

Setup and Operations Guide

U-CON V4 Operations Guide

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Utah Scientific, Inc.

4750 Wiley Post Way, Suite 150
Salt Lake City, Utah 84116-2878 U.S.A.

We declare our sole responsibility that the Utah-400 Digital Routing Switcher is in conformance with the following standards:

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- EN55022:1994+A1&A2

Immunity

- EN55024:1998
- EN61000-3-2
- EN61000-3-3

Safety

- IEC 60950-1:2001 /EN 60950-1:2001

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This section provides important safety guidelines for the Operator and Service Personnel. Specific warnings and cautions are found throughout the guide where they apply, but may not appear here. Please read and follow the important safety information, specifically those instructions related to risk of fire, electric shock, or injury to persons.

Safety Symbols



- Hazardous Voltage symbol



- Caution symbol. The product is marked with this symbol when it is necessary to refer to the manual to prevent damage to the product.

Warnings

Please observe the following important warnings:



- Any instructions in this guide that require opening the chassis, changing a power supply, or removing a board, should be performed by qualified personnel only. To reduce the risk of electric shock, do not perform any service unless you are qualified to do so.
- Heed all warnings on the unit and in the operating instructions.
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- Have qualified personnel perform safety checks after any service.

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Please observe the following important cautions:



- When installing this equipment do not install power cords to building surfaces. To prevent damage when replacing fuses, locate and correct the problem that caused the fuse to blow, before reconnecting power.
- Use only specified replacement parts

Notices

Please observe the following important notes:



- When the adjacent symbol is indicated on the chassis, please refer to the manual for additional information.
- For the HD-2020 Chassis and Master Control Panel, refer to “Connecting and Disconnecting Power” - Chapter 2 (Hardware Installation).

Company Information

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Chapter 1 - The U-CON V4 Interface

Introduction

For many years, system configuration for complex router systems has been difficult. Configuration software mirrored closely the hardware it configured but offered little in the way of system overview, understandable user interface, and error checking between devices editing in the system.

U-CON V4 has been created to help address these problems. The U-CON V4 Interface has been designed to assist the user in understanding and configuring systems quickly and easily.

System Hardware Requirements

Proper operation of the U-CON V4 utility includes the following:

Item	Minimum	Recommended
Processor	Intel Pentium II	Intel Pentium IV
Operating System	Windows 2000	Windows XP or Windows 7
Memory	128 MB Ram	512 MB Ram
Hard Disk	384 MB Free Space Including Swap File	--
Monitor	17" 1024x768 Color Monitor	--
Video Card	1024x768 capable, 8 MB of RAM	==
CD-ROM	Any	Any
Ethernet Adapter	10 Base T	--
Serial Port	Any	Any



U-CON V4 Overview

System Toolbar



Each tab is active when clicked

System Page (Tab)

The System Page (below) will be displayed when U-CON V4 is started and a Data Store has been opened. (If no Data Store is open, the U-CON V4 icon will appear by itself, without any other icons present (Figure 1-1)).

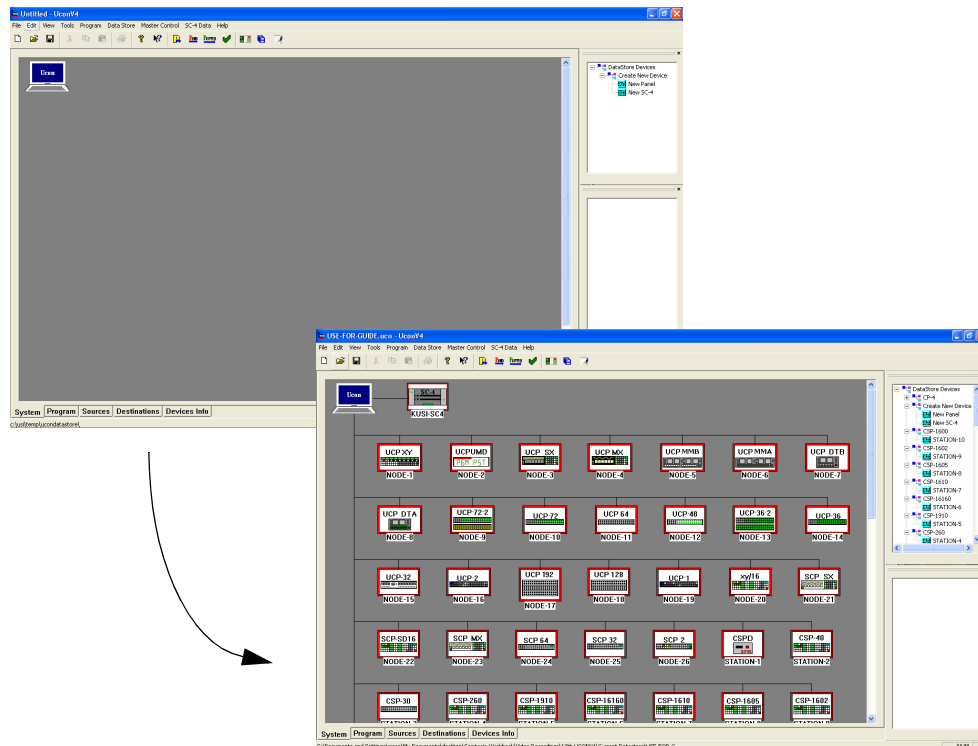


FIGURE 1-1. System page containing added devices

This System page contains all devices that are specified in the current configuration. This information can be likened to a “Document” in traditional windows usage. It lists all devices that can be “edited” or configured and programmed. Configurations for the various devices are stored in a common database referred to as a “Datastore”. The Datastore will be discussed in the next section.



You can also display the icons (above figure) as smaller versions, by selecting *Small Icon View* from the **View** menu.

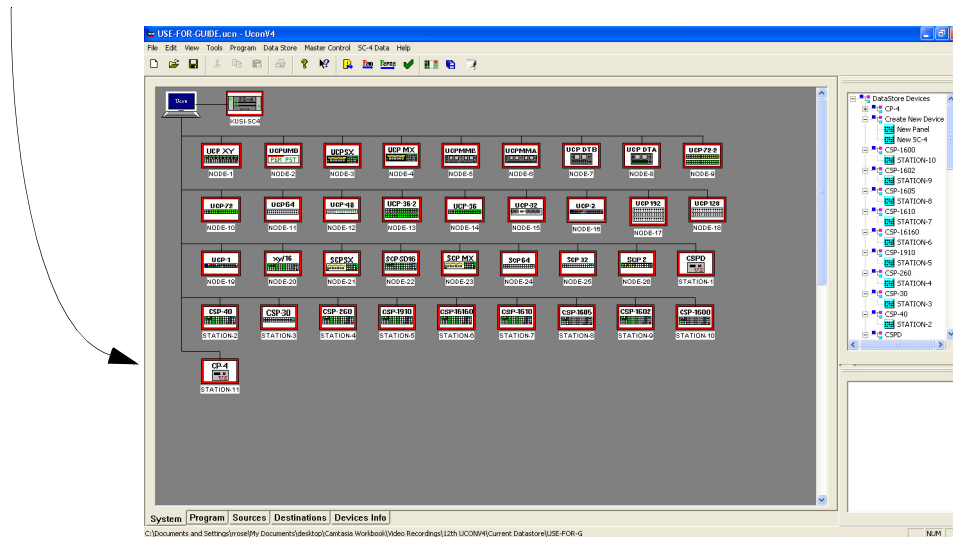
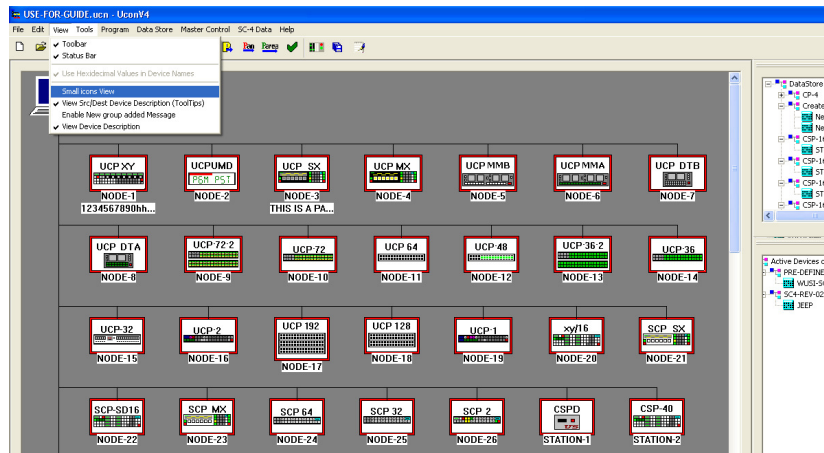


FIGURE 1-2. 'Small Icon View' selection

Program **Program**

The Program screen shows the *progress bar* for each device actually being programmed.

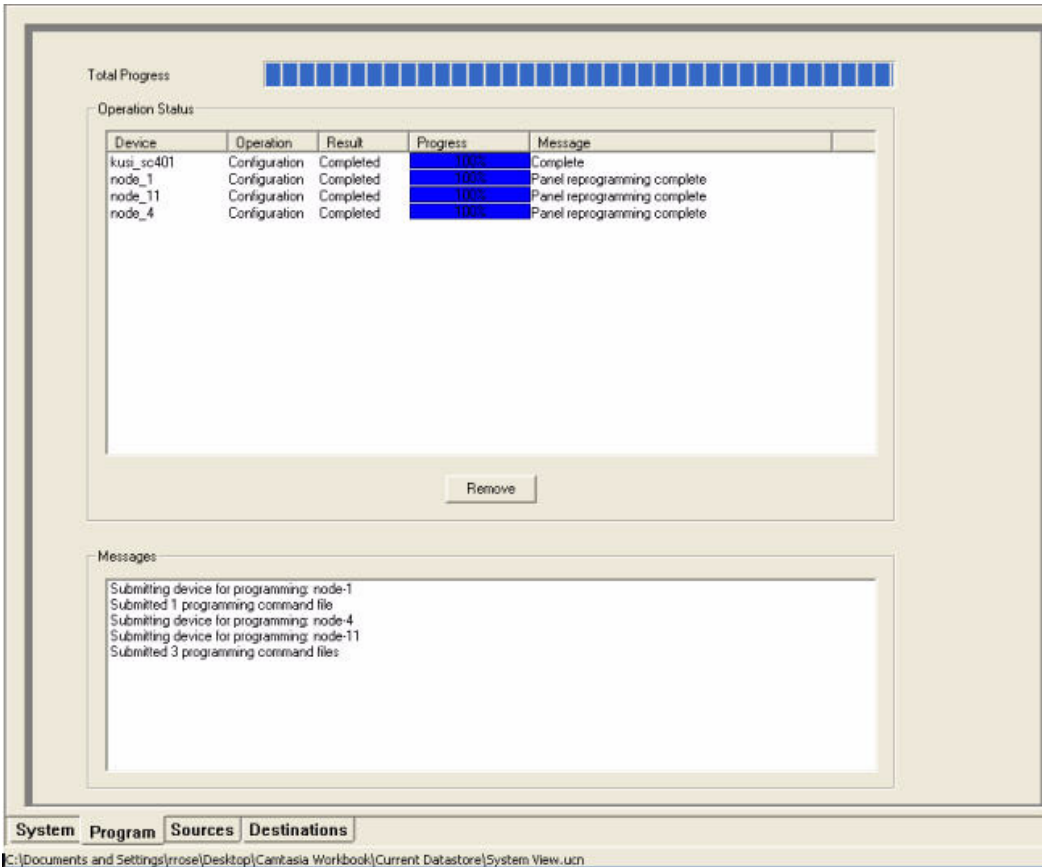


FIGURE 1-3. Program Tab view - with real-time activity



Source Sources

The Source screen contains source names and assigned physical input numbers under their respective level column. Inputs can be added or removed from this table using the edit buttons at the right of the table.

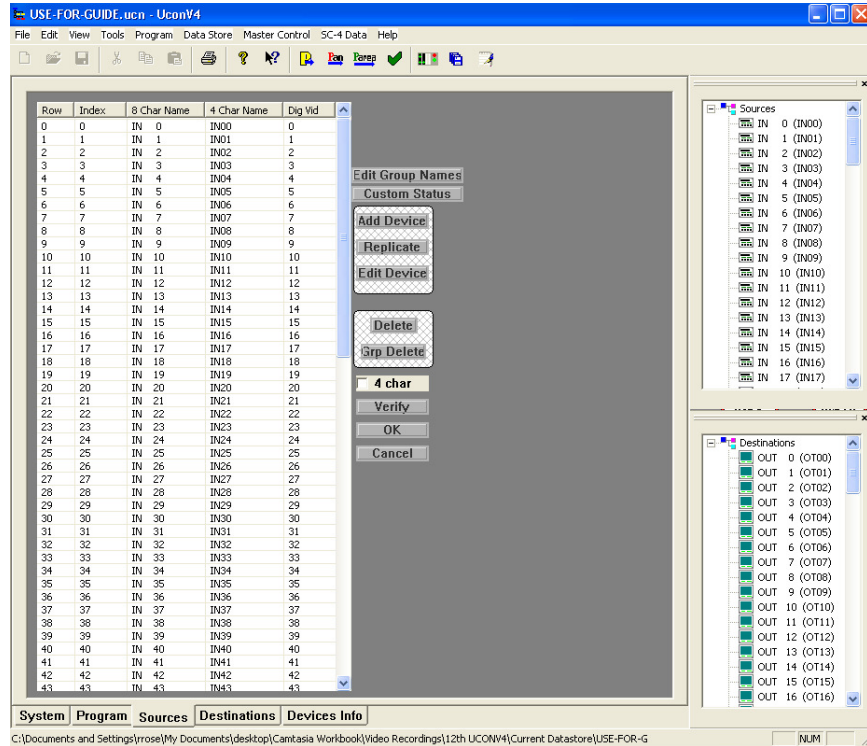


FIGURE 1-4. Source Tab view

Destination Destinations

Like the Source screen, the Destination screen contains destination names and assigned physical output numbers under their respective level column. Outputs can be added or removed from this table using the edit buttons at the right of the table.

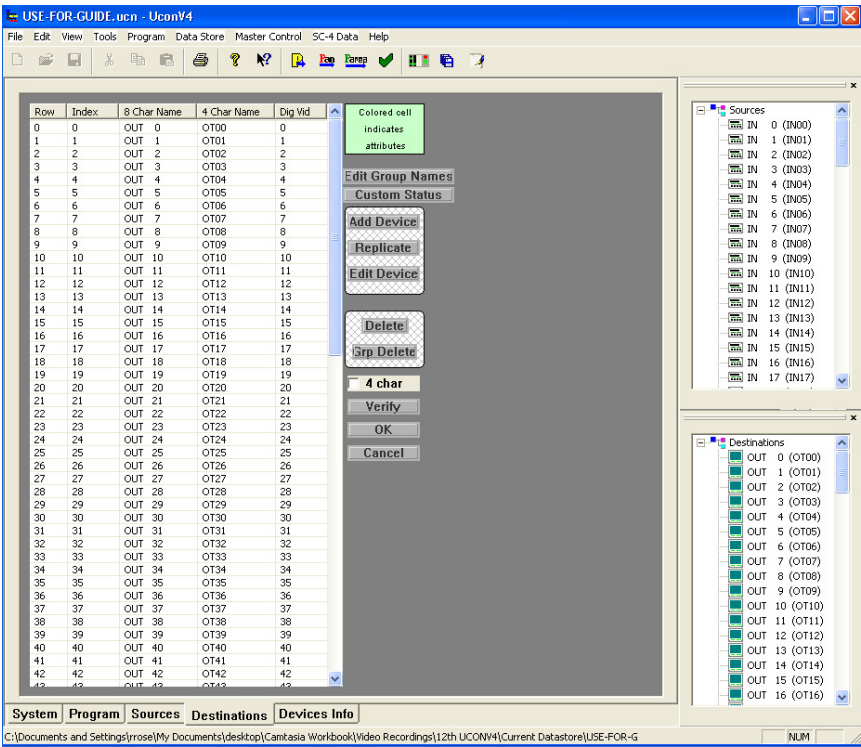


FIGURE 1-5. Destination Tab view

When a configuration editor is initiated for any particular device on the main screen, a tab is created for that editor until the editor is closed. Switching to any of these windows is allowed at any time.



