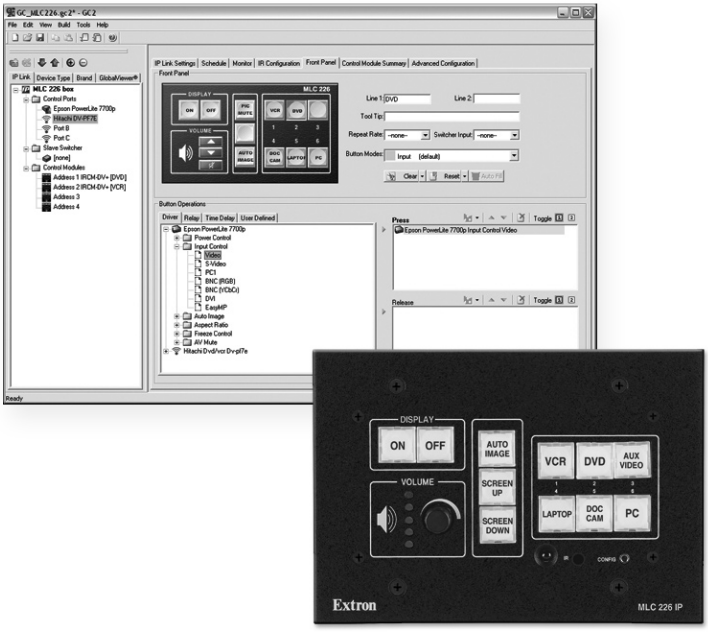
Extron® Electronics

INTERFACING, SWITCHING AND DISTRIBUTION

Setup Guide



MLC 226 IP Series

MediaLink™ Controllers

68-1288-01 **Rev. C**
10 07

Precautions

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.

Conserver 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.

Eviter 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.

Precaucion

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 especificamente recomendados por el fabricante, ya que podrian 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.

Avertissement

Alimentations• 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 risquent 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 a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement 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 Erdanschluß, 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 Stomversorgung (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 dagegengestellt 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 andere 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.

Litium-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 puentearia ni eliminaria.

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/alojamiento, es para evitar el sobrecalientamiento 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, and (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 the peripheral devices. Shielded cables must be used with the unit to ensure compliance with FCC emissions limits.*

Table of Contents

Table of Contents, cont'd

68-1288-01 Rev. **C**
10 07

Chapter One

Introduction

About this Manual

About the MLC 226 IP MediaLink™ Controllers

About Global Configurator

Global Configurator Online Training

Introduction

About this Manual

This setup guide describes the:

- MLC 226 IP MediaLink™ Controller
- Global Configurator application
- MLC 226 IP hardware installation
- MLC 226 IP device connections
- MLC 226 IP software installation

About the MLC 226 IP MediaLink™ Controllers

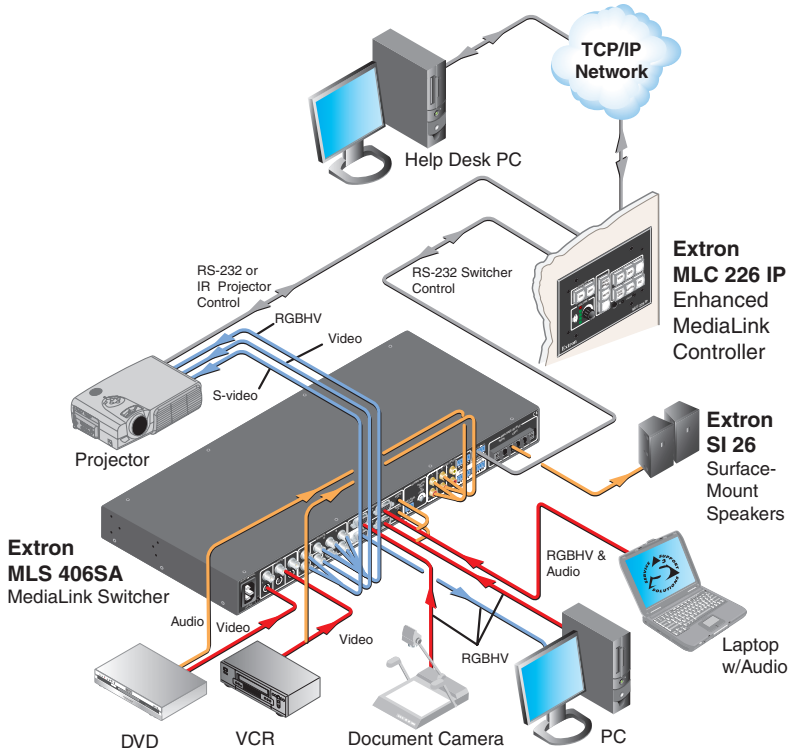
The Extron MLC 226 IP MediaLink Controller controls A/V equipment in any classroom or conference room. It standardizes the control interface for all systems, making display systems simple to use and setup and maintenance easy to support. The MLC 226 IP includes IP Link® with GlobalViewer®, a free Web-based asset management and remote control software application.

The MLC 226 IP MediaLink Controller offers six input selection buttons, two bidirectional serial ports for display and switcher control, three unidirectional serial/IR control ports, six relays, and support for optional IRCM - Infrared Control Modules to control VCRs, DVDs, and other IR controllable equipment.

The MLC 226 IP acts as an extended remote control panel. As a controller, it tells the display when to switch between its various inputs. The MLC 226 IP includes universal display control for a display's power, input switching, and volume control. The MLC 226 IP features backlit buttons that can be custom-labeled for easy identification.

The MLC 226 IP is housed in a secure, three-gang enclosure. It has the same look and functionality whether it is mounted in a lectern, desk, wall, rack, or wall box.

MLC 226 IP MediaLink Controller



A typical application for an MLC 226 IP controller

About Global Configurator

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

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

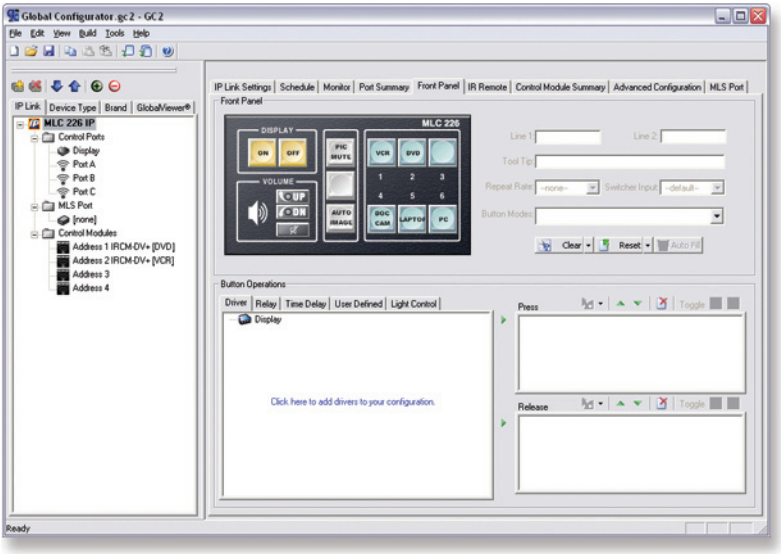
Controllers – Control devices that have an IP Link enabled Ethernet port for network connectivity, and serial, relay, I/O, and infrared (IR) ports for A/V device connectivity.

Controlled devices – Audio/video products, such as video projectors, displays, VCRs, DVD players, document cameras, projector screens, room lighting systems, etc: all of the equipment that is used to generate an audio/video presentation.

Once a "global" configuration file is built, GC 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 device(s). The GlobalViewer interface can then be launched by opening an Internet browser on a local PC and entering the Host device's IP address in the browser address field.



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 may configure an MLC 226 IP using GC before physically connecting the device to the A/V network.

CAUTION *Use Global Configurator version 2.2 or later. Update all PCs and devices running earlier versions of GC.*

System Requirements

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

- Intel® Pentium® III 1 GHz processor
- Microsoft Windows® NT SP4, Windows 2000 SP2, or Windows XP SP2
- 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; however, 100 Mbps is recommended.

Installing Global Configurator

Global Configurator software is available free from Extron.

To download and install Global Configurator on your PC:

1. 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. Complete the personal information form.
7. Click the **Download GCSWxxxxx.exe** button.
8. Follow the remaining system prompts.

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

1. Insert the Extron Software Products CD into your drive.
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 CD if Autorun is *not* enabled on your PC:

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

Scroll down to the Global Configurator description and click the **Install** link in the far right column.

6. Follow the remaining system prompts.

Global Configurator Online Training

Online training for the Global Configurator application is available at www.extron.com.

1. Go to www.extron.com.
2. Click **Training and Education**.
3. Click **On-Demand Training**.
4. Click the **Global Configurator** icon.
5. Click **Login to view the files**.
6. Login using your e-mail address and Extron password.
7. If you do not have an Extron account, click the **Sign up** button in the Need a Login? dialog box.

Chapter Two

MLC 226 IP Hardware Setup

Front Panel

Rear Panel

Bottom Panel

Left Side Panel

Right Side Panel

Power Connection

LAN Connection

Rear Panel Host Port Connection

Front Panel Host Port Connection

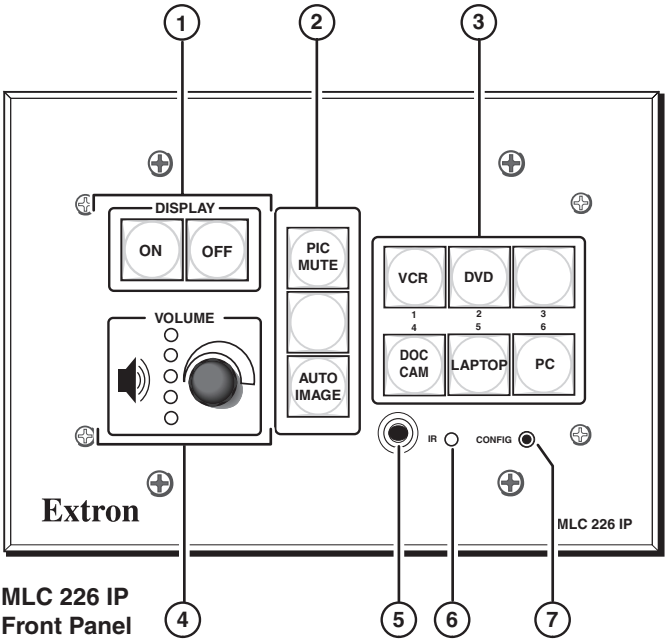
Device Connections

Infrared (IR) Sensors

Front Panel

The front panel is described below. All buttons and controls must be configured using the Global Configurator application before they will be functional.

1. **Display On/Off buttons —** Turns the display device (projector) on and off.
2. **Function/room control buttons —** Use to control the MLC's relays and/or to execute the IR or RS-232 commands.
3. **Input selection buttons —** Use to select the desired video and/or audio input signal. Only one button can be selected at a time. Buttons light brighter when an input is selected.
4. **Volume knob and LEDs —** Use to adjust the audio volume.
5. **IR control receiver —** This larger infrared receiver accepts IR signals from the Extron IR 402 infrared remote control.
6. **IR learning receiver —** This smaller infrared receiver "learns" commands from other devices' IR remote controls. See the *IR Learner Software's Help* file for IR learning procedures.
7. **Front panel Config port —** A 2.5 mm Host Control port that can be used for RS-232 configuration of the MLC 226 IP controller.



