



SIERRAVIDEO

**SIERRA VIDEO**

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SCP-224 Control Panel 804224

# User's Manual



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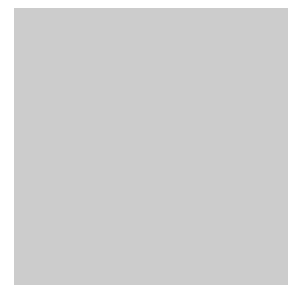
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Version 6.00  
Publication Date: November 2012

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# Introduction

## Before You Begin

There are several terms and acronyms that you should become familiar with before reading this manual. They are shown below.

Term/Acronym	Definition
Crosspoint	The electronic switch that assigns one of the inputs on the matrix crosspoint modules to an output.
Destination	The output of a routing switcher connected to a device that receives signals from the output of the switcher.
Source	The signal that is connected to the input of the routing switcher.
Input	Connected to the source that provides the signal to the switcher.
Output	Connects the signal to the destination device.
Protocol	The command structure used on a serial bus to affect a switch or multiple switches on the routing switcher.
Routing Switcher	Consists of one or more crosspoint modules that switch together, or sometimes independently, to connect the desired signals through the switcher.
Serial Port	The 9-pin RS232 connector that allow you to control the switcher using a standard personal computer or other external device. Sends control protocol commands in ASCII.
Matrix	The crosspoint array of the switcher module that selects which input is selected to an output.

# Warnings & Safety Regulations

The information in the following section provides important warnings and safety guidelines for both the operator and service personnel. Specific warnings and cautions may be found throughout this manual. Please read and follow the important safety precautions noting especially those instructions relating to risk of fire, electrical shock and injury to persons.

Any instructions in this manual that require opening the equipment cover or enclosure are intended for use by qualified service personnel only. To reduce the risk of electrical shock, do not perform any servicing other than what is contained in the operating instructions unless you are qualified.

## Warnings

- Heed all warnings on the unit and in the operating instructions.
- Disconnect AC power before installing any options.
- Do not use this product in or near water.
- This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting inputs and outputs.
- Route power cords and other cables so that they are not likely to be damaged, or create a hazard.
- Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch unsafe connections and components when the power is on.
- To avoid fire hazard, use only the specified type, correct voltage, and current rating of fuse. Always refer fuse replacement to qualified service personnel.
- Have qualified personnel perform safety checks after any completed service
- This is an FCC class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take necessary measures.

## Cautions

- Use the proper AC voltage to supply power to the switcher. When installing equipment, do not attach the power cord to building surfaces.
- To prevent damage to equipment when replacing fuses, locate and correct trouble that caused the fuse to blow before applying power.
- Use only the recommended interconnect cables to connect the switcher to other frames.
- Follow static precautions at all times when handling the equipment.



## Cautions (continued)

- Leave the side, top, and bottom of the frame clear for air convection cooling and to allow room for cabling. Slot and openings in the frame are provided for ventilation and should not be blocked.
- Only an authorized Sierra Video technician should service the switchers. Any user who makes changes or modifications to the unit without the expressed approval of the Sierra Video will void the warranty.

## Power Supply

The Sierra Video SCP series of control panel use a “wall mount” AC to DC adapter, converting 120/220VAC to 9VDC @1A. The adapter is supplied with your control panel.

## EMC Regulatory Notices

Federal Communications Commission (FCC) Part 15 Information: This device complies with Part 15 of the FCC standard rules. Operation is subject to the following conditions:

This device may not cause harmful interference

This device must accept any interference received including interference that may cause undesirable operations.

## Delivery Damage Inspection

Carefully inspect the frame and exterior components to be sure that there has been no shipping damage. Make sure all modules are seated correctly and have not detached during shipment.

## Factors Affecting Quality of Results

There are many factors affecting the quality of results when signals are transmitted from a source to a destination.

- Signal cables — Use only the best quality cables to avoid interference and degraded signal quality and elevated noise levels.
- Sockets and connectors of the sources and destinations — Use only the highest quality, since "zero ohm" connection resistance is the target. Connectors should also match the required impedance (75 ohm in video) to minimize return loss.
- Amplifying circuitry — Must have quality performance when the desired end result is high linearity, low distortion, and low noise.
- Distance between sources and destinations — Plays a major role in the final result. For long distances (over 15 meters) between sources and destinations, special measures should be taken to avoid high frequency cable losses. These measures include using higher quality cables and/or adding line cable equalizing amplifiers.
- Interference from neighboring electrical appliances — these can have an adverse affect on signal quality. Balanced audio lines are less prone to interference, but unbalanced audio should be installed away from any main power lines, electric motors, transmitters, etc. even when the cables are shielded.

