Extron

IPL EXP PDU4H • Setup Guide

The Extron IPL EXP PDU4H Control System Expansion Interface provides centralized power management for medium sized AV systems. The IPL EXP PDU4H includes the following features:

- Dedicated control and monitoring of four AC power outputs
- Standalone manual input control for each AC output
- A single relay output
- Basic surge protection
- Alarm notifications

- Current sensing
- Half rack enclosure
- Optional cable kits
- Compatibility with Extron IPCP Pro Q xi and xi Series control processors

It provides remote individual AC output control, ability to create schedules, ability to resolve issues with devices, and aggregate current sensing via software configuration or from the IPL EXP PDU4H embedded webpage.

The IPL EXP PDU4H works in combination with IPCP Pro xi Series control processors. Once configured, these systems allow users to remotely control, monitor, and troubleshoot AV equipment, including display devices and switchers. All models include an embedded web server.

This guide provides instructions for an experienced installer to install an IPL EXP PDU4H (with an IPCP Pro xi Series control processor) and to create a basic configuration.
In this guide the IPL EXP PDU4H is referred to as the "IPL EXP," "EXP," "power distribution unit," or "power expansion interface."

Use Extron Toolbelt software to discover and manage the IPCP Pro xi control processor, the IPL EXP PDU4H, and other Extron control products. Configure the control system using Extron Global Configurator® software running in Global Configurator Professional (GC Professional) or Global Configurator Plus (GC Plus) mode, or program the control processor using Global Scripter® (GS). The control system integrates seamlessly with GlobalViewer® Enterprise (GVE) software and Extron Control apps for remote control applications. Each IPCP Pro xi control processor supports multiple TouchLink® Pro touchpanel interfaces, Network Button Panels (NBPs), and IPL EXP expansion interfaces over a standard Ethernet network. Global Configurator and other useful software applications are available at **www.extron.com**.

Operation Modes

The IPL EXP PDU4H has three modes of operation:

- **Manual control** (using the Manual Control contact closure ports)
  - Enabled at all times
  - Takes precedence over the other two modes
- **Simple Instruction Set (SIS-over-SSH) control**
  - Enabled by default
  - Best for Ethernet communication with non-Extron devices
  - Disabled by SPD mode
- **Secure Platform Device (SPD) mode**
  - Enabled once the unit is paired with an IPCP Pro xi Series control processor via Toolbelt and configured using Global Configurator or programmed with Global Scripter
  - Guarantees secure communication in an environment of Extron-only products
  - Disabled when the device is disconnected from the Extron control system (when the device is reset in Toolbelt or the connection between the control processor and the IPL EXP is interrupted)

SIS-over-SSH (via port 22023) and SPD modes of operation are mutually exclusive.

Setup Checklist

Get Ready

☐ Familiarize yourself with the features of the IPL EXP PDU4H (see **Front Panel Features** on page 4, **Rear Panel Features** on page 4), and of any IPCP Pro xi Series control processors, TouchLink Pro touchpanels, or button panels that will be part of the system.

☐ Download and install the latest version of the following:

- **Toolbelt software** — for discovering the control processor, IPL EXP PDU4H, and other control products on the network, for managing core settings, and for upgrading firmware when needed

- **Global Configurator (GC) software** — for configuring the control system

- **Global Scripter software** — for programming the system (as an alternative to GC)

- **GUI Designer software** — for designing layouts for Extron TouchLink Pro touchpanels and third-party touch interfaces

All are available from **www.extron.com** (see **Locating Software, Firmware, and Driver Files on the Extron Website** on page 8).

☐ Obtain network information for the unit from the network administrator. You also need the following details for each Extron Pro series Ethernet-enabled device:

☐ DHCP setting (on or off) ☐ Subnet mask ☐ Username
☐ Device (IPL EXP, TLP Pro, IPCP Pro Qxi or xi, NBP) LAN IP address ☐ Gateway IP address ☐ Passwords
☐ AV LAN IP address (if using IPCP Pro Q xi models)

> **NOTE:** If DHCP is on, you do not need the IP addresses and subnet mask.

☐ Write down the MAC address of each network interface on each IP Link Pro xi device to be used.

☐ Obtain model names and setup information for devices the system will control.

☐ Each IPL EXP PDU4H and each control processor comes with a factory-installed Secure Sockets Layer (SSL) security certificate. If you intend to install a different SSL certificate, contact your IT department to obtain the certificate or for instructions on how to obtain one. See "Secure Sockets Layer (SSL) Certificates" in the *IPL EXP PDU4H User Guide* for requirements and guidelines regarding SSL certificates. IEEE 802.1X authentication is also supported once enabled (see "IEEE 802.1X Certificates" in the *IPL EXP PDU4H User Guide* for details).

Mount and Cable All Devices

☐ Mount the unit to a rack or furniture (see **Mounting** on page 4).

