User Guide

TouchLink®

TLP 710MV and TLP 710TV

TouchLink Touchpanel Control Systems





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.

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Instructions de sécurité • Français

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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.

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Instrucciones de seguridad • Español

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

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Chinese Simplified (简体中文)

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Chinese Traditional (繁體中文)

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Japanese

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Korean

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This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. The Class A limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference; the user must correct the interference at his own expense.

NOTE:

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

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Conventions Used in this Guide

In this user guide, the following are used:

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.

Commands are written in the fonts shown here:

^AR Merge Scene,,Op1 scene 1,1 ^B 51 ^W^C
[Ø1]RØØØ4ØØ3ØØØØ4ØØØØ8ØØØØ6ØØ[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 "O" represents the capital letter "o".

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

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

Variables are written in slanted form as shown here:

ping xxx.xxx.xxx.xxx -t
SOH R Data STX Command ETB ETX

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

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

Click the **ok** button.

Specifications Availability

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

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Introduction

This guide describes the function, installation, and operation of the TouchLink TLP 710MV and TLP 710 TV panels. The guide also provides information about optional accessories that are available from Extron for both panels.

Unless otherwise stated, the terms TLP 710 Series, TLP 710, and TouchLink touchpane refer to both models.

About the TLP 710MV and TLP 710TV

Each unit has a 7-inch widescreen display with a resolution of 800x480. The screen displays graphic objects and text, which are associated with user-defined functions. The touch overlay screen allows the user to initiate or activate functions by touching the objects on the screen.

The screen layout is designed with the Extron GUI Configurator software. The functions are assigned to the screen objects with the Extron Global Configurator software. The user can define the graphics and the functions associated with those graphics, providing versatility and adaptability to the configuration and control of an AV system.

A motion sensor, light sensor, and a speaker provide sleep mode, auto dimming, and audible feedback.

The TLP 710MV can be wall or rack mounted.

The TLP 710TV can be placed on a desktop or VESA® mounted on a wall or furniture, using the Extron LPVM-1 kit.

Features

7- inch LCD screen — displays a range of graphic objects and text on a 800x480 pixel screen with 18-bit color depth.

Touch screen overlay —provides simple and intuitive control over a range of functions by touching the icons displayed on the screen.

Built-in MTP —a twisted pair receiver accepts either S-video or composite video signals over standard CAT 5-type cable.

GUI Configurator and Global Configurator Software — allow the user to design a custom graphical user interface (GUI) and associate a range of different functions with objects in that display. No programming knowledge is needed.

Easy configuration and flexibility — on-screen graphics and text, as well as the functions associated with them, can be easily changed to adapt the control panel to the evolving needs of the system, avoiding the need for additional control modules.

Ethernet connection — provides an inexpensive, easily installed cabling option for connecting products located anywhere else on the network.

Power over the Ethernet (PoE) — allows the touchpanel to receive power and control over a single CAT 5-type cable, eliminating the need for a local power supply - PoE injector included.

Compatible with the full range of Extron IP Link Pro control processors — allows easy integration into existing systems.

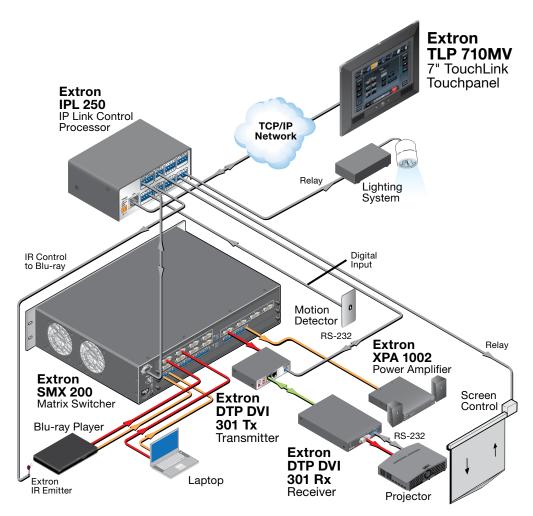


Figure 1. TLP 710MV Application Diagram

Programmable LEDs — can be user-defined to provide feedback about various system states.

Light sensor — adjusts LCD screen backlighting to compensate for ambient lighting.

Motion sensor — When no motion is detected for a user-defined period of time, the unit enters sleep mode to conserve power. When a user approaches the screen, the panel detects motion and is reactivated.

Speaker — provides audible feedback in response to events triggered by the user and audio playback for video previews.

Multiple mounting options — The TLP 710MV can be wall-mounted, rack-mounted, or furniture-mounted.

The TLP 710TV comes with a stand that allows it to stand on a desktop or be mounted on the optional Extron swivel mount adapter (SMA-1). If the stand is removed, the unit can be mounted on a wall or furniture using a VESA D 75mm mount kit.

Color options — The TLP 710MV is available in black or white.

Requirements

Computer

For a complete list of the requirements for running GUI Configurator or Global Configurator, see the Extron web page for that software.

NOTE: Use Global Configurator 3.3 or a later version and GUI Configurator 1.3 or a later version to configure the TLP 710MV or TLP 710TV.

Other Hardware

An Extron IP Link control interface must also be connected to the same network domain as the TouchLink panel. Suggested models include:

- IPL T S Series (for example, IPL T S4)
- IPL 250
- IPL T CR48
- IPCP 505

See the Extron website (www.extron.com) for further information about these products.

Panel Features

This section describes:

- TLP 710MV Front Panel Features and Operations
- TLP 710MV Rear Panel Features and Connections
- TLP 710TV Front Panel Features and Operations
- TLP 710TV Rear Panel Features and Connections

TLP 710MV Front Panel Features and Operations



Figure 2. TLP 710MV Front Panel

- 1 Motion sensor is capped with a small Fresnel lens that focuses light onto the sensor. When no motion has been detected for a user-defined period of time, the unit enters sleep mode. When motion is detected by the sensor, the screen display is restored and active.
- 2 Microphone is located below the LCD screen.
- 3 Speaker one located under the screen, on the left side of the panel, provides audible feedback for the user.
- Programmable LEDs one on each top corner can be programmed to provide system feedback. They light red or green and can blink or light solid in response to user-defined events.
- (5) **LCD screen** has a 800x480 resolution with a touch overlay. A graphical user interface, designed using the **Extron GUI Configurator software**, displays buttons, text, or icons on the screen (see page 24). These are configured for a range of user-defined functions, using the **Extron Global Configurator software** (see page 29).

- 6 Connection status LED is unlit during normal operation. Blinks red if the connection to the IP Link controller is lost.
- **Bezel** removable with Extron removal tool (provided). Clips fit into attachment points on the front panel (see figure 4 below) and snap into place.

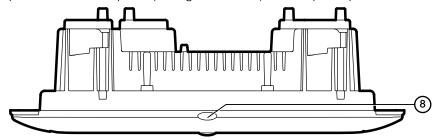


Figure 3. TLP 710MV Top View

8 Light sensor — is on top of the display frame. The sensor monitors the level of ambient light and adjusts the screen brightness. The sensor can be viewed only from above the panel.

Reset Buttons and LED

The front bezel is removed by inserting the Extron removal tool into the slots on the top of the unit. Behind the bezel are two buttons and an LED.

