Extron

MLC Plus 84 EU and MLC Plus 84 MK • Setup Guide

The Extron MLC Plus 84 EU and MLC Plus 84 MK MediaLink® Controllers with IP Link® Pro integrate Ethernet connection into AV systems to allow users to remotely control, monitor, and troubleshoot AV equipment, including display devices and switchers. Each controller includes an embedded web server and support for Power over Ethernet (PoE). It also includes ports for bidirectional serial control, IR output, relays, digital input, and volume control.

Figure 1.   MLC Plus 84 MK Front Panel   Figure 2.   MLC Plus 84 EU Front Panel

The MLC Plus 84 EU fits most standard two-gang European wall boxes. The MLC Plus 84 MK fits most standard two-gang MK-type wall boxes. These two models are identical except for the EU- or MK-specific wallplates and mounting hardware. Features, connectors, and operation are the same for both models.

This guide provides instructions for an experienced installer to install an MLC Plus 84 Series controller and to create a basic configuration. Use Extron Toolbelt software to discover and manage the MLC Plus controller and other Extron control products. Configure the controller using Extron Global Configurator® software running in Global Configurator Professional (GC Professional) or Global Configurator Plus (GC Plus) mode. The MLC integrates with Extron GlobalViewer® Enterprise (GVE) software and the Extron Control apps for remote control applications.

Installation

Step 1: Get Ready

Use the following check list to prepare for the installation.

- Download and install the latest version of the following:
    - **Toolbelt software** — for discovering the controller and other control products on the network, for managing core settings, and for upgrading firmware if the need arises.
    - **Global Configurator (GC) software** — for configuring the controller.
    - **IP Link Pro device drivers** — for use with GC, to make control of AV possible.

    All are available from **www.extron.com** (see **Locating Software, Firmware, and Driver Files on the Extron Website** on page 13).

- Obtain network information for the unit from the network administrator. You need the following details for each IP Link Pro device:
    - DHCP setting (on or off)
    - Device (MLC Plus 84) IP address
    - Subnet mask
    - Gateway IP address
    - User name
    - Passwords

- Write down the MAC address of each IP Link Pro device (such as the MLC Plus 84) to be used.

- Obtain model names and setup information for devices the MLC Plus 84 will control or monitor.

- Each controller 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 *MLC Plus 84 Series 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 *MLC Plus 84 Series User Guide* for details).

Step 2: Prepare the Installation Site

ATTENTION:
• Installation and service must be performed by authorized personnel only.
• L'installation et l'entretien doivent être effectués uniquement par un technicien qualifié.
• Extron recommends installing the MLC Plus 84 into a grounded electrical junction box.
• Extron recommande d'installer le MLC Plus 84 dans une boîte de dérivation électrique mis à la terre.
• If the controller will be installed into fine furniture, it is best to hire a licenced, bonded craftsperson to cut the access hole and perform the physical installation so the surface will not be damaged.
• S'il est prévu d'installer le contrôleur dans du beau mobilier, il est préférable de faire appel à un artisan autorisé et qualifié pour couper le trou d'accès et réaliser l'installation de telle façon que la surface ne soit pas endommagée.
• Follow all national and local building and electrical codes that apply to the installation site.
• Respectez tous les codes électriques et du bâtiment, nationaux et locaux, qui s'appliquent au site de l'installation.
• The end user or installer must furnish the junction box. It is not included with the unit.
• Il incombe à l'utilisateur final ou à l'installateur de fournir la boîte de dérivation. Cet équipement n'est pas inclus avec l'unité.

NOTE: Follow the local and national electrical and building codes that apply to the installation site. In most cases you will need to use an approved electrical junction box. Read any installation instructions and regulatory guidelines that come with the mounting devices (raceway, junction box, surface mounting box) before installing the raceway or box.

Select and prepare the site before cabling the controller. This may include cutting a hole in the installation surface or installing a cabling raceway, running the cables to that site, installing the wall box, and pulling cables through it.

Accessibility

If applicable, when planning where to install the MLC Plus 84, you may need to consider factors affecting accessibility of the controller such as height from the floor, distance from obstructions, and how far a user must reach to press the buttons. For guidelines, see sections 307 ("Protruding Objects") and 308 ("Reach Ranges") of the *2010 ADA Standards for Accessible Design* available at **http://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.pdf**.

Site Preparation

The MLC Plus 84 EU fits a standard two-gang European wall (junction) box or external wall box.
The MLC Plus 84 MK fits a standard two-gang MK-type junction box or external wall box.
The installer must provide the box.
Read any installation instructions and regulatory guidelines that come with the wall box before installation.

To prepare the site:

1. **For installation into a wall or furniture:** Measure, mark, and carefully cut a hole in the mounting surface.

2. **For all types of installations:** Run cables to the junction box.

3. Secure the cables with a clamp for strain relief and so they do not slip back down into the wall or furniture.

4. Secure the box to the raceway, stud, wall, or furniture.

5. **For wall mount installations,** attach the mounting bracket (metal) to the junction box or external wall box.
For raceway installations, install the metal spacer (if needed), then attach the metal mounting bracket to the junction box or external wall box and raceway.

> **NOTE:** If using a cable raceway, you may need to insert a metal spacer between the raceway and the mounting bracket to close a gap and make the installation flush (see figure 3 at right and figure 4 below).
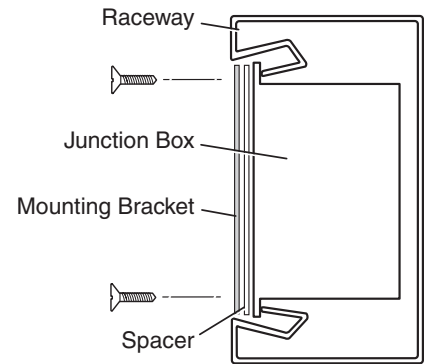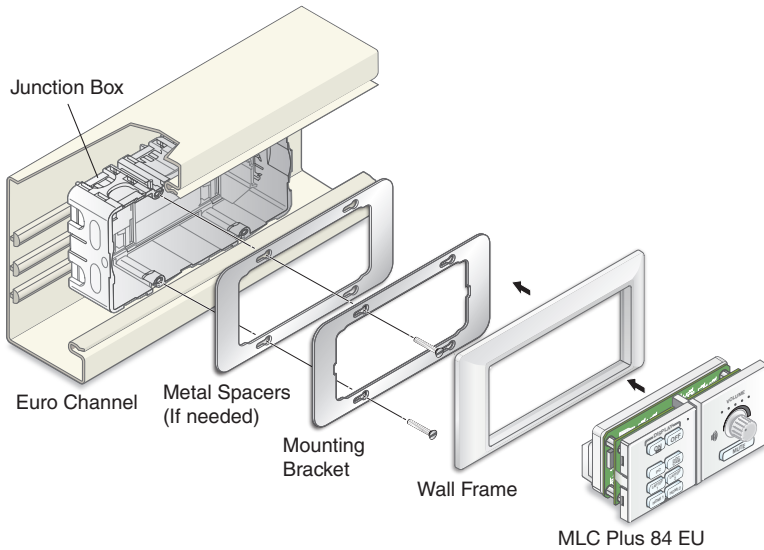