☐ Cable devices to the IPL EXP PDU4H (see **Cabling and Features** on page 5) and to the control processor. A kit containing four, one-foot, IEC-to-Edison power cable adapters is available for customers in the United States.

☐ Connect power cords and power on all the devices.

Set Up the Expansion Interfaces, Control Processor, Touchpanels, and Network Button Panels for Network Communication

☐ Connect the PC that you will use for setup, the LAN port of the expansion interface, the LAN (or AV LAN) port of the control processor, and the touchpanels or network button panels to the same Ethernet network. For expansion interface LAN connections, see **Control, Bidirectional — LAN (Ethernet)** on page 7.

☐ Start Toolbelt and use it to set the IP address, subnet, gateway IP address, DHCP status, and related settings. See the flowchart in **Network Communication Setup** on the next page.

> **NOTE:** The control processor supports fully qualified domain names. If required by the network configuration, use a fully qualified domain name (*hostname.domain*) when setting up the control processor as a DHCP client or if using a hostname instead of an IP address.. For example: *hostname*.extron.com.

At this point you can access the IPL EXP PDU4H embedded webpage and use controls within it to turn the connected devices on or off. Also, you can now use a terminal emulator (such as PuTTY) to connect to the IPL EXP PDU4H and use SIS commands to configure or control the ports on the device.

Configure or Program the Control Processor, Expansion Interfaces, Touchpanels, and Network Button Panels

The most basic steps are outlined below in the recommended order.

> **NOTES:**
> - See the *Toolbelt Help File*, *Global Configurator Help File*, *Global Scripter Help File*, and *GUI Designer Help File* as needed for step-by-step instructions and detailed information. The help file for GC includes an introduction to the software and how to start a project and configuration.
> - Building and uploading a GC or GS project changes the state of the ports to factory default, or to the configured or programmed values, depending on the actions defined in the project. This state change is performed in case the user made changes via SIS or via the IPL EXP PDU4H embedded webpage before building and uploading the project.

☐ If TouchLink Pro or third party touchpanels are part of the system, start and use GUI Designer to **design, save, and build the graphical user interface (GUI) layout** for the touchpanels.

> **NOTE:** To redeem (activate) a LinkLicense®, go to **www.extron.com//llredeem** and follow the online instructions.

☐ **Using GC, create a new GC Professional or GC Plus project and configure the control processor, the IPL EXP PDU4H, and other IP Link Pro devices**. The configuration tells each control processor and expansion interface:

- How its ports function
- How to control other products
- Which touchpanels to interact with
- What to monitor
- When to do things
- Whom to notify, how, and under what circumstances

    ☐ Configure ports on the control processor:

        ☐ Select device drivers and link them to each serial, IR/serial, or Ethernet port as needed.

        ☐ Select settings (serial protocol, relay behavior, digital I/O or flex I/O settings) as needed.

    ☐ Add eBUS devices and set them up:

        ☐ Ensure that the hardware address set on each device is distinct and matches the address used in the configuration.

        ☐ Assign button functions as desired.

    ☐ Add Network Button Panels (NBPs) and set them up. Assign button functions as desired.

    ☐ Add IPL EXP expansion interfaces and configure their ports. All ports on the IPL EXP PDU4H can be configured or programmed except for the Manual Control ports.

    ☐ Set up monitors, schedules, macros, and local variables.

    ☐ Add touchpanels and set them up:

        ☐ Add the GUI configuration for each touchpanel to the GC project using Global Configurator.

        ☐ Assign any appropriate functions, monitors, or schedules to the touchpanels and their buttons.

☐ **If not using GC Professional or GC Plus, use Global Scripter** to program the control system as desired.

    ☐ Program ports on the control processor:

        ☐ Program each serial, IR/serial, or Ethernet port as needed.

        ☐ Program relay behavior, digital I/O, and flex I/O settings as needed.

    ☐ Add eBUS devices and set them up:

        ☐ Ensure that the hardware address (eBUS ID) set on each device is distinct and matches the address programmed for it in the IPCP.

        ☐ Program button functions as desired.

    ☐ Add Network Button Panels and set them up. Program button functions as desired.

    ☐ Add IPL EXP expansion interfaces and program their ports. All ports on the IPL EXP PDU4H can be configured or programmed except for the Manual Control ports.

    ☐ Add touchpanels and set them up:

        ☐ Upload the GUI configuration for the touchpanels to the project.

        ☐ Program functions, monitors, or schedules to the touchpanels and their buttons.

☐ Save the GC or GS project.

☐ Build and upload the system configuration to the control processor, expansion interfaces, and other system devices.

Test and Troubleshoot

☐ Test the system (see the *IPCP Pro Q xi and xi Series User Guide* and the *IPL EXP PDU4H User Guide* for an outline of the system testing procedure).

☐ Make adjustments to wiring or configuration as needed.

