IPL T S Series

ETHERNET CONTROL INTERFACES

IPLINK®

- One, two, four, or six serial ports
- Enables Web-based A/V asset management
- Integral high performance Web server
- Support for industry standard Ethernet protocols
- Simultaneous multi-user support
- E-mail capabilities enable proactive support
- Multiple levels of access with password protection
- Free, easy-to-use configuration utility
- Extensive library of device drivers
- Internal real-time clock
- Plenum rated enclosure, excluding external power supply

IPL T S1

IPL T S2

IPL T S4

IPL T S6

The Extron **IPL T S1**, **IPL T S2**, **IPL T S4**, and **IPL T S6** are compact Ethernet control interfaces that feature an integral high performance Web server, enabling almost any serially controlled A/V device to be managed and monitored over an existing high speed Local Area Network, Wide Area Network, or the Internet.

SERVICE SUPPORT 3 SOLUTIONS

Extron® **Electronics**

DESCRIPTION

Extron **IPL T S** Series Ethernet control interfaces add IP network connectivity to A/V devices using their existing serial connections. The IPL T S Series uses Extron's exclusive IP Link® technology, a high performance intelligent network solution specifically engineered to meet the needs of professional A/V environments, from large universities and businesses to small home installations. The IPL T S Series gives users the ability to remotely and proactively monitor and troubleshoot projectors, plasma displays, switchers, and other serially controlled products. IP Link interfaces enable serially controlled A/V products to be managed and supported using a networked computer running Internet Explorer 6.0 or later.

At its core, each IP Link Ethernet control interface is a small, high performance Web server with robust computing power. Each one contains a very fast processor, with a latency, or delay, of less than one millisecond from the time it receives a command to the time it acts on that command. As a result, Web pages are served many times faster than similar products, so data is refreshed at a consistently high speed. The core technology and high performance architecture of IP Link interfaces makes them ideal for implementing A/V system management over the most widely available transport medium today, the corporate IP network.

Proactive Service and Security

Proactive service, support, and preventive maintenance are also possible with IP Link. With e-mail notification, technical support administrators can receive failure and service messages through an e-mail enabled cell phone, PDA, pager, or Internet e-mail account. For secure installations that do not allow Internet access, online monitoring can still be performed proactively. Within an existing secure infrastructure, e-mail notification of failures and repairs is possible without compromising the security of the A/V systems and facility.

GlobalViewer™ Web-based Asset Management Application

Extron GlobalViewer software is the free, Web-based asset management and control application designed specifically for IP Link ethernet control interfaces. GlobalViewer enables asset management functions that include proactive maintenance, event scheduling, remote technical support, and theft alerts.

Control Screen
Control basic functions such as power, volume, and inputs.

Monitor Screen
Monitor power and projector lamp hours.

Schedule Screen
Conveniently schedule troubleshooting, automatic monitoring, or system power.
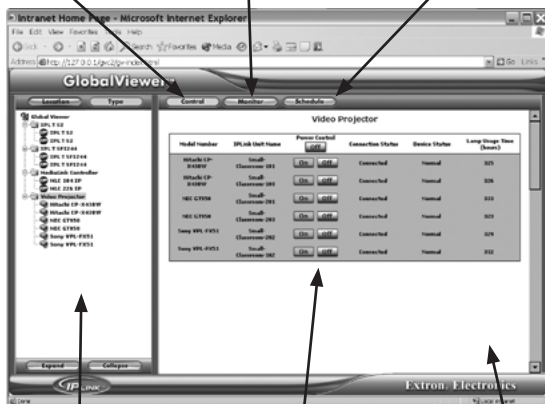
Centralize management of all A/V equipment in the building or all over the world.

Web pages can be customized and tailored to meet customer needs and facilitate functionality.

Intuitive interface makes operations easier.

FEATURES

■ **Bi-directional serial ports** – Each interface features one, two, four, or six serial ports that can control serial devices directly.

■ **Serial port pass-through** – Two-, four-, and six-port models can be configured for pass-through mode. When configured for pass-through mode, each pair of ports on the interface can pass through commands and control a single device.

■ **Enables Web-based A/V asset management** – When used with GlobalViewer software, IP Link interfaces provide a powerful, flexible way to manage, monitor, and control both Extron and third-party equipment like projectors, flat-panel displays, monitors, VCRs, DVD players, and other devices using a standard TCP/IP network.

■ **Integral high performance Web server** – Each IP Link interface features a built-in Web server with memory available for storing the Global Viewer Web-based management application and any user customized web pages.