Raceway
Junction Box
Mounting Bracket
Spacer

Figure 3. Installing a Spacer Between the Mounting Bracket and Raceway (side view)

Junction Box
Euro Channel
Metal Spacers (If needed)
Mounting Bracket
Wall Frame
MLC Plus 84 EU

Figure 4. Installing Spacers Between the Mounting Bracket and Raceway

a. Hold the mounting bracket with the desired side facing you, feed the cables through the bracket, secure the bracket.
   - To install the MLC Plus 84 securely so it cannot easily be removed after installation, hold and install the bracket so that the side labeled "Front" faces out toward you and the unlabeled side faces the wall or furniture.
   - To install the MLC Plus 84 so it can be removed easily, hold and install the bracket so the unlabeled side faces outward toward you and the side labeled "Front" faces the wall or furniture.

Wall Box
Metal Bracket
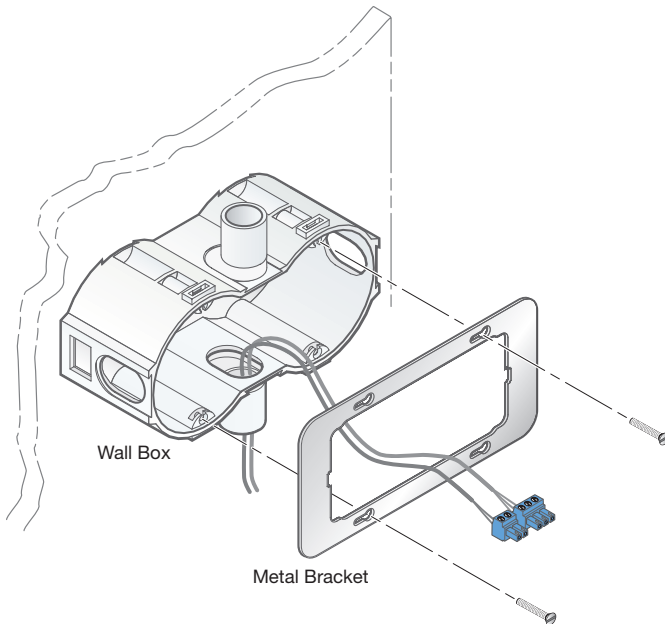
Figure 5. Mounting the Bracket to an EU Wall Box

External Wall Box
Metal Bracket

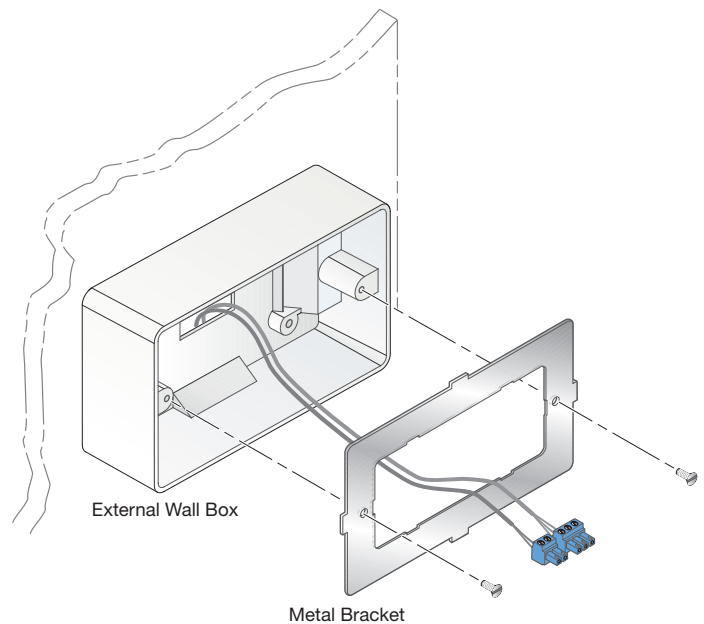**Figure 6.** Mounting the Bracket to an MK Wall Box

b. Place the bracket against the box, aligning the holes in the bracket with the corresponding threaded holes on the edges of the box.

c. Insert the provided screws into those holes, hold the bracket to ensure it is aligned straight (visually level), and tighten the screws to secure the bracket to the mounting surface (see figures 5 and 6).

Step 3: Change Buttons (optional)

Replace one or more buttons or button pairs using available additional buttons. Optional button kits are available in various languages.

NOTE: A custom button builder tool is available at **https://www.extron.com/product/custombuttonbuilder/index.aspx** where you can order custom-labeled buttons for the MLC Plus 84.

The faceplates must be removed to access buttons. To replace the buttons:

1. Remove one or both faceplates as follows:

    a. Slide the center divider bar up (as shown in figure 7) and remove it from the unit. Set it aside for later use.
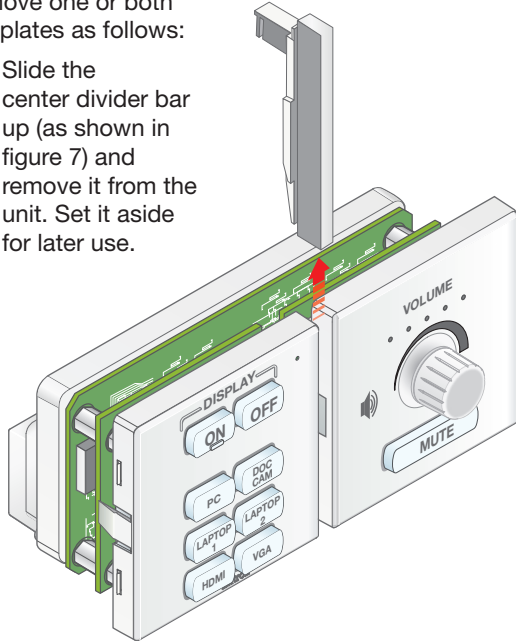