Network Communication Setup

Network setup is essential prior to configuration. Use the flowchart at right as a guide to setting up the IPL EXP PDU4H expansion interface for network use.

NOTE: If using 802.1X security, see the *Extron 802.1X Technology Reference Guide* (available at **www.extron.com**) and the *Toolbelt Help File* for additional details on system setup.

Network Communication Setup

Connect the PC and the LAN port of the expansion interface to the same network. Apply power to all devices.

↓

Open the Toolbelt software from within Global Configurator (GC Professional or GC Plus mode) or as the stand-alone application.
Start Device Discovery.
Toolbelt displays a list of all Extron control devices connected to the network.

↓

Using the MAC address, locate the desired expansion interface in the list and select it.

↓

For each network interface (LAN), use the Set IP feature in Toolbelt or use the feature in the Toolbelt `Manage > Network Settings` tab to enter the IP address and subnet address. Then configure other network settings as needed.
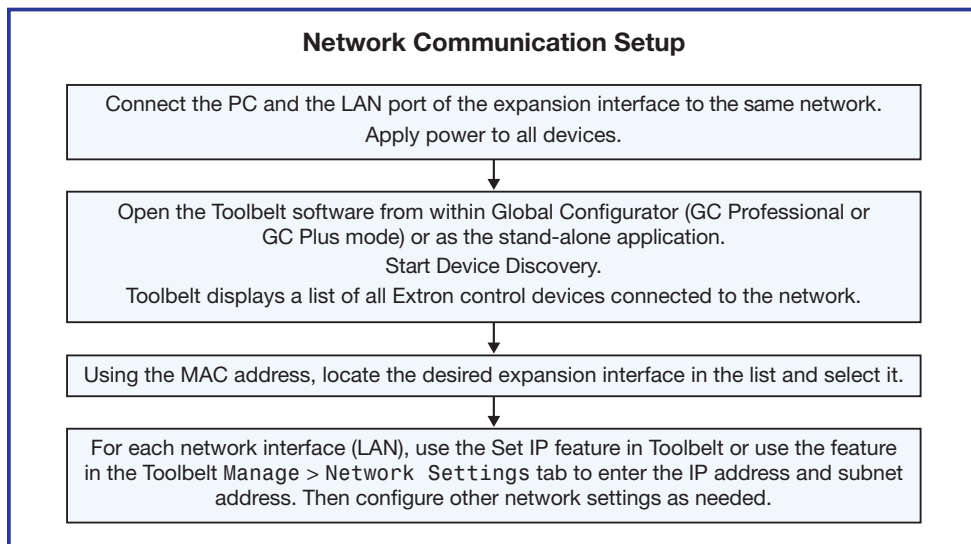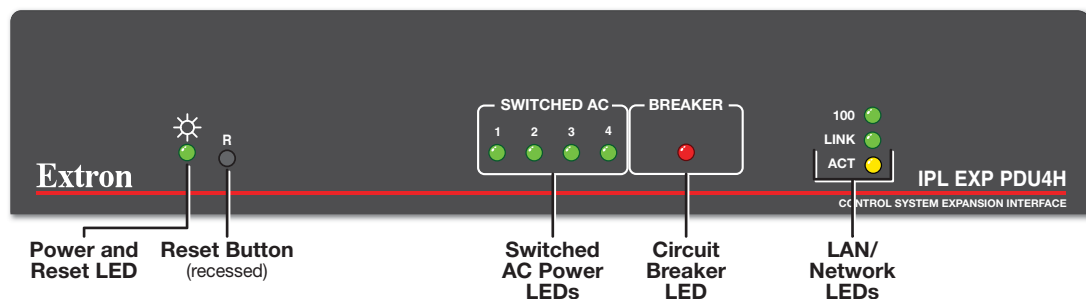
Figure 1.   Network Setup

Mounting

Securely mount the control system expansion interface and other devices, and attach cables using the wiring section (see **Cabling and Features** on page 5) as a wiring guide. Optional 1U rack shelves and furniture mounting bracket kits are available for use with all IPL EXP models. See the product-specific page at **www.extron.com** for a list of compatible accessories for mounting your expansion interface. Alternatively, the unit can be placed on a tabletop.
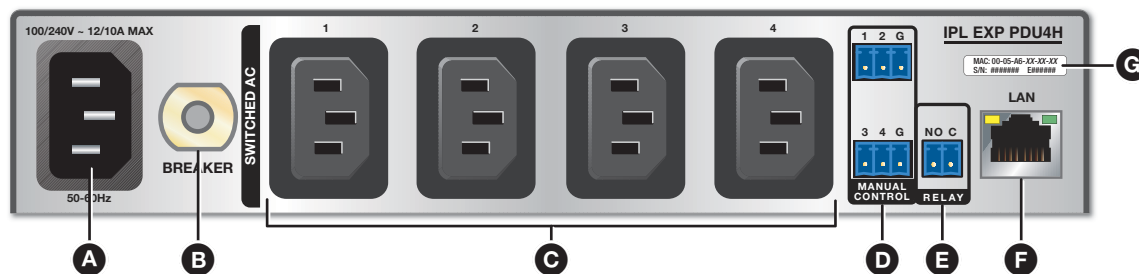
Read the instructions and UL guidelines that come with the rack shelf or mounting kit for installation procedures. Ensure that the equipment rack is grounded, as well.