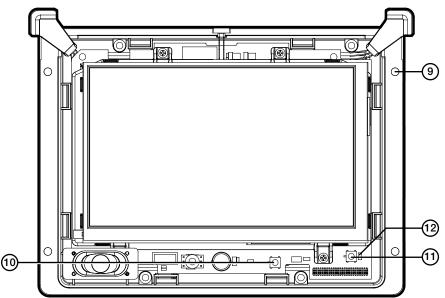


Figure 4. TLP 710MV Front Panel with the Bezel Removed

- 9 Bezel attachment points
- Menu button activates the on-screen menus for calibrating the unit (see page 14).
- 1 Reset button allows the unit to be reset in any of four different modes. For further information see Reset Modes on page 41.
- Reset LED provides feedback about the reset status when the user presses the reset button. For further information see Reset Modes on page 41.

TLP 710MV Rear Panel Features and Connections

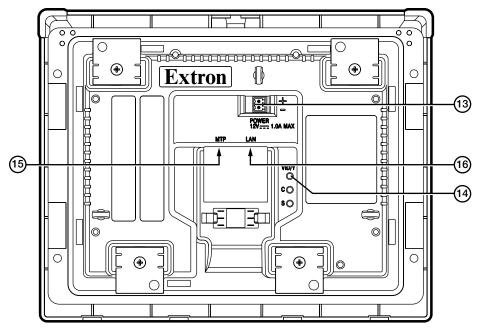


Figure 5. TLP 710MV Rear Panel Features

12 VDC, 1.0 A power supply (not provided) to the power supply socket on the rear panel. Ensure the connections have the correct polarity as shown below.

NOTES:

- Extron recommends using the Power over Ethernet power supply. The 12 VDC, 1.0 A power supply should be used only for setup or troubleshooting.
- If both power supplies are connected to the TLP 710MV, the PoE power supply takes precedence.

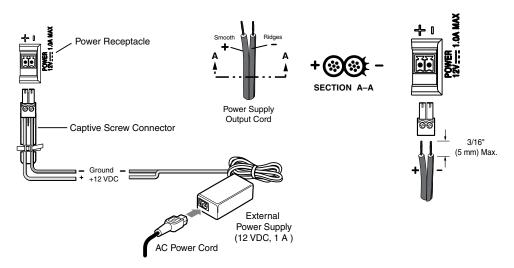


Figure 6. Power Supply Connection

ATTENTION:

- 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 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.
- 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 building structure or similar structure.

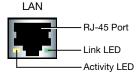
NOTES:

- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inches (5 mm). If the exposed portion is any longer, the exposed wires may touch, causing a short circuit between them. If it is any shorter, the wires can be easily pulled out, even if tightly fastened by the captive screws.
- Do not tin the wires. Tinned wire does not hold its shape and can become loose over time.
- MTP signal adjustments Use a small screwdriver to adjust these three MTP signal variables: S-video luminance gain (VID/Y), S-video chrominance gain (C), and sharpness (S). For composite video signals, the gain is controlled by the VID/Y adjustment. Insert a small Phillips head screwdriver into the recess and turn clockwise to increase adjustment or counterclockwise to decrease.
- (5) MTP input A twisted pair cable, terminated with an RJ-45 connector, provides video and audio input from an Extron MTP transmitter. The MTP port is in the top surface of the recessed area (see the arrow to the left in figure 5).

ATTENTION: Connect the MTP transmitter to the MTP socket and the network connector to the network socket. Although both use RJ-45 connectors, the MTP socket (on the left) must be connected to an MTP transmitter and the network socket (on the right) must be connected to a LAN. The wires on each connector use different voltages and inputting the wrong voltages into a socket will damage the TLP 710MV.

Network LAN and Power over Ethernet connector —

The TLP 710MV connects to a network using a twisted pair cable, terminated with an RJ-45 connector. The LAN port is in the top surface of the recessed area (see the arrow to the right in figure 5).



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

An Extron IP Link control interface must also be connected to the same network domain. Suggested models are listed on page 3.

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.

Extron recommends using a Power over Ethernet (PoE) power supply. Use a straight-through Ethernet cable to connect the power supply 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 48 VDC from the power supply to the TLP 710MV. Connect the IEC power cord to a convenient 100 VAC to 240 VAC, 50-60 Hz power source.

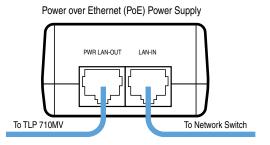


Figure 7. Connecting the Power over Ethernet Power Supply

ATTENTION:

- The TLP 710MV and TLP 710TV are intended for connection to a Power over Ethernet circuit for intra-building use only and are considered to be part of a Network Environment 0 per IEC TR62101.
- Always use a power supply supplied or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may damage the supply and end product.
- 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.
- 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. Power over Ethernet (PoE) is intended for indoor use only. No part of the network that uses PoE can be routed outdoors.
- 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 building structure or similar structure.

TLP 710TV Front Panel Features and Operations



Figure 8. TLP 710TV Front Panel Features

- ① **Motion sensor** is capped with a small Fresnel lens that focuses light onto the sensor. When no motion has been detected for a user-defined period of time, the unit enters sleep mode. When motion is detected by the sensor, the screen display is restored and active.
- 2 Microphone is located below the LCD screen.
- 3 Speaker one located under the screen, on the left side of the panel, provides audible feedback for the user and audio for video previews.
- Programmable LEDs one on each top corner can be programmed to provide system feedback. They light red or green and can blink or light steadily in response to user-defined events. These can be seen more clearly in the figure below.
- (5) **LCD screen** has a 800x480 resolution with a touch overlay. A graphical user interface, designed using the **Extron GUI Configurator software**, displays buttons, text, or icons on the screen (see page 24). These are configured for a range of user-defined functions, using the **Extron Global Configurator software** (see page 29).
- 6 Connection status LED is unlit during normal operation. Blinks red if the connection to the IP Link controller is lost.
- 7 **Light sensor** (see the figure to the right) is on top of the display frame. The sensor monitors the level of ambient light and adjusts the screen brightness. The sensor can be viewed only from above the panel.



TLP 710TV Rear Panel Features and Connections

The TLP 710TV has a stand that allows it to be placed on desktop. The stand can be removed to VESA mount the unit. Both the stand and the touchpanel have removable covers that conceal the rear panel features and protect cables that are attached to the TLP 710TV.

The **rear and base covers can be removed** using the Extron removal tool (provided) (see page 38).

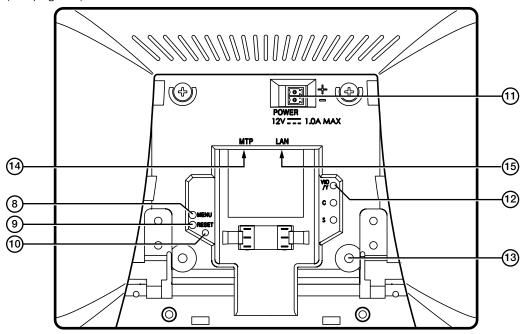


Figure 9. TLP 710TV with the Stand and Cover Removed

The following features and connections are available through the back panel.

- Menu button activates the on-screen menus for calibrating the unit (see page 14).
- Reset button allows the unit to be reset in any of four different modes. For further information see "Reset Modes" on page 41.
- 10 Reset LED provides feedback about the reset status when the user presses the reset button. For further information see "Reset Modes" on page 41.

10 Power connector — Connect the 2-pole, 3.5 mm captive screw connector from the 12 VDC, 1.0 A power supply (not provided) to the power supply socket on the rear panel. Ensure the connections have the correct polarity as shown in figure 10.

NOTES:

- Extron recommends using the Power over Ethernet power supply.
 The 12 VDC, 1.0 A power supply should only be used for setup or troubleshooting.
- If both power supplies are connected to the TLP 710TV, the PoE power supply takes precedence.