Figure 7. **Removing the Center Divider**

    b. If removing the volume control faceplate, remove the volume control knob (figure 8) as follows:
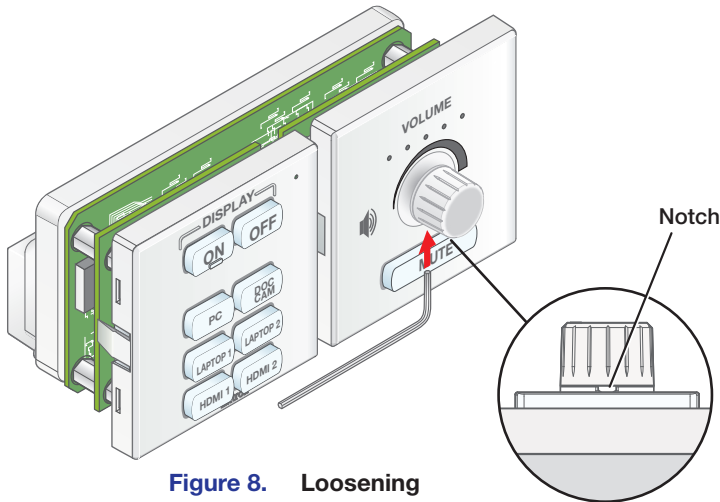

Figure 8. **Loosening the Set Screw to Remove the Volume Knob**

    i.   Viewing the unit from the bottom, look through the faceplate notch below the Volume knob and rotate the knob until the set screw is visible through and aligned with the opening.

    ii. Use a small (¹⁄₂₀") Allen wrench (hex key) inserted into the notch in the faceplate at the bottom of the knob to loosen the set screw that secures the knob.

    iii. Pull the knob away from the faceplate and set it aside.

    c. Insert the tip of a small, flat-bladed screwdriver (such as an Extron Tweeker) through one of the slots at the sides of an EU or MK model faceplate, as shown at right. There are four slots per faceplate, two on each side.
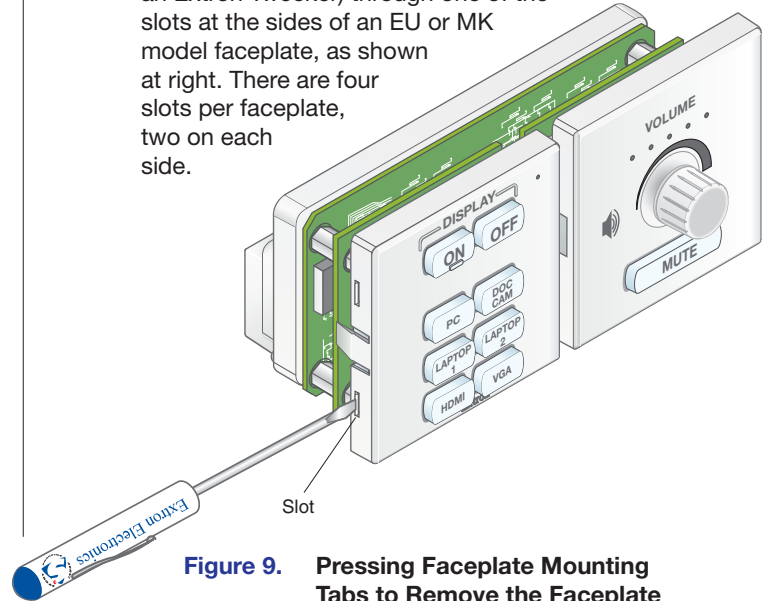
Figure 9. **Pressing Faceplate Mounting Tabs to Remove the Faceplate**

    d. Press the tab into the body of the MLC Plus 84 to release the faceplate from the circuit board.

    e. Repeat steps 1c and 1d with the remaining slots and tabs around the edges of the faceplate.

    f. Lift the faceplate away from the circuit board.

2. Remove any buttons to be replaced as follows:

    a. Press the button or button pair from the front of the faceplate out through the back of its faceplate opening. If necessary, pull the buttons out gently from the back.

    NOTE: The smaller buttons are arranged in pairs connected by a rubbery membrane.

    b. If you are replacing the faceplate, repeat step 2a until all buttons are removed.

    c. Set the removed buttons aside for later use.

3. Insert a button or button pair as follows:

    a. Insert a new button or button pair from the back into the appropriate opening in the faceplate.

    b. Align the two pegs in the upper left and lower right corners of the button or button pair (shown at right) with the corresponding holes in the faceplate. Press the button or buttons into the faceplate so the buttons and pegs are seated into the holes and faceplate opening.

Pegs (2)
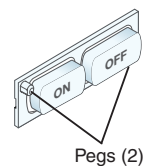
    c. Repeat steps 3a and 3b for any additional buttons that will be replaced or installed.

4. Reattach the faceplate to the controller as follows:

    a. Align the two EU or MK mounting tabs on the sides of the faceplate with the slots on the sides of MLC Plus 84. Align the eight faceplate mounting tabs (shown in the inset in figure 10) on the MLC Plus 84 with the corresponding slots in the sides of the faceplates.
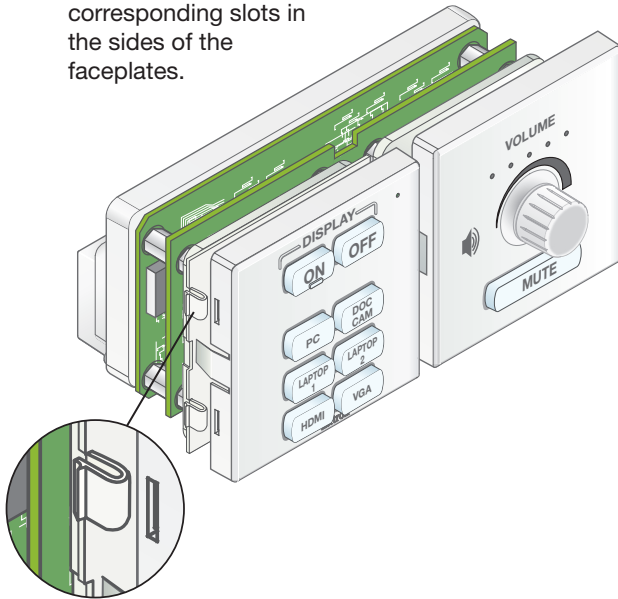
Figure 10. **Aligning and Reattaching the Faceplates**

    b. Gently but firmly press the faceplate against the MLC Plus 84 until all the tabs are inserted into the slots and the ridge on each tab snaps into place in the faceplate.

> **NOTE:** It is important to make sure that ALL eight tabs are securely snapped into place.

    c. Insert the center divider bar and slide it up, reversing the process shown in figure 7.

