Fiber Optic Extender

FOX T UWP 302

Two Input Fiber Optic Transmitter
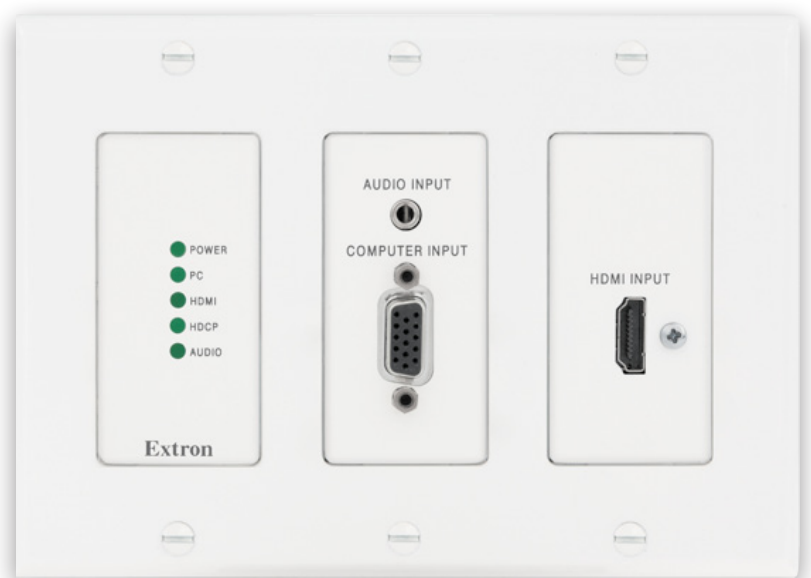
Extron Electronics

INTERFACING, SWITCHING AND CONTROL

68-2092-01 Rev. A
07 13

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**.

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.fr**.

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.

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Instrucciones de seguridad • Español

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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.es**.

Chinese Simplified (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.cn**，参见 Extron 安全规范指南，产品编号 68-290-01。

Chinese Traditional (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。

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.cn**，然後參閱《Extron 安全性與法規 遵守手冊》，準則編號 68-290-01。

Japanese

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.jp**より 『Extron Safety and Regulatory Compliance Guide』(P/N 68-290-01) をご覧ください。

Korean

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.co.kr**)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; the user must correct the interference at his own expense.

> **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.

FDA/IEC 60825-1 Requirements

CLASS 1 LASER PRODUCT

Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 5, dated June 24, 2007.

The product is intended to be used with the fiber optic cables fully installed.

This product meets the applicable requirements of IEC 60825-1, Edition 1 (2007).

Any service to this product must be carried out by Extron Electronics and its qualified service personnel.

Conventions Used in this Guide

Notifications

The following notifications are used in this guide:

> **WARNING:** A warning indicates a situation that has the potential to result in death or severe injury.

> **CAUTION:** A caution indicates a situation that may result in minor injury.

> **ATTENTION:** Attention indicates a situation that may damage or destroy the product or associated equipment.

> **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,,Op1 scene 1,1 ^B 51 ^W^C
```

```
[Ø1] R ØØØ4 ØØ3ØØ ØØ4ØØ ØØ8ØØ ØØ6ØØ [Ø2] 35 [17] [Ø3]
```

`Esc` `X1` * `X17` * `X20` * `X23` * `X21` CE ←

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

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

```
Reply from 2Ø8.132.18Ø.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 specification are available on the Extron website, **www.extron.com**.

Contents

Introduction

This section describes general information about this guide and the FOX T UWP 302 Universal Wallplate Transmitter and selected device features. Topics in this section include:

- **About This Guide**
- **About the FOX T UWP 302**
- **Key Features**
- **Application Diagram**

About This Guide

This guide describes installation, operation, and control procedures, and reference information for the FOX T UWP 302 Universal Wallplate Transmitter. In this guide, "FOX T UWP 302" refers to the FOX T UWP 302 Universal Wallplate Transmitter in singlemode or multimode.

About the FOX T UWP 302

The Extron FOX T UWP 302 is a three-gang universal wallplate transmitter with a two input integrated switcher that provides long haul transmission of HDCP-compliant HDMI, RGBHV, or HD component video; stereo audio; and RS-232 signals over fiber optic cabling. It has dedicated connectors for RGB, HDMI, and audio.

To configure and control the FOX T UWP 302, connect a host device, such as a computer, and enter Simple Instruction Set (SIS) commands (see **Simple Instruction Set Control** on page 13) or use the FOX Extenders Control Program (see **FOX Extenders Control Program** on page 21).

System Compatibility

The FOX T UWP 302 operates in either of two modes, selected under RS-232 control, for compatibility with other, non-HDMI, units:

- **Plus** — Supports resolutions up to 1920x1200 @ 60 Hz, including HDTV 1080p/60 Hz. The fiber optic output of the transmitter can be received only by one of six receivers: a FOXBOX HDMI Rx, FOXBOX DVI Plus Rx, PowerCage HDMI Rx, PowerCage FOX DVI Plus Rx, FOXBOX SR HDMI, and PowerCage FOX SR HDMI.
- **Non-Plus** — Supports resolutions up to 1600x1200 and 1080p @ 60 Hz (including HDTV 1080p/60 Hz), is HDCP compliant, and does not contain embedded audio (analog audio is still supported). The fiber optic output of the transmitter can be received by any FOXBOX, PowerCage FOX, and FOX 500 VGA and DVI unit, including the Plus and non-Plus units.

Cable Transmission Modes

The transmitter is categorized by the type of fiber optic cable, multimode (FOX T UWP 302 MM) or singlemode (FOX T UWP 302 SM), which define the effective range of transmission:

- **Multimode** — Long distance, up to 2 km (6,560 feet) (depending on the fiber cable)
- **Singlemode** — Very long distance, up to 30 km (18.75 miles)

Key Features

High reliability and maximum performance transmission over long distance fiber optic cabling — Transmits HDMI or analog video and stereo audio signals over very long distances using fiber optic cabling.

Inputs — Include a female HDMI type A connector; 15-pin HD connector for RGBHV, RGBS, or HD component video; and a 3.5 mm stereo mini-jack for unbalanced stereo audio.

All digital technology — Delivers pixel-for-pixel transmission of video signals to ensure optimal image quality at resolutions up to 1920x1200, including HDTV 1080p/60.

Digital conversion of analog video — Analog signals are digitized, ensuring that a reliable, high quality digital video signal is sent to the output destination.

Auto-input switching — Automatically switches to the lowest or highest priority input with an active video signal for simplified operation.

HDCP-compliance

Key Minder — Authenticates and maintains continuous HDCP encryption between input and output devices to ensure quick and reliable switching in professional AV environments, while enabling simultaneous distribution of a single source signal to one or more displays.

EDID Minder — Automatically manages EDID communication between connected devices to ensure that all sources properly power up and reliably display content.

Audio embedding — Converts analog stereo audio signals to digital HDMI audio when the analog input is selected.

Audio gain and attenuation adjustment capability

LED indicators for signal presence, HDCP, and power — Provides a visual indication of system status for real-time feedback and monitoring of key performance parameters.

Multimode and singlemode availability — Available as an 850 nm multimode model for long-range transmissions up to 2 km (6,560 feet), and a 1310 nm singlemode model for extreme distances up to 30 km (18.75 miles).

Industry standard LC connectors — Provide reliable physical connectivity and precise fiber core alignment.

Compatibility with the following Extron FOX series products:

- **Matrix switchers** — Creates HDCP-compliant signal distribution systems up to 1000x1000 and larger.
- **HDMI, DVI Plus, DVI, and VGA receivers** — Compatible with FOX series HDMI and DVI Plus receivers up to 1920x1200, including HDTV 1080p/60. Compatible with FOX series DVI and VGA receivers up to 1600x1200, including HDTV 1080p/60.

> **NOTE:** The FOX T UWP 302 is not compatible with the FOX 3G HD-SDI, FOX 3G DVC, or FOX AV models.

Front panel USB configuration port

Mounts in an included three-gang Decora®-style wallplate — Includes a black or white three-gang Decora-style wallplate to blend with a wide range of environments.

Includes LockIt HDMI cable lacing bracket

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

Application Diagram

The following diagram shows a typical application of the FOX T UWP 302 with two input sources, connected to a fiber optic receiver.
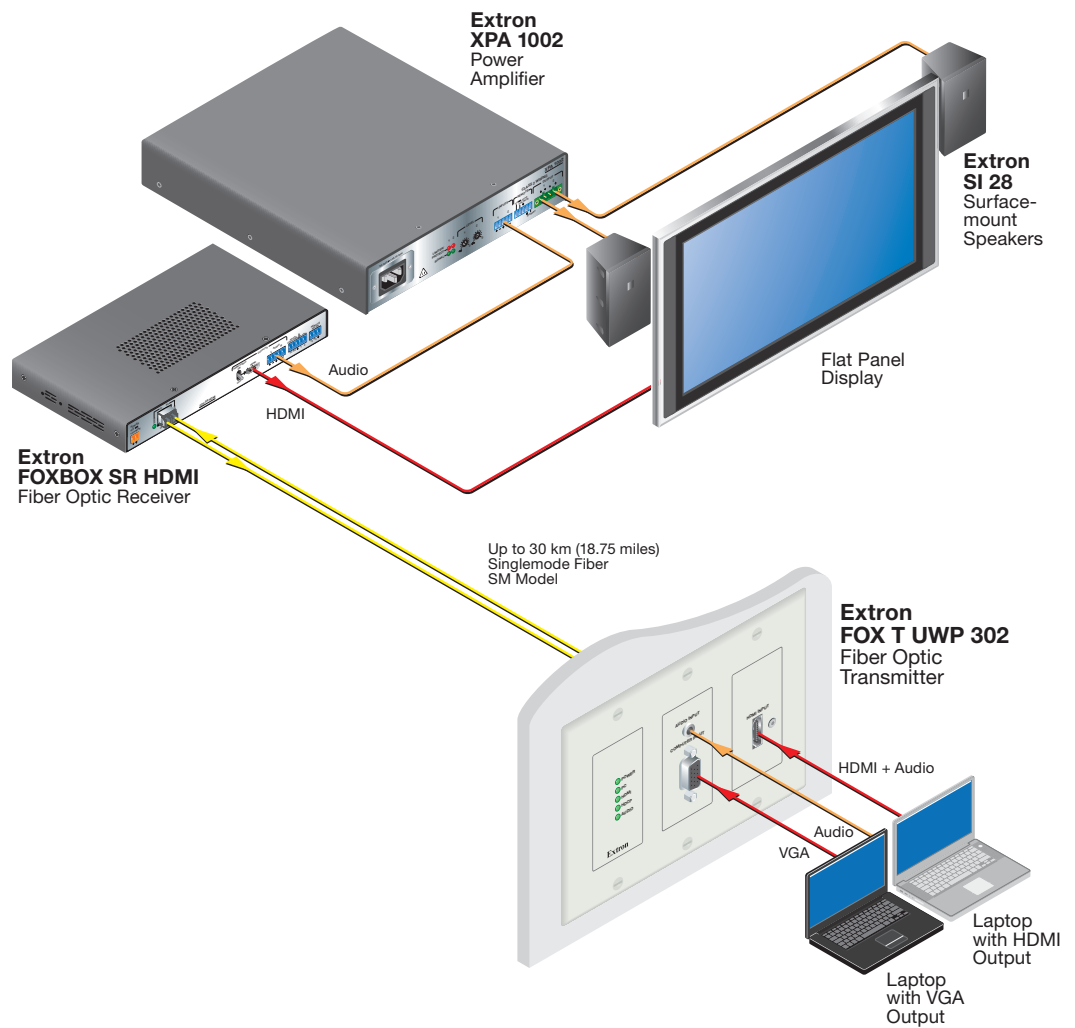

Figure 1. Typical FOX T UWP 302 Application

Installation and Operation

This section describes procedures to cable, connect, and manually operate the FOX T UWP 302. Topics in this section include:

- **Installation Overview**
- **Rear Panel Features**
- **Front Panel Features**
- **Mounting and Making Connections**
- **Operation**

Installation Overview

Install the FOX T UWP 302 into an electrical UL Listed junction box.

> **CAUTION:** **Risk of personal injury.** Failure to check the items listed below may result in personal injury.

> **ATTENTION:** Failure to check the items listed below may result in property damage.

