

IMPORTANT:
Refer to www.extron.com for
the complete user guide and
installation instructions

IPL T Series

IP Link Ethernet Control Interfaces
(IPL T S Series, IPL T SFI244, IPL T CR48)



Extron Electronics
INTERFACING, SWITCHING AND CONTROL

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol 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.

Caution

Read instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conservier les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Éviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



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



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaución

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avvertimento

Alimentazioni • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquerait de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il y a danger d'explosion s'il y a un remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdschluss, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegen gestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder anderer Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Lithium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alajamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

安全须知 • 中文



这个符号提示用户该设备用户手册中有重要的操作和维护说明。



这个符号警告用户该设备机壳内有暴露的危险电压，有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解所有安全和使用说明。

保存说明书 • 用户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

警告

电源 • 该设备只能使用产品上标明的电源。设备必须使用有地线的供电系统供电。第三条线（地线）是安全设施，不能不用或跳过。

拔掉电源 • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

电源线保护 • 妥善布线，避免被踩踏，或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。不要用任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使用与厂家推荐的相同或相近型号的电池。按照生产厂的建议处理废弃电池。

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. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The Class A limits are designed to 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 harmful interference, in which case the user will be required to correct the interference at his own expense.

NOTE: This unit was tested with shielded cables on peripheral devices. Shielded cables must be used with the unit to ensure compliance with FCC emissions limits.

In this setup guide, the following are used:

CAUTION: A caution warns of things that might damage the equipment.

NOTE: A note draws attention to important information.

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Contents

Introduction	1
About this Guide.....	1
IPL T Series Products	1
IPL T S Series.....	1
IPL T SFI244.....	4
IPL T CR48.....	4
Global Configurator	5
System Requirements	7
Installing Global Configurator.....	7

Setup	9
Front Panel Features.....	9
IPL T S Series.....	9
IPL T SFI244.....	10
IPL T CR48.....	11
Rear Panel Features	11
IPL T S Series.....	11
IPL T SFI244.....	12
IPL T CR48.....	12
Resetting the Controller.....	13
Connections and Wiring.....	14
Power Connection	14
Local Area Network (LAN) Connection.....	14
Serial Device Connection.....	15
Relay Ports.....	16
IR Ports	17
Contact Closure Input Ports	17
Flex I/O Ports	18
Configuring for Network Communication	18
Configuring the IPL T Series with Global Configurator	20

Introduction

This section gives an overview of the setup guide and describes the IPL T Series IP Link® Ethernet Control Interfaces and the features of these products. Topics that are covered include:

- [About this Guide](#)
- [IPL T Series Products](#)
- [Global Configurator](#)

About this Guide

This setup guide describes the function, installation, and configuration of the IPL T Series Ethernet Control Interfaces.

Within this guide, the term "IPL T controller" refers to products in the IPL T Series. The term "GC" refers to the Global Configurator application.

Refer to the *IPL T S Series User Guide*, *IPL T SFI244 User Guide*, and *IPL T CR48 User Guide* for more detailed information.

IPL T Series Products

The IPL T Series includes the IPL T S Series (IPL T S1, S2, S4, S6), the IPL T SFI244, and IPL T CR48 Ethernet Control Interfaces. These controllers can be installed as nodes on an Ethernet-based network.

The controllers can be used to remotely monitor and control connected A/V devices such as projectors, displays, VCRs, DVD players, and lighting systems.

IPL T S Series

IPL T S1

Features of the IPL T S1 include:

- 12 VDC, 1 A desktop power supply
- RJ-45 Ethernet receptacle
- One (1) 9-pin D RS-232 serial port
- Six (6) Ethernet control ports



IPL T S2

Features of the IPL T S2 include:

- 12 VDC, 1 A desktop power supply
- RJ-45 Ethernet receptacle
- Two (2) 9-pin D RS-232, RS-422, or RS-485 serial ports
- or -
Two (2) 3.5 millimeter captive screw RS-232 serial ports (common to the two 9-pin D serial ports)
- Six (6) Ethernet control ports



IPL T S4

Features of the IPL T S4 include:

- 12 VDC, 1 A desktop power supply
- RJ-45 Ethernet receptacle
- Four (4) 9-pin D RS-232, RS-422, or RS-485 serial ports
- Six (6) Ethernet control ports



IPL T S6

Features of the IPL T S6 include:

- 12 VDC, 1 A desktop power supply
- RJ-45 Ethernet receptacle
- Two (2) 9-pin D RS-232, RS-422, or RS-485 serial ports
- Four (4) 3.5 millimeter captive screw RS-232 serial ports
- Six (6) Ethernet control ports