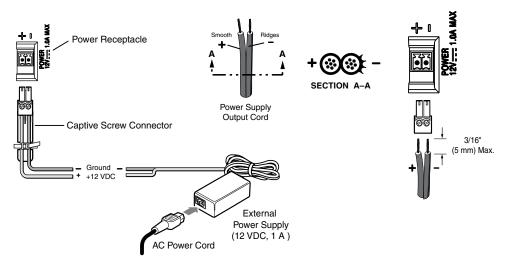


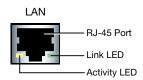
Figure 10. Power Supply Connection

ATTENTION: See the **Attention** on page 7 for important information about power supplies.

NOTE: See the **notes** on page 7 for important information about wiring captive screw connectors.

- (2) MTP signal adjustments Three MTP signal adjustments are available for S-video luminance gain (VID/Y), S-video chrominance gain (C), and sharpness (S). For composite video signals, the gain is controlled by the VID/Y adjustment. Insert a small Phillips head screwdriver into the recess and turn clockwise to increase adjustment or counterclockwise to decrease.
- **VESA mounting holes** Four holes are arranged in a pattern that is in accordance with the VESA FDMI standard, type D 75 mm (see **Figure 9**). See page 46 for more information about **mounting the TLP 710TV with the Extron LPVM-1**.

(4) MTP input — A twisted pair cable, terminated with an RJ-45 connector, provides video and audio input from an Extron MTP transmitter. The MTP port is in the top surface of the recessed area (see the arrow to the left in figure 9).



CAUTION: Connect the MTP transmitter to the MTP socket and the network connector to the network socket. Although both use RJ-45 connectors, the MTP socket (on the left) must be connected to an MTP transmitter and the network socket (on the right) must be connected to a LAN. The wires on each connector use different voltages and inputting the wrong voltages into a socket will damage the TLP 710TV.

(5) Network LAN and Power over Ethernet Connector — The TLP 710TV connects to a network using a twisted pair cable, terminated with an RJ-45 connector. The LAN port is in the top surface of the recessed area (see the arrow to the right in figure 9).

The LAN port has two LEDs. The green LED lights steadily to indicate that the touchpanel is connected correctly to a network. The yellow LED flashes to indicate that data is being passed to or from the touchpanel.

An Extron IP Link control interface must also be connected to the same network domain. **Suggested models** are listed on page 3.

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.

Extron recommends using a Power over Ethernet (PoE) power supply. Use a straight-through Ethernet cable to connect the power supply 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 48 VDC from the power supply to the TLP 710TV. Connect the IEC power cord to a convenient 100 VAC to 240 VAC, 50-60 Hz power source.

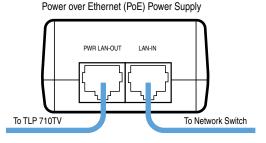


Figure 11. Connecting the Power over Ethernet Power Supply

ATTENTION: See the **Attention** on page 8 for important information about using a Power over Ethernet power supply.

NOTE: The twisted pair cable providing the MTP (Figure 9, 19) and network LAN (Figure 9, 19) connections should be secured together and to both the back panel and base using zip-ties as shown below.

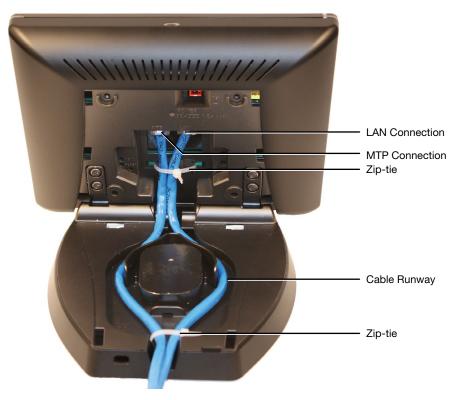


Figure 12. Connecting and Securing Cables

Initial Calibration

This section describes:

- Accessing the Internal On-screen Menus
- Main Screen
- Volume Screen
- Time Screen
- Network Screen
- Video Screen
- Touch Calibration Screen

Accessing the Internal On-screen Menus

When the TouchLink panel first has power applied, the unit boots up and displays the opening screen. To access the on-screen menus, press the **Menu** button (see page 5 for the **TLP 710MV** or page 10 for the **TLP 710TV**).

The menus open at the Main screen. There are five different screens (Main, Volume, Time, Network, and Video) that can be selected by pressing the appropriate button at the left edge of the screen.

There is also an **Exit** button at the bottom left corner of the screen. This button applies and saves any changes and closes the menu screens.

Main Screen

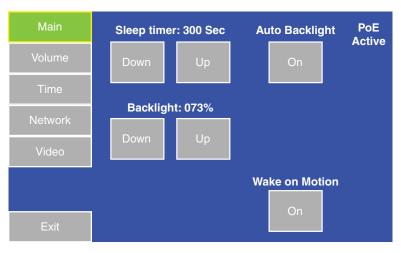


Figure 13. Main Screen

Values can be changed by pressing the buttons to highlight them. Press the **Down** or **Up** buttons to adjust the values or toggle the Auto Backlight or Wake on Motion buttons between **Off** and **On**. When the function has a value (other than on or off), that value is shown above the buttons.

The Sleep timer buttons determine how long the panel will be inactive before it enters Sleep mode, when the screen goes dark to save power. The time can be changed from 0 to 50,000 seconds (in 10-second increments). The time that is currently selected is shown above the buttons.

The screen may need a high level of backlighting for readability when ambient lighting is high. With low ambient lighting, the backlighting should be low.

Auto Backlight provides a suitable amount of backlighting that is automatically calculated from the amount of ambient light detected by the light detector.

When Auto Backlight is set to Off, the Backlight buttons allow the backlighting to be set manually from 0 to 100 percent.

NOTE: When Auto Backlight is set to **0n**, the value of Backlight can be changed but this does not affect the amount of backlighting until Auto Backlight is inactivated.

Wake on Motion activates the panel from Sleep mode when motion is detected near the unit. Use the on-screen buttons to toggle the Auto Backlight or Wake on Motion options between **Off** and **On**.

Volume Screen



Figure 14. Volume Screen

Press the **Down** or **Up** buttons to highlight one of the adjustable audio features. Use the **Down** and **Up** buttons to adjust the following settings.

- Master volume (between Ø and 255; default 12Ø) sets the maximum volume for all
 the other sound volume settings. For example, if the master volume is set to 2ØØ
 (approximately 80 percent of maximum), even when the Line In volume is set to 255
 (maximum), it is equivalent to only 80 percent of maximum.
- Click (between Ø and 255; default 12Ø) sets the volume for audible feedback that accompanies events such as a screen button being pressed.
- Sounds (between Ø and 255; default 12Ø) sets the volume of audio from any audio file playback.
- Line In (between Ø and 255; default 12Ø) sets the volume of the audio signal received through the line in from an Extron MTP transmitter.

Time Screen



Figure 15. Time Screen

Use the **Down** or **Up** buttons to adjust the Month, Day, Year, Hours, and Minutes.

NOTE: The Hours value uses the 24-hour clock. For 10 am, set hours to 10; for 10 pm, set hours to 22.

Network Screen

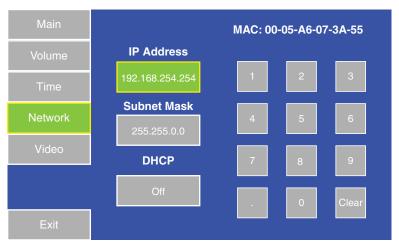


Figure 16. Network Screen

Select IP Address or Subnet Mask by pressing the appropriate button. When one of the buttons is selected, an on-screen keypad appears that allows the user to select **Clear**, digits between **0** and **9**, and "." (dot).