1. Check that installation of an electrical UL Listed junction box meets local and state building, electrical, and safety codes.
2. Install the junction box according to the junction box installation instructions.
3. Prepare and pull the cables through the junction box.

   > **TIP:** Secure cables with clamps or ties to provide strain relief.

4. Trim back and insulate shields with heat shrink.

   > **ATTENTION:** To prevent short circuits, the outer foil shield can be cut back to the point where the cable exits the cable clamp. Both braided and foil shields should be connected to an equipment ground at the other end of the cable.

5. Connect cables to the rear panel connectors (see **Rear Panel Features** on page 5).
6. Mount the FOX T UWP 302 enclosure into the junction box (see **Mounting** on page 8).
7. Configure the FOX T UWP 302 with SIS commands (see **Simple Instruction Set Control** on page 13) or the FOX Extenders control program (see **FOX Extenders Control Program** on page 21).
8. Install the faceplate (see **Mounting** on page 8).

Rear Panel Features
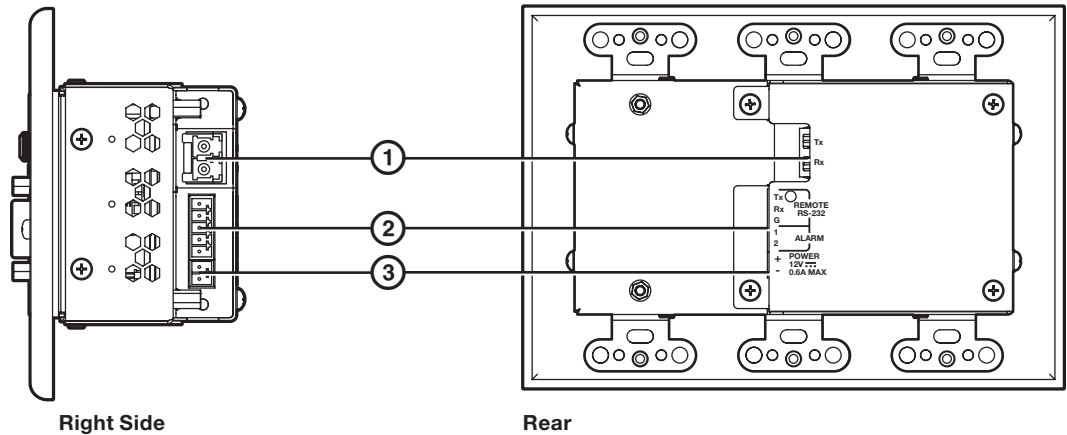

Right Side   **Rear**

Figure 2.   **FOX T UWP 302 Rear Connectors from the Side and Rear Panels**

① **Fiber connector** — For one-way video, audio, and serial communication from the transmitter to a receiver, connect a fiber optic cable between the Tx port on the transmitter and the Rx port on a receiver.

To return serial data from a receiver to the transmitter (such as responses from a controlled device) or for HDCP-compliance, connect a fiber optic cable between the Rx port on the transmitter and the Tx port on the receiver (see **Wiring for Fiber Communication** on page 9).

> **NOTES:**
> - Ensure the proper fiber optic cable is used. Typically, singlemode fiber optic cable has a yellow jacket and multimode fiber optic cable has an orange or aqua jacket.
> - Only one fiber optic cable, transmitter-Tx-to-receiver-Rx, is required for video, audio, and serial command transmission, but the HDMI signal output on the receiver will not be HDCP-compliant.
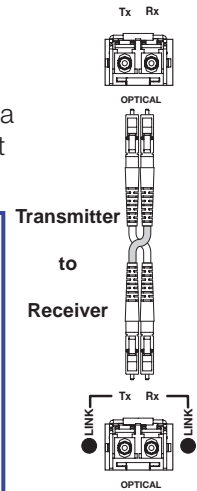
② **Remote RS-232 port** — For serial RS-232 control, connect a host device to the transmitter via the leftmost poles (Tx, Rx, and G) of this 5-pole captive screw connector (see **Wiring for Remote RS-232 and Alarm Communication** on page 10 for wiring configuration).

Alarm output port — For remote monitoring of the status of fiber optic link 2, connect a custom or furnished monitoring device to the transmitter via the rightmost poles (1 and 2) of this 5-pole captive screw connector (see **Wiring for Remote RS-232 and Alarm Communication** on page 10).

> **NOTE:**   Pins 1 and 2 short when link 2 does not detect any connection.

③ **Power connector** — Connect the provided external 12 VDC power supply to this 3.5 mm, 2-pole captive screw connector (see **Wiring the Power Supply** on page 11).

FOX T UWP 302 Wallplate Transmitter • Installation and Operation   **5**

Front Panel Features
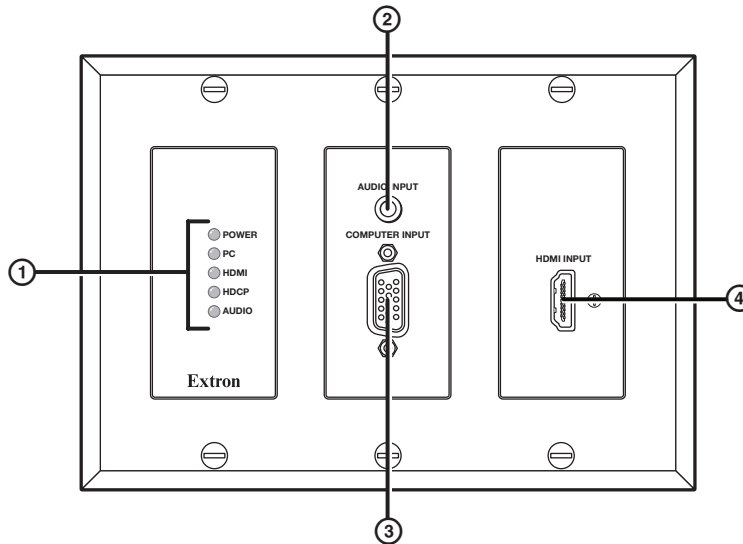
Outside-the-Faceplate Features

Figure 3. FOX T UWP 302 Outside-the-Faceplate Features

① **LED indicators**

Power LED — Lights when the device receives 12 V from an external power supply.

PC LED — Lights when PC input is detected.

HDMI LED — Lights when HDMI input is detected.

HDCP LED — Lights if the HDMI input signal is HDCP encrypted.

Audio LED — Lights when the device detects audio with the selected input. If the selected input has an analog audio signal above -44 dBV, the Audio LED lights immediately, but turns off only after the audio signal level drops below the threshold continuously for 10 seconds. If the selected input has digital embedded audio, the Audio LED lights and remains lit as long as the digital audio signal is detected.

② **Audio Input connector** — Connect an audio source to the 3.5 mm TRS jack.
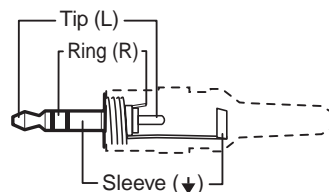
3.5 mm Stereo Plug Connector (unbalanced)

Figure 4. Wiring for Unbalanced Stereo Audio

③ **Computer Input connector** — Connect a video source to the female 15-pin HD connector.

④ **HDMI Input connector** — Connect a source device to the HDMI connector. This connector can accept HDMI, DVI, or dual mode DisplayPort video signals.

Under-the-Faceplate Features
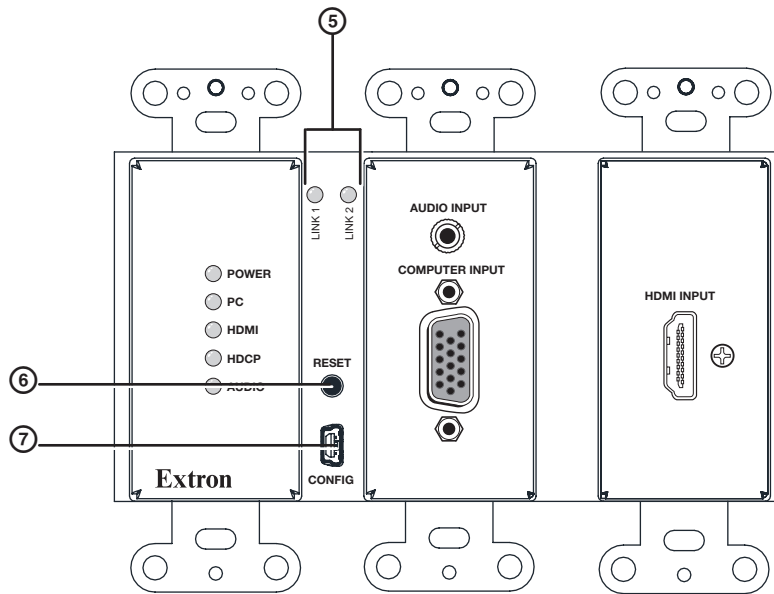
Figure 5. FOX T UWP 302 Under-the-Faceplate Features

⑤ **Link 1 and Link 2 LED indicators** — Light when there is light present on the corresponding fiber optic port.

⑥ **Reset button** — Press the Reset button to return device settings or firmware to the factory default settings (see **System Reset** on page 12).

⑦ **Config port** — Connect a host device, such as a PC, to the mini-USB type B config port for RS-232 protocol control of all FOX T UWP 302 functions. Configure the FOX T UWP 302 with SIS commands (see **Simple Instruction Set Control** on page 13) or the FOX Extenders control program (see **FOX Extenders Control Program** on page 21).

Mounting and Making Connections

Mounting

Before mounting an electrical UL Listed junction box, consider the mounting location and prepare the surface as necessary.
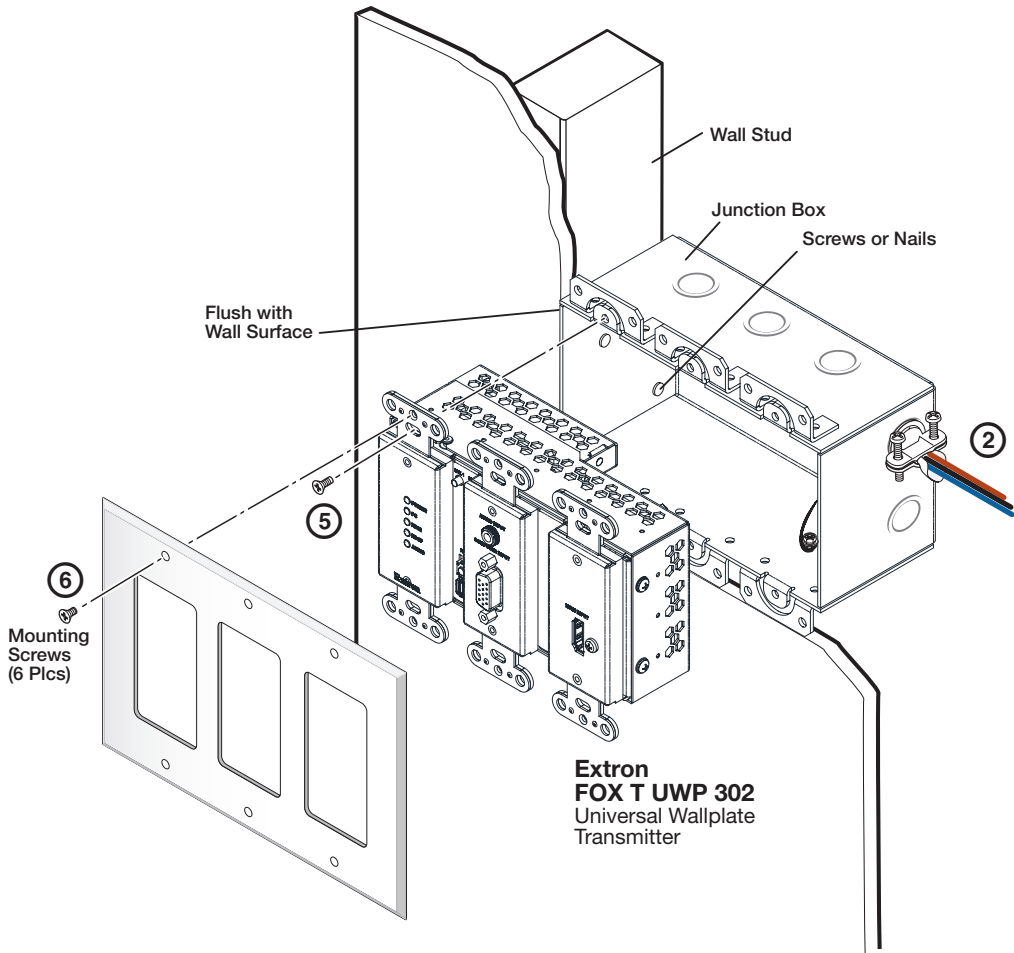
Figure 6. Mounting the FOX T UWP 302 Into a Junction Box

1. Mount the junction box in the wall or floor, following the directions provided with the box.

2. Run the cables through the junction box.

> **TIP:** Secure cables with clamps or ties to provide strain relief.