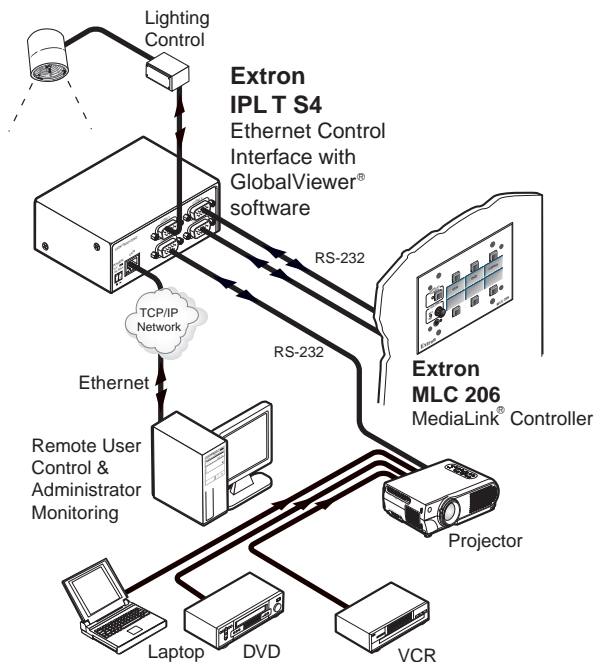


Figure 1. Typical IPL T S Series Controller Application

IPL T SFI244

Features of the IPL T SFI244 include:

- 12 VDC, 1 A desktop power supply
- RJ-45 Ethernet receptacle
- Two (2) RS-232 serial ports
- Four (4) flex I/O ports
- Four (4) I/R ports
- Six (6) Ethernet control ports

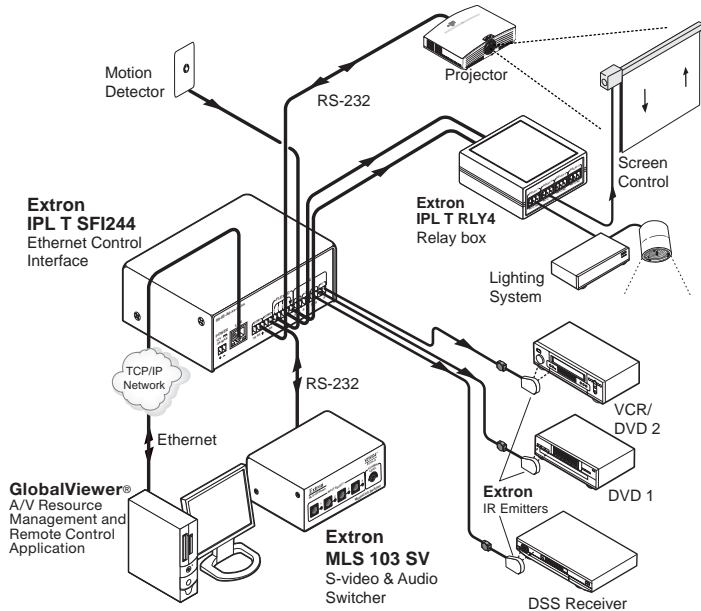


Figure 2. Typical IPL T SFI244 Controller Application

IPL T CR48

Features of the IPL T CR48 include:

- 12 VDC, 1 A desktop power supply
- RJ-45 Ethernet receptacle
- Four (4) contact closure input ports
- Eight (8) relay ports
- Six (6) Ethernet control ports



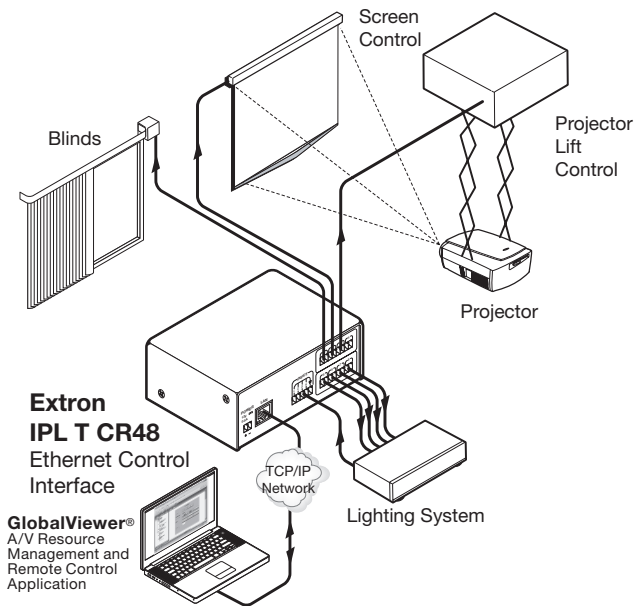


Figure 3. Typical IPL T CR48 Controller Application

Global Configurator

Global Configurator (GC) is a software application that gives you the ability to create a single configuration file of all the controlled devices on their audio/video (A/V) network.

There are two types of devices in an A/V system:

Controllers — Control devices that have an IP Link enabled Ethernet port for network connectivity, and serial, relay, I/O, or infrared (IR) ports for A/V device connectivity.

Controlled devices — A/V products, such as video projectors, displays, VCRs, DVD players, document cameras, projector screens, room lighting systems; all of the equipment that is used to generate an audio and video presentation.

Once a global configuration file is built, GC then generates a graphical user interface called GlobalViewer® that allows users to monitor and control all of the A/V devices contained within the GC configuration file.