MLC 226 IP Front Panel

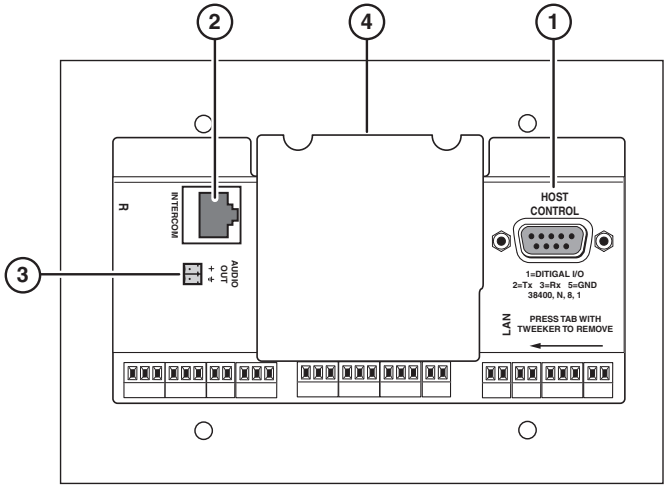
Rear Panel

1. **Rear panel Host Control port —** A 9-pin D connector for RS-232 configuration of the MLC 226 IP.

2. **Intercom connector —** An RJ-45 connector for power, control, and voice communications to an Extron IP Intercom. This is not an Ethernet LAN connector.

3. **Intercom Audio Out —** A line level, unbalanced audio output port that can be connected to local, powered speakers or to a paging system.

4. **MAC Address Label —** The unit's MAC Address label (not viewable in the illustration below) is located on the top of the rear panel.



MLC 226 IP Rear Panel

Bottom Panel

The bottom panel's connectors are described below.

1. **Display control RS-232/IR port** — Configurable for bidirectional RS-232 or infrared signal output.

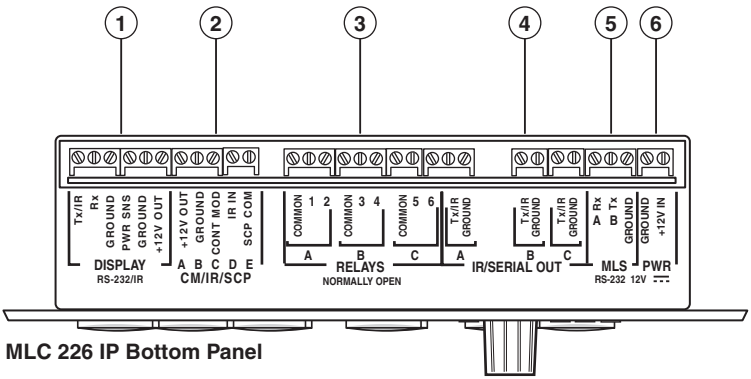
2. **CM/IR/SCP port** — Connect up to four Extron control modules (IRCMs, ACMs, RCMs, CMs), one Extron IR signal repeater (IRL 20 or IR Link), and/or two Extron SCP 226 control panels to this port to allow remote control of the MLC 226 IP or other A/V devices that are connected to the MLC 226 IP controller.

3. **Relay ports** (24 V, 1 A) **—** Six normally open relays for control of items such as room lighting, window coverings, or display screens.

4. **IR/Serial Output ports —** Output either infrared (IR) signals or unidirectional RS-232 signals for controlling various devices such as VCRs and DVD players. Each port must be set up via Global Configurator for either IR or RS-232 communication, and must be associated with a device driver.

5. **MLS connector —** This connector can control an optional Extron switcher or other RS-232 controllable device.

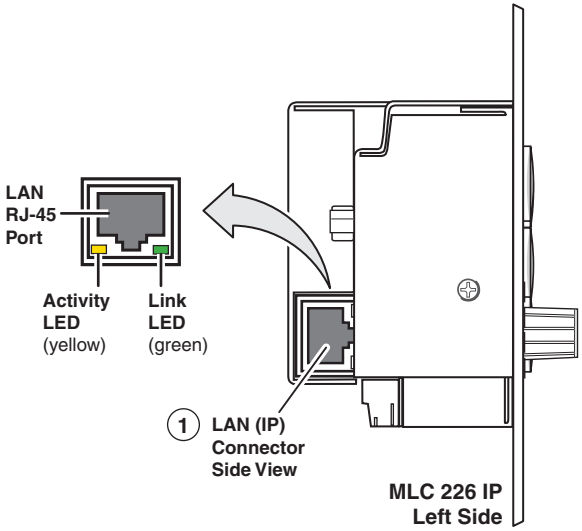
6. **PWR connector —** Connector for the required 12 VDC, 2A (maximum) power input.



MLC 226 IP Bottom Panel

Left Side Panel

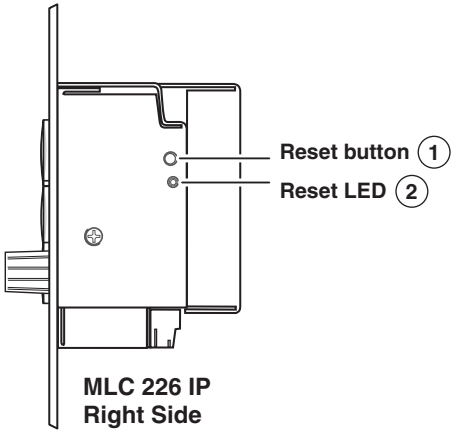
① **LAN connector and LEDs —** An RJ-45 connector for an Ethernet connection is provided on the left side panel.



Right Side Panel

① **Reset button —** A recessed button used to reset the unit is provided on the right side panel. See the *MLC 226 IP Installation Manual* for details on resetting the unit.

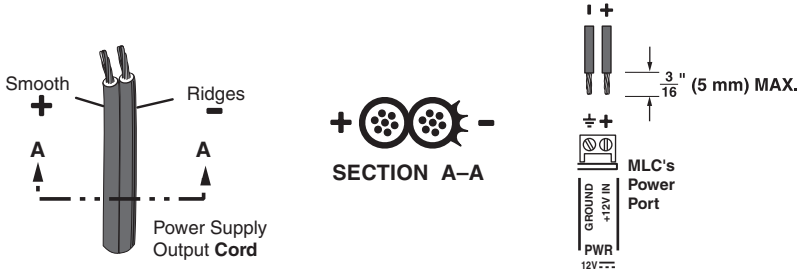
② **Reset LED —** A green LED flashes to indicate the reset mode.



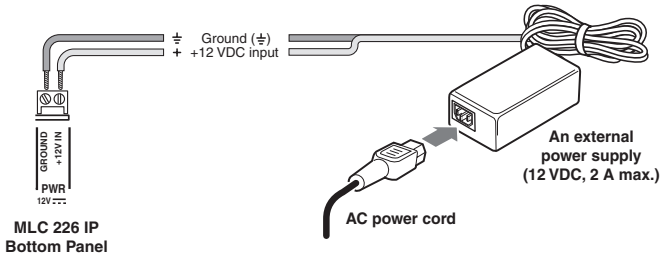
Power Connection

To connect the (supplied) external 12 VDC, 2A power supply:

1. Strip the ends of the power supply wires as shown in the diagram below.
2. Connect the stripped wires to the MLC's PWR port (see page 2-4 #⑥) as shown in the diagram below.



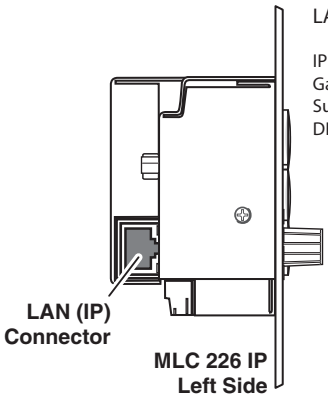
3. Connect the AC power cord between the power supply and a grounded AC electrical outlet.

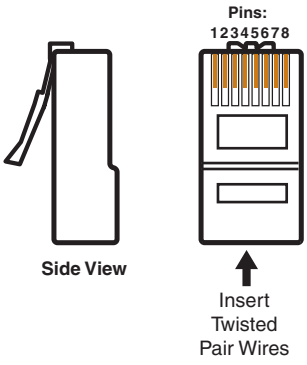


LAN Connection

Connect a straight-thru Ethernet cable to the LAN connector if you are connecting to a switch, hub, or router on your network.

Connect a crossover Ethernet cable to the LAN connector if you are connecting directly to a PC.





Straight-through Cable
(for connection to a switch, hub, or router)

End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-orange
2	orange	2	orange
3	white-green	3	white-green
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	green
7	white-brown	7	white-brown
8	brown	8	brown

Crossover Cable
(for direct connection to a PC)

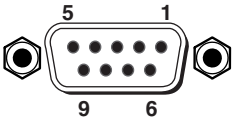
End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-green
2	orange	2	green
3	white-green	3	white-orange
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	orange
7	white-brown	7	white-brown
8	brown	8	brown

Rear Panel Host Port Connection

There is a 9-pin D connector on the rear panel for RS-232 configuration and control of the MLC device.

RS-232 protocol:

- Baud rate: 3800
- Stop bits 1
- Parity: none
- Flow control: off



DB9 Pin Locations Female

Connector pin assignments are shown in the table below.

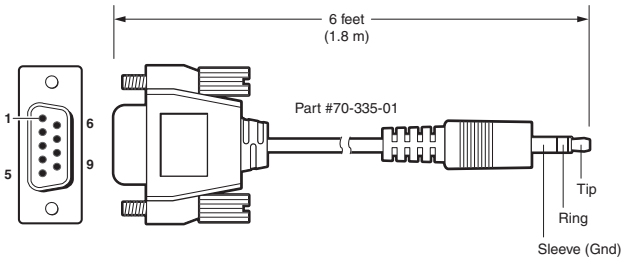
PIN	Function	Description
1	Digital I/O	input/output
2	Tx	Transmit data
3	Rx	Receive data
4	—	No connection
5	Gnd	Signal ground
6	—	No connection
7	—	No connection
8	—	No connection
9	—	No connection

Pin 1 (Digital I/O) along with pin 5 (Gnd) can be used as a digital input/output signal to trigger events, or functions.

Front Panel Host Port Connection

There is a 2.5 mm connector on the front panel for RS-232 configuration and control of the MLC device.

The interface cable (PN **70-335-01**) is shown below.



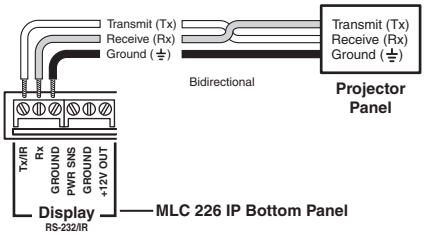
9-pin D	Connection	TRS Plug
Pin 2	Computer's RX line	Tip
Pin 3	Computer's TX line	Ring
Pin 5	Computer's signal ground	Sleeve

Device Connections

Examples of A/V and control device connections are shown in the following illustrations.

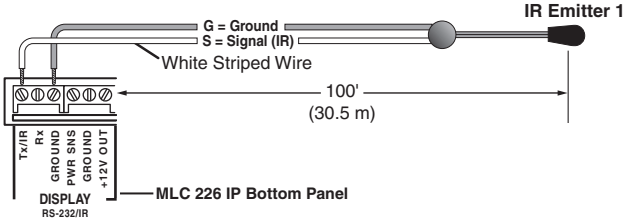
Display (projector) connection

For bidirectional RS-232 communications, wire the transmit, receive, and ground pins as shown below.



NOTE *Display wiring may vary. Refer to the display's user manual or the Extron device driver communication sheet.*

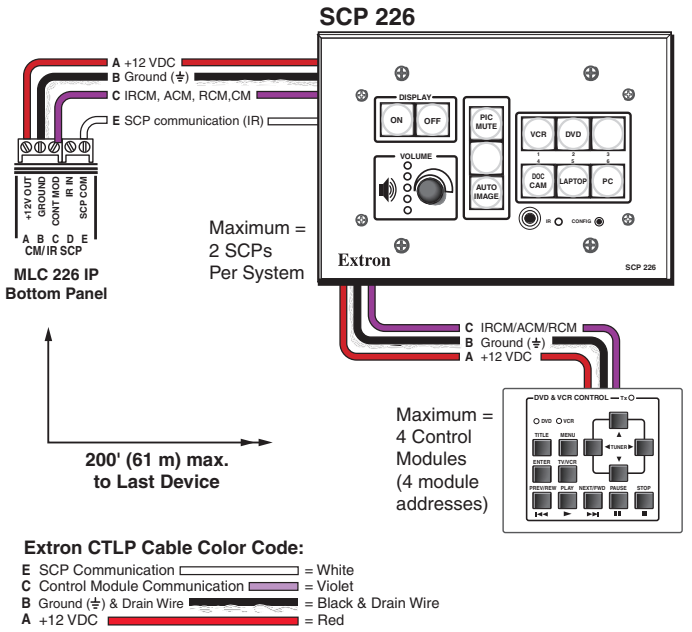
For infrared (IR) communications, wire an IR Emitter (2 emitters are the maximum), as shown below, for a modulated signal and ground.



