLink Pro control systems. DER (Distinguished Encoding Rules) file types are binary encoded and can typically have several file extension variations, such as .crt and .cer.

NOTE: DER encoded files (files with .der, .crt, or .cer extensions that are encoded in DER binary format) must be converted to a PEM encoded file type (.pem) before being used for authentication.

DER encoded certificates must be converted to PEM encoding using a third-party tool. Contact your IT administrator for more information on required tools.

To create the 802.1X security certificate for uploading to Extron TouchLink Pro control systems, ensure that the certificate file meets the following requirements:

- It contains X.509 certificate information.
- It contains a private key (for machine certificates only).
- It is PEM encoded.
- It has a file extension that is .crt or .pem
- Its file name consists of the following types of valid characters:
  - Alphanumerical (A-Z, a-z, 0-9) characters
  - Some special characters (colon [:], underscore [_], and hyphen [-])

NOTE: Spaces are not permitted anywhere in the name.

Private Key File Requirements

Private key files are required only when employing machine certificates. Follow these requirements for creating a private key:

- Its file name consists of the following types of valid characters:
  - Alphanumerical (A-Z, a-z, 0-9) characters
  - Some special characters (colon [:], underscore [_], and hyphen [-])
- It has a file extension that is .key or .pem.
- It can have optional encryption (via password or passphrase).

Extron Warranty

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

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

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

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

Europe:
Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

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

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

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

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

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

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

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

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

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