Devices Info

Devices Info

Row	Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
0	NODE-1	UCP-VY		Shop	Yes	New Device added to Datasore
1	NODE-2	UCP-UMD		Rack 1 Rm 1	Yes	New Device added to Datasore
2	NODE-3	UCP-SX		Rack 1 Rm 1	Yes	New Device added to Datasore
3	NODE-4	UCP-MX		Rack1 Rm 2	Yes	New Device added to Datasore
4	NODE-5	UCP-MMB			Yes	New Device added to Datasore
5	NODE-6	UCP-MMA			Yes	New Device added to Datasore
6	NODE-7	UCP-DTB			Yes	New Device added to Datasore
7	KUSI-SC4	sc4			Yes	Src/Dest List edited
8	NODE-8	ucpda			No	
9	NODE-9	ucp72_2			No	
10	NODE-10	ucp72			No	
11	NODE-11	ucp64			No	
12	NODE-12	ucp48			No	
13	NODE-13	ucp36_2			No	
14	NODE-14	ucp36			No	
15	NODE-15	ucp32			No	
16	NODE-16	ucp2			No	
17	NODE-17	ucp192			No	
18	NODE-18	ucp128			No	
19	NODE-19	ucp1			No	
20	NODE-20	scpay			No	
21	NODE-21	scpx			No	
22	NODE-22	ucp116			No	
23	NODE-23	scpxm			No	
24	NODE-24	ucp64			No	
25	NODE-25	scp32			No	
26	NODE-26	scx2			No	

FIGURE 1-6. Devices Info tab view

Device Action

Right, or double clicking any device on the screen allows relevant operations on that device. As the figure below shows, the user can configure the device, program the device, verify the programming information for the device, delete the device, and get information on the device. You can retrieve device information, edit the configuration, delete the device for the document (and the Datastore if needed), etc. In addition, there is a copy and paste function that allows copying a configuration from one device to another to assist in quickly configuring similar devices. There is also a special paste function that copies only the sources to keep from overwriting the destination assignment for the target device.

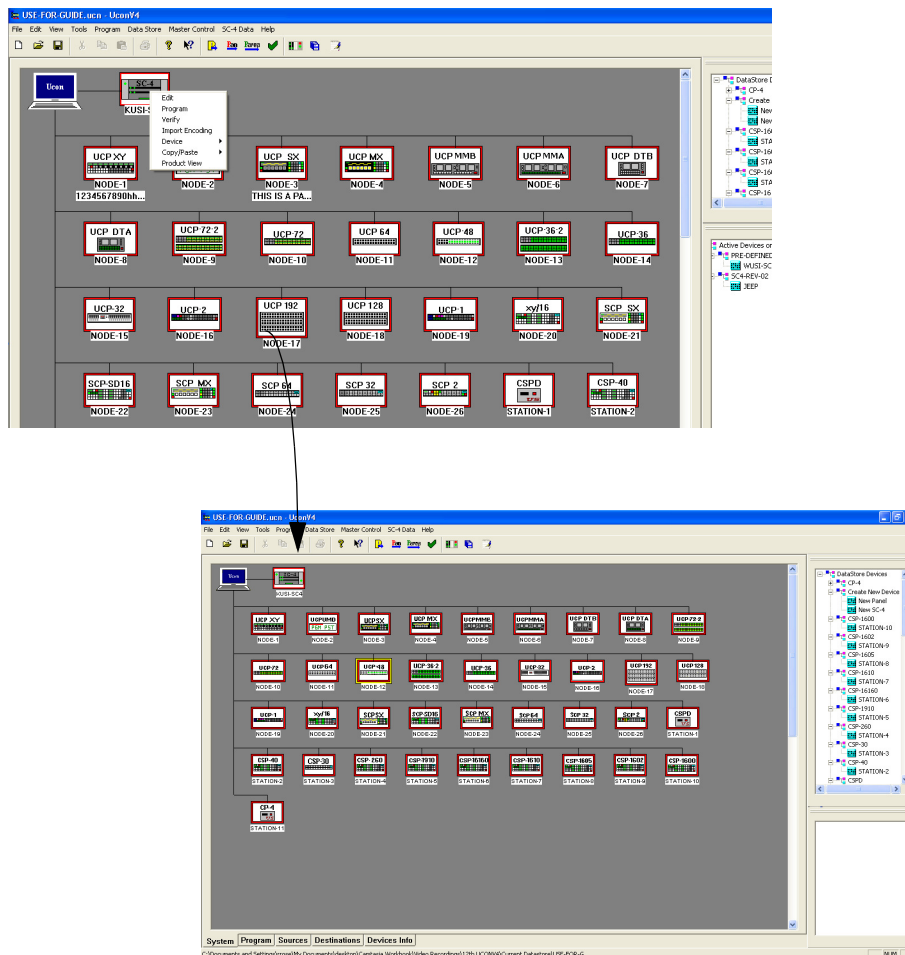


FIGURE 1-7. Device action panel



Dockable Assignment Windows

On the right-hand side of the screen you will find detachable windows containing information pertaining to the screen being viewed in the *main* screen. If the system view is displayed, these windows contain items that can be added to the configuration. The top window contains entries for new devices that do not yet exist anywhere in the system.

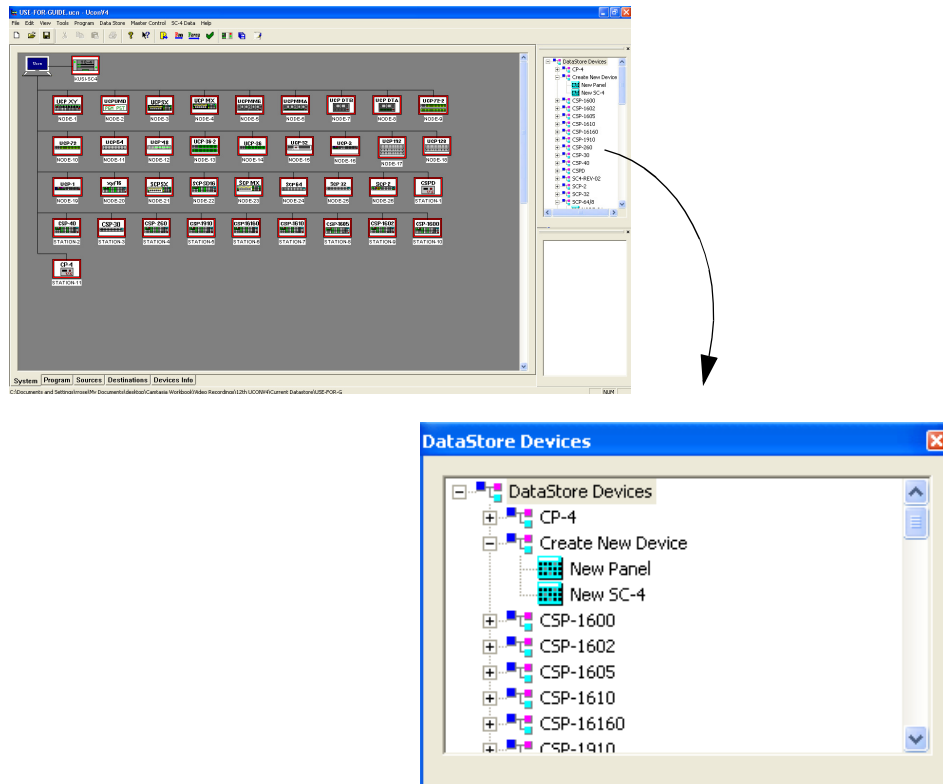


FIGURE 1-8. Add New Device window

Its main purpose is for working offline in creating programming that will later go into the actual router devices.

Note: Although all devices will appear within the above dialog, the only devices that can currently be configured and programmed from U-CON V4 are those found in the “Router Devices” section. These would include the SC-4/SC-400 and all router control panels. All other devices (such as ESI-2020, MCP-2020, etc.) will only appear as devices on the Network.

Active Devices on Local Network

The bottom window contains all devices that are currently available on the local network connected to the PC running U-CON V4. This device list also includes devices that are connected only to the System controller so that all devices in a system can be recognized by U-CON V4.

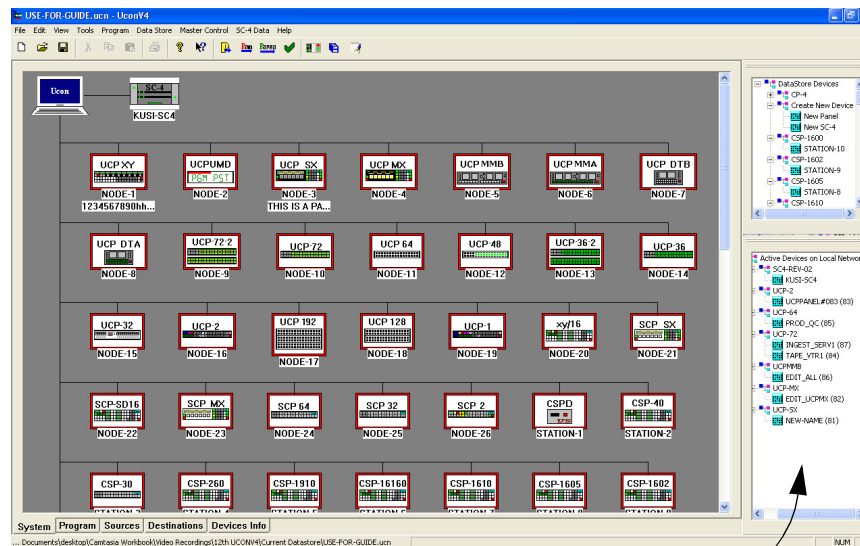


FIGURE 1-9. *Online Device window*



Button Function List (viewed when in panel configuration)

When any panel editor is open, these windows list all source and destination devices that can be assigned to the appropriate buttons on the panel. **In addition, UCP panels have the ability to assign a different function to individual buttons (other than the default).** For these editors, a third window is provided with a list of valid functions.

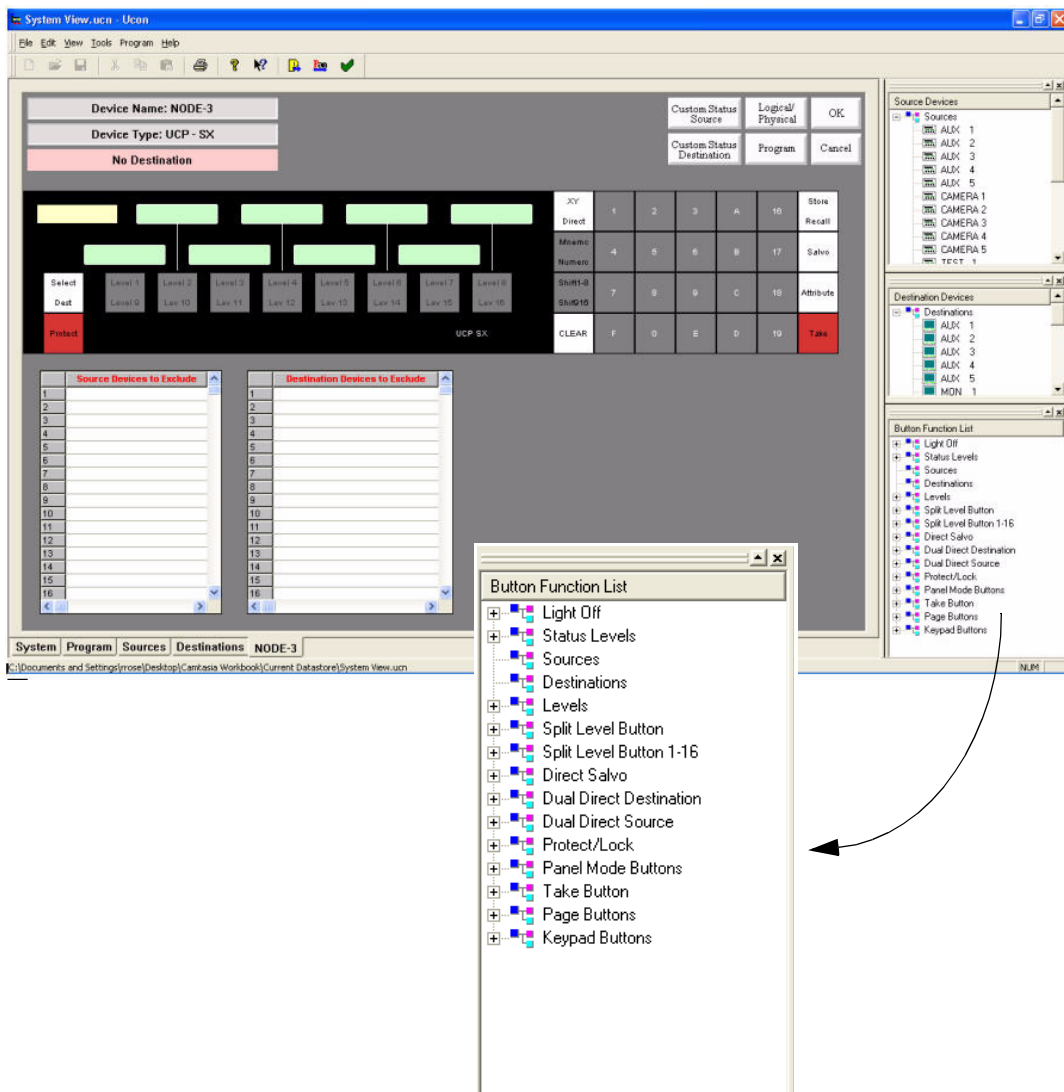
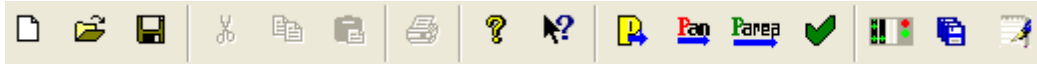


FIGURE 1-10. Assignable Button Function window

U-CON V4 Tool Bar

U-CON V4 also contains a standard windows task bar – which is a detachable window normally – found at the top of the screen.



Note: *The New, Save, Save As, and Open (document) are also found in the **File** menu at the top of the screen.*

Program, Program Panel, and Verify Buttons

In addition to the standard *Windows™* task functions such as *Save*, *Print*, etc., there are four buttons at the end of the tool bar relating to U-CON V4 operation. The first one is the **Program** button.



This button is used to actually program all devices listed in the current configuration, or in the current document. This is essentially all devices visible on the main system screen.

The second button is the **Program Panel** button.



This button is similar to the **Program** button (above), but will program only the panels listed in the system, ignoring the system controller.

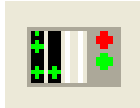
The third button is called *Program All Buttons By Area*.



The Program All button is related to the lower tab called *Devices Info*. This can be used after each panel has an area defined. The system then prompts you for the area that you would like to program and apply a drop down list.



The **Verify** button is used to simply *verify* that the programming for all devices matches the configuration stored by U-CON V4.



This button allows you to launch the MC and MCP editor programs.

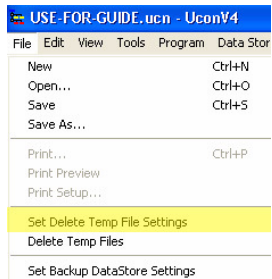


This button allows you to manually back up the current data store.



This button allows you to open the text editor Notepad for any personal documentation.