NOTE *If two emitters are used, they must be wired in series.*

Comm Link connections

Connect up to four control modules, two IR repeaters and/or two SCP 226 control panels.



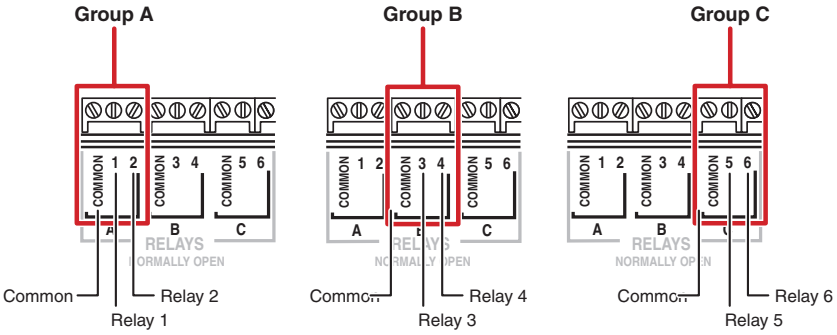
Extron CTLP Cable Color Code:

E SCP Communication = White
C Control Module Communication = Violet
B Ground (⏚) & Drain Wire = Black & Drain Wire
A +12 VDC = Red

NOTE *The maximum total distance between the MLC 226 IP and a connected device is 200' (61 m).*

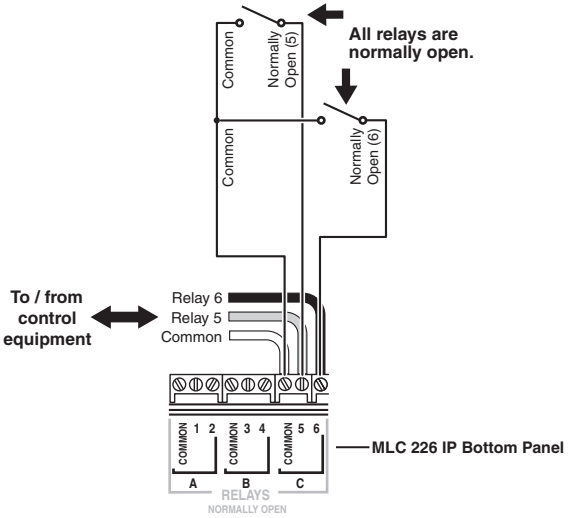
Relay connections

Use Global Configurator to associate a relay with a front panel button or operate relays with Extron SIS commands.



MLC 226 IP Bottom Panel

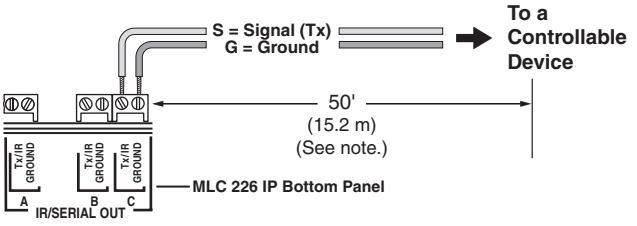
These relays are open by default and operate as follows:

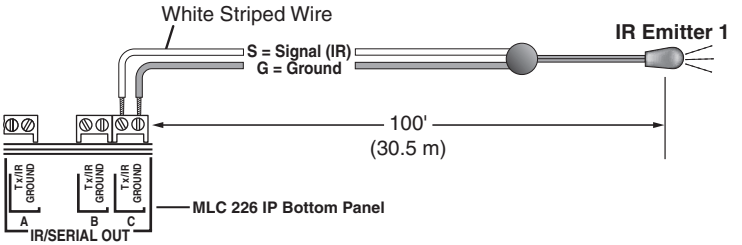


IR/Serial Out connections

These ports output infrared (IR) or RS-232 signals for controlling devices such as VCRs, and DVD players.

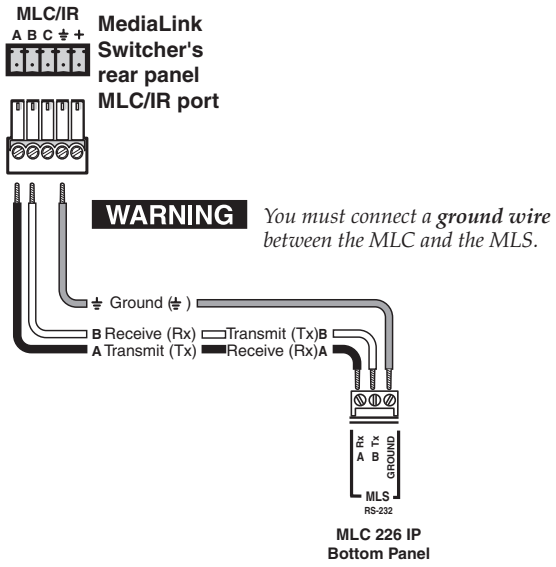
Use Global Configurator to configure and associate a device driver with each port.





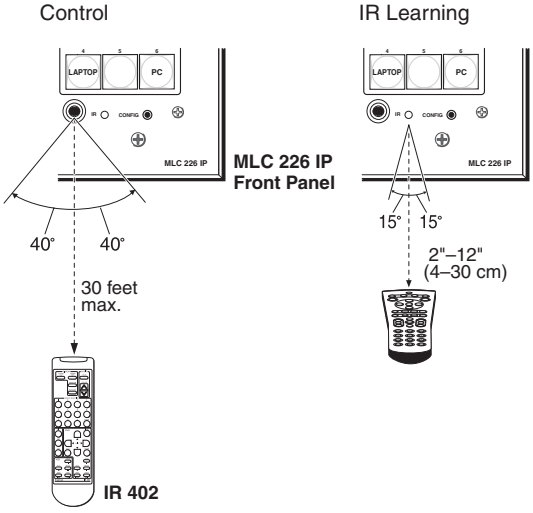
MLS connections

This connector can be used to control an optional Extron MLS switcher or other RS-232 controllable device.



Infrared (IR) Sensors

Infrared (IR) sensors on the front panel allow for IR remote control of the MLC and for IR learning. For best results, point the IR remote control directly at the IR sensors. See the *IR Learner Software's Help* file for IR learning procedures.



3

Chapter Three

MLC 226 IP Software Setup

Creating a Global Configurator Project File

Configuring a New Device

Creating Schedules and Monitors

Building and Uploading a GC File

Launching the GlobalViewer Interface

Testing the MLC 226 IP

Creating a Global Configurator Project File

After you have installed Global Configurator (GC) on your PC, follow the steps in this chapter to configure your devices.

CAUTION *Use Global Configurator version 2.2 or later.*

Step One: Download Device Drivers

To download device drivers free from the Extron web site:

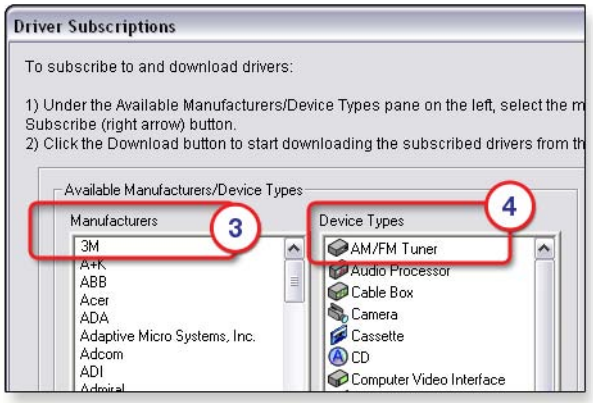
1. Click **Start > Programs > Extron Electronics > GC2.X.X** *or* Double-click the **GC2** icon on your PC to launch GC.

   The Start Options dialog box opens.

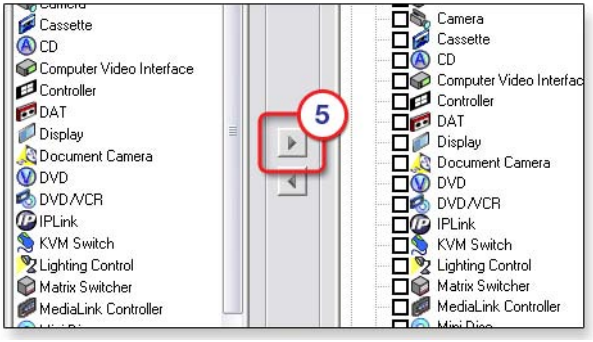
NOTE *If the Start Options dialog box does not open, click* **Edit > Applications Settings...**, *and select* **Display GC2 Start Options dialog at startup**, *then click* **File > New**.

2. Click the **Add Driver Subscriptions** button.

3. Select a **Manufacturer**.
4. Select a **Device Type**.

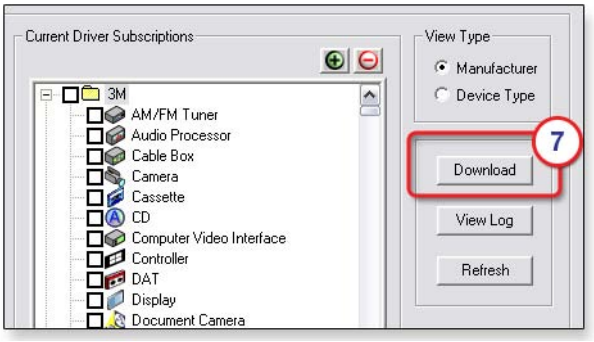


5. Click the **Right Arrow (Subscribe)** button.



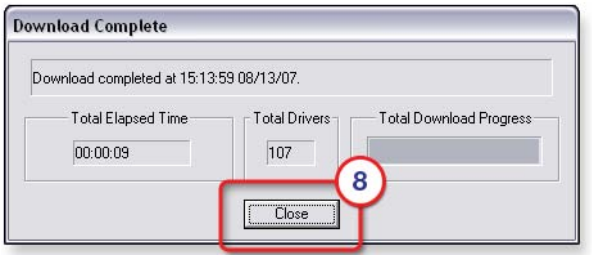
6. Repeat steps 3 through 5 for each type of device you plan to add to your audio/video network.

7. Click the **Download** button.



The **Download Complete** dialog box opens.

8. Click the **Close** button.

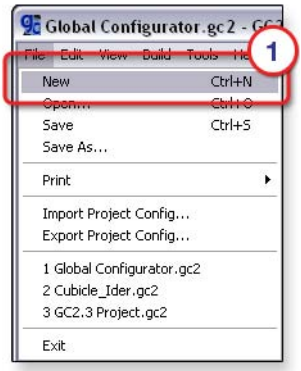


9. Click **OK** to return to the Start Options dialog box.

Step Two: Create a New Project

To create a new Global Configurator project file:

1. If the Start Options dialog box is already open, advance to step 2. If the Start Options dialog box is not open, click **File > New**.