> **ATTENTION:** To prevent short circuits, the outer foil shield can be cut back to the point where the cable exits the cable clamp. Both braided and foil shields should be connected to an equipment ground at the other end of the cable.

3. Disconnect power from all devices at the source.

4. Connect all cables to the FOX T UWP 302 rear panel connectors.

5. Secure the FOX T UWP 302 enclosure to the box using three of the provided screws into the slots at the top and bottom of the device.

6. Fasten the Decora wallplate onto the enclosure using six of the provided screws in the holes at the top and bottom.

Connecting the HDMI Connector

Use an Extron LockIt Lacing Bracket to secure an HDMI cable to each device as follows:

Figure 7.   Installing the LockIt Lacing Bracket

1. Plug the HDMI cable into the panel connection.

2. Loosen the HDMI connection mounting screw from the panel enough to allow the LockIt lacing bracket to be placed over it. The screw does not have to be removed.

3. Place the LockIt lacing bracket on the screw and against the HDMI connector, then tighten the screw to secure the bracket.
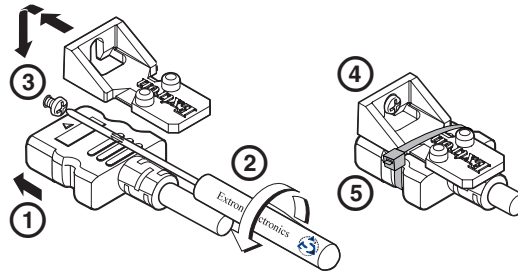
> **ATTENTION:**   Do not overtighten the HDMI connector mounting screw. The shield to which it fastens to is very thin and can easily be stripped.

4. Loosely place the included tie wrap around the HDMI connector and the LockIt lacing bracket as shown.

5. While holding the connector securely against the lacing bracket, use pliers or a similar tool to tighten the tie wrap, then remove any excess length.

Wiring for Fiber Communication

> **WARNING: Risk of serious physical injury:** This device outputs continuous invisible light, which may be harmful to the eyes; use with caution.
>
> • Do not look into the rear panel fiber optic cable connectors or into the fiber optic cables themselves.
>
> • Plug the attached dust caps into the optical transceivers when the fiber cable is unplugged.

> **NOTES:**
>
> • Ensure the proper fiber optic cable is used for the transmitter and receiver. Typically, singlemode fiber optic cable has a yellow jacket and multimode fiber optic cable has an orange or aqua jacket.
>
> • Only one fiber optic cable, transmitter-Tx-to-reciever-Rx, is required for video, audio, and serial command transmission. However, for only one fiber optic cable, the HDMI signal output by the receiver is not HDCP-compliant.
>
> • To receive responses from the controlled device and for HDCP compliance, install both fiber optic cables and leave link 2 enabled.
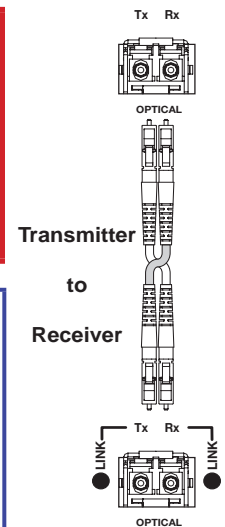
Wiring for Remote RS-232 and Alarm Communication

The Remote RS-232 and Alarm connector is for RS-232 control (such as updating firmware, status queries, and various control functions) and the alarm feature. Wire the connector as shown in figure 8 below.
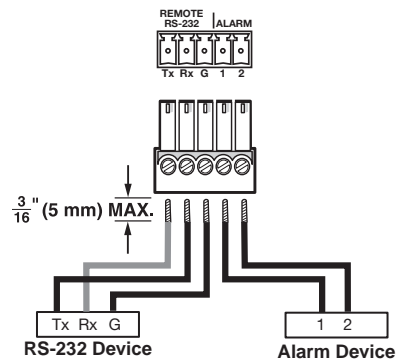
Figure 8. **Wiring the Remote RS-232 and Alarm Connector**

> **ATTENTION:** The length of exposed wires is critical. The ideal length is 3/16 inch (5 mm).
> - Longer bare wires can short together.
> - Shorter wires are not as secure in the connectors and could be pulled out.

Cross the Tx and Rx lines once between the source and the target.

The alarm pins do not produce any discrete on or off or voltage signals. It is an internal relay to connect or disconnect a custom alarm circuit.

> **NOTE:** If power is lost or if link 2 optical light is disconnected, lost, or broken, alarm pins 1 and 2 internally short.

Wiring the Power Supply

Connect 12 VDC power supply to the 3.5 mm, 2-pole captive screw connector.
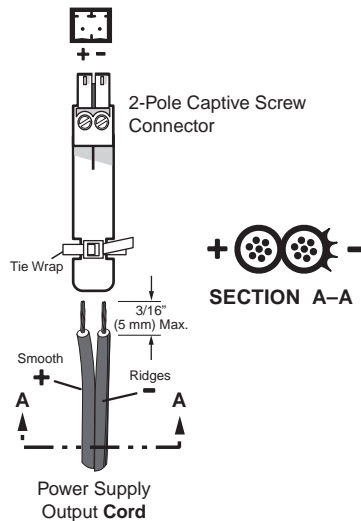
Figure 9. **Power Connector Wiring**

CAUTION: **Electric shock hazard**. The two power cord wires must be kept separate while the power supply is plugged in. Remove power before wiring.

ATTENTION:

- This product is intended to be supplied by a Listed Power Unit marked "Class 2" or "LPS," rated 12 VDC, 1.0 A minimum. Always use a power supply supplied 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.

- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 75 and the Canadian Electrical Code part 1, section 16. The power supply shall not be permanently fixed to a building structure or similar structure.

- 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.

- The length of the exposed (stripped) copper wires is important. The ideal length is 3/16 inch (5 mm).

TIP: Do not tin the stripped power supply leads. Tinned wires are not as secure in the captive screw connectors and could be pulled out.

Operation

After all devices are connected and powered, the system is fully operational. The FOX T UWP 302 can be configured through SIS commands (see **Simple Instruction Set Control** on page 13) or the FOX Extenders control program (see **FOX Extenders Control Program** on page 21).

Initial Power Up

Upon initial power up, all the front panel LEDs blink simultaneously. They blink once to indicate the device is a multimode device or twice to indicate the device is a singlemode device. Afterwards, the LEDs return to their normal signal presence indication.

If a different SFP module or no SFP module is connected, the LEDs first blink once or twice to identify the device and then blink continuously.

System Reset

Use the Reset button beneath the faceplate to return the device to default settings or to restore factory-shipped firmware (see to the Reset Mode Summary table below for more details). If necessary, remove the faceplate.

	Reset Mode Summary			
	Mode	**Mode Activation**	**Result**	**Purpose/Notes**
Factory Reset	**1**	Hold the Reset button down while applying power to the device. **NOTE:** After a mode 1 reset, update the device with the latest firmware version. DO NOT operate the firmware version that results from this mode reset.	• The device reverts to the factory default firmware. • All user files and settings (audio adjustments, audio input selection, input selection, auto-switch mode, picture adjustments, and input video format) are maintained.	Use mode 1 to revert to factory firmware for a single power cycle if an incompatibility issue arises.
Reset to Factory Defaults	**5**	Hold the Reset button down for about 9 seconds or until the Power LED blinks three times. Then press the Reset button momentarily (for <1 second) within 1 second. **NOTE:** The reset procedure is aborted if the second momentary press does not occur within one second.	• Mode 5 performs a complete reset to factory defaults except for firmware. • Reset all user modifiable configurations to default values including real-time adjustments. • The Power LED blinks 4 times in quick succession during the reset.	Use mode 5 to start over with configuration or uploading. **NOTE:** This is equivalent to SIS command ZXXX.

SIS Configuration and Control

This section describes remote control of the FOX T UWP 302 through SIS commands and basic installation instructions for the FOX Extenders Control Program (see to the *FOX Extenders Control Program Help File* for configuration and control details).

To enable serial control of the transmitter, use a computer running the HyperTerminal or Extron DataViewer utility, or a control system to enable serial control of the transmitter. Connect the computer to the FOX T UWP 302 through the front panel Config port or the rear panel Remote RS-232 connector (see **Installation and Operation** on page 4).

The protocol for the RS-232 port is as follows: 9600 baud, no parity, 8 data bits, 1 stop bit, no flow control.

Simple Instruction Set Control

SIS Programming Guide

Host-to-device and device-to-host communication

SIS commands consist of one or more characters per field. No special characters are required to begin or end a command sequence. When the FOX T UWP 302 determines that a command is valid, it executes the command and sends a response to the host device. All responses from the transmitter or receiver 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 messages

When a local event occurs, the device responds by sending a message to the host. The device-initiated message may depend on whether the device is a multimode or singlemode unit. They are listed below.

`© Copyright 2013, Extron Electronics FOX T UWP 302 MM, V`*`x.xx`*`, 60-1232-xx`

`© Copyright 2013, Extron Electronics FOX T UWP 302 SM, V`*`x.xx`*`, 60-1232-xx`

V*x.xx* is the firmware version number.

`Reconfig`↵
The FOX T UWP 302 returns this message when there is any change to the input frequency on the currently selected input.

`1Lnk`$\boxed{\text{X5}}$`•2Lnk`$\boxed{\text{X5}}$`•Vid`$\boxed{\text{X5}}$`•Aud`$\boxed{\text{X5}}$`•`$\boxed{\text{X10}}$`•TX`↵

The FOX T UWP 302 returns this status message whenever a change in the fiber link, video, or audio connection occurs. $\boxed{\text{X5}}$ indicates whether the link is present or not present (`0` = not present, `1` = present) and $\boxed{\text{X10}}$ represents whether the device is multimode or singlemode (`MM` = multimode, `SM` = singlemode).

Error responses

When the FOX T UWP 302 receives an SIS command and determines it is valid, it performs the command and sends the corresponding response to the host device. If the command is determined invalid or contains invalid parameters, the transmitter returns an error response to the host. The error response codes are:

`EØ1` = Invalid input number

`EØ6` = Invalid switch attempt in this mode

`E1Ø` = Invalid command

`E12` = Invalid port number

`E13` = Invalid parameter

`E14` = Not valid for this configuration

`E17` = Invalid command for signal type

`E22` = Busy

Using the command and response table for SIS commands

The **Command and Response Tables** begin on page 16. Lowercase letters are acceptable in the command field except where indicated. Figure 10 shows the hexadecimal equivalent of ASCII characters used in the command and response tables.

