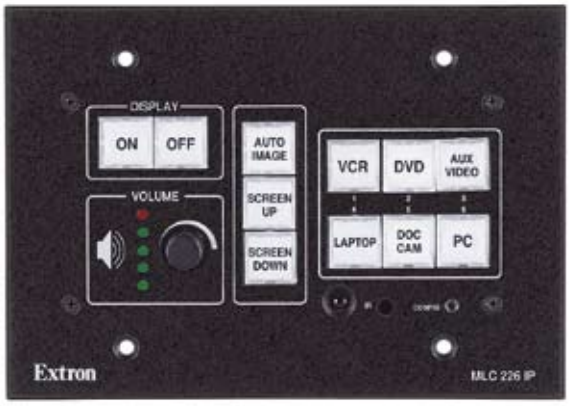
MLC 226 IP Series

Enhanced MediaLink® Controllers with IP Link®



MLC 226 IP front view

MLC 226 IP rear view

SERIES FEATURES

- **Bidirectional RS-232 port for universal display control** — The MLC 226 IP has a dedicated port for communicating with virtually any projector or flat panel display via IR or RS-232. Control drivers can be downloaded or created using the intuitive software. A second RS-232 port is for controlling an optional Extron MediaLink Switcher.
- **Meets or exceeds Section 508 accessibility standards**
- **IP Link® Ethernet monitoring and control** — An IP integration technology developed by Extron that enables the MLC 226 IP to be controlled and proactively monitored over a LAN, WAN, or the Internet.
- **Supports optional IP Intercom station for two-way, half-duplex voice communications over an IP network**
- **Three IR/serial ports for one-way control of external devices**
- **Six configurable relays for control of room functions** — Enables control of lighting, screen settings, and other device functions.
- **Support for optional IRCM - Infrared Control Modules** — For controlling external sources, such as DVD players and VCRs
- **IR learning capability**
- **Discrete ON and OFF display power controls** — Simplify system operations and eliminate the need for an external display remote.
- **RS-232 port for MediaLink Switcher support**
- **Inactivity timer for display shutoff** — Conserves energy, prevents plasma burn-in, or extends projector lamp life.
- **Front panel security lockout** — When the security lockout mode is engaged, the MLC 226 IP's front panel becomes inoperable unless a user-defined PIN number is entered. No functions of the controller or IR remote can be activated.
- **Volume control knob with volume level indication for display or MediaLink Switcher** — Allows for convenient, centralized control without additional remotes. The five LEDs provide clear indication of the current audio setting.
- **Configurable buttons** — Can be set up to trigger a variety of functions such as selecting an input, sending a serial or IR command, or controlling a relay.
- **Macro capability** — Any button can be configured to execute multiple actions through the serial and IR control ports. For instance, the touch of a single button could trigger commands to turn on the display, select the display's RGB input, and select an input on the MediaLink Switcher.
- **Tri-color, backlit buttons can be custom labeled for easy identification** — Buttons illuminate red, green, or amber, depending on function, for ease of use in low-light environments.
- **Pre-printed button labels included**
- **Optional SCP 226 Secondary Control Panel** — Duplicates the MLC 226 IP's front panel buttons and offers a second control point within a room.
- **Integral high performance Web server with 7.25 MB flash memory** — Features a built-in Web server with memory available for storing device drivers, GlobalViewer, and custom user Web pages.
- **Flexible mounting options** — There are a variety of optional mounting kits available for installing the MLC 226 IP virtually anywhere, including walls, lecterns, or tables.
- **Optional IR 402 handheld infrared remote control. part # 70-207-01** — Offers remote control of the MLC 226 IP and connected external sources
- **External universal power supply included, replacement part # 70-775-01** — Provides worldwide power compatibility.

DESCRIPTION

The Extron **MLC 226 IP** MediaLink® Controllers are enhanced control panels for controlling A/V equipment in any small classroom or boardroom. They standardize the interface for all display systems, making them easier to use, set up and maintain. All MLC 226 IP models include IP Link with GlobalViewer®, a free Web-based A/V resource management and remote control software application.

The MLC 226 IP MediaLink Controller offers several enhanced control capabilities including 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 flexible MLC 226 IP acts as an extended remote control panel. It is not a switcher; instead, as a controller, it tells the display when to switch between its various inputs. Presenters with little or no training can walk into any multimedia classroom and operate the A/V system. 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. Because the buttons illuminate, they are helpful for presenters in low-light environments. The input selection and room/function buttons on the MLC 226 IP can be utilized for source selection and relays, as well as sending various RS-232 or IR commands.

