



**JVC COOPER ELECTRONICS**

**Professional Control, Automation and Interfacing Products**

**ion**

**ATLAS**

**GPI Smart Matrix**

**enox**  
ETHERNET  
SERIAL x 4  
GPI x 24 x 2  
INTERFACE

**Cue Operation  
Instant Replay**

**Ins P1 01 02 03 04 05 06 07 08  
15 14 15 16 17 18 19**



# Serious About Control

*"Precision control unleashes creativity."*

JLCooper is serious about precise control. We're devoted to producing professional-quality Control, Interfacing and Automation Products. We succeed when a difficult task is accomplished faster, easier and with increased reliability.

*"Effortless control expands your imagination."*

JLCooper controllers let you work faster and with increased proficiency. They provide the ease-of-use and mission critical tactile assurance that's missing from mouse-based or touch screen user interfaces.

With the largest line of control products for computer based systems and specialized applications, our products set the standards that others follow.

Hundreds of third party software and hardware developers support and utilize JLCooper control products as part of their user interface. Nearly every product we make has a host mode, so that developers have complete control of how our products interact with their applications and systems.

Our record speaks for itself with over 40 years of award winning products hard at work every day.

Our clients include ABC, Agfa Healthcare, Apple, BBC, CBC, CBS, CNN, DIRECTV, ESPN, FIFA, FOX, Google, HBO, IBM, IMAX, Intel, Industrial Light & Magic, The Juilliard Academy, MIT, MTV, National Center for Macrobiological Research, NASA, NBA, NBC, NFL, NFL Films, Pixar, Sony Pictures, Technicolor, Universal Studios, Walt Disney Studios, Warner Brothers Studios, the U.S. Congress and the Library of Congress.

Thousands of leading companies in audio and video production, television and radio broadcast, animation, sound reinforcement, lighting, aerospace, education, scientific research, medical imaging, recording artists and others rely on JLCooper products daily in key applications.

Contact us today to find out how serious we are about making your job faster and easier at 310-322-9990 or email [sales@jlcooper.com](mailto:sales@jlcooper.com)



NRL Bunker



slomo.tv operator



US Senate Chambers

**JLCOOPER ELECTRONICS**

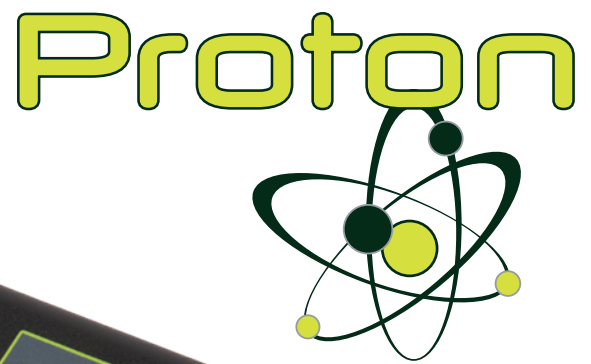
Control, Automation & Interfacing Products

[WWW.JLCOOPER.COM](http://WWW.JLCOOPER.COM)

Index	Product
Page	
2	<b>Serious About Control</b> <small>About JLC Cooper Electronics</small>
4	<b>Proton - Switcher Control Surface</b> <small>Compact Broadcast Switcher Control Panel for BlackMagic Design ATEM</small>
5	<b>ion - Switcher Control Surface</b> <small>Extremely Compact Broadcast Switcher Control Panel for BlackMagic Design ATEM</small>
6	<b>Eclipse BTX Midnight - Eclipse TX Midnight</b> <small>Primary Transport Controller - Compact Transport Controller</small>
7	<b>Eclipse 24 Midnight - Eclipse 24 Software for Mac</b> <small>Tactile Command Palette</small>
8	<b>Eclipse MXL Midnight - Eclipse MXL2 Midnight</b> <small>8 Channel Fader Expander Controller with LCD Buttons - 8 Channel Fader Expander Controller with LCD Buttons, 8 Rotary Encoders</small>
9	<b>Eclipse Joiner, Compact and Standard Interface Cards</b> <small>Eclipse Joiner for Physically Joining Units - Interface Cards</small>
10	<b>Eclipse Software for Mac OS X - Eclipse PX</b> <small>Updated Eclipse Software with support for Eclipse 24, MXL, MXL2 - Eclipse Surround Panning Controller for Nuendo, Cubase, Dolby ATMOS</small>
11	<b>Sharpshot - Ultra Compact Command Palette</b> <small>Compact Shot Box Controller - SharpShot Mac Software</small>
12	<b>VTC1 - Video Transport Controller</b> <small>Ultra-Compact RS-422 Transport Controller</small>
13	<b>MCS6 Media Control Station</b> <small>Media Control Station USB and RS-422 - MCS6 Software for Mac</small>
14	<b>(New) TransportPro RS-422</b> <small>Universal Video Controller - Single Channel RS-422 Version</small>
15	<b>(New) GangWay4</b> <small>4 Port RS-422 Switcher and GPI Trigger Box</small>
16-17	<b>(New) SloMoPro</b> <small>Universal SloMo Controller RS-422 and USB Versions</small>
18	<b>SloMo Mini RS-422</b> <small>Ultra-Compact Four Channel Instant Replay Controller</small>
19	<b>SloMo Mini &amp; SloMoPro RS-422 with GangWay16/32, SloMo Mini USB</b> <small>SloMoMini and ES-SloMo with GangWay - Gang Roll 16-32 Channels - New SloMo Mini USB</small>
20	<b>SloMo Elite</b> <small>Video Server Controller with LED Buttons</small>
21	<b>SloMo Elite</b> <small>Video Server Controller with LCD Buttons</small>
22	<b>SloMo Elite-C</b> <small>(Compact) Video Server Controller</small>
23	<b>Atlas - GPI Smart Matrix</b> <small>GPI and Tally Programmable Crosspoint Switch Matrix and Logic Processor</small>
24-25	<b>eBOX - Quad Serial, Ethernet, GPI Interface</b> <small>Interfaces - Ethernet to Serial/GPI Converter</small>
26	<b>eBOX io - JLC-RackTray</b> <small>Interfaces - Real World Interface for eBOX and gBOX</small>
27	<b>eBOX GPI8 - Ethernet IP/GPI Interface</b> <small>Interfaces - 8 Opto Isolated Inputs - 8 Relay Outputs</small>
28	<b>gBox</b> <small>GPI Trigger Box</small>
29	<b>sBOX8D - sBOX8R</b> <small>Remote Trigger Box for gBOX and eBOX</small>
30	<b>(New) GangWay4</b> <small>4 Port RS-422 Switcher and GPI Trigger Box</small>
31	<b>GangWay16 - GangWay 32</b> <small>16 Port Gang Roll Switcher/GPI Trigger Box - 32 Port Gang Roll Switcher/GPI Trigger Box</small>
32	<b>FaderMaster Pro</b> <small>Programmable MIDI Automation Controller - FMPro Software for Mac</small>
33	<b>AXOS Surround Panner</b> <small>Professional Surround Panner for Pro Tools HD and Logic Pro X, Dolby ATMOS, MDA Creator</small>
34	<b>MLA-XLR - MIDI Line Amplifier</b> <small>MIDI Line Amplifier - Extend the Range of MIDI over 1000'</small>
35	<b>MLA-1 MIDI Line Amplifier, MLA-10 - MIDI Line Amplifier</b> <small>MIDI Line Amplifiers - Extend the Range of MIDI over 1000'</small>
36-39	<b>Developer Program and OEM Information</b> <small>Examples of OEM and Private Label Products</small>
40	<b>The JLC Cooper Story</b> <small>The History of JLC Cooper Electronics</small>







# Switcher Control Surface

## Broadcast Switcher Panel for BlackMagic Design ATEM

with Developer Host Mode for Easy Integration into Custom Software Applications

JLCooper's Proton™ – Switcher Control Surface is a full featured compact hardware control panel for fast video switching in live production environments.

It controls Blackmagic Design ATEM 1 M/E Production Switcher, ATEM 2 M/E Production Switcher, ATEM Production Studio 4K, ATEM 1 M/E Production Studio 4K, ATEM 2 M/E Production Studio 4K and ATEM Television Studio models.

Its fast, intuitive control and low cost make Proton a game changer for mobile, sports, educational, corporate, computer, house of worship and other applications.

- Lightning Fast Tactile Control Panel - No More Mouse!
- Precision Control Knobs with Push-Button Encoders
- Professional Backlit Relegendable Switcher Buttons
- 16.77 Million Colors on Switcher Buttons
- 240 x 96 Backlit Graphic Display
- 2 x 40 Backlit LCD Display
- Variable Brightness on All Displays and Buttons
- 4 Assignable Macro Buttons
- Precision Hall Effect Aluminum T-Bar Transition Control
- New GPI Input for Remote Control of Auto-Transition
- Nearly All Functions of Larger and More Costly Panels
- Extensive ATEM Parameter Control
- Labels Automatically Appear on Scribble Strip
- Front Panel Source Input Button Mapping
- Extensive BMD Camera Control Features
- Picture-In-Picture Parameter Control
- QuikSwitch™ Feature Controls up to (8) ATEM Units
- Internal Universal Switching Power Supply
- UDP - Multiple Panels Can Be Used Simultaneously
- Free Updates Add New ATEM Models/Features



8.25 in  
20.9 cm

15 in  
38.1 cm

Weight  
4.7 lbs  
2.13 kg



3.5 in  
8.89 cm



# Switcher Control Surface

Broadcast Switcher Panel for BlackMagic Design ATEM

Developer Host Mode for Easy Integration into Custom Software Applications



The new JLCopper "ION" is the smallest hardware control panel for fast video switching for live production with Blackmagic Design ATEM.

Use it stand-alone with ATEM, as a primary or secondary controller or as the perfect tactile companion to the ATEM software with your laptop or desktop computer. Add ion rack ears (included) and it's ready to mount in just two rack spaces for mobile fly packs.

It controls Blackmagic Design ATEM 1 M/E Production Switcher, ATEM 2 M/E Production Switcher, ATEM Production Studio 4K, ATEM 1 M/E Production Studio 4K, ATEM 2 M/E Production Studio 4K and ATEM Television Studio models.

It's perfect for for mobile, sports, educational, corporate, computer, house of worship and other applications.



ion 19" rack mount configuration



Weight  
2 lbs  
.91 kg



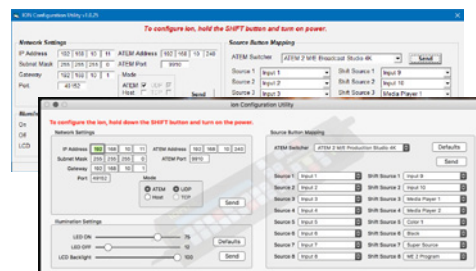
3.5 in  
8.89 cm

15.25 in  
38.74 cm



1.5 in  
3.81 cm

3.75 in  
9.53 cm



Setup software for Mac and Windows

- Lightning Fast Tactile Control Panel - No More Mouse!
- Smallest Professional Switcher Control Surface Available
- Professional Quality Features and Controls
- Professional Backlit Relegendable Switcher Buttons
- 16.77 Million Colors on Switcher Buttons
- 2 x 40 Backlit LCD Display
- Variable Brightness on All Displays and Buttons
- Precision Hi-Res Hall Effect Aluminum T-Bar Transition Control
- QuikSwitch™ Feature Controls up to (8) ATEM Units
- Extensive ATEM Parameter Control
- Labels Automatically Appear on Scribble Strip
- Front Panel, Windows & Mac Software Source Input Mapping
- New - GPI Input for Remote Control of Auto-Transition
- UDP - Multiple Panels Can Be Used Simultaneously
- Desktop Use or Rack Mountable - Just Two Rack Spaces!
- 19" Rack Ears Included
- Kensington Security Slot for Theft Prevention
- Host Mode for Software Developers



## Eclipse BTX Midnight

Primary Transport Controller



Weight  
7.35 lbs  
3.34 kg



11.5 in  
29.21 cm



3.25 in  
8.255 cm

13.5 in  
34.29 cm

Eclipse BTX is the heart of the Eclipse product family and our standard transport/edit controller for computer-based applications. It's a low profile, compact design with professional controls and quality construction.

It features JLCopper's custom optically encoded jog wheel with concentric shuttle ring, professional transport buttons

and 23 white illuminated function keys, Navigational Switches, 5 Rotary Encoders with aluminum knobs, 2 x 40 VF Display and LED Timecode Displays.