5. If reattaching the volume control faceplate, place the knob back on its shaft and use the small Allen wrench to tighten the set screw to secure the knob

Step 4: Cable All Devices

1. Cable devices to the controller (see **Cabling and Features** on page 7).

2. Connect power cords and power on all the devices.

Front Panel Features
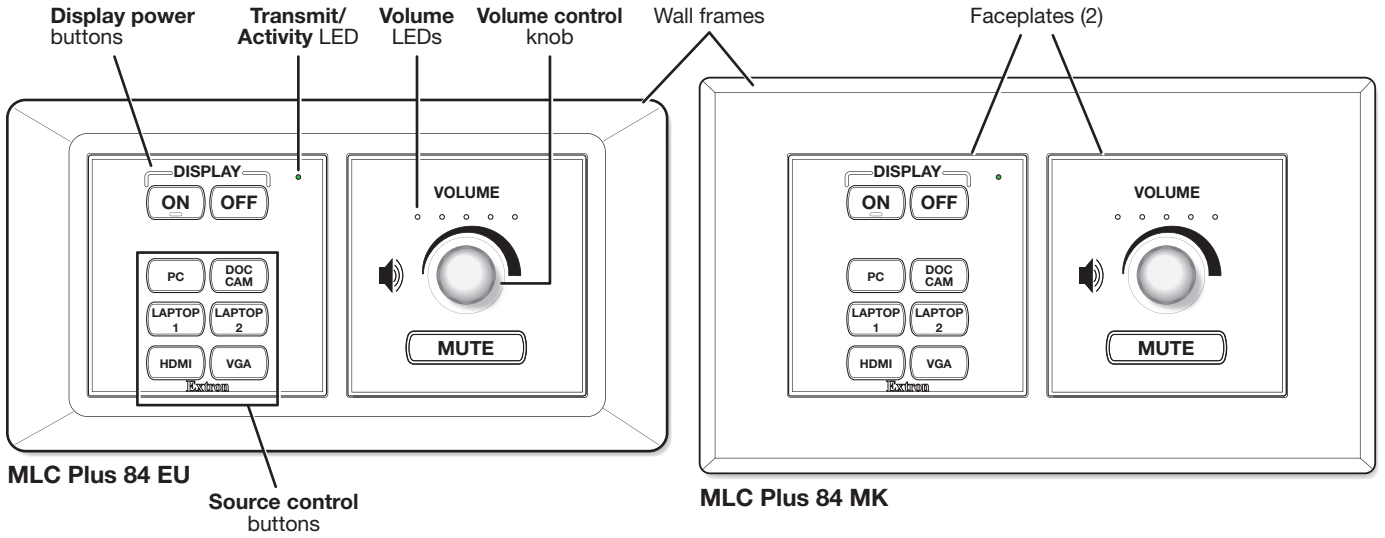
Figure 11. MLC Plus 84 EU (left) and MLC Plus 84 MK (right) Front Panels With Wall Frames

Rear Panel Features
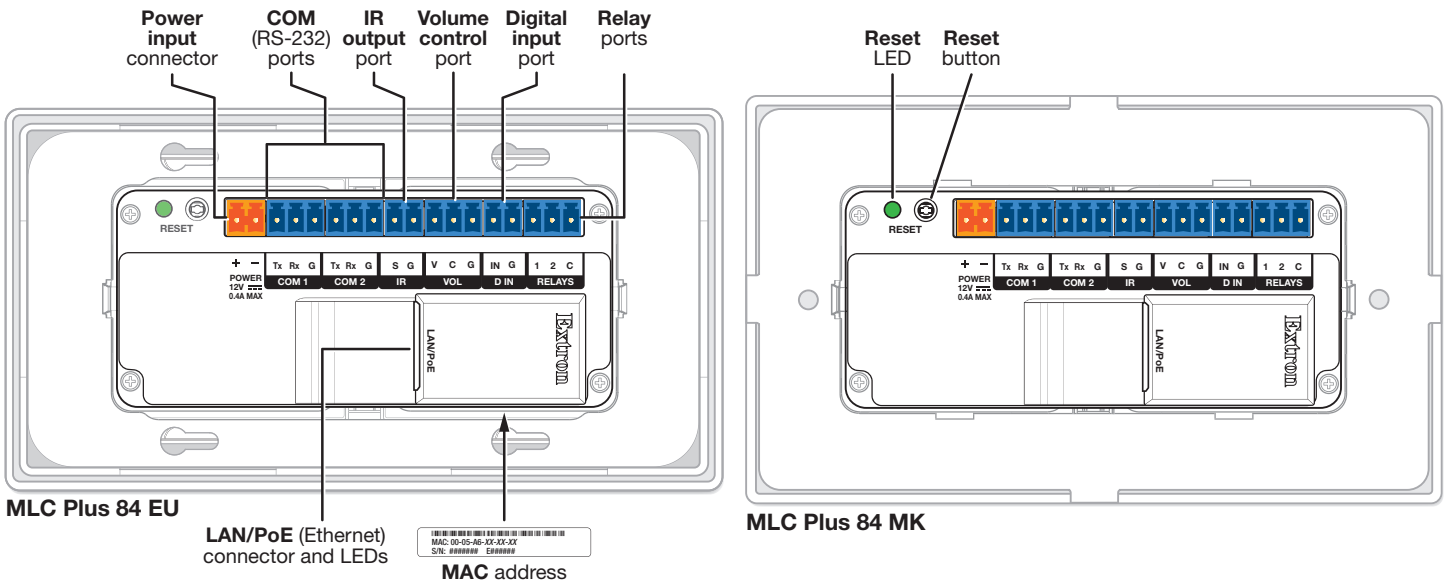
Figure 12. Rear Panel Features: MLC Plus 84 EU (left) and MLC Plus 84 MK (right)

Side Panel Features
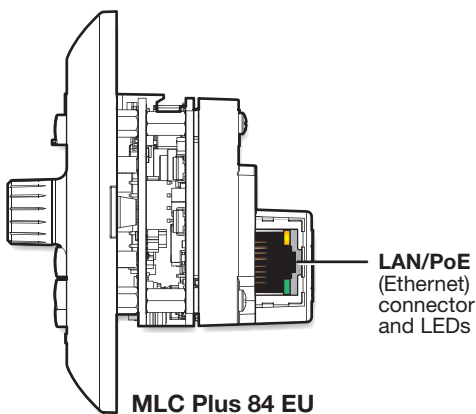
Figure 13. Right Side Panel Features

Cabling and Features

Attach cables using the following wiring diagrams as a guide. Full details are available in the *MLC Plus 84 Series User Guide*.

Power

The MLC Plus 84 supports Power over Ethernet (PoE) (see **Control and Power — LAN (Ethernet) and PoE** on the next page). Alternatively, you can power the controller using an optional Extron 12 VDC, 0.5 A desktop power supply, as shown below.