The MLC 226 IP is designed to work with almost every Extron switcher, including the MediaLink Switchers, which are specifically designed to complement MediaLink Controllers. MediaLink Switchers are available to accommodate a variety of video, RGBHV, and audio signals while providing unique features that expand A/V system capabilities. The MLC 226 IP can also work as a stand-alone device to control a display without the aid of a switcher.

Room Control

In addition to display and source control, the MLC 226 IP also offers the ability to control many other devices in the room. Room lighting, screens, projector lifts, window shades and other equipment can be controlled using the controller's six relays.

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DESCRIPTION (CONTINUED)

IP Link® Ethernet Control

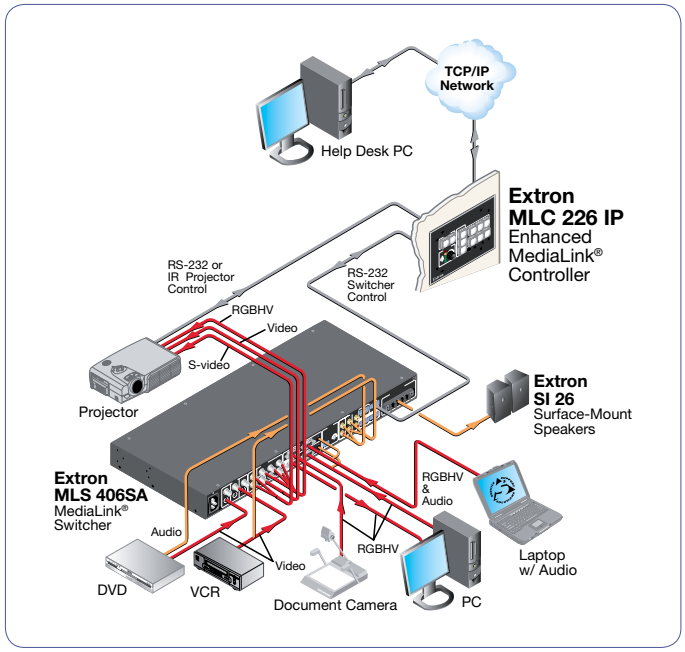
The MLC 226 IP is equipped with Extron's IP Link, a high performance intelligent network integration solution specifically engineered to meet the needs of professional A/V environments — from small K-12 classrooms to large universities and businesses. When used with GlobalViewer, IP Link facilitates key A/V resource management functions including:

- Proactive maintenance — GlobalViewer can store and display information about connected devices like serial numbers, owner identification, maintenance history, and installed firmware versions. This centralized data can be collected and used to reduce maintenance costs and guide future purchasing decisions. For instance, a projector can be polled routinely to track lamp usage and total life time. When lamp usage reaches a predetermined number of hours, the MLC 226 IP can send a report via e-mail.
- Event scheduling — GlobalViewer uses the real-time clock and calendar in IP Link-enabled devices to maximum value. User-defined tasks are easy to configure and schedule with the GlobalViewer and don't require high-level programming skills. For instance, an administrator may want to turn off all projectors every Friday at close of business. The administrator can schedule the system to turn off all projectors at a specified time, and raise all projection screens that were left down.
- Remote technical support — Technicians can troubleshoot systems remotely because GlobalViewer provides the real-time status of connected devices. Information such as connection status, power state, and current input selection is displayed in a central location. For many connected devices, technicians can toggle power on or off, switch sources, control volume, and more without leaving their office. Many common problems can be resolved without a trip to where the equipment is located.
- Theft alerts — IP Link-enabled products are always on and routinely poll their attached devices for status information. If any serially controlled device such as a projector or plasma display is physically disconnected from the network, the MLC 226 IP monitoring its status will know immediately. In such an event, it can send an e-mail message notifying security personnel of the possible theft. For fast action, e-mails can be sent to multiple addresses including cell phones and wireless PDAs.Easy System Configuration Using Global Configurator Software

The MLC 226 IP can be fully configured using Extron's Global Configurator software. Extron creates and administers a wide selection of drivers for use with the MLC 226 IP which enable control of basic display functions such as power, input selection, and volume adjustment. Users can customize drivers or go to the Extron Web site to download RS-232 or IR drivers compatible with the latest and most popular display and source devices.