Eclipse BTX can combine with other Eclipse Midnight controllers to form a larger console. It's supported in Eclipse Ethernet Software for Mac. (920394 Ethernet Interface Required)

Software developers can connect to it using built in MIDI or optional (Standard) USB, Ethernet, RS-422 or RS-232 Interface Cards.

## Eclipse TX Midnight

Compact Transport Controller

Eclipse TX is a basic transport and jog/shuttle controller for computer based applications. It's compact size lets you arrange your workspace to incorporate tablets, keyboards and other expansion options like the Eclipse MXL or Eclipse 24 Midnight.

It features JLCopper's custom optically encoded jog/wheel with concentric shuttle ring, professional transport buttons and 23 function keys, with white LED indicators. Optional Compact interface cards provide stand-alone flexibility for developers.

Supported in JLCopper Eclipse Ethernet Software for Mac.  
Requires 920444-4 (Compact) Ethernet Interface. (Supports TCPIP and UDP)

8 in  
20.32 cm



11.5 in  
29.21 cm



3.25 in  
8.255 cm

Weight  
6 lbs  
2.72 kg





# Eclipse 24 Midnight

## Tactile Command Palette

Eclipse 24 Midnight is a desktop controller for mission critical playback and control for broadcast automation, playout, production and other applications.

It features 24, next-generation, hi-res, RGB, remotely-releghendable 64 x 32 LCD keyswitches, 10 bank buttons, and 17 additional function and navigation switches.

The hi-res LCD keyswitches can display text up to 40 characters (multiple fonts) and graphics using built in command driven serial interfaces. Software controls the interface, display, and backlighting (64 colors). Data only needs to be transmitted when a change is made to the display or background colors.

Eclipse 24 Midnight can be used as a stand alone controller or it can be physically connected with other Eclipse Midnight units, including Eclipse MXL. Interfaces include built-in Ethernet (TCP/IP and UDP) and USB, along with optional serial connections.

New Eclipse Software for Mac offers enhanced support for Eclipse 24, allowing users to program custom controls for any applications.



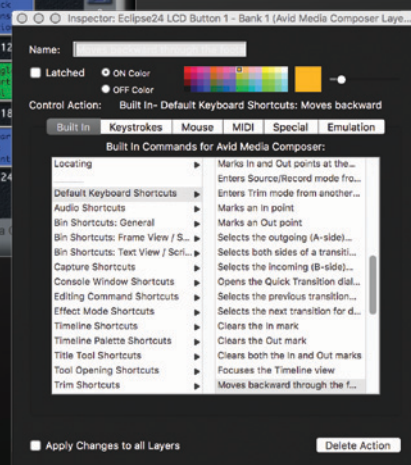
11.5 in  
29.21 cm



10 in  
25.4 cm  
Weight  
5.35 lbs  
2.42 kg



*New Eclipse 24 Software for Mac lets you customize it for use with ANY applications using built in messages, Keystrokes, Mouse Clicks MIDI and more! Keystrokes for Pro Tools, Final Cut X, Logic Pro and other Applications included.*



JLCooper has the most complete line of standard products using remotely releghendable LCD keyswitches.



## Eclipse MXL Midnight

*Fader Controller/Expander with LCD Buttons*

Eclipse MXL™ is our professional fader controller, featuring high-quality, touch-sensitive, 100mm motorized faders and high-resolution backlit LCD display buttons.

New for 2017 - we've updated the product with higher quality faders for better feel and improved reliability.

The LCD buttons can display 64 colors and up to 32 characters of text and graphics. Optional USB, 10/100 Ethernet, RS-232 and RS-422 compact interface cards provide connections to host systems. It displays channel labels, color coded track arming status and other mission critical information.

Eclipse MXL is supported by AVECO Astra Studio and MCR, LAWO (L-S-B) Virtual Studio Manager (VSM), Peavey MediaMatrix NWare, Sony ELC Enhanced Live Production Control System, Vizrt Viz Mosart Studio Automation and other advanced software applications.



Weight  
5.75 lbs  
2.62 kg



11.5 in  
29.21 cm



3.25 in  
8.255 cm

10 in  
25.4 cm

## Eclipse MXL2 Midnight

*Fader Controller/Expander w/LCD Buttons & Rotary Encoders*

Eclipse MXL2™ is our newest professional fader controller, featuring high-quality, touch-sensitive, 100mm motorized faders and high-resolution backlit LCD display buttons and push-button rotary encoders. Includes high quality faders with better feel and improved reliability.

The LCD buttons can display 64 colors and up to 32 characters of text and graphics. It can display channel labels, color coded track arming status and other mission critical information. Built in USB and Ethernet interfaces provide connections to host systems without the need for interface cards. Ethernet is TCP/IP and UDP compatible.

JLCooper  
Developer

Program provides engineering support, SDKs and protocol documents for all of our products.

Updated Eclipse Software for Mac supports Eclipse MXL and MXL2 with AVID Pro Tools, Apple Logic Pro, Waves eMotion LV1 and other applications.



Weight  
5.75 lbs  
2.62 kg



11.5 in  
29.21 cm



3.25 in  
8.255 cm

10 in  
25.4 cm



*Eclipse Products can be combined in various configurations to provide a custom tailored surface for your specific needs. Units are physically joined using the Eclipse Joiner. (See examples of joined Eclipse Midnight controllers below)*

**Eclipse Joiner - Midnight**  
(sold separately)



*Two Eclipse MXL units using one Eclipse Joiner*



*Eclipse 24, joined with two Eclipse MXL units, using two Eclipse Joiners*

## Unequalled Interfacing Flexibility

As you can see, JLCoper control products have a variety of interface types to work in many different applications. Some Eclipse Series units can interconnect using our internal bus with modular cable. Additional interface card slots provide you with the ability to adapt the controller to your requirements. Plug-in interface cards provide additional functionality with various applications that include direct support. Contact your JLCoper representative to discuss interfacing requirements for your specific applications.

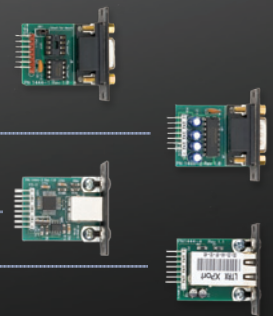
## Compact Interface Cards

920444-1 - Compact RS-422 Interface Card - This provides direct 9-Pin control of professional VTRs, DDRs and servers, or it can be used to interface your controller directly to a RS-422 serial port on your computer.

920444-2 - Compact RS-232 Interface Card - Lets your controller interface with computers, messaging systems or any device that can be controlled via RS-232.

920444-3 - Compact USB Interface Card - This compact interface card option allows convenient connection to computers via USB.

920444-4 - Compact Ethernet Interface Card - Provides a direct 10/100 Ethernet (TCP/IP or UDP) connection for controlling network-based applications. Simplifies connection to your computer or LAN, and keeps cable clutter to a minimum.



## Standard Interface Cards

### 920394 Ethernet Interface Card

This interface card provides a direct 10/100 Ethernet (TCP/IP) connection for controlling network based applications . It simplifies the connection to your computer or LAN, and keeps the clutter of cables to a minimum.

### 920467 USB Interface Card

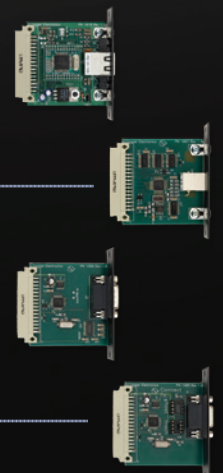
This interface card allows connection to computers via USB. It simplifies the connection to your computer. This card is supported in some special applications. Not supported on Eclipse CX with Davinci Resolve .

### 920466 RS-232 Interface Card

The addition of this plug in card lets you configure your Eclipse or other JLC product for direct computer control. Simply plug the interface card into one of the slots in an Eclipse and you're in control. Baud rate is adjustable.

### 920465 RS-422 Interface Card

This card provides direct 9-Pin control of professional VTRs and DDRs, or it can be used to interface directly to a RS-422 serial port on your computer. Commands from a host computer can be directed to the individual machines.





# Eclipse Software for Mac OS X

Mapping software for Mac allows Ethernet equipped units to control Cubase, Final Cut Pro X, Logic Pro, Media Composer, Premiere Pro, Nuendo and any other Mac software applications.

It provides context-sensitive Jog/Shuttle and user control of text displays and user mapping of controls in any software.

Our smart software driver knows which application is in the foreground and switches automatically for seamless control.

Enhanced support for Eclipse 24, Eclipse MXL/MXL2 and Eclipse MX make the Eclipse Midnight Series the most powerful programmable controller series for Mac.



## Eclipse PX - Surround Panning Joystick Controller

Eclipse PX combines a high-quality, three axis joystick with five touch-sensitive, push-button, rotary encoders, nine illuminated buttons and a three digit white LED display for indicating track number.

The controller can be connected to a computer, using its own built in 10/100 Ethernet interface (TCP/IP and UDP supported) or to some other Eclipse units via internal expansion port. It can be physically attached to other Eclipse units using Eclipse Joiner Kit.

Eclipse PX is functionally identical to the Nuage Panner and can be used to directly control surround mixing in Steinberg Nuendo and other applications.



3.25 in  
8.255 cm



11.5 in  
29.21 cm

Weight  
6 lbs  
2.72 kg

6 in  
15.24 cm

With its own custom software plug-in for Steinberg Nuendo, Eclipse PX provides precise control of all automatable surround automation parameters.

Controls include real time control and automation of Joystick X, Y, Global Divergence, Auto Orbit, Front Divergence, Rear Divergence, Center Distribution, Front-Rear Divergence, LFE Level, Manual Orbit and more.

Software developers can take advantage of the Eclipse PX as a stand alone unit or combine it with other Eclipse components to make a specialized controller for your specific needs.

Eclipse PX is also compatible with Pro Tools (Mac Only) and Logic Pro.

Direct support in Dolby ATMOS Tools 1.6.

New - Direct Support in Telos Alliance Linear Acoustic AMS - Authoring and Monitoring System





# SharpShot - Ultra-Compact Command Palette

SharpShot™ is an ultra-compact desktop controller with eight, hi-res, remotely-relegendable 64 x 32 LCD keyswitches along with one push-button, rotary encoder. The keyswitches display text (up to 40 characters) and graphics using built in command driven serial interfaces. They integrate a graphical LCD with RGB backlighting and are capable of displaying up to 64 colors. Software controls the interface, display and backlighting.

SharpShot is the perfect size for instant audio or video playback and control in broadcast automation and has many other possible specialized uses. It can alert users to changing operating conditions by showing different colors, text and icons. This enables a customized user interface that reacts instinctively to the task at hand. It helps users work faster and reduces the possibility of human error in critical applications. Its unique, compact shape fits anywhere and uses minimal space.

Other uses include control systems, automation systems, call centers, studios, boardrooms, financial services, telecom, industrial controls and more.

New SharpShot Software for Mac lets you customize it for use with ANY applications using built in messages, Keystrokes, Mouse Clicks, MIDI and more! Keysets for Pro Tools, Final Cut X, Logic Pro and other applications included. 920444-4 Compact Ethernet Interface Card Required for use with Mac software.

Our Developer Program provides engineering support, and protocol for all of our products.

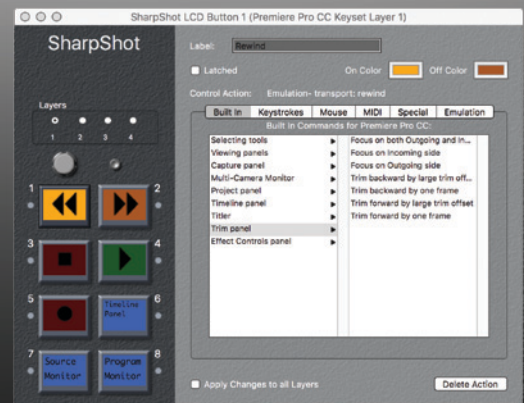


Weight - 1.25 lbs  
.57 kg

Length  
6.25in  
15.88 cm



2.88 in  
7.3 cm



*New SharpShot Software for Mac lets you customize it for use with ANY applications using built in messages, Keystrokes, Mouse Clicks, MIDI and more!*

*Keysets for Pro Tools, Final Cut X, Logic Pro and other applications included.*

2.25 in  
5.7 cm

Compact Interface Card for USB, Ethernet, RS-232 or RS-422 connection Available. (Optional Ethernet Interface Shown)



# VTC1

## Video Transport Controller



VTC1 is a compact remote for file-based recorders including: AJA Ki Pro/Ki Pro Rack, Ki Pro Ultra, ATOMOS Shogun Studio, Blackmagic Hyperdeck Studio/Studio Pro, Hyperdeck Mini, Datavideo HDR-60/70 DN-600/700, Video Devices PIX 250i/260i/270i, Sony XD Cam and other recorders. It works with most RS-422 VTRs.