NOTE: The factory default IP address for both the TLP 710MV and TLP 710TV is 192.168.254.254. The default subnet mask is 255.255.0.0. Consult with your IT department to ensure these addresses are correctly assigned.

Toggle the DHCP button between **0n** and **0ff** to enable or disable Dynamic Host Configuration Protocol (DHCP). This determines whether the unit will have a permanent IP address or will have one provided by the network, when required. The default setting is Off.

Video Screen



Figure 17. Video Screen

The small gray rectangle provides a video preview window for adjusting video properties. Use the **Down** or **Up** buttons to adjust:

- Contrast between Ø and 127 (default, 64)
- Color between Ø and 127 (default, 64)
- Brightness between Ø and 255 (default, 128)
- Tint between Ø and 255 (default, 128)

Touch Calibration Screen

After setting the values, press the **Menu** button a second time to calibrate the touch area of the Touchpanel.

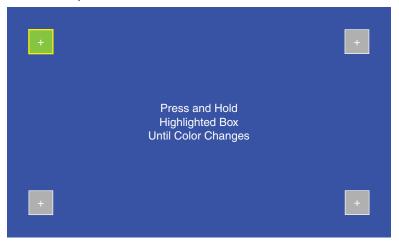


Figure 18. Touch Calibration Screen

Press on the green box until the color reverts to gray with a white border and a second box is highlighted. Repeat until all four boxes have been pressed and calibrated. At that point the screen returns to the **Main screen** (see page 14).

Exit the on-screen menus, by pressing the **Exit** button in the bottom left corner of the menu screens.

Configuration Software

This section of the user guide provides information about:

- The Configuration Software
- Installing the Software
- Using the TouchLink Panel Web Pages
- Updating the Firmware
- Using GUI Configurator
- Using Global Configurator

The Configuration Software

Designing a graphical user interface (GUI) for the TouchLink panel takes two steps:

- 1. Design the layout of the text and graphics using GUI Configurator.
- 2. Assign functions to the text and graphics using Global Configurator.

The GUI Configurator software is a Windows-based application. The TLP interface is designed either by customizing an existing template or by creating an entirely new interface. GUI Configurator offers several templates.

After the GUI has been designed on a PC, the project is saved, built, and uploaded to the TouchLink panel to verify what it looks like on the screen. It is then imported from the TLP unit to Global Configurator where control functions are assigned to the text and graphic items in the layout. After assigning the control functions, the project is rebuilt and uploaded to the controller.

The GUI Configurator and Global Configurator programs provide versatility and adaptability for configuration and control of an AV system as it grows and evolves.

Installing the Software

Installing GUI Configurator and Global Configurator

NOTE: Use Global Configurator 3.3 or a later version and GUI Configurator 1.3 or a later version to configure the TLP 710MV or TLP 710TV.

Insert the provided disc into the DVD drive of the computer. If the setup program does not start automatically, run **Launch.exe** from the DVD directory in Windows **My Computer**. Select the **Software** tab, locate the GUI Configurator program, and click **Install**. Follow the on-screen instructions.

By default, the Installer program creates and places the GUI Configurator program in the C:\Program Files\Extron\GUI Configurator folder. An icon may also be placed on the Windows desktop.

If required, locate the Global Configurator program on the disc or website and install that also. By default, the Installer program creates and places the Global Configurator program in the C:\Program Files\Extron\GCx.x folder, where x.x represents the version of the Global Configurator program. During installation, there is an option to place an icon on the Windows desktop.

Both programs can be downloaded from the Extron website (www.extron.com). Select the <code>Download</code> tab and click the <code>Software</code> option in the sidebar at the left. Navigate to GUI Configurator or Global Configurator and click <code>Download</code> next to the program. Follow the on-screen instructions to complete installation. A folder is created on the <code>C:\</code> drive and an icon may be placed on the desktop.

Using the TouchLink Panel Web Pages

Both of the TouchLink panels have default web pages that can be used to read and change the current settings of the panels. The web pages can be accessed as follows:

1. Open your browser and type the IP address of the TLP 710 unit into the address field. The browser opens the TouchLink panel **Status** page, which is read-only and provides basic information about the model, date and time, and IP settings.

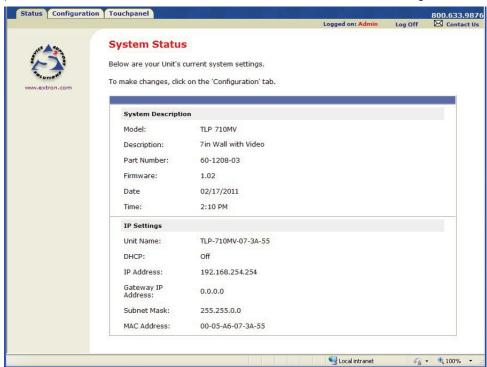


Figure 19. System Status Page

2. Click the **Configuration** tab and then click **System Settings** in the menu in the left sidebar. This page allows the user to modify the IP settings and the date and time settings. These correspond to the **Network Screen** (see page 16) and **Time Screen** (see page 16) settings in the on-screen menus.

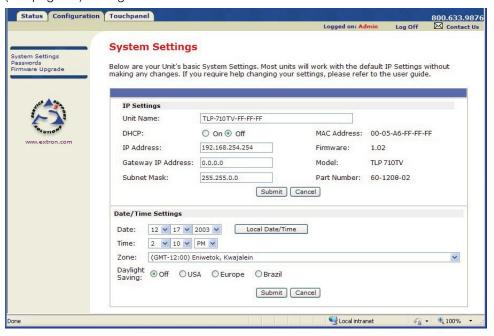


Figure 20. System Settings Page

3. Click **Passwords** in the menu in the left sidebar. This page allows the user to set passwords for an administrator and a user. To set a password, follow the instructions at the top of the page.

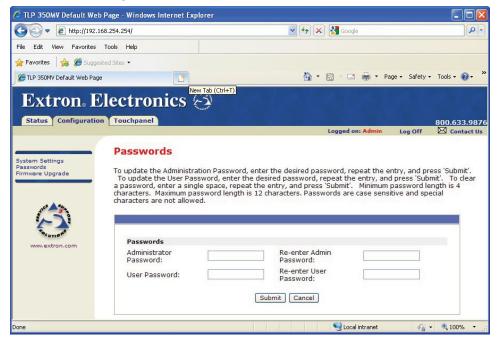


Figure 21. Passwords Page

- **4.** To upgrade the firmware, select **Firmware Upgrade**. For more detailed instructions, see **Updating Firmware from a Web Browser** on page 23.
- 5. Click the **Touchpane1** tab to access the Touchpanel Configuration page, which allows the user to alter the touchpanel and volume settings. These correspond to the **Main settings** (see page 14) and **Volume settings** (see page 15) in the on-screen menus.



Figure 22. Touchpanel Configuration Page

Updating the Firmware

Firmware for both touchpanels can be upgraded using the **Extron Firmware Loader**, using **the TLP 710 default web page**, or using **GUI Configurator**. Before starting, consult your IT team and ensure that the touchpanel has a unique IP address.

Updating Firmware Using Extron Firmware Loader

- 1. Power on a computer that is connected to the same network as the touchpanel.
- Install the Extron Firmware Loader utility onto the computer if it is not already present.
 This is on the software disc that ships with unit or can be downloaded, free of charge, from the Extron website (www.extron.com).