File

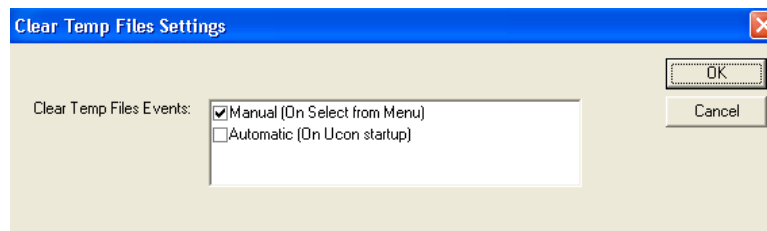
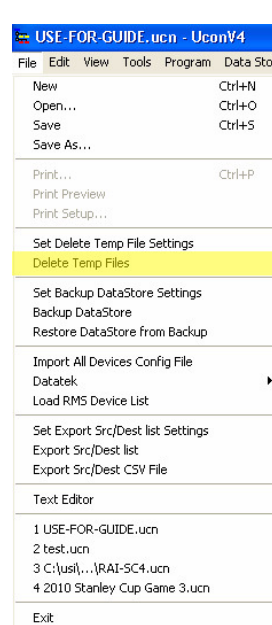


Set Delete Temp File Settings

All files that are programmed into the controller and panels are saved to c:\usi\temp. These files can be cleared manually or set to clear automatically.

The automatic setting will clear the files upon Ucon startup. This menu item is where you will check it for either operation.

Delete Temp File



Click this item to manually delete temp files. Note: This will only be active if the setting was set to manual. If set to automatic then it will be grayed out.

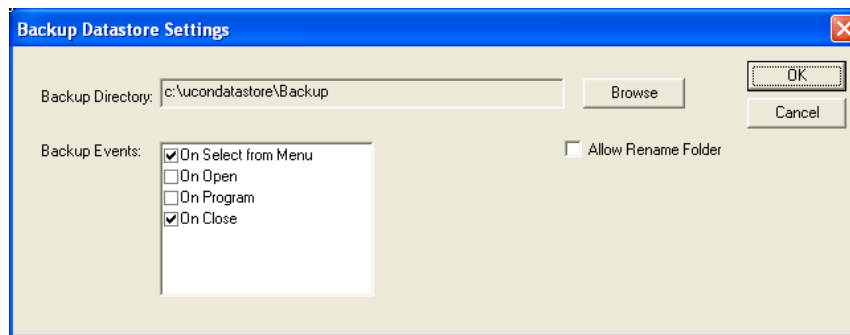


Backup DataStore

This option backs up the current datastore into the Backup Directory that was configured in the DataStore Settings. Each datastore that is backed up can be retrieved later.

Set Backup DataStore Settings

This allows you to schedule U-CON V4's datastore backup.



Each time one of the above events occurs the datastore will be backed up. You can also configure where on the disk these files can be saved.

On Select from Menu

This selection should always be checked. When checked, a backup of your datastore will be placed in a separate location. This location is completely separate and 'non-intrusive'. You can initiate the backup by selecting **Backup DataStore** (File menu), then the desired backup directory when prompted.

You can continue working during file saves without having to re-navigate between main (saved datastore location) and backup directories.

You can designate a unique folder each time a backup occurs when *On Select from Menu* is exclusively checked (all remaining boxes left un-checked).

You can also navigate to, or create the directory of your choice by clicking the Browse button. Backed up files using this method are also time and date-stamped.

On Open

Clicking this box will allow the program to automatically back up the datastore each time a datastore is opened.

On Program

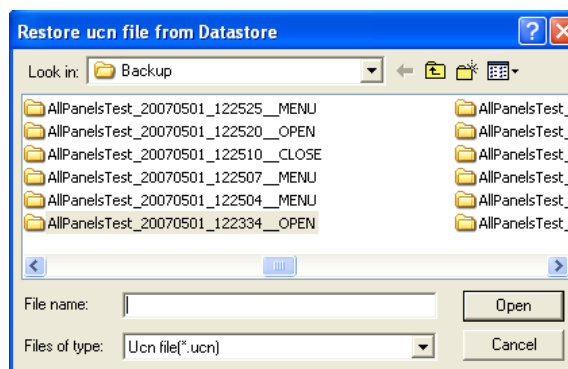
When checked, a datastore backup will be generated each time any device on the screen is reprogrammed (right-click, *Program*, or “P” Program button). Since reprogramming always involves changes to the datastore, this is the recommended method of for datastore backup.

On Close

Clicking this box will allow the program to automatically back up the datastore each time the datastore is closed, or another datastore is opened.

Restore DataStore from Backup

File/Restore DataStore from Backup. This allows you to select a specified backup to restore.



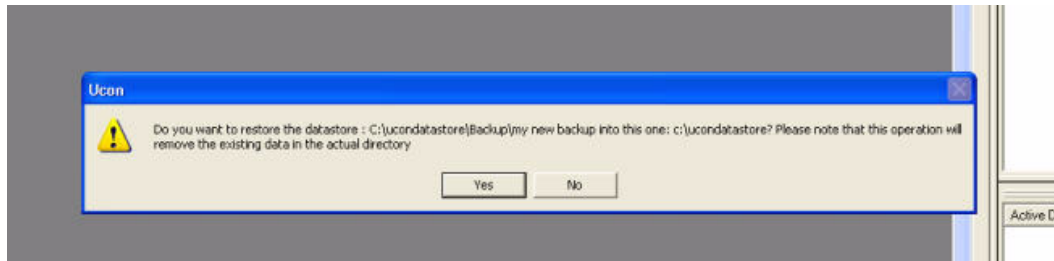
It is based on the date and time of the backup. It also indicates which datastore was being used and what operation caused this backup to occur.

Complete the following if you need to restore a datastore from the backup directory:

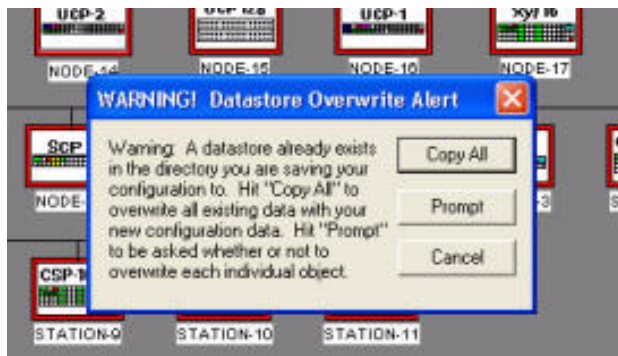
Re-launch U-CON V4, select **Restore DataStore from Backup** from the *File* menu, and select the desired datastore. This will place the selected datastore into the current location.



The following dialog will appear:



Click 'Yes' to allow the datastore to be placed in the indicated location. Note that the datastore has been placed in a default directory, not your own datastore's current location. To place this restore datastore in the directory you previously used, click Save As (File menu) and save the datastore to the desired directory. Overwrite any older version of this datastore if one happens to exist.



At this point the backup datastore now resides in your default directory as the current datastore.

Import All Devices - Config File

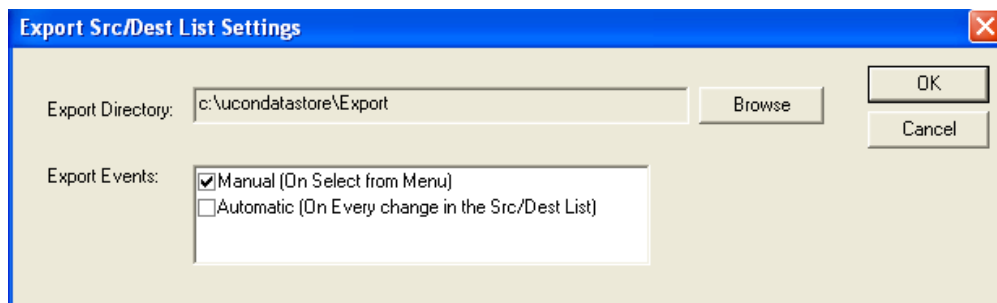
This will import encoding from all panels and the SC4 controller and will prompt if this is really what is desired. If not then this action can be performed for each device as desired by right clicking the device and selecting the import encode selection for that device.

Load RMS Device List

Use this feature if you are using an existing SC-3 system and are running RMS software. For additional information, please see Chapter 2, "Loading RMS Files and Importing Spreadsheets".

Set Export Src/Dest list Settings

Use this option to setup when export file gets saved and where it is stored. This is typically used during SoftPanel 2 operation and can be used for accessing the Source and Destination tables.



Select the export directory and if you want it to be saved only manually or automatically.

Export Src/Dest List

Use this menu to manually save the source/destination list to the export file to be used by another program such as SoftPanel 2.



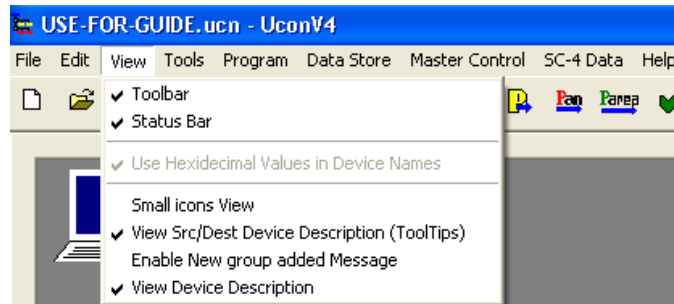
Export Src/Dest CSV File

This will export the source and destination list into a spreadsheet usable file.

Text Editor

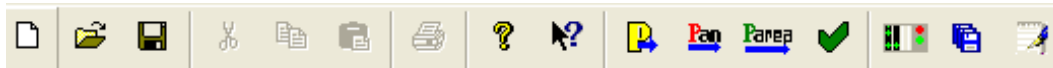
Use this to open a text file for adding desired text or notes. Save where ever desired and then open with a text editor such as Notepad or Wordpad.

View Menu - Functions



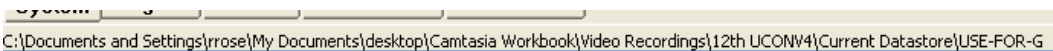
Toolbar

Click this item to select and deselect the tool bar located at the top of the application.



Status Bar

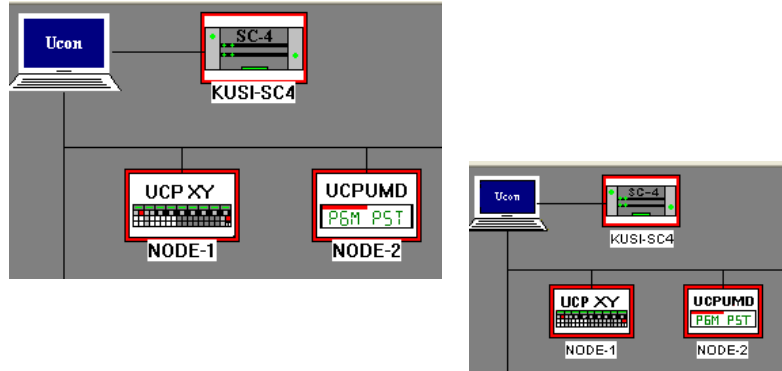
Click this item to select and deselect the status bar located at the bottom of the application.





Small Icons View

Click this item to change the size of the icons on the System screen.

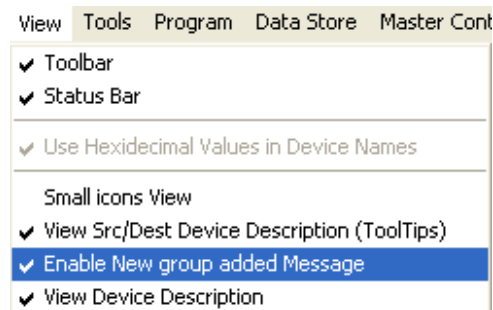


View SRC-Destination Device Description (Tool Tips)

Click this item to select and deselect the flyover view of the description that is given to each device in the source and destination table. When this is enabled, slide the mouse cursor over any source or destination that has been given a description and it will show this without having to open the individual source or destination device.

Enable New Group Added Message

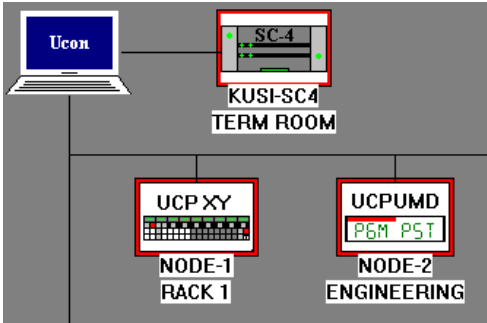
Click this item to select or deselect the option to have the system notify a message any time a new device group name is added to the source or destination table.



View Device Description

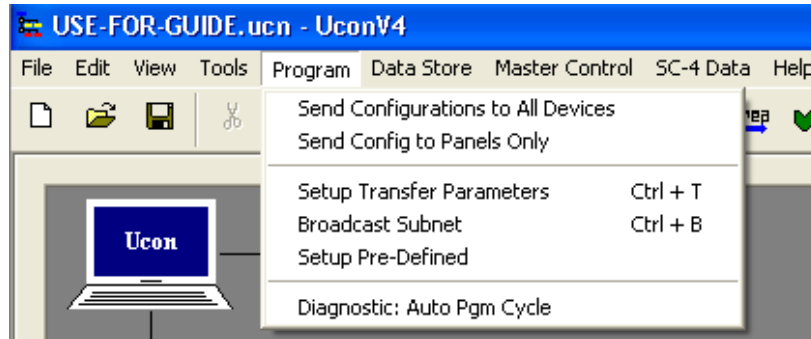
Click this to select and deselect the view of the panel and SC4 device description. From the 'Devices Info' table, device descriptions for each device can be typed in. These will show up below the device on the system screen if this is selected.

Row	Device Name	Device Model	Description
0	NODE-1	UCP XY	RACK 1





Program - Menu Functions



Send Configurations to All Devices

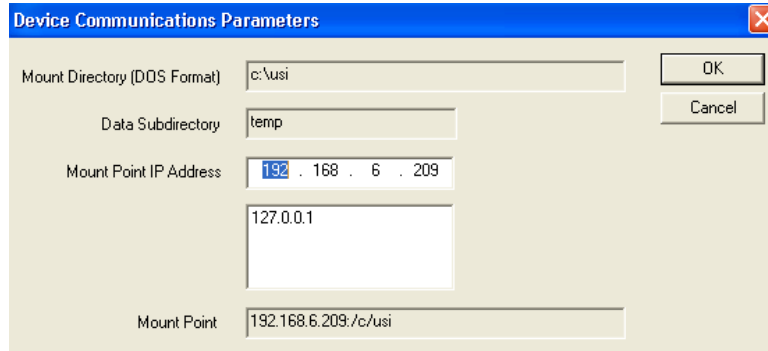
This is equivalent to the large yellow P button on the tool bar. When this is selected, it will program all the devices that are on the 'System' screen that do not have a red box around them. To view the programming progress and any related messages, go to the lower left of the application and click the 'Program' tab.

Send Config to Panels Only

This is equivalent to the red and blue 'PAN' button on the toolbar. When this is selected, it will program all of the panels on the 'System' screen that do not have a red box around them. To view the programming progress and any related messages, go to the lower left of the application and click the 'Program' tab.

Setup Transfer Parameters

Select this and in the 'Mount Point IP Address' area, type the IP address of the computer that this UCONV4 application is running on. The IP may appear in the provided window view. Note: The computer must be plugged into the LAN.

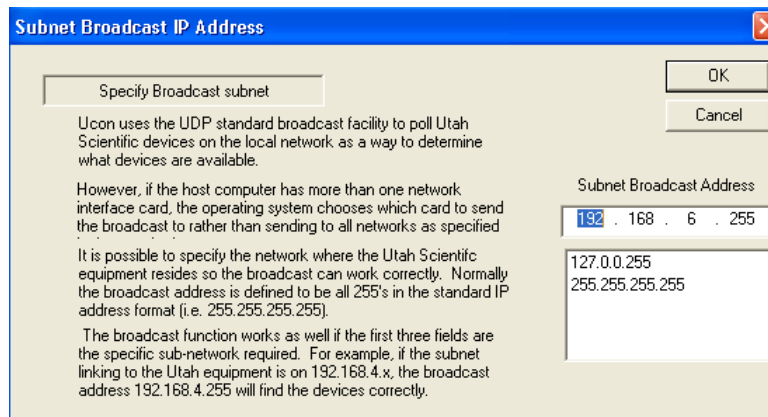


The 'Device Communications Parameters' dialog box contains the following fields and controls:

- Mount Directory (DOS Format):** c:\usi
- Data Subdirectory:** temp
- Mount Point IP Address:** 192 . 168 . 6 . 209
- Mount Point:** 192.168.6.209:/c:/usi
- Buttons:** OK, Cancel

Broadcast Subnet

Click this to view and select the correct subnet that the SC4 is located on. This is generally only necessary if there are more than one network card on the computer and all are enabled.