Rear Panel

POWER
12V — **0.4A MAX**

3/16" (5 mm) Max.

Tie Wrap

+ Smooth   **−** Ridged

Power Input, External Power Supply (optional)
- Connect to an Extron 12 VDC, 0.5 A power supply.
- If PoE is available, the MLC Plus 84 uses PoE, otherwise it uses power via this port.
- Front panel buttons blink during boot-up.
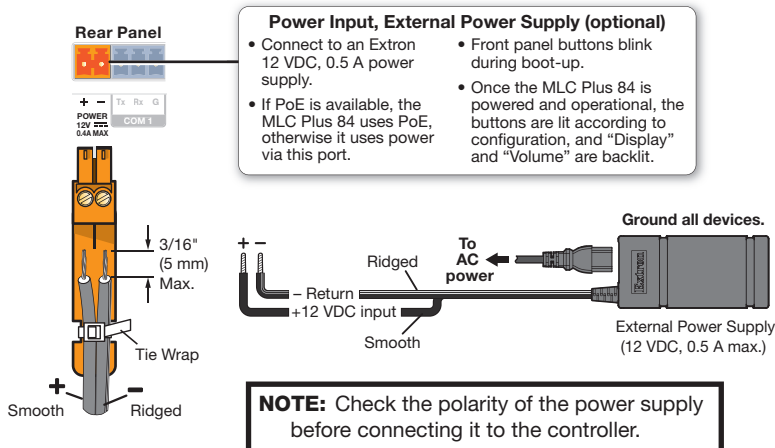- Once the MLC Plus 84 is powered and operational, the buttons are lit according to configuration, and "Display" and "Volume" are backlit.

+ −
− Return
+12 VDC input
Ridged
Smooth

To AC power

Ground all devices.

External Power Supply (12 VDC, 0.5 A max.)

NOTE: Check the polarity of the power supply before connecting it to the controller.

ATTENTION:
- Always use a power supply provided by or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
- Utilisez toujours une source d'alimentation fournie ou recommandée par Extron. L'utilisation d'une source d'alimentation non autorisée annule toute certification de conformité réglementaire et peut endommager la source d'alimentation et l'unité.

Control and Power — LAN (Ethernet) and PoE

Activity LED: Blinks yellow to indicate data is being sent or received.

MLC Side Panel

Link LED: Lights green to indicate a network connection.

Pins:
12345678

Insert Twisted Pair Wires

PC

Ethernet

TCP/IP Network

Extron Devices (Switchers, Scalers)

LAN/PoE (Ethernet and Power Over Ethernet)
Connect to an Ethernet network. This port must be configured.

Default protocol:
- MLC 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: off
- Link speed and duplex level: autodetected
- Data rate: 10/100Base-T

Use this port to upload configuration files and firmware.

NOTE:
MAC address information (00-05-A6-##-##-##) is located on the bottom of the rear enclosure for the MLC Plus 84 EU and MK.

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

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

MAC Address
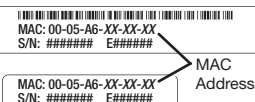
Power over Ethernet (PoE):
- If PoE is available, the MLC Plus 84 uses PoE.
- If PoE is dropped (disconnects), the controller switches seamlessly to the external 12 VDC power supply, if it is installed.

Default login credentials:
- Username: **admin** or **user**
- Initial password: *unit serial number*
- Password after a "Reset to Factory Defaults": **extron**

IMPORTANT NOTES:
- The factory configured password for this device has been set to the device serial number. Passwords are case sensitive. Performing a Reset to Factory Defaults (see **Reset Modes: a Brief Summary** on page 12) sets the passwords to **extron**.
- DHCP is off by default.

ATTENTION:
- Power over Ethernet (PoE) is intended for indoor use only. It is to be connected only to networks or circuits that are not routed to the outside plant or building.
- L'alimentation via Ethernet (PoE) est destinée à une utilisation en intérieur uniquement. Elle doit être connectée seulement à des réseaux ou des circuits qui ne sont pas routés au réseau ou au bâtiment extérieur.

Control, Bidirectional — Serial (COM)

Rear Panel

3-pole COM
(RS-232)

Serial (COM) Ports

Select protocol via software. **COM port default protocol:**
• 9600 baud
• 8 data bits   • 1 stop bit
• no parity   • no flow control

NOTE: These COM ports support software flow control only.

Heat Shrink
Over Shield Wires

To 3-pole COM port

G Ground
Rx Receive   Receive (Rx)
Tx Transmit   Transmit (Tx)

Strip wires
3/16" (5 mm) max.

RS-232-Controllable Device

NOTE: If you use cable that has a drain wire, tie the drain wire to ground at both ends.

Control, Unidirectional — IR Output

Rear Panel

IR Output Port

Output options:
• IR (30 kHz to 300 kHz, with or without carrier signals)

Ground (–)
IR Signal (+)

One Single IR Emitter

or

Unidirectional IR

Two Single IR Emitters
(–)
(+)
(–)
G Ground   (–)
S IR Output
(+)   (+)

To the IR Receiver of a Projector, Display, or Source Device

Ground
IR Output   **To Projector, Panel Display, or the Wired IR Remote of a Source Device**

3/16" (5 mm) max.

Ground (–)
IR Signal (+)

Dual IR Emitter

Control, Unidirectional — Digital Input

Rear Panel

Digital Input

Configure the port with or without +5 VDC pull-up.

Use this port to:
• Monitor or trigger events and functions (toggle relays, issue commands, send e-mail), once configured.
• Power an LED, incandescent light, or other device that accepts a TTL signal.

Switch, Sensor, LED, Relay, or Similar Item)

Control — Relay

All relays are normally open.

Normally Open
Common

Rear Panel

Relays
• Connect devices for relay control.
• Do not exceed a total of 24 V, 1 A for each port.

Normally Open   Closed

To Room Control Equipment

Control — Volume Control

Reference voltage: ≤10 VDC

V C G

Control voltage output: 0 - 10 VDC

Rear Panel

IR   VOL   D IN
S G V C G IN G

Volume Control

This port can be used to control the volume and mute or unmute the audio for some Extron audio amplifiers with remote volume capability.

• Connect to an Extron audio ampifier to permit volume control via the MLC Plus 84.

• Do not exceed 25 VDC input voltage.

Settings to configure via software:

• **Maximum and minimum voltage limits**

• **Soft Start mode:** off or on (default) – to allow volume to gradually increase from mute to the previous level after muting or power-on to prevent loud audio bursts

G Ground (Gnd)
C Control voltage (variable output to amp from MLC Plus 84) – This signal controls the amp volume.
V Reference voltage input (from amplifier) – This allows the MLC Plus 84 to detect when the amp is present.