It's small enough to fit in your pocket or toolbox, but tough enough to stand up to daily use in professional environments.

It provides remote control of standard transport functions like Play, Reverse Play, Still, Stop, Shuttle and automatically configures itself to provide clip browsing on AJA, Video Devices and other decks that support this feature. For most other machines, the Clip+/- feature provides a shortcut to quickly skip 10 seconds forward or back in time.

VTC1 is made with professional transport buttons and a durable steel enclosure and. It requires no external power supply, making it even more convenient and portable, and it quickly connects using integrated 3m 9-Pin/RS-422 cable.

- Compact Universal RS-422 Remote
- Play, Reverse Play, Still, Stop, Record, 2x, 4x, 8x, 16x Shuttle
- Supports Frame +/- With Most Recorders
- Professional Transport Buttons - Steel Enclosure
- No External Power Supply Required
- Supplied 3m cable
- Automatically configures for clip browsing on KiPro, Micron, Video Devices and other decks

- Controls Most Disk-Based Video Recorders Including:
- Blackmagic Design HyperDeck Studio/Studio Pro/Mini
- AJA Ki Pro, Ki Pro Rack, Ki Pro Ultra
- ATOMOS Shogun Studio
- Datavideo HDR-60/70 - DN-600/700
- Sony XDCAM Recorder/Players
- Video Devices PIX 250i, 260i, 270i
- Most Professional RS-422/9PIN VTRs



Weight  
.55 lbs  
.249 kg



.563 in  
1.43 cm

1.63 in  
4.14 cm

6.625 in  
16.82 cm



# MCS6 - Media Control Station



MCS6™ is a modernized and updated version of our popular MCS3 Media Control Station with a compact new enclosure style.

The familiar button layout and Jog/Shuttle is identical to the MCS3.

It features professional transport buttons for Record, Play, Stop, Fast Forward and Rewind. It has 18 physical buttons for a variety of editing functions and the V/Stick Navigation Control.

A precision, optically encoded jog wheel with a concentric shuttle ring lets you control audio or video effortlessly and with frame accuracy.

## Available Models (Specify When Ordering)

MCS6 USB w/ Software for Mac Only  
MCS6 RS-422/9-Pin for VTR Control

New Direct Support for MCS6 USB from wTVision, a leading company in sports statistics and real-time graphics.

"The addition of JKL shuttle control, a speed slider, key command sequences, and multiple keysets, make the MCS6 the controller of choice for Mac editing professionals."



MCS6 USB Universal Software for Mac

# MCS6

## MCS6 USB Version

Controls All Macintosh Applications

MCS6 USB lets you use and customize supplied keysets for advanced control of applications including Final Cut Pro X, iMovie, Premiere Pro, Pro Tools, Nuendo, Media Composer and others. MCS6 works with any Mac software program.

JLCooper controllers let you work faster by providing the tactile elegance that's missing from "mouse-based" user interfaces. Professionals can depend on JLCooper control products to provide reliable service that far outlasts plastic alternatives.

Developers can use our USB drivers for Mac and Windows to add custom direct control to your applications.



7.5"  
19.05 cm

Weight  
4 lbs  
1.82 kg



1.8"  
4.57 cm

5.4" - 13.72 cm



## MCS6 RS-422 Version

Universal 9-Pin Remote

MCS6 RS-422 makes operation of pro video recorders fast and easy. It features our custom, aluminum, optically-encoded Jog/Shuttle Wheel for years of trouble free use.

There's finally an alternative to large, costly and cumbersome remotes that consume valuable desktop real estate.

MCS6 is compatible with most professional recorders including AJA, ATOMOS, Blackmagic Design, Datavideo, Video Devices, BVW, UVW, DSR, DVW, HVR, DVCAM and other 9-pin equipped VTRs, DDRs and servers from Sony, Panasonic, FFV, Grass Valley and others.

Includes captive 3m cable and power supply.



# TransportPro

## Universal Video Controller

JLCooper's new TransportPro™ RS-422 makes remote operation of professional video recorders fast and easy. It's a cutting edge controller with an updated appearance and a sleek, low profile enclosure.

Controls Most Professional RS-422 File-Based Recorders including; AJA Ki Pro Rack, Ki Pro Ultra, Ultra Plus, Atomos Shogun Studio, BlackMagic Hyperdeck Studio, Hyperdeck Studio Mini, Video Devices Pix 250i, 260i, 270i, Sony XDCAM and more!

A next generation version of ES-450, it's a direct replacement for ES-450 J RS-422. It's compact design provides a 20% reduction in the footprint with same controls and spacing.

With innovative features including; automatic deck sensing, remote clip browsing and 2|4|8|16x shuttle buttons, it also includes our optically-encoded, all metal, jog/shuttle, for years of trouble free daily use.

A rear panel GPI connector acts as both a GPI in and out, connected in parallel with the transport and shift buttons. Also includes Kensington desktop cable lock compatibility.

TransportPro's functions are laid out for intuitive operation, without having to tediously scroll through menus to get to often accessed features. Functionality is at your fingertips with clearly labeled buttons and a natural-feeling key arrangement that helps you work efficiently.

Fast access to Forward Play, Reverse Play, Rewind, Fast Forward, Still/Stop, Shuttle Select, Frame +, Frame - and Clip +/- 10 Sec. are arranged in an array around the wheel in easy reach. Seven locates can easily be stored and recalled with the touch of a button.

TransportPro is the first choice for professionals in control!

TransportPro integrates with our new GangWay4™ for remotely controlling up to 4 Recorders/Channels (This combination replaces ES-450J2/J4, with identical functionality).



### TransportPro RS-422 Features..

- Professional Quality Compact Remote Control
- New Features for File-Based recorders
- GPI Input/Output for Transport and Shift Buttons
- Back-Lit LCD Time-Code Display
- Numeric Keypad Function for Time Code Entry
- Durable All Metal Construction
- 7 Easily Programmed, One Touch Locate Points
- New GangWay4 Compatibility - Control up to 4 Decks
- Supports clip browsing on AJA and Video Devices and other recorders that support this function.







## 4 Port RS-422 Gang Roll Switcher and GPI Trigger Box

GangWay4™ is a compact, 4 port RS-422 Gang Roll Switcher and GPI Trigger Box for controlling up to four video recorders.

Connect any RS-422 controller, like VTC1, MCS6, or TransportPro, with it's unique ability to remotely select GangWay channels.

GangWay4 has illuminated buttons for clear indication of enabled channels, "All" button and a Tally Select button.

Channel buttons also serve as transport controls, allowing you to control decks right from the front panel.

*Controls Most Professional RS-422 File-Based Recorders including; AJA Ki Pro Rack, Ki Pro Ultra, Ultra Plus, Atomos Shogun Studio, BlackMagic Hyperdeck Studio, Hyperdeck Studio Mini, Video Devices Pix 250i, 260i, 270i, Sony XDCAM and more!*

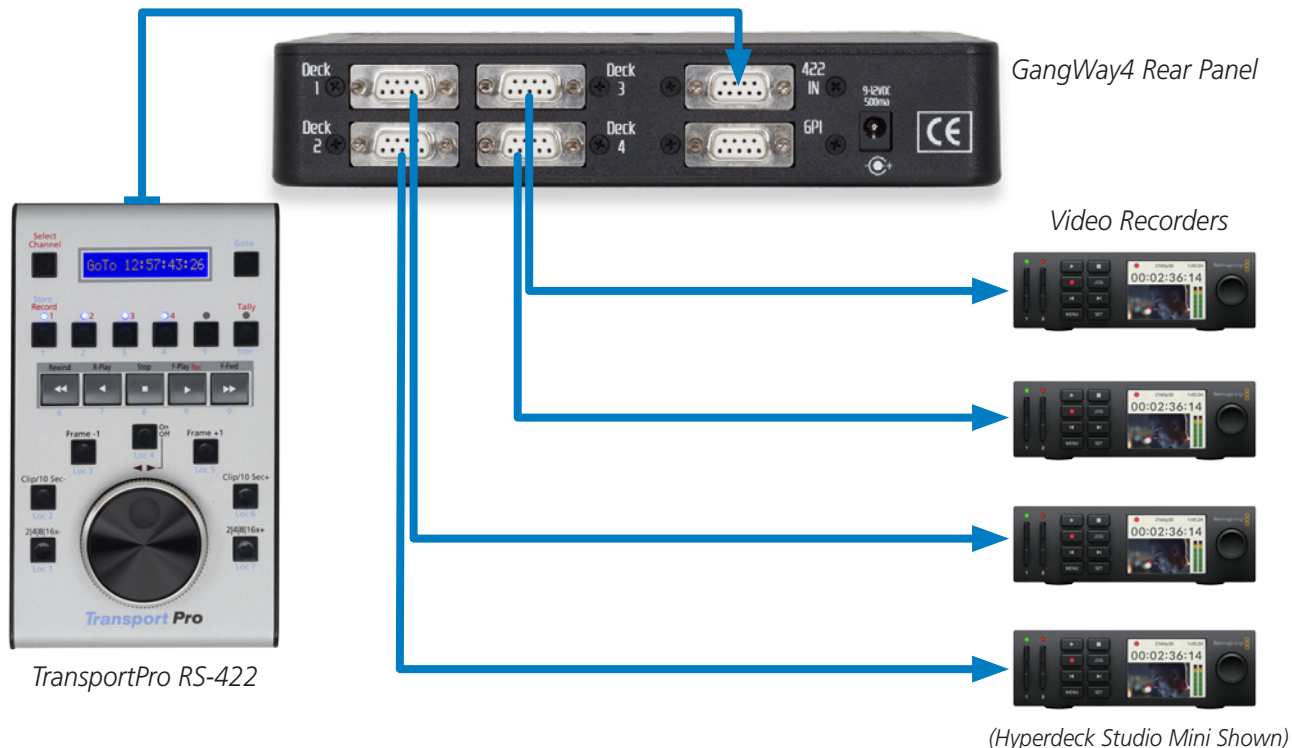
GangWay4 has 1 RS-422 Input, 4 RS-422 Outputs, and GPI I/O on rear panel 9-pin D-Sub connectors. For table top or rack use (1/2 single rack space).

See GangWay 16 and GangWay 32 for larger configurations.



**4 Port Gang Roll Switcher**

### Multi-Channel RS-422 Control





# SloMoPro

Universal SloMo Controller

**Two Versions Available!**  
**RS-422 and USB**

JLCooper's new SloMoPro™ is an updated version of ES-SloMo, in a sleek, low profile enclosure. This compact enclosure provides a 20% reduction in the desktop footprint with the same controls and spacing.

It features professional transport buttons, JLCooper's optically-encoded jog wheel with shuttle ring, a high-quality T-Bar for slomo, shuttle and variable speed play, an easy to read 2 x 16 VF display, full size numeric keypad, fast access function keys and high-quality VF display.

The addition of rear panel GPI outputs provide transport and shift GPIs. Enclosure is Kensington cable lock compatible.



*SloMoPro RS-422 Rear Panel*

## SloMoPro RS-422

### *SloMoPro Control Surface with RS-422 Interface*

SloMoPro™ RS-422 is a next generation controller (a direct replacement for ES-SloMo J RS-422) with an updated appearance and a sleek, low profile enclosure. The compact enclosure allows a 20% reduction in desktop footprint with same controls and spacing.

It makes simultaneous control of up to four professional file based video recorders lightning fast and easy. One Touch Instant Replay, Deferred Replay and In/Out Replay modes simplify operations so that even inexperienced operators can get reliable and consistent results with minimal training. It's the perfect controller for remote trucks, sports facilities, game review, studio and other applications.