The 'Subnet Broadcast IP Address' dialog box contains the following fields and controls:

- Specify Broadcast subnet:** A button to open the subnet selection window.
- Subnet Broadcast Address:** 192 . 168 . 6 . 255
- Buttons:** OK, Cancel

Ucon uses the UDP standard broadcast facility to poll Utah Scientific devices on the local network as a way to determine what devices are available.

However, if the host computer has more than one network interface card, the operating system chooses which card to send the broadcast to rather than sending to all networks as specified

It is possible to specify the network where the Utah Scientific equipment resides so the broadcast can work correctly. Normally the broadcast address is defined to be all 255's in the standard IP address format (i.e. 255.255.255.255).

The broadcast function works as well if the first three fields are the specific sub-network required. For example, if the subnet linking to the Utah equipment is on 192.168.4.x, the broadcast address 192.168.4.255 will find the devices correctly.



Setup Pre-Defined

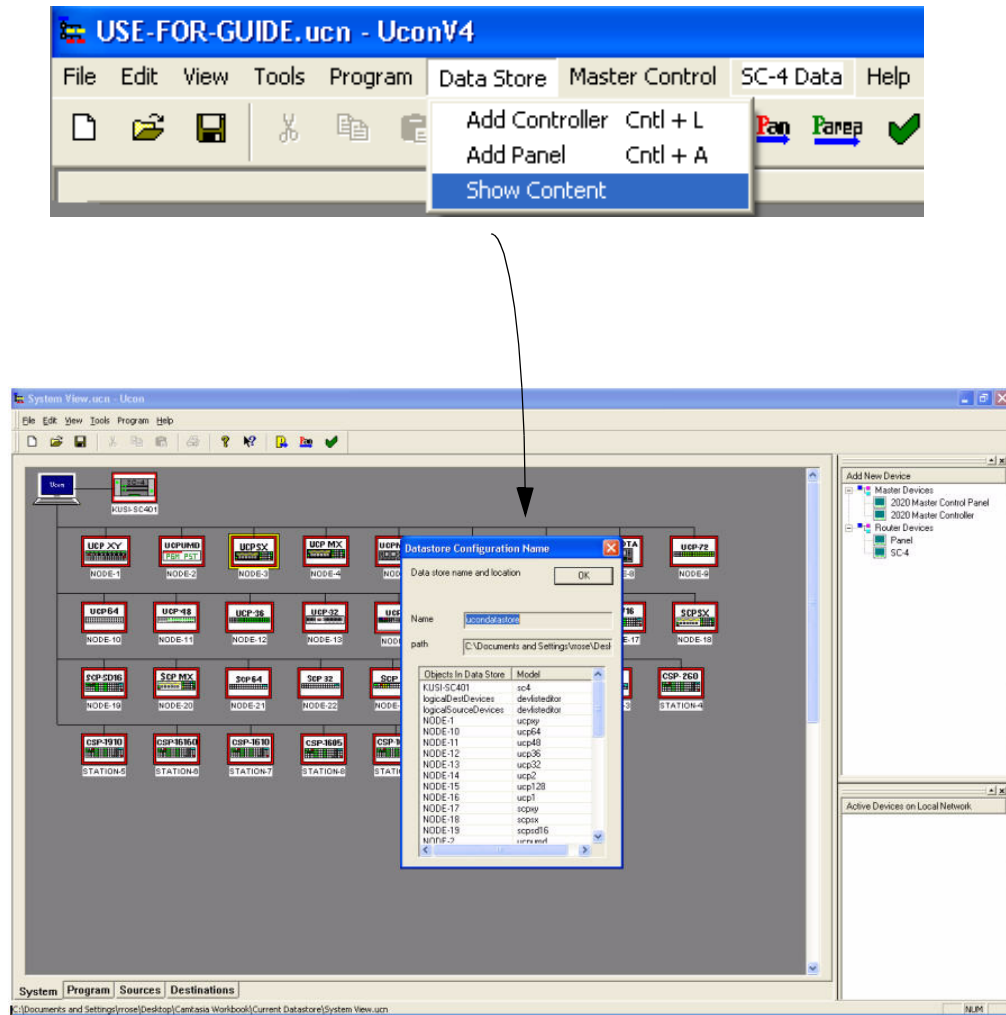
This selection provides SC-4 control by assigning a name and address to the selected device. This will enable the routing protocol by allowing U-CON control of devices that are not on the local network.

Auto Program Cycle - Additional Detail to Follow

Text in Development

Data Store

This option displays all objects that have been included within the data store.





Menu Functions

Add Controller

If a new data store is being created, then click this item to add the controller. This can only be added as a new device, so if one already exists on the screen, it will not allow another to be created. This is equivalent to the item in the top right corner called 'NEW SC-4'.

A dialog box titled "Device Name" with a blue header bar and a red close button. The main area is light beige and contains the text "Enter name for New SC-4 device" above a text input field. To the right of the input field are two buttons: "OK" and "Cancel".

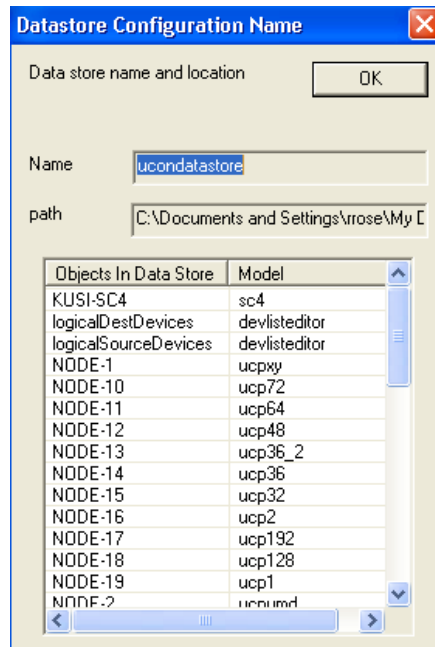
Add Panel

Click this item to create a new panel. This is equivalent to the item in the top right corner called 'New Panel'. When this is selected, put the desired panel name in the first pane and then click 'OK'. Then in the next selection window that comes up, click on the panel type that is being added. ED.

Two dialog boxes are shown. The first, titled "Device Name", is identical to the one in the previous section. A curved arrow points from its "OK" button to the second dialog box, titled "Panel Type". The "Panel Type" dialog box has a list box containing various panel types: Unknown, CSP-30, CSP-40, CSPD, SCP-2, SCP-32, SCP-64/8, SCP-MX/16, SCP-SD16, SCP-SX/16, SCP-SX/16, UCP-1, UCP-128, UCP-192, UCP-2, UCP-32, UCP-36, UCP-36-2, UCP-48, UCP-64, UCP-72, UCP-72-2, UCPD TA, UCPD TB, UCPMMA, UCPMMB, UCP-MX, UCP-SX, UCP-UMD, UCP-SX, and Unknown. The "Unknown" item at the bottom is selected. To the right of the list box are "OK" and "Cancel" buttons.

Show Content

This will display the current data store location and all its contents.



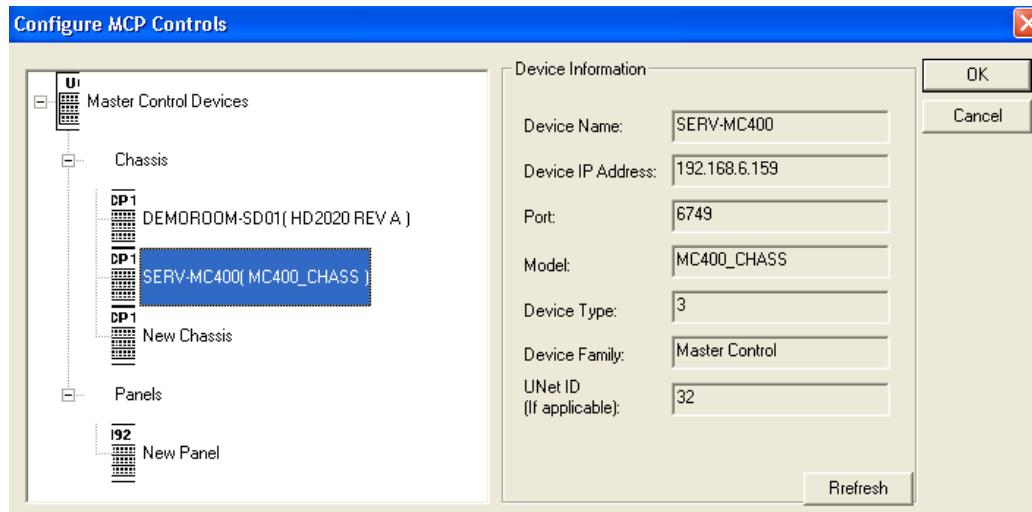


Master Control - Menu Functions

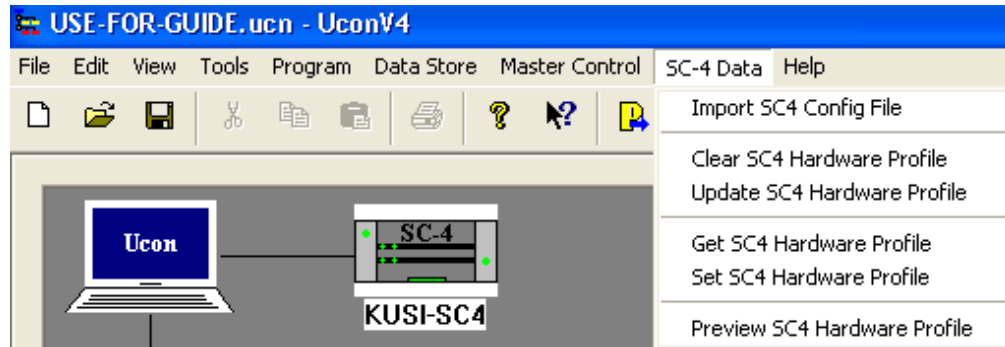


Master Control Configuration

This is the only item in this menu. Click this to display any Master Control channels and any Master Control Panels that are being used with this system. Click the desired channel or control panel and it will display the network parameters associated with that device. Click the 'Refresh' button to re acquire the network devices again.



SC-4 Data - Menu Functions



Import SC-4 Config File

This function is used to add an SC4 config file that was retrieved using the USI Install Utility. Note: This can only be used if there is not an SC4 already defined in the data store 'System' screen. (See details in Chapter 2 of this guide for importing a configuration into the UCONV4 application.

Clear SC-4 Hardware Profile

Use this item to clear out the current status for the hardware seen in the RMAN application that is used with the SC4. This can be done at any time. It will not interfere with any current connection on any of the routers or master control channels.

Update SC-4 Hardware Profile

This item will reacquire the hardware status and capture a new view of the router hardware that is attached to the SC4.

Get SC-4 Hardware Profile

This selection allows for the inputting of descriptions for hardware devices that are within the SC-4's group. Using this command, the user can identify individual chassis occupying specific racks as an accurate means of identifying hardware components.



Set SC-4 Hardware Profile

This selection allows hardware encoding.

Preview SC-4 Hardware Profile

Text in Development



Chapter 2 - U-CON V4 Operations

Datastore

U-CON V4's *Datastore* was developed to behave in a similar fashion to general purpose databases used throughout the world. This is provided to allow multiple documents access to devices that are configured the same. If a device is edited in one configuration, that change will go into the common database with all other documents having the same information for that device.

For instance, if an ucp-2 panel called ucp_2_A is added to the current document, it will be added to the Datastore. This will occur if the device does not yet exist, in which case there will be a new, un-configured version of an ucp 2 panel. However, if ucp_2_A already exists in the Datastore from some other editing session, the data previously applied to that panel will be displayed when the device is edited. Any changes made to ucp_2_A will be reflected in all other documents that have it as part of their system configuration.

For operational safety and simplicity, the Datastore is always found in a subdirectory of the directory where the document is saved. The subdirectory is always called *ucon datastores*. For instance, if a user saves the current document in the c:\myconfigs and names it ucp2.ucn, a subdirectory will be created called c:\myconfigs\iucon datastores, with a series of files placed at that location containing configurations for defined devices. If another configuration document has already been saved there, the Datastore will have already been created and all devices in the document will be saved in the existing Datastore.

As in most other software applications, a regime should be put into place that assures your data is backed up and saved. This is done using U-CON V4's current datastore backup functionality. For additional information, see Section 1, for detail regarding Data Store backup.

Operation Overview

Without going in to details just yet, it is important to get a general understanding of the way U-CON V4 is organized and the process of building a system.

A routing system consists of three basic types of components; a System Controller, a Router, and Control Panels.

System Controller

The System Controller is really the heart of the system because it communicates with all other devices, both to configure devices and to control and react to them during normal operation. Within U-CON V4, it is the System Controller (SC-4/400) that contains configuration information for the router and for level definitions based on those routers. In effect, the router editor is one of the sections of the System Controller editor. This is typically where a system configuration begins since most other parameters are defined relative to the System Controller configuration and the router configuration.

The router is defined by entering the basic parameters a router needs to operate. This information is based directly on the hardware in the system. The number of physical levels available, the number of inputs and outputs, and the type of signal each level uses.

Levels are defined within this same editor. These are often referred to as “soft levels” or “virtual levels” because they are not related directly to the hardware in the system but are defined relative to the physical levels. In fact, more than one soft level can be defined relative to a physical level.

Once the levels have been defined, particular source and destination devices can be defined. These source and destination devices relate to physical devices that generate or receive some sort of signal. VTR's, Monitors, and satellite links are common examples. Each device is given an appropriate name with a maximum string length of 8 characters. In addition, a 4-character version of the name can be included in the definition to maintain compatibility with older panels. This editor then contains a list of levels for each device (soft levels) that can be directed to anything plugged into the router.

Once the source and destination lists have been created, panel configuration editors are available to configure actual panels in the system. Inside these panels, source and destination devices can be assigned to any appropriate button or value. Most of the new UCP line of panels allow the user to change the function of the button as well, thus, not limiting any button to the panel's default behavior.

Once the system is configured, U-CON V4 sets up a communication link to the System Controller and programs either all or part of the system with the current configuration. Of course, the System Controller itself needs to be programmed with the router and device



information before any panels can be configured. There are two ways to send programming information to devices; *Program All*, and *Program Single*. The **Program All** button is on the tool bar at the top of the U-CON V4 screen and will automatically program the System Controller before any other devices. All other devices are then programmed as quickly as the System Controller can operate, often programming many devices in parallel.

System Controller Configuration

The system controller (SC4/SC400/SCX400) configuration contains the following parts.

(Note: The controller does not need to be attached to the computer that has the UCONV4 datastore on it in order to configure any tables. These tables can all be configured in an offline mode and sent to the controller after they are completed. However, if a retrieval of the current configuration that exists in the controller is needed, then the controller must be connected to the computer and UCONV4.)

1. Hardware router (physical) level table.
2. Logical (virtual) to physical level mapping table.
3. Source and destination device setup tables.
4. Tie line table setup.
5. Serial port setup for RCP1 automation interface.
6. Salvo table setup.

Configuring Controller from Scratch

There are two methods of configuring the controller from the ground up. The first method can be done off line completely, with no connection to the controller at all. The other method requires a connection to the SC4.

METHOD 1 (from scratch)

1. Launch UCONV4 and locate the 'New SC-4' item in the upper right corner of the application and either double click it or right click it, then click the item called 'Add Device to System'. Note: SC-4 is the name used in UCONV4 for all controller types.