NOTE: Use shielded cable and place the MLC Plus 84 as close as possible to the amplifier to avoid picking up background noise via the cable.

NOTE: When audio mute is active, the MLC Plus 84 sets output voltage to 0 VDC, even if the voltage range (minimum and maximum voltage limits) have been set to levels above zero, such as 2 V to 8 V.

Example:

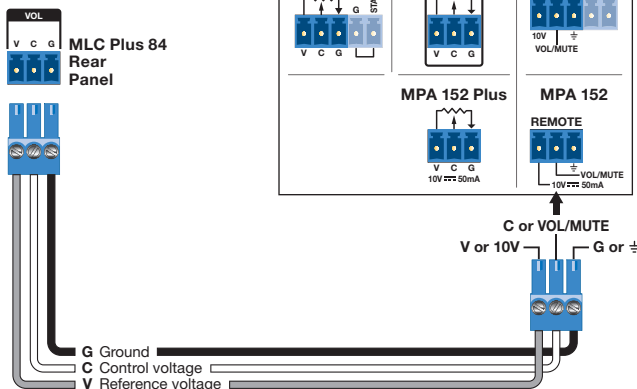**Connecting to Extron Amplifiers**

VOL
V C G

MLC Plus 84 Rear Panel

XPA 1002
10V 50mA
V C G
G
STANDBY

MPA 401 Series
REMOTE
10V 50mA
V C G

MPA 181T, MP 101 Series
REMOTE
10V
VOL/MUTE

MPA 152 Plus
V C G
10V 50mA

MPA 152
REMOTE
VOL/MUTE
10V 50mA

C or VOL/MUTE
V or 10V — **G or ⏚**

G Ground
C Control voltage
V Reference voltage

Step 5: Set up the MLC Plus 84 for Network Communication

1. Connect the PC that you will use for setup and the MLC Plus 84 to the same Ethernet subnetwork. For LAN connections for the MLC Plus 84, see **Control and Power — LAN (Ethernet) and PoE** on page 7.

2. Start Toolbelt and use it to set the DHCP status or to set the IP address, subnet, gateway IP address, and related settings. Use the flowchart at right as a guide to setting up the controller for network use.

NOTES:

• If using a host name instead of an IP address, the user must enter a qualified host name (*Username.HostName.Domain*). For example: somename.somedomain.com.

• If using 802.1X security, see the *Extron 802.1X Technology Reference Guide* and the *Toolbelt Help* file for additional details on system setup.
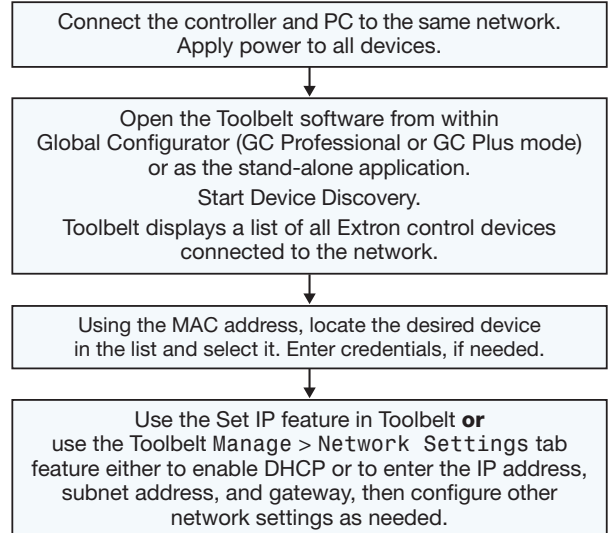
Network Communication Setup

Connect the controller and PC 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 device in the list and select it. Enter credentials, if needed.

↓

Use the Set IP feature in Toolbelt **or** use the Toolbelt Manage > Network Settings tab feature either to enable DHCP or to enter the IP address, subnet address, and gateway, then configure other network settings as needed.

Figure 14. Network Setup

9

Step 6: Configure the MLC Plus 84 Controller

The most basic steps are outlined in this section in the recommended order.

> **NOTE:** See the *Toolbelt Help File* and *Global Configurator 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.

1. Using GC, create a new GC Plus or GC Professional project and configure the controller and any installed IP Link Pro devices. The configuration tells the controller:

    *   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

    a. Configure ports on the controller.

        *   Select device drivers and link them to each assigned serial, IR, or Ethernet port.
        *   Select settings (serial protocol, relay behavior, digital input, volume control settings) as needed.

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

    c. Set up the front panel buttons: assign appropriate commands and actions, macros, timers, local variables, monitors, or schedules to the buttons.

2. Save the project.

3. Build and upload the system configuration to the controller.

Step 7: Test and Troubleshoot

1. Test the system. See the *MLC Plus 84 Series User Guide* for an outline of the system testing and troubleshooting procedure.

2. Make adjustments to wiring or configuration as needed. Remember that the rear and side panel ports will not be accessible after the controller is mounted.

Step 8: Complete the Physical Installation

Before mounting the MLC Plus 84, make sure that all device cables have been fed through the wall frame and are connected to the MLC Plus 84 rear panel. Disconnect power at the source from all devices in the system.

> **NOTE:** Extron recommends taking safety precautions to avoid electrostatic discharge issues during installation.

To mount the unit on the raceway, wall, or furniture:

1. Align the MLC Plus 84 wall frame to the mounting bracket (metal), which you attached to the mounting surface during site preparation (see **Site Preparation** on page 2).