To install from the disc, insert the disc into the DVD drive of the computer and follow the same procedure as **Installing GUI Configurator and Global Configurator** (see page 18).

To install from the Extron website (**www.extron.com**), select the **Download** tab and then the **Software** tab. Locate the Firmware Loader and click **Download**. Follow the on-screen instructions to complete installation.

3. Also from the **Extron Download page**, download the firmware for the TouchLink panel. Click the **Firmware** link on the left sidebar.

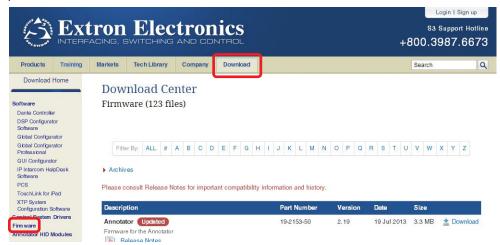


Figure 23. Extron Web Page — Download Center

- 4. Navigate to the TLP 710MV or TLP 710TV firmware and click Download.
 This downloads the firmware to your computer. Note the folder in which the firmware file is saved.
- **5.** Open the Extron Firmware Loader by clicking on the desktop icon.
- 6. Select TLP 710MV or TLP 710TV from the Device drop-down menu.
- 7. Select TCP/IP from the Connection Method drop-down menu.
- **8.** Enter the IP address for the TLP 710, a Telnet port number (usually 23), and a password.
- 9. In the New Firmware File "Path" pane, navigate to the file that was saved in step 4. Click the Add button. The main Firmware Loader screen opens with the TLP 710MV or TLP 710TV listed in the device pane.
- **10.** Click **Begin**. The firmware transfer begins and takes approximately three minutes. When the Total Progress box shows "Completed," select **Exit** from the **File** menu to exit Firmware Loader.

Updating Firmware Using GUI Configurator

Set up the computer and touchpanel as described in steps 1 and 2 in the previous section (**Updating Firmware Using Extron Firmware Loader**). If necessary, install the Extron Firmware Loader utility onto the computer (see **Installing the Software**).

- 1. Find the firmware file on the Extron Website and download it to your computer, as described in steps 3 and 4 in the previous section.
- 2. Open GUI Configurator.
- 3. Select Firmware Update Manager... in the Tools menu. Firmware Loader opens.

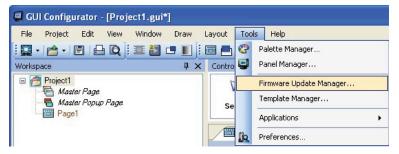


Figure 24. Opening Firmware Loader from GUI Configurator

4. Follow steps 7 through 10 in the previous section (**Updating Firmware Using Extron Firmware Loader**).

Updating Firmware from a Web Browser

- 1. Power on a computer that is connected to the same network as the TLP 710.
- **2.** From the Extron website (**www.extron.com**), download the firmware for the touchpanel.
 - a. Click the Download tab on the Extron home page
 - **b.** Select the **Firmware** option (see figure 23).
 - c. Navigate to the touchpanel firmware and click **Download**.

This downloads the firmware to your computer. Note the folder in which the firmware file is saved.

3. In the address field of your browser, type the IP address of the TLP 710 unit. The browser opens the **TouchLink panel web pages** (see page 19).



Figure 25. Firmware Upgrade Web Page

- **4.** Click the **Configuration** tab (Figure 25, ①) at the top of the page and then select **Firmware Upgrade** (Figure 25, ②) from the sidebar on the left.
- 5. Click the **Browse** button (Figure 25, ③) and navigate to the firmware file that was saved in step 2.
- 6. Click Upload (Figure 25, 4). The Touchpanel screen shows the message "Firmware Uploading... Please Wait...". When the firmware is uploaded, the screen shows the message "Restarting...". Once the firmware is installed, the panel can be calibrated using the on-screen menus (see page 14) or the TouchLink panel web pages (see page 19).

Using GUI Configurator

This section provides an overview of the GUI Configurator program. For complete information about the program, see the GUI Configurator help file (select **Contents** from the **Help** menu or press the <F1> key while the program is running).

NOTE: To configure the touchpanel, use GUI Configurator version 1.3 or later.

To use the GUI Configurator program, follow these instructions:

1. Double click the desktop icon. A splash screen appears momentarily and then the program opens at the main screen behind the GUI Configurator Start Options dialog box.

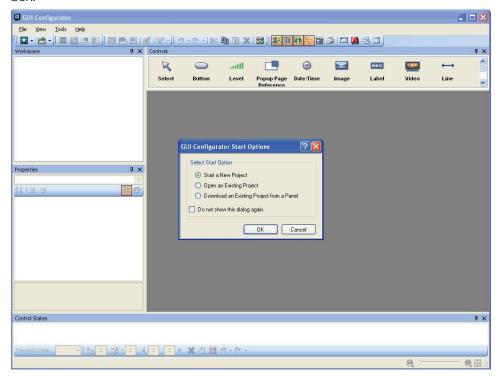


Figure 26. Opening GUI Configurator



Figure 27. GUI Configurator Start Options Dialog Box

- 2. Choose from the following options:
 - **Start a New Project** Clicking **OK** opens a dialog box that offers a choice of project options.

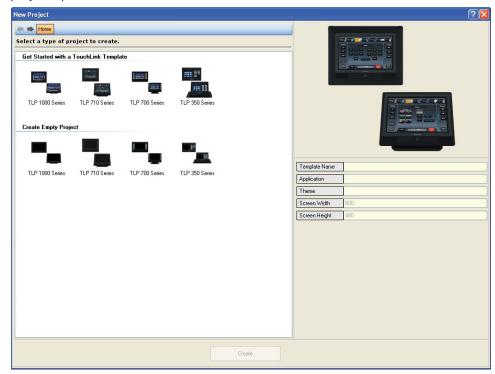


Figure 28. GUI Configurator New Project Dialog Box

A series of icons offers the choice of creating a project with or without a template and allows the size and type of Touchlink panel to be selected. To work from a template, users can choose from a range of factory-loaded templates or from a template they have previously created.

• Open an Existing Project — Clicking OK opens a dialog box.

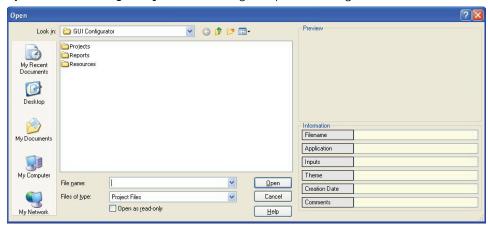


Figure 29. GUI Configurator Dialog Box to Open an Existing Project

- **a.** Navigate to the existing file and select it. To look at a project without altering it, ensure the **Open as read-only** box is checked.
- **b.** Click **Open** to open the file. The project opens in GUI Configurator.

• **Download an Existing Project from a Panel** — Clicking **OK** opens a dialog box that allows a file that has already been uploaded to a touchpanel to be downloaded for modification.

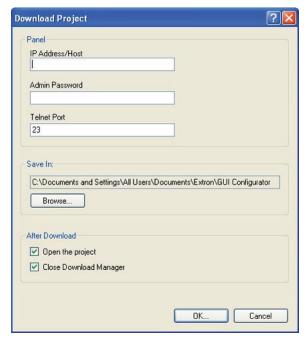


Figure 30. GUI Configurator Download Project Dialog Box

- **a.** In the dialog box that opens, enter the IP address of the panel and use the **Browse** button to navigate to a folder where the file will be saved.
- **b.** Check Open the project and Close Download Manager.
- **c.** Click **0K**. The project is downloaded to your computer and opens in GUI Configurator.