When the configuration file is created, one or more of the IP Link controllers on the network can be designated as a GlobalViewer host device.

The completed configuration file is uploaded to the host devices. The GlobalViewer interface can then be launched by opening an Internet browser on a local PC and entering the IP address of the host device in the Address field of the browser.

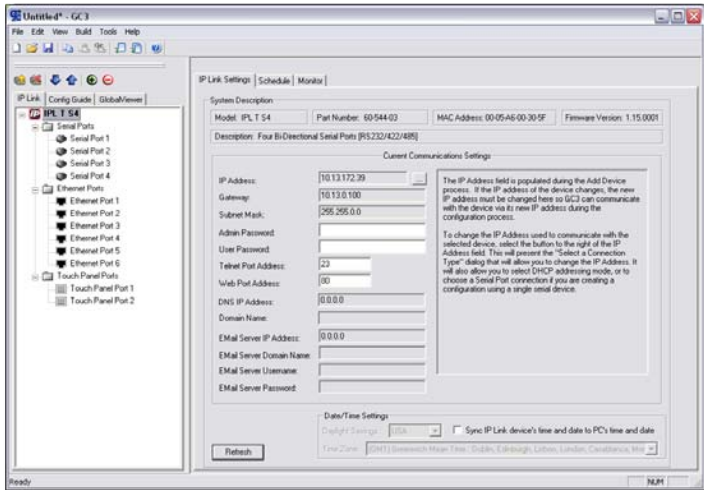


Figure 4. Global Configurator Application Screen

Using GC you can configure a single room controller or create a Web-based remote monitoring system for hundreds of A/V devices in multiple locations.

You can configure an IPL T controller using GC without having the device physically connected to the A/V network.

CAUTION: Use Global Configurator version 3.0 or later. Update all PCs and devices running earlier versions of GC.

NOTE: Ethernet driver support requires Global Configurator 3.0 and firmware version 1.15 or higher.

System Requirements

The minimum system requirements for the PC on which you install Global Configurator include:

- Intel® Pentium® III, 1 GHz processor
- Microsoft® Windows® XP SP2, Windows Vista®, or Windows 7
- Microsoft Internet Explorer® 6.0 with ActiveX® enabled

NOTE: If ActiveX is not enabled, you may get a prompt from the browser or you will see the "Please wait while the files are loading..." message in the GlobalViewer control page.

- Microsoft Windows Script 5.6
- 512 MB of RAM
- 50 MB of available hard disk space
- A network connection with a minimum data transfer rate of 10 Mbps, 100 Mbps recommended

Installing Global Configurator

Global Configurator software is available for free from Extron. To download and install Global Configurator on your PC:

1. Open your Web browser and go to www.extron.com.
2. Click the **Download** tab.
3. Click the **IP Link® Software** icon.
4. Click the **Global Configurator** icon.
5. Click the **Download Now** button.
6. Enter the login information for your Extron Web site account.
7. Click **Download GCSWxxxxx.exe**.
8. Follow the remaining system prompts.

To install Global Configurator from an Extron Software Products Disk if Autorun is enabled on your PC:

1. Insert the Extron Software Products Disk into the disk drive of your PC.
2. Wait for the Extron Software Products page to load.
3. Click on the **Software** icon.



4. Scroll down to the Global Configurator description and click the **Install** link in the far right column.
5. Follow the remaining system prompts.

To install Global Configurator from an Extron Software Products Disk if Autorun is not enabled on your PC:

1. Insert the Extron Software Products Disk into the disk drive of your PC.
2. From the Windows desktop, open **My Computer** and select the appropriate disk drive.
3. Double-click **launch.exe**.
4. Wait for the Extron Software Products page to load.
5. Click on the **Software** icon.



6. Scroll down to the Global Configurator description and click the **Install** link in the far right column.
7. Follow the remaining system prompts.

Setup

This section describes the hardware setup and configuration of the IPL T Series controllers. Topics that are covered include:

- [Front Panel Features](#)
- [Rear Panel Features](#)
- [Resetting the Controller](#)
- [Connections and Wiring](#)
- [Configuring for Network Communication](#)
- [Configuring the IPL T Series with Global Configurator](#)

Front Panel Features

IPL T S Series

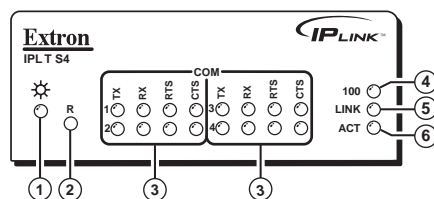
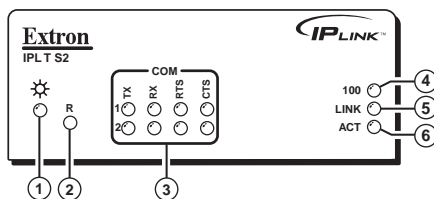
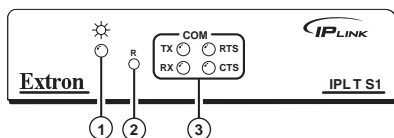
① **Power LED** — A green LED lights to indicate that the unit is receiving power.