*Controls Most Professional RS-422 File-Based Recorders including; AJA Ki Pro Rack, Ki Pro Ultra, Ultra Plus, Atomos Shogun Studio, BlackMagic Hyperdeck Studio, Hyperdeck Studio Mini, Video Devices Pix 250i, 260i, 270i, Sony XDCAM and more!*



It provides Odetics seamless clip playout functions for use with compatible servers. Browse Clips and view Clip Names with Aja Ki Pro and other decks. GangWay integration provides remotely selectable control of up to 16 or 32 recorders or server channels!



*SloMoPro RS-422 includes a 10' quad snake to minimize desktop clutter.*



### SloMoPro RS-422 Features...

- Mark In and Out Keys to Quickly Store Cues
- Assemble, Insert, Crash and Disable (Lock Out) Editing Modes
- Store up to 1000 Cues or 500 In and Out Points with Vari-speed
- T-Bar for slow motion control - sends Shuttle, Jog or Variable Play
- T-Bar Programmable - Min-Max, Preset Speeds, Active or Passive
- Variable Replay Speeds
- Programmable Cueing Modes - Automatic Play All Cues Function
- Two User Assignable Buttons
- Global Record Lock

### SloMo & GangWay Together = SloMo + Gang Roll Power

GangWay16 and GangWay32 are multi-port RS-422 Gang Roll Switchers/GPI Trigger Boxes. SloMoPro RS-422 and SloMo Mini RS-422 can interface directly with GangWay to provide simultaneous control of up to 32 RS-422 recorders or server channels. GangWay's port assignments are remotely controlled and indicated on the SloMo display.

SloMoPro RS-422 and GangWay are the perfect low cost alternative to overpriced control systems costing thousands more!

- Gang Roll Any Combination of Decks/Channels
- Fast Access Front Panel Enable/Disable All Button
- Three Preset Channel Groups
- Front and Rear Mounted RS-422 Ports Standard
- Built In GPI/Tally Inputs and Outputs on GangWay Models



9 in  
22.86 cm

2.25 in  
5.72 cm

Weight  
4.2 lbs  
1.90 kg



9 in  
22.86 cm

ES-SloMo shown for Size Comparison



SloMoPro RS-422 Side View

## SloMoPro USB

### SloMoPro Control Surface with USB Interface

JLCooper's new SloMoPro™ USB is a next generation version of ES-SloMo (it's a direct replacement for ES-SloMo J USB) with an updated appearance and a sleek, low profile enclosure. The compact enclosure provides a 20% reduction in the desktop footprint with same controls and spacing.

SloMoPro™ USB is a control surface for computer-based Slow Motion applications. It's a compact controller for emote trucks, sports facilities, game review, studio and other applications. Its compact design and low cost, make it the perfect addition to edit suites, remote trucks, sports facilities and other applications.

SloMoPro™ USB has professional transport buttons, JLC's custom, optically-encoded jog wheel with shuttle ring, a high-quality T-Bar for slomo, an easy to read 2 x 16 VF display, full size numeric keypad and fast access function keys.

The new addition of GPI outputs on a rear panel 9-pin sub-D connector provides GPIs for transport and shift buttons. Kensington desktop cable lock compatible, Built in USB Interface, USB Powered.

Developers and OEMs can easily build direct support into your applications.



SloMoPro USB Rear Panel

SloMoPro™ USB is directly supported by 3rd party applications including Dalet BRIO3 Server, Intel True View and vMix Replay.





# SloMo Mini RS-422

*Four Channel Instant Replay Controller*

- New Automated Replay Features!
- One Touch Replay with Hyperdeck & KiPro
- Browse Clips and View Clip Names

SloMo Mini's small footprint and low cost makes it perfect for sports, scoreboard, trucks, transfer, QC, dubbing and other editing operations.

It makes precise control of professional servers, file-based recorders and VTRs incredibly fast and easy.

Features include illuminated transport buttons, Optical Jog Mechanism, High-Quality T-Bar, Backlit LCD Display, Numeric Keypad & Fast Access Function Keys.

New One Touch Replay, Deferred Replay and In/Out Replay modes simplify SloMo operation, so even inexperienced operators can get reliable and consistent results with minimal training.

Expandable by connecting SloMo Mini™ to GangWay for remote control of up to 16 or 32 decks/channels!

**Controls... AJA Ki Pro, Ki Pro Rack, Ki Pro Ultra, Ultra Plus, ATOMOS Shogun Studio, BlackMagic Hyperdeck Studio, Studio Pro, Mini, Video Devices Pix 250i, 260i, 270i Sony XDCAM and Most Professional RS-422 VTRs, Servers and File Based Video Recorders!**

- Simultaneous Control of up to 4 RS-422 Video Decks and file-based Video Recorders
- Quickly store up to 1000 Cues - 500 In and Out Points with Varispeed
- T-Bar for Dynamic Slow Motion - Sends Shuttle, Jog or Variable Play
- Programmable T-Bar Min-Max, Preset Speeds, Active or Passive Modes
- Improved Operation with ATOMOS Shogun Studio
- Log Operation useful in QC Applications
- Ultra Compact Design Saves Desk Space
- Durable All Metal Construction
- JLCopper Optical Jog Wheel
- Host Mode for Developers (ES-SloMo Code Compatible)



Included 10' (3m) quad snake/power cable minimizes desktop clutter.



3.75 in  
9.53 cm



7.75 in  
19.69 cm

7.5 in  
19.05 cm

Weight  
2.1 lbs  
1.70 kg



# SloMo + GangWay Together = 16 to 32 Channel SloMo + Gang Roll Power



SloMoPro RS422 and SloMo Mini RS-422 make precise control of professional video recorders incredibly fast and easy.

They're awesome all by themselves for up to four channels, but what if you want to control more channels?

Enter GangWay16 and GangWay32, easy-to-use Gang Roll Switchers.

GangWay provides the connections necessary for controlling additional recorders/channels. Their front panels include lighted buttons for clear indication, as to the status of each machine.

SloMoPro and SloMo Mini interface directly with GangWay to provide simultaneous control, using the GangWay as the machine interface. GangWay's port assignments are remotely controlled and indicated on the SloMoPro and SloMo Mini displays.

SloMoPro/SloMo Mini and GangWay combine to form the largest and most advanced control systems we've ever created.

SloMoPro/SloMo Mini and GangWay are the perfect low cost alternative to overpriced control systems costing thousands more.

See additional GangWay details on page 33.

## GangWay + SloMo Features

- Control of up to 32 VTRs, DDRs or Server Channels
- Controls a Wide Range of recorders including Hyperdeck, KiPro and other file-based recorders
- Dynamic Slow Motion Replays
- Programmable T-Bar Behavior
- 16 Variable Replay Speeds
- Mark In & Mark Out Keys to Quickly Store Cue Points
- 1000 Cue Points or 500 In and Out Points w/Varispeed
- Assemble, Insert, Crash and (Lock Out) Editing Modes
- Programmable Cueing Modes
- Global Record Lock Feature
- Two User Assignable Buttons
- Integrated 10' (3m) Detachable, Quad Snake/Power Cable, with Recessed Connector to Minimize Desktop Footprint and Cable Clutter



## SloMo Mini USB

### SloMo Control Surface with USB Interface

SloMo Mini USB is our newest Slow Motion controller. It's virtually identical to the RS-422 Version, but with a built in USB interface, instead of RS-422, for working with computer-based applications. It's USB powered.

SloMo Mini USB features include Illuminated Transport Buttons, Optical Jog Mechanism, High-Quality T-Bar, Backlit LCD Display, Numeric Keypad and Fast Action Function Keys.

Developers can easily build direct support into your applications. Use SloMo Mini USB as your front end controller.

SloMo Mini USB is functionally identical to ES-SloMo J USB and is compatible with 3rd party applications including Dalet BRIO3 Server, Intel True View, and vMIX Replay.



SloMo Mini USB Rear View



# SloMo Elite - Video Server Controller



ELITE-SM-JLLHN model w/JLC Jog/Shuttle & Dual Color LED Relegendable Keyswitches

SloMo Elite is a new Sports/SloMo control surface, expressly made for software developers and OEMs. New options include Hall effect T-Bar with 10 bit resolution (1024 steps) and Electro-Magnetic Jog Wheel.

Its advanced design provides an incredible number of configuration options, without any of the costs normally associated with developing hardware, by allowing us to create custom configurations using standard parts.

It's packed with every possible feature we could think of, plus future upgrade capabilities. It closely integrates with your proprietary software, creating an elegant and complete control package. Virtually every aspect of the product can be customized to your precise needs.

This is a complete controller, built for speed and designed to withstand the rigors of daily use in broadcast, sports, instant replay, scoreboard and other applications.

Contact JLC Cooper today for additional configuration, customization options, protocol, development documents and other details.



Weight  
7.35 lbs  
3.34 kg



11.5"  
29.21 cm



3.25"  
8.255 cm

13.5" - 34.29 cm



*ELITE-  
SM-J66HN  
with Jog/Shuttle Mechanism &  
NKK Remotely Relegendable  
LCD Keyswitches*



*ELITE-  
SM-O66HN  
with Jog Only  
Mechanism & NKK  
Remotely Relegendable  
LCD Keyswitches*

#### Options Include...

- Precision, Professional Quality Components
- New Hall effect T-Bar with 10 bit resolution (1024 Steps)
- Dual Color LED Relegendable or NKK LCD Remotely Relegendable Compact Hi-Res 64 x 32 Pixel, RGB Backlit Keyswitches (either group of 5 switches can be LED or LCD Type)
- 4.5" x 2.5" LED Backlit White Graphic Display, 240 x 128 pixels
- Jog/Shuttle Options; New JLC Electro-Magnetic Jog Wheel, JLC Jog/Shuttle, JLC Tall Jog Only Knob w/Rubber Cap
- New Tri Color LED Relegendable Keyswitches
- USB 2.0 Full Speed - Drivers for Windows and Mac OS
- USB Serial Port Emulation
- Both USB and 10/100 Ethernet Interface (Standard)
- Supports TCP (Client/Server) & UDP - Static or DHCP Configuration
- Custom finishing and silkscreen available for quantity orders
- Internal international switching power supply (Standard)
- Field Software Updates can be installed via USB or Ethernet

#### SloMo Elite Standard Models...

*SloMo Elite with Re-Legendable LED Illuminated Buttons*

ELITE-SM-JLLHN SloMo Elite with JLC Cooper Optical Jog/Shuttle

ELITE-SM-OLLHN SloMo Elite with JLC Cooper Optical Jog Only mechanism

ELITE-SM-ELLHN SloMo Elite with JLC Cooper Electro-Magnetic Jog mechanism

*SloMo Elite with Remotely Re-Legendable Hi Res 64 x 32 RGB LCD Buttons*

ELITE-SM-J66HN SloMo Elite with JLC Cooper Optical Jog/Shuttle

ELITE-SM-O66HN SloMo Elite with JLC Cooper Optical Jog Only Mechanism

ELITE-SM-E66HN SloMo Elite with JLC Cooper Electro-Magnetic Jog mechanism



# SloMo Elite-C (Compact) Video Server Controller

The SloMo Elite-C is a new, physically smaller version of our SloMo Elite, Sports/SloMo control surface, expressly made for software developers and OEMs.

This third generation control surface consumes 33% less counter space. It retains full size controls and buttons, arranged in a compact and familiar layout, making it perfect for remote trucks and other locations where space is at a premium.

A new Electro-Magnetic Jog Wheel includes a host controlled brake that prevents accidental jogging when not in use and provides for Dynamic De-tents. Other Jog Wheel Versions J and O are also available.

Elite-C is the first JLC Cooper product to incorporate our new Hall effect T-Bar, with superior strength and increased 10 bit resolution (1024 steps).

## SloMo Elite-C Models...

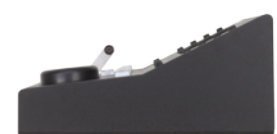
ELITE-C-ELLHN (Model as shown with Electro-Magnetic Jog Wheel (shown))  
 ELITE-C-JLLHN (Model as shown with JLC Cooper Jog/Shuttle)  
 ELITE-C-OLLHN (Model as shown with JLC Cooper Jog Only Wheel)

- Precision, Professional Quality Components
- 4.5" x 2.5" LED Backlit White Graphic Display, 240 x 128 pixels
- Jog/Shuttle Options; New JLC Electro-Magnetic Jog Wheel, JLC Jog/Shuttle, JLC Tall Jog Only Knob w/Rubber Cap
- New Tri Color LED Relegendable Keyswitches
- New Hi-Res 10 Bit Hall Effect T-Bar Mechanism (1024 Steps)
- USB 2.0 Full Speed - Drivers for Windows and Mac OS
- USB Serial Port Emulation
- Both USB and 10/100 Ethernet Interface (Standard)
- Supports TCP (Client/Server) & UDP - Static or DHCP Configuration
- Custom finishing and silkscreen available for quantity orders
- Internal international switching power supply (Standard)
- Field Software Updates can be installed via USB or Ethernet

SloMo Elite-C closely integrates with your proprietary software to create an elegant and complete Slow Motion control package.