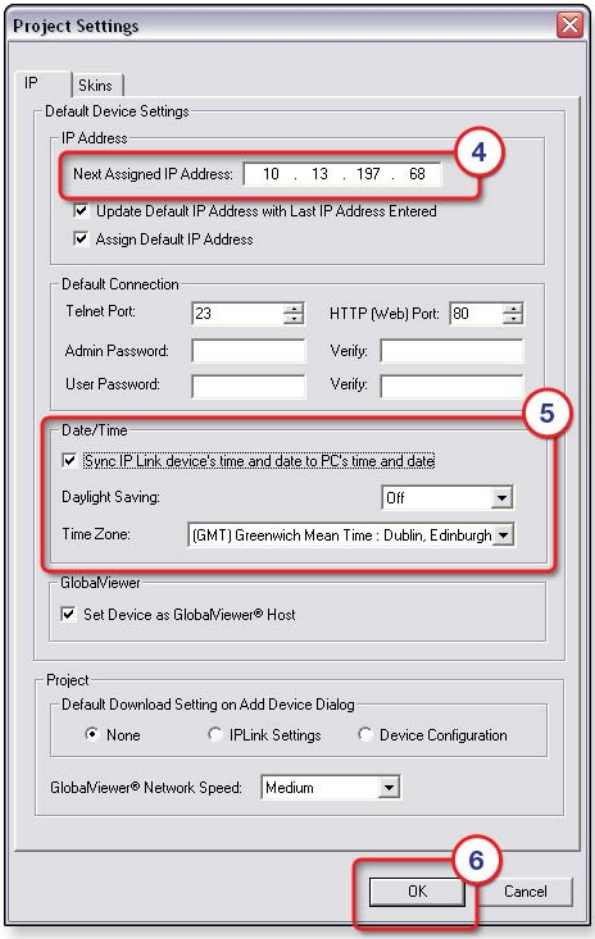


The Start Options dialog box opens.

2. Select **Create a New Project.**
3. Click **OK**.

The Project Settings dialog box opens (see next page).

4. Enter the IP address of the first A/V device you will add to your GC project file in the Next Assigned IP Address field.
5. Make the desired Date/Time selections.
6. Click **OK**. The Add Device dialog box opens.

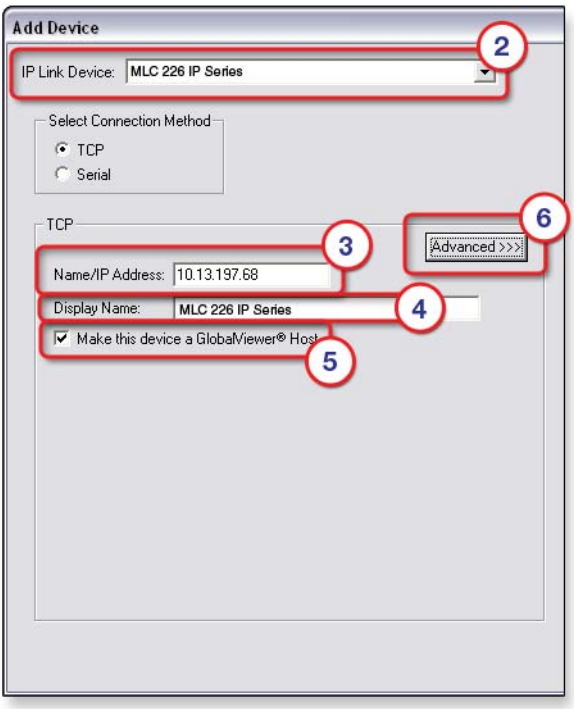

Project Settings
IP
Skins
Default Device Settings
IP Address
Next Assigned IP Address: 10 . 13 . 197 . 68
4
Update Default IP Address with Last IP Address Entered
Assign Default IP Address
Default Connection
Telnet Port: 23
HTTP (Web) Port: 80
Admin Password:
Verify:
User Password:
Verify:
5
Date/Time
Sync IP Link device's time and date to PC's time and date
Daylight Saving: Off
Time Zone: (GMT) Greenwich Mean Time : Dublin, Edinburgh
GlobalViewer
Set Device as GlobalViewer® Host
Project
Default Download Setting on Add Device Dialog
None
IPLink Settings
Device Configuration
GlobalViewer® Network Speed: Medium
6
OK
Cancel

Step Three: Add a Device and Set its IP Address

1. Obtain an IP address/hostname, telnet port, web port, and passwords from your network administrator.

With the Add Device dialog box open:

2. Select **MLC 226 IP Series** from the drop-down list.
3. Enter an **IP Address** in the Name/IP Address field (or leave the default address).
4. Enter a unique **Display Name**.
5. Select **Make this device a GlobalViewer Host** (if desired).
6. Click the **Advanced** button. This will open additional Add Device screen options, and change the **Advanced** button to read **Basic**. (If you wish to return to the basic screen options, simply click the **Basic** button.)

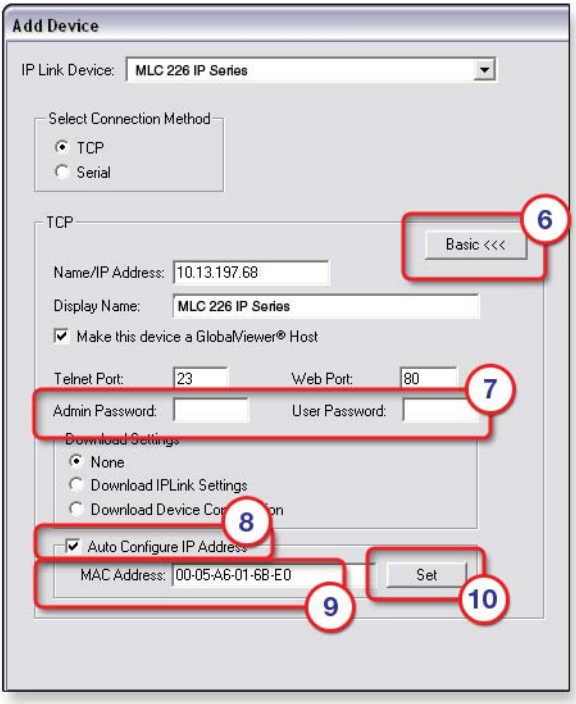


7. If the device you are adding is password protected, enter the appropriate **Admin** and/or **User** passwords. (The default condition is no Admin or User password).

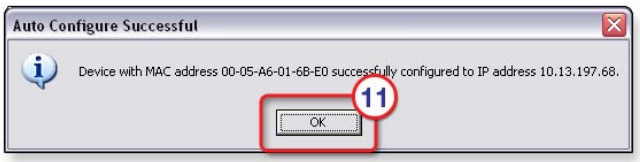
8. Select **Auto Configure IP Address**.

9. Enter the device's MAC address (found on a label on the rear panel - see page 2-3).

10. Click **Set**. The Auto Configure Successful dialog box is displayed.



11. Click **OK**.



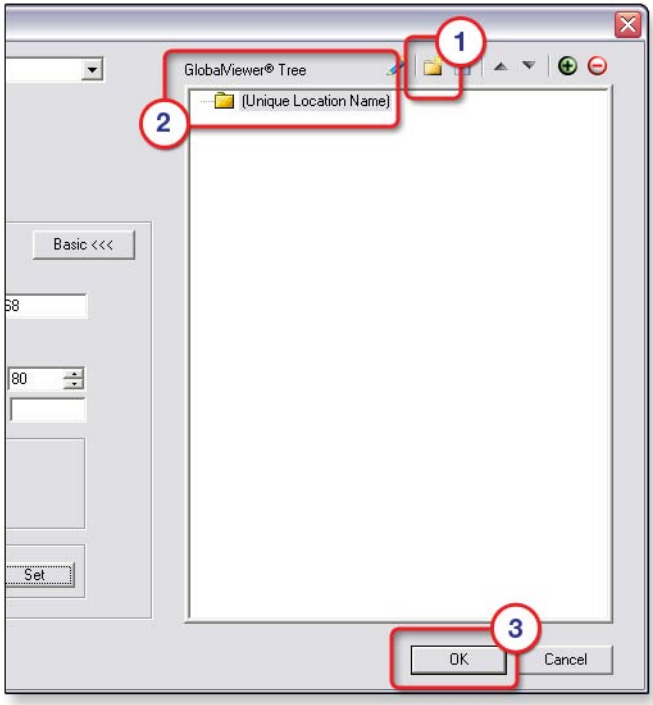
Step Four: Define the Location of the New Device

Global Configurator allows you to keep track of the devices on your audio/video network by creating a custom tree of folders in which you can place and organize your audio/video devices.

This GlobalViewer Tree can be up to eight levels deep and have multiple folders in each level.

To move your newly added device to a Location folder, with the Add Device dialog box still open:

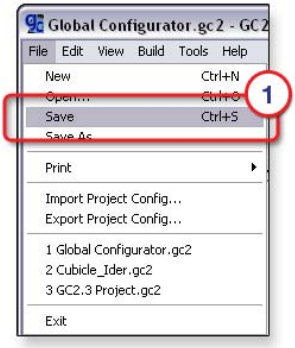
1. Click the **New Location** folder icon in the GlobalViewer Tree window.
2. Enter a unique Location name for the new folder and keep the new Location folder selected.
3. Click **OK**. The new device is added to the selected Location folder and the Add Device dialog box closes.



Step Five: Save the New Global Configurator File

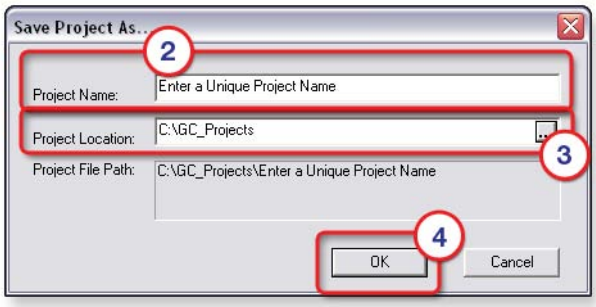
To save the new GC project file:

1. Click **File > Save** - *or* - click the **Save** icon.



If the file has not previously been saved, the Save As dialog box opens.

2. Enter a unique name in the Project Name field.
3. Click the browse button to browse to the desired file location.
4. Click **OK**.



Configuring a New Device

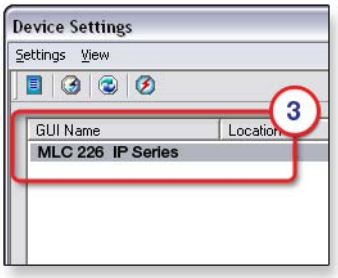
Step Six: Configure E-mail Server

NOTE *The device must be online to change device settings.*

1. Obtain the mail server IP address, mail server domain name, SMTP username and password, gateway IP address, and subnet mask from your network administrator.
2. Click **Tools > Change Device Settings...**

The Device Settings window opens.

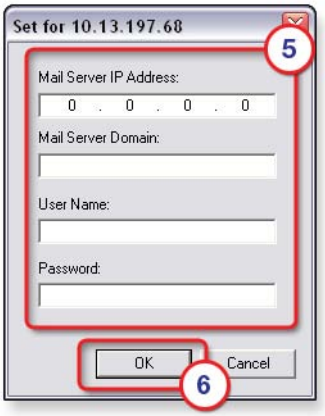
3. Select a device.



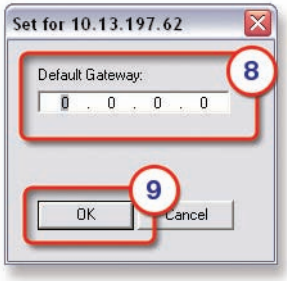
4. Click **Settings > Set Mail Server...**

The Mail Server dialog box opens.

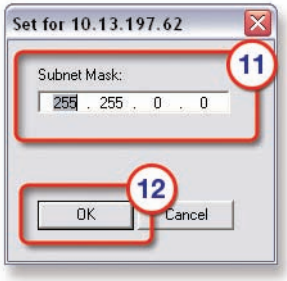
5. Enter the network's mail server information.
6. Click **OK**.



7. Click **Settings > Gateway...**
8. Enter the gateway IP address.
9. Click **OK**.



10. Click **Settings > Subnet Mask...**
11. Enter the subnet mask.
12. Click **OK**.
13. Close the Device Settings dialog window.