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### **CAUTION!**

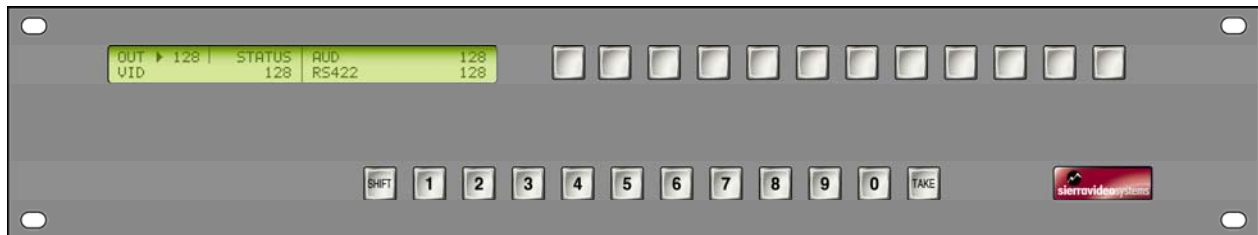
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*Only an authorized Sierra Video technician can service the control panels. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void the warranty*

*Use the proper AC to DC adapter to supply power to the unit.*

*Use only the recommended interconnect cables to connect the control panel to other frames.*

## SCP Control Panel Family



### Overview

The SCP line of control panels requires switcher software version 7.xxx or newer for programming compatibility.

The SCP series are programmable control panels using a powerful on board microprocessor capable of handling a large database. This design manages serial communications with the router and up to 64 SVS control panels (up to 99 in some router models). All buttons in the SCP line are soft key. That is, every key can be programmed

The SCP panel is programmed using our free version of our Graphical Router Interface Program TyLinux Pro or MediaNav software. The software lets you choose your panel, select your functions and assign them to the buttons, store these settings in memory and/or copy the configurations to multiple SCP panels.

These panels were designed to allow for maximum flexibility in the categorization of buttons. The Shift Push is similar to the Ctrl key on the PC, which allows different functions to be performed on the panel, such as toggling between "Alpha" and "Sort" on numerical values during a scroll function.



# Installation

## Introduction

The following steps should be completed before applying power to the control panel. It is very important that the router the control panel is connected to, be correctly configured with names, size, etc.

It is recommended that the router names and configuration be applied the before programming the SCP control panel; see the TyLinx Pro or Mediator manual for details.

The TyLinx Pro software can be downloaded, at no charge, from the Sierra Video web site, [sierravideo.com](http://sierravideo.com).

## Rack Mounting

Carefully inspect the control panel to ensure that there has been no shipping damage. Make sure all shipping material is removed from the router frame.

The control panels described in this manual can be rack mounted in a standard 19" (RU) EIA rack assembly and includes rack "ears" at the ends of the front of the frames. None of the control panel models require spacing above or below the unit for ventilation.

To rack mount any of the control panels, simply place the unit's rack ears against the rack rails of the rack, and insert proper rack screws through each of the holes in the rack ears. Always rack mount the control panel prior to plugging the unit into a power receptacle or attaching any cables.

## Dimensions

The SCP-224 control panels are 2 rack units high, 19" wide, and 2.5" deep.

## DIP switch settings

The SCP panels have 2 DIP switches that set the panel's ID number, type, baud rate, and memory settings. The panel is shipped with the factory defaults as indicated in the table below. ID numbers are randomly set at the factory. If you need to change any values, follow the table below.