It's a completely new product, built for speed and designed to withstand the rigors of daily use in broadcast, sports, instant replay, scoreboard and other applications. It has built in USB and Ethernet Interfaces supporting TCP/IP (Client/Server) and UDP (Static or DHCP) configuration.

Contact JLC Cooper today for complete customization options, protocol, developer documents and other details.



Weight  
4.6 lbs  
2.09 kg

33% SMALLER



Standard SloMo Elite shown for Size Comparison

# ATLAS

## GPI Smart Matrix

Lets Incompatible GPI Devices Work Together  
 "It's a must-have for every broadcast facility and remote truck"  
 Featuring Boolean Logic Output Processing



### GPI/Tally Programmable Crosspoint Switch Matrix and Logic Processor

Atlas™ is Highly Programmable Crosspoint Smart Switch Matrix and Logic Processor for GPI and Tally.

It's the ideal solution for correcting any GPI/Tally interface incompatibility, in that it provides a variety of connections and a number of methods of modifying them to perfectly suit the task at hand.

#### Inputs

Atlas offers 24 TTL/CMOS compatible inputs with internal pull-ups to +5 volts and referenced to ground on 25 pin D-sub connectors.

It also has 24 parallel, Opto-isolated inputs, on high density, removable, terminal block screw connectors.

#### Outputs

The D-sub GPI Out connector has 24 TTL/CMOS compatible outputs and there are 24 electrically isolated dry relay outputs on high density, removable, terminal block screw connectors.

CMOS GPI outputs can deliver 0 to 5 volts at up to 6 mA and referenced to ground.

Relay Outputs can handle up to 500 mA @ 200 VDC max.

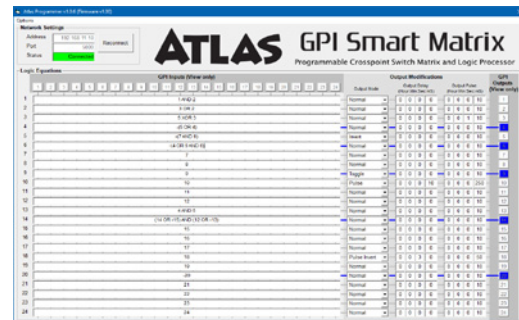
Opto-isolated inputs and Relay outputs use high quality removable Weidmüller terminal block connectors (pairs).

Modification of output characteristics include inversion, delay (up to 999 minutes with millisecond resolution) and pulse (up to 999 minutes with millisecond resolution).

Program and review all functions using front panel controls and 2 x 40 backlit LCD or via free software application for Mac and Windows.

It's ideal for broadcast television, streaming media networks, broadcast video editing facilities, news production, alert systems, monitor switching or in any audio/video/multimedia studios and more.

Includes internal universal switching power supply with detachable IEC connector and cable.



#### Atlas Software for Windows

Remotely view, edit, load and save all of Atlas Logic Equations and Output Modifications (including delay and pulse width) for all 24 GPI outputs. To change the output behavior, simply type the logic equations or output modifications in the appropriate text boxes. As you move between the text boxes, the software will automatically update the appropriate setting in the Atlas.



Atlas GPI Smart Matrix Rear Panel

#### Connections

Interfacing options include CMOS In to CMOS Out, CMOS in to Relay Out, Opto-Isolator In to CMOS Out and Opto-Isolator In to Relay Out functionality.

#### Logic Processing

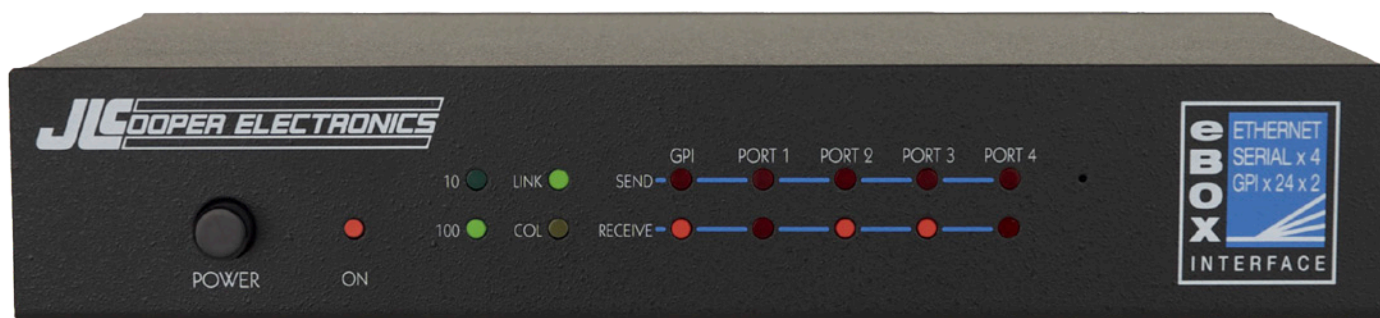
Outputs can be programmed to use a boolean expression of input or inputs including functions AND, OR, and XOR, with inversion of inputs and/or outputs.

#### Atlas GPI Smart Matrix Features

- 24 CMOS GPI Inputs and Outputs
- 24 GPI Opto-Isolated Inputs
- 24 GPI Relay Outputs
- Built In USB and 10/100 Ethernet
- 99 Memory Presets
- Software for Mac and Windows
- 2 x 40 Vacuum Fluorescent Display
- Detachable terminal strip connectors
- Front panel power switch
- Single 19" rack space
- Heavy duty rack enclosure
- Dimensions 19" x 1.75" x 3.87"
- Weight 3.25 lbs



# **EBOX** - Quad Serial / Ethernet / GPI Interface



eBOX is a 10/100BASE-T (Ethernet) to Quad RS-232/422 (9-Pin) and GPI/Tally hardware interface.

It acts as a portal for controlling devices across your facility or across the world.

It eliminates information bottlenecks and overcomes distance limitations typically inherent to serial communication.

It simplifies long distance cabling by using IP addressable, point-to-point architecture to send control messages over existing 10/100 BASE-T wiring.

eBOX features 4 serial connectors, activity LED's, 24 GPI Inputs and 24 GPI Outputs as a standard feature (Tally or General Purpose Interface - facilitates switch closure control).

It's ideal for LAN, WAN and Internet control of VTRs, DDRs, switchers, computer based editing systems, cameras, projectors and other devices that use RS-232/422 (9-Pin) and GPI.

Commands from a host NLE, Browser or RS-422 switcher/controller are directed to individual devices on the network.

This allows broadcast or networked facilities to control distant machine rooms from a facility's central server.

eBOX is ideal for broadcast television, streaming media networks, multi-room editing facilities, news production, alert

systems, monitor switching or in any audio/video/multimedia studio where remote hosts need to control devices over long distances or via the Web.

Host to eBOX, eBOX to host and eBOX to eBOX communication is possible. An unlimited number of units can be addressed.

eBOX can also be used as an IP remote RS-422 interface, controlled by ES-450 Je controllers.

JLCooper's Developer Documentation provides comprehensive tools for software developers to link Visual Basic, C++, HTML or embedded devices for direct control of any device connected to any eBOX.

eBOX converts 4 serial ports and 24 GPI (General Purpose Interface and Tally) inputs and 24 GPI outputs to 100/10 baseT Ethernet.

The serial ports can be configured in the field to appear as EIA/TIA RS-232E and CCITT V.28 or as EIA/TIA RS-422A, RS-423 and Federal Standards 1020 & 1030 ports. Additionally, the port direction can independently be configured as DTE or DCE.

eBOX is directly supported by Chyron Hego (Vidigo Live), Click Effects, Ensemble Designs (Avenue), Imagine Communications, Newtek (Tricaster), Yamaha (Nuage version 1.7 or newer),

and other professional broadcast applications.

eBox communicates over standard TCP/IP which allows it to be used with any host computer. With TCP/IP, traffic can be routed over internal LANs, wireless LANs, MANs, WANs and even over the Internet.

Configurataion is accomplished through a software application for Mac and Windows. Items such as port speed, parity, IP address, remote IP address and TCP port are set using supplied software. Settings are stored in nonvolatile memory.

## **eBOX Features**

- Four 9-Pin D Sub Serial Connectors
- Two 24Pin D Sub GPI Connectors
- RJ-45 Ethernet Connector
- LAN, WAN or Internet Control
- Ultra Low Latency < 20 ms
- 1/2 of a single 19" Rack Space
- Use with eBOX io and sBOX
- Dimensions 8.5" x 4.7" x 1.75"
- Weight 3 lbs.

Typically, the eBOX functions as a server, passively waiting for client devices to connect to it. The device can be a computer or another eBOX configured as a client. When the eBOX is configured as a client, it will actively attempt to connect to the server eBOX. Once accomplished, eBOX will then pass data received in the serial or GPI ports to the remote eBOX. If there is no data received, eBOX will not send any TCP packets.

### Ethernet

This eBOX port is just like an Ethernet port on a computer, and can be connected to a hub, switch or router.

eBOX supports IEEE 802.3u clause 28 Auto-Negotiation which automatically senses the Ethernet port speed & duplex operation and chooses the highest performance settings. Front panel LEDs indicate various operating conditions of the Ethernet connection.

### Serial

The four serial ports along the top of the rear panel are 9 pin D-Sub connectors which can be configured for RS-232C or RS-422A operation.

In RS-422 mode, eBOX direction can be configured to appear as a Controller or a Device. In RS-232 mode, the eBOX appears as a DCE or DTE.

### GPI

The GPI ports on the rear of the eBOX are 25 pin D-sub connectors. The GPI In connector has 24 TTL/CMOS compatible inputs with internal pull-ups to +5 volts.

The GPI Out connector has 24 TTL/CMOS compatible outputs. On both connectors, pin 1 is the ground reference and pins 2-25 are the GPI signals.

When eBOXes connected together in a client/server manner establish a connection, both client and server will send the state of its GPI In ports to each other so it can be shown on the GPI Output port on the remote eBOX.

After that, only changes to a GPI In port will cause an eBOX to send a GPI message

to the remote eBOX. A packet/keep alive message is sent every 5 seconds.

### GPI to Serial Converter

eBOX can act as a GPI to Serial convert-



eBOX Rear Panel

er. Each of the 24 GPI Inputs can be assigned to send P2 or Odetics Commands. Assignments are retained in non-volatile memory. Basic tally back information is provided via GPI outputs.

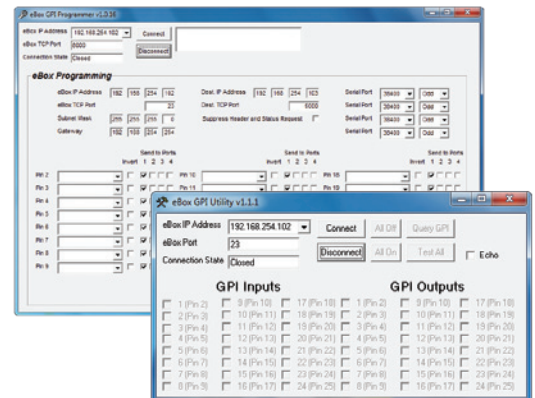
### GPI /Serial to Ethernet Converter

eBOX can also work as an interface for GPI or serial. eBOX supports older P2 controllers via LAN, WAN and Internet.

### Security

EBOX contains a basic security mechanism that prevents unintended hosts

from passing data through a secured eBOX. A password is set on the configuration page and stored in nonvolatile memory. When password protection is enabled, eBOX embeds the password in the transmitted IP packet. At the remote end, the receiving eBOX must have password protection enabled and be programmed with a matching password.



eBOX GPI Programmer & Utility for Windows

## eBOX - Remote Software for Mac

JLCooper Electronics announces the eBOX Software for Mac OSX. This software provides real time control of eBOX features using the Mac mouse and keyboard. It allows your Mac to become a powerful GPI controller for triggering any external switched or serially controlled devices.