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	Dᴇʟ	7F

Figure 10.   ASCII to Hexadecimal Conversion

Symbol definitions

↵	=	Carriage return and line feed
¦ or ←	=	Carriage return with no line feed
●	=	Space
Esc or W	=	Escape key

| X26 | = | EDID output resolution and refresh rate | | | See the tables below. |

VGA - PC								
SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)
1	800x600	60	7	1360x768	60	12	1600x1200	60
2	1024x768	60	8	1366x768	60	13	1680x1050	60
3	1280x720 (default - analog)	60	9	1400x1050	60	14	1920x1080	60
4	1280x768	60	10	1440x900	60	15	1920x1200	60
5	1280x800	60	11	1600x900	60	16	2048x1080	60
6	1280x1024	60						

DVI - PC								
SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)
17	800x600	60	23	1360x768	60	28	1600x1200	60
18	1024x768	60	24	1366x768	60	29	1680x1050	60
19	1280x720	60	25	1400x1050	60	30	1920x1080	60
20	1280x768	60	26	1440x900	60	31	1920x1200	60
21	1280x800	60	27	1600x900	60	32	2048x1080	60
22	1280x1024	60						

HDMI - PC with 2-channel Audio								
SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)
33	800x600	60	38	1360x768	60	43	1600x1200	60
34	1024x768	60	39	1366x768	60	44	1680x1050	60
35	1280x768	60	40	1400x1050	60	45	1920x1200	60
36	1280x800	60	41	1440x900	60	46	2048x1080	60
37	1280x1024	60	42	1600x900	60			

HDMI HDTV								
SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)	SIS Value	Resolution	Refresh Rate (Hz)
47	480p 2-ch audio	60	51	1080i 2-ch audio	50	54	1080p 2-ch audio	60
48	576p 2-ch audio	50	52	1080i 2-ch audio	60	55	VGA user assigned or imported 1	
49	720p 2-ch audio	50	53	1080p 2-ch audio	50	56	HDMI user assigned or imported 2	
50	720p 2-ch audio (default - digital)	60						

Command and Response Tables for SIS Commands

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Input Switching			
Input selection			
Video input select	`X11` `!`	`In` `X11` `●` `ALL` `⏎`	Select input `X11`.
View video input	`!`	`X11` `⏎`	View currently selected source.
NOTE: The FOX T UWP 302 saves the last input selection when cycling power.			
Auto switch mode			
Disable auto switch mode	`Esc` `ØAUSW` `←`	`AuswØ` `⏎`	Manual input switching only.
Set priority to the highest active input	`Esc` `1AUSW` `←`	`Ausw1` `⏎`	Gives priority to the highest numbered active input (default).
Set priority to the lowest active input	`Esc` `2AUSW` `←`	`Ausw2` `⏎`	Gives priority to the lowest numbered active input.
View auto switch mode setting	`Esc` `AUSW` `←`	`X12` `⏎`	View current setting.
NOTE: This command can be entered only via RS-232 or USB. The settings will only reset back to (off) once setting is changed, or when unit is reset.			
Audio Configuration			
Audio gain and attenuation			
NOTE: Gain and attenuation are case-sensitive.			
Set gain	`X7` `G`	`Aud` `X9` `⏎`	Set gain to `X9`.
Set attenuation	`X8` `g`	`Aud` `X9` `⏎`	Set attenuation to `X9`.
Increment gain or attenuation	`+G` or `+g`	`Aud` `X9` `⏎`	Audio level is `X9`.
Decrement gain or attenuation	`-G` or `-g`	`Aud` `X9` `⏎`	Audio level is `X9`.
View audio level	`G` or `g`	`X9` `⏎`	View current audio level.
Audio input selection			
Set audio input format	`Esc` `I` `X11` `*` `X25` `AFMT` `←`	`AfmtI` `X11` `*` `X25` `⏎`	
View input audio format	`Esc` `I` `X11` `AFMT` `←`	`X25` `⏎`	

NOTE:

`X7` = Audio gain   Ø to 1Ø (in dB)
`X8` = Audio attenuation   −18 to Ø (in dB)
`X9` = Audio level   −18 to +1Ø (in dB)
`X11` = Input selection   1 = VGA
                                  2 = HDMI
`X12` = Auto switch mode   Ø = disable
                                  1 = gives priority to the highest numbered active input (default)
                                  2 = gives priority to the lowest numbered active input
`X25` = Audio input format   Ø = auto (default)
                                  1 = embedded digital
                                  2 = analog

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Picture Adjustment (Analog Only)			
Pixel phase			
Set a pixel phase value	`Esc` 1 * `X22` PHAS ←	Phas `X22` ↵	Adjust the pixel phase to `X22` for input 1.
Increment value	`Esc` 1+PHAS ←	Phas `X22` ↵	Increase the pixel phase.
Decrement value	`Esc` 1-PHAS ←	Phas `X22` ↵	Decrease the pixel phase.
View pixel phase value	`Esc` 1PHAS ←	`X22` ↵	Show the pixel phase value for input 1.
Total pixels			
Set the total pixel value	`Esc` 1 * `X23` TPIX ←	Tpix `X23` ↵	Set the total pixels to `X23` for input 1.
Increment value	`Esc` 1+TPIX ←	Tpix `X23` ↵	Increase the total pixels.
Decrement value	`Esc` 1-TPIX ←	Tpix `X23` ↵	Decrease the total pixels.
View total pixel value	`Esc` 1TPIX ←	`X23` ↵	Show the total pixels for input 1.
Horizontal start			
Set horizontal start value	`Esc` 1 * `X24` HSRT ←	Hsrt `X24` ↵	Set horizontal location of first active pixel in input 1.
Increment value	`Esc` 1+HSRT ←	Hsrt `X24` ↵	Move the image to the right.
Decrement value	`Esc` 1-HSRT ←	Hsrt `X24` ↵	Move the image to the left.
View horizontal start value	`Esc` 1HSRT ←	`X24` ↵	Show horizontal location of the first active pixel in input 1.
EDID			

> **NOTE:** Digital EDID can be assigned only to a digital input and analog EDID can be assigned only to an analog input.

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Input EDID (VGA and HDMI)			
Assign EDID	`Esc` A `X11` * `X26` EDID ←	EdidA `X11` * `X26` ↵	Set the EDID for the `X11` input.
View assigned EDID	`Esc` A `X11` EDID ←	`X26` ↵	View EDID for the `X11` input.
View EDID native resolution	`Esc` N `X11` EDID ←	`X2` ↵	
View current EDID in Hex	`Esc` R `X11` EDID ←	`X3` ↵	View EDID in Hex format.
Export specific EDID selection	`Esc` E `X26` EDID ←	`X4`	Export EDID in binary format.
Import EDID to store location	`Esc` I `X14` EDID ← `X4`	`Esc` EdidI `X14` ↵	Import EDID in binary format to user stored EDID slot '`X14`.'

NOTE:

`X2` = Native resolution and refresh rate		
`X3` = EDID record (Hex)	128 or 256 bytes	
`X4` = EDID record (binary)	128 or 256 bytes	
`X11` = Input selection	1 = VGA	
	2 = HDMI	
`X14` = User assigned EDID	55 = VGA input 1	
	56 = HDMI input 2	
`X22` = Pixel phase	Ø to **63** (**32** = default)	
`X23` = Total pixels	±255 of the default value (depends on the input rate)	
`X24` = Horizontal start	Ø to **255** (**128** = default)	
`X26` = EDID output resolution	See the tables on page 15.	

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Advanced Configuration			
Input sync detection			
View input sync detection	`Esc` 1LS ⟵	`xxx.x,xxx.x`↵	Shows horizontal frequency in kHz and vertical frequency in Hz. `ØØØ.Ø,ØØØ.Ø` if no signal.
Input video format (VGA only)			
Set input video format	1* X15 \	`Typ1*` X15 ↵	Sets input 1 to format X15.
View input video format	1 \	X15 ↵	View video format of input 1.
Plus mode transmission			
Disable Plus mode transmission	81*Ø#	`PlusØ`↵	Disable Plus mode transmission.
Enable Plus mode transmission	81*1#	`Plus1`↵	Enable Plus mode transmission (default).
View Plus mode transmission	81#	X5 ↵	View Plus mode transmission setting.
HDCP authorized device (HDMI input only)			
HDCP authorized device on	`Esc` E2*1HDCP ⟵	`HdcpE2*1`↵	HDCP authorized device on for input 2 (default).
HDCP authorized device off	`Esc` E2*ØHDCP ⟵	`HdcpE2*Ø`↵	HDCP authorization off for input 2.
Query HDCP authorized device status	`Esc` E2HDCP ⟵	X6 ↵	View the HDCP authorization status.
HDCP status (HDMI input only)			
Query HDCP status	`Esc` I2HDCP ⟵	X13 ↵	Query the HDCP status of the current input.

NOTE:	X5 = Enable or disable	Ø = off or disabled 1 = on or enabled	
	X6 = HDCP authorization	Ø = HDCP authorization off 1 = HDCP authorization on (default)	
	X13 = HDCP status	Ø = no source detected 1 = source detected with HDCP 2 = source detected but no HDCP is present	
	X15 = Input video format	Ø = auto detect (default) 1 = RGB (full range) 2 = YUV	

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Device name			

NOTE: No blank or space characters are permitted. The first character must be a letter. The last character cannot be a minus or hyphen.

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Set unit name	`Esc X16 CN ←`	`Ipn● X16 ←`	Set device name.
Set unit name to factory default	`Esc ●CN ←`	`Ipn● X17 ←`	Set device to default.
View unit name	`Esc CN ←`	`X16 ←`	View device name.
Information requests			
General information	`I`	`1Lnk X5 ● 2Lnk X5 ● Vid X5 ● Aud X5 ● X10 ● TX ←`	
Query part number	`N`	`6Ø-1232-xx ←`	
Query firmware version	`Q`	`x.xx ←`	
Query firmware build	`*Q`	`x.xx.xxxx ←`	
Query all firmware version	`ØQ`	`x.xx-x.xx ←`	
Query updated FPGA version	`35Q`	`x.xx ←`	View the updated loaded FPGA version.
Status request			
View fiber link 1 status	`1S`	`X5 ←`	
View fiber link 2 status	`2S`	`X5 ←`	
View input video status	`3S`	`X5 X5 ←`	View the on or off status of input 1 and 2.
View input audio status	`4S`	`X5 ←`	
Request all signal status	`5S`	`SigI X5 X5 ● SigO-● 2HdcpI X5 ● HdcpO- ←`	
Request HDMI signal status	`6S`	`SigI X5 ● SigO- ←`	
Request HDCP status	`7S`	`2HdcpI X5 ● HdcpO- ←`	

NOTE:

`X5` = Enable or disable	`Ø` = off or not detected	
	`1` = on or detected	
`X6` = HDCP authorization	`Ø` = HDCP authorization off	
	`1` = HDCP authorization on (default)	
`X10` = SFP module type	`SM` = singlemode	
	`MM` = multimode	
`X13` = HDCP status	`Ø` = no source detected	
	`1` = source detected with HDCP	
	`2` = source detected but no HDCP is present	
`X16` = Unit name	Text string up to 24 characters (`A-Z, Ø-9, -`)	
`X17` = Extron device name	`FOX-T-UWP-3Ø2`	

Command	ASCII Command (Host to Device)	Response (Device to Host)	Additional Description
Internal temperature			
View internal temperature	2ØS	X1 ↵	Internal temperature in degrees Fahrenheit and Celsius.
Factory reset			
System reset (factory default)	Esc ZXXX ←	Zpx ↵	Resets unit to factory default (see **System Reset** on page 12).
Reset audio gain and attenuation	Esc ZA ←	Zpa ↵	Reset audio gain and attenuation to default levels.
Upload firmware			
Upload firmware	Esc Upload ←	SendHeader ↵	
SFP module			
View SFP module information	4ØS	X18 ● X19 ● X20 ● X21 ↵	

NOTE: X1 = Internal temperature

X18 = Vendor or manufacturer name

X19 = Transmit (Tx) output power in dBm

X20 = Receive (Rx) optical power in dBm

X21 = Operation temperature of the SFP modules in degrees Celsius

FOX Extenders
Control Program

The Extron FOX Extenders Control Program provides an alternate method to control and configure the FOX T UWP 302. The application provides controls to adjust device parameters that are specific to the basic and advanced setup of the transmitter. Users can also manage firmware and check for updates to the application. The Extron FOX Extenders Control Program communicates with the transmitter via the Remote RS-232 port on the rear panel Remote RS-232 and Alarm connector or front panel USB Config port. The program is compatible with Microsoft® Windows® 2000, Windows XP, or later Windows operating systems. Updates to this program can be downloaded from the Extron website (**www.extron.com**). Topics in this section include:

- **Installing the Software**
- **Starting the Software**
- **Using the Software**

Installing the Software

The program is contained on the *Extron Software Products* DVD or available for download on the Extron website, **www.extron.com**.

To install the software from the DVD:

1. To install the software, insert the DVD into the DVD drive. The Extron software DVD window should appear automatically. If it does not self-start, run Launch.exe from the DVD.

2. Click the `Software` tab, scroll to the desired program, and click `Install`.

3. Follow the instructions that appear on the screen. By default, the installation creates a folder in the Program Files directory for the FOX Extenders Control Program.

To download the software from the website:

1. On the Extron website, click the `Download` tab.

2. From the left sidebar, click the `Software` link.

3. Navigate to FOX Extenders.

4. Click the `Download` link to the right of the desired device.

5. Submit any required information to start the download. Note where the file is saved.

6. Open the executable (.exe) file from the save location.

7. Follow the instructions that appear on the screen. By default, the installation creates a folder in the Program Files directory for the FOX Extenders Control Program.