**Disconnect the panel's power** and remove the rear cover to access the DIP switches. The table below shows the settings available:

<b>Control Panel Dip Switch Settings Label (LB04152-00)</b>							
804112/804224 Select (S1-2):							
804112 panel:	S1-2	off					
804224 panel:	S1-2	on*					
804020 panel: S1-2 off							
804132 panel S1-2 off							
804150 panel S1-2 off							
Port speed (S1-6):							
9,600 bps	S1-6	off					
31,250 bps	S1-6	on *					
Firmware Download (S1-7):							
Normal Operation:	S1-7	off *					
Force Wait for Download:	S1-7	on					
Flash Memory Erase (S1-8):							
Normal Operation:	S1-8	off *					
Erase Flash Memory:	S1-8	on					
Panel Id (S2-1 to S2-7):							
Id 0	7 off	6 off	5 off	4 off	3 off	2 off	1 off
Id 1	7 off	6 off	5 off	4 off	3 off	2 off	1 on
Id 2	7 off	6 off	5 off	4 off	3 off	2 on	1 off
Id 3	7 off	6 off	5 off	4 off	3 off	2 on	1 on
Id 4	7 off	6 off	5 off	4 off	3 on	2 off	1 off
Id 5	7 off	6 off	5 off	4 off	3 on	2 off	1 on
	(etc.)						
Id 62	7 off	6 on	5 on	4 on	3 on	2 on	1 off
Id 63	7 off	6 on	5 on	4 on	3 on	2 on	1 on
	(etc.)						
Id 99	7 on	6 on	5 off	4 off	3 off	2 on	1 on
* Factory Settings							

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### **Note:**

*Changing any Dip Switch causes an automatic reset after a few seconds.*

***Each panel in a system MUST have its own unique ID number.***

## The RS-485 Network

Once the panels DIP switch settings are compatible with the system (i.e. each panel has its own unique ID number), the panel can be connected to the RS-485 network.

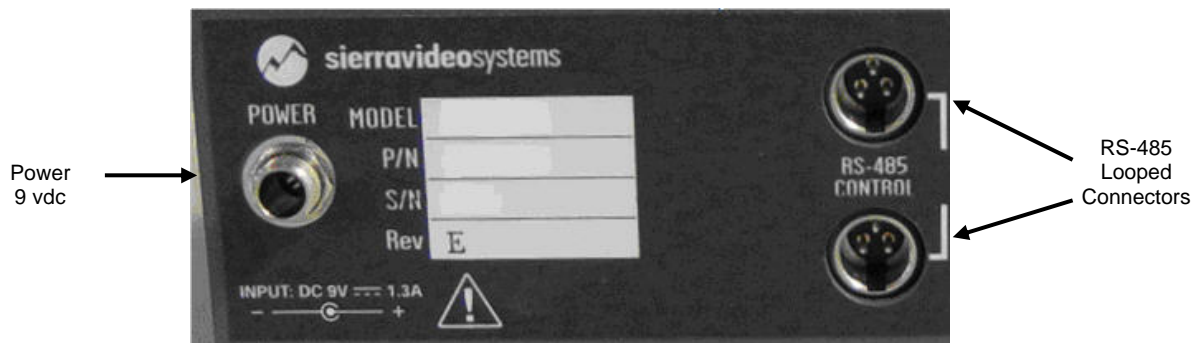
The panel has two mini XLR connectors. The mating connectors used are Switchcraft TA3F. If these are not available locally, they can be purchased from Sierra Video.

The cable entry hole into these connectors is quite small and we have found that Belden 8451 cable fits quite well through the strain relief.

The pinout of the connector is as follows:

**Pin 1.....RS-485 +**  
**Pin 2.....Ground**  
**Pin 3.....RS-485 -**

The two connectors on the back of the control panel are connected in parallel. This allows the panels to be looped (“daisy chained”) together. If it is more convenient, you can build a fanout panel or box so that only one cable needs to run to each panel. In either case, the total cable length cannot exceed 5,000 feet at 31,250 baud or 10,000 feet at 9,600 baud.



## Installation

Once the DIP switch settings have been set to your system requirements, connect the panel's control cable (RS-485) to the router and apply power to the panel.

Upon power up the panel will display a series messages. The first message displayed will read “**Power On Tests Successful**” followed by “**Starting Application Please Wait...**”. The next message displayed will read “**Contacting Router, Please Wait...**” on the top row. The bottom row reads “**804224**” (the panel's part number) “**ID:xx**” (the panel's ID number) “**Speed:xxxxx**” (panel port speed) “**Sftwr: Vx.xx**” (current software version).

\* If the display stays on the “**Contacting Router...**” message, it is an indication that there is no communication with the router. Check the RS-485 cable for correct connection.