Software like Final Cut Pro X, Soundtrack Pro, Logic, Pro Tools, Cubase, Nuendo and others can take advantage of eBOX to automate control of external devices, including RS-422 tape machines, DDRs & others.

- Trigger GPIs and Transport functions from any Mac
- Live Mode lets you click on-screen buttons to trigger 24 GPI Contacts
- GPI Inputs can be mapped to key command for remote control of Mac software features
- Mapping of key commands to control Transport functions on Serial Outputs
- GPI Activity Indicators for Real Time Monitoring of GPI Activity
- Map computer keys to control GPI Outputs
- On-Screen Transport Controls for each of the 4 Serial Outputs
- Remotely Configurable, Off-Location Setup
- Add Delays to precisely control Macro timing
- Gang Roll of up to 4 RS-422 or RS-232 Ports
- 8 GPI Presets

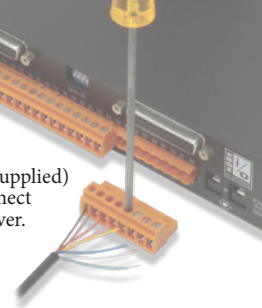




# EBOX io - Real World Interface

Add Relay outputs and opto-isolated inputs to eBOX and gBOX

Removable connectors (supplied) make it easy to connect with just a screwdriver.



eBOX io is a companion to eBOX and gBOX. It converts 8 GPI outputs to electrically isolated, relay outputs. The eBOX io also accepts 8 GPI inputs via opto-isolated inputs.

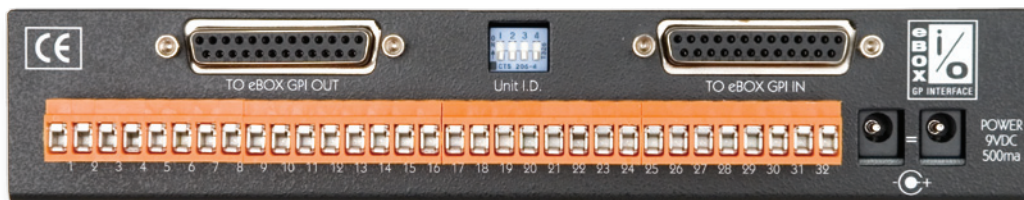
eBOX and gBOX GPI inputs and outputs are CMOS compatible circuits. The CMOS GPI inputs require that the input signals be 0 to 5 volts and referenced to ground. The CMOS GPI outputs can deliver 0 to 5 volts at up to +/- 6mA and referenced to ground.

In most cases, this will be compatible with your equipment, however, in some cases, equipment may not be compatible with 0 to 5 volts. In this case, the eBOX io can be added.

Each eBOX io buffers 8 inputs and 8 outputs. Inputs are buffered with an optoisolators and outputs are buffered with a dry relay contacts.

All connections are made on the rear panel via detachable Weidmüller terminal block connector with screw terminals. Front panel LEDs indicate status for easy monitoring. eBOX io is a half rack unit and fits alongside eBOX in a single rack space. It can be rack mounted using "JLC-RACKTRAY" shown below

eBOX io comes with a pair of cables that allow you to connect a single eBOX io to an eBOX or gBOX. Up to 3 eBOX io's can be cascaded to convert 24 eBOX GPI inputs and outputs. To connect two or three eBOX io's to a single eBOX, order the optional "EBOX-I/O-EXPCAB Kit", which includes a pair of special cables as shown below.



eBOX IO Rear Panel



eBOX IO EXPCAB Kit



JLC-RackTray

## eBOX io Dimensions

- Dimensions 8.5" x 4.7" x 1.75"
- Weight 3 lbs.



Optional eBOX IO EXPCAB Kit includes a pair of cables to cascade up to three eBOX IO units with eBOX or gBOX.

# eBOX GPI8 Ethernet IP/GPI Interface - 8 Opto-Isolated Inputs/8 Relay Outputs



eBOX GPI8 is a simpler, lower cost eBOX, with eBOX IO connections built in and no serial ports. Works with Chyron Hego, Newtek and others.

eBOX GPI8 is a portal for controlling devices across your facility or across the world. It's a general purpose interface that converts 8 GPI inputs and outputs to 10/100 Ethernet. For compatibility, it uses the same messages as the original eBOX and it's fully compatible with eBOX and sBOX. Think of it as a simpler eBOX without the serial ports, with eBOX IO functionality built in.

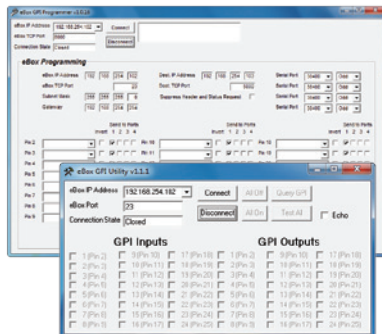
Detachable Weidmüller terminal block connectors provide 8 optically-isolated GPI Inputs and 8 dry relay outputs. It includes parallel CMOS level GPI inputs with internal pull-ups to +5volts and GPI output ports on 25 pin D-sub connectors. It's ideal for LAN, WAN and Internet control with switchers, computer based systems, cameras, monitors, projectors and other devices.



eBOX GPI8 Rear Panel

eBOX GPI8 is the perfect solution for broadcast television, streaming media networks, multi-room editing facilities, news production or in any audio/video/multimedia studio where remote hosts need to control devices with GPI and Tally over long distances, or via the Internet.

It simplifies long distance control by using IP addressable, point-to-point architecture to send GPI messages over existing 10/100 BASE-T wiring. Host to eBOX, eBOX to host, or eBOX to eBOX communication is possible.



It communicates using standard TCP/IP. Traffic can be routed over internal LANs, wireless LANs, MANs, WANs and over the Internet.

Configuration is accomplished through a provided Windows application. Parameters such as port speed, parity, IP address, remote IP address and TCP port are set. Settings are stored in nonvolatile memory.

When eBOXes establish a connection, both client and server will send the state of its GPI In ports to each other so it can be shown on the GPI Output port on the remote eBOX. After that, only changes to a GPI In port will cause an eBOX to send a GPI message to the remote eBOX.

It supports IEEE 802.3u clause 28 Auto-Negotiation which automatically senses the Ethernet port speed & duplex operation and chooses the highest performance settings. Front panel LEDs indicate GPI and Ethernet status.

The unit functions as a server, passively waiting for client devices to connect to it. The device can be a computer or another eBOX configured as a client. When the eBOX is configured as a client, it will actively attempt to connect to the server eBOX. Once accomplished, eBOX will then pass data received in the serial or GPI ports to the remote eBOX. If there is no data received, eBOX will not send any TCP packets.



Rear Panel Terminal Block

Physical connections are easily accomplished using supplied high density, removable, terminal block screw connectors with 8 opto-isolated, inputs. The GPI output connector has 8 electrically isolated dry relay outputs.

Parallel CMOS level GPI inputs with internal pull-ups to +5 volts and GPI output ports are available on 25 pin D-sub connectors.

JLCooper's Developer Documentation provides comprehensive tools for software developers to link Visual Basic, C++ or embedded devices for direct control of any device connected to any eBOX.





# gBOX - GPI Trigger Box



gBOX is a general purpose interface that converts up to 48 GPI (General Purpose Interface) or Tally inputs and outputs into 100/10baseT Ethernet, USB or to a serial interface.

Up to 8 gBOXes may be slaved to a master gBOX to convert up to a total of 432 GPI inputs and outputs.

It's an economical and professional GPI interface for computer-based automation and control systems. gBOX provides a portal for controlling devices across your facility or across the world.

gBOX can also be remotely connected to other gBOX units to allow longer runs than traditional GPI cables. Since gBOX typically uses TCP/IP, traffic can be routed over internal LANs, wireless LANs, MANs, WANs and internet.

It's ideal for LAN, WAN and Internet control with switchers, computer based switching and monitoring systems, cameras, video monitors, projectors and other devices.

It's the perfect solution for broadcast television, streaming media networks, multi-room editing facilities, news production or in any audio/video/multimedia studio where you need to transfer a large number of GPI contacts over long distances.

When the gBOX has a "Standard" JLC Cooper P/n #920394

When configured as a server, it passively waits for client devices to connect to it. The device can be a computer or another gBOX configured as a client.

When gBOX is configured as a client, it will actively attempt to connect to the server gBOX. Once this is accomplished, the gBOX will pass data received in the serial or GPI ports to the remote gBOX. If there is no data received in the gBOX, the gBOX will not send any TCP packets.

When the gBOX has a serial Interface installed, it has just one distinct mode of operation. This is GPI to serial conversion.

When the gBOX has an Ethernet or serial interface installed, it is a master unit, which communicates directly with another master unit or host computer. gBox works with optional eBOX io to provide opto-isolated inputs and relay outputs.

gBOX features 48 TTL/CMOS compatible GPI Inputs on 25 Pin D-sub connectors with with internal pull ups to +5 volts, 48 TTL/CMOS compatible GPI Out connectors, rear panel power switch, locking power connector and universal switching power supply.

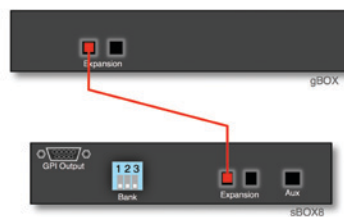
Connect with our sBOX8D or sBOX 8R - Remote Trigger Boxes using the included modular expander cable, for convenient, relegendable, hot buttons to trigger GPI Outputs.



gBOX Rear Panel

Ethernet Interface installed, it has two distinct modes of operation that are set by the rear panel DIP switches. It functions as either a server or client using standard TCP/IP messages.

An ethernet equipped gBOX communicates over TCP/IP which allows it be used with any host computer running any operating system that uses TCP/IP protocol.



Connecting an gBOX to an sBOX8

## Interface Card Required

920394 - Ethernet Interface Card  
920467 - USB Interface Card  
920466 - RS-232 Interface Card  
920465 - RS-422 Interface Card

gBOX with 920394 Ethernet Interface is Directly Supported by Anvato, a World Class Google Cloud Platform Company.

## sBOX8D Desktop Version Remote Trigger Box for gBOX & eBOX



The compact sBOX8D nestles comfortably behind your computer keyboard or other desktop equipment.

sBOX8D and sBOX8R can be used either as ready-to-use, stand-alone, GPI/tally trigger boxes or as companion GPI controllers for eBOX, eBOX GPI8 and gBOX. They provide a convenient user interface with illuminated user re-legenable buttons.

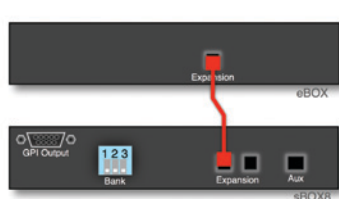
When used alone, sBOX controls 8 internal CMOS level GPI outputs.

Connect sBOX to eBOX, eBOX GPI8 and gBOX as a simple, relegendable remote, to trigger GPI /tallys over LAN or over the internet. You can also use sBOX with eBOX to trigger the sending of user programmed serial or ethernet messages. (See our guide to using eBOX with Blackmagic Design Multiview 16, for example.)

For flexibility, an sBOX can be configured to bank switch among up to 3 groups of 8 GPI outputs with eBOX, or it can be configured to address a fixed bank of 8 GPI outputs.

Multiple sBOXes can be chained together to form larger user interfaces or to allow for multiple control areas. The expansion cable that connects the sBOX to either the eBOX or gBOX carries the data signals and power, so separate power supply is not required for the sBOX. A "PS-sBOX" power adapter is available and sold separately, for stand-alone power for sBOX.

sBOX features 8 LED backlit buttons, an illuminated bank switch that allows a single sBOX to control up to 24 GPI outputs. Multiple sBOX units (up to 3 with eBOX) can provide dedicated buttons for up to 24 GPI outputs. A 10' expansion cable is included.