Front Panel Features

NOTE: For full reset mode information, see the *IPL EXP PDU4H User Guide*.

Power and Reset LED
Reset Button (recessed)
Switched AC Power LEDs
Circuit Breaker LED
LAN/ Network LEDs

Rear Panel Features

Ⓐ Power input — Powers the IPL EXP PDU4H (see the next page)

Ⓑ Circuit breaker —For resetting the power outputs after correcting a power fault condition (see the next page)

Ⓒ Switched AC power output ports — Provide switched (controlled) AC power to up to four devices (see the next page)

Ⓓ Manual control ports — Contact closure inputs used exclusively to control the corresponding power output ports (page 7)

Ⓔ Relay output port —Allows you to connect an alarm device for notification of power shutoff (page 8)

Ⓕ LAN connector and LEDs (Ethernet) —For control and monitoring (page 7)

Ⓖ MAC address (page 7)

Cabling and Features

Attach cables using the following wiring diagrams as a guide. Full details are available in the *IPL EXP PDU4H User Guide*.

CAUTION:
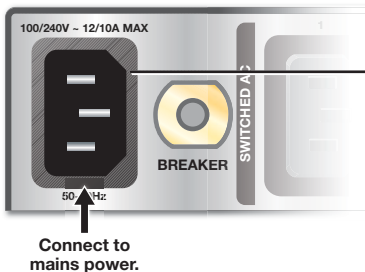**ATTENTION :**

- Always use the power cord provided with the unit.
- Veillez à toujours utiliser le câble d'alimentation fourni avec l'unité.

- Should you need to use a different power cord, consult Extron Electronics prior to using the cord.
- Si vous devez utiliser un autre câble d'alimentation, contactez Extron Electronics avant d'utiliser ce câble.

Power Input

After connecting cables to the other ports, connect a cable from the 120 VAC or 240 VAC, 50-60 Hz mains power source to this IEC plug.
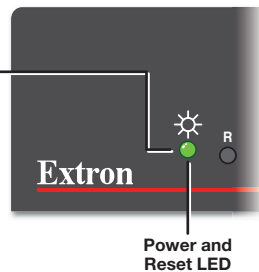
Rear Panel

100/240V ~ 12/10A MAX

BREAKER

SWITCHED AC

50-60 Hz

Connect to mains power.

Power Input
- Connect to 120 or 240 VAC, 50-60 Hz.
- Front panel LED (●) blinks during boot-up and remains lit when the IPL EXP receives power.

Front Panel

Extron

R

Power and Reset LED

CAUTION: Always disconnect the product from the wall plug.

ATTENTION : Veillez à toujours déconnecter le produit de la prise murale.

ATTENTION:

- Connect the equipment only to a nominal 120 VAC or 240 VAC electrical supply source.
- Veillez à ne connecter le dispositif qu'à une source d'alimentation nominale de 120 Vca ou 240 Vca.

- Output voltage follows input voltage. Connect the equipment to a supply voltage suitable for the load equipment.
- La tension de sortie suit la tension d'entrée. Connectez l'équipement à une tension électrique adaptée à l'équipement de charge.

- The equipment must be connected to an earthed mains socket-outlet.
- L'équipement doit être connecté à une prise électrique avec mise à la terre.

Circuit Breaker

The rear panel features a 12 A rated circuit breaker. When a fault condition occurs, the breaker is triggered, which stops power output. Any attempt to control the AC outputs is ignored while the fault condition is present. The front panel Breaker LED lights. This condition can be monitored and the system can be configured (using available commands) to send an alert e-mail or perform some other action. After you correct the cause of the overcurrent condition, press the `Breaker` button to manually reset the circuit breaker and turn off the LED. The AC power ports remain off until they are manually turned on. This prevents inadvertent damage to equipment after an overcurrent condition when the user resets the switch before the condition is cleared.

BREAKER

Power Output — Switched AC Power Output

Circuit Breaker
(power output
overcurrent protection)

Rear Panel

100/240V ~ 12/10A MAX

SWITCHED AC

BREAKER

1   2   3   4

50 Hz

**120 VAC or 240 VAC,
50-60 Hz
Input**

**To AC power input
ports on AV devices**

Switched AC Power Output

Connect AC powered products to these four ports using a standard IEC power cord, or use an Extron IEC-to-Edison cable kit if your devices require NEMA 5-15R receptacles.