② **Reset button** — Recessed multiple function Reset button. See [Resetting the Controller](#) for more information.

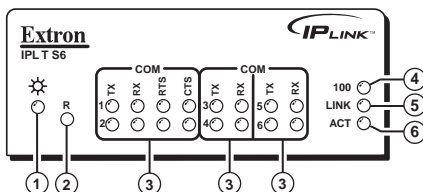
③ **COM LEDs**

- **TX** — A green LED lights to indicate that data is being transmitted.
- **RX** — A green LED lights to indicate that data is being received.
- **RTS** — A green LED lights to indicate that the controller is ready to send data.
- **CTS** — A green LED lights to indicate that a connected device is ready to receive data.

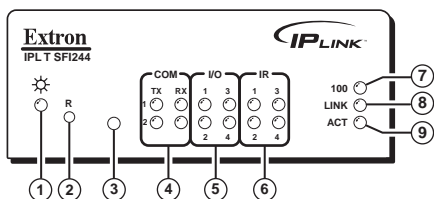
④ **100 LED** — A green LED lights to indicate that the connection speed is 100 Mbps. If the LED is not lit, the connection speed is 10 Mbps.



- ⑤ **LINK LED** — A green LED lights to indicate that the unit is connected to an active network.
- ⑥ **ACT LED** — A yellow LED lights to indicate that data is being sent or received.

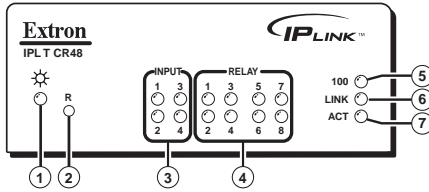


IPL T SFI244



- ① **Power LED** — A green LED lights to indicate that the unit is receiving power.
- ② **Reset button** — Recessed multiple function Reset button. See [Resetting the Controller](#) for more information.
- ③ **IR learning receiver** — This infrared receiver "learns" commands from device IR remote controls. Refer to the *IR Learner Software Help* file for IR learning procedures.
- ④ **COM LEDs**
 - **TX** — A green LED lights to indicate that data is being transmitted.
 - **RX** — A green LED lights to indicate that data is being received.
- ⑤ **I/O LEDs** — A green LED lights to indicate that an I/O port (1 through 4) is active.
- ⑥ **IR LEDs** — A green LED lights to indicate that an IR port (1 through 4) is transmitting data.
- ⑦ **100** — A green LED lights to indicate that the connection speed is 100 Mbps. If the LED is not lit, the connection speed is 10 Mbps.
- ⑧ **LINK LED** — A green LED lights to indicate that the unit is connected to an active network.
- ⑨ **ACT LED** — A yellow LED lights to indicate that data is being sent or received.

IPL T CR48

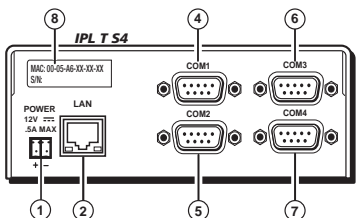
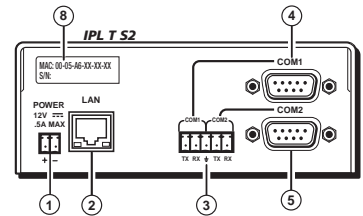
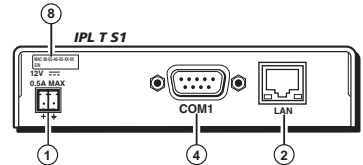


- ① **Power LED** — A green LED lights to indicate that the unit is receiving power.
- ② **Reset button** — Recessed multiple function Reset button. See [Resetting the Controller](#) for more information.
- ③ **Input LEDs** — A green LED lights to indicate that the port is active.
- ④ **Relay LEDs** — A green LED lights to indicate that the relay is closed and activated.
- ⑤ **100 LED** — A green LED lights to indicate that the connection speed is 100 Mbps. If the LED is not lit, the connection speed is 10 Mbps.
- ⑥ **LINK LED** — A green LED lights to indicate that the unit is connected to an active network.
- ⑦ **ACT LED** — A yellow LED lights to indicate that data is being sent or received.

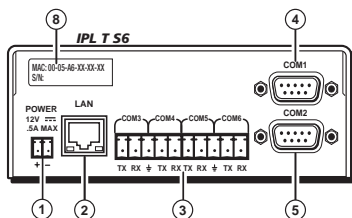
Rear Panel Features

IPL T S Series

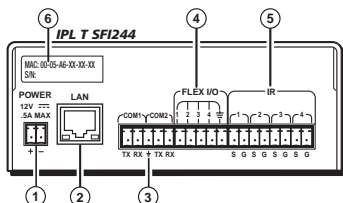
- ① **Power connection** — Connect the supplied 12 VDC power supply
- ② **LAN port** — RJ-45 receptacle for network connection
- ③ **Captive screw connectors** — 3.5 millimeter, 5-pole captive screw connectors for serial port connections
- ④ **COM1** — 9-pin D connector for serial port 1
- ⑤ **COM2** — 9-pin D connector for serial port 2
- ⑥ **COM3** — 9-pin D connector for serial port 3