■ **Support for industry standard Ethernet protocols** – All IP Link models use industry standard Ethernet communication protocols, including ARP, DHCP, ICMP, TCP/IP, UDP/IP, Telnet, HTTP, and SMTP.

■ **Simultaneous multi-user support** – Each IP Link device supports multiple concurrent users, improving system throughput.

■ **E-mail capabilities enable proactive support** – With e-mail notification, technical support administrators can receive failure and service messages through an e-mail enabled cell phone, PDA, pager, or Internet e-mail account.

■ **Multiple levels of access with password protection** – User access level authorizes limited entry to only pre-designated functions, while administrator access level permits full access to advanced settings.

■ **Free, easy-to-use configuration utility** – Global Configurator software, a free Windows® based configuration utility, makes product setup simple and intuitive – no programming knowledge is required.

■ **Extensive library of device drivers** – Device drivers allow Extron products to control various display and source devices such as projectors, flat-panel displays, and DVD players. Extron has produced thousands of fully tested and uniformly modeled RS-232 and IR device drivers.

■ **Internal real-time clock** – Programmable operating alerts, sequencing, and automatic monitoring, together with the real-time clock and calendar, allow IP Link interfaces to routinely check configured devices.

■ **Plenum rated enclosure, excluding external power supply**

IPL T S Models

MODEL	PORT TYPE		RS-232	RS-422	RS-485
	9-pin D Sub	Captive Screw			
IPL T S1	1		✓		
IPL T S2	2*	2	✓	✓	✓
IPL T S4	4		✓	✓	✓
IPL T S6	2	4**	✓	✓	✓

* The IPL T S2 includes two captive screw serial ports that are connected in parallel with the 9-pin serial ports.

** The captive screw ports on the IPL T S6 are only compatible with RS-232 serial communication.

IP LINK® AND GLOBALVIEWER™ APPLICATIONS

The role of the technical administrator in today's schools and businesses has expanded to include management and maintenance of A/V devices from multiple manufacturers, often spread out over great distances. IP Link® makes it easier to integrate A/V systems into existing IP networks, providing Web-based monitoring and control that unifies A/V equipment under a single graphical user interface.

The Extron IPL T S1, IPL T S2, IPL T S4, and IPL T S6 use Extron's exclusive IP Link technology, a high performance intelligent network solution specifically engineered to meet the needs of professional A/V environments, from large universities and businesses, to small presentation environments.

Centralized Asset Management and Monitoring

Using IP Link hardware along with the GlobalViewer Web-based asset management application, a technical administrator can track the activity and status of all connected A/V devices. Multiple rooms of equipment can be viewed simultaneously, by location or device type. IP Link makes up-to-the-minute data available, such as serial numbers, maintenance history, usage data, current status, and installed firmware, all viewable from any computer on the network. With IP Link's e-mail functionality, accessed via the Global Viewer, devices can be configured to proactively manage themselves. For instance, a projector can be polled routinely to track lamp usage and total life time. When lamp usage reaches a predetermined number of hours, the IP Link interface can send an e-mail, reminding technicians to replace the lamp.

Automated Scheduling

IP Link interfaces include a real-time clock and calendar, allowing an administrator to program operating alerts, schedule routine equipment activity, or run maintenance checks on lamp hours, environmental conditions, connectivity, and other issues vital to operations. For instance, an administrator may want to configure projectors and other devices to power on or off at preset times. User-defined tasks are easy to configure and schedule with IP Link. Scheduling tasks and setting up e-mail reminders is simple and straightforward and doesn't require high-level programming skills.
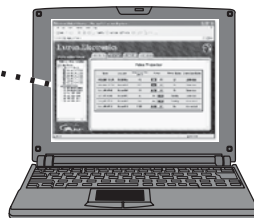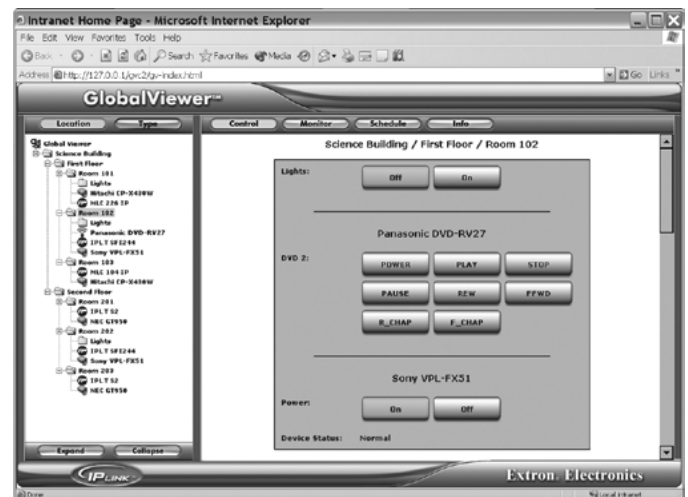