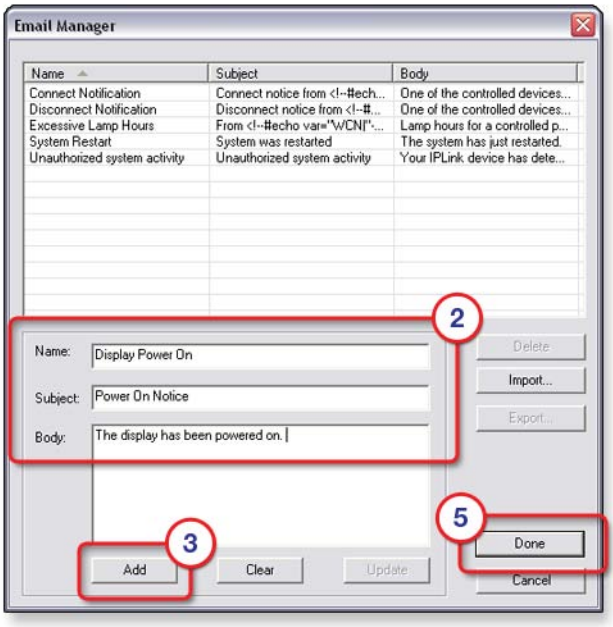


Step Seven: Configure E-mail Messages

Use Email Manager to create custom e-mails to be delivered as directed by settings in the Schedule and Monitor dialog boxes.

1. Click **Edit > Email Manager...**

2. Complete the Name, Subject, and Body fields.
3. Click **Add**.
4. Repeat steps **2** and **3** to create additional custom e-mails.
5. Click **Done**.



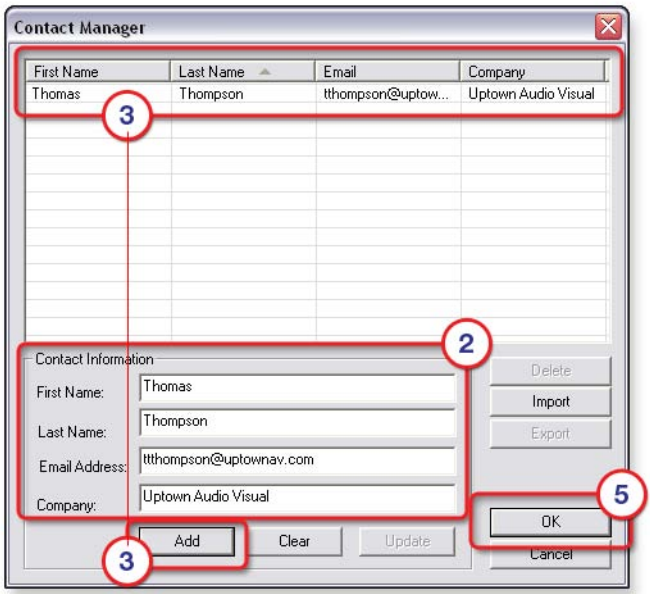
Step Eight: Configure Contacts

The Contact Manager dialog box is used to enter the name, e-mail address, and company name of the network's contacts.

To configure contacts:

1. Click **Edit > Contact Manager...**

2. Complete the Name, Email, and Company fields.
3. Click **Add**. The contact information is added at the top of the dialog box.
4. Repeat steps 2 and 3 for each additional contact.
5. Click **OK**.



Step Nine: Assign Serial Device Drivers

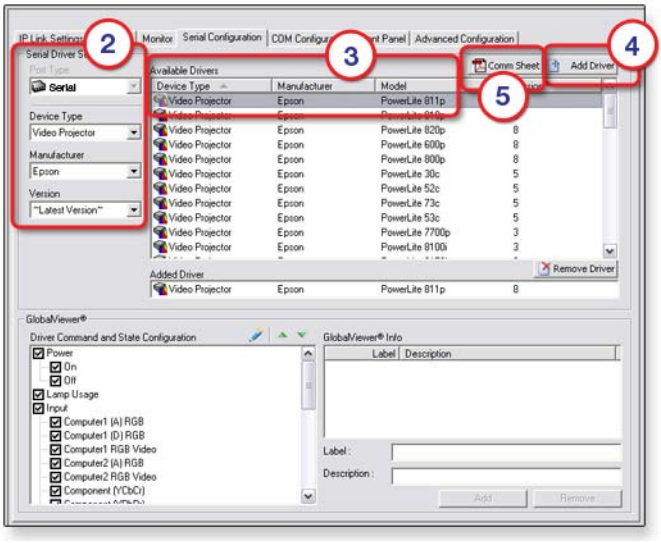
The Serial Configuration tab of Global Configurator allows you to assign a device driver to each serial port of the device.

To assign a device driver:

1. Select a Serial Port in the IP Link Tree window.

The Serial Configuration tab opens.

2. Select Port Type: **Serial**, a Device Type, Manufacturer, and Version.
3. Select an Available Driver.
4. Click **Add Driver.**
5. Click **Comm Sheet** to view the driver's IP Link Interface Communications Sheet which includes cable requirements, device pinouts, and other device-specific notes.



Step Ten: Assign IR Drivers

The IR Configuration tab of Global Configurator allows you to assign a device driver to each IR port of the device.

To assign an IR device driver:

1. Select an IR port in the IP Link Tree window.

   The IR Configuration tab opens.

2. Select Port Type: **IR**, a Device Type, Manufacturer, and Version.

3. Select an Available Driver.

4. Click **Add Driver**.

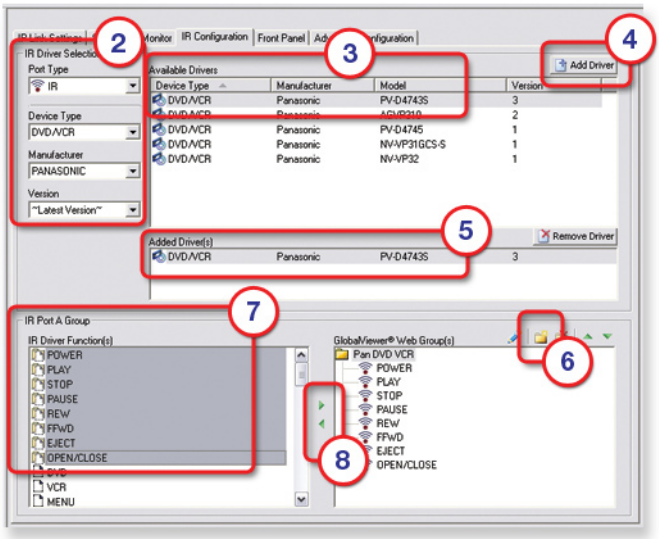
To use these IR driver functions in GlobalViewer:

5. Select the desired driver in the Added Driver(s) field.

6. Click the Add Group button to create a web group for this IR driver. Give the folder a unique name.

7. Select the desired device function(s) in the IR Driver Function(s) (left) window.

8. Click the green **Right Arrow** button to move the selected function(s) to the GlobalViewer® Web Group(s) (right) window. These are the functions that will be displayed and useable in the GlobalViewer Host interface.



Step Eleven: Configure the Front Panel

The Front Panel tab provides a graphical representation of the MLC 226 IP front control panel. It gives you the ability to:

- Configure the captions, tool tips, repeat rates, modes, and switcher inputs of the control buttons that are displayed in the GlobalViewer interface.
- Configure the operations (driver, relay, time delay, user defined, or light control) of the front control panel buttons

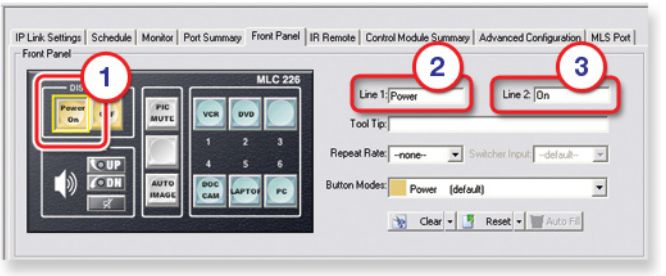
Button Caption

To set a button caption:

1. Select a control button.
2. Enter the top caption text in the **Line 1** (if desired).
3. Enter the bottom caption text in **Line 2** (if desired).

In the example below Line 1: **Power**, and Line 2: **On**, are displayed in the top and bottom fields of the selected button.

A caption can be set for each button in the Front Panel display.

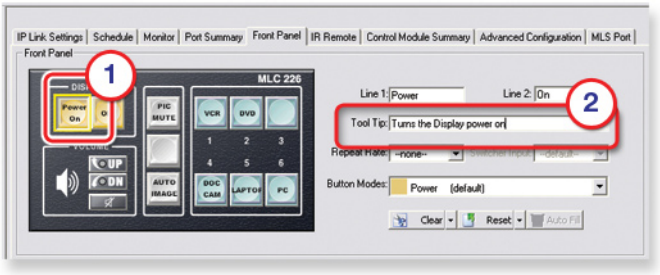


Button Tool Tip

A **Tool Tip** is a descriptive line of text that is displayed in the GlobalViewer interface when the cursor is positioned over a button.

To set a **Tool Tip**:

1. Select a control button.
2. Enter the desired text in the **Tool Tip** field.



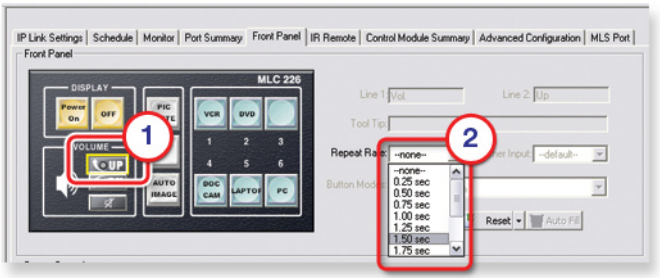
Button Repeat Rate

The **Repeat Rate** is how quickly a button will repeat its function if the button is held down.

Example: If you have configured a button as an increment volume button, and given it a **Repeat Rate** of 1.00 sec, as long as you keep this button pressed (the front panel button *or* the GlobalViewer button) the "increment volume" command will be sent every 1.00 second.

To set a **Repeat Rate**:

1. Select a control button.
2. Select a rate from the **Repeat Rate** drop-down list.



Button Modes

The Set Button Modes options allow the user to apply three different modes of operation for all buttons on the MLC 226 IP front panel.

Button modes of operation are:

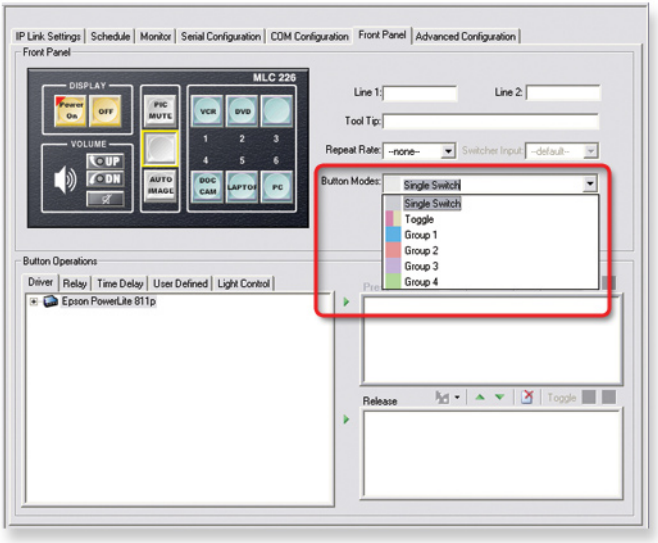
Single Switch — The push button performs the same function each time it is pressed.

Toggle — You can assign two different actions to subsequent depressions of the same push button.

Input — When this button is selected, the audio or video input signal that has been associated with this push button will be sent to the display device.

Group (X) — When multiple push buttons are assigned to a group, only one can be active at a time. When one button is activated, it de-activates any other currently active button.

To assign multiple buttons to a single group, select a button, then select a group color. Then select a 2nd button, and again select the same group color. Repeat for as many buttons that you wish to have added to the same button group.

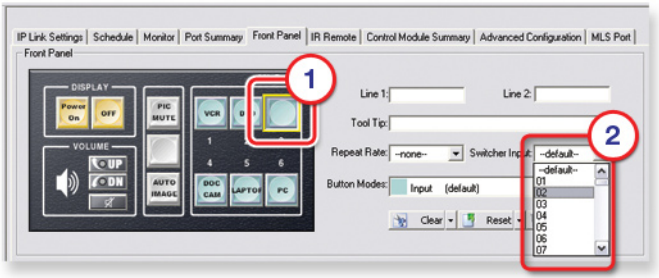


Switcher Input

The **Switcher Input** field allows you to assign a specific input from an attached MediaLink Switcher (MLS) to a specific input button on the MLC 226 IP front panel (only applies to buttons in Input mode).