- ⑦ **COM4** — 9-pin D connector for serial port 4
- ⑧ **MAC address** — The unique hardware ID number (MAC address) of the unit (for example, 00-05-A6-00-00-01)

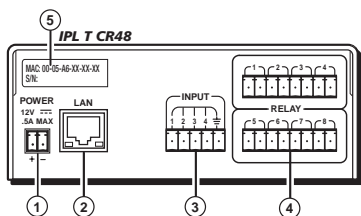


IPL T SFI244



- ① **Power connection** — Connect the supplied 12 VDC power supply
- ② **LAN port** — RJ-45 receptacle for network connection
- ③ **COM ports** — 3.5 millimeter captive screw receptacles for serial ports COM1 and COM2
- ④ **Flex I/O ports** — Four ports that can be configured as digital inputs (for switches or sensors), digital outputs (for power, screen, or projector lift control), or analog inputs (for photo sensors or level feedback)
- ⑤ **IR ports** — 3.5 millimeter captive screw receptacles for infrared device connection
- ⑥ **MAC address** — The unique hardware ID number (MAC address) of the unit (for example, 00-05-A6-00-00-01)

IPL T CR48



- ① **Power connection** — Connect the supplied 12 VDC power supply.
- ② **LAN port** — RJ-45 receptacle for network connection
- ③ **Input (contact closure) ports** — Four inputs permit connection of switches and sensors to provide input (trigger events) to the system.
- ④ **Relay ports** — Eight relay ports provide contact closure activation of relays (for power, screen projector lift control, and so on) when trigger events occur.
- ⑤ **MAC address** — The unique hardware ID number (MAC address) of the unit (for example, 00-05-A6-00-00-01)

Resetting the Controller

There are five reset modes (numbered 1, 2, 3, 4, 5 for the sake of comparison with other Extron IPL products) available by using the Reset button (2) on the front panel. The Reset button is recessed, so use of a pointed stylus, ballpoint pen, or Extron Tweaker is suggested.

CAUTION: Review the reset modes carefully. Use of the wrong reset mode may result in unintended loss of flash memory programming, reassignment of ports, or a unit reboot.

NOTE: Reset mode 2 does not apply to the IPL T CR48.

IPL T Series Reset Mode Summary				
	Mode	Activation	Result	Purpose/Notes
Use Factory Firmware	1	<p>Hold down the recessed Reset button while applying power to the IPL T controller.</p> <p>NOTE After a mode 1 reset is performed, update the firmware of the unit to the latest version. Do not operate the IPL T controller firmware version that results from the mode 1 reset. This mode temporarily resets the unit to factory default until power is recycled. If you want to use the factory default firmware, you must upload that version again.</p>	<p>The IPL T controller reverts to the factory default firmware. Event scripting does not start; if the unit is powered on in this mode. All user files and settings (such as drivers, adjustments, and IP settings) are maintained.</p> <p>NOTE If you do not want to update firmware, or you performed a mode 1 reset by mistake, cycle power to the unit to return to the firmware version that was running prior to the mode 1 reset. Use the OQ SIS command to confirm that the factory default firmware is no longer running (look for asterisks following the version number.)</p>	<p>Use mode 1 to revert to the factory default firmware version if incompatibility issues arise with user-loaded firmware.</p> <p>NOTE User-defined Web pages may not work correctly if using an earlier firmware version.</p>
Enable Serial Console	2	<p>Press and release the Reset button. Within 2 seconds, type +++ on the keyboard.</p> <p>NOTE If the three “+”s (+++) are not entered in the 2-second time frame, the COM port becomes a control port only.</p>	<p>The connected COM port becomes a console port to send SIS commands. Scripting remains on.</p>	<p>Mode 2 enables the port's console port.</p>
Run/Stop Events	3	<p>Hold down the Reset button for about 3 seconds until the Power LED blinks once, then release and press Reset momentarily (<1 second) within 1 second.</p> <p>NOTE Nothing happens if the momentary press does not occur within 1 second.</p>	<p>Mode 3 turns events on or off. If the events are currently stopped following the momentary press, the Power LED flashes twice, indicating the starting of events. If the events are currently running following the momentary press, the Power LED flashes three times indicating the stopping of events.</p>	<p>Mode 3 is useful for troubleshooting.</p>
Reset all IP Settings	4	<p>Hold down the Reset button for about 6 sec. until the Power LED blinks twice (once at 3 seconds, again at 6 seconds). Then release and press Reset momentarily (for <1 second) within 1 second.</p> <p>NOTE Nothing happens if the momentary press does not occur within 1 second.</p>	<p>Mode 4</p> <ul style="list-style-type: none"> Enables ARP capability. Sets the IP address back to factory default (192.168.254.254). Sets the subnet back to factory default. Sets the default gateway address to the factory default. Sets port mapping back to factory default. Turns DHCP off. Turns events off. 	<p>Mode 4 enables you to set IP address information using ARP and the MAC address.</p>
Reset to Factory Defaults	5	<p>Hold down the Reset button for about 9 seconds until the Power LED blinks three times (once at 3 seconds, again at 6 seconds, again at 9 seconds). Then release and press Reset momentarily (for <1 second) within 1 second.</p> <p>NOTE Nothing happens if the momentary press does not occur within 1 second.</p>	<p>Mode 5 performs a complete reset to factory defaults (except the firmware).</p> <ul style="list-style-type: none"> Does everything mode 4 does. Clears driver-port associations and port configurations (IR/RS-232). Removes button/touchpanel configurations. Resets all IP options. Removes scheduling settings. Removes/clears all files from the IPL T controller. 	<p>Mode 5 is useful if you want to start over with configuration and uploading, and also to replace events.</p>