If communication with the router is correct the panel will display the following message, “**Sorting Router I/O Names... Please Wait...**” at this point the panel is retrieving the input and output names from the router's processor.

If the router name, number of inputs or outputs is different than what is stored in the panel's flash memory, the message "**Router Name or Size changed Erasing Flash, Resetting Panel...**" is displayed.

After these initial functions are complete, the panel will display its main control screen. The panel is now ready for programming.

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**Note:**

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***Each panel in a system MUST have its own unique ID number.***

## Programming

The Sierra Video TyLinX Pro or MediaNav software programs are used to setup the output(s) and level of the control panel. Refer to the TYLINX PRO or MediaNav manual for detail on panel programming.



# Warranty

## A. General

Buyer assumes all responsibility for ascertaining the suitability of Sierra Video (hereinafter "SVS") products for Buyer's intended use. No product sold by SVS is designed or manufactured for use in any manner or under any conditions other than those described in SVS's instruction manuals and other printed material for each particular product. If any product is used or applied in a manner or under conditions not specifically authorized by such written materials or if any product is used by unqualified or improperly trained personnel, Buyer agrees that SVS shall have no liability of any kind arising from such use, and Buyer agrees to indemnify and hold SVS harmless from any claims of third parties arising from such use, and Buyer shall provide SVS with counsel of SVS's choice to defend against such claims.

## B. Limited Warranty

1. This limited warranty applies only to the original purchaser and is non-transferable. This limited warranty begins on the date of purchase and will be in effect for seven (7) years for new equipment and for three (3) years for "Factory Refurbished" equipment. Power Supplies and fans are warranted for three (3) years from the date of purchase for new equipment and two (2) years for "Factory Refurbished" units, from the date of purchase. Buyer must obtain a Return Material Authorization ("RMA") number from SVS prior to returning a product for repair. If, in SVS' sole discretion, the product is found to be defective during the term of this warranty, SVS will at its option: (a) provide free replacement parts, and/or (b) repair the unit at an SVS facility. During the warranty period, SVS will make every reasonable effort to support critical emergencies by supplying no-cost loan equipment while the defective unit is being repaired. SVS will provide replacement parts and/or factory service at no charge. Buyer bears the cost of shipping products returned to SVS under this warranty. SVS will bear the cost of shipping repaired products or replacement parts to the Buyer.

This limited warranty shall not apply to any of SVS's goods which have been altered or which have been subjected to misuse, mishandling, improper storage or negligence. The aforementioned provisions do not extend the original warranty period of any goods which have been replaced by SVS. This limited warranty shall not apply to any goods not of SVS's manufacture, Buyer to be entitled only to the warranty set forth in the original manufacturer's limited warranty.

THIS LIMITED WARRANTY IS EXPRESSED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR LIABILITIES ON SVS'S PART.

SVS neither assumes nor authorizes any other person to assume for SVS any other liabilities in connection with the sale of products of its own manufacture.

2. SVS's liability hereunder on any claim of any kind, except as set forth herein for any loss, injury to person or property or damage, shall in no case exceed the price allocable to the goods which give rise to such claim.

3. In no event shall SVS be liable for any damages or injuries to person or property if any goods do not meet the above limited warranty, including, without limitation, incidental expenses or consequential or special damages, except as set forth in such limited warranty. The foregoing states the exclusive remedy of Buyer and the exclusive liability of SVS for any breach of the foregoing limited warranty.

## C. Cancellation

Except as provided in paragraph B immediately above, all sales are final, and Buyer may cancel this order or return products only upon written consent of SVS.

## D. General

In the event of a breach of any of the terms hereof, the non-breaching party shall be entitled to recover all of its costs, fees, and expenses, including, without limitation, reasonable attorney's fees, from the breach party incurred as a result of such breach, regardless of whether or not a suit is actually filed to enforce the terms hereof.

The provision hereof shall be governed by the laws of the State of California (excluding its choice of law provisions).

The headings are for convenience only and do not limit or amplify the terms and provisions hereof.

In case any one or more of the provisions set forth herein shall be held to be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

No waiver, alteration, or modification of any of the provisions hereof shall be binding unless in writing and signed by an authorized Officer of SVS.

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### **NOTE:**

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*All products returned to SVS for service must have prior approval. Return authorization requests may be obtained from your SVS dealer.*