Connecting an eBOX to an sBOX8



2.5" - 6.5 cm



2.625"  
6.668 cm

Weight  
1.2 lbs  
.544 kg

8.5" - 21.59 cm

## sBOX8R 1/2 Rack Version - Remote Trigger Box for BOX & eBOX

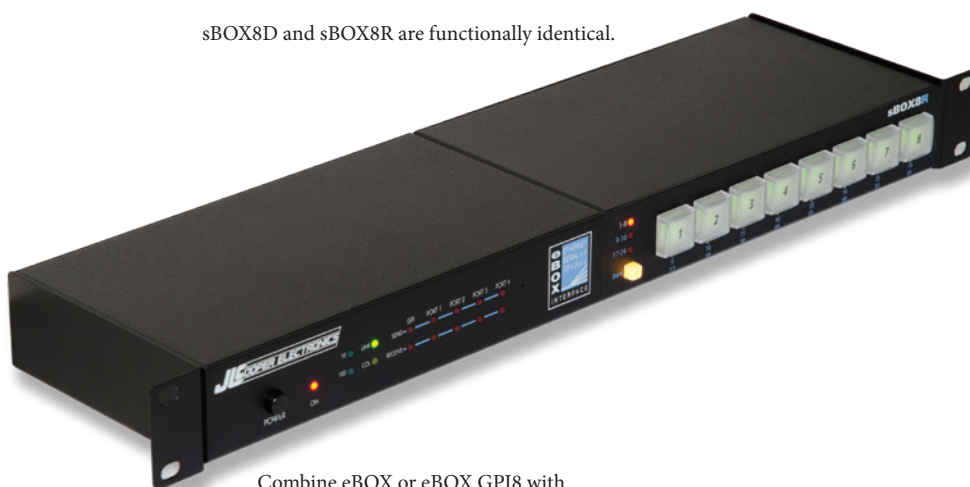


Standard 1/2 Rack Size

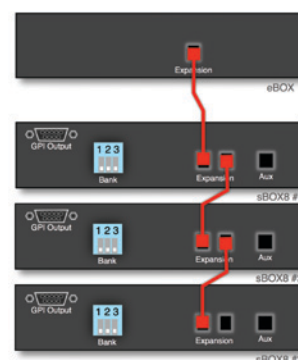


sBOX8D Rear Panel

sBOX8D and sBOX8R are functionally identical.



Combine eBOX or eBOX GPI8 with sBOX8R in optional JLC RackTray



Connecting an eBOX to multiple sBOX8s





## 4 Port RS-422 Gang Roll Switcher and GPI Trigger Box

GangWay4™ is a compact, 4 port RS-422 Gang Roll Switcher and GPI Trigger Box for controlling up to four video recorders.

Connect any RS-422 controller, like VTC1, MCS6, or TransportPro, with it's unique ability to remotely select GangWay channels.

GangWay4 has illuminated buttons for clear indication of enabled channels, "All" button and a Tally Select button.

Channel buttons also serve as transport controls, allowing you to control decks right from the front panel.

*Controls Most Professional RS-422 File-Based Recorders including: AJA Ki Pro Rack, Ki Pro Ultra, Ultra Plus, Atomos Shogun Studio, BlackMagic Hyperdeck Studio, Hyperdeck Studio Mini, Video Devices Pix 250i, 260i, 270i, Sony XDCAM and more!*

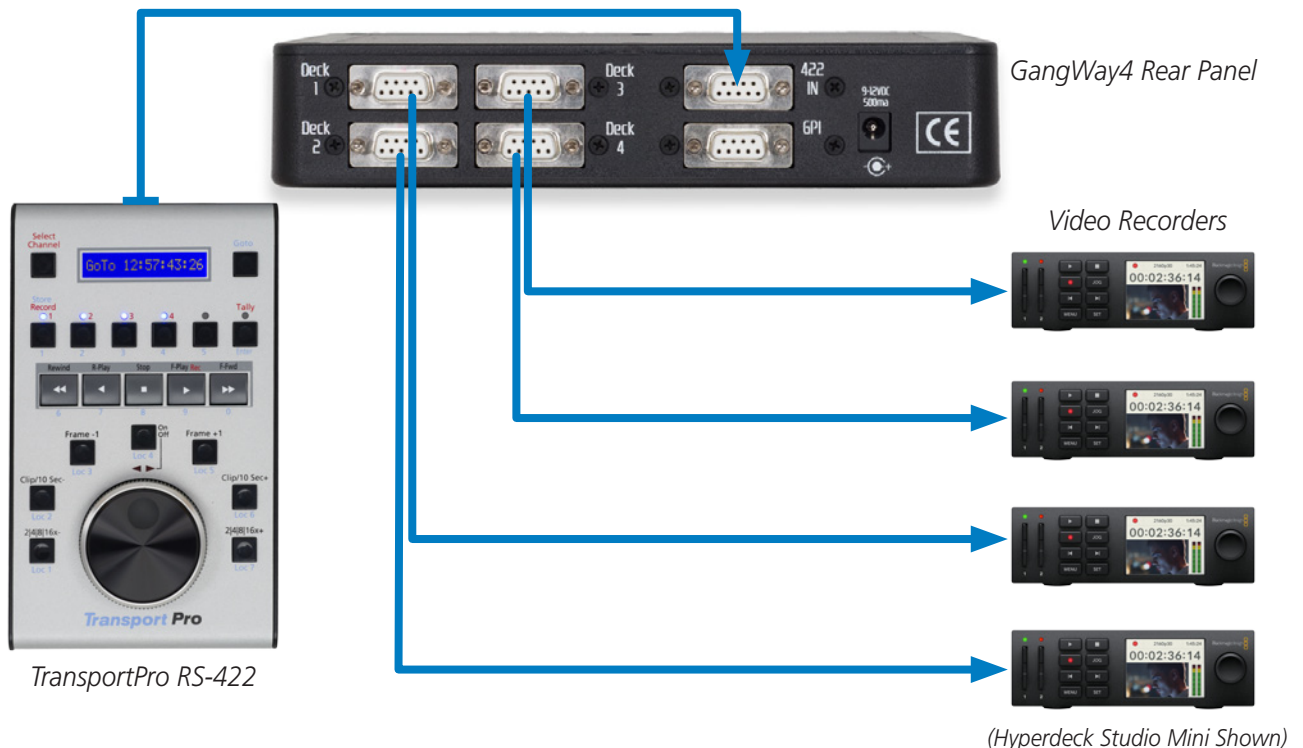
GangWay4 has 1 RS-422 Input, 4 RS-422 Outputs, and GPI I/O on rear panel 9-pin D-Sub connectors. For table top or rack use (1/2 single rack space).

See GangWay16 and GangWay32 for larger configurations.



**4 Port Gang Roll Switcher**

### Multi-Channel RS-422 Control





GangWay16™ is a compact, easy-to-use, 16 port RS-422 Gang Roll Switcher and GPI Trigger Box. The front panel includes lighted buttons for clear indication as to the status of each machine, an All button to quickly enable all machines, 3 User Preset Groups and a Tally Select button. A built in front mounted RS-422 port provides a convenient connection for a remote.

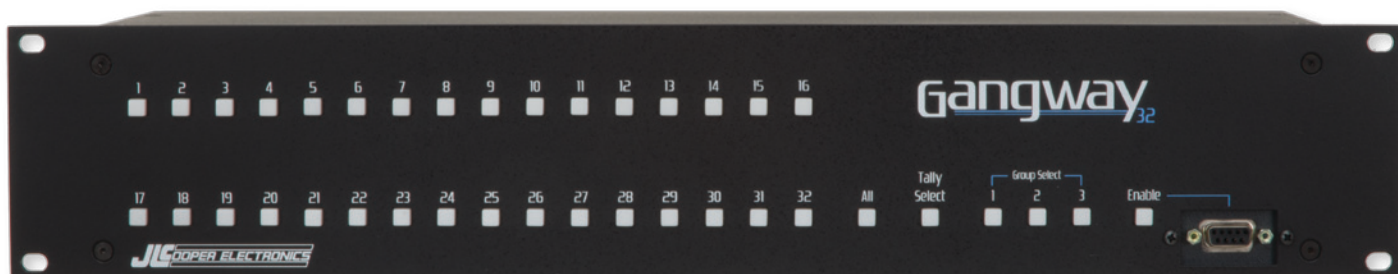
It has 16 RS-422 ports on the rear panel and a standard rear RS-422 input. The rear panel also includes two 25 pin D-Sub connectors for GPI I/O, power switch and an additional interface card slot.

An optional additional compact interface card can act as a Master Input, connecting GangWay to 10/100 Ethernet, USB, RS-232 or RS-422. This can be used to remotely change the switching configuration of the GangWay itself, or as the source of commands for controlling connected VTRs, DDRs or Servers.

You can communicate with GangWay16 over LAN or over the internet, for remote control and switching. It's ideal for remote truck or studio applications. ES-SloMo J RS-422 and SloMo Mini RS-422 can directly interface with GangWay16 to provide for control up to 16 RS-422 recorders.



GangWay16 Rear Panel



The big boss of all gang roll switchers! GangWay32™ is a massive 32 port RS-422 Gang Roll Switcher and GPI Trigger Box.

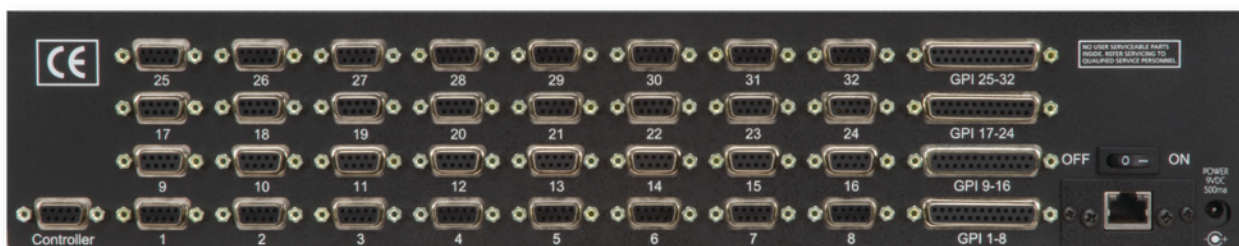
Like the smaller GangWay 16, this monster is an easy-to-use, RS-422 Gang Roll Switcher and GPI Trigger Box. The front panel includes lighted buttons for clear indication as to the status of each machine, an All button to quickly enable all channels, 3 User Preset Groups and a Tally Select button. A built-in front mounted RS-422 port provides a convenient connection for a jog/shuttle remote or other device.

It has 32 RS-422 ports on the rear panel and a rear mounted RS-422 input. The rear panel also includes 2 - 25 pin D-Sub connectors for GPI I/O, a power switch and an additional interface slot.

An optional additional compact interface card can act as a Master Input, connecting the GangWay to 10/100 Ethernet, USB, RS-232 or RS-422. This can be used to remotely change the switching configuration of the GangWay itself or as the source of commands for controlling connected VTRs, DDRs or Servers.

You can communicate with GangWay16 over LAN, or over the internet, for remote control and switching. It's ideal for remote truck or studio applications. Software developers can completely control GangWay switching and GPI functions.

ES-SloMo J RS-422 and SloMo Mini RS-422 can directly interface with GangWay32 to provide for control up to 32 RS-422 recorders.



GangWay32 Rear Panel with optional 920444-4 Ethernet interface Interface Installed



# FaderMaster Professional - Programmable MIDI Automation Controller

*FaderMaster Professional™ is perfect for the audio or video professional involved with automation or digital audio recording. You can easily control, mix and edit with MIDI sequencers, hard disk recorders, MIDI-controlled audio mixers, synths, samplers, signal processors and other computer based editing systems.*



Professional Automated Mixdown  
FaderMaster Pro – MIDI Automation Controller provides the hands-on, tactile control you've been missing in your system. It features high-quality, 100mm long-throw faders. These smooth tracking faders give you precision control of your audio mix.

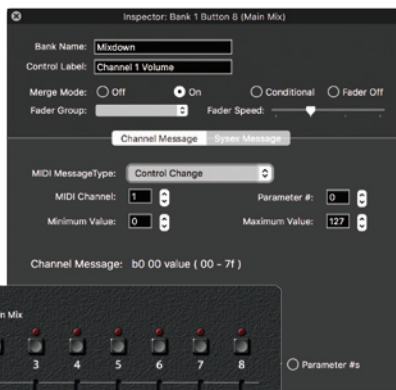
FaderMaster Pro eliminates the aggravation encountered when using a keyboard or mouse to tediously mix or edit the volume of multiple tracks, just one-at-a-time, and it's fully programmable, for volume, panning, EQ, effects and other MIDI parameters.