2. When the following window opens, type the desired name for the controller and then click OK.

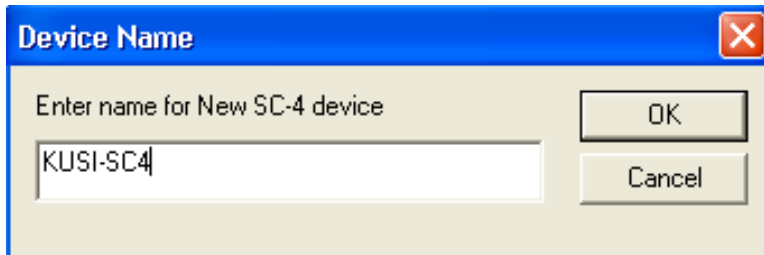


FIGURE 2-1. Controller Device Name

3. The new controller icon will be added to the 'System' screen as seen below. It will have a red box around it indicating that it is offline. To open the configuration table, either double click the icon or right click on it and click the menu item called 'Edit'.

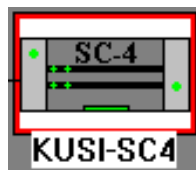


FIGURE 2-2. Controller Icon



- The following table will open with blank Router and Level tables and zeros in the MX Router Properties and Party Line Properties.

FIGURE 2-3. Controller Config Table

- Begin by typing in the maximum number of inputs and outputs that the controller will be capable of switching. As a rule, use the largest video or audio router, including future expansion. Example: If the largest router is video and is capable of expanding to 576, then this is the number of inputs and outputs that would be entered in the boxes. The Max Levels cannot be changed. This is generated by the number of physical levels that are created.

FIGURE 2-4. MX Router Properties

6. Type in the maximum number of outputs that are to be switched on the Party Line bus and the total number of CSP Party Line control panels. This is only to be applied if there are Party Line panels to be used with the controller. **Note: The Party Line is limited to 320 outputs so this is the maximum number that can be put in the box.**

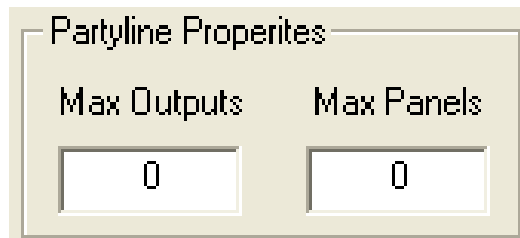
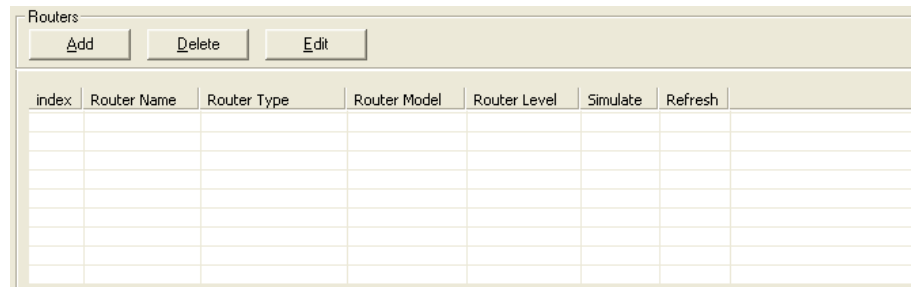


FIGURE 2-5. Party Line Properties

Adding Physical Routers

- The router table is to be filled in with the physical router levels. The name, router type and router model are not critical, but should be as accurate as possible relating to each physical router for information purposes.
- The physical router levels must be exact per the dip switch setting of each router.
- The simulate table should always be off. Enable this to on to allow switching to be simulated to any specific level. This may be good for troubleshooting a router that doesn't appear to be switching. This would confirm that the configuration is good. **Note: When on, this will always appear that the level is working and will display as such in the control panel level window.**
- The refresh table should always remain on for all levels.



index	Router Name	Router Type	Router Model	Router Level	Simulate	Refresh

FIGURE 2-6. Physical Router Table



1. Click the 'Add' button to get the tables below. This must be done for each physical router. Type the desired name for the router in the 'Router Name' window.
2. Click the drop down arrow in the 'Router Type' window and select the closest selection to the type of router it is.
3. Click the drop down arrow in the 'Router Model' window and choose UT400 for every router except UT300, AVS and third party router types. Note: This is not critical and is used for information only.
4. Click the up and down arrow for the 'Router Level' selection and choose the physical number for that level. This is the physical setting on the MX router level which is the exact setting found on the dip switch which counts in binary. Example: 0 is literally a dip switch binary setting of 0. 1 is literally a dip switch binary setting of 1. And so forth. The two figures below show the results of steps 1-4 above.

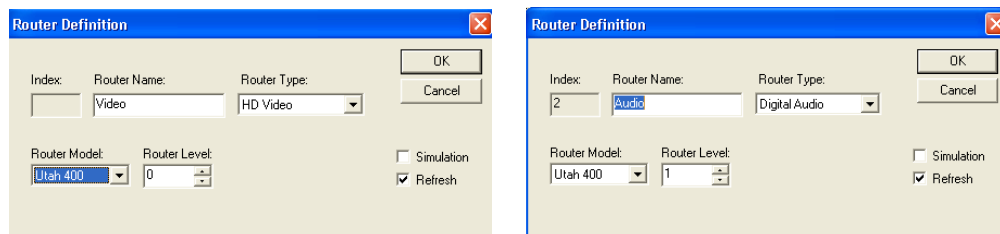


FIGURE 2-7. Video router using Add button and Audio router using Add button

Level Table

- The level table should be filled in according to the order of the desired logical (virtual) levels and how these will be displayed in the physical control panel level display windows. The table below has a level name which can be any desired name for each level. This will appear in the source and destination tables above the level column. Each level that is added to this table will appear beginning at the top of the table and will then appear from left to right in the source and destination columns. **Note: Logical levels are mapped to physical levels using these tables. This gives the ability to create multiple levels from each physical level, thus partitioning the router to different sizes.**
- The level type should be as accurate as to what the physical level is.
- The router name is selected from the physical list created from the router table.

- The following table is used if there is a specific level that always needs to switch with another level such as an audio level following a video level. **Note: This will only apply if there is a breakaway take on the master level at which time the other level would be married to it and they would both switch together.**
- The disconnect input is a number used for that level that would automatically switch selected sources to it when it is set up this way. Example: If one source has audio and video and then a take is made to a video only source, then when that video only source is taken, the audio would switch to the disconnect input which would be whatever that disconnect input would have on it. In this case it would be silent because it would be set up to switch to a non audio source location.

index	Level Name	Level Type	Router Name (from table above)	Follow Levels	Disc Input

FIGURE 2-8. Level Table

1. Click the 'Add' button to get the tables below. This must be done for each virtual level router level. Type the desired name for the router in the 'Level Name' window. This can be any desired name for each level. This name will appear in the source and destination tables above the level column in the source and destination tables.
2. Drop down the 'Level Type' menu and select the specific type of router for that level. **Note: This is only critical for two types of routers. If the level is a UT300 Analog Audio left or right channel then the selection must be 'Analog Audio Left' and 'Analog Audio Right' accordingly. This is what allows the attribute functions to work on this router type. The other instance is for the UT400 Data Router type. The selection must be 'Data Auto Disconnect'. This is required for the Data router to switch correctly.**
3. Click the 'Router Name' drop down menu and select the corresponding router type that was created in the router tables for that level.
4. If desired, click on the level to be the master level in the 'Follow Levels' window. **Note: This is generally unused.**



5. Type in a desired disconnect input, as explained above, in the 'Disc Input' window. The four figures below show the results of steps 1-5 above.

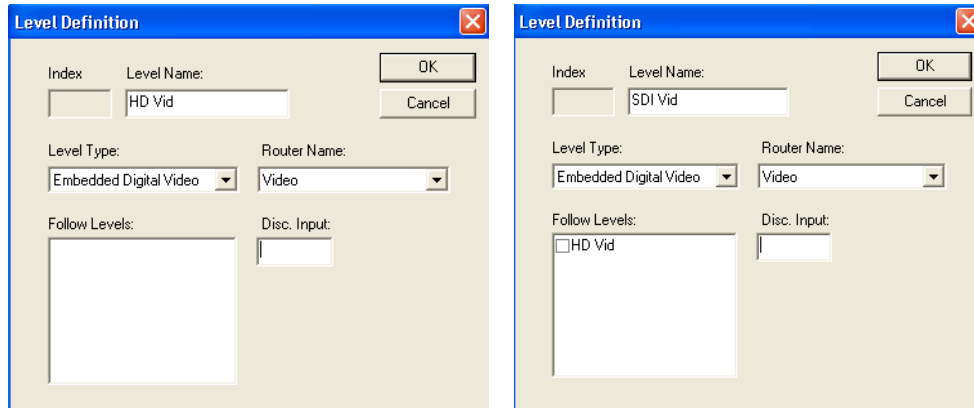


FIGURE 2-9. Level Table – HD video level and Level Table – SDI video level

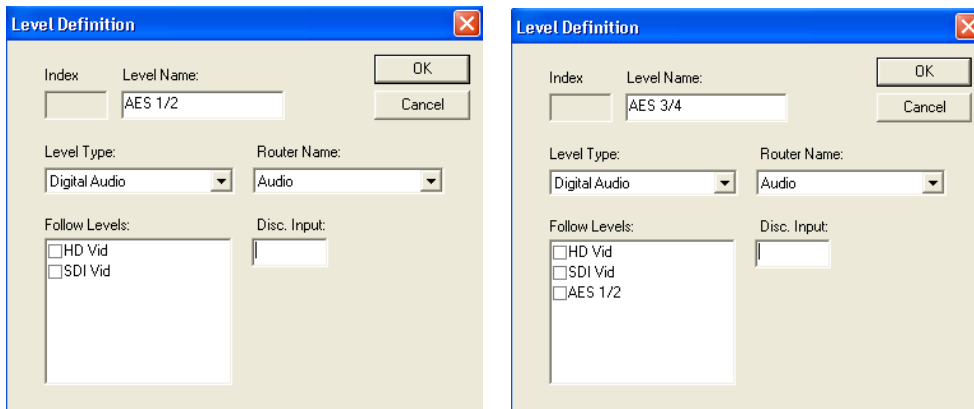


FIGURE 2-10. Level Table – AES 1 & 2 audio level

Level Table – AES 3 & 4 audio level

6. Go to 'File' at the top of UCONV4 and select the 'Save As' item. **DO NOT save this in the c:\ucondastore folder. You must create a new location in another directory on the pc. We recommend it be saved in c:\usi\current datastore which may need to be created.**

MX Router Properties: Max Inputs: 144, Max Outputs: 144, Max Levels: 2

Parityline Properties: Max Outputs: 0, Max Panels: 0

Tie Lines, Salvos, OK, Serial Ports, Hardware Profile, Save, SysLog Server, SNMP, Cancel

Data edited here will not appear in other editors until it is saved

Routers

index	Router Name	Router Type	Router Model	Router Level	Simulate	Refresh
1	Video	HD Video	Utah 400	0	Off	On
2	Audio	Digital Audio	Utah 400	1	Off	On

Levels

index	Level Name	Level Type	Router Name (from table above)	Follow Levels	Disc Input
1	HD Vid	Embedded Digita...	Video		
2	SDI Vid	Embedded Digita...	Video		
3	AES 1/2	Digital Audio	Audio		
4	AES 3/4	Digital Audio	Audio		

FIGURE 2-11. Mapping Tables – complete Log to Phys Table

Method 2 (from existing controller)

1. 1.Click the menu item called 'Program' at the top of the screen and then select the item called 'Broadcast Subnet'. When the following window below appears, either click the desired subnet from the address window or type the subnet in the address line. The subnet must be the same as the SC4 that is connected to the working computer and the last entry should be 255. Then click OK to activate the entry.

Subnet Broadcast IP Address

Specify Broadcast subnet

Ucon uses the UDP standard broadcast facility to poll Utah Scientific devices on the local network as a way to determine what devices are available.

However, if the host computer has more than one network interface card, the operating system chooses which card to send the broadcast to rather than sending to all networks as specified

It is possible to specify the network where the Utah Scientific equipment resides so the broadcast can work correctly. Normally the broadcast address is defined to be all 255's in the standard IP address format (i.e. 255.255.255.255).

The broadcast function works as well if the first three fields are the specific sub-network required. For example, if the subnet linking to the Utah equipment is on 192.168.4.x, the broadcast address 192.168.4.255 will find the devices correctly.

Subnet Broadcast Address

192 . 168 . 6 . 255

192.168.6.255

255.255.255.255

OK, Cancel

FIGURE 2-12. Broadcast Subnet Address



2. The SC4 found on that subnet should now appear in the lower right corner of the UCONV4 screen. The name may appear as 'DEFAULT' or something else, as seen in the following picture below.

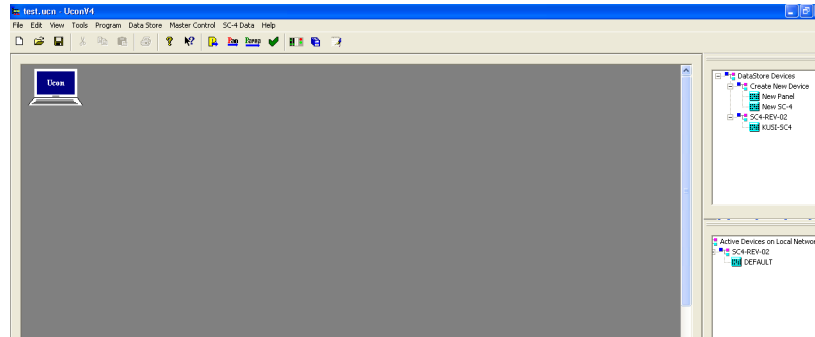


FIGURE 2-13. SC4 Default Name – lower right corner

3. Launch the NFS Server application if it is not already running. If it is not already a shortcut on the desktop, then click on the 'Start' item in the lower left corner of the computer and then go to 'Programs' and it will be listed as 'ProNFS'.
4. Make sure the mount point for transferring data is set to the computers IP Address. To do this, click on the top menu item in UCONV4 called 'Program' and then select the item called 'Setup Transfer Parameters'. Enter the IP address of the computer in the 'Mount IP Address' line.

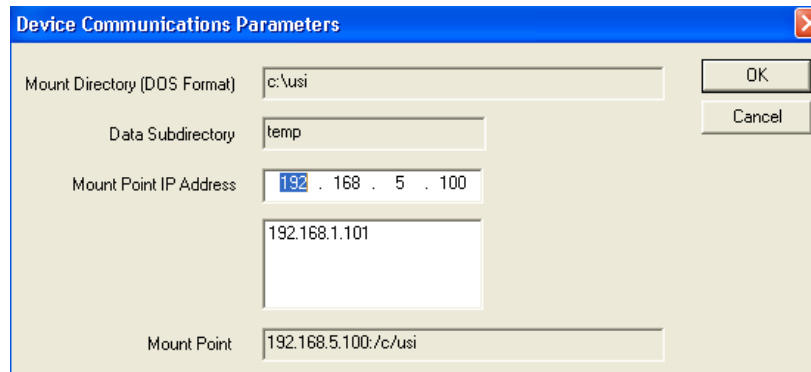


FIGURE 2-14. Computer mount point IP address

5. Right click on the name for the SC4, shown in the lower right corner of UCONV4, and select 'Rename'. The SC4 example name above is called 'DEFAULT'.

6. Type in the desired name for the SC4 and then click OK as seen in the next diagram below. This name will appear on the Icon that is added to the system screen. The window will also show the model type such as an SC4 or SC400 as well as its current name and the IP address of the SC4 chassis.

