ECLIPSE *SX*

Midnight Finish

Compact Color Grading Control Surface

Users Manual

JLCooper Electronics

Eclipse SX User's Manual, First Edition
Part Number 932114

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Introduction

The EclipseSX Midnight is a tactile control surface intended for color grading application such as Apple Color, Iridas SpeedGrade, Assimilate Scratch and IFX Piranha Cinema HD.

The EclipseSX Midnight is identical to the left side of the EclipseCX with the following enhancements:

- Darker unit finish with black sides,
- White LED and VFD displays and,
- The addition of six reset pushbutton switches next to the high resolution encoders above the trackballs.

The EclipseSX Midnight has numerous interface options. It has two slots to accommodate the MCS-Interface Cards. These are available in:

- RS-232
- RS-422
- USB
- Ethernet
- GPI (8 in / 8 out)

Additionally, the EclipseSX Midnight has an expansion port, which allows it to be connected to either an Eclipse or MCS-3000 series controllers as a slave peripheral. Alternatively, it can act as a master to other Eclipse or MCS-3000 series peripherals.

The unit features a DC power jack. The unit can be power from the supplied power adaptor or powered from 12 volts DC.

Installation

Unpacking

When you receive your Eclipse SX Midnight, you should receive the following items:

- EclipseSX Midnight
- This Users Manual
- Power Supply
- Power Cord

Please take a moment to register your product at:

http://www.jlcooper.com

This will allow us to notify you of important updates and changes to software or features.

Setup

The compact design of the Eclipse SX makes it easy to locate wherever you need it. The Eclipse SX must be setup up in a location that does not experience vibration, excessive humidity, dust or temperature extremes.

Connecting the Eclipse SX

The EclipseSX can connect to the host directly using an interface card installed in slot 1. This can be an RS-422, RS-232, USB or Ethernet card. Refer to the next section for specific instructions on how to connect the EclipseSX to your host computer.

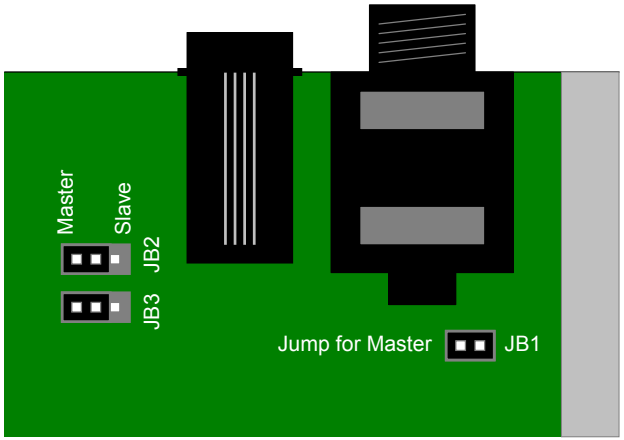
The Eclipse SX typically uses the MCS-Ethernet Interface which connects to any 10baseT or 100baseTX Ethernet network.

1. Connect the Eclipse SX to the Ethernet network
2. Connect the included power supply to the Eclipse SX.

Configuring the MCS-Spectrum as a Master

When the MCS-Spectrum is directly connected to a host computer using an interface card in Slot 1, it becomes the master. That is, the MCS-Spectrum communicates directly with the host and any other MCS Series controller become slave or expander peripherals. Expander peripherals connect to the MCS-Spectrum using the Expander port on the rear of the MCS-Spectrum.

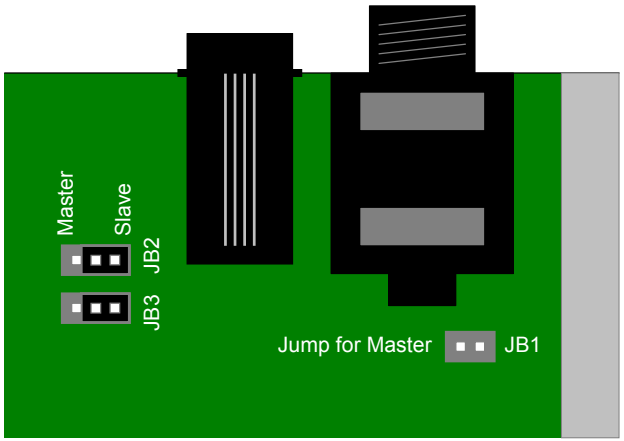
The diagram below shows how to set the jumpers in the MCS-Spectrum to operate as a Master. In this case, JB2 and JB3 in the MCS-Spectrum MUST be placed in the "MASTER" position. JB1 in the MCS-Spectrum MUST be installed.



