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SIERRA VIDEO

SCP-112 Control Panel 804112

User's Manual

SIERRAVIDEO

SCP-112 CONTROL PANEL

User's Manual

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Chapter

1

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.
Output	Connects the signal to the destination device.
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.
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 120VAC 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.

CAUTION!

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. 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 TyLinx Pro 2.0 (or newer) 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. A button can have multiple functions depending how it is programmed and where the user is in the sequence of pushes. As an example, the first push on a button could write “VTR” on the display. The second push on the same button could add a “1” to “VTR” as a suffix so we would see “VTR1” on the display. The Second Push row would remain enabled until either the “Shift”, “Clear”, or the “Take” button were selected and would force the panel into a different set of actions. 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.

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Chapter

2

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 manual for details.

The TyLinx Pro software can be downloaded, at no charge, from the Sierra Video web site, 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-112 control panels are 1 rack unit high, 19” wide, and 2.5” deep.

DIP switch settings

Your control panel has been configured at the factory for the settings you are most likely to need. However, if you want to configure the control panel differently, you can do so by setting the switches located on the processor board.
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:

Control Panel
Dip Switch Settings Label (LB04152-00)

804112/804224 Select (S1-2):
804112 panel: S1-2 off *
804224 panel: S1-2 on

Port speed (S1-6):
9,600 bps S1-6 off
31,250 bps S1-6 on *

Firmware Download (S1-7):
Normal Oper 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

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

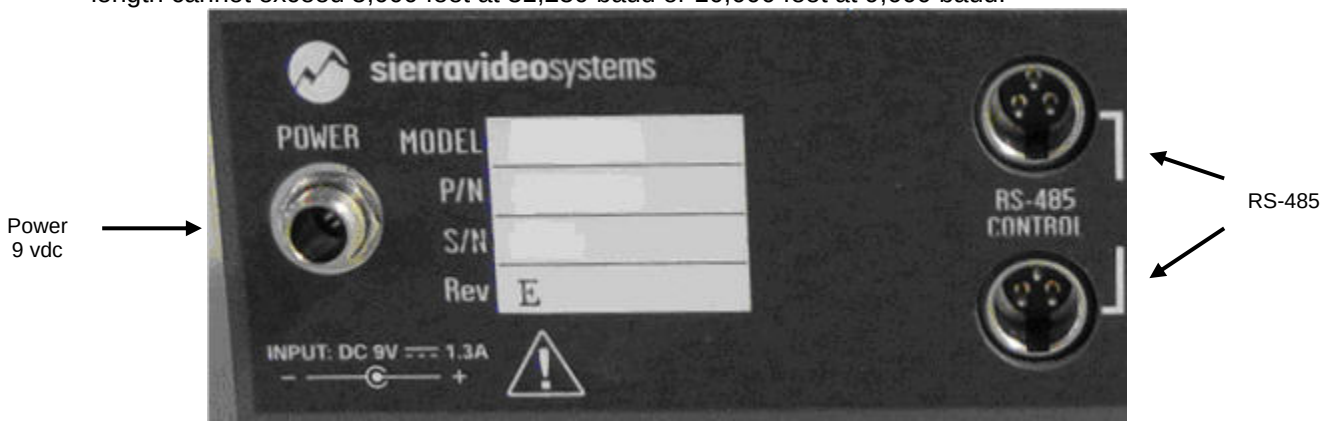
Once the panels DIP switch settings are compatible with the system (i.e. each panel has its own unique ID number), the panel can be connected to the RS-485 network.

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 **"804112"** (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.

Note:

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

Chapter

3

Programming

Introduction

The SCP-112 is programmed with the TyLinx Pro software. Please refer to the TyLinx Pro manual for correct installation on your PC. It is recommended that the router names and configuration be applied to the router before programming the SCP control panel; see the TyLinx Pro manual for details.

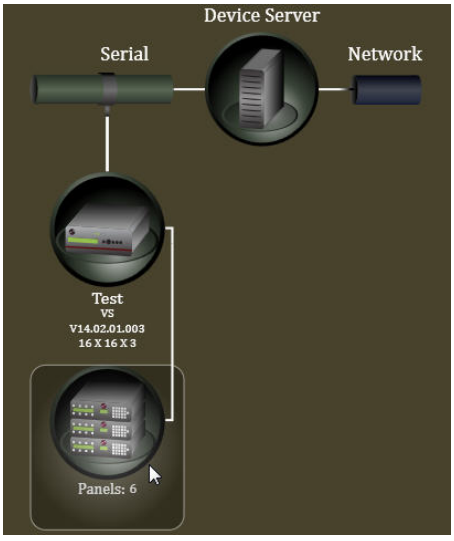
Follow the instructions in the TyLinx Pro manual to retrieve the router settings and discover the control panels connected to the router.

If new control panels are added select “ReSync” on the device map screen of TyLinx Pro to discover the new panels.