• Output voltage: 120/240 VAC, 50-60 Hz
• Maximum AC load:
  12 A at 120 VAC or 10 A at 240 VAC
• Current sense:
  0 A to 12 A, 100 mA resolution, ≤6% tolerance
• Surge protection: Single-stage – multiple MOVs
• Surge energy dissipation: 1750 joules (10/1000 µs)

These outputs can be controlled via software, controls in the embedded web page, SIS commands (sent via SSH) or by a keypad or switch connected to the Manual Control contact closure port.

Sortie Electrique Commutée

Connectez les produits alimentés à ces quatre ports à l'aide d'un cordon électrique IEC standard, ou utilisez un lot de câbles IEC/Edison Extron si vos appareils nécessitent des prises NEMA 5-15R.

• Tension de sortie : 120/240 VAC, 50-60 Hz
• Charge CA maximale : 12 A à 120 VAC ou 10 A à 240 VAC
• Détection de courant : 0 A à 12 A, résolution 100 mA, tolérance ≤6%
• Protection contre les surtensions : plusieurs parasurtenseurs à un étage
• Dissipation de l'énergie en cas de surtension : 1 750 joules (10/1 000 µs)

Plusieurs sorties peuvent être contrôlées via un logiciel, des contrôles dans la page Web embarquée, des commandes SIS (envoyées via SSH), ou via un clavier ou un switch connecté au port de Manual Control avec contact sec.

NOTES:
- Within the United States of America use a power supply cord with conductors that are a minimum diameter of 17 AWG.
- For international installations, use a power supply cord with conductors that are a minimum of 1.0 mm^2.
- Make sure that the device being controlled can support an AC power cycle.
- In case of emergency, disconnect AC power from the power input (appliance inlet) of the connected equipment.

The four switched AC output ports remain on as long as there is no overload condition. Output power capacity has an aggregate limit of 12 A at 120 VAC or 10 A at 240 VAC, maximum, total for all switched AC ports. The ports are monitored continuously for total combined power draw.

The IPL EXP PDU4H (and the IPCP Pro Q xi or xi) can be configured (using Global Configurator or Global Scripter) to monitor the power output conditions and to alert users in the event of a power fault interruption. The system can be set up to monitor the circuit breaker and also the combined current load at the switched AC power output ports. The AC current value and circuit breaker status are shown in the IPL EXP PDU4H embedded web page.

Power output can be toggled on and off using manual contact closure control, SIS commands, or controls in the embedded web page.

NOTE: The power output state setting persists after and is retained during a power cycle.

Control, Bidirectional — LAN (Ethernet)

Insert Twisted Pair Wires

Ethernet

TCP/IP Network

PC

RJ-45 Connector

Pins: 87654321

Rear Panel

IPL EXP PDU4H

MAC: 00-05-A6-XX-XX-XX
S/N: #####-######

Activity LED

LAN

Link LED

LAN (Ethernet)

Default protocol, public ports:
- IPL EXP IP address: 192.168.**254.250**
- Gateway IP address: 0.0.0.0
- Subnet mask: 255.255.255.0
- DNS address: 127.0.0.1
- DHCP client: off
- Link speed and duplex level: autodetected
- Data rates: 10/100Base-T

Default login credentials:
- Username: **admin** or **user**
- Password: **extron**

Front Panel

100 — 100 Mbps Connection

LINK — Network is active.