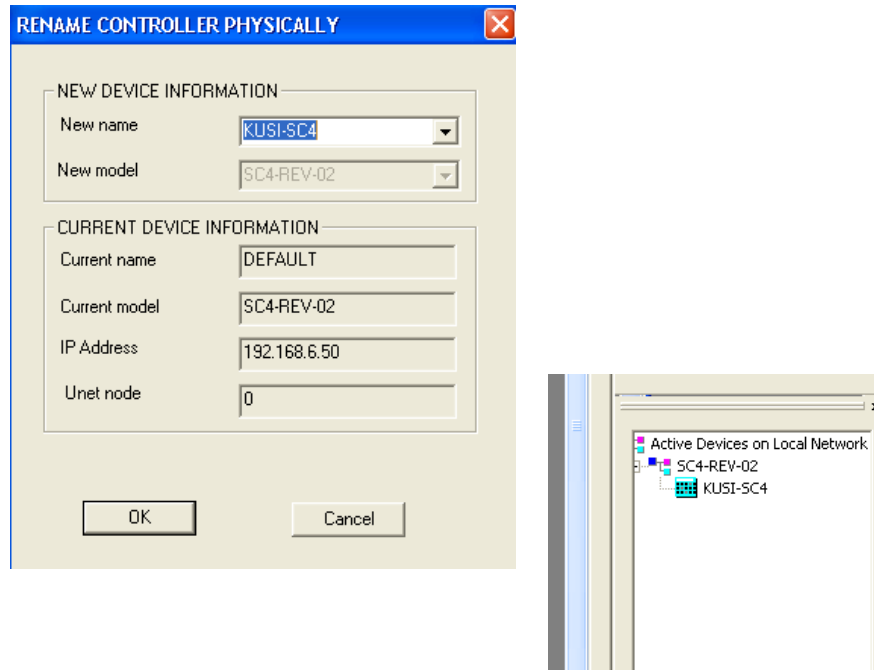


FIGURE 2-15. Controller rename window and new name in lower right corner of UCONV4



- The name is actually programmed into the controller and should automatically update in the lower right corner of UCONV4, (as seen above right). If it does not update, then click on the 'Program' tab at the bottom of the screen to see the programming progress that was made. Any errors as well as successes will be noted in the message window.

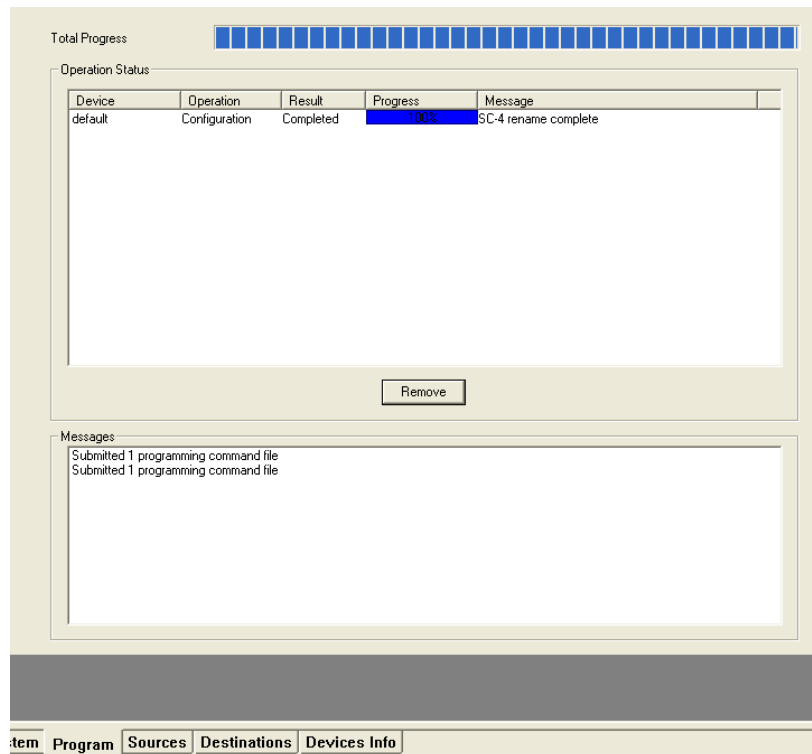


FIGURE 2-16. Controller programming progress and status windows

- Next, add the new SC4 from the lower right corner of UCONV4 to the system screen by right clicking it and simply selecting 'Add Device to System'. A new SC4 icon will appear on the system screen with the same name as the lower right corner device and it will have no red box around it.

Note: If at any time the name must be changed, both the names on the system screen and the lower right corner will need to be renamed and must be exactly the same.

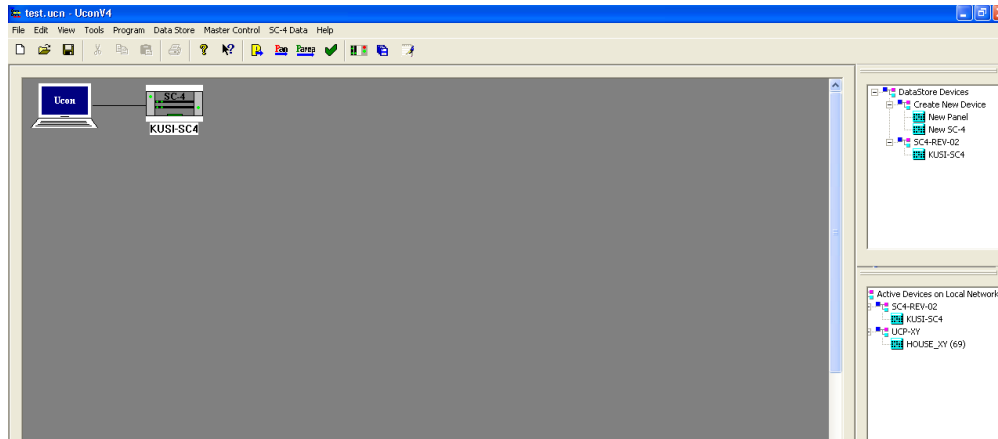


FIGURE 2-17. Controller names in sync – screen and lower right

9. Once the name is set, then follow the steps in method 1 above to configure the mapping tables in the controller, beginning with step 3.

Retrieving Configuration from Controller

This option allows the user to pull all the data from the active controller card and have it populate all the tables in the UCONV4 application. This includes mapping tables, tie line tables, salvos, serial ports, sources and destinations. This can be used to see what is programmed in the controller. It can also be used to bring in a system that may only require a few changes rather than hand generating the entire datastore from scratch.

Note: This will overwrite all data that is in the active datastore that is being used to retrieve the data. Make sure to backup the active datastore by using the 'Backup Datastore' option from the file menu as discussed in chapter one of this guide.

1. In order for the retrieval of the configuration to be successful, the SC4/400 must be connected on the main system screen of UCONV4. Verify that this is the case and that there is not a red box around the SC4/400 icon.
2. Launch the NFS Server application, if it is not already running. If it is not already a shortcut on the desktop, then click on the 'Start' item in the lower left corner of the computer and then go to 'Programs' and it will be listed as 'ProNFS'.



3. Make sure the mount point for transferring data is set to the computers IP Address. To do this, click on the top menu item in UCONV4 called 'Program' and then select the item called 'Setup Transfer Parameters'. Enter the IP address of the computer in the 'Mount IP Address' line.

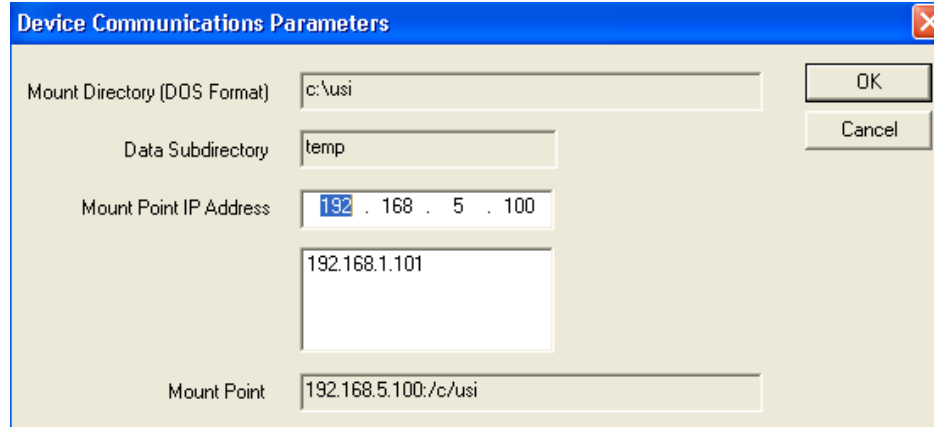


FIGURE 2-18. Computer mount point IP address

4. Right click on the SC4/400 icon on the system screen and select 'Import Encoding'. The following warning box will appear. Click 'Yes' if you are sure.

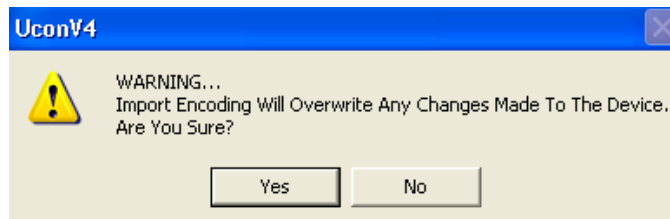


FIGURE 2-19. Import Warning

5. Click on the 'Program' tab at the bottom of the screen to see the programming progress that was made. Any errors as well as successes will be noted in the message window.

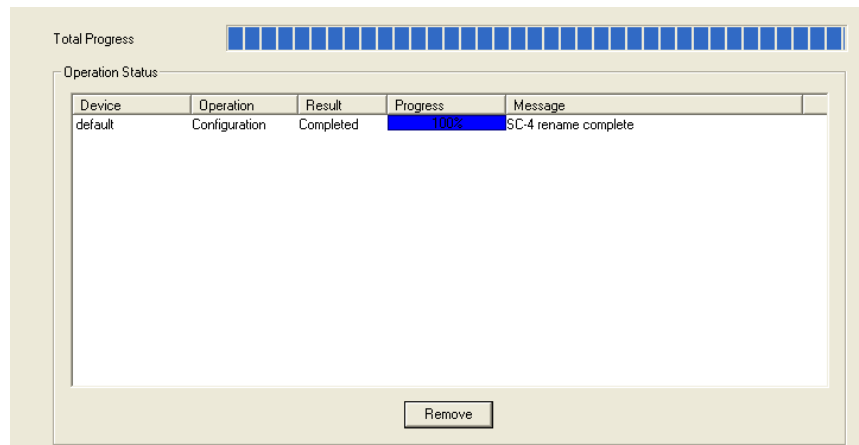


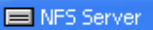
FIGURE 2-20. Import progress status bar



Importing Configuration from Controller

If a configuration file has been retrieved manually, either from the main SC4 system or from another system, using the Utah Install Utility, it can then be imported into UCONV4 in place of the existing SC4 icon and its data or as a new SC4 icon. **Note: Importing a configuration file requires the current SC4 icon and its tables to be removed from the current data store as only one SC4 icon can be present on the 'System' screen at a time.**

Retrieving a Configuration File

1. Make sure the NFS Server is running. It will look like this  and be located in the lower bar of the screen or in the system tray with just the icon.
2. Launch the Utah Install Utility located in the Utah Shortcuts folder on the desktop or in the c:\usi folder and look like this when it is running.

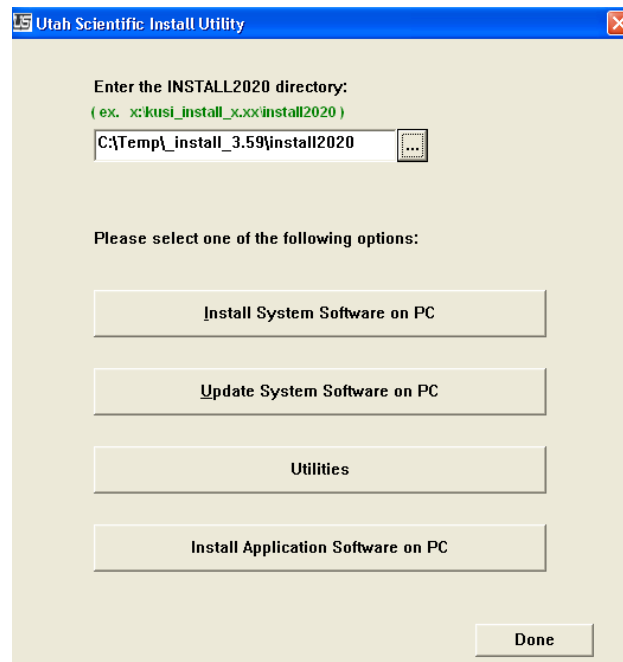
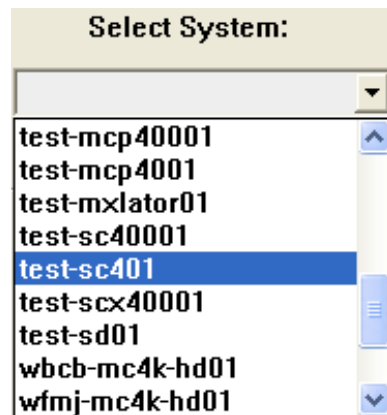


FIGURE 2-21. Utsci Install Utility

- Click the 'Utilities' button and then drop down the 'Selected System' button and choose the SC4/400 controller folder. (It will be titled xxxx-sc401 or xxxx-sc40001 depending on the controller type. The x represents the name of the folder.



- Next, click the 'Configure Script Addresses' button and then click 'Execute Utility'. Make sure the computer and the SC4/400 IP addresses are correct.

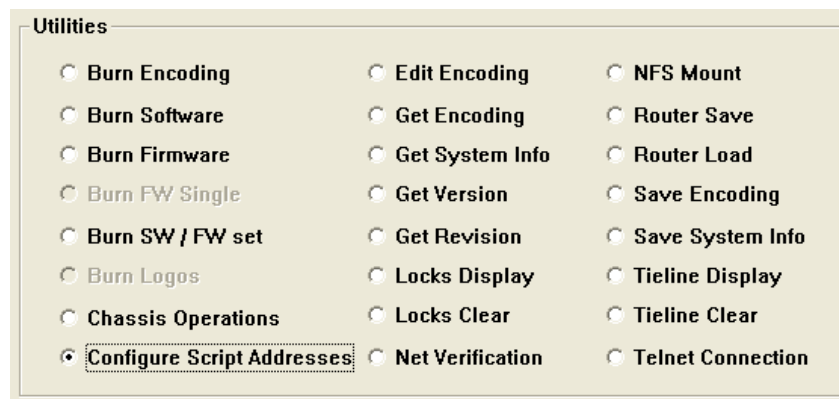


FIGURE 2-22. Configure Script Addresses Button



5. Next, click the 'Get Encoding' button and then click 'Execute Utility'. This will retrieve a new copy of the configuration file from the SC4/400 controller and put it in the folder titled c:\usi\xxxx-sc401\encode with a name that is the same as the folder name (xxxx-sc401) with an extension of .conf. (For an SC400 it system the folder will be xxxx-sc40001 as will the conf file.



FIGURE 2-23. Get Encoding Button

Importing a New Configuration File

There are two instances where the configuration file would be imported into the UCONV4 application 'System' view. The first is into a new system and the second is into an existing data store, which may or may not have control panels configured.

Importing Into a New System

1. From the main 'System' view, which should be blank as in the figure below, click on the top menu item titled 'SC-4 Data' and select the item called 'Import SC-4 Config File'.

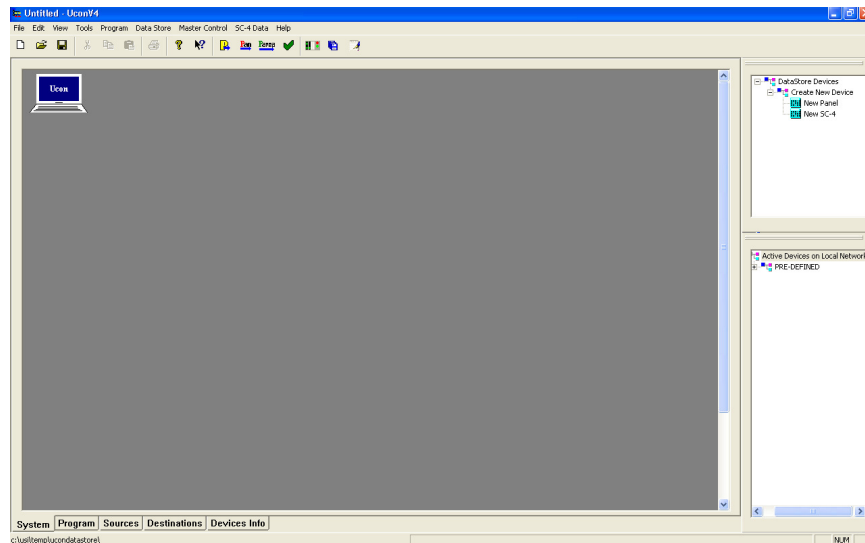


FIGURE 2-24. Blank System Screen



2. When the window opens requesting where to find the configuration file, navigate in the right window to c:\usi\xxxx-sc401\encode, which will then show all of the files within that encode folder, in the window to left.