2. Holding the wall frame in place on the bracket, press the cabled MLC Plus 84 into the frame until the two tabs on either side of the unit snap into the opening of the bracket, holding the MLC Plus 84 in place.
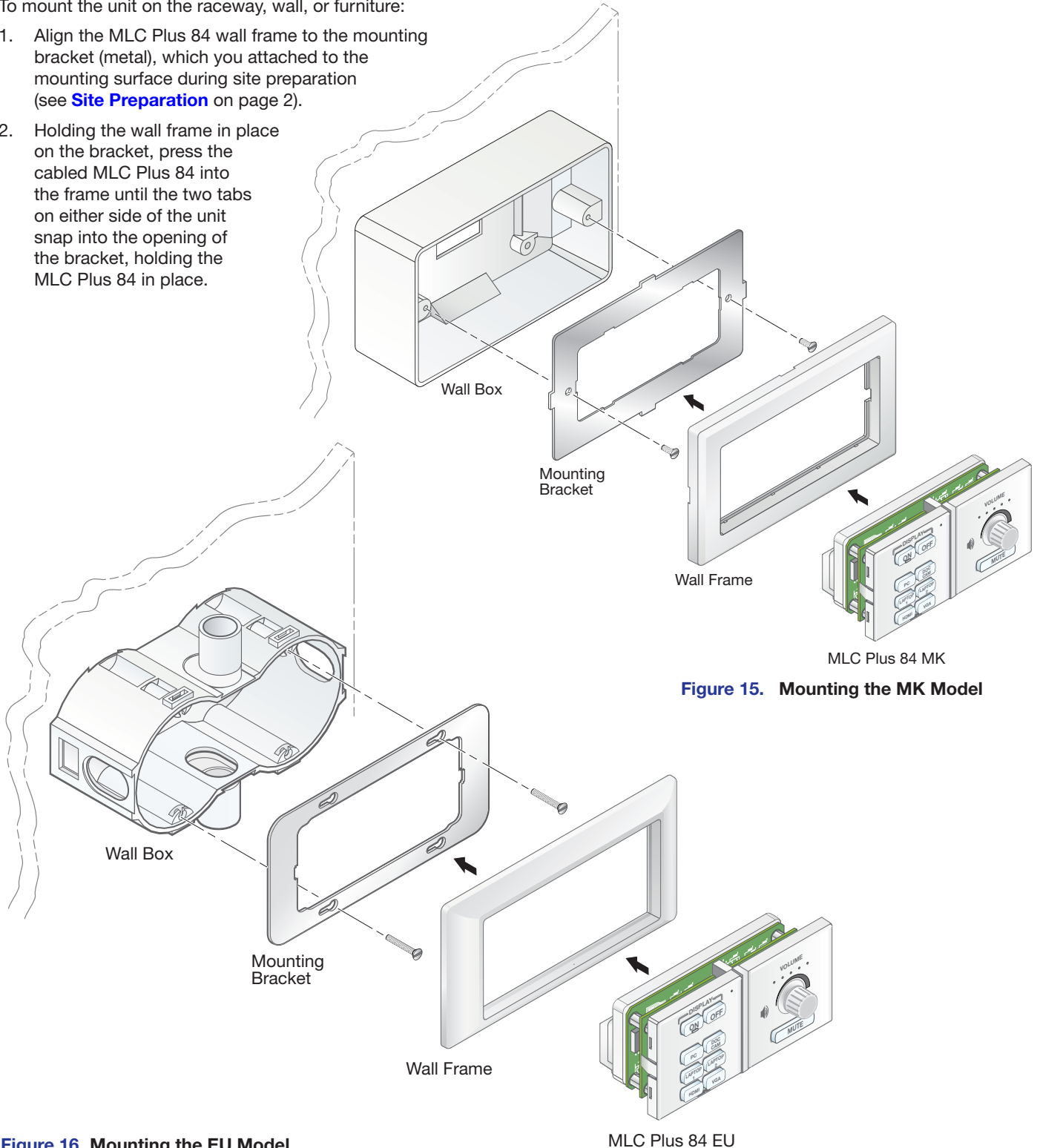
Wall Box

Mounting Bracket

Wall Frame

MLC Plus 84 MK

Figure 15. Mounting the MK Model

Wall Box

Mounting Bracket

Wall Frame

MLC Plus 84 EU

Figure 16. Mounting the EU Model

Reset Modes: a Brief Summary

The MLC Plus 84 Series controllers offer the following reset modes:

- **Use Factory Firmware**: Press and hold the rear panel `Reset` button while applying power to the unit. Keep holding the button down until the Reset LED blinks twice, or for 6 seconds, then release the button. The control processor enters factory firmware mode. For units with firmware prior to version 2.00.0001, the LED blinks quickly. Use this mode to revert to factory firmware in the event of a firmware failure.

  Do not continue to operate the controller using the factory firmware version. If you want to use the factory default firmware version, you must upload that version again.

- **Project Recovery**: See the *MLC Plus 84 Series User Guide* for instructions. Use this mode to recover the project in the event of a lost user name and password.

- **Run/Stop Program**: Hold down the `Reset` button for about 3 seconds, until the Reset LED blinks once. Release and press the `Reset` button momentarily (for <1 second) within 1 second. (Nothing happens if the momentary press does not occur within 1 second.) The LED blinks 2 times if the program is starting. The LED blinks 3 times if the program is stopping. This mode allows you to restart any scripts or events stopped by an IP settings reset.

- **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 `Reset` LED blinks 6 times if the DHCP client is enabled.
  - The `Reset` LED blinks 3 times if the DHCP client is disabled.

  > **NOTES:**
  > - DHCP toggle mode is supported on firmware version 3.00.0000 or higher.
  > - By default DHCP is off and the unit uses a static IP address.
  > - When you disable DHCP, the unit uses the previously-set static IP address.

- **Reset All IP Settings**: Press and hold the rear panel `Reset` button for 6 seconds. After the Reset LED blinks twice, release and momentarily press the `Reset` button. Use this mode to reset all network settings to factory default values without affecting user-loaded files. This reset mode also stops any running scripts and events and disables 802.1X authentication. Lastly, this mode resets the settings for the LAN port, including turning DHCP off.

- **Reset to Factory Defaults**: Press and hold the rear panel `Reset` button for 9 seconds. After the Reset LED blinks three times, release and momentarily press the `Reset` button within 1 second. Use this mode to return the controller to factory default settings. This mode deletes all user-loaded files and configurations and it clears messages in the event logs table. User-loaded digital certificates are deleted.

For detailed information on each mode and its use, see the *MLC Plus 84 Series User Guide* at **www.extron.com**.

Resources

Obtaining Control Drivers

Extron provides an extensive selection of device drivers available on the Extron website. If the system requires a control driver that is not already available, you can request a new serial (RS-232) or Ethernet driver from Extron.

Obtaining Instructions, Information, and Assistance

A checklist of basic setup steps is provided in this guide. For additional information see the help files and the *MLC Plus 84 Series 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

> **NOTES:**
> - 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.
> - **New RS-232 and Ethernet drivers are required**. You must use serial and Ethernet drivers developed specifically for the IP Link Pro platform. With the exception of IR device drivers, drivers used for the previous generation IP Link (non-Pro) controllers are not compatible.

Removing the MLC Plus EU or MK from the Mounting Surface

Before you can replace buttons or faceplates on an MLC Plus 84 EU or MK, if the unit is installed in a wall or furniture, you must remove the unit from the metal mounting bracket and installation surface. To help with this task, Extron provides a removal tool (shown at right) with the unit. **Use only this provided removal tool.**

To remove the MLC Plus 84 EU or MK from the mounting surface:

1. Insert the flat tip of the removal tool in the center of the right or left edge of the MLC Plus, between the faceplate and wall frame.