Web-Based A/V Resource Management with Free GlobalViewer and GlobalViewer Enterprise

MLC 226 IP Series Controllers support both the free GlobalViewer® Web application and GlobalViewer Enterprise software for advanced A/V resource management capabilities. GlobalViewer® Enterprise server-based software is the next step up for managing larger A/V installations. It provides an easy upgrade path for existing users of Extron's GlobalViewer Web application using configuration wizards, not programming. Compatible with most Web browsers, GlobalViewer Enterprise provides enhanced help desk functionality, enterprise-wide scheduling and monitoring, and time-stamped A/V system data collection for reporting. Built on Microsoft® .NET® technology, GlobalViewer Enterprise integrates with third-party facility scheduling software for viewing room availability and managing meeting schedules. As with Extron's free GlobalViewer Web application, no programming is required.



MLC 226 IP

Enhanced MediaLink® Controller with IP Link®

UNIQUE FEATURES

- **Available with three-gang black & white, RAL9010 White, or brushed aluminum faceplate**
- **MR 300 Mud Ring included**

MODEL	VERSION DESCRIPTION	PART #
MLC 226 IP	Black & White Faceplates	60-600-02
MLC 226 IP	RAL9010 White Faceplate	60-600-05
MLC 226 IP	Brushed Aluminum Faceplate	60-600-04

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Extron®

MLC 226 IP DV+

Enhanced MediaLink® Controller with IP Link® and Integrated DVD and VCR IR Control

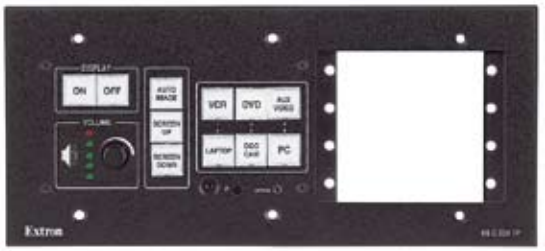
UNIQUE FEATURES

- Dual-function DVD and VCR IR control
- Includes two IR emitters
- Includes five-gang black & white faceplates
- Includes black and white MR 500 Mud Rings

MODEL	VERSION DESCRIPTION	PART #
MLC 226 IP DV+	Black & White Faceplates	60-600-82

MLC 226 IP AAP

Enhanced MediaLink® Controller with IP Link® and AAP Opening



UNIQUE FEATURES

- Available with five-gang black, white, or RAL9010 White faceplate
- Opening for up to four single space AAP - Architectural Adapter Plates; AAPs sold separately
- MR 500 Mud Ring included

MODEL	VERSION DESCRIPTION	PART #
MLC 226 IP AAP	Black Faceplate	60-600-12
MLC 226 IP AAP	White Faceplate	60-600-13
MLC 226 IP AAP	RAL9010 White Faceplate	60-600-15

MLC 226 IP L

Enhanced MediaLink® Controller with IP Link® and Lectern Faceplate

UNIQUE FEATURES

- Low profile, 3.2" (8.1 cm) tall faceplate fits into a compact space on a lectern or desk
- Mounts in a rack or wall using an Extron UCM RAAP or UCM 10X8P Universal Controller Mounting Kit; mounts on a desk using an Extron SMB 203 L Lectern Series Mount Box

MODEL	VERSION DESCRIPTION	PART #
MLC 226 IP L	Black Faceplate	60-600-32
MLC 226 IP L	White Faceplate	60-600-33
MLC 226 IP L	RAL9010 White Faceplate	60-600-35

MLC 226 IP Series Accessories

INCLUDED ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
Backlit Button Labels	Text Button Labels	n/a	33-954-01
Backlit Button Labels	Text Button Labels	n/a	33-955-01