3. Depending on which option was selected in step 2, GUI Configurator opens a new or existing project. The initial screen is divided into a series of panes offering a range of tools that can be used to design or modify the project. For full details on how to use these tools, see the help file (from the **Help** menu select **Contents** or press the <F1> key while the program is running).

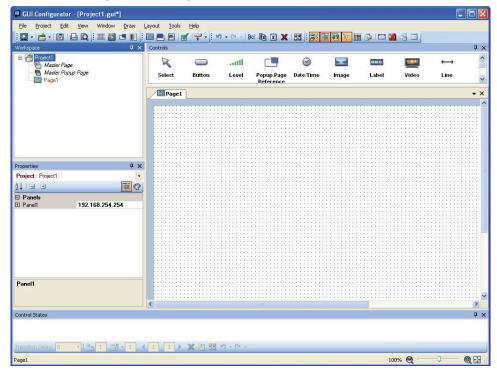


Figure 31. GUI Configurator Main Screen

- **4.** To save the project, select **Save Project** from the **File** menu. If this is the first time saving the project file, the Save As dialog box appears. If the Save As dialog box appears:
 - **a.** Browse for the location where the project file is to be saved.
 - **b.** Enter a file name for the project.
 - c. Click Save.

- 5. The project can be uploaded to one or more TouchLink panels. To add a panel:
 - a. From the Project menu, select Add > Panel. The Panel Manager dialog box opens:

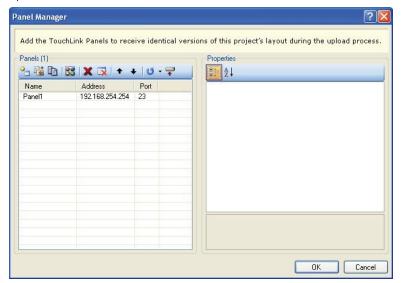


Figure 32. Add a TouchLink Panel (b)

- **b.** In the Panel Manager dialog box, click the **Add Panel** icon (see the illustration to the right) to add a new panel to the left pane.
- **c.** Highlight the name of the panel in the left pane to display the properties of that panel in the right pane.
- **d.** When a new panel is added, it is assigned the default IP address (192.168.254.254). To change the IP address, highlight the address property in the right pane and type in the correct IP address. Update any other properties, as required.
- **e.** Repeat steps 5b 5d to add further panels, if required.
- f. Close the Panel Manager dialog box.
- **6.** Upload a project to a TouchLink panel as follows:
 - Highlight a panel in the Properties window on the left side of the GUI Configurator screen
 - **b.** From the **Project** menu, select **Upload to Selected Panels**. The Build Manager dialog box opens, showing the build progress. After the build is complete, this dialog box closes and the File Upload Manager screen opens. The upload begins automatically.
 - c. Select Close this dialog when upload completes check box in the Automatic Settings section so that the File Upload Manager screen closes automatically when the upload completes. This option can be set before or during the upload.

If this project has been uploaded to the TouchLink panel before, the user can upload only the changes that have been made to the previous version. The project can be uploaded to certain touchpanels selected from the list found within the Devices section of the File Upload Manager screen.

Using Global Configurator

NOTE: To configure the touchpanel, use Global Configurator version 3.3 or later.

This section provides an overview of the Global Configurator program. For complete information about the program, see the Global Configurator help file (select **Contents** from the **Help** menu or press the <F1> key while the program is running).

NOTE: This section describes how to set up Global Configurator project with an IPL 250. While setting up a project with another IP Link product is similar, see the Global Configurator help file for exact information about the product being used.

1. Double-click the GC3 desktop icon. The Global Configurator 3 Start Options box opens.



Figure 33. Global Configurator 3 Start Options

2. Select Create A New Project and click OK. The dialog box closes and the Project Settings dialog box opens.

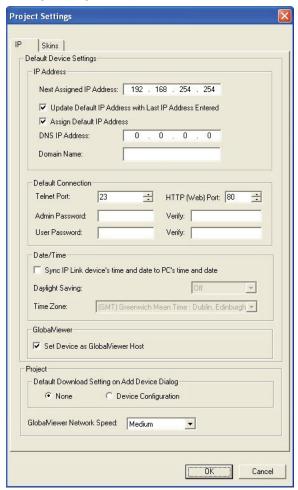


Figure 34. Global Configurator Project Settings

- **3.** Enter the IP address for the IP Link controller.
 - The default Telnet connection is port 23 and the default HTTP connection is port 80. These values do not usually need to be changed.
 - If necessary, set administrator and user passwords.
 - If required, set the date and time.
 - Checking the **Set Device as GlobalViewer Host** box is optional. For more information about GlobalViewer host, see the Global Configurator help file.

4. Click **OK**. The Project Settings dialog box closes and is replaced by the Add Device dialog box:

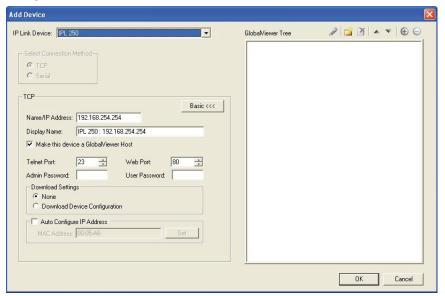


Figure 35. Global Configurator Add Device Dialog Box

- 5. Add a device to your project as follows:
 - **a.** To see all the options, click the **Advanced** >>> button. The button name changes to **Basic** <<< (as shown in the figure above).
 - **b.** Select the IP Link device from the drop-down menu. In figure 36, above, an IPL 250 controller is added. Adding a different IP Link product is similar.
 - c. Enter the IP address of the IP Link controller. The default value is 192.168.254.254, but this may have been changed. Check with your IT department to verify the address.
 - **d.** Enter a display name into the text box. This is what the device will be known as in the Global Configurator project.
 - e. Checking the Make this device a GlobalViewer Host check box is optional.
 - f. Set the Telnet port (usually 23) and the web port (usually 80).
 - g. If the controller is password protected, enter the password into the Admin Password or User Password field.
 - **h.** In the right pane, set up a GlobalViewer tree. For information about this, see the Global Configurator help file.

6. Click **0K**. The Add Device dialog box closes. The start-up screen, which was behind it, is now visible, showing the IPL 250 and the available ports:

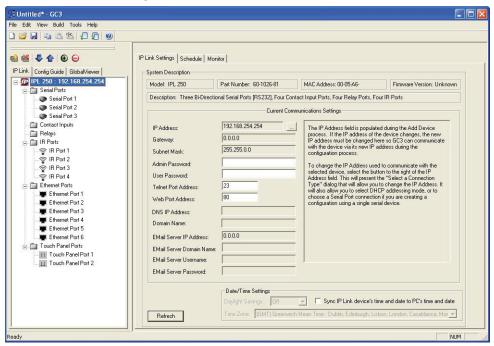


Figure 36. Configuring an IP Link Device

- **7.** Select **TouchPanel Port 1**. The screen shows the available options for the TouchLink panel.
- 8. Click Click here to add one.