2. Push the tool into the gap until the line on the tool aligns with the edge of the faceplate.

3. Press (angle) the removal tool outward from the MLC, toward the mounting surface (as shown in the figure at right) to release the tab that secures the MLC Plus within the wall frame.

4. Repeat steps 1 and 2 on the opposite side of the MLC Plus. The unit should tilt out from the frame.

   > **NOTE:** The wall frame is removed at the same time you remove the MLC Plus from the bracket and mounting surface.
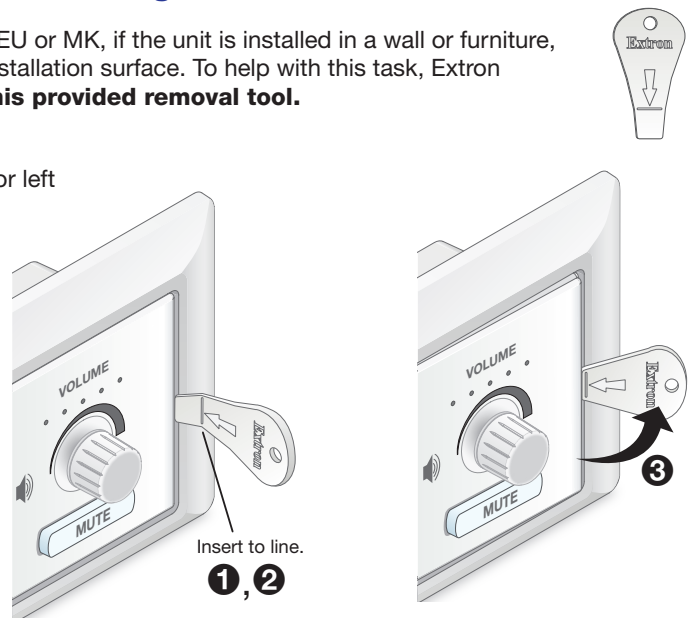

Insert to line.

❶,❷

Figure 17. Inserting and Pressing the Removal Tool

Overall Configuration Procedure for the Controller

Step 1: Get ready.

Step 2: Prepare the installation site.

Step 3: Change buttons or faceplates, if desired.

Step 4: Cable the MLC Plus 84, then apply power.

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

Step 5: **Configure the IP settings** of the MLC Plus 84.

See the **network communication setup instructions** on page 9.

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

Step 6:

Create a new GC Professional or GC Plus project and add the MLC Plus 84 to it.

Configure controller ports.

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

Configure controller buttons.

Save the project.

Build and upload the configuration to the controller.

Cable all devices (see step 4).

Step 7: Test the system, make adjustments, finalize configuration.
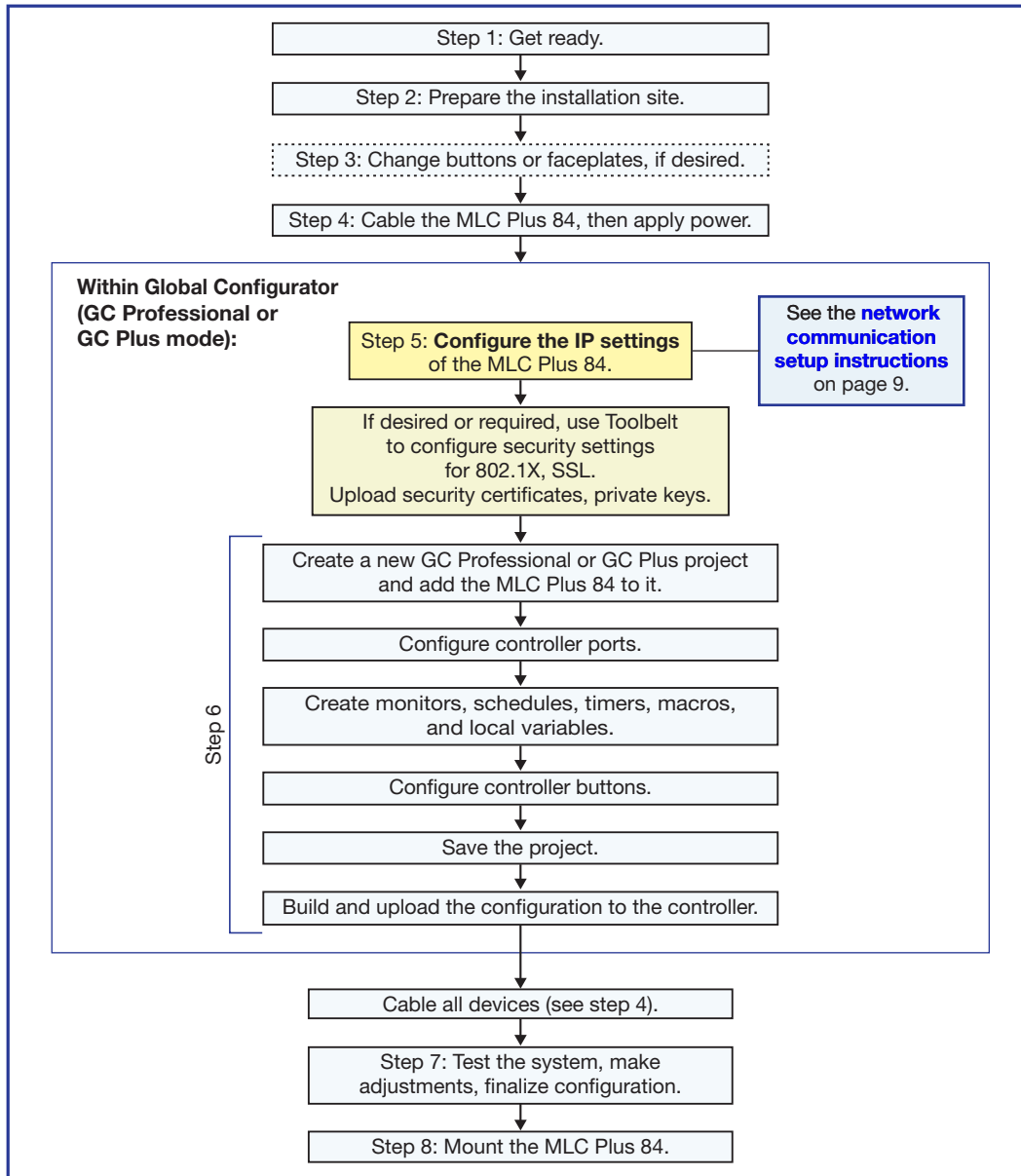
Step 8: Mount the MLC Plus 84.

Figure 18. 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.