Starting the Software

Start the Extron FOX Extenders Control Program as follows:

1. Open the FOX Extenders Control Program. The Communication Setup window appears.
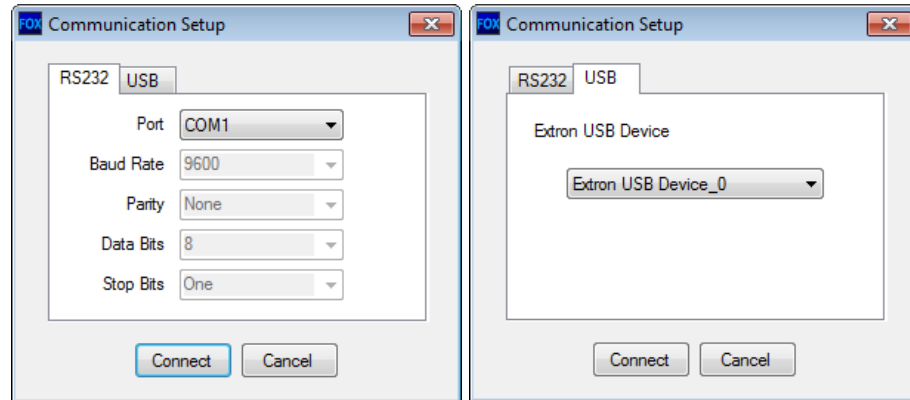
Figure 11. **Communication Setup Window Connection Methods**

2. Select the desired connection method.

   - To connect the software to the device through the rear panel Remote RS-232 connector, click the **RS232** tab and select the desired port from the **Port** drop-down list.

   - To connect the software to the device through the front panel USB connector, click the **USB** tab and select the Extron USB device from the **Extron USB Device** drop-down list.

3. Click the **Connect** button. The FOX Extenders Control Program window appears.

> **NOTE:** Some controls and displays are available only when connected to specific devices.

Using the Software

For more configuration and control details, see to the *FOX Extenders Control Program Help File* for configuration and control details. Open the file using one of the following methods:

- Once the FOX Extenders Control Program is open, press the <F1> key on the keyboard.

- Once the FOX Extenders Control Program is open, select **Contents** from the **Help** menu.

- From the Windows Start Menu, select **FOX Extenders Help** from the FOX Extenders Control Program folder.

The main screen opens (see figure 12 on page 23).
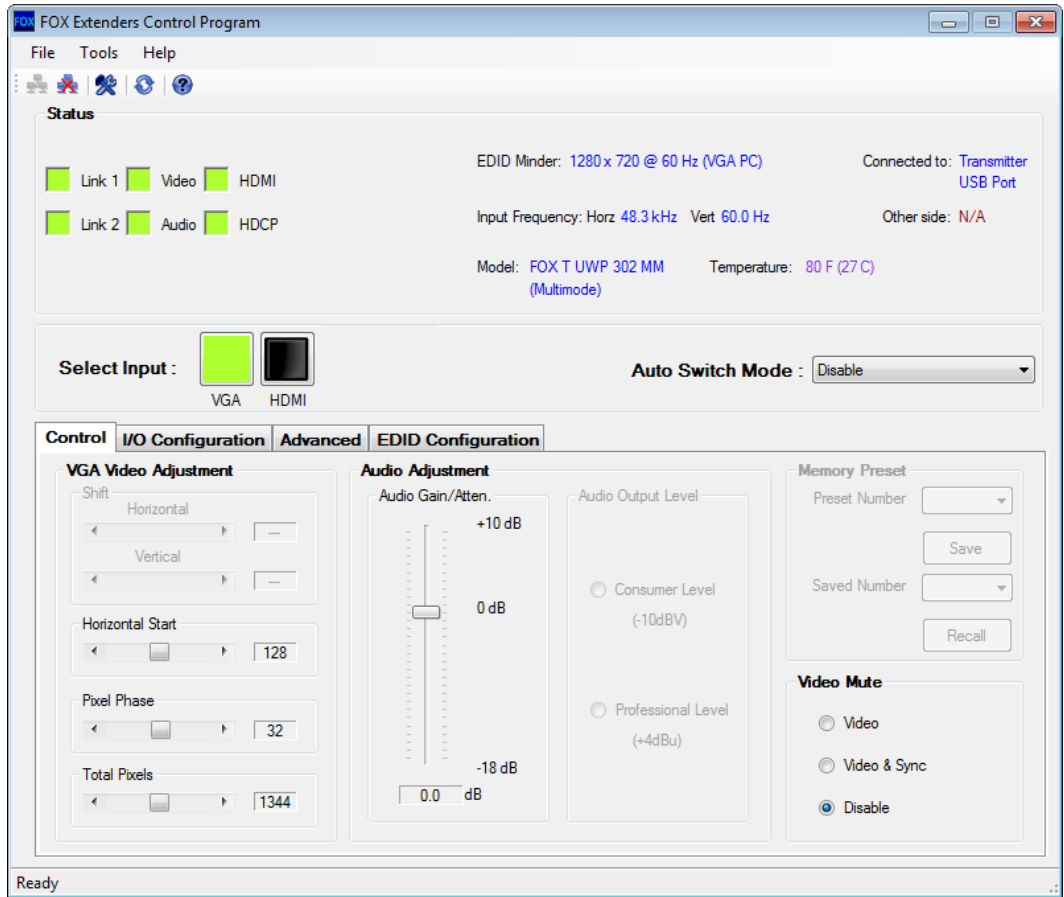
Figure 12. Main Screen

The main screen consists of a top menu, Status panel, Input Selection panel, and Configuration panel.

Top Menu

The top menu consists of three menus for connection options, device information and configuration, and additional resources.

File menu

The File menu contains options for connecting and disconnecting the device and exiting the FOX Extenders Control Program.
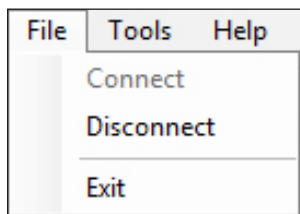
Figure 13. File Menu

Options that appear gray are not available.

Connect

The Connect option establishes communication with a device. This function re-establishes communication with the device if it times out or enables a connection to a new device. If a device is already connected, the Connect function is disabled until the device is disconnected or the connection times out.

To re-establish the connection if communication is lost:

1. From the **File** menu, select **Connect**. Alternatively, click the ⬛ icon. This displays the Communication Setup dialog box, which is the communication module through which connection to the device is established.

2. Select the communication port from the **Port** drop-down list.

3. Click **Connect**. The Communication Setup dialog box closes and the FOX Extenders Control Program main screen remains open.

Disconnect

The Disconnect option stops communication with the current device, but leaves the FOX Extenders Control Program open. Once disconnected, configuration can no longer be done unless connection is re-established.

To disconnect from the device, select **Disconnect** from the **File** menu or click the ⬛ icon. The status bar at the bottom of the window indicates that the device is disconnected.

Exit

The Exit option closes the FOX Extenders Control Program.

To exit the program, select **Exit** from the **File** menu.

Tools Menu

The Tools menu contains options for displaying device information or configuring the device.
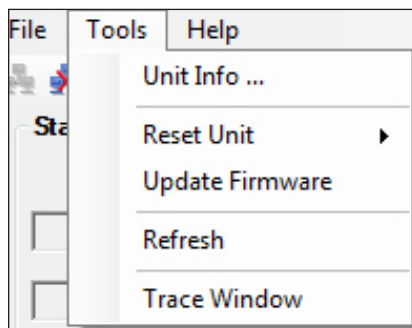
Figure 14.   Tools Menu

Unit Info

The Unit Info option opens a dialog box with information about the connected device.
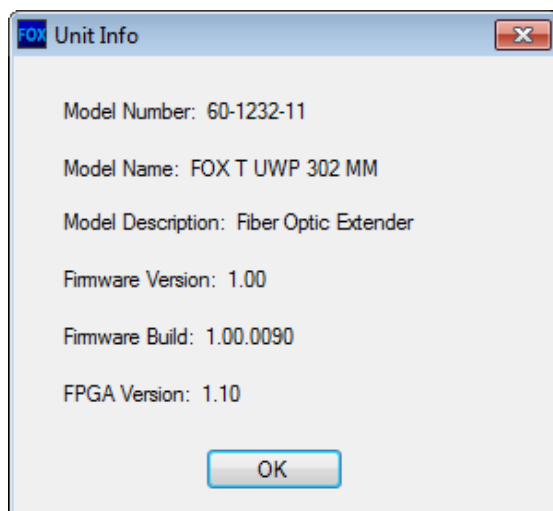
Figure 15.   Unit Info Dialog Box

1.   From the **Tools** menu, select **Unit Info**. This opens a dialog box displaying information about the connected unit. The displayed information includes:

   • Model number of the device

   • Name of the device model

   • Description of the model

   • Firmware version currently found on the device

   • Firmware build

   • FPGA version

2.   Click the **OK** button to close the dialog box and return to the main screen.

Reset Unit

There are three listed reset options:

• Master System Reset

• Audio Gain/Atten. Reset

• Presets Reset

Depending on the chosen reset option, different settings are cleared.
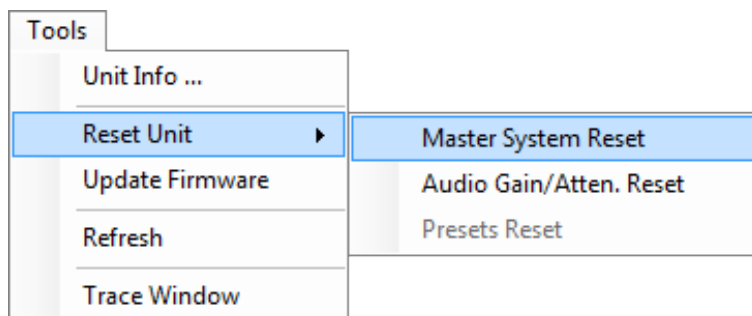
Figure 16.   Reset Unit Menu

NOTE: Be careful to select the intended reset option. Selecting the incorrect reset can result in unintended loss of settings.

Master System Reset — Resets all unit settings and user settings to factory defaults.

From the **Tools** menu, locate the Reset submenu and select **Master System Reset**.
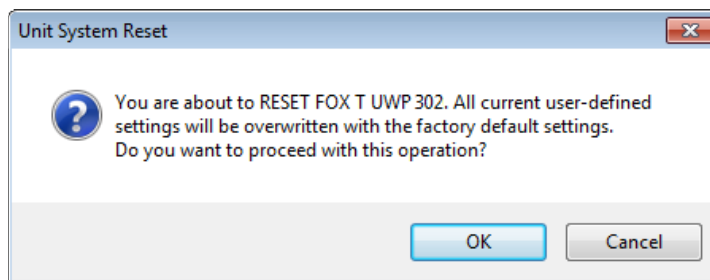
Figure 17.   Unit System Dialog Box

Audio Gain/Atten. Reset — Resets the level of audio gain and attenuation to factory defaults.

From the **Tools** menu, locate the Reset submenu and select **Audio Gain/Atten. Reset**.
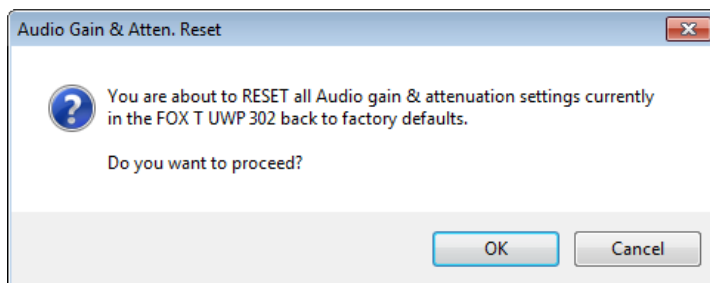
Figure 18.   Audio Gain and Attenuation Reset Dialog Box

Presets Reset — Is not available for the FOX T UWP 302.

Update Firmware

The Update Firmware option opens the Extron Firmware Loader application. This application is used to upload new firmware to the connected device.

> **NOTE:**   In order for the Update Firmware option to work, install the Firmware Loader application (see **Firmware Loader** on page 37). Otherwise, the Update Firmware option is disabled.