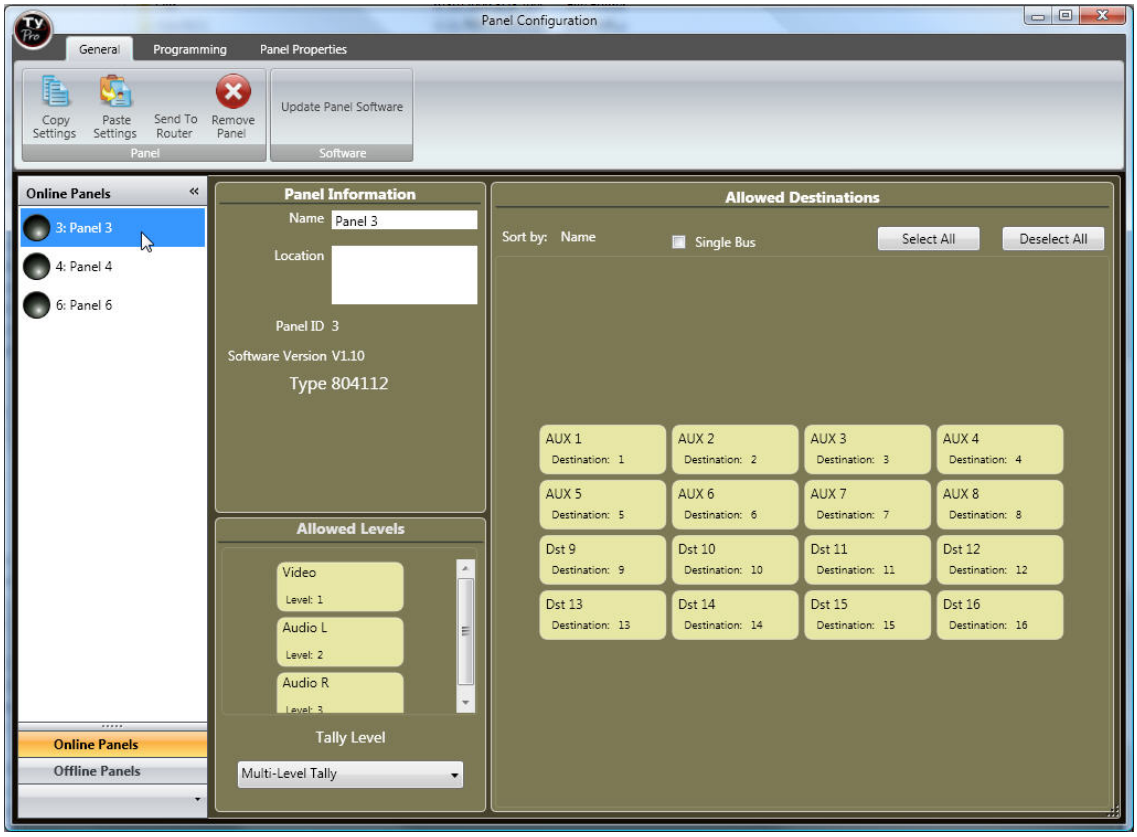
General Settings

The “General Settings” window is the first step to programming an SCP panel. The “General” window allows you to set the output(s) and level(s) you want the panel to control.

From the Device Map window on TyLinx Pro, double click on the control panel icon.



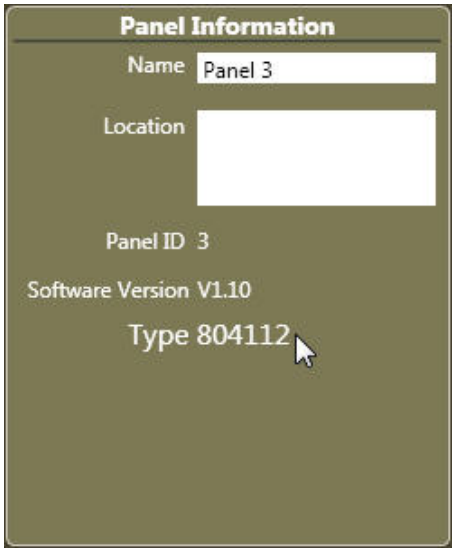
Select the Panel number (ID) of the SCP-112 panel you want to program.



Note:

The General Settings must be configured before proceeding to the Programming screen.

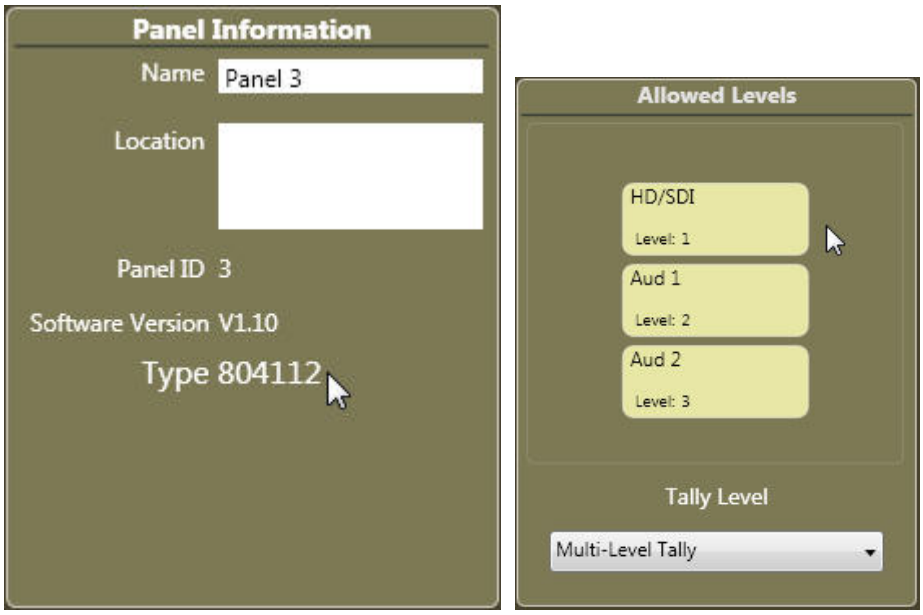
The “Panel Information” window will display the part number and software version of the selected panel. The SCP-112 panel’s part number is 804112.



You can enter a panel name and/or location (optional).

Select the level(s) the panel is to control (toggle on and off).

Select the output(s) the panel is to control.