Help Desk

Remote Device monitoring, scheduling and control using Global Viewer Web-based asset management application
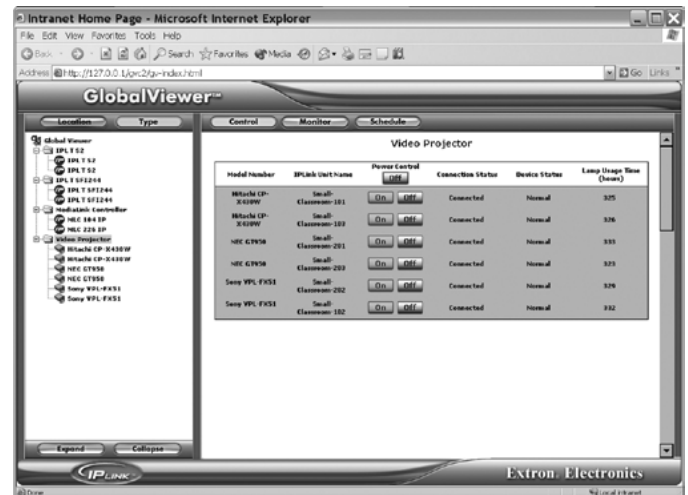
GlobalViewer is the Web-based asset management and control application supplied with every IP Link®-enabled product.

The Control Screen allows you to remotely control many functions, including volume, power, input source, and more.

Remote Technical Support

One of the biggest challenges facing technical administrators today is meeting the ever-growing demands for technical support with limited support staff. IP Link extends the support staff's reach, giving technicians the power to troubleshoot and solve many typical problems remotely. With access to real-time A/V device status like power on or off and current input selection technicians can often restore system operation in minutes. The result is time saved and a reduced level of frustration for users of the technology.

System Security and Loss Prevention

IP Link interfaces are always on and routinely poll their connected devices for status information. If a serially controlled device like a projector or document camera is physically disconnected from the network, the IP Link interface monitoring its status will know immediately. In such an event, the IP Link interface can be configured to send an e-mail message notifying security personnel of the problem.

SPECIFICATIONS

ETHERNET CONTROL INTERFACE

Connectors .... 1 RJ-45 female connector
Data rate... 10/100Base-T, half/full duplex with autodetect
Protocols... ARP, DHCP, ICMP (ping), TCP/IP, UDP/IP, Telnet, HTTP, SMTP
Default settings............................... Link speed and duplex level = autodetected
IP address = 192.168.254.254
Subnet mask = 255.255.0.0
Gateway = 0.0.0.0
DHCP = off
Web server
  IPL T S1....................................... Up to 200 simultaneous sessions
1.25 MB nonvolatile user memory
  All other models........................... Up to 200 simultaneous sessions
7.25 MB nonvolatile user memory
Program control.............................. Extron's Simple Instruction Set (SIS™)
Global Viewer requirements .... Microsoft® Internet Explorer ver. 6 or higher

SERIAL CONTROL INTERFACE

Quantity/type
  IPL T S1....................................... 1 RS-232-only
  IPL T S2....................................... 2 RS-232/RS-422/RS-485 configurable serial
  IPL T S4....................................... 4 RS-232/RS-422/RS-485 configurable serial
  IPL T S6....................................... 2 RS-232/RS-422/RS-485 configurable serial
4 RS-232-only
Connectors
  IPL T S1....................................... (1) 9-pin male D
  IPL T S2....................................... (2) 9-pin male D and (1) 3.5 mm captive screw connector, 5 pole
  IPL T S4....................................... (4) 9-pin male D
  IPL T S6....................................... (2) 9-pin male D and (1) 3.5 mm captive screw connector, 10 pole
Baud rate and protocol .... 300 to 115200 baud
Default settings (adjustable): 9600 baud, 8 data bits, 1 stop bit, no parity
Pin configurations
  Serial, 9-pin D (IPL T S1)
    RS 232 .... 2 = RX, 3 = TX, 5 = GND, 7 = RTS, 8 = CTS
  Serial, 9-pin D (IPL T S2, IPL T S4)
    RS 232 (default)........................ 2 = RX, 3 = TX, 5 = GND, 7 = RTS, 8 = CTS
    RS 422 .... 2 = RX-, 3 = TX-, 5 = GND, 7 = TX+, 8 = RX+
    RS 485 .... 2&3 (tied together) = data-, 5 = GND, 7&8 (tied together) = data+
  Serial, 5-pole captive screw (IPL T S2)
    COM1: pin 1 = TX, 2 = RX, 3 = GND
    COM2: pin 4 = TX, 5 = RX, 3 = GND
  Serial, 10-pole captive screw (IPL T S6)
    COM3: pin 1 = TX, 2 = RX, 3 = GND
    COM4: pin 4 = TX, 5 = RX, 3 = GND
    COM5: pin 6 = TX, 7 = RX, 8 = GND
   COM6: pin 9 = TX, 10 = RX, 8 = GND