Figure 5. Reset Mode Summary

Connections and Wiring

Power Connection

To connect the power supply:

1. Insert the 2-pole captive screw connector into the power supply receptacle on the rear panel of the controller.

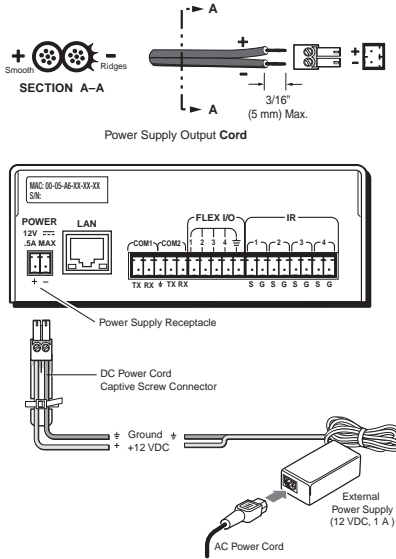


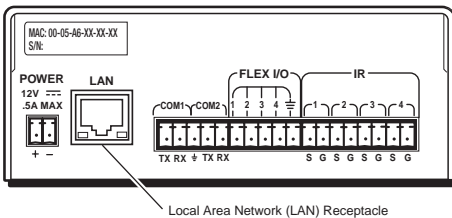
Figure 6. Power Connector Wiring

2. Connect the female end of the AC power cord into the power supply and the male end into a 110-220 VAC outlet.

Local Area Network (LAN) Connection

Connect a patch (straight-through) Ethernet cable to the LAN port on the rear panel if you are connecting the controller to a switch, hub, or router on your A/V network.

Connect a crossover Ethernet cable to the LAN receptacle on the rear panel if you are connecting the controller directly to a PC.



Local Area Network (LAN) Receptacle

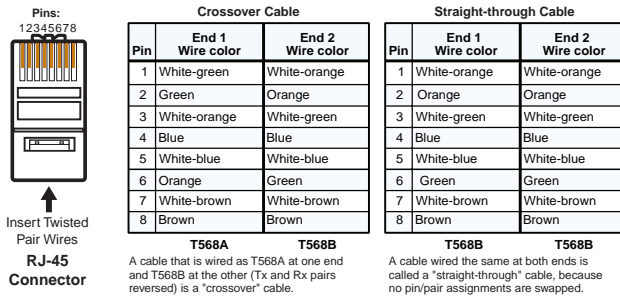


Figure 7. RJ-45 Connector Wiring

Serial Device Connection

There are two types of serial connections:

- 9-pin D connectors
- Captive screw connectors

9-pin D connector

Connect any audio or video device to any one of the COM ports on the rear panel of an IPL T S Series controller using a serial cable with a 9-pin D connector.

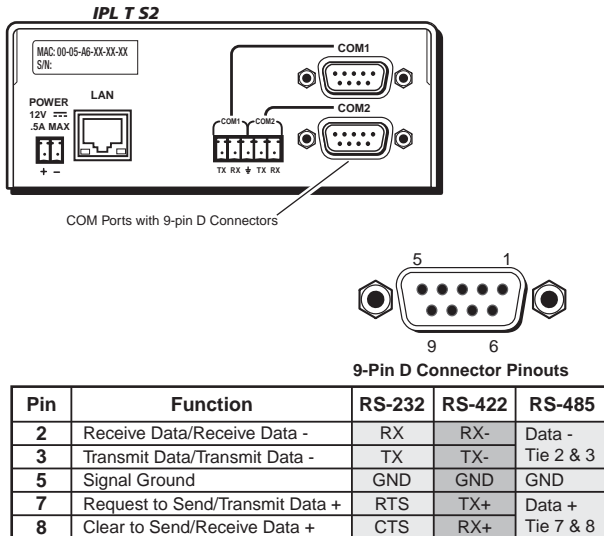


Figure 8. 9-pin D Connector Pinouts

NOTE: IPL T S1 supports RS-232 only.

With RS-485, Data + can connect to pin 7 or 8. Data - can connect to pin 2 or 3.