ACT — Data is being sent/received.
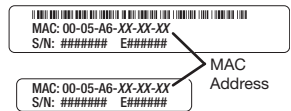
IP

CONTROL SYSTEM

MAC: 00-05-A6-*XX-XX-XX*
S/N: ######   E######

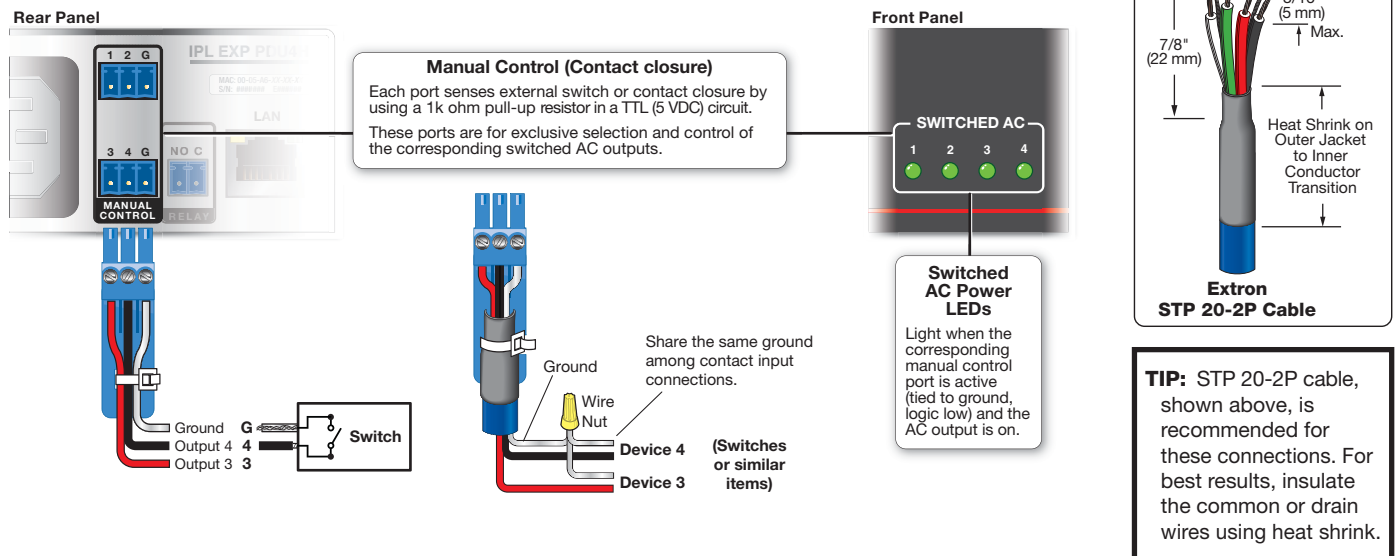MAC: 00-05-A6-*XX-XX-XX*
S/N: ######   E######

MAC Address

MAC address: Each IPL EXP expansion interface is assigned a unique user hardware ID number (MAC address) (for example, 00-05-A6-05-1C-A0). You may need this address during configuration. A label that indicates the MAC address is located on the rear of the unit.

NOTE: The factory configured passwords for this device have been set to the device serial number. Passwords are case sensitive. Performing a Reset to Factory Defaults reset (see **Reset Modes: a Brief Summary** on page 9) sets the passwords to `extron`.

Control, Unidirectional — Manual Control (Contact Closure)

Rear Panel

IPL EXP PDU4H

MAC: 00-05-A6-XX-XX-XX
S/N: #####-######

LAN

NO C

MANUAL CONTROL

RELAY

Manual Control (Contact closure)

Each port senses external switch or contact closure by using a 1k ohm pull-up resistor in a TTL (5 VDC) circuit.

These ports are for exclusive selection and control of the corresponding switched AC outputs.

Front Panel

SWITCHED AC

1   2   3   4

Switched AC Power LEDs

Light when the corresponding manual control port is active (tied to ground, logic low) and the AC output is on.

Ground   G
Output 4   4
Output 3   3

Switch

Ground

Wire Nut

Share the same ground among contact input connections.

Device 4

Device 3

(Switches or similar items)

3/16" (5 mm) Max.

7/8" (22 mm)

Heat Shrink on Outer Jacket to Inner Conductor Transition

Extron STP 20-2P Cable

TIP: STP 20-2P cable, shown above, is recommended for these connections. For best results, insulate the common or drain wires using heat shrink.

Control, Unidirectional — Relay Output

Connect this port to a notification device to allow visual or audio alerts for conditions such as power output shutdown (once the port conditions, events, and notifications are configured).
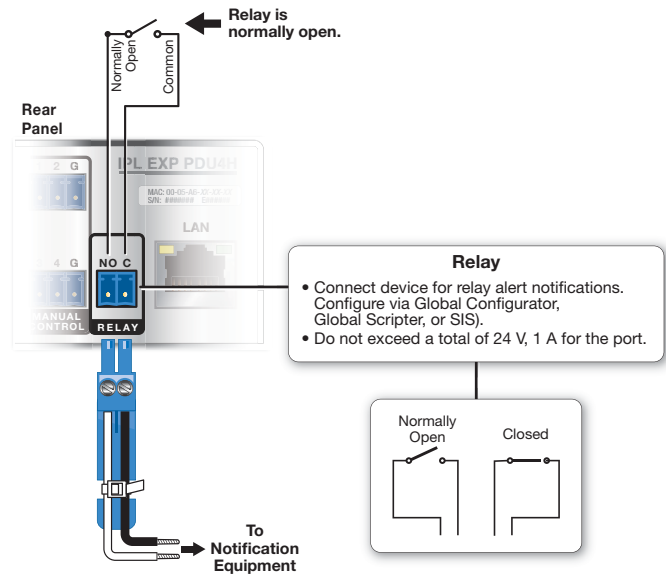
SIS-Over-SSH Mode

Using manual control mode, the IPL EXP PDU4H does not need to be configured, nor connected to a network, in order to control the on/off state of the AC output ports. Manual control mode takes precedence over the other two operation modes.