To update firmware:

1. From the **Tools** menu, select **Update Firmware**. Alternatively, click the 🛠 icon. This opens Firmware Loader (if this application is already installed on the connected PC).

2. Find firmware to upload to the desired device by performing one of the following actions:

    •   From the **File** menu of Firmware Loader, select **New Firmware for Selected Devices**.

    •   In the Devices section of the Firmware Loader main screen, double-click the **New Firmware File** field associated with the selected device.

    The Choose Firmware File dialog box opens.

3. Browse to the device-specific firmware file that has been downloaded on your PC. Valid firmware files have a .s19 file extension (see **Downloading Firmware** on page 38).

4. Click the **Open** button. The Choose Firmware File dialog box closes.

5. Click the **`Begin`** button. This uploads the new firmware onto the connected device. The **`Progress`** field for the selected device shows the progress of the upload. After the upload is complete, this field is blue and shows 1ØØ%.

6. Exit Firmware Loader.

7. From the **`File`** menu of the FOX Extenders Control Program, select **`Connect`** to re-establish communication with the device.

8. Re-enter the connection information in the Connect dialog box to re-establish communication with the device.

See the *Firmware Loader Help File* and supporting documentation for further information about using Firmware Loader.

Refresh

The Refresh option refreshes the main screen of the FOX Extenders Control Program without restarting the application. This is useful if connection to a device is lost (such as if the unit has been unplugged accidentally) or settings change on the device.

From the **`Tools`** menu, select **`Refresh`**. Alternatively, click the ⟳ icon.

Trace Window

The Trace Window option displays data sent to and received from the device in a separate window for troubleshooting.
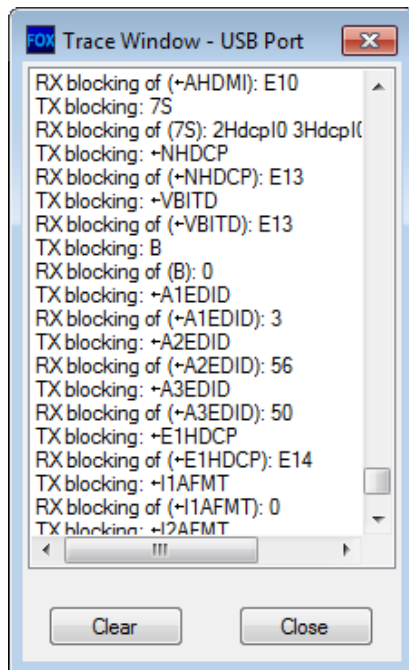
Figure 19. Trace Window Dialog Box

1. From the **`Tools`** menu, select **`Trace Window`**. The Trace Window dialog box opens.

2. To clear existing information, click the **`Clear`** button.

3. Click the **`Close`** button to close the Trace Window dialog box.

Help Menu

The Help menu contains options for additional information and reference material, checking for updates to the FOX Extenders Control Program, and software information.
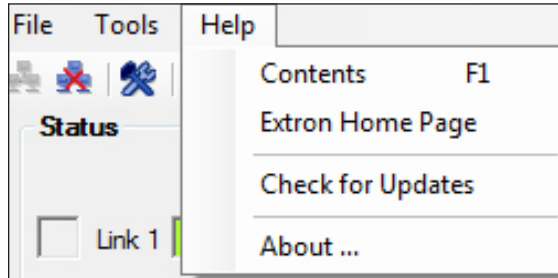
Figure 20.   Help Menu

Contents

The Contents option launches the FOX Extenders Control Program help file.

Open the help file in one of the following ways:

• From the **Help** menu, select **Contents**.

• Press <F1> on your keyboard.

• Click the ⬤ icon to launch the help file.

Extron Home Page

The Extron Home Page option displays the Extron website. The Extron website contains supporting documentation for Extron products and downloadable firmware and software updates (see **Firmware Loader** on page 37).

From the **Help** menu, select **Extron Home Page**. This opens a new Internet browser window to the Extron website.

Check for Updates

The Check for Updates option verifies that the latest version of the FOX Extenders Control Program is being used. If there is a new version available, the option to install it becomes available.

From the **Help** menu, select **Check for Updates**.

About...

This option opens a dialog box displaying information about the FOX Extenders Control Program.

1. From the `Help` menu, select `About`. This opens a dialog box displaying information about the FOX Extenders Control Program. The displayed information includes:

   - Name of the application
   - Currently installed software version
   - Software part number
   - Copyright
   - Application description
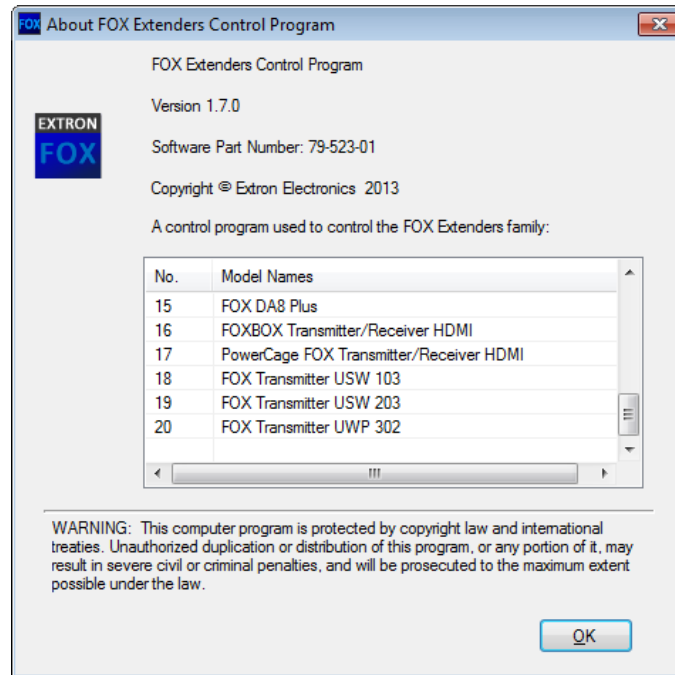
Figure 21. **About FOX Extenders Control Program Dialog Box**

2. Click the `OK` button to close this dialog box and return to the main screen of the application.

Main Screen

The Main Screen contains status information, input selection, and configuration options.
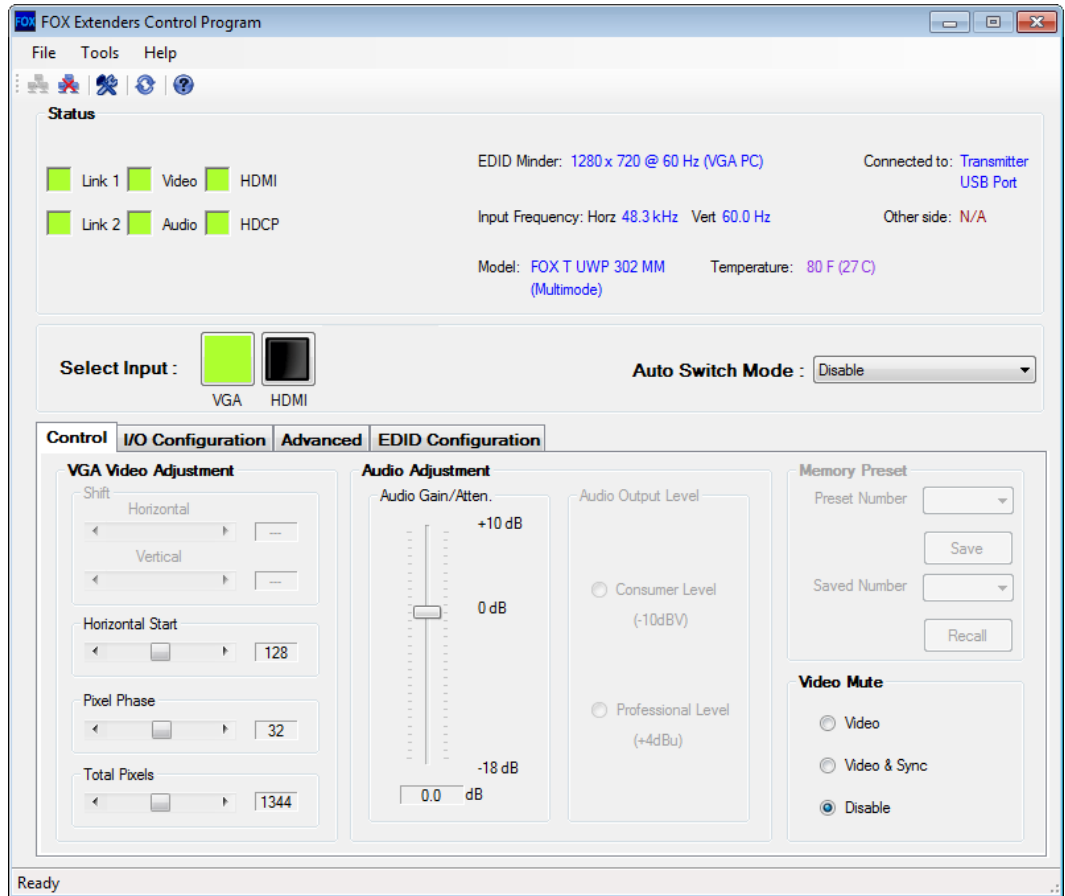
Figure 22. Main Screen

> **NOTE:**   The main screen may appear different from the image above depending on what is connected. Functions which are not applicable are disabled.

Status panel
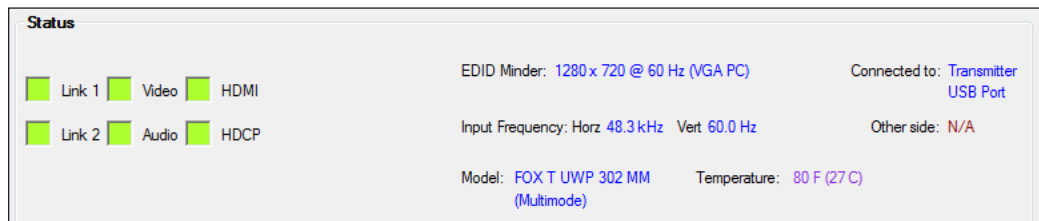
Figure 23. Status Panel

The Status panel of the screen provides visual indications of the connection status and the names of the connected units. The following information is displayed:

Link 1 Indicator — Displays green when the receiver detects light on Link 1 (connecting the Tx port of the transmitter to the Rx port of the receiver).

Link 2 Indicator — Displays green when an HDMI transmitter detects light on Link 2 (connecting the Tx port of an HDMI receiver to the Rx port of an HDMI transmitter).

> **NOTE:**   For transmission of HDMI video with HDCP content, two fibers are required.

Video Indicator — Displays green when the transmitter detects an active signal on the VGA input.

Audio Indicator — Displays green when the device detects audio with the selected input. If the selected input has an analog audio signal above -44 dBV, the indicator turns green immediately, but turns gray after the audio signal level drops below the threshold continuously for 10 seconds. If the selected input has digital embedded audio, the indicator displays green and remains green as long as the digital audio signal is detected.

HDMI Indicator — Displays green when the unit receives an HDMI input signal.

HDCP Indicator — Displays green if the input signal is HDCP-encrypted.

EDID Minder — Displays the current EDID Minder settings.

Input Frequency — Displays the horizontal and vertical frequencies of the current input. This field indicates No Input Signal if there is no input signal.

Model — Displays the model of the device that is connected via RS-232 or USB.

Connected to — Displays the communication port of the unit that is connected to the PC. This can be either a communication port on the transmitter or a communication port on the receiver.

Other side — Displays `N/A` whenever connected to a FOX T UWP 302.

Temperature — Displays the internal temperature of the device.

Input Selection panel

The Input Selection panel is used to select inputs manually or automatically.

Figure 24. Input Selection Panel

Select Input — Select the desired input. The currently selected input is green. The left button represents Input 1 (VGA). The right button represents Input 2 (HDMI).

Auto Switch Mode — Allows the device to auto switch inputs based on the chosen configuration. The options are Disabled, Priority to Highest Active, or Priority to Lowest Active.

> **NOTE:** The default setting on the FOX T UWP 302 is `Priority to Highest Active`.