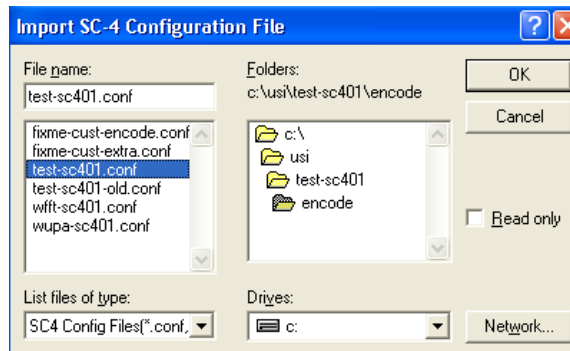


FIGURE 2-25. Import Config File Location

3. With the correct file highlighted in the left window, click 'OK' and then type the desired name for the SC4 in the window that will appear next. This can be any desired name, including alpha, numeric and other characters. **Note: Spaces are not allowed and will cause problems when trying to rename the actual SC4/400.** The new icon will then appear on the screen with a red box around it. **Note: When the actual SC4 is connected to the screen it will need to be renamed. Follow the steps above for renaming the controller in the section titled 'Method 2'.** Verify that all the mapping tables and the source and destination tables are correct. See steps above for locations of the tables.

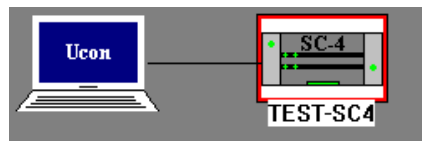
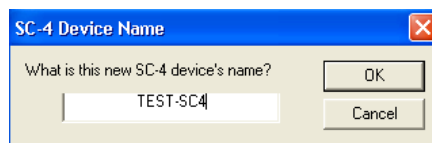


FIGURE 2-26. New Name Window for Import New Name View on System Screen

4. It is extremely important that this data store is now saved to a different location than the default location, which is most likely where the data store is at the moment. Go to 'File' at the top of UCONV4 and select the 'Save As' item. **Note: DO NOT save this in the c:\ucondatastore folder. You must create a new location in another directory on the pc. We recommend it be saved in c:\usi\current datastore which may need to be created.**

Importing Into an Existing System

1. Open an existing data store from its working location. From the main 'System' view, which should show the SC4 and any panels that are in the data store as seen in the figure below, right click on the SC4 icon and from the menu, select 'Device' and then 'Delete'.

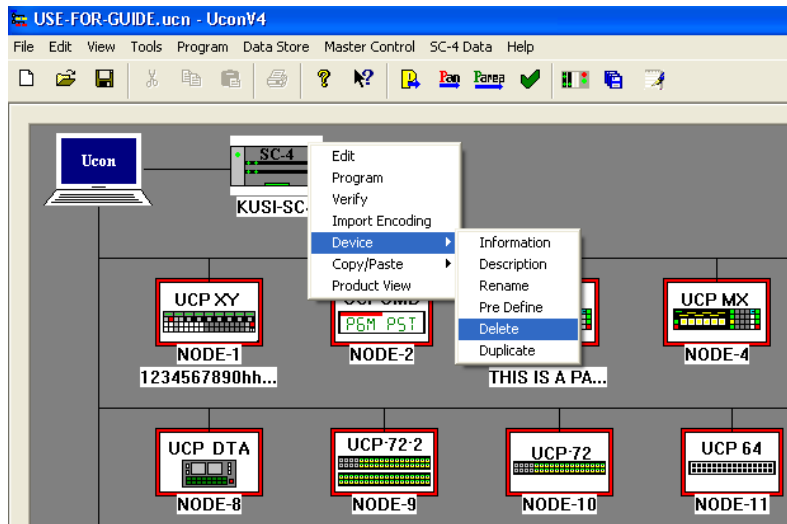
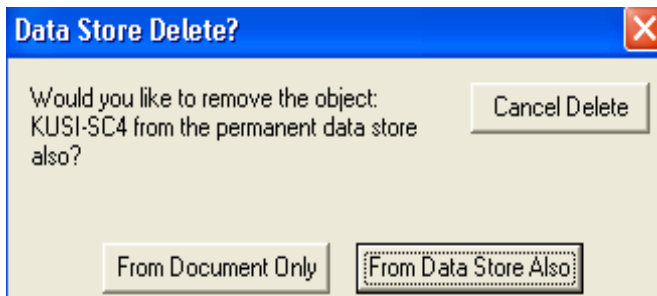


FIGURE 2-27. Delete SC4 Icon from System View

2. In the next window, select 'From Data Store Also'. Note: When this is clicked it will be permanently removed and will not prompt for a confirmation.





3. The figure below is how the data store will look with the SC4 removed.

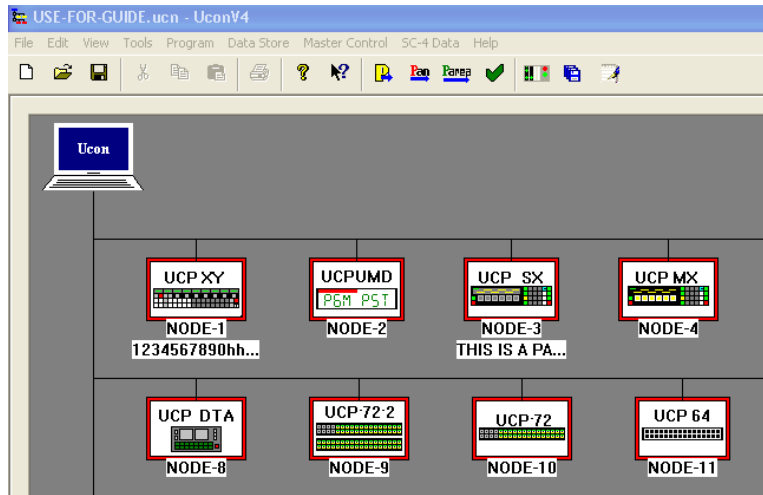


FIGURE 2-28. SC4 Icon Removed from System View

4. Click on the top menu item titled 'SC-4 Data' and select the item called 'Import SC-4 Config File'.

5. When the window opens requesting where to find the configuration file, navigate in the right window to c:\usi\xxxx-sc401\encode, which will then show all of the files within that encode folder, in the window to left.

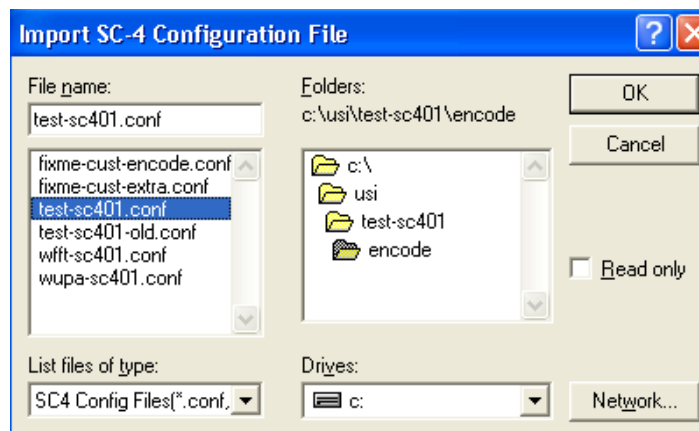


FIGURE 2-29. Import Config File Location

6. With the correct file highlighted in the left window, click 'OK' and then type the desired name for the SC4 in the window that will appear next. Type the same name that was given to the SC4 prior to the deletion. The name will also appear in the lower right window for that SC4, if it is currently online. **Note: Spaces are not allowed and will cause problems when trying to rename the actual SC4/400.** The new icon will then appear on the screen. If it was already online, then it should not have a red box around it. Otherwise it will. Verify that all the mapping tables and the source and destination tables are correct. See steps above for locations of the tables.

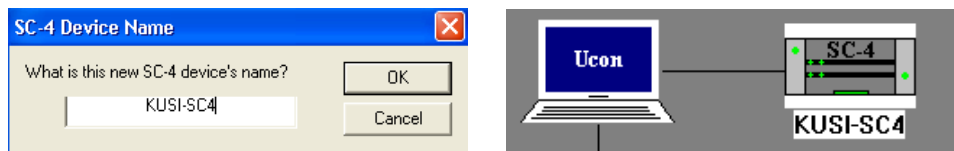


FIGURE 2-30. New Name Window for Import and New Name View on System Screen

7. Go to 'File' at the top of UCONV4 and select the 'Save' button. This should save the data store over the existing file. If this data store needs to be saved in another location, then click the 'Save As' item instead of 'Save'. Note: DO NOT save this in the c:\ucondatastore folder. You must create a new location in another directory on the pc. We recommend it be saved in c:\usi\current datastore which may need to be created.



Loading RMS Files and Importing Spreadsheets

Use this feature if you have an existing SC-3 or SC-4 system and are running the RMS software. Depending on the type of panels in your system (ucp or CSP) you would need to save the source and destination panel files using the RMS software. These files will then be imported into the U-CON V4 software.

Considerations

- U-CON V4 will only import files that have actual router input and output numbers. Any custom status inputs as well as other non-inputs defined as OFF, BLOK, PLOK, etc., will need to be removed prior to importing the files. This can be done by opening the files using any editor and removing these entries.
- If there are any 0C entries in the table, U-CON V4 will import these as the number 12. This is the function that is used to switch the specific level with that entry (to the OFF or disconnect input). See Step 8 below to enter the proper number for this in U-CON V4.

Complete the following to load RMS Files

1. Begin by creating the SC-4 icon found on page 2-3. Make sure to create as many levels (page 2-6) as exist in the tables you will be importing.
2. Make sure the **System** screen is visible with just the SC-4 icon showing on the screen.
3. Go to the top menu bar and select **File**, and then select *Load RMS Device List*.
4. Browse to the location where the Source and Destination files are saved. Click the .usm file to import the *Source* file.
5. Repeat steps 2-4 to import the Destination file. This time however, select only the .udm file.
6. If there are any outputs that need to change, modify any one by left clicking the Destination tab at the bottom of the screen, left-click the individual cell that needs to change, then type in the new number.
7. If there are any inputs that need to change, this can be done by left clicking on the source tab at the bottom of the screen and then left clicking in the individual cell that needs to change and typing in the new number.
8. If there were any 0C entries that were translated to the number 12, these will need to be changed to the number 4095 in all locations. This number is used by the SC-4 and translates to a real number of your choice for each level. You will need to choose an input on the router that will be used as the *disconnect* or OFF input. This number can

be higher than the highest input on the router. In many cases there are no available inputs left. In this case, follow these steps:

1. Right click the SC-4 icon and click configure.
2. Go to the router table at the top, left-click any desired level, then click the **Edit** button just above the table.
3. Enter the desired disconnect input in the column labeled **Disc Input**, then click **OK**
4. If the input is higher than the actual router size, go to the section above the router table called Max Router Properties and increase the inputs and outputs so that the number is bigger than the desired disconnect number. This max number must be incremented by blocks of 16. Therefore, if the device is a 144 input and 144 output, while the disconnect input happens to be 145, you would need to increase the size to 160 inputs and 160 outputs.

Note: These steps will allow the desired levels to switch to the disconnect number, and will status a blank window when *switched up*. The words OFF or SILENT should no longer appear.

The lists are arranged so that the names of the devices are listed on the left edge of the table, while virtual levels are listed across the top:

[illegible]

FIGURE 2-31. Device management table

Any changes that were made will be automatically written to the data store once the **OK** button is clicked, or the tabs have been clicked (at the bottom).

Note: Note: Changing the tabs also assigns those entries to the next available index number sequentially. If it is desirable to have the crosspoint numbers the same, as the index numbers, it is recommended that you enter the number starting with 0 for each family group (such as VTR's) then change tabs, and return to complete the next family group.

Source and Destination Tables

Once the router and each logical (virtual) level have been defined, a list of source and destination devices can be created. The editors for these lists are separate from the system controller editor, although they are technically part of that system controller's definition. To access the source and destination tables, click on the 'Sources' or 'Destinations' tab at the bottom of the main UCONV4 screen.

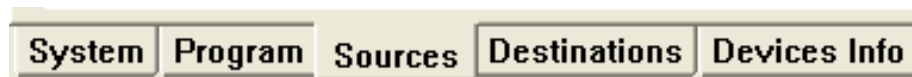


FIGURE 2-32. (Source and Destination menu)

The following table will look the same for both the sources and destinations. The buttons on the right are used to create and edit the device names and numbers which will then appear in the main table on the left. Once the devices are configured, their names and numbers may all be edited directly on the table if desired.

[illegible]

FIGURE 2-33. Source Table before creation

The following descriptions define the individual parameters of the source table.

Row

This simply is the row number for each device. No other function than that.

Index

This is the actual number used by the controller. It is used for automation control, master control and control panels. The physical numbers found in the Level Name columns are switched when the index number for that device is seen by the controller. The best rule of thumb to go by is to make the first level the main video level and have this index number match the physical number for this first level.

8 Char Name

This is required for all devices. It is the name used for each device. The maximum for this name is eight entries. This may include alpha numeric entries. For most control panels, there are only 20 allowable group names which come from this list. The remaining panels can only have 16 group names. The extension is also included in the eight entries. And depending on how many devices there are in each group, would determine the number for the extension size as well as the name. For example, if VTR's are to be used and there are more than one of these, then the group would be VTR with the number for this extension and its sizes. If there were 999 of these then the name could only be five characters long and the extension would be 3. If there were to be 99 then the name could be six entries. If there were to be 9 then the name could be seven entries. And if there were only one in that group then the entire name could be all eight entries.

4 Char Name

This is only required for a couple of panel types but is recommended to be filled in as a smaller name of the 8 character name. Follow the same steps as the 8 character name only with half the size of entries.

Level Names

These names are found above the logical levels that were created in the system configuration. The numbers that will appear in these columns are the physical router source and destination numbers.



Adding and Editing Sources and Destinations

To add group names prior to creating tables then see steps below under 'Edit Group Names'.

Creating New Source and Destination Devices

1. From the 'Sources' or 'Destinations' menu screen, click the 'Add Device' button to the right of the table.



Add Device button

2. The following table will appear with the next available index number in the top left corner. If it is the first one in the list then it will start with 0. This number can be edited here or on the main screen and cannot be duplicated. **NOTE: Index numbers are the numbers that will be used in automation and Master Control. Use these numbers for the required tables in those applications. If this number matches the router number, then this will make it much easier to recall which number these applications use, as they are both the same.**
3. Type the name of the device group in the '8 character or less' window followed by the extension to be used or drop down the arrow next to the group name and select a group. In this example, VTR is the group name and 1 is the extension. The extension size is a 2, allowing for up to 99 VTR's to be added. This can be 0-3. Note: the name can be any alpha numeric entry including symbols. The extension can only be numbers and letters from A-F.
4. Type a shortened version of the 8 character name in the 4 character name box followed by the same extension as above, or drop down the arrow to select a group.