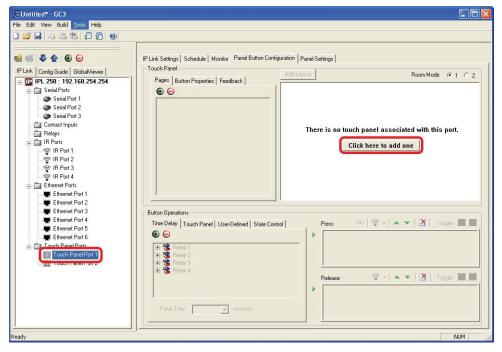


Figure 37. Adding a TouchLink Panel

9. On the Add TouchPanel dialog box, do the following:

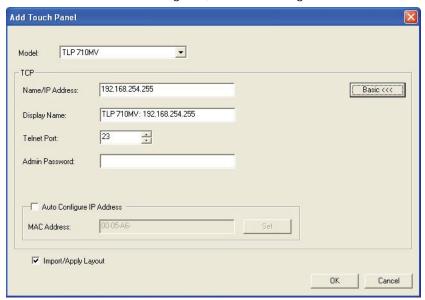


Figure 38. Add TouchPanel Dialog Box

- **a.** Ensure the correct TouchLink panel model is selected from the drop-down menu and enter the IP address.
- **b.** Set the Telnet port (usually 23) and, if necessary, enter the password.
- c. Check the Import/Apply Layout check box and click OK.

The window now shows the GUI from the TouchLink panel.

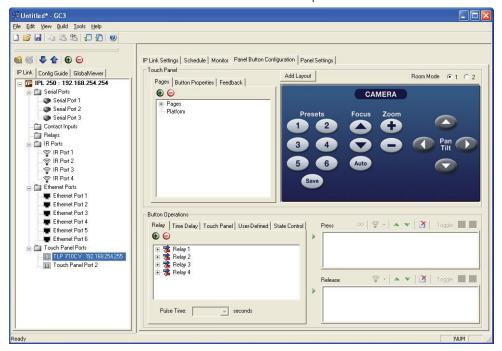


Figure 39. Touchpanel GUI Loaded Onto Global Configurator 3

- **10.** Use Global Configurator to associate functions with the screen elements designed in GUI Configurator (see the Global Configurator help file).
- **11.** Save the configuration and upload it to the controller.

Mounting

This section outlines the various options for:

- Rack Mounting the TLP 710MV
- Wall Mounting the TLP 710MV
- Furniture Mounting the TLP 710MV
- Wall Mounting the TLP 710MV with a Wallbox
- Desktop Mounting the TLP 710TV
- Removing the TLP 710TV base for VESA Mounting
- VESA mounting the TLP 710TV

Rack Mounting the TLP 710MV

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, +50 °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 TLP 710MV

The TLP 710MV can be mounted in any standard 19-inch equipment rack, using the optional Extron RM 710M rack mounting kit. Follow the instructions provided with the kit.

Wall Mounting the TLP 710MV

The following steps show how to wall-mount the TLP 710MV. Furniture-mounting is similar.

- Determine the best location for the TLP 710MV.
- 2. Use the template provided to mark the wall and cut a hole 7.5 inches (19.05 cm) wide by 5.813 inches (14.76 cm) high.
- 3. Remove the bezel, using the Extron removal tool.
- **4.** Ensure that all the locking arms are flush with the unit and check that the TLP 710MV can fit into the hole. If necessary, use a rasp or a coarse file to enlarge the hole.
- 5. Run the network and video cables inside the wall to the hole, leaving enough slack in the cables to connect them to the back of the TLP 710MV.
- **6.** Plug the cables into the rear panel connectors (see pages 6 8).
 - Connect the LAN port to the network with a straight-through cable, providing both a network connection and power from a PoE power supply.
 - Connect an S-video or composite video source to the RJ-45 MTP input.
 - Optional: Extron recommends using the PoE power supply provided. However, the LAN port may be used as a network-only connection. Connect a 12 VDC, 1.0 A power supply (not provided) to the 2-pole captive screw power input. See the Attention on page 7 for very important information about power supplies.
- 7. Push excess cables into the wall cavity.
- **8.** Ensure the four locking arms (two at the top and two at the bottom) are flush with top and bottom of the TLP 710MV and fit the touchpanel into the hole.
- **9.** Use a Phillips head screwdriver to tighten the locking arm screws. As the screws tighten, the locking arms rotate into position behind the wall and hold the unit in place. Do not overtighten the screws as this can damage the locking arms or the wall.

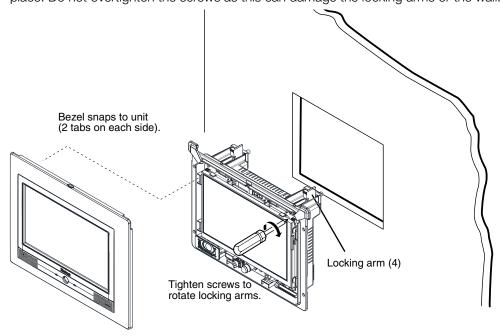


Figure 40. Secure the TLP 710MV to a Wall with Locking Arms

- 10. If required, perform the initial calibration (see page 14).
- **11.** Replace the bezel by pressing the catches on the bezel into the corresponding holes on the front of the panel.

Furniture Mounting the TLP 710MV

The TLP 710MV can be mounted into the surface of a lectern as follows:

- 1. Determine the best location for the TLP 710MV.
- 2. Use the template provided to mark the lectern and cut a hole 7.5 inches (19.05 cm) wide by 5.813 inches (14.76 cm) high.
- 3. Remove the bezel from the TLP 710MV.
- **4.** Ensure all the locking arms are flush with the unit and check that the TLP 710MV can fit into the hole. If necessary, use a rasp or a coarse file to enlarge the hole.
- With the TLP 710MV in position, mark four holes for the screws that will secure the unit to the lectern.
- **6.** Remove the TLP 710MV and, if necessary, drill four pilot holes into the lectern.
- 7. Run the network and video cables to the lectern and through the mounting hole, leaving enough slack to connect them to the back of the TLP 710MV.
- **8.** Plug the cables into the rear panel connectors (see pages 6 and 7).

Connect the **LAN port** to the network with a straight-through cable, providing both a network connection and power from a Power over Ethernet power supply.

Connect an S-video or composite video source to the RJ-45 MTP input.

Optional: Extron recommends using the Power over Ethernet power supply provided. However, the LAN port may be used as a network-only connection. Connect a 12 VDC, 1.0 A power supply (not provided) to the 2-pole captive screw **power input**. See the **Attention** on page 7 for very important information about power supplies.

- 9. Push excess cable into the lectern.
- **10.** Ensure the four locking arms (two at the top and two at the bottom) are flush with top and bottom of the TLP 710MV and fit the touchpanel into the hole.
- **11.** Secure the touchpanel to the lectern with four #4 screws (not provided), using the pilot holes drilled in step 6.
- **12.** Replace the bezel by pressing the catches on the bezel into the corresponding holes on the front of the panel.

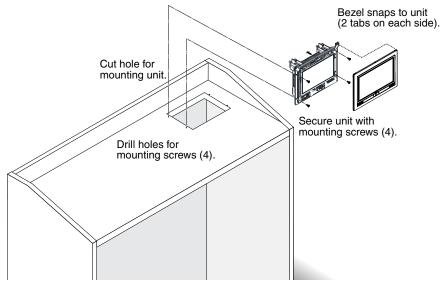


Figure 41. Mounting the TLP 710MV on a Lectern

Wall Mounting the TLP 710MV with a Wall Box

The TLP 710MV can be wall mounted using the Extron BB 710M or the Extron EWB 710M. Follow the instructions provided with the appropriate wall box.