GENERAL

Power .... Supplied by an included external power supply.
External power supply..................... 100 VAC to 240 VAC, 50/60 Hz, external, autoswitchable; to 12 VDC, 1 A, regulated
Power input requirements............... 12 VDC, 0.5 A
Temperature/humidity .... Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Rack mount..................................... Yes, with optional 1U rack shelf, part #60-190-01, or the VersaTools® rack shelf, part #60-190-20; also under-furniture mountable with optional brackets #70-212-01or projector mountable with optional brackets #70-217-01/70-077-04
Enclosure type................................ Metal
Enclosure dimensions
  IPL T S1... 1.0" H x 4.3" W x 3.0" D (1U high, quarter rack wide) 2.5 cm H x 10.9 cm W x 7.6 cm D (Depth excludes connectors.)
  All other models............................. 1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide) 4.3 cm H x 10.9 cm W x 7.6 cm D (Depth excludes connectors.)
Product weight .... 0.7 lbs (0.3 kg)
Shipping weight .... 2 lbs (1 kg)
Vibration .... ISTA 1A in carton (International Safe Transit Association)
Listings.. UL, CUL
Compliances .... CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF .... 30,000 hours
Warranty .... 3 years parts and labor
NOTE: All nominal levels are at ±10%.

Model	Version Description	Part Number
IPL T S1	One Serial Port	60-801-01
IPL T S2	Two Serial Ports	60-544-81
IPL T S4	Four Serial Ports	60-544-83
IPL T S6	Six Serial Ports	60-544-84

Optional Accessories

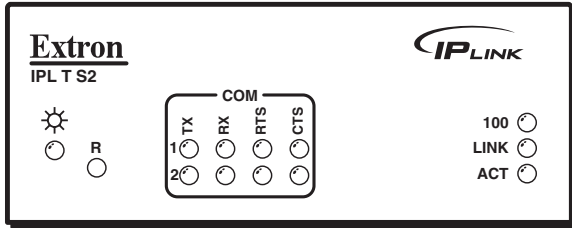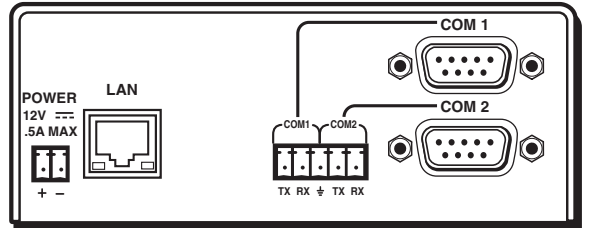|			
RSF 123	Rack Shelf Kit	60-190-20
RSU 129	Universal Rack Shelf Kit	60-190-01
MBU 125	Under-Desk Mount Kit	70-077-01
PMK 100	Mini Projector Mount Kit	70-217-01

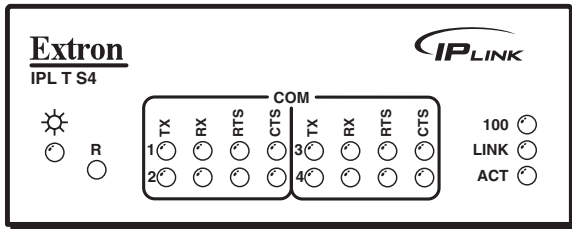# PANEL DRAWINGS
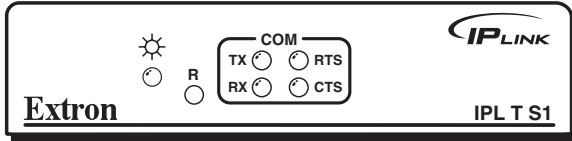
IPL T S1 - Front
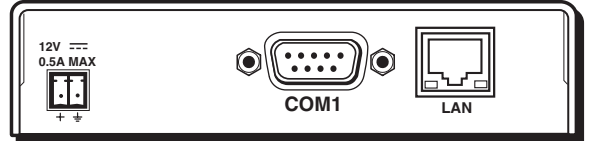
IPL T S1 - Back