SIS-over-SSH mode requires a network connection. It allows the user to communicate with non-Extron devices using Simple Instruction Set (SIS) commands via SSH port 22023. It also permits you to set basic unit functions and settings and to send information queries to the unit. This mode is enabled at the factory. When SIS-over-SSH mode is enabled and the IPL EXP PDU4H is connected to the network, the unit is able to respond to SIS commands and information queries. See "SIS Control and Configuration" in the *IPL EXP PDU4H User Guide* for details about the Simple Instruction Set commands that can be used with the unit.

SIS-over-SSH is disabled only when the IPL EXP PDU4H is part of an Extron control system (when you deploy a Global Configurator or Global Scripter project that includes the IPL EXP PDU4H). Once the unit is configured or programmed as part of an Extron control system, the SIS-over-SSH mode is disabled and the SPD mode is automatically enabled. All SIS-over-SSH requests (aside from the query about the current mode of operation) will be unsuccessful, and will return error code 37: Invalid command while in SPD mode.

To re-enable the SIS-over-SSH mode of operation, the user must clear or remove pairing information from the IPL EXP PDU4H by:

- Applying a Toolbelt reset to the unit
- Removing the paired primary controller information from the IPL EXP `System` tab
- Performing a Reset to Factory Defaults reset

Resources

Obtaining Instructions, Information, and Assistance

A checklist of basic setup steps is provided at the beginning of this guide. For additional information see the help files and the *IPL EXP PDU4H User Guide*, available at **www.extron.com**.

If you have questions during installation and setup, call the **Extron Sales & Technical Support Hotline** or the Extron S3 Control Systems Support Hotline (1.800.633.9877).

Locating Software, Firmware, and Driver Files on the Extron Website

There are three main ways to find software, firmware, and device drivers within **www.extron.com**:

- Via links from the web page for the specific product
- Via the **Download** page (Click on the `Download` tab at the top of any page within **www.extron.com**.)
- Via links from search results

NOTE: For some software you have the option to click the `Download Now` button to begin downloading the software file. For other software there is a link for contacting an Extron support representative who can provide you access to the latest version.

To obtain Extron control product software, you must have an Extron Insider account. Extron provides training to our customers on how to use the software. Access to the full features of Global Configurator Professional is available to those who successfully complete Extron Control Professional Certification.

Reset Modes: a Brief Summary

The expansion interfaces offer the following reset modes:

- **Run Factory Boot Code:** Press and hold the `Reset` button while applying power to the unit. Keep holding the button down until the Power or Reset LED blinks twice, or for 6 seconds, then release the button. The LED blinks slowly during bootup. The expansion interface runs the factory boot code (rather than full firmware). Upload new firmware to the unit (see "Updating the Firmware" in the user guide for details).

  - Use this mode to temporarily boot up the unit running only the factory boot code, then install the desired firmware.
  - Use this in the event that a firmware update has failed or if incompatibility issues arise with user-loaded firmware.

  > **NOTES:**
  > - **Do not** continue to operate the expansion interface using only the factory boot code. The unit requires a full firmware package in order to be fully operational. If you want to use the firmware version with which the unit shipped, you must upload that version again (see the *Global Configurator Help File* or *Toolbelt Help File* for firmware upload instructions).
  > - To return the unit to the firmware version that was running prior to the reset, cycle power to the unit instead of installing new firmware.

- **Toggle DHCP Client**: Press the `Reset` button five times (consecutively). Release the button. Do not press the button within 3 seconds following the fifth press. Use this mode to enable or disable the DHCP client for the LAN port.
  - The Power or Reset LED blinks 6 times if the DHCP client is enabled.
  - The Power or Reset LED blinks 3 times if the DHCP client is disabled.

  > **NOTES:**
  > - By default DHCP is off for the LAN port and the unit uses a static IP address.
  > - If DHCP has been enabled, when you disable DHCP, the unit reverts to using the previously-set static IP address.

- **Reset All IP Settings**: Press and hold the `Reset` button until the Power or Reset LED blinks once at 3 seconds and twice at 6 seconds. Release and momentarily press the `Reset` button within 1 second. The LED blinks 3 times in quick succession upon successful reset.

  Use this mode to reset all network settings to factory default values without affecting user-loaded files. This reset mode also stops any running programs, disables 802.1X authentication, and turns DHCP off.

- **Reset to Factory Defaults**: Press and hold the `Reset` button until the Power or Reset LED blinks once at 3 seconds, twice at 6 seconds, and three times at 9 seconds. Release and momentarily press the `Reset` button within 1 second. The Power or Reset LED blinks 4 times in quick succession upon successful reset.

  Use this mode to return the unit to factory default settings. This mode also deletes all user-loaded files and configurations (except LinkLicense files), and it clears messages in the event logs table. User-loaded digital certificates are deleted. The unit continues to run the user-loaded firmware.

For detailed information on each mode and its use, see the *IPL EXP PDU4H User Guide* at **www.extron.com**.

Overall Configuration Procedure for the Control Processor and Expansion Interfaces

Within Global Configurator (GC Professional or GC Plus mode):

Configure the IP settings of the control processor, expansion interface, NBP network button panels, and TouchLink Pro touchpanels.