Configuring the MCS-Spectrum as a Slave

When another MCS Series controller, such as the MCS-3800, is directly connected to a host computer, the MCS-Spectrum becomes a slave or expander peripheral. In this situation, the MCS-Spectrum communicates indirectly with the host through the master. The slave or expander MCS-Spectrum connects to the master controller using the Expander port on the rear of the MCS-Spectrum.

The diagram below shows how to set the jumpers in the MCS-Spectrum to operate as a slave or expander peripheral. In this case, JB2 and JB3 in the MCS-Spectrum MUST be placed in the "SLAVE" position. JB1 in the MCS-Spectrum MUST be removed. The jumper for JB1 can be installed on one of the pins of JB1 for safekeeping.



Self Test

The EclipseSX has a self test mode which aids in troubleshooting the controller. The self mode is accessed by pressing and holding Page 1 and Page 2 during power up.

Buttons and LEDs are tested by pressing any button. When a button is pressed, the corresponding LED illuminates indicating that the button and LED are functioning.

The trackballs and rings are tested by rolling the balls or turning the rings. The direction and control will be indicated in the left display.

The encoders are tested by turning the knobs. The direction and value of each encoder will be indicated on the right display.

Mode Selection

To accommodate a wide variety of applications, the EclipseSX can emulate the protocol of an EclipseCX or the MCS-Spectrum. There are two ways to switch the protocol of the EclipseSX:

1. **Manually**
   This methods allows the user to manually set the operational mode.
   - To select EclipseCX mode,
     press and hold Page 6 during power on.
   - To select MCS-Spectrum mode,
     press and hold Page 5 during power on.

2. **Automatically**
   When the EclipseSX receives an EclipseCX message from the host software application (such as Apple Color), the unit will switch to EclipseCX mode.

Technical Reference

Electrical Connections

The EclipseSX can have a variety of interface cards. Among these are:

- MCS-3000 Series RS-422 (Version 2) Card #920465
- MCS-3000 Series RS-422 Card #920320
- MCS-3000 Series RS-232 (Version 2) Card #920466
- MCS-3000 Series RS-232 Card #920321
- MCS-3000 Series USB (Version 2) Card #920467
- MCS-3000 Series USB Card #920384
- MCS-3000 Series Ethernet Card #920394
- MCS-3000 Series GPI card #920355

MCS-3000 Series RS-422 Interface Card

The RS-422 Interface is intended for operation with a VTR, controller or a host computer. It provides the advantages of RS-422, which allows for long cable runs. With low loss, low capacitance cable, the RS-422 Interface Card can accommodate cable runs up to 1km.

The RS-422 Interface has a female D-Sub connector. The interface can be configured to connect to either a deck or a host. Five jumpers on the interface card configure the pinout. All five jumpers must be places in either the "To Computer" or "To Machine" position. The port is configured to communicate at 38400 bits/sec, 1 start bit, 8 data bits, 1 stop bit and odd parity.

MCS-RS422 Interface Pinout

	Setting on Card	
	"To Computer"	"To Machine"
1	Ground	Ground
2	Transmit A	Receive A
3	Receive B	Transmit B
4	Ground	Ground
5	not used	not used
6	Ground	Ground
7	Transmit B	Receive B
8	Receive A	Transmit A
9	Ground	Ground

Note: These signals are at the RS-422 Interface card.

MCS-3000 Series RS-232 Interface Card

The RS-232 Interface is intended for operation with a host computer. It provides the advantages of a standard interface, which is found on many computers.

The RS-232 Interface has a male D-Sub connector. The port is configured to communicate at 1 start bit, 8 data bits, 1 stop bit and odd parity. Five jumpers allow the port speed to be set for 38400, 19200, 9600, 4800 and 2400 bits/sec to accommodate various situations.

MCS-RS232 Interface Pinout

1	DCD*
2	Transmit
3	Receive
5	Ground
6	DSR*
8	CTS*

Note: These signals are at the RS-232 Interface card
** These pins are not used by the card and are connected together for ports that require handshake.*

MCS-3000 Series USB Interface Card

The USB Interface is intended for operation with a host computer. It provides the advantages of a standard interface, which is found on most modern computers.

The USB Interface has a female USB B type connector and uses the USB v1.1 protocol. For Windows computers, there is a driver that allows the device with this interface card to appear as a com port. This driver can be downloaded from the JLCooper support web site, http://www.jlcooper.com/pages/downloads.html. With the driver, the virtual com port is configured to communicate at 38400 bits/sec, 1 start bit, 8 data bits, 1 stop bit and no parity.