To assign a **Switcher Input**:

1. Select a one of the six input buttons.
2. Select a **Switcher Input** number from the drop-down list.



Button Operations

Selected functions in the Button Operations window that are moved to the Press, or Release windows will be assigned to the press or release action of the selected button.

Tabs in the Button Operations window include:

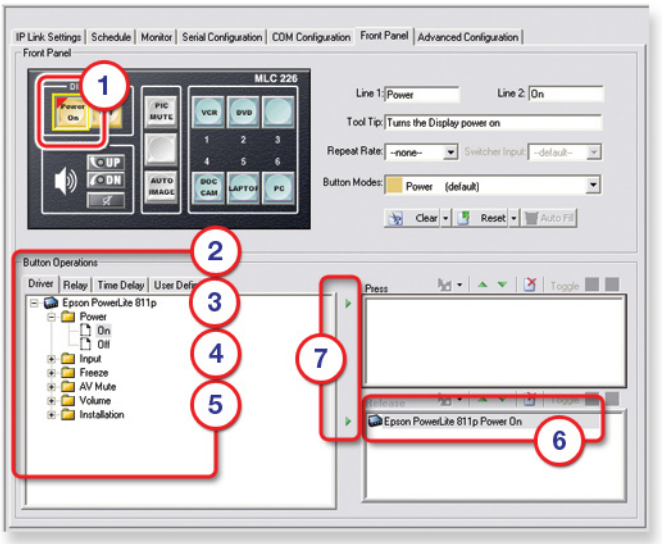
- Driver
- Relay
- Time Delay
- User Defined
- Light Control

To assign a **Driver** function to a button:

1. Select a button.
2. Click the **Button Operations > Driver** tab.
3. Select a device and expand its folder.
4. Select a button operation and expand its folder.
5. Select the desired function.
6. Drag the selected function to the Press or Release window.

   - or -

7. Use on of the Green Right Arrow buttons to move the selected function to either the Press or Release window.



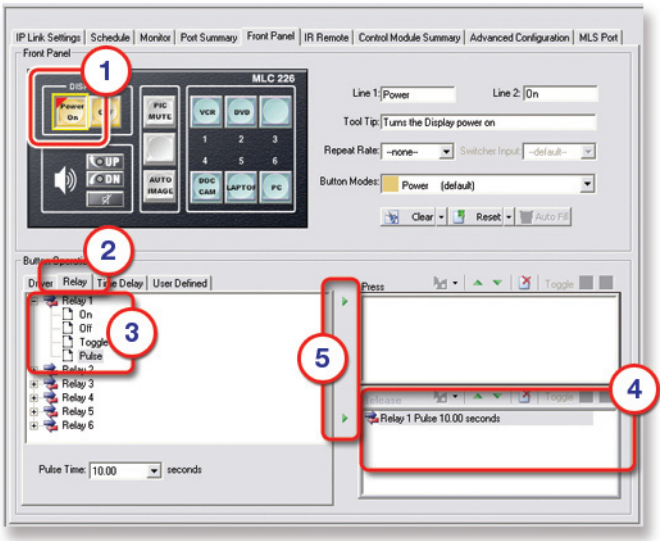
The **Button Operations > Relay** tab gives users the ability to add relay-driven functions to a selected button.

For example, you could power on a projector and lower a projector screen, all with one press/release of the Display Power On button.

To add a button function using the **Relay** tab:

1. Select a button.
2. Click the **Button Operations > Relay** tab.
3. Expand the Relay functions (click the + sign) to display the following options:
   - On — relay closes and remains closed
   - Off — relay opens and remains open
   - Toggle — relay changes from open to closed, or closed to open
   - Pulse — relay toggles for a specified duration
4. Drag the desired relay function (On, Off, Toggle, Pulse) to either the Press window or the Release window,

   - or -
5. Use one of the two green arrows to move the selected function to the desired window.



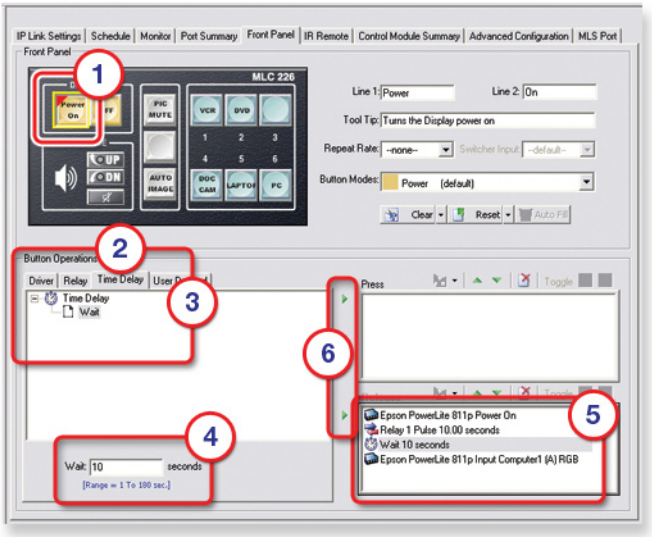
When you add multiple functions to a front panel button, you may want to insert a time delay between the functions. The **Button Operations > Time Delay** tab provides the capability to add a delay of from 1 second to 180 seconds to the Press or Release action of a button.

To add a **Time Delay**:

1. Select a front panel button.
2. Click the **Button Operations > Time Delay** tab.
3. Expand the Time Delay function (click the + sign).
4. Enter the desired number of seconds (1 - 180) in the Wait field.
5. Drag the Wait icon to either the Press window or Release window.

   - or -

6. Click one of the Green Right Arrows to move the Wait function to the Press window or the Release window.



The **Button Operations > User Defined** tab allows users to add button functionality that is not pre-defined by entering ASCII strings or Extron Simple Instruction Set (SIS) commands in the Command field and moving those commands to the Press window or the Release window. The **User Defined** tab is only functional with serial ports.

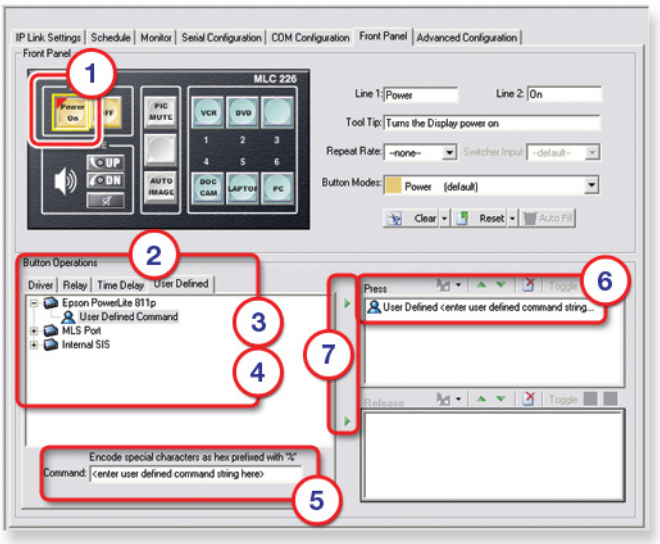
For a listing of ASCII codes, click **View > View ASCII Chart**.

To add a **User Defined** command:

1. Select a front panel button.
2. Click the Button **Operations > User Defined** tab.
3. Expand a serial port.
4. Click **User Defined Command**.
5. Enter your desired ASCII command string in the Command window.
6. Drag the User Defined Command to the Press window or the Release window.

   - or -

7. Use the Green Right Arrows to move the User Defined Command to the Press window or the Release window.



The **Button Operations > Light Control** tab allows users to assign an indicator color to both the Press and Release action of buttons in the single switch or group modes. Color changes are reflected on both the physical front panel button, and the virtual front panel button in the GlobalViewer interface.

Indicator options are:

- OFF
- Green
- Red
- Amber

Indicator Blink options are:

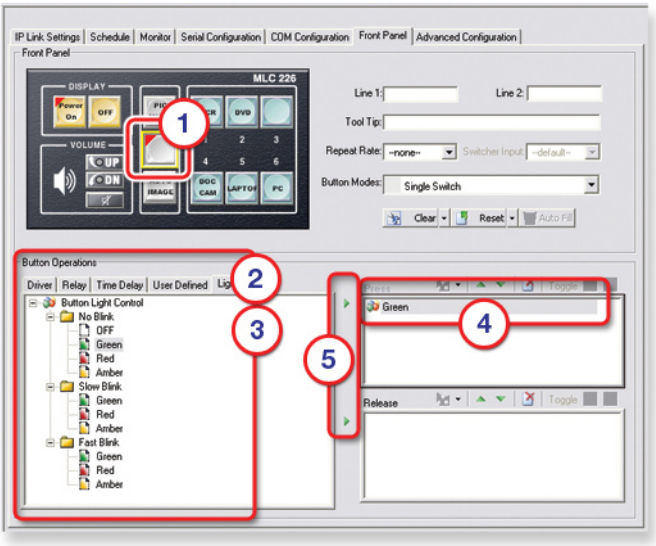
- No Blink
- Slow Blink
- Fast Blink

To assign an **indicator color** to a button:

1. Select a button.
2. Click the **Button Operations > Light Control** tab.
3. Expand a No Blink, Slow Blink, or Fast Blink folder.
4. Drag the desired color icon (OFF, Green, Red, Amber) to either the Press or Release window.

   - or -

5. Use the Green Right Arrows to move the desired color to the Press window or the Release window.



Clear, Reset, and Auto Fill Captions

Use the Clear button to clear all front panel button caption text.

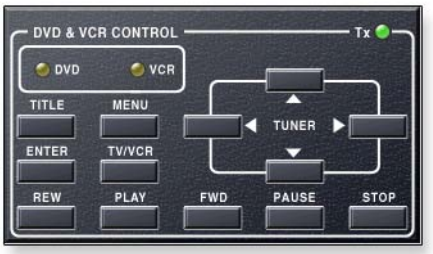
Use the Reset button to delete all operations on the front panel buttons, and reset their captions to their factory default text.

The Auto Fill button is not active on the front panel tab. It is active on the Address tab when a Control Module is selected in the IP Link Tree window.

Step Twelve: Configure Associated Control Modules

A Control Module is a plate with buttons that can be associated with the MLC 226 IP device.

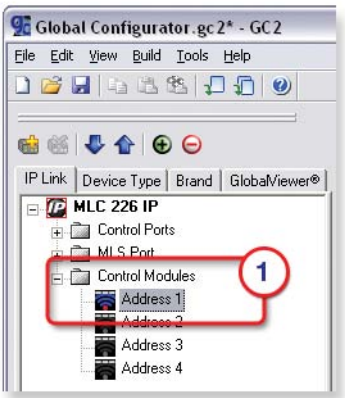
The buttons on a Control Module can be configured to perform specific device operations, such as power on a device, or raise / lower audio volume, etc.



The Control Module Summary tab is used to configure the button operations of a Control Module.

To configure a Control Module:

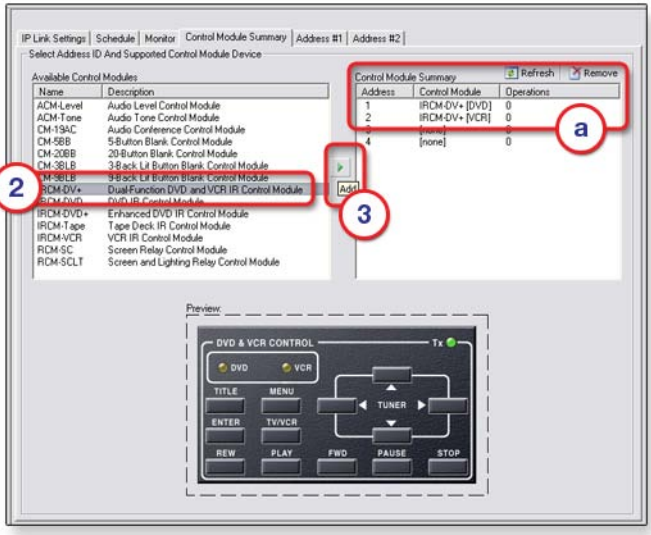
1. Select a Control Module Address in the IP Link Tree window.