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MLC 226 IP Series

MLC 226 IP Series Accessories

OPTIONAL ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
UC50' (50' / 15 m)	Universal Projector Control Cable: 9-pin D Female to Bare Wires - 50' (15.2 m)	page 432	26-518-01
IR Emitter and Shield Kit	IR Emitter Kits	page 290	70-283-01
IRCM-DV+	Dual-Function DVD and VCR IR Control Module - Quad Space AAP	page 406	70-220-02
IPI 101 AAP	One-Button IP Intercom Station for Use With MLC 226 IP	page 437	70-501-02
IPI 104 AAP	Four-Button IP Intercom Station for Use With MLC 226 IP	page 437	70-502-02
MLS 406SA	Six Input MediaLink® Switcher with Stereo Audio Amplifier	page 451	60-560-03
MLS 506SA	Six Input MediaLink® Switcher with Stereo Audio Amplifier	page 454	60-386-04
CM-9BLB	Nine-Button Control Module - Quad Space AAP	page 407	70-494-02
SCP 226	Secondary Control Panel for MLC 226 IP and System 5 IP	page 413	60-671-02
IR 402	Handheld IR Remote Control for System 5 IP and MLC 226 IP	page 280	70-207-01
MLA-VC10	Volume Control Module	page 702	60-502-01
MLM 226 L	Replacement Lectern Mounting Kit for the MLC 226 IP	page 421	70-342-02
UCM RAAP	Universal Controller Mounting Rack Kit	page 423	70-344-02
SMB 103	Three US gang surface mount box: black	page 426	60-641-02
MLM-WB+	Lockable Metal Wall Box with Flip-Down 4U Rack Space	page 422	60-458-02

SPECIFICATIONS

IP INTERCOM

Connection type (IPIMLC) ..... RJ-45 jack for CAT 5, CAT 5e, or CAT 6 cable

Audio

Frequency response ..... 20 Hz to 3.3 kHz, ±1 dB

Audio processing

Audio format ..... PCM, µ-law companded

Sampling rate ..... 8 kHz

Sample size ..... 16 bit, µ-law companded to 8 bit

Audio latency ..... Software: 30 ms through 160 ms
Network: <150 ms, typical

Audio output

Number/signal type ..... 1 mono (for use with an optional IP Intercom)

Line level output ..... -10 dBV (316 mVrms), unbalanced (via 3.5 mm captive screw connector, 2 pole)

Communication

Transport bandwidth for IPI control and audio, half duplex ..... 80 kbps (0.08% of 100Base-T)

Ethernet protocol ..... TCP/IP (control), UDP (audio)

CONTROL — HOST PORTS

Serial host port ..... 2 bidirectional RS-232: 1 rear panel 9-pin female D connector (shared with digital input), 1 front panel 2.5 mm mini stereo jack

Baud rate and protocol ..... 38400, 8 data bits, 1 stop bit, no parity

Serial control pin configurations ..... 9-pin female D connector: 2 = TX, 3 = RX, 5 = GND
Mini stereo jack: tip = TX, ring = RX, sleeve = GND

Ethernet host port ..... 1 RJ-45 female

Ethernet data rate (for network communication) ..... 10/100Base-T, half/full duplex with autodetect

Ethernet protocol ..... ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP, SMTP

Ethernet default settings ..... Link speed and duplex level = autodetected
IP address = 192.168.254.254
Subnet mask = 255.255.0.0
Default gateway = 0.0.0.0
DHCP = off

Web server ..... Up to 200 simultaneous sessions
7.25 MB nonvolatile user memory

Secondary control panel (SCP) ..... (1) 3.5 mm 5-pole direct insertion captive screw connector (shared with control module and IR Link port)

IR remote control ..... IR 402 (optional)
Front panel: 30' maximum, 40 degrees off axis
Rear panel: 38 kHz, hardwired, modulated

Program control ..... Extron's configuration program for Windows®
Extron's Simple Instruction Set (SIS™)
Microsoft® Internet Explorer, Telnet

IR learning frequencies ..... 30 kHz to 62 kHz

IR learning distance ..... 2" (5.1 cm) to 12" (30.5 cm) from the front panel

CONTROL — RELAY

Number/type ..... 6 momentary or latching (configurable via software)

Connectors ..... (3) 3.5 mm captive screw connectors, 3 pole

Connector configuration ..... Groups A, B, C; each with 1 common and 2 normally open relays (default)

Contact rating ..... 24 V, 1 A

CONTROL — SERIAL PORTS

Display control port ..... (1) 3.5 mm direct insertion captive screw connector, 3 pole, programmable for bidirectional RS-232 control (±5 V) or TTL level (0 to 5 V) infrared control up to 1 MHz

Switcher control port ..... (1) 3.5 mm direct insertion captive screw connector, 3 pole, for bidirectional RS-232 control (±5 V)