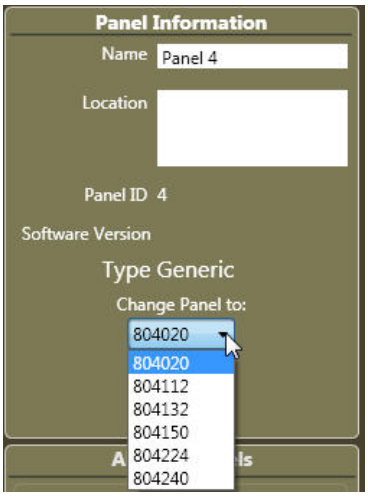


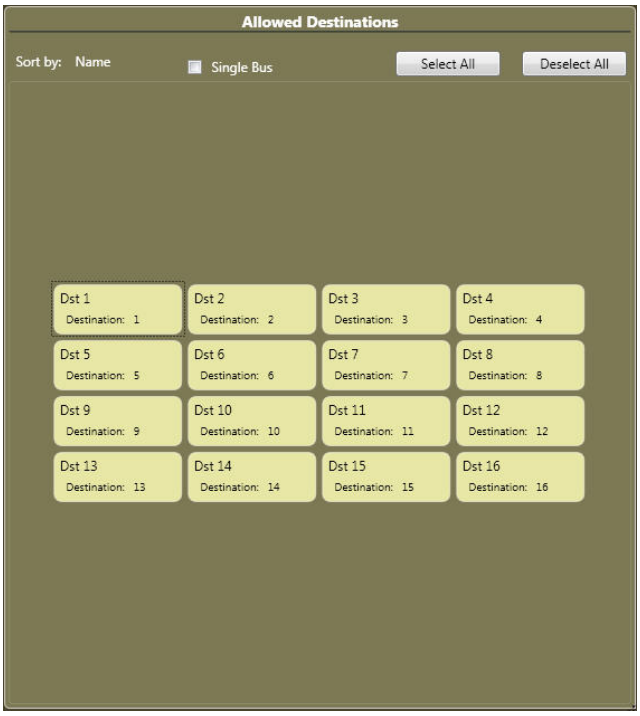
Note:

Some older versions of Control Panel software do not allow TyLinx Pro to identify the SCP control panel type.

If the SCP control panel you have selected is identified as "Type Generic" you may have an older version of software. Older versions of software may still be programmed.

Select the panel Type from the dropdown window under "Change Panel to:" and continue.

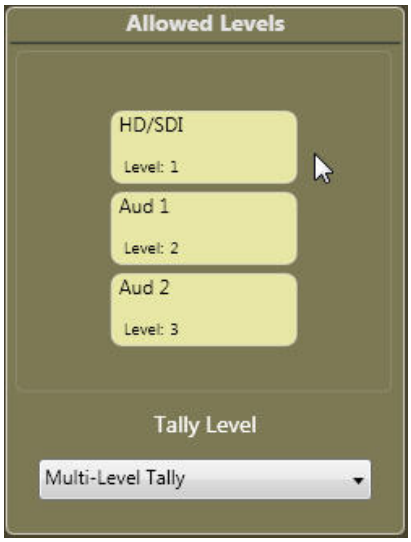




All control panels can have outputs blocked, this allows the control panel to status an output, but prevents the panel from selecting inputs on that output.

Select the outputs you want this panel to control.

Panels can also have levels blocked. “Enable/Disable” the levels you want this panel to control by clicking on the level boxes in the lower part of the screen.



The “LED Tally Level” section does not apply to the SCP-112 control panel.

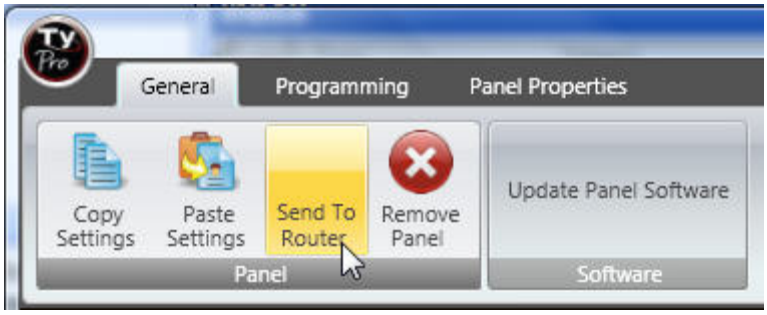
If the panel is to be a “Single Bus” (only controls 1 output), place a check in the “Single Bus” box.



Placing a check in the “Single Bus” box will cause the panel to only access and switch the single selected output.

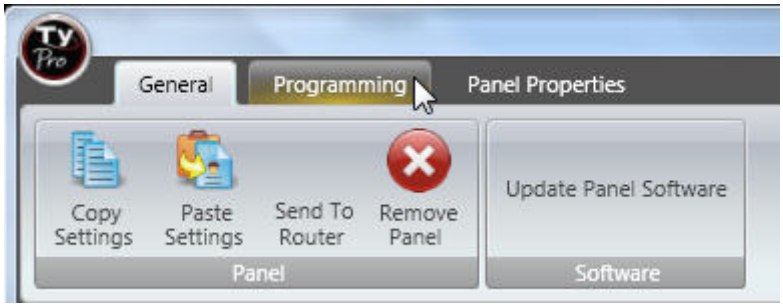
If there is no check in the box and only one output is selected for the panel to control, the panel can status the blocked outputs but only switch the selected output.

When selection of allowed outputs and levels is complete, click on “Send to Router”.