Captive screw connector

The IPL T S2, IPL T S6, and IPL T SF1244 have COM ports with captive screw connectors. The two COM ports with captive screw connectors on the IPL T S2 are common to the two 9-pin D connectors. Only one connector can be used for each COM port. If you use a COM port captive screw connector, its 9-pin D port is not accessible.

The IPL T S6 has four COM ports with captive screw connectors that are independent of COM ports 1 and 2, which have 9-pin D connectors.

The female captive screw connectors accept 3-pole or 5-pole male captive screw connectors that are wired as shown in the diagram below.

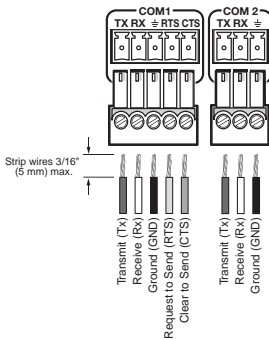


Figure 9. 3-pole and 5-pole Captive Screw Connector Wiring

Relay Ports

The IPL T CR48 has eight relay ports that provide contact closure activation of relays (for power, screen projector, lift control, drapes, and so on) when trigger events occur. See the diagram below for relay port wiring.

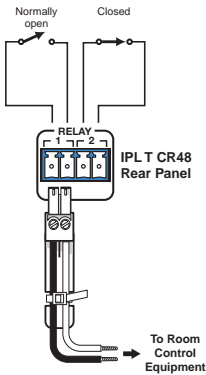


Figure 10. Relay Port Wiring

IR Ports

The IPL T SFI244 has four IR ports for infrared device connection. You can connect IR emitters or a wired IR control port of another device to send IR signals (with or without carrier frequencies) to display or source devices. See the diagram below for IR port wiring.

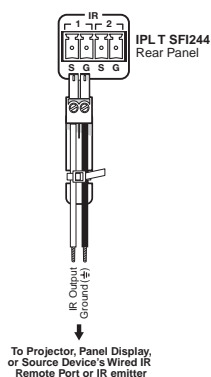


Figure 11. IR Port Wiring

Contact Closure Input Ports

The IPL T CR48 has four contact closure inputs that permit the connection of switches and sensors to provide input (trigger events) to the system. Pins 1 through 4 select inputs 1 through 4 on a connected switcher or projector; pin 5 is a ground pin. See the diagram below for contact closure input port wiring.

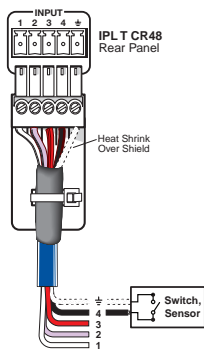


Figure 12. Contact Closure Input Port Wiring

Flex I/O Ports

The IPL T SF1244 has four Flex I/O ports that can be configured as digital inputs, digital outputs, or analog inputs.

When configured as digital inputs, the Flex I/O ports can connect to switches and sensors.

When configured as digital outputs, the Flex I/O ports can drive devices that accept a TTL input signal.

When configured as analog inputs, these Flex I/O ports can receive analog voltages for use with photo sensors, level feedback, and other devices. See the diagram below for Flex I/O port wiring.

NOTE: Be sure to wire appropriately based on the configuration of the port.

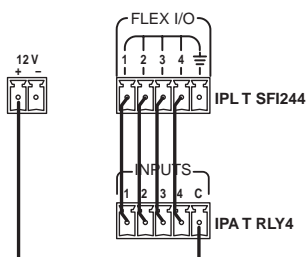


Figure 13. Flex I/O Port Wiring

Configuring for Network Communication

To function together, both the PC and the IPL T controller must be configured correctly. The PC must be network-capable with the proper protocols and the IPL T controller must be set up so that it can be connected to a LAN or other network.

When you power on the IPL T controller for the first time, there are several ways to set up the IP address:

- **Use the Global Configurator software** — Refer to the *Global Configurator Help* file.
- **Use the ARP (Address Resolution Protocol)** — See the instructions that follow.
- **Use a Web browser** — Refer to the *IPL T Series User Guide*, *IPL T SF1244 User Guide*, or *IPL T CR48 User Guide*, depending on the controller.
- **Use SIS (Simple Instruction Set™) commands via Telnet** — Refer to the *IPL T Series User Guide*, *IPL T SF1244 User Guide*, or *IPL T CR48 User Guide*, depending on the controller.

The first time you connect a PC to an IPL T controller via IP, you may need to temporarily change the IP settings of the PC in order to communicate with the controller. That process is described in the *IPL T Series User Guide*, *IPL T SF1244 User Guide*, and *IPL T CR48 User Guide*.

Then, you must change the default settings of the controller (IP address, subnet mask, and [optional] administrator name and password) in order to use the controller on an intranet (LAN) or on the Internet. After you have set up the IPL T controller for network communication, you can reset the PC to its original network configuration.

NOTE: Both the computer and the IPL T controller must be connected to the same subnet on a LAN (using a straight-through cable). Alternatively, you can use a crossover Ethernet cable to connect the controller directly to the network adapter card of the computer.