Baud rate and protocol (RS-232) ..... 115200 to 300 baud (9600 baud = default); 8 (default) or 7 data bits; 1(default) or 2 stop bits; no parity (default), or even or odd parity

CONTROL — IR/SERIAL PORTS

IR/serial control ports ..... (3) 3.5 mm direct insertion captive screw connectors, 2 pole
Programmable: unidirectional RS-232 (±5 V) control, or TTL level (0 to 5 V) infrared control up to 1 MHz

Baud rate and protocol ..... 115200 to 300 baud (9600 baud = default) ; 8 (default) or 7 data bits; 1(default) or 2 stop bits; no parity (default), or even or odd parity

DIGITAL I/O CONTROL

Number/type ..... 1 digital input/output (configurable), 1 digital input

Connector ..... 1 rear panel 9-pin female D connector (shared with the serial host port)
(1) 3.5 mm direct insertion captive screw connector (shared with power sense port)

Pin configuration ..... 9-pin female D connector: 1 = digital input, 5 = GND; power sense = digital in, GND = GND

Digital inputs

Input voltage range ..... 0-12 VDC

Input impedance ..... 28k ohms

Programmable pullup ..... 2k ohms to +5 VDC

Threshold low to high ..... >2.8 VDC

Threshold high to low ..... <2.0VDC

Digital output ..... 250 mA sink from 24 VDC, maximum

GENERAL

External power supply ..... 100 VAC to 240 VAC, 50/60 Hz, external; to 12 VDC, 1 A, regulated

Power input requirements

MLC 226 IP DV+ ..... 12 VDC, 0.515 A (includes MLC 226 IP and IRCM-DV+)

All other models ..... 12 VDC, 0.495 A (0.515 A with 1 IRCM-DV+ connected)

NOTE: An MLC 226 Series controller must be powered by its own power supply. It cannot be powered by an MLS switcher.

Temperature/humidity ..... Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing

Cooling ..... Convection, unvented

Rack mount

MLC 226 IP DV+ ..... No, but wall- and furniture-mountable

All other models ..... Yes, with optional rack mounting kits, and also wall- and furniture-mountable with optional mounting kits

Enclosure type

MLC 226 IP controller only ..... No faceplate, metal rear enclosure

MLC 226 IP, MLC 226 IP DV+ ... High-impact plastic faceplate, metal rear enclosure

MLC 226 IP with RAL9010 white faceplate,

MLC 226 IP AAP, MLC 226 IP L . Metal faceplate, metal rear enclosure

Enclosure dimensions

MLC 226 faceplate ..... 4.5" H x 6.4" W x 0.1" D (11.4 cm H x 16.3 cm W x 0.3 cm D) (3 gang)

MLC 226 AAP, MLC 226 IP DV+ faceplates ..... 4.5" H x 10.0" W x 0.1" D (11.4 cm H x 25.4 cm W x 0.3 cm D) (5 gang)

MLC 226 L faceplate ..... 3.15" H x 6.5" W x 0.1" D (8.0 cm H x 16.5 cm W x 0.3 cm D)

Device

MLC 226 IP DV+ ..... 2.75" H x 5.3" W x 2.0" D (7.0 cm H x 13.5 cm W x 5.9 cm D) and 2.7" H x 2.6" W x 0.9" D (6.9 cm H x 6.6 cm W x 2.3 cm D)
(Depth excludes knob and buttons. Fits some 5 gang boxes. Allow at least 2.1" (5.3 cm) depth in the wall or furniture.)

All other models ..... 2.75" H x 5.3" W x 2.0" D (7.0 cm H x 13.5 cm W x 5.9 cm D)
(Depth excludes knob and buttons. Fits some 3 gang boxes)

Product weight

MLC 226 IP DV+ ..... 2.1 lbs (1.0 kg)

All other models ..... 1.9 lbs (0.9 kg)

Shipping weight ..... 6 lbs (3 kg)

Vibration ..... ISTA 1A in carton (International Safe Transit Association)

Regulatory compliance

Safety ..... CE, C-tick, CUL, UL

EMI/EMC ..... CE, C-tick, FCC Class A, VCCI, ICES

Accessibility ..... Complies with the appropriate requirements of Section 508 of the Rehabilitation Act (29U.S.C.794d).

MTBF ..... 30,000 hours

Warranty ..... 3 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

Note: For complete specifications, please go to www.extron.com

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