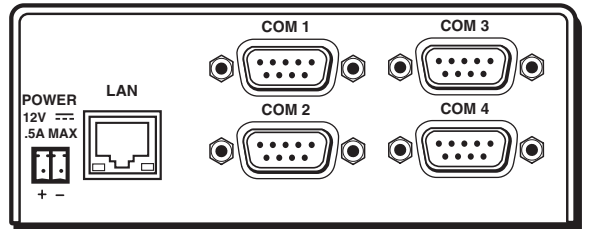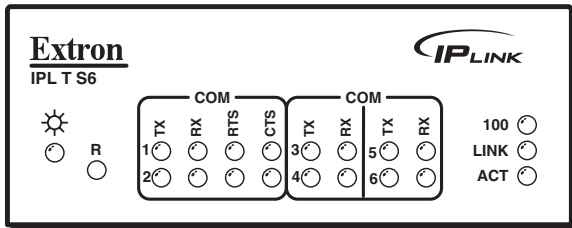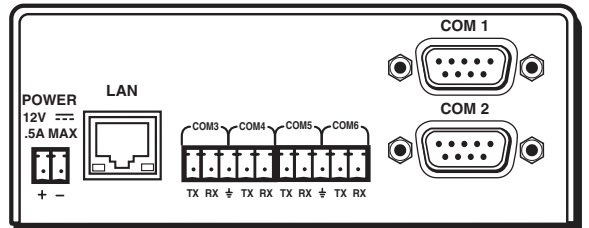IPL T S2 - Front