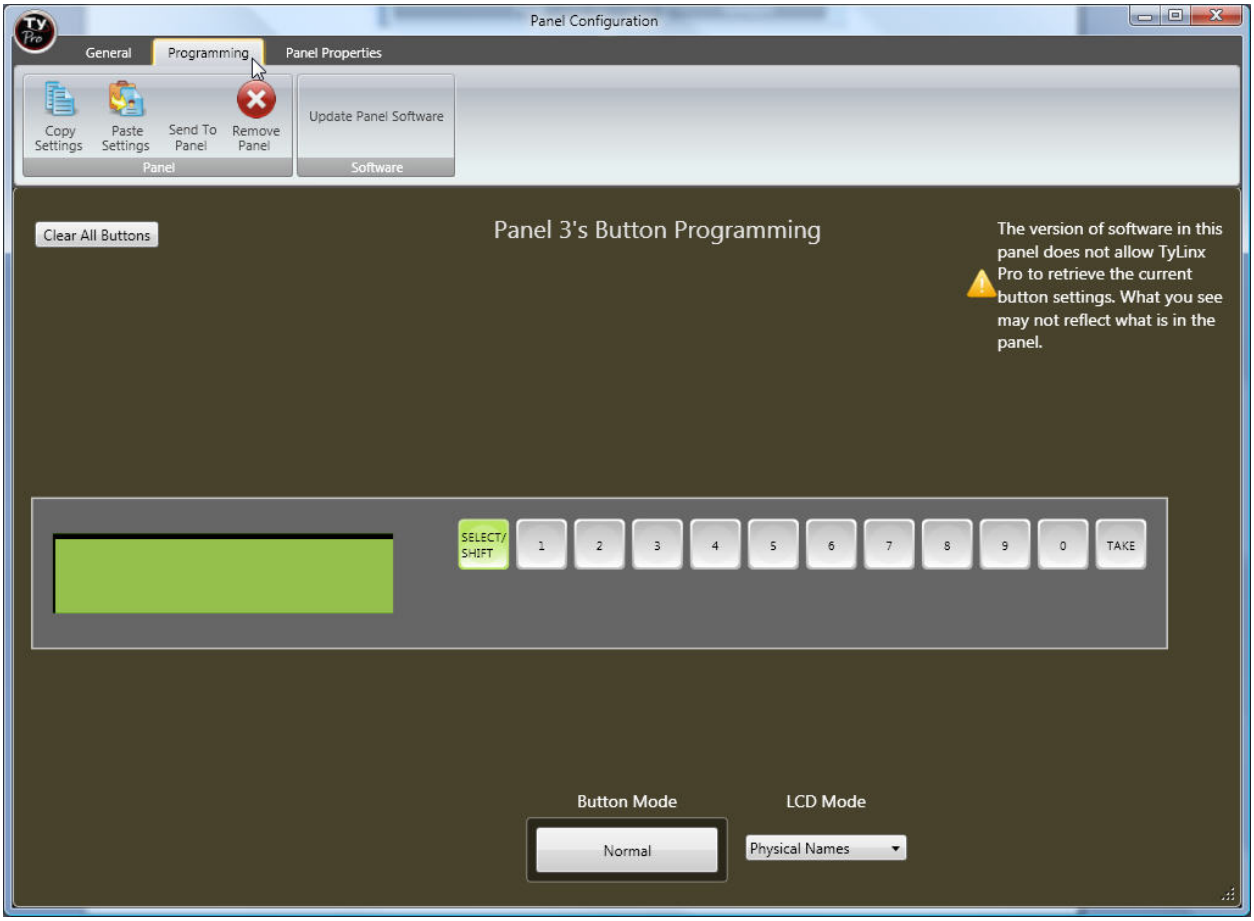


Programming Panel Buttons

Click on the “Programming” tab at the top of the window.



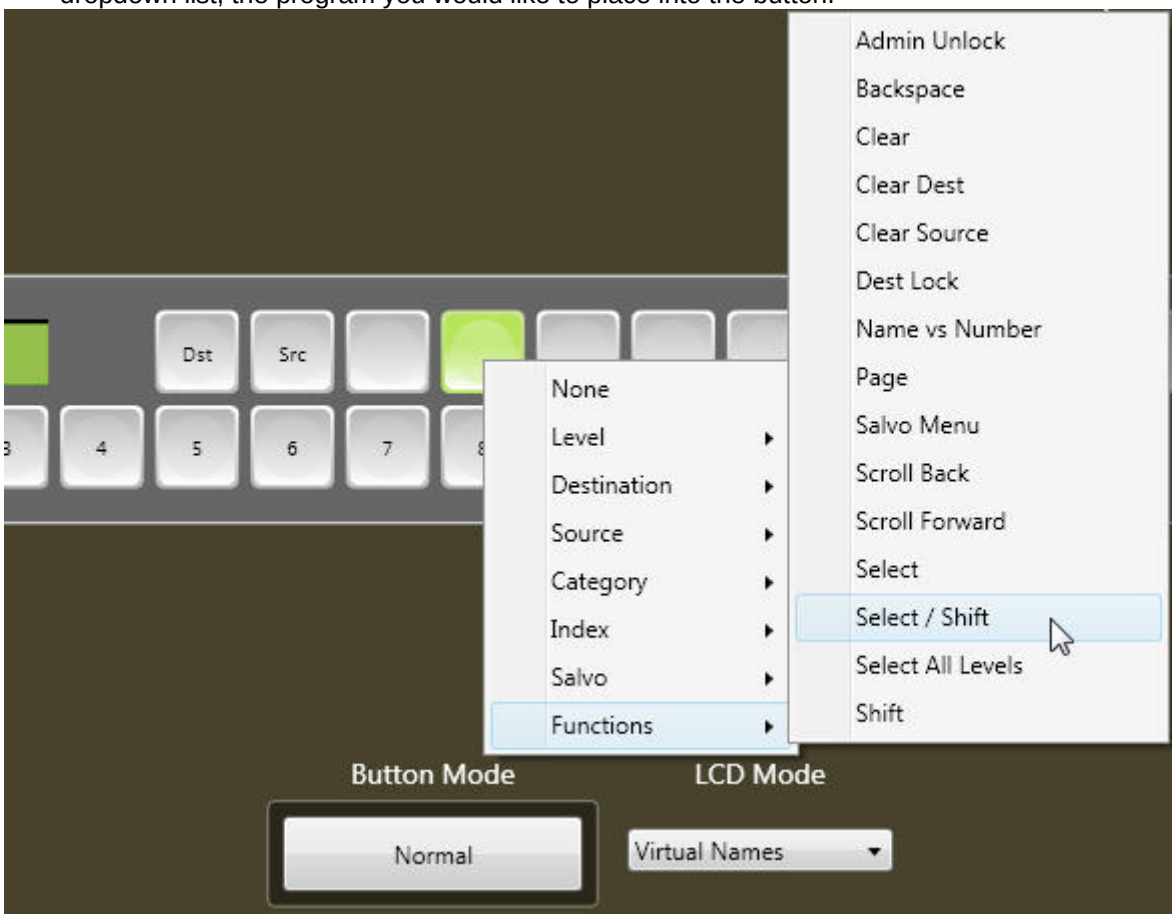
This will take you to the button programming window.