Use ARP to configure the IP address as follows:

1. Obtain a valid IP address for the IPL T controller from the network administrator.
2. Obtain the MAC address of the IPL T controller from the label on its rear panel. The MAC address should have this format: 00-05-A6-XX-XX-XX.
3. If the IPL T controller has never been configured and is still set for factory defaults, go to step 4. If not, perform a Mode 4 system reset. See [Resetting the Controller](#) for more information.

CAUTION: The IPL T controller must be configured with the factory default IP address (192.168.254.254) before the ARP command is executed, as described in the following steps.

4. On the PC, access the command prompt, then execute the `arp -s` command. Enter the desired new IP address for the controller and the MAC address (located on the rear panel of the controller). For example:

```
arp -s 10.13.170.15 00-05-A6-00-0A-90
```

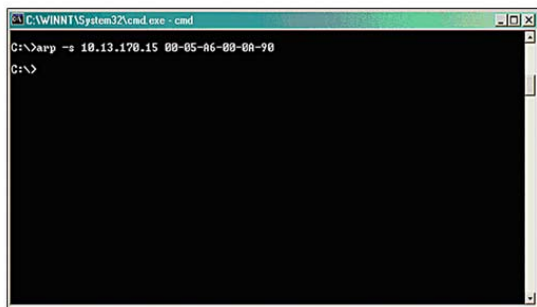
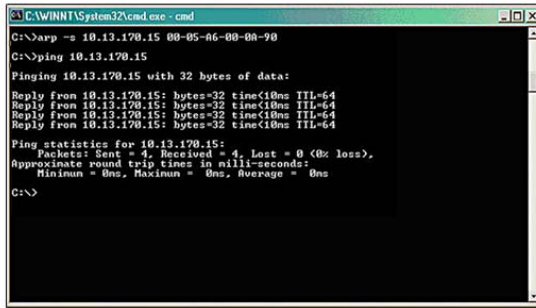


Figure 14. Executing the ARP Command

- Execute a ping command by typing `ping` followed by a space and the new IP address at the command prompt. For example:

```
ping 10.13.170.15
```

After issuing this command, the controller changes to the new address and starts responding to the ping requests, as described. You must ping the IPL T controller in order for the IP address change to take place.



```
C:\WINNT\System32\cmd.exe - cmd
C:\>arp -s 10.13.170.15 00-05-A6-00-0A-90
C:\>ping 10.13.170.15
Pinging 10.13.170.15 with 32 bytes of data:
Reply from 10.13.170.15: bytes=32 time<10ms TTL=64
Reply from 10.13.170.15: bytes=32 time<10ms TTL=64
Reply from 10.13.170.15: bytes=32 time<10ms TTL=64
Reply from 10.13.170.15: bytes=32 time<10ms TTL=64
Ping statistics for 10.13.170.15:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

Figure 15. Controller Response to a Ping Request

You can reconnect using either Telnet or a Web browser to verify that the update was successful.

- After verifying that the change was successful, enter and issue the `arp -d` command at the command prompt. For example:

```
arp -d 10.13.170.15
```

removes the 10.13.170.15 from the ARP table

```
- or -
```

```
arp -d*
```

removes all static IP addresses from the ARP table.

Configuring the IPL T Series with Global Configurator

After you have installed the Global Configurator (GC) software on the PC and downloaded device drivers, do the following:

- Create a GC project file.
- Configure the IPL T Series controller and other devices.
- Launch the GlobalViewer® interface.
- Test the configuration and the system.

Refer to the *Global Configurator Help* file for these procedures. The *Global Configurator Help* file includes an introduction to the software and a section on how to start a Global Configurator project. It also features step-by-step instructions on the basic tasks involved in configuring an IPL T controller.

If you have questions during installation and setup, you can call the Extron S3 Sales & Technical Support Hotline or the Extron S3 Control Systems Support Hotline.

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 USA
1001 East Ball Road
Anaheim, CA 92805
U.S.A.

**Europe, Africa, and the Middle
East:**

Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

Asia:

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

Japan:

Extron 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 modifications to the product that were not authorized by Extron.

NOTE: If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), +31.33.453.4040 (Europe), +65.6383.4400 (Asia), or +81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

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.

Setup Guide Checklist

- Install Global Configurator.
 - Download from www.extron.com
 - or -
 - Install from Extron Software Products Disk

- Make the necessary IPL T Series cable connections.
 - Power
 - Local Area Network (LAN)
 - A/V devices

- Create a Global Configurator (GC) project file. Add and configure the IPL T Series controller and other devices. Build and upload the GC project file. Launch the GlobalViewer® interface. Refer to the *Global Configurator Help* file for these procedures.
 - Download device drivers.
 - Create a new Global Configurator project file.
 - Add a device.
 - Define the location of the new device.
 - Save the new Global Configurator file.
 - Configure contacts.
 - Configure e-mail.
 - Assign device drivers.
 - Set scheduled actions and e-mail deliveries.
 - Set monitored conditions.
 - Build the Global Configurator file.
 - Upload the Global Configurator file.
 - Change device settings such as the e-mail server (if desired).
 - Launch the GlobalViewer interface.

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