If eight faders and buttons aren't enough, multiple FM Pro units can be linked to form a larger console.

FaderMaster Pro has 20 programmable banks for storing your own setups, plus 50 Factory Preset banks for remotely controlling classic synthesizers.

## FaderMaster Professional Features

- Eight Programmable High-Quality 100mm Faders
- Eight Programmable MIDI Buttons
- 1/4" Programmable Footswitch & Foot Pedal Inputs
- Internal Grouping, Scaling and End Point Adjustments
- Supported in Roland R-88
- All Metal Construction



FaderMaster Pro Software for Mac



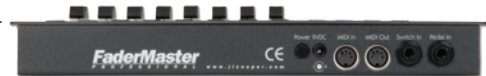
6.75"  
17.14 cm

Weight  
7 lbs  
3.2 kg

12.25" - 31.12 cm



FaderMaster Pro Side View



FaderMaster Pro Rear View



## ***Professional Surround Panner for ProTools HD and Logic Pro X***

JLCooper's AXOS Panner for AVID Pro Tools is a high-quality professional controller. It combines a Touch-Sensitive Joystick, 5 Rotary Encoders and 9 Tactile Switches for lightning fast, real-time mastery of surround panning and mixing parameters.

AXOS gives you comprehensive control including Pan, Divergence, Volume, Mute, LFE, Center Percentage and Channel Navigation.

It's plug and play, connecting to your Pro Tools System on Mac or Windows with no additional software required.

Optional software plug-ins for Mac OSX gives the AXOS Panner the added ability to precisely control automated surround mixing in Apple Logic Pro, Steinberg Nuendo and Cubase. Controls X/Y, Track Next/Prev., Angle, Radius, LFE, Spread, Center and more.

Direct support in Xperi MDA Creator.

Direct support in Dolby ATMOS Tools.

New - Direct support in Telos Alliance, Linear Acoustic AMS



- Lightning Fast and Easy To Use
- Works with AVID Pro Tools HD for Mac/Windows
- Plug In Support for Apple Logic Pro on Mac
- Works with Steinberg Nuendo and Cubase Mac
- Touch-Sensitive Joystick
- 3m Captive USB cable Included - USB Powered
- Low Profile Compact USB Class Compliant Design
- Durable All Metal Construction
- Host Mode for Software Developers





The need to run MIDI signals over long distance is essential for use in recording facilities, theatres, arenas, churches, schools, cruise ships, casinos, nightclubs and other venues using simple twisted pair wiring. Touring professionals also rely on JLC Cooper MIDI Line Amplifiers to carry MIDI signals long distances over standard audio snakes.

## MLA-XLR MIDI Line Amplifier



MLA-XLR is a single channel, bi-directional, long distance amplifier or driver for MIDI signals. It extends the range of MIDI to over 1000 feet using standard balanced audio lines (audio snakes, mic cables, etc.).

MLA-XLR is refreshingly simple to use. There are no settings to configure. Just plug in the power supply and connect two MLA-XLRs together with a pair of standard mic cables. Then, connect your MIDI gear as you would normally.

While the MIDI protocol specifies a maximum cable distance of about 50 feet (more or less, depending on the type of cable and other variables), more than 50 feet of MIDI transmission requires amplification.

MLA-XLR takes a MIDI input and converts it to a balanced, differential signal using the RS-422 specification. At the other end, another MLA-XLR detects the signal using a sensitive receiver that has a high degree of noise immunity. This combination lends itself to long distance, error free installations required in professional applications with absolutely no latency.

Since the MIDI signal is converted into a non-MIDI signal, an installation requires a MIDI Line Amplifier at each end of the cable.

MLA-XLR also provides a lower cost expansion option for interfacing with other MLA-1 and MLA-10 units in a network application with custom wiring.

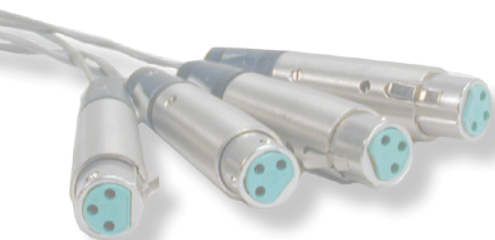
"JLCooper MIDI Line Amplifiers are in use by some of the greatest performers in the world including; Cirque du Soleil, Cavalia, Depeche Mode, Blue Man Group, Los Angeles Philharmonic, Sidney Theatre Company, Queen, Ghost, Royal Caribbean Cruises and the Julliard Academy."



MLA-XLR Rear Panel XLR Connectors

### MLA-XLR MIDI Line Amplifier Features

- 1 MIDI Input - 1 MIDI Output
- XLR and MIDI connections
- 1/4 Rack or desktop use
- MIDI cable runs over 1000'
- Using common twisted pair wire, XLR Cables or Audio Snake
- Multiple units may be networked
- Can be used in pairs or in combination with MLA-1's and MLA-10's
- Sold Individually
- Dimensions 4.25" x 4.7" x 1.6"
- Weight 3 lbs.



Mount up to four MLA-XLR units in the optional JLC-19" RackTray

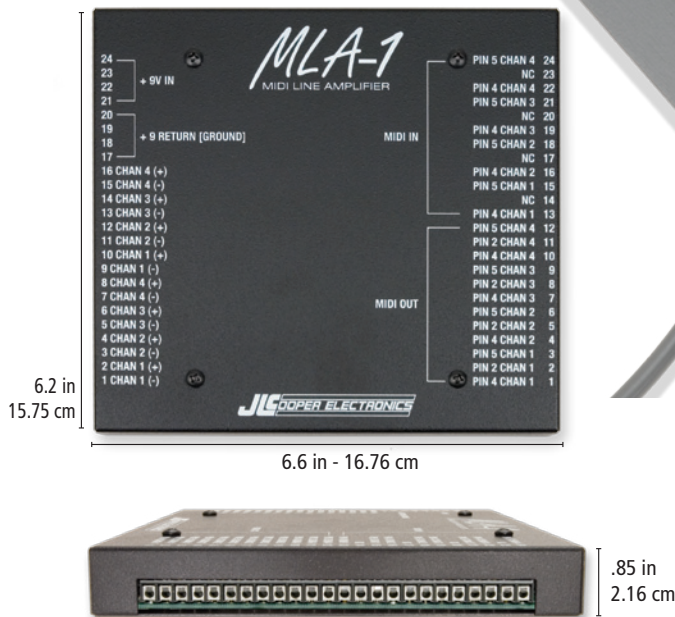




## MLA-1 MIDI Line Amplifier

The MLA-1 is a four channel MIDI Line Amplifier that can be surface mounted and used with a separate MIDI jack panel. This facilitates greater flexibility for installations where MLA units can be in every required location.

MLA-1 can be powered by an MLA-10 or used alone with a separate power supply. Its compact size allows it to be mounted on or inside a wall or panel, truss mounted, etc. A single output can be connected to as many as 4 inputs of another MLA-1 or MLA-10.



### MLA-1 MIDI Line Amplifier Features

- 4 MIDI Inputs - 4 MIDI Outputs
- Panel mount version
- All barrier strip connections
- Multiple units may be networked
- Can be used with other MLA units.
- Dimensions 6.6" x 6.2" x 0.85"
- Weight 2 lbs. - .91 kg

*The choice between the MLA-1 and MLA-10 depends on mounting requirements. Combine MLA units in whatever configurations best suits your needs. MLA-10 and MLA-1 are functionally identical and offer different form factors. Each provides 4 long distance connections in either direction. MLA-1 or MLA-10 can be combined with up to 4 MLA-XLR units.*

## MLA-10 MIDI Line Amplifier

*"Best in Show Winner - AES"  
- EQ Magazine*



JLCooper Electronics extends the distance of MIDI with the MLA - MIDI Line Amplifiers. They let you effectively extend MIDI cable length using twisted pair wire or a standard audio snake.

MIDI Line Amplifiers sending MIDI data over long distances with the capability to send information in excess of 1000 feet without latency, delays or errors.

Ideal for touring systems or permanent installations, MLA's can be used in schools, recording and production facilities, boardrooms, live performances, convention centers, churches, theaters, stadiums, amusement parks and more.

### When to Use a MIDI Line Amplifier

MIDI (Musical Instrument Digital Interface) is an increasingly important consideration for schools, recording facilities, stadiums, arenas, hotels, amusement parks, or other facilities where MIDI messages are required to be sent a long distance, or to multiple locations.

The MIDI standard only permits a maximum cable run of less than 50 feet. The innovative MLA Series MIDI Line Amplifiers overcome this limitation.

The MLA's convert the MIDI signal into a balanced high speed digital protocol that can travel over common twisted pair wire. The signal is converted back to MIDI through another MLA at the other end of the cable run.

MLA's are ideal for permanent installations or anywhere a longer MIDI cable run is required.

The MLA's can be easily networked to multiple locations such as from the master control room to a series of separate MIDI rooms in a recording studio, broadcast facility or educational lab. This allows you to de-centralize the location of MIDI devices in the system.

MLA-10™ is designed to fit in a standard single 19" rack space. Each MLA-10 features 8 MIDI lines configured as 4 inputs and 4 outputs. It has 4 MIDI input connectors, 4 MIDI output connectors and individual activity LEDs.

### MLA-10 MIDI Line Amplifier Features

- 4 MIDI Input connectors
- 4 MIDI Output connectors
- Detachable terminal strip connectors
- MIDI activity LEDs
- MIDI cable runs over 1000'
- Uses common twisted pair wire
- Multiple units may be networked
- Low power consumption
- Can supply power to multiple MLA-1's
- Front panel power switch
- Single 19" rack space
- Heavy duty rack enclosure
- Dimensions 19" x 1.75" x 3.87"
- Weight 3.25 lbs



MLA-10 Rear Panel with Weidmüller terminal block screw connectors



# Success Through Innovation and Partnership

## Developers and OEMs Welcome

JLCooper Electronics successfully works with industry leading companies and educational institutions in a variety of OEM, private label, custom engineering, software development and other relationships.

Successfully working in many OEM relationships, JLCooper Electronics develops and manufactures products for companies on the forefront of digital audio, video, multimedia and other technologies.

JLCooper can partner at any level with your company to cooperatively develop products that perfectly meet your requirements and budget.



Dedication to optimum control surface and interface engineering, quality and reliability makes JLCooper the preeminent partner, helping your company achieve its goals on time and within budget.

We provide an established developer program to provide documentation and support for our products. We offer a variety of "off the shelf" products that can be supported "as is" or customized to meet your needs. JLCooper will also help to support and evangelize your compatible products, creating additional strategies and opportunities.

Let us strengthen your existing development efforts by providing hardware and software products tailored to meet your needs. JLCooper's range of services include circuit board and enclosure design, manufacturing and testing, packaging and documentation. All this from the team consistently chosen by dozens of world-class manufacturers as the best in the business.

Visit our Developer page at [jlcooper.com](http://jlcooper.com) for additional information.

















# The JLC Cooper Story



Control, Automation, Synchronization, & Interfacing Products

WWW.JLCOOPER.COM

JLCooper Electronics is truly a pioneer in the development of professional control, automation, synchronization and interfacing products.

Our solid reputation for design innovation is a testimony to the quality, reliability and performance of every product we make.

The company was founded in 1979 to make accessories for a growing music synthesizer market. Over the years, JLCooper has expanded to become a multimillion dollar corporation servicing audio and video production, television and radio broadcast, film editing, medical research and imaging, aerospace, sports, education and many other specialized markets.

All products are manufactured in the U.S.A. and carry a full one year warranty. JLC products are sold by dealers and distributors worldwide.

JLCooper offers a complete range of branded products for the professional audio, video and multimedia markets. Our additional success as an OEM supplier can be attributed to our remarkable versatility. We understand the pressures involved in creating new product designs and we can help you define objectives and achieve them on time.



With 40 years of manufacturing experience and hundreds of finished product designs, leading companies look to JLCooper as a partner for custom control applications. We want to be your partner too.

Contact us now to get your wheels turning fast.

***For the Latest News and Information, Visit Us On-Line at [www.jlcooper.com](http://www.jlcooper.com)***

*Contact your Authorized Dealer, Distributor or JLCooper Electronics directly.  
Customers in the U.S.A. and many other countries can order direct from JLC.  
Products can be ordered by phone, mail, fax or on-line, via our secure web store.*

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