Note:

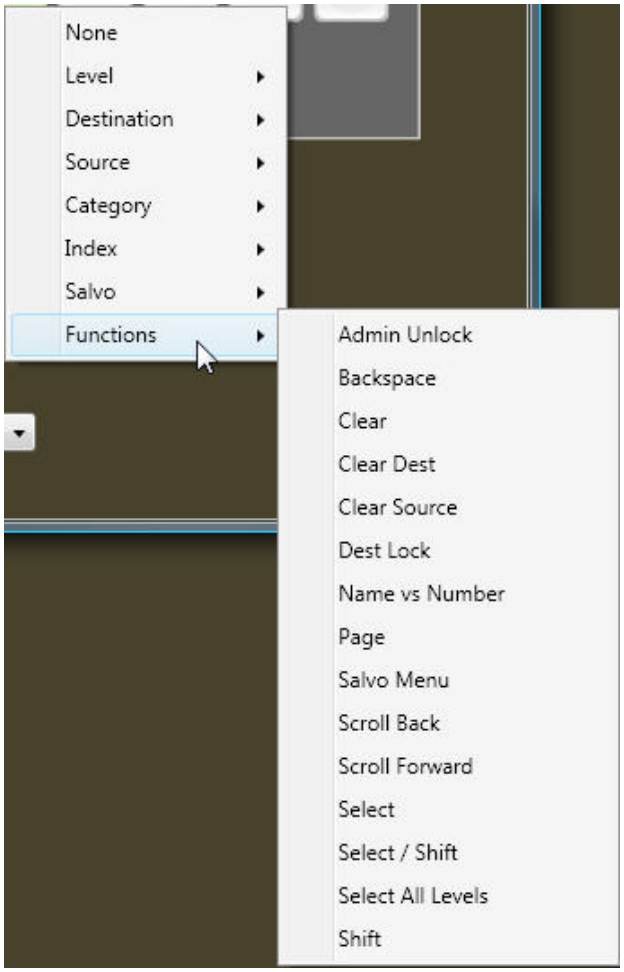
If your panel does not have software that does not allow TyLinx Pro to read the current programming of the buttons, this screen will reflect the factory default programming.

To program a button hover over the button with the mouse pointer, right click, and select from the dropdown list, the program you would like to place into the button.



Continue this process for each button you want to program.

Functions; This is a list of functions that can be applied to the panel buttons.



Admin Unlock- Unlocks selected destination. Overrides lock made by any user.

Backspace- Causes cursor to move back one character space.

Clear- Clears current entry.

Clear Dest- Clears destination entry and places the cursor in the destination field.

Clear Source- Clears source entry and places the cursor in the source field.

Dest Lock- Locks current destination from changing to another source.

Name vs Number- Toggles between Alpha and Numeric sort.

Page- Changes display to next page. If there are more levels than show in LCD display, Page will display next set of levels.

Salvo Menu- The “Salvo Menu” function will display the list of Salvos in the LCD of the panel for selection.

Scroll Back- Causes lists to display from higher number to lower.

Scroll Forward- Causes lists to display from lower number to higher.

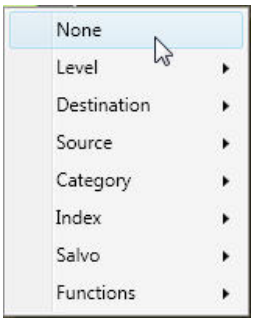
Select- Moves cursor.

Select/Shift- “Select/Shift” is a dual mode function. Pressing once is the “Select” function (moves cursor). Holding down the button is the “Shift” function similar to a standard computer keyboard.

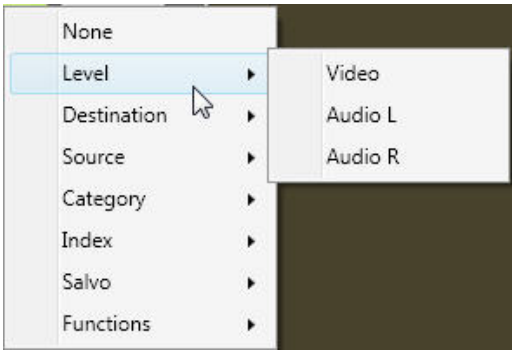
Select All Levels- Enables all levels Note; all levels are enabled as a default. This function restores all levels to enable if the previous switch was other than all levels.

Take- Initiates command

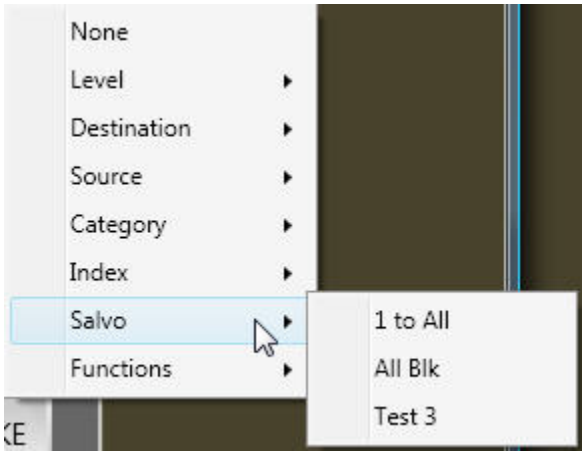
None- This removes any programming from the button.



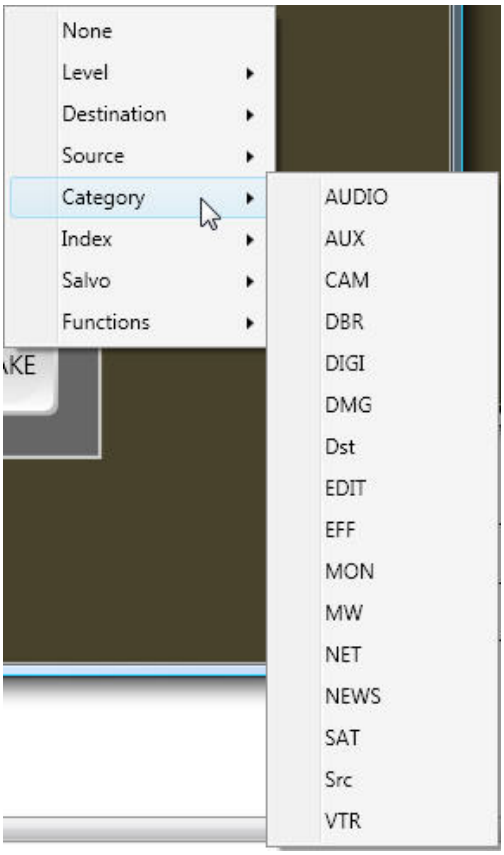
Level; This list contains the levels of control active on the router. When this function is applied to a panel button the LED for that button will light allowing individual level selection. After a destination is selected all level buttons will light. Pressing a level button will unselect the level indicated by extinguishing the light. Holding down the button will cause the panel to cycle from enabling only the level selected to all levels enabled.