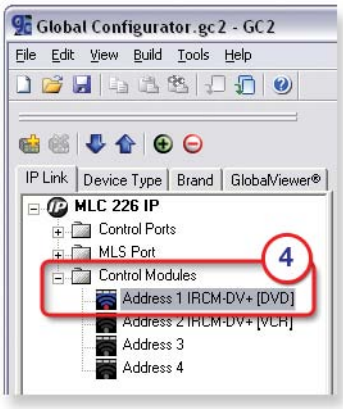
2. Select an Available Control Module.

3. Click the **Add** (right arrow) button.

   The new Control Module is displayed in the Control Module Summary (a) field and in the IP Link Tree window.



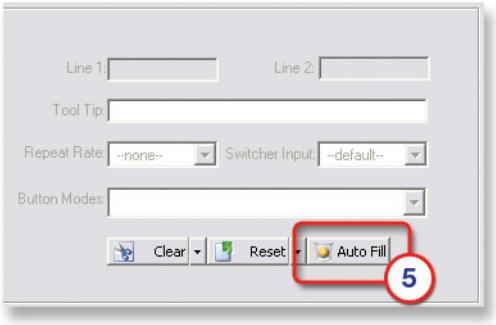
4. Select the newly assigned Control Module Address port in the IP Link Tree window.



The Auto Fill button is used to configure the Control Module buttons with pre-determined button operations as defined by the associated device driver.

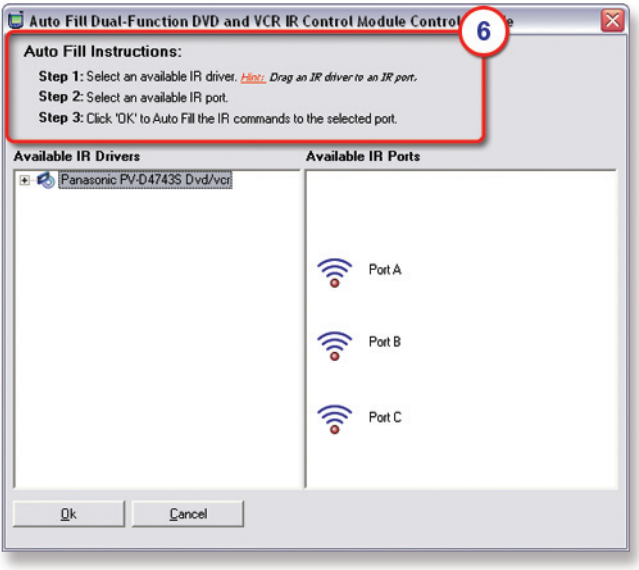
To automatically fill button operations:

5. Click the **Auto Fill** button.



The Auto Fill dialog box opens.

6. Follow the instructions at the top of the Auto Fill dialog to automatically fill the selected driver with pre-determined button operations.



7. You may also set the Control Module button operations individually. See "Button Operations" on page 3-20 for instructions on setting individual button operations.

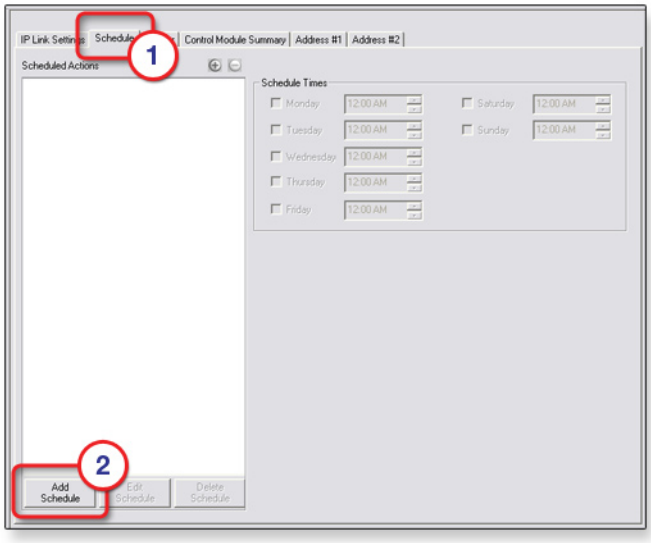
Creating Schedules and Monitors

Step Thirteen: Create a Shutdown Schedule

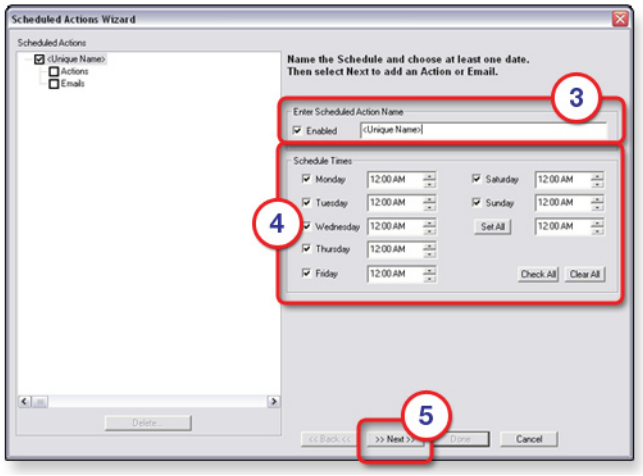
Global Configurator's scheduling feature enables you to schedule specific actions to occur for a selected device. As an example, scheduling is useful to set network projectors to power off at the end of the day to prevent unnecessary lamp usage.

To set a display shutdown schedule:

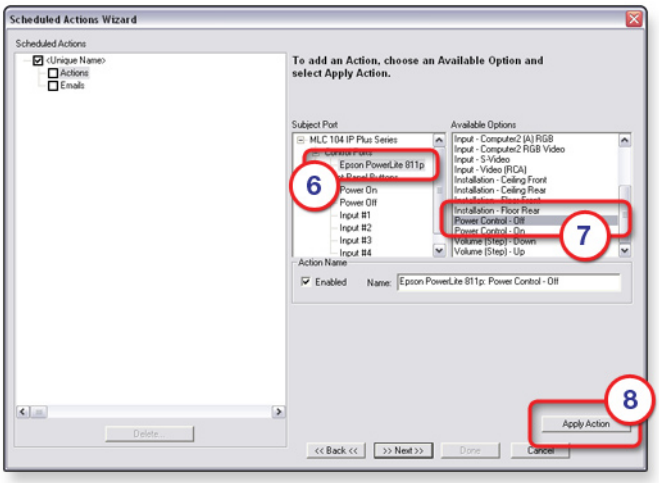
1. Click the **Schedule** tab.
2. Click the **Add Schedule** button.



3. Enter a unique name in the **Schedule Action Name** field.
4. Set the desired **Schedule Times.**
5. Click **Next**.



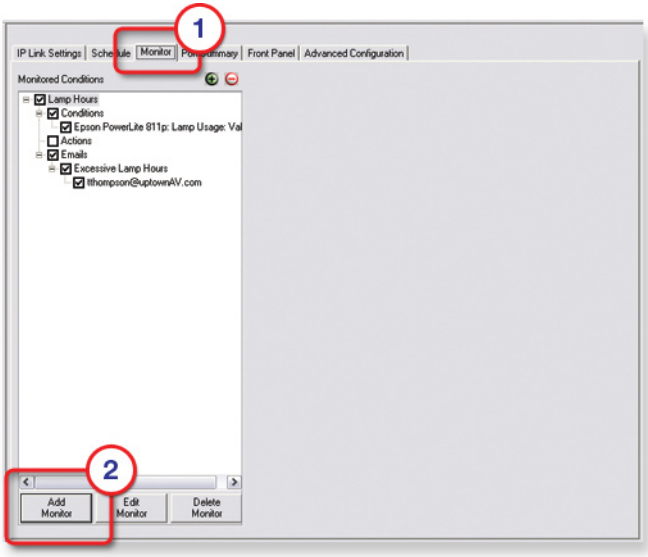
6. Select the desired **Subject Port** (device).
7. Select the **Available Option > Power Control - Off**.
8. Click **Apply Action**.
9. Click **Done**.



Step Fourteen: Create a Lamp Hour Notification

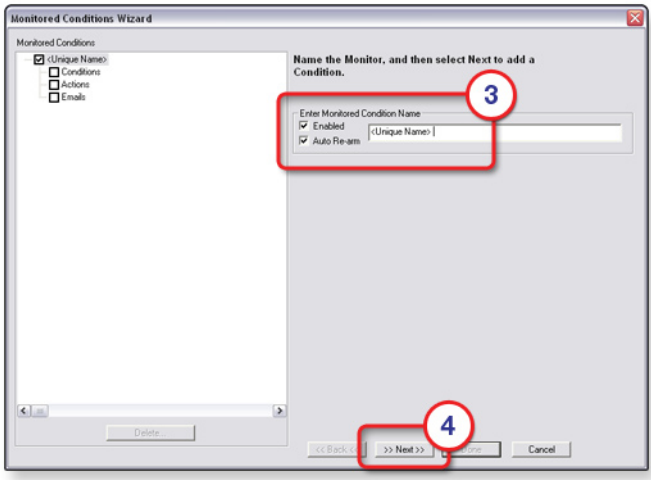
Global Configurator enables you to monitor lamp usage hours and send an email alert if a display's lamp is nearing expiration.

1. Click the **Monitor** tab.
2. Click the **Add Monitor** button.

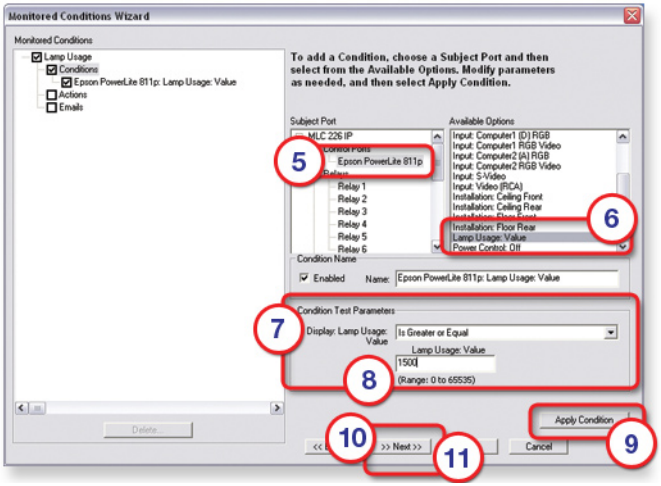


The Monitored Conditions Wizard dialog box opens.

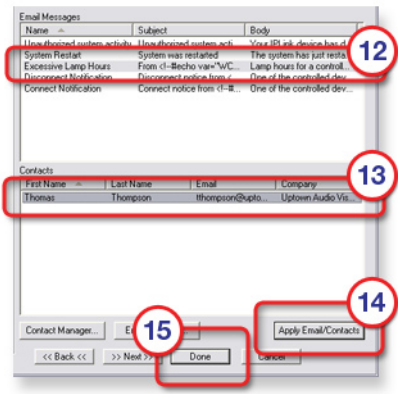
3. Enter a unique Monitored Condition Name.
4. Click **Next**.



5. Select a **Subject Port** (device).
6. Select the **Available Options > Lamp Usage: Value**.
7. Select **Is Greater or Equal** in the **Display: Lamp Usage Value** field.
8. Enter a number (hours) that is less than the lamp's anticipated burn-out spec in the Lamp Usage Is Value field.
9. Click **Apply Condition**.
10. Click **Next**.
11. Click **Next** a second time to add an email notification.



12. Select **Email Messages > Excessive Lamp Hours**.
13. Select the desired Contacts.
14. Click **Apply Email / Contacts**.
15. Click **Done**.