MCS-3000 Series Ethernet Interface Card

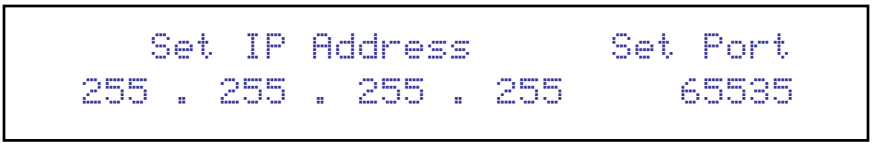
The Ethernet Interface is intended for operation with a host computer. It provides the advantages of a standard interface, long cable runs, use over private/public/wired/wireless networks, the ability of being shared among computers and the ability to work with any platform that supports TCP/IP.
To use the Ethernet Interface, the software application MUST be written to specifically support the Ethernet Interface. Consult your software's users documentation for details on how to configure the software.

To configure the EclipseSX Ethernet settings, an Ethernet Interface card must be in slot 1. You can verify this by visually checking slot 1 for the presence of an Ethernet card.

To set the IP address, press Page4 + Page8 to access the configuration page. The right display will show:

Press Page7 to set the IP Address and TCP Port Number of the EclipseSX.

The displays will show:



Use the knobs below each number to set values necessary for your network. Press Page8 when you are done.

To set the IP mask, press Page4 + Page8 once again to access the configuration page. The right display will show:

Press Page6 to set the IP subnet mask of the EclipseSX. The displays will show:

Use the knobs below each number to set values necessary for your network. Press Page8 when you are done.

Note: You must power cycle the EclipseSX for the Ethernet settings to take effect.

Power

The EclipseSX requires a 12 volt DC supply capable of delivering at least 1.25 amps. The unit comes with a power supply appropriate for the country in which the unit was sold. If you need a power supply specific to your location, please contact your local distributor or JLCooper Electronics.

Location	JLCooper Part Number
North America	TBD
Outside North America	TBD + appropriate cord for location

Table 2: JLCooper approved Power Supplies

*Warning: Using a power supply other than the units specified in the above table can result in damage to the EclipseSX and/or other equipment which is **not** covered by the JLCooper Factory Warranty.*

Troubleshooting

If for some reason the EclipseSX does not give you the expected results, take a moment to do some investigating. The most important concept is that you have your EclipseSX connected properly as outlined in *Installation and Use*. Take a moment to double check your setup.

A common problem is forgetting to turn the power switch on or turning the unit on after the software application has launched.

In addition, the JLCooper website (www.jlcooper.com) will contain up to date information on drivers, applications and troubleshooting.

If all else fails, you can contact the JLCooper Service Department at: service@jlcooper.com.

Care and Service

If properly cared for, your EclipseSX should provide years of troublefree performance. While the EclipseSX is built in a rugged metal enclosure, please avoid dropping the EclipseSX.

Clean with a soft, damp cloth. Do not allow liquids, dust or other foreign matter to get inside the unit.

There are no user-serviceable parts in the EclipseSX. Please refer to the JLCooper Electronics Limited Factory Warranty on the following page for detailed warranty and service information

Configuring the Host Application

Now that the IP settings of the Eclipse SX have been set, the host application must be configured to connect to the Eclipse SX.

To configure Apple Color to connect to the Eclipse SX, refer to Appendix C, “Setting Up a Control Surface“ in the Apple Color User Manual.

Using the Eclipse SX

Refer to the user documentation of your host application for details on how to use the Eclipse SX with your application.

Technical Reference

Ethernet Interface

The Ethernet Interface is intended for operation with a host computer. It provides the advantages of a standard interface, long cable runs, use over private/public/wired/wireless networks, the ability of being shared among computers and the ability to work with any platform that supports TCP/IP.

The Ethernet interface in the Eclipse SX is a standard auto switching 10baseT/100baseTX, twisted pair interface with an RJ-45 connector. Use a straight through cable to connect the Eclipse SX to an Ethernet hub or switch. Use a crossover cable to connect the Eclipse SX directly to a host computer.

Power

The Eclipse SX requires a 12 volt DC power supply capable of delivering at the minimum, 5 amps. The unit comes with a power supply (JLCooper part number 561024-3). If you need a power supply specific to your location, please contact your local distributor or JLCooper Electronics.

> *Warning: using a power supply other than, the unit specified could result in damage to the Eclipse SX and/or other equipment, which is not covered by the JLCooper Factory Warranty.*

Troubleshooting

If for some reason the Eclipse SX does not give you the expected results, take a moment to do some investigating. The most important concept is that you have your Eclipse SX connected properly as outlined in *Installation and Use*. Take a moment to double check your setup.

A common problem is forgetting to turn the power switch on or turning the unit on after the software application has launched.