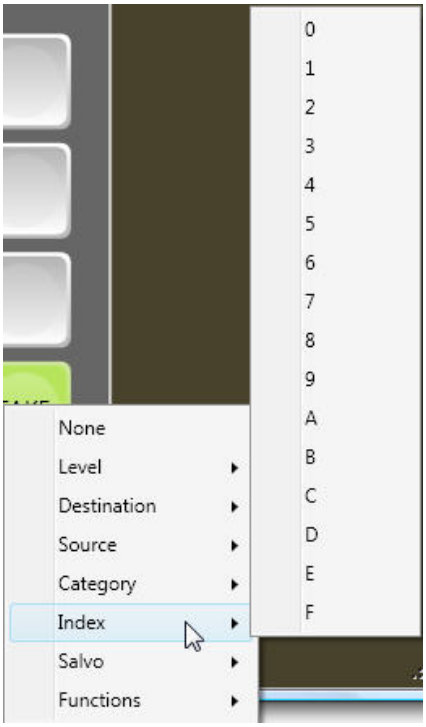
Salvo; This window is the list of Salvos. Selecting a Salvo from this list and applying it to a button gives you a direct link to the Salvo selected.
*A “Salvo Menu” function can be found in the **Functions** window. This will display the list of Salvos in the LCD of the panel for selection.



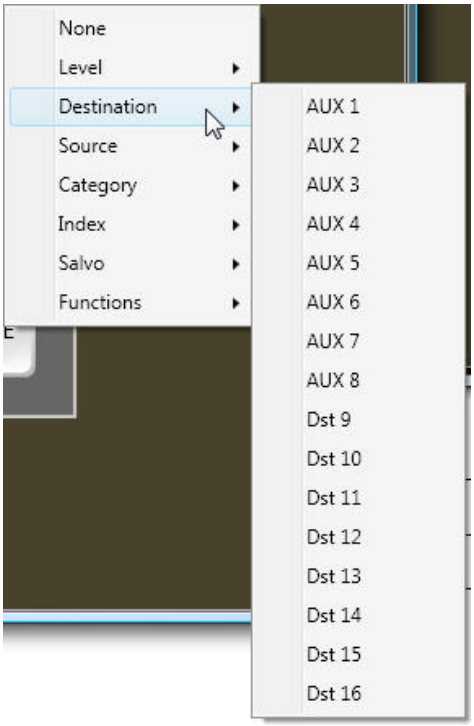
Category; This list contains the categories as entered in the names screen in TyLinx Pro. This programs the button to enter the category name awaiting an index number to complete the entry.



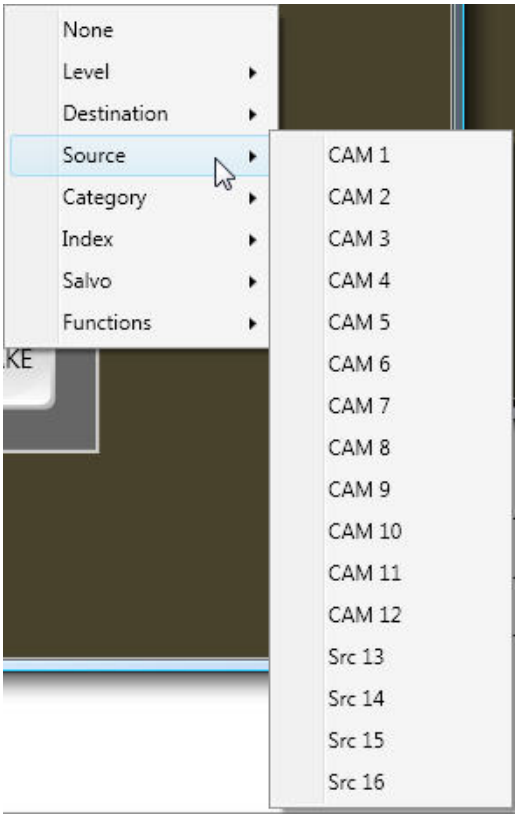
Index: This list contains the Indices as entered in the names screen in TyLinx Pro. This programs the button to enter the index reference of a category to complete the entry.



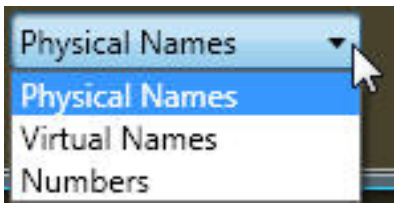
Destination; This is a list of outputs, by name, providing a direct routing path to a selected output.



Source; This is a list providing a direct routing path to a selected input.



LCD Mode; Selecting the different setups will adjust the display of the in the “Source Status” window on the panel. Some models, depending on LCD size, do not support all setups.

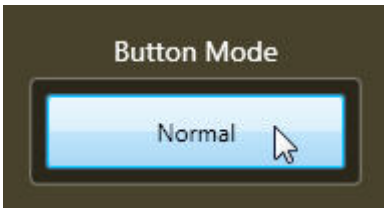


Physical Names displays the actual source names by level.
Virtual Names displays the virtual source name in all levels.
Numbers displays the physical I/O numbers (numeric only).

Button Mode; Clicking on the “Button Mode” button mode button toggles between “Normal”, “Shift”, and “Special” Push. Selecting “shift” allows you to program buttons on a “shift” row. The “shift” row acts similar to a PC keyboard. If a button is programmed is programmed as “Select/Shift”, holding down that button accesses anything programmed in the “shift” row.