Control tab

The Control tab contains picture and audio adjustments. To access these options, click the `Control` tab.
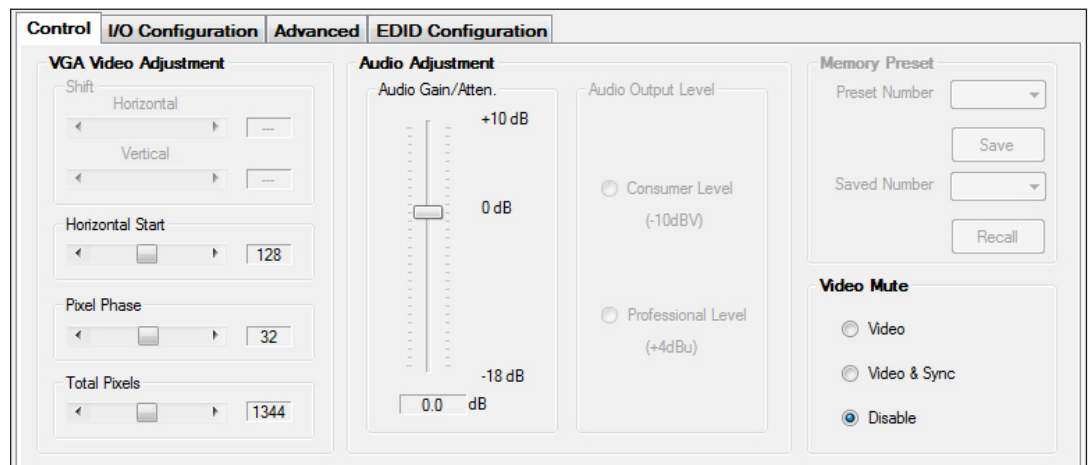

Figure 25. Control Tab

VGA Video Adjustment panel

The VGA Video Adjustment panel of the Control tab adjusts the following video parameters on the analog input: horizontal start, pixel phase, and total pixels.
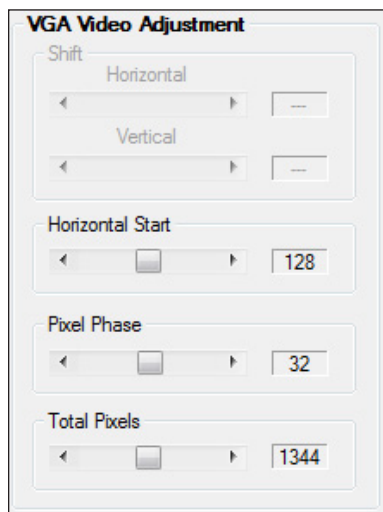

Figure 26. **VGA Video Adjustment Panel**

Horizontal Start — Defines the number of pixels in the blanking area to the left of the active area.

In the Horizontal Start panel of the VGA Video Adjustment panel, click the `Left` or `Right` arrows, or click and drag the slider to adjust the setting to the desired value. The field to the right of a slider shows the current value for the associated setting.

> **NOTE:** The value for Horizontal Start can range between 0 and 255.
> Default setting: `128`.

Pixel Phase — Controls the pixel phase. Sampling at the optimum pixel phase results in a bright, stable output.

In the Pixel Phase panel of the VGA Video Adjustment panel, click the `Left` or `Right` arrows, or click and drag the slider to adjust the setting to the desired value. The field to the right of a slider shows the current value for the associated setting.

> **NOTE:** The value for Pixel Phase can range between 0 and 63. Default setting: `32`.

The Total Pixels setting (see below) must be correctly set before adjusting Pixel Phase.

Total Pixels — Controls the total number of pixels in an active window.

In the Shift panel of the VGA Video Adjustment panel, click the `Left` or `Right` arrows, or click and drag the slider to adjust the setting to the desired value. The field to the right of a slider shows the current value for the associated setting.

> **NOTE:** The Total Pixels setting depends on the input rate. It is ±255 of the default value.

Audio Adjustment panel

The Audio Adjustment panel of the Control tab adjusts the gain and attenuation of analog input audio.

Audio Adjustment
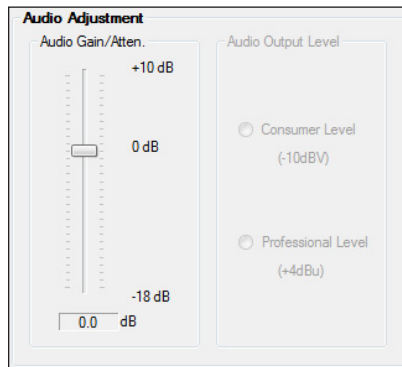
Audio Gain and Attenuation — Adjusts the analog input audio gain or attenuation value. This ranges from -18.0 dB to +10.0 dB in 1.0 dB increments.

In the Audio Gain/Atten. panel, click and drag the slider to the desired level. The current value is displayed in a field below the slider control.

Audio Output Level — Is not available for the FOX T UWP 302.

I/O Configuration Tab

The I/O Configuration tab contains options for input and output settings. To access these options, click the `I/O Configuration` tab.
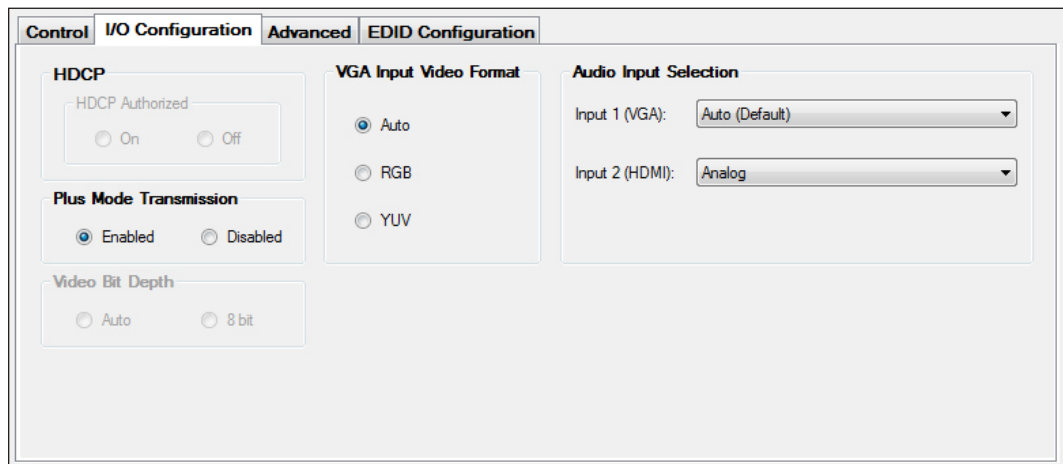
Figure 27. I/O Configuration Tab

HDCP panel

The HDCP Authorized setting allows a user to turn off HDCP communication on discrete inputs. This setting is useful for devices such as Mac computers, iPhones, iPads, and some Windows 7 sources that will always encrypt their output if the downstream sink is capable of HDCP. By not allowing HDCP signals on an input, most content from these sources can be passed as a non-encrypted signal to analog and digital video outputs. In a video system that has requirements to not transmit HDCP encrypted data (such as non-HDMI FOX Extenders), HDCP Authorized should be turned off at the input to keep the non-HDMI FOX Extender's output unencrypted.

In the HDCP panel, select the `On` radio button to enable the HDCP Authorized setting or select `Off` to disable the HDCP Authorized setting.

> **NOTE:**   Default setting: HDCP Authorized is `On`.

Plus Mode Transmission panel

Plus mode can support rates up to 1920x1200 @ 60Hz, with embedded audio, and is HDCP compliant. Non-Plus mode supports rates up to 1600x1200 and 1080p, is HDCP compliant, and does not contain embedded audio (analog audio is still supported).

In the Plus Mode Transmission panel, click the **Enabled** radio button to enable Plus mode. To disable Plus mode, click the **Disabled** radio button.

> **NOTE:**   Default setting: Plus Mode is **Enabled**.

VGA Input Video Format panel

This setting selects RGB or YUV Input Video Format for the VGA input.

> **NOTE:**   Default setting: VGA Input Video Format is **Auto**.

Audio Input Selection panel

This panel sets the audio type for the VGA and HDMI inputs, or set them to **Auto** for automatic selection.

For each input, select the desired audio input type from the **Input** drop-down list.
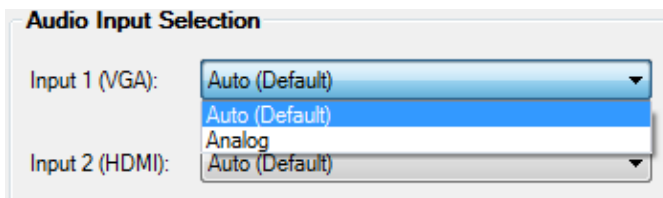
Figure 28.   Audio Input 1 Options

> **NOTE:**   Default setting: Audio Input Selection is **Auto** for all inputs.

Advanced Tab
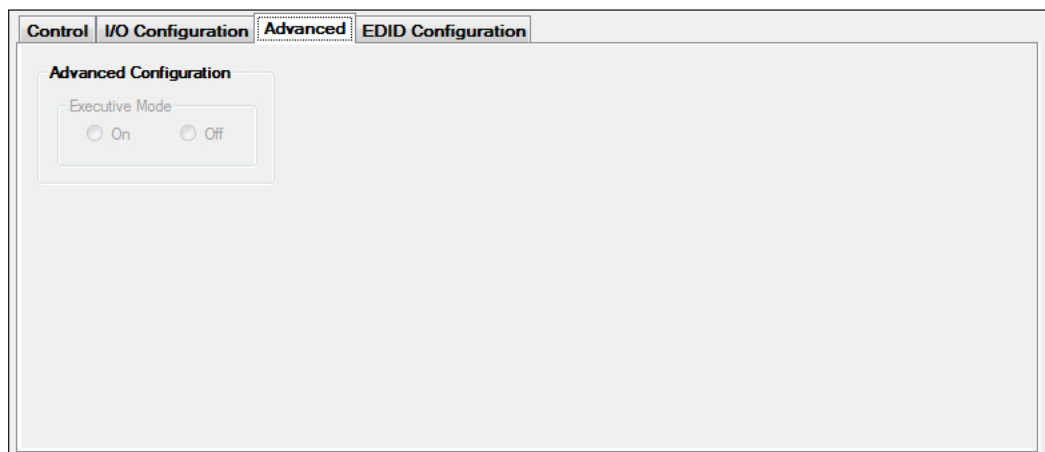
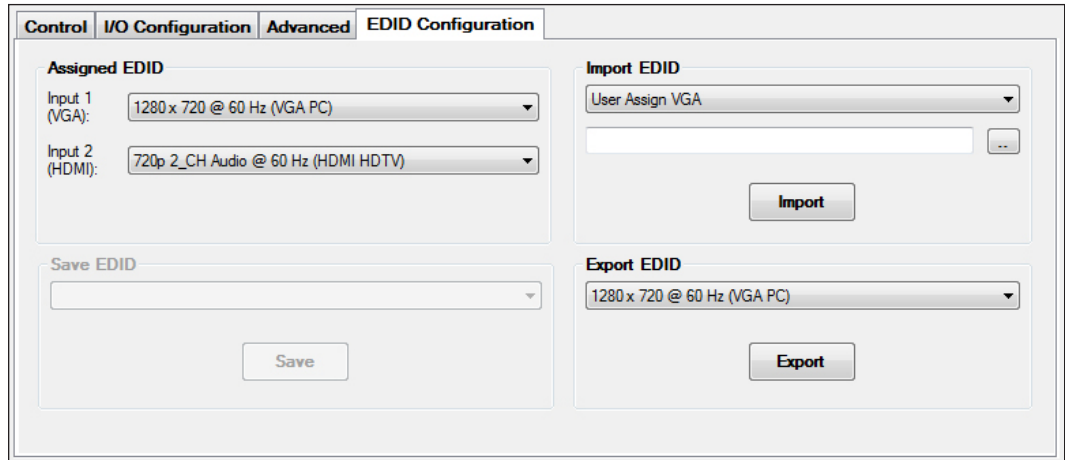
Figure 29.   Advanced Tab

Advanced Configuration panel

> **NOTE:** This setting is not available for the FOX T UWP 302.