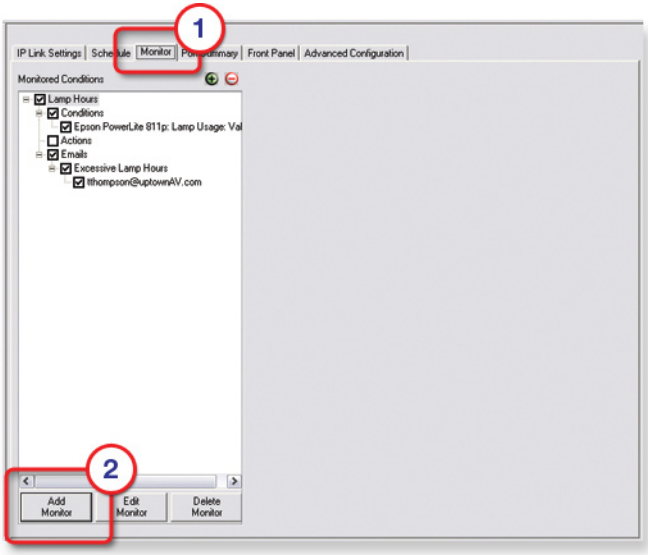


Step Fifteen: Create a Disconnect Notification

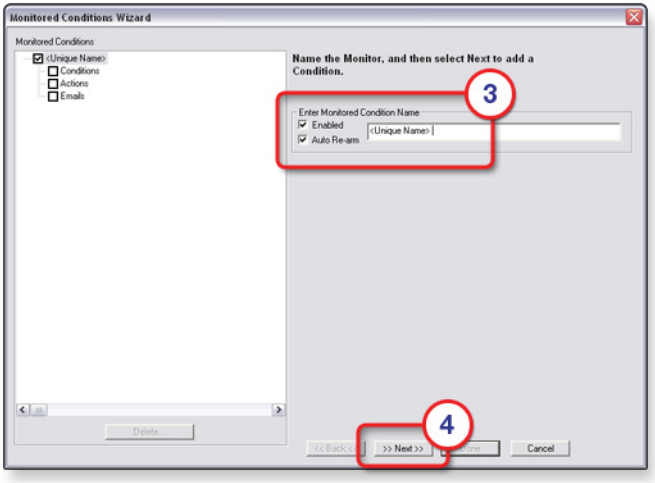
Global Configurator's monitoring feature enables you to configure IP Link devices to monitor many parameters of their connected audio/visual devices. This feature can be used to monitor a display connection and send an alert email to the administrator if a display is unexpectedly disconnected from the network.

To create a display disconnection email alert:

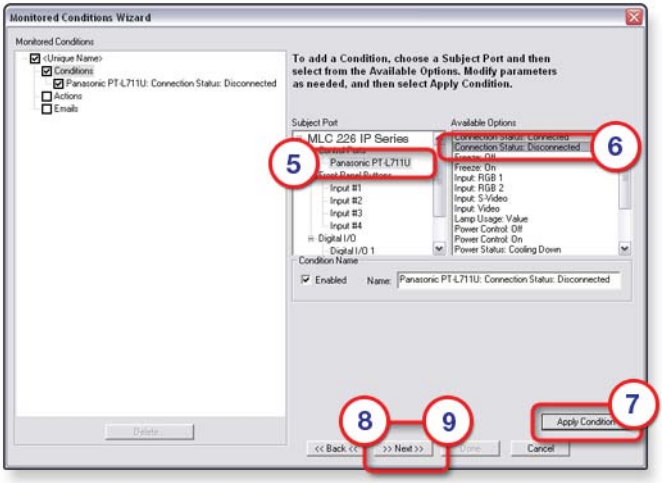
1. Click the **Monitor** tab.
2. Click the **Add Monitor** button.



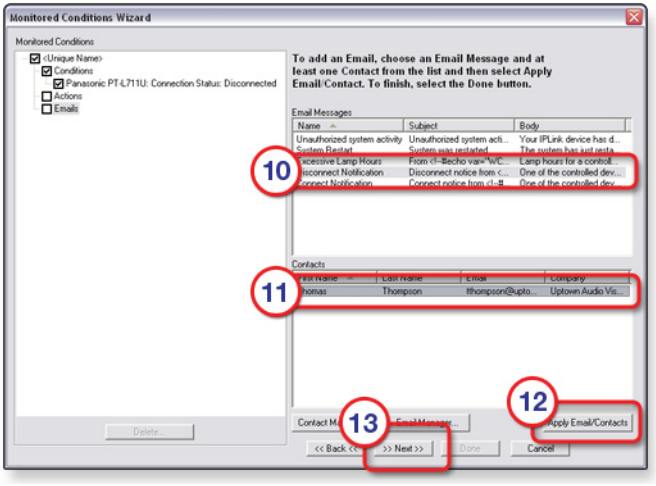
3. Enter a unique name in the Monitored Condition Name field.
4. Click **Next**.



5. Select a **Subject Port** (device).
6. Select **Available Options > Connection Status: Disconnected**.
7. Click **Apply Condition**.
8. Click **Next**.
9. Click **Next** a second time to add an email notification.



10. Select **Email Messages > Disconnect Notification**.
11. Select the desired Contacts.
12. Click **Apply Email / Contacts**.
13. Click **Done**.



Building and Uploading a GC File

Before a Global Configuration (GC) file is active in the GlobalViewer interface, the GC file must be "built" and "uploaded" to a GlobalViewer Host device.

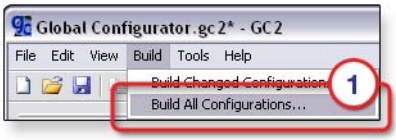
The "build" process compiles all of the configuration data you have entered into the GC file for each A/V network device.

The "upload" process delivers the built (compiled) file to the GlobalViewer Host device.

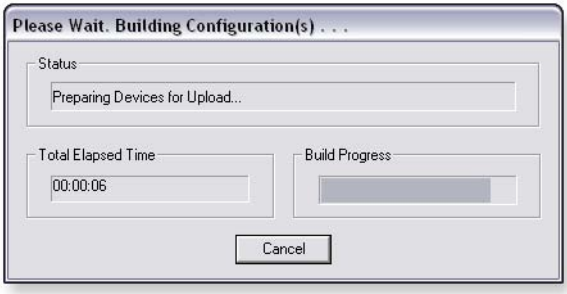
Step Sixteen: Build the Global Configurator File

To initiate a "Build (all)" process:

1. Click **Build > Build All Configurations...** *or* click the **Build All Configurations** icon.



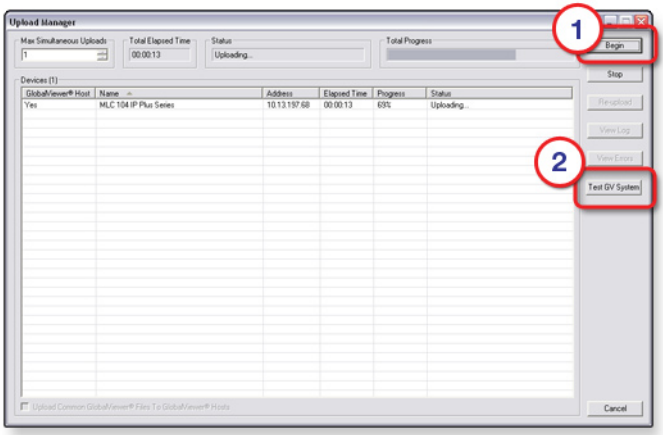
A **Please Wait. Building Configuration(s)...** dialog box opens and displays a progress bar while the GC file is being built.



Step Seventeen: Upload the Global Configurator File

When the build process completes, the **Upload** dialog box opens.

1. Click the **Begin** button. When the upload process completes, the **Progress** and **Status** fields are updated to indicate completion.
2. Click the **Test GV System** button to view the GlobalViewer Host interface.



Launching the GlobalViewer Interface

GlobalViewer is a graphical user interface that is generated by Global Configurator (GC). When a GC file is built and uploaded to a GlobalViewer Host device, you can launch the GlobalViewer interface by opening an Internet browser and entering the host device's IP address in the browser's address field.

Once the GlobalViewer interface is launched, you can monitor and control all of the devices on your audio/video network from the GlobalViewer Host device.

Step Eighteen: Launch GlobalViewer

To Launch GlobalViewer:

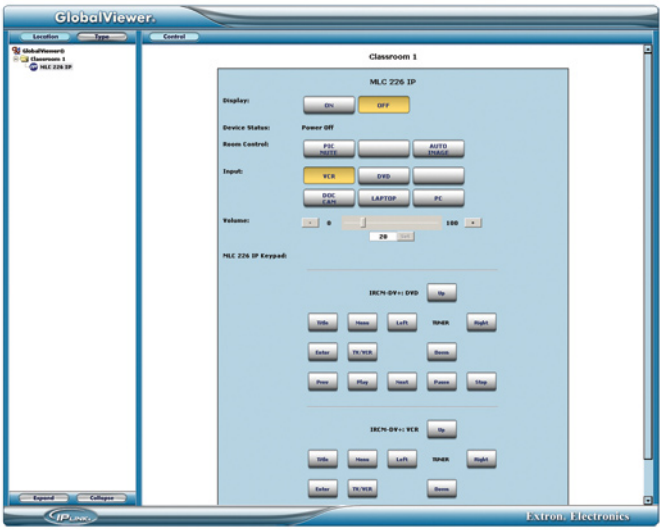
1. Click the **Test GV System** button on the Upload Manager window after the upload completes,

   - or -

2. Open an Internet browser (IE 6.0 or later w/Active X enabled is required).

   - then -

3. Enter the IP address of a GlobalViewer Host device in the Address field, and press the keyboard's **Enter** key.



Testing the A/V Network

Step Nineteen: Test the MLC 226 IP operation

Use the GlobalViewer graphical user interface, the MLC 226 IP front panel and, if present, the buttons on an associated Control Module to test for proper operation of the MLC 226 IP and any connected devices.

More information on operation and testing of the MLC 226 IP and its connected devices can found in the *MLC 226 IP User's Manual* part number 68-955-01, which can be downloaded from www.extron.com.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:
Extron Electronics
1001 East Ball Road
Anaheim, CA 92805, USA

Europe, Africa, and the Middle East:
Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort
The Netherlands

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

Japan:
Extron Electronics, Japan
Kyodo Building
16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

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 non-Extron authorized modification to the product.

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

☐ **Chapter 1**: Install Global Configurator

- Download from www.extron.com, or
- Install from Extron Software Products CD

☐ **Chapter 2**: Make the MLC 226 IP cable connections.

1. ☐ Power connection

2. ☐ Local Area Network (LAN) connection

3. ☐ Device connections

☐ **Chapter 3**: Configure the MLC 226 IP using the Global Configurator application.

1. ☐ Download device drivers.

2. ☐ Create a new Global Configurator project file.

3. ☐ Add a device and set its IP address.

4 ☐ Define the location of the new device.

5. ☐ Save the new Global Configurator file.

6. ☐ Configure e-mail server.

7. ☐ Configure e-mail messages.

8. ☐ Configure contacts.

9. ☐ Assign serial device drivers.

10. ☐ Assign IR drivers.

11. ☐ Configure the front panel.

12. ☐ Configure associated control modules.

13. ☐ Create a shutdown schedule.

14. ☐ Create a lamp hour notification.

15. ☐ Create a disconnect notice.

16. ☐ Build the Global Configurator file.

17. ☐ Upload the Global Configurator file.

18. ☐ Launch GlobalViewer.

19. ☐ Test the MLC 226 IP setup.

www.extron.com

Extron Electronics, USA
1230 South Lewis Street
Anaheim, CA 92805
800.633.9876 714.491.1500
FAX 714.491.1517

Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort, The Netherlands
+800.3987.6673 +31.33.453.4040
FAX +31.33.453.4050

Extron Electronics, Asia
135 Joo Seng Rd. #04-01
PM Industrial Bldg., Singapore 368363
+800.7339.8766 +65.6383.4400
FAX +65.6383.4664

Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan
+81.3.3511.7655 FAX +81.3.3511.