See **Network Communication Setup** on page 4.

If desired or required, use Toolbelt or other software to configure security settings for 802.1X, SSL. Upload security certificates, private keys.

Create a new GC Professional or GC Plus project and add the control processor to it.

Is a GUI layout required?

No — Yes

Use GUI Designer to create and save GUI layout designs as needed.

Or...

Download existing GUI layouts from identical touchpanels.

Configure ports on the control processor.

Create monitors, schedules, timers, macros, and local variables.

Add IPL EXP expansion interfaces, touchpanels, other interfaces, or button panels (if used) to the project.

Import GUI layouts and configure the touchpanels or other interfaces.

Save the project.

Build and upload the configuration to the control processor.

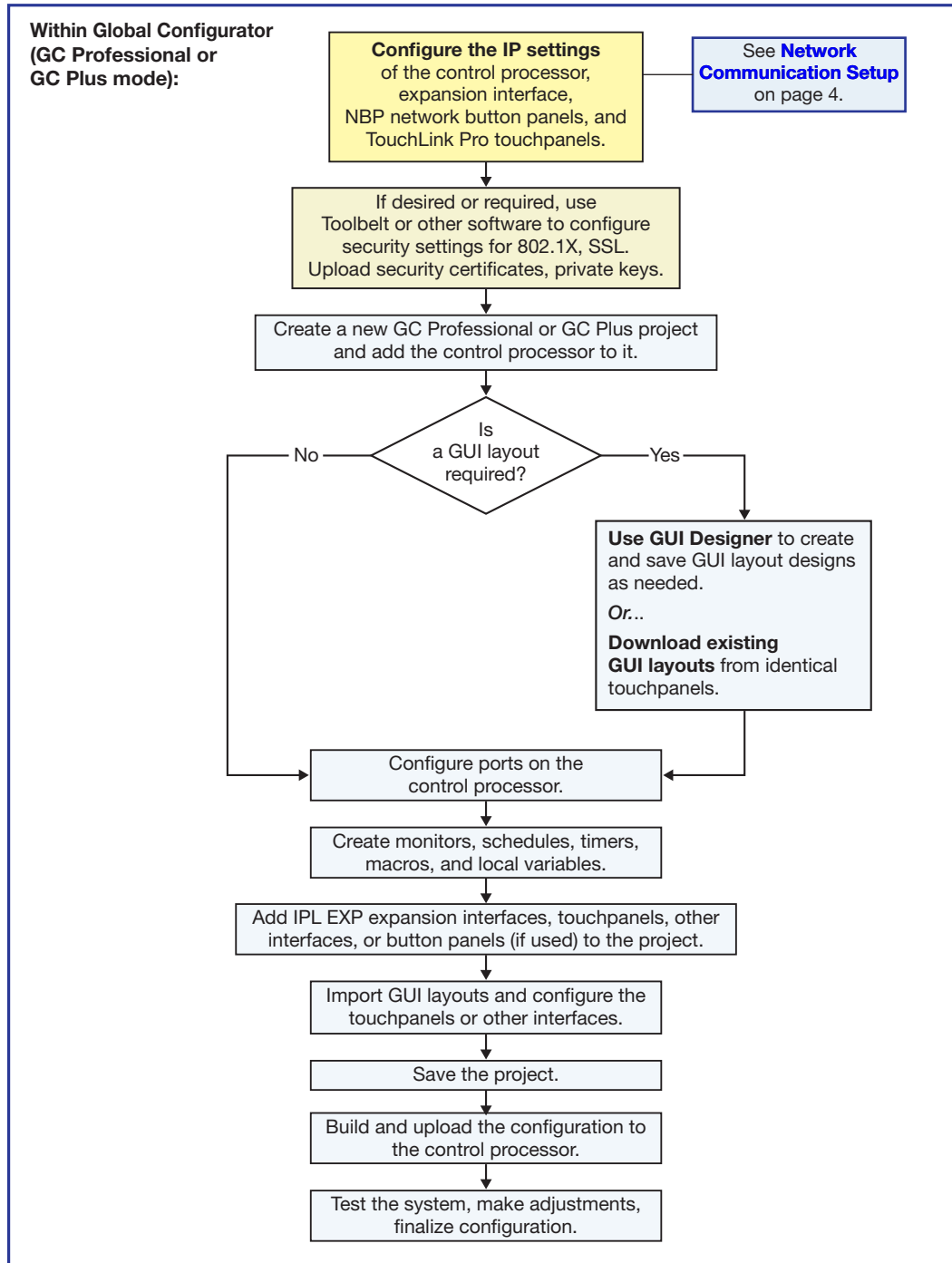Test the system, make adjustments, finalize configuration.

Figure 2.   Overall Configuration Steps

For 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.