In addition, the JLCooper website (www.jlcooper.com) will contain current information on drivers, applications and troubleshooting.

Below are listed some possible issues and solutions.

Issue
Can't connect to Eclipse SX with the host software through an Ethernet hub or switch.
Cause
Eclipse SX not properly connected to ethernet hub or switch.
Solution
Connect Eclipse SX to ethernet hub or switch with a straight through cable not a crossover cable.

Issue
Can't connect to Eclipse SX directly to my computer with the host software.
Cause
Eclipse SX not properly connected to PC.
Solution
Connect Eclipse SX to ethernet port on your PC with a crossover cable not a straight through cable.

Issue
Can't connect to Eclipse SX with the host software.
Cause
Ethernet settings on Eclipse SX and computer are not compatible.
Solution
Set the ethernet settings on your Eclipse SX and PC to work together.

For example, with the Eclipse SX factory defaults of:

IP Address	192.168.254.101
Subnet Mask	255.255.255.0
Gateway	192.168.254.198

Set your PC ethernet settings to:

IP Address	192.168.254.nnn
Subnet Mask	255.255.255.0

nnn is anything except 101

Note: You can verify that the computer can communicate with the Eclipse SX by pinging the Eclipse SX. In Windows, click Start | Run… and type: `ping 192.168.254.101`. *If everything is configured correctly, the Eclipse SX will reply.*

Issue

I still can't connect to Eclipse SX with the host software.

Cause

There may be another device on the newtork that uses the same address as the Eclipse SX.

Solution

Change the IP address of the conflicting device or remove the conflicting device.

Issue

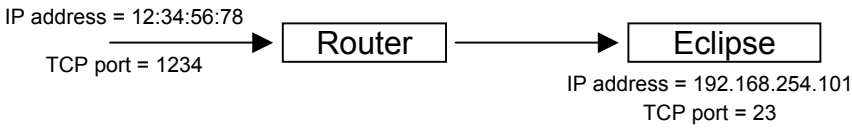
Can't connect to Eclipse SX with the host software behind a router.

Cause

An ethernet router may block and/or translate ethernet traffic.

Solution

Ask your network administrator for assistance. If the Eclipse SX is set as a server and is behnd a router, you will need to perform port forwarding. Configure your router to forward TCP traffic on one port to the IP address and port number of your Eclipse SX. You will also need to configure the Eclipse SX gateway address to match the routers address.



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Clean with a soft, damp cloth. Do not allow liquids, dust or other foreign matter to get inside the unit.

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JLCooper Electronics Factory Warranty

JLCooper Electronics ("JLCooper") warrants this product to be free of defects in materials or workmanship for a period of 12 months from the date of purchase. This warranty is non-transferable and the benefits apply only to the original owner. Proof of purchase in the form of an itemized sales receipt is required for warranty coverage. To receive service under this warranty, customers in the United States should contact the JLCooper factory at (310) 322-9990 and talk to a service technician. If necessary, a Return Authorization number may be issued. For our customers outside the United States, it is recommended that you first contact your Dealer or Distributor, since they may offer their own service or support policy. If local support is not obtainable, please send a FAX to JLCooper's Service Department at +1 310 335 0110 with a detailed description of the service required. Upon issuance of return authorization, the product should be packed in the original shipping materials and shipped prepaid and insured to: Service Department, JLCooper Electronics, 142 Arena Street, El Segundo, CA 90245. Please include the following: copy of the sales receipt, your name and address (no P.O. Boxes, please), a brief description of the problem, and any other related items discussed with the service department and considered necessary to evaluate the product or effect a repair. The return authorization number must be clearly written on the outside of the package. JLCooper will at its option, without charge for parts or labor, either repair or replace the defective part(s) or unit. Shipping costs are not covered by this warranty. JLCooper's normal repair turn around time at the factory is approximately 15 business days from receipt of product to shipping. Your actual turn around time will include return shipping. Actual turn around time will vary depending upon many factors including the repeatability of the customer's reported complaint, the availability of parts required for repair, the availability of related products needed to evaluate the product if necessary. Priority services are available at additional cost. These should be discussed with the service technician at the time the return authorization is issued. This warranty provides only the benefits specified and does not cover defects or repairs needed as result of acts beyond the control of JLCooper including but not limited to: abuse, damage by accident/negligence, damage from using incorrect power supply, modification, alteration, improper use, unauthorized servicing, tampering, or failure to operate in accordance with the procedures outlined in the owner's manual; nor for natural or man-made events such as, but not limited to flooding, lightning, tornadoes, earthquake, fire, civil unrest, war, terrorism, etc.

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