Desktop Mounting the TLP 710TV

Placement without a Mounting Kit

The TLP 710TV comes assembled with a stand that allows it to be placed on a desktop. To secure the unit to the desktop:

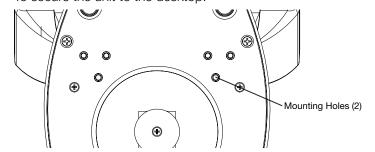


Figure 42. TLP 710TV Base (Bottom View), Showing Mounting Holes

- 1. Mark the location of two holes, 3.07 inches (78 mm) apart.
- 2. Drill two holes through the desktop from underneath.
- **3.** Attach the TLP 710TV, using two #8 wood screws through the desktop from underneath into the two holes in the base.

Placement with a Kensington Security Lock



Figure 43. TLP 710TV Base, Showing Kensington Security Slot

For additional security, the rear edge of the base has a metal-reinforced slot, which may be used to attach a Kensington Security Lock (not provided). Follow the instructions that are provided by the manufacturer to install the lock.

Mounting with a Swivel Mount Adapter

The TLP 710TV can be mounted with the optional Extron SMA-1 swivel mount adapter. This allows the unit to be mounted permanently yet swivel up to 180° in either direction.

- Remove the back cover and base cover, using the provided Extron removal tool, as described in "Removing the TLP 710TV Base for VESA Mounting" on the next page.
- 2. Remove the screw holding the locking plate at the bottom of the base. This releases the weight, which can be removed from the top of the base, leaving the mounting hole that will fit over the conduit of the SMA-1.

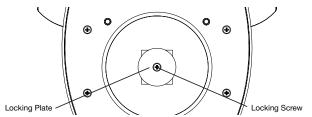


Figure 44. TLP 710TV Base, Showing Locking Plate and Screw

- **3.** Attach the conduit, insulation disk, and swivel disk and configure the set screws to allow for the degree of swivel that is required (see the *SMA-1 Swivel Mount Adapter Kit User Guide*, available at **www.extron.com**).
- 4. Place the mounting hole in the base over the conduit of the SMA-1.
- 5. Secure the unit with the backing plate and locking nut as described in the SMA-1 Swivel Mount Adapter Kit User Guide.

Removing the TLP 710TV Base for VESA Mounting



Figure 45. Removing the Back and Base Covers

- 1. Remove the back cover by inserting the Extron removal tool (provided) into the notches on each side and prying off the cover.
- 2. Remove the base cover using the Extron removal tool.

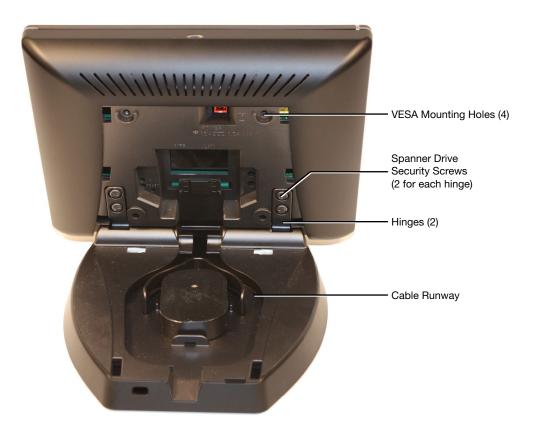


Figure 46. Removing the Base from the Touchpanel

- 3. If necessary, cut the zip tie holding the twisted pair cables to the TLP 710TV base.
- **4.** If necessary, remove the cables from the cable runway in the base.
- **5.** Remove the four spanner drive security screws holding the hinges to the touchpanel.

NOTE: The spanner drive screws holding the hinges require a #6 spanner bit or #6 spanner head screwdriver, which is not provided.

6. Lift the TLP away from the base.

VESA Mounting the TLP 710TV

- **1.** Before attaching the VESA mounting kit, remove the base and back of the TLP 710TV, as described in the **previous section**.
- 2. If necessary, connect the cables and use a zip tie to secure them to the back of the touchpanel.
- **3.** Attach the small back cover (provided). Fit the bottom catches into the slots on the bottom of the panel and snap the side catches into place.
- **4.** Secure a VESA D 75 mm mount kit to the back of the TLP 710TV. Follow the instructions provided with the mounting kit. Figure 47, below, shows the Extron LPVM-1 mount kit.

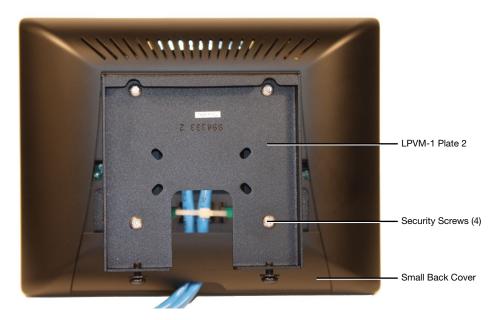


Figure 47. VESA Mounting the TLP 710TV with the LPVM-1

Reset Modes

The TLP 710MV and TLP 710TV have four reset modes that correspond to four of the five reset modes for the IP Link controllers. The modes are initiated by pressing the Reset button.

To access the Reset button on the TLP 710MV, remove the bezel. See page 5 to locate the **Reset button on the TLP 710MV**. The Reset button on the TLP 710TV is on the back panel. See page 10 to locate the **Reset button on the TLP 710TV**.

TLP 710 MV and TLP 710TV Reset Mode Summary				
	Mode	Activation	Result	Purpose and Notes
Use Factory Firmware	1	Hold down the Reset button while applying power to the TLP 710. NOTE: After a mode 1 reset is	firmware. Event scripting does not start if the TLP 710 is powered on in this mode. All user files and settings (GUI, adjustments, IP settings) are maintained.	This mode reverts to the factory default firmware version if incompatibility issues arise with
		performed, update the TLP 710 firmware to the latest version. Do not operate the firmware version that results from this mode reset. To use the factory default firmware, reload that version. See page 21 for details about uploading firmware.		NOTE: User-defined web pages may not work correctly with an earlier version of the firmware.
Run or Stop Events	3	Hold down the Reset button for approximately 3 seconds until the	This mode turns events on or off.	This mode is useful for troubleshooting.
		Reset LED blinks once. Then release and press Reset momentarily (less than 1 second) within 1 second.	NOTE: Nothing happens if the momentary press does not occur within 1 second.	troubles rooting.
Reset all IP Settings	4	Hold down the Reset button for approximately 6 seconds until the Reset LED blinks twice (at 3 seconds and 6 seconds). Then release and press Reset momentarily (less than 1 second) within 1 second.	This mode: • Enables ARP capability. • Resets the IP address to the factory default (192.168.254.254). • Resets the subnet to the factory default. • Resets the gateway address to the factory default. • Turns DHCP off.	you to set IP address information, using ARP
		NOTE: Nothing happens if the momentary press does not occur within 1 second.		
Reset to Factory Defaults	5	Hold down the Reset button for approximately 9 seconds until the Reset LED blinks three times (at 3, 6, and 9 seconds). Then release and press Reset momentarily (less than 1 second) within 1 second.	This mode performs a complete reset to factory defaults (except the firmware). It does everything that mode 4 does and, in addition: Removes button and touchpanel configurations. Resets all IP options Removes all scheduling options. Removes and clears all files from the TLP 710.	to start over with configuration and
		NOTE: Nothing happens if the momentary press does not occur within 1 second.		

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.

Europe and Africa:

Extron Europe Hanzeboulevard 10 3825 PH Amersfoort The Netherlands

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

China:

Extron China 686 Ronghua Road Songjiang District Shanghai 201611 China

Middle East:

Extron Middle East Dubai Airport Free Zone F12, PO Box 293666 United Arab Emirates, Dubai

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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