EDID Configuration Tab

EDID is a data structure used to communicate video display information, including native resolution and vertical refresh rate requirements, to a source device. The source device then outputs the optimal video format for the display based on the provided EDID data, ensuring proper video image quality.
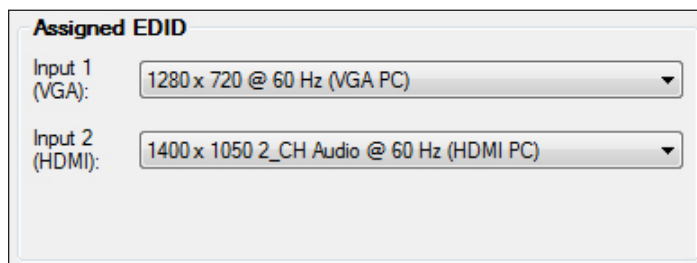
To access EDID options, click the `EDID Configuration` tab.

Figure 30. EDID Configuration Tab

Assigned EDID panel

This shows the current EDID configuration for each input. You can assign unique EDID for any input.

Figure 31. Assigned EDID Panel

Choose the desired EDID from the drop-down list of the desired input.

> **NOTE:** The default EDID is 720p for the HDMI input and 1280x720 for the VGA input.

Save EDID panel

> **NOTE:** This setting is not available for the FOX T UWP 302.

Import EDID panel

EDID files can be imported to the FOX T UWP 302 and saved in a table on the device.

> **NOTE:** When an EDID file is imported to a user assigned input location, the EDID is automatically assigned to the selected user input.
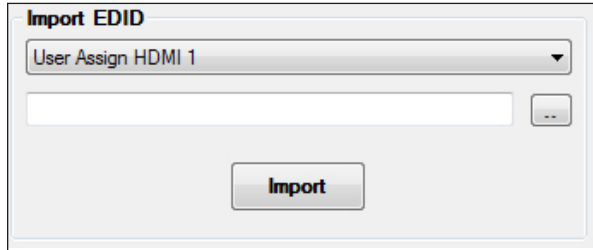

Figure 32. **Import EDID Panel**

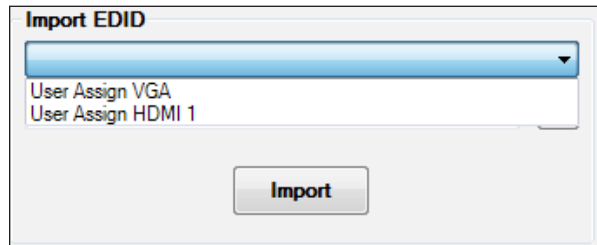1. In the Import EDID panel, from the drop-down list, select the desired input.

Figure 33. **Import EDID Options**

2. Click on the `Browse` button to locate and select the desired EDID file on the connected PC. The Open dialog box opens.

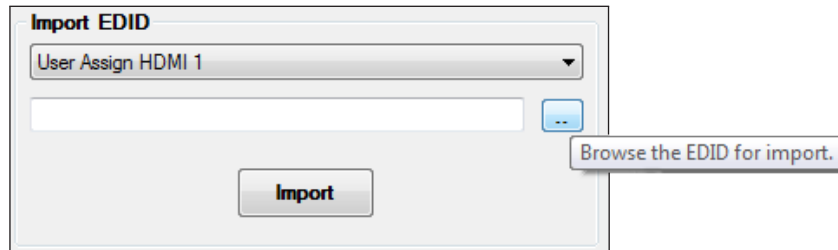**Figure 34.** **Browse Button for Importing EDID**

3. Select the EDID file and click the `Open` button. The Open dialog box closes.

4. Click the `Import` button. The EDID is imported and assigned to the selected input.

Export EDID panel

EDID files on the FOX T UWP 302 can be exported to the connected PC. To open and view them, use the Extron EDID Manager software, available at **www.extron.com**.

The EDID Manager software aids in troubleshooting any EDID related issues that may occur during configuration or operation of an AV system.
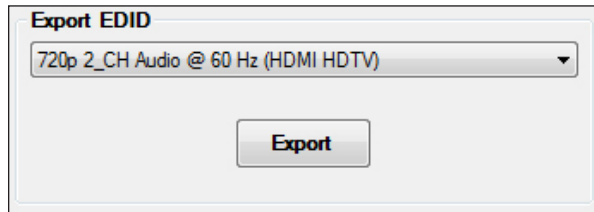

Figure 35. Export EDID Panel

1. In the Export EDID panel, select the desired EDID to export from the drop-down list.

2. Click the `Export` button. The Save As dialog box opens.

3. Select the export destination and file name for the EDID.

4. Click the `Save` button. The EDID setting is exported.

Reference Information

This section describes basic installation information of the Extron Firmware Loader program to upload firmware. Topics in this section include:

- **Firmware Loader**
- **Firmware Updates**

Firmware Loader

To upload and update firmware for the FOX T UWP 302, download the new firmware to a connected computer and upload the firmware with the Firmware Loader utility or the FOX Extenders Control Program (see to the *FOX Extenders Control Program Help File*).

Downloading Extron Firmware Loader

Figure 36. **Firmware Loader on the Extron Website**

1. On the Extron website, **www.extron.com**, click the `Download` tab.
2. From the left sidebar, click the `Software` link.
3. Navigate to Firmware Loader.
4. Click the `Download` link on the right that corresponds with the program.
5. Submit any required information to start the download.

Installing Firmware Loader

1. Once Firmware Loader has been downloaded, run the .exe file from the save location. The installation wizard window opens.

2. Click the **Next** button to continue through the installation process, filling out necessary information and specifying custom settings on each prompt.

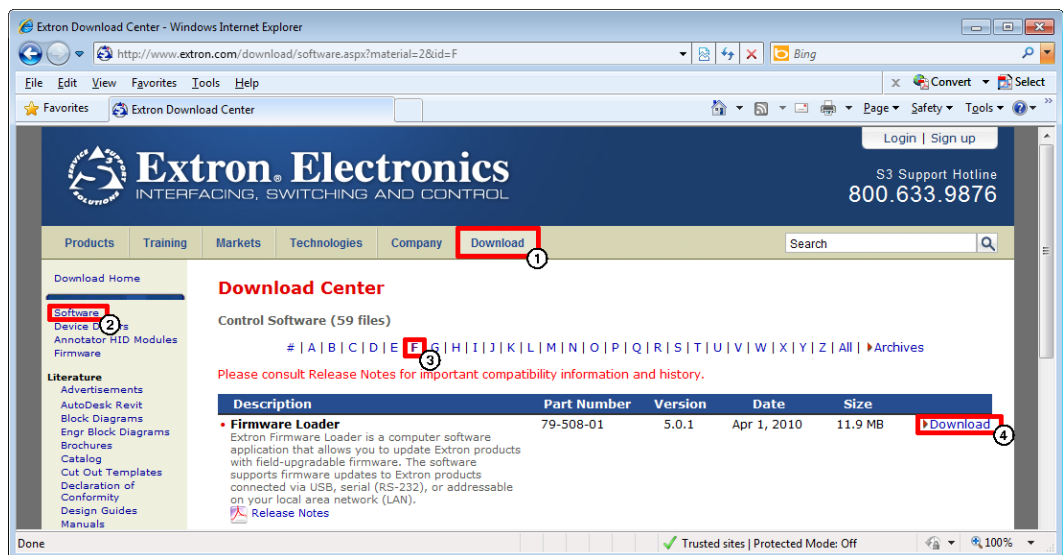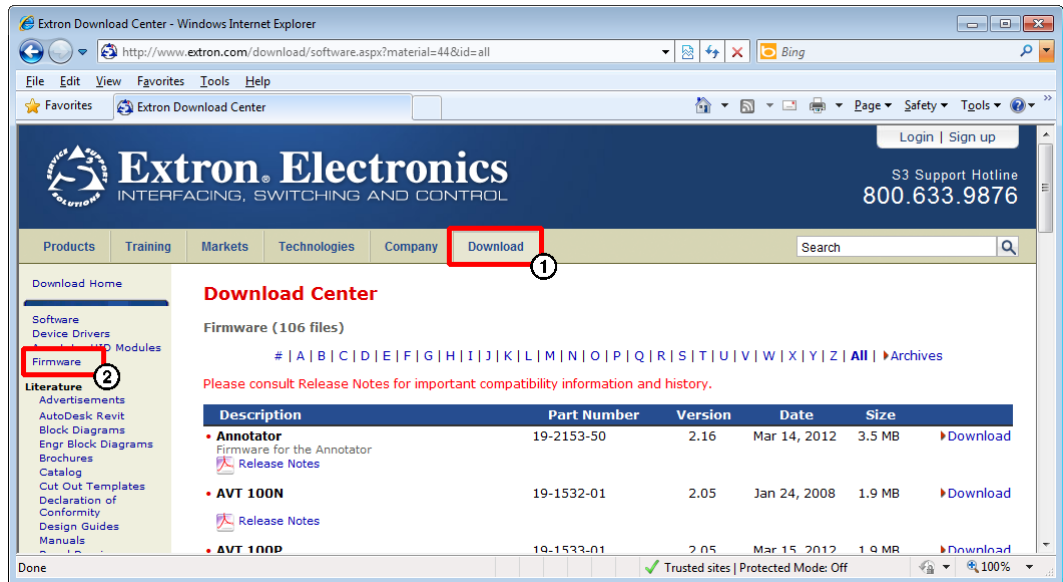# Firmware Updates

Downloading Firmware

Figure 37. Downloading Firmware from the Extron Website

1. On the Extron website, **www.extron.com**, click the **Download** tab.

2. From the left sidebar, click the **Firmware** link.

3. Navigate to FOX T UWP 302.

4. Ensure the available firmware version is a later version than the current one on the device.

   > **NOTE:** The firmware release notes are in a PDF file that provides details about the changes between different firmware versions. The file can be downloaded from the same page as the firmware on the Extron website, **www.extron.com**.

5. Click the **Download** link to the right of the desired device.

6. Submit any required information to start the download. Note where the file is saved.

7. Open the executable (.exe) file.

8. Follow the instructions on the Installation Wizard screens to install the new firmware on the computer. A Release Notes file, giving information on what has changed in the new firmware version, and a set of instructions for updating the firmware are also loaded.

Installing Firmware with Firmware Loader

1. Open Firmware Loader and establish a connection between the computer and the device. The Add Device... window opens.
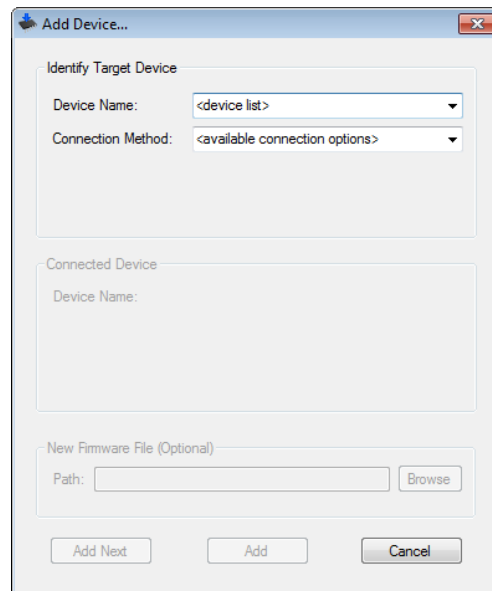

Figure 38.   Add Device... Window

2. Select FOX T UWP 302 from the `Device Name` drop-down list.

3. Select the method of connection from the `Connection Method` drop-down list.

4. Depending on the connection method, additional options appear. Make the appropriate selections for the current connection method.

5. Click the `Connect` button.

6. Click the `Browse` button in the New File Firmware (Optional) section.

7. On the Open window, navigate to the new firmware file, which has an .S19 extension, and click the `Open` button.

> **ATTENTION:**   Valid firmware files must have the file extension .S19. A file with any other extension is not a firmware upgrade for this device and could cause the device to stop functioning.

8. Click `Add`. The Add Device... window closes and the device and firmware are listed in the Firmware Loader main window.

9. Click `Begin` to start the upload process.

10. Close Firmware Loader when the `Remaining Time` field shows `00.00.00`, the `Progress` column shows `100%`, and the `Status` field shows `completed`.

> **NOTE:**   See **Simple Instruction Set Control** on page 13 for reset information.

Extron Warranty

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

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and Central America:
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Anaheim, CA 92805
U.S.A.

Europe and Africa:
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The Netherlands

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

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Kyodo Building, 16 Ichibancho
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686 Ronghua Road
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Shanghai 201611
China

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Dubai Airport Free Zone
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This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or 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	**Europe**: 31.33.453.4040
Asia: 65.6383.4400	**Japan**: 81.3.3511.7655

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.

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