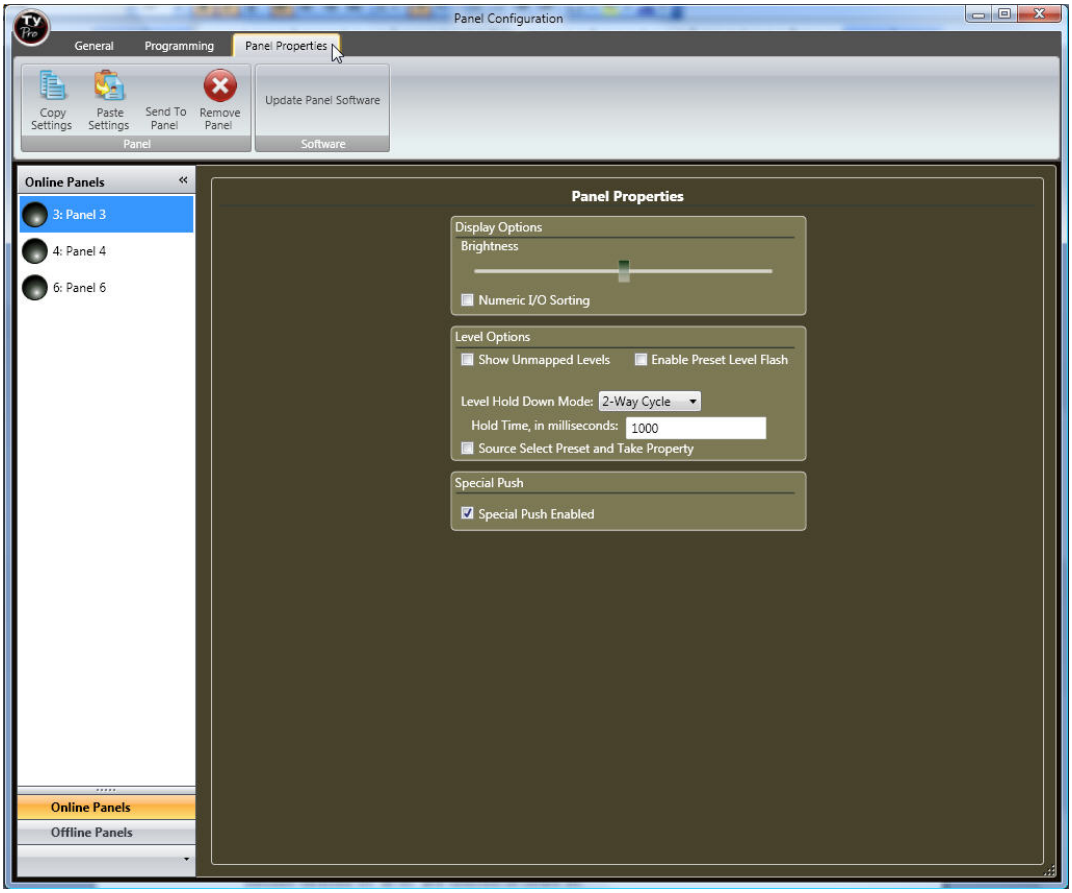
The SCP-112 has a “Special Push” row that can be enabled to increase the functionality options (see the Panel Properties section). Factory default is “Special Push” enabled. The “Special Push” row is ideal for category names.

*If “Special Push” is enabled the action of the button becomes the first push command with the “First Push” row of buttons becoming the subsequent commands until “Take”, “Select”, or “Clear” is pushed.



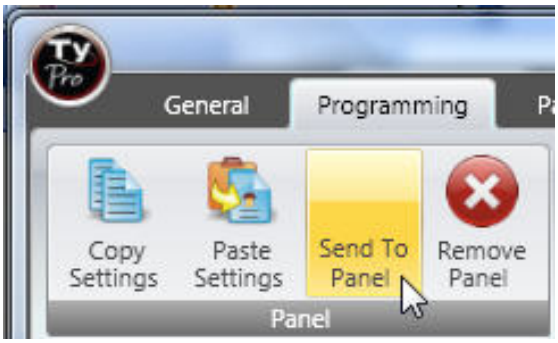
Panel Properties

Select the panel properties tab.



Numeric I/O sorting- Panel lists will display sorted by input or output number. Un-checked panel will display lists by alpha sort.
Show UnMapped Levels- Levels that are unmapped will be displayed in status. Unchecked will hide unmapped levels.
Enable Preset Level Flash- When checked this will cause level display to flash when preset to switch. * *If level button is programmed as a shift function, checking this box has no effect on level button function.*
Source Select Preset and Take Property- If this box is checked, router will “Take” when source is selected. Un-checked will require a “Take” button to be pressed to initiate switch.
Level Hold Down Mode- When level buttons are held down for 3 seconds they will cycle through a series of enabled and disabled. In the 2-Way Cycle mode, holding down the level button toggles between all on to only the selected on. 3-Way Cycle Mode, holding down the level button toggles between selected on, all on, and selected off others on.
Special Push Enable- When the box is checked the action of this row of buttons becomes the first push command with the “First Push” row of buttons becoming the subsequent commands until “Take”, “Select”, or “Clear” is pushed.

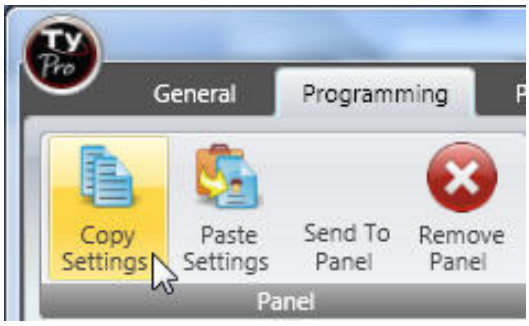
When programming is complete, click on “Send To Panel” to apply programming to the panel.



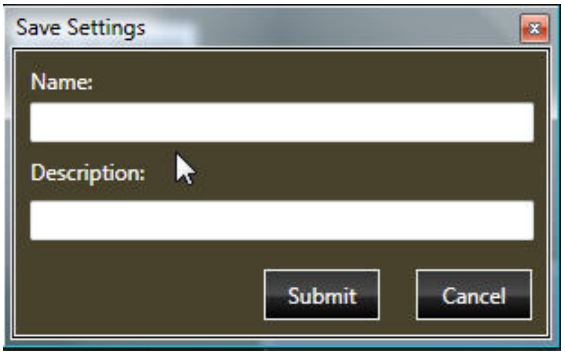
The LCD screen on the panel will indicate that the buttons are being programmed and the panel will reset when complete.

Once you have programmed a setup you may save the setup to paste to other panels. Settings are saved in the TyLinx Pro data base and can be selected to paste to another SCP-112 in the future.