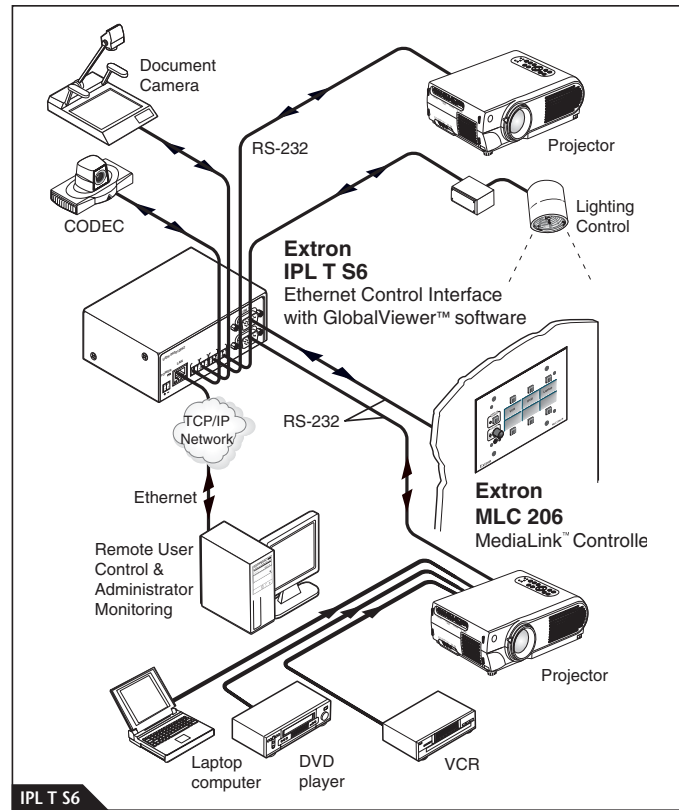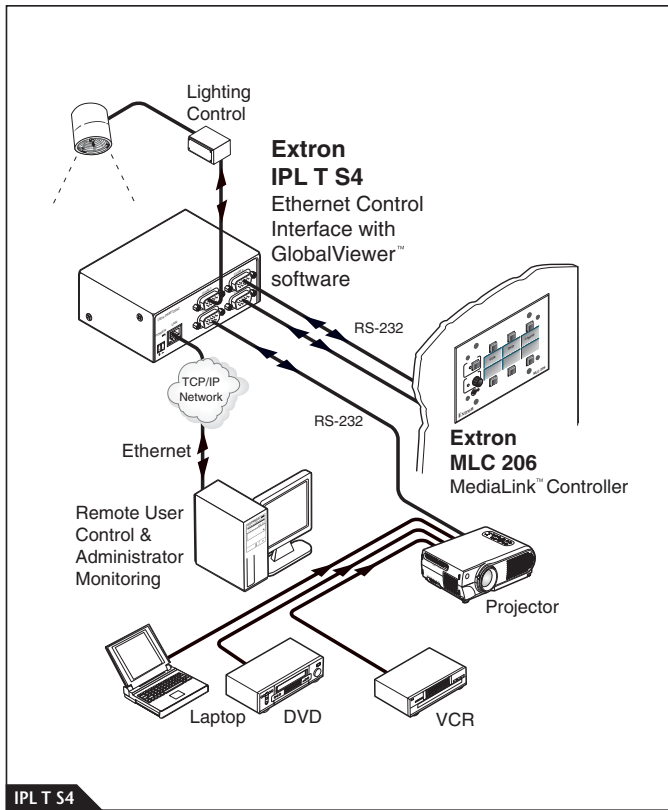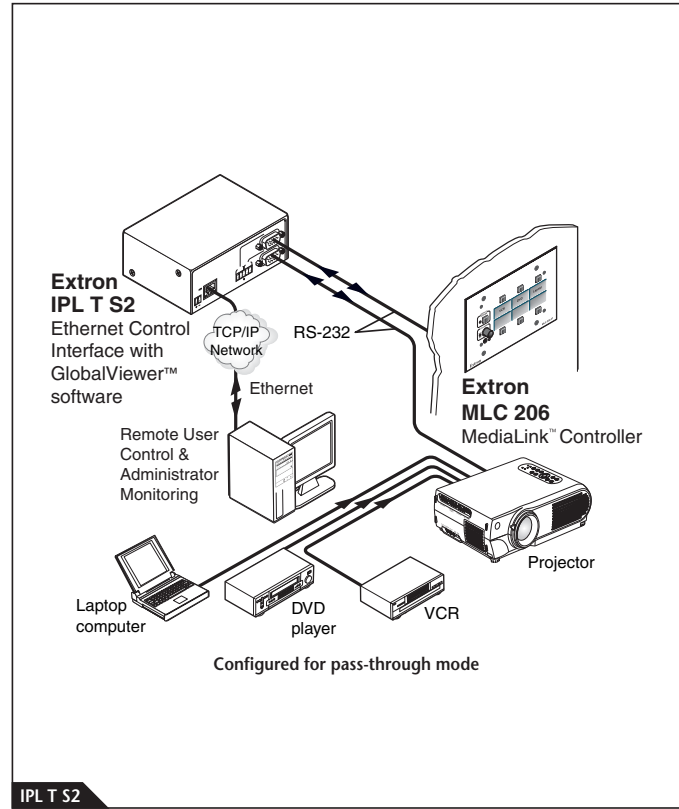IPL T S2 - Back

IPL T S4 - Front

IPL T S4 - Back

IPL T S6 - Front

IPL T S6 - Back

APPLICATION DIAGRAMS

Extron IPL T S1
Ethernet Control Interface with GlobalViewer™ software

RS-232

Ethernet

TCP/IP Network

Ethernet

Plasma Display

Extron IPL T S1
Ethernet Control Interface with GlobalViewer™ software

RS-232

Plasma Display

Remote User Control & Administrator Monitoring

IPL T S1

Extron IPL T S2
Ethernet Control Interface with GlobalViewer™ software

TCP/IP Network

RS-232

Ethernet

Extron MLC 206
MediaLink™ Controller

Remote User Control & Administrator Monitoring

Laptop computer

DVD player

VCR

Projector

Configured for pass-through mode

IPL T S2

Lighting Control

Extron IPL T S4
Ethernet Control Interface with GlobalViewer™ software

RS-232

RS-232

TCP/IP Network

Ethernet

Extron MLC 206
MediaLink™ Controller

Remote User Control & Administrator Monitoring

Laptop

DVD

VCR

Projector

IPL T S4

Document Camera

RS-232

Projector

CODEC

Lighting Control

Extron IPL T S6
Ethernet Control Interface with GlobalViewer™ software

TCP/IP Network

RS-232

Ethernet

Extron MLC 206
MediaLink™ Controlle

Remote User Control & Administrator Monitoring

Laptop computer

DVD player

VCR

Projector

IPL T S6