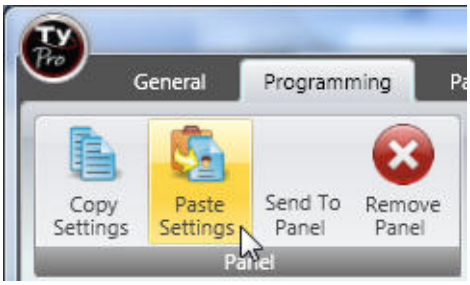
Click on “Copy Settings”.



A “Save Settings” dialog window will appear allowing entry of a name and description of the saved settings.



To recall saved settings, click on “Paste Settings” and select the settings you want to apply and click on “Submit”.





Chapter

4

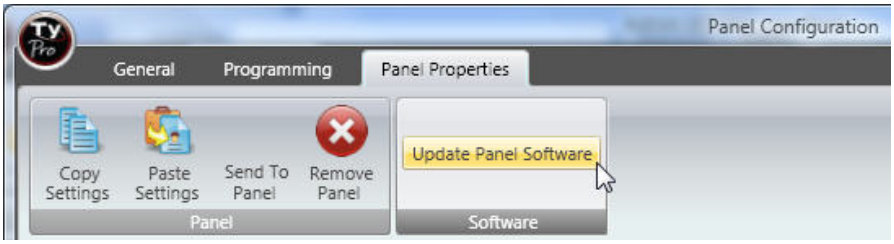
Software Upgrades

Introduction

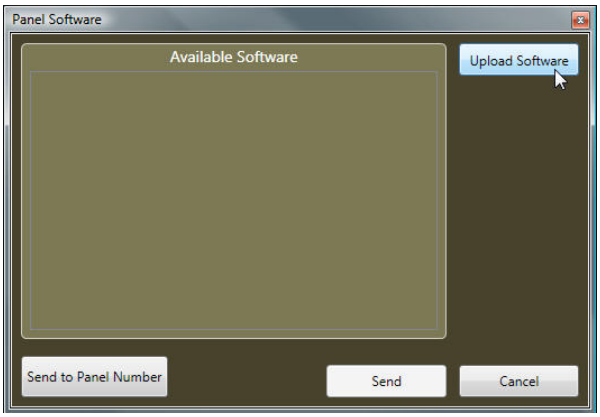
From time to time software upgrades will be available from Sierra Video. Check our web site (sierravideo.com) for available downloads, or contact the factory.

Operation

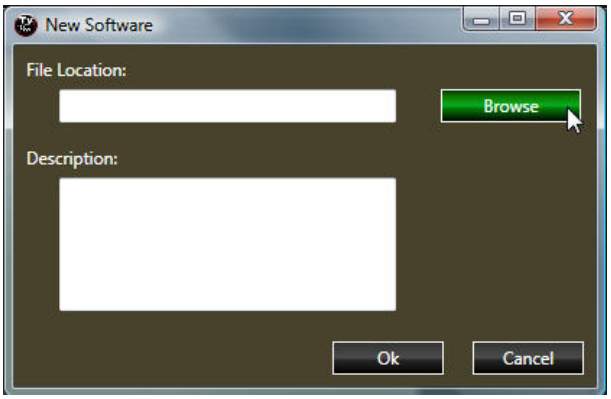
Download the software upgrade to a folder on your PC. From the Panel Configuration window, select “Update Panel Software”.



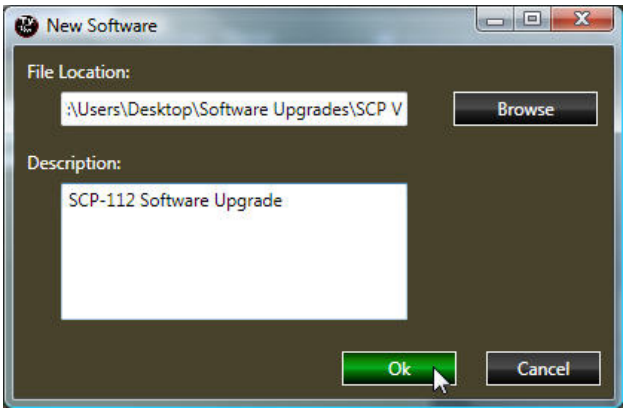
The following window will be displayed;



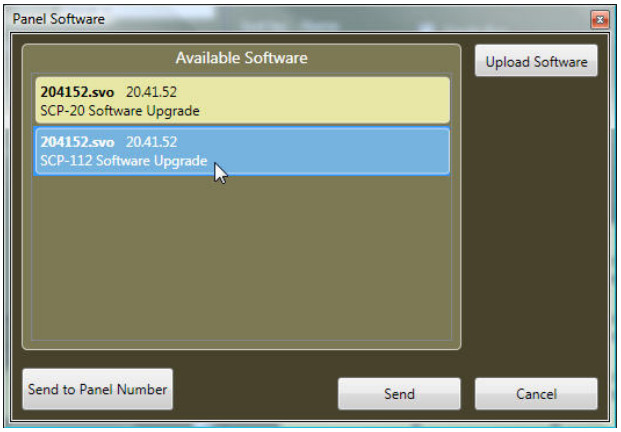
Select “Upload Software” and click on “Browse” to locate the software file you placed on your PC.



Enter a description and press Ok.



The file will appear in the “Available Software” window. Select the file and click on “Send”.



The panel’s software upgrade process will be indicated on the LCD screen of the panel by “Receiving Text #####”. The panel will reset when transfer is complete.

When the software update is complete, close the “Panel Configuration window.

From the “Device Map” screen, right click on the control panel(s) icon and select “ReSync Panels” before programming panel.



Operational Notes

Enter the destination first. After the destination is entered, the button programmed “Select” or “Select/Shift” will light indicating a valid entry. You can press either “Select” or “Take” to move the cursor to the “Source” field, and enter the Source. After the “Source” is entered, pressing “Take” will complete the route.

Names are stored in the router’s CPU. Enter names in the router before programming the panel. See the “names” section of the TyLinx Pro help file for details.

When a panel displays a question mark it is an indication that the name entered is not recognized as a name in the router’s CPU.

The control panel downloads names from the router on power up. If the names in the router are changed, remove power from the control panel for 10 seconds. Re-applying power will cause the panel to download the new names.

Pressing buttons 7, 8, and 9 simultaneously causes the panel to reset.

Chapter 5

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.

NOTE:

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

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