5. The drop down arrows in the group windows will show already created groups.

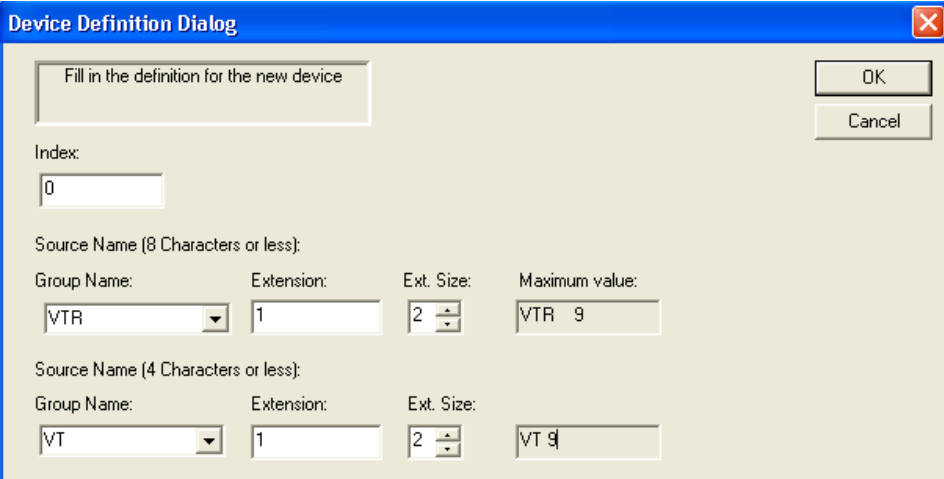


FIGURE 2-34. Group Name Window for Source (Upper half of device name table)

6. The 'Levels' column in the bottom section of the same table will show the name of the assigned logical (virtual) levels. In the column to the right of this, add the physical number for that level. This is the actual number on the rear of the router, which begins at 0. The example below shows four logical levels which actually come from two physical 144 size routers. Two are video levels and two are audio levels. Since there are only two physical routers, and they are both 144 in size, then the numbers that are to be entered in the table can only be from 0-143, shared between both video levels and both audio levels. Therefore, we have partitioned the video levels into an HD level from 0-63 and an SDI level from 64-143. The same for AES 1/2 from 0-63 and AES 3/4 from 64-143. VTR1 happens to be an HD source only so it is input 0 and it uses four channels of audio. The SDI router would then use other numbers for its level and the HD level would be blank, as seen in the 2nd figure below.



NOTE: These numbers don't need to be partitioned as in this example. They can be any number that fits in the range for that router. Just make sure to use the input and output number only once for each device.

Levels	Input	Options
HD Vid	0	
SDI Vid		
AES 1/2	0	
AES 3/4	64	

FIGURE 2-35. Adding Physical Numbers for HD level (Lower half of device name table)

Levels	Input	Options
HD Vid		
SDI Vid	64	
AES 1/2	32	
AES 3/4	128	

FIGURE 2-36. Adding Physical Numbers for SDI level (Lower half of device name table)

Replicating Sources and Destinations

This function is used to increment the name of the device and the numbers of the index and cross points. This reduces the time it takes to hand enter all the device entries, even if the tables don't completely replicate, because what is left can be edited on the main table.

1. While in the source or destination table, click on the row number of a device to be replicated. That row will highlight as seen below.

Row	Index	8 Char ...	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4
0	0	VTR 1	VT 1	0		0	64

FIGURE 2-37. Highlighting Entire Row by Clicking on the Number in the Row

2. Click on the button labeled 'Replicate' to the right of the table (shown below left figure) and the following table (below right figure) will appear.

Add Device

Replicate

Edit Device

Device Replication
X

Device: VTR 1 VT 1
OK

How many times should this device be replicated? 5
Cancel

Would you also like the level numbers to be auto-incremented as each new device is created? ☒

Description:

Level Mapping to Router

Levels	Input	Options
HD Vid	1	
SDI Vid	1	
AES 1/2	1	
AES 3/4	1	

3. Type the desired number of times this device should be replicated in the appropriate window. In the example above, this will add 5 VTR's to the table beginning with VTR 2.



4. Make sure the check mark is applied in the location that asks if the numbers are to be 'Auto Incremented'. If this is not checked, then the numbers for the cross points will all be 0. Otherwise, they will auto increment according to the numbers in the lower table.
5. In the lower table, put the number in the 'Input' column of how many times each level number is to increment. Example; if it is left at 1, then each number will increment by 1. If it is a 2, then each number will increment by 2. (See examples below).

Row	Index	8 Char ... ▼	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	0	VTR 1	VT 1	0		0	64	
1	1	VTR 2	VT 2	0		0	64	
2	2	VTR 3	VT 3	0		0	64	
3	3	VTR 4	VT 4	0		0	64	
4	4	VTR 5	VT 5	0		0	64	
5	5	VTR 6	VT 6	0		0	64	

FIGURE 2-38. Increment by 0 (When Increment Box is Unchecked)

Row	Index	8 Char ... ▼	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	0	VTR 1	VT 1	0		0	64	
1	1	VTR 2	VT 2	1		1	65	
2	2	VTR 3	VT 3	2		2	66	
3	3	VTR 4	VT 4	3		3	67	
4	4	VTR 5	VT 5	4		4	68	
5	5	VTR 6	VT 6	5		5	69	

FIGURE 2-39. Increment by 1

Row	Index	8 Char ... ▼	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	0	VTR 1	VT 1	0		0	64	
1	1	VTR 2	VT 2	2		2	66	
2	2	VTR 3	VT 3	4		4	68	
3	3	VTR 4	VT 4	6		6	70	
4	4	VTR 5	VT 5	8		8	72	
5	5	VTR 6	VT 6	10		10	74	

FIGURE 2-40. Increment by 2

Editing Existing Sources and Destinations

This function is used to change anything about the device including index number, the 8 and 4 character names, the extension number, the long name, the description and the cross point number for each level. The only item that cannot be changed is the extension size because there are other devices in that same group.

1. While in the source or destination table, click on the row number of a device to be edited. That row will highlight as seen below for VTR 4.

Row	Index	8 Char ... ▼	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	0	VTR 1	VT 1	0		0	64	
1	1	VTR 2	VT 2	0		0	64	
2	2	VTR 3	VT 3	0		0	64	
3	3	VTR 4	VT 4	0		0	64	
4	4	VTR 5	VT 5	0		0	64	
5	5	VTR 6	VT 6	0		0	64	

FIGURE 2-41. Highlighting Entire Row by Clicking on the Number in the Row



2. Click on the button labeled 'Edit' to the right of the table (shown below left figure) and the following table (below right figure) will appear.



FIGURE 2-42. Edit Button

Device Definition Dialog

Edit definition of this device

Index: 3

Source Name (8 Characters or less):

Group Name: VTR Extension: 4 Ext. Size: 5 Maximum value: VTR99999

Source Name (4 Characters or less):

Group Name: VT Extension: 4 Ext. Size: 2

Long Name:

Description:

Level Mapping to Router

Levels	Input	Options
HD Vid	0	
SDI Vid		
AES 1/2	0	
AES 3/4	64	

FIGURE 2-43. Edit Device Table

3. To change the 8 character or 4 character name, drop down the menu and select a name that already exists in the tables or type it in if it is a new name.
4. Change the extension number by typing in the new number in place of the current number.
5. Type the long name and description if desired.
6. Change the number in the input column for that cross point if it is needed.
7. The index number should remain as it is unless there is a need to change this for automation or master control.
8. If changes to other devices in the list are needed, use of the scroll arrow selections just above the mapping table may be faster than closing the window and opening the next device. Click on the single left or right arrow to go back and forth to the next device. Click on the left or right arrow with the bar in front of it to go to the beginning or end of the entire list. (Arrows are shown in figure below)



FIGURE 2-44. Group Scroll Buttons

Note: Multiple devices can be simultaneously edited by highlighting more than 1 item in the device table.

Changing Group Names and Numbers from Tables

While in the source or destination table, click on the button at the top of any column to sort by that row. If you click it again it will sort the other direction.

Row	Index	8 Char Name	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4
-----	-------	-------------	-------------	--------	---------	---------	---------

FIGURE 2-45. Source and Destination Column Names

Click on the desired entry windows on the table to edit the parameters. All parameters are changeable except for the row, which is used to highlight the entire row. To edit more than one name at a time, click one of the rows in that group, hold the shift key down and then click on the last row entry in that group, which will highlight that block. Click the 'Edit Device' button which will open the entire block in one table as seen below.



Device Definition Dialog

Edit definitions of these devices

OK
Cancel

Index:
...

Source Name (8 Characters or less):
Group Name: Extension: Ext. Size: Maximum value:
VARIOUS - 1 VARIOUS9

Source Name (4 Characters or less):
Group Name: Extension: Ext. Size:
....

Long Name:
Various

Description:
Various

Level Mapping to Router

Levels	Input	Options	
HD Vid			
SDI Vid			
AES 1/2			
AES 3/4			

FIGURE 2-46. Edit Window for Multiple Selections at the Same Time

All fields will be empty and the name and description will show 'Various'. Type the new name in the 'Group Name' field and this will change all the items that are in that block.

Verifying Sources and Destinations

This function is used to check all the entries for any duplicate level (cross point) numbers. Although the duplication of any level numbers is allowable, it will flag these in the event that they were typed incorrectly. The name cannot be duplicated and will be flagged immediately if one is typed the same as another, therefore the verify will not show this. Verify will also not show duplicate index numbers but this is also not allowable and will be flagged upon exiting the tables.

1. While in the Source or Destination table, click the 'Verify' button at any time. The button is located to the lower right of the table.



2. After pushing 'Verify', if there are any duplicates, a table similar to the one below will appear. It will show the name of the source or destination levels that are duplicated, followed by the level name of each and then the column they are found in. The example below is from the source table. It shows that the names 'SRC 32' and 'VTR 5', which are levels 'AES 1/2' and column 3 for both, are duplicated. To see the duplicate entries for this example, see the 2nd table below. Look in the AES1/2 column for each source name.

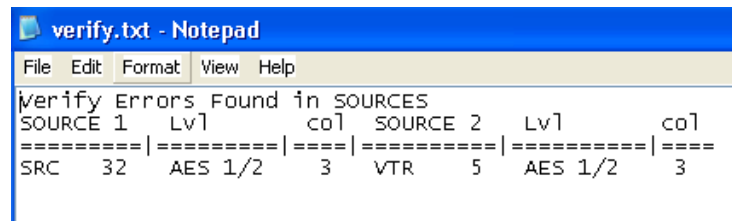


FIGURE 2-47. Verify Error Table for Sources

Row	Index	8 Char Name	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4
30	31	SRC 31	SR31	31		31	95
31	32	SRC 32	SR32		32	32	96
63	0	VTR 1	VT 1	0		0	64
64	64	VTR 5	VT 5		64	32	128

FIGURE 2-48. Source Table with Errors from Above Table

Editing Group Names

The group names can be entered prior to adding devices to the source and destination tables by using this function. Otherwise this is used primarily to remove group names as well as editing the size of the extension for each group. Once these groups are added, follow the steps above for adding the devices with their names and simply drop down the arrow button once in the 'Add Device' editor. Although there can be as many group names as desired, only a total of 20 group names can be used on any control panel for sources and 20 for the destinations. If all these need to be used from any given XY panel then it is recommended to keep all sources and destinations within the limit of 20.



8 Char Name

This is required for all devices. It is the name used for each device. The maximum for this name is eight entries. This may include alpha numeric entries. For most control panels, there are only 20 allowable group names which come from this list. The remaining panels can only have 16 group names. The extension is also included in the eight entries. And depending on how many devices there are in each group, would determine the number for the extension size as well as the name. For example, if VTR's are to be used and there are more than one of these, then the group would be VTR with the number for this extension and its sizes. If there were 999 of these then the name could only be five characters long and the extension would be 3. If there were to be 99 then the name could be six entries. If there were to be 9 then the name could be seven entries. And if there were only one in that group then the entire name could be all eight entries.

4 Char Name

This is only required for a couple of panel types but is recommended to be filled in as a smaller name of the 8 character name. Follow the same steps as the 8 character name only with half the size of entries.

NOTE: This function will only allow for the adding of a group name, the deletion of an existing name and changing the size of the extension. If a group needs to be deleted then the entire group must first be deleted from the source or destination table or it will give a deletion error. Also, the group name table includes all groups in both the source and destination tables so it doesn't matter which table is selected to edit.

1. While in the Source or Destination table, click the 'Edit Group Names' button located at the top right of the function buttons to the right of the main table.

Edit Group Names

2. The following table will open. When a group name is clicked on either the 8 or 4 character side it will highlight and show the name in the upper name box with as many number 9's after it as there are extensions for that name, indicating what it will appear like in the table with as many possible extensions that may be used. The example shows the 8 character name with three 9's and the 4 character name with two 9's.

The 'Edit Group Names' dialog box contains two sections for editing group names. Each section has a text input field, 'Add' and 'Delete' buttons, and a table.

Left Section (Max. 8 Char. value):

Input: SRC 999

Index	Group Names	Ext. Size
5	MON	5
0	SRC	3
1	VTR	5

Right Section (Max. 4 Char. value):

Input: MN99

Index	Group Names	Ext. Size
0	SR	2
1	VT	2
2	MN	2

FIGURE 2-49. Edit Group Names Table

- To add a group name for the 8 or 4 character name, click the 'Add' button above the preferred section. Type the name in the 'Group Name' box and the number of extensions that will be used in this group as seen in the example box below. The name and extension together cannot exceed the 8 or 4 character parameters. Depending on how many entries the name has, will determine how many extensions are possible. If only one instance of the group is needed then it can contain all 8 or 4 entries for the name with no extensions.

The 'Add Group Name' dialog box has two input fields and two buttons.

Group Name: TEST Ext. Size: 2

Buttons: OK, Cancel

FIGURE 2-50. Add Group Names Table

- To change the extension size, click in the 'Ext Size' window and change the number. This number can only be equal to 8 or 4 counting the group name.
- To delete a group, click on the name and then click 'Delete' above it. If there are groups in either the source or destination table then it will not allow the name to be deleted.

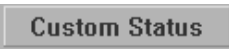


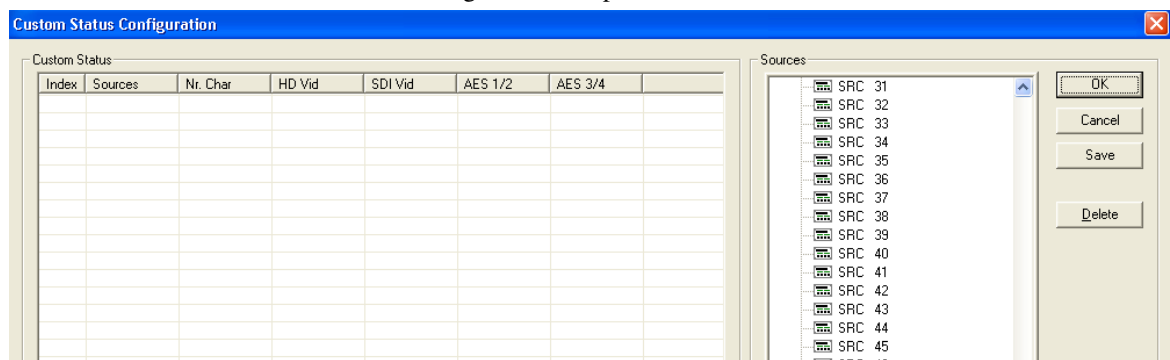
Custom Status Tables

These tables are used to create names for each of the source and destination devices that will appear in the panel displays after a take is made. Because of the limit of 20 group names, groups will generally consist of many extensions, such as VTR 1 through VTR 9 for instance. In this case, if custom names are created for each of these with a longer and more unique name, then after the VTR is switched it will actually status the custom name assigned to it from this table. This allows for all eight entries to be added as a name without numbers if desired.

Destinations are slightly different than sources. Because a destination only appears in the single destination display, then there is only one entry. The sources actually can show up for each individual router level so there is an entry for each level as desired.

Sources

1. Click on the 'Custom Status' button  located to the right of the main source table and the following table will open.



2. Scroll through the source list and locate any of the names that would need a custom name created for them. Click and hold the name and drag it to any location on the table and drop it. It will automatically go to the next open location in the table. The names are assigned an index number and then appear in the column labeled 'Sources'. There will be blank entries for all the levels in the source table.

Custom Status							
Index	Sources	Nr. Char	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	VTR 1	8 Char Name 4 Char Name					
1	VTR 5	8 Char Name 4 Char Name					

FIGURE 2-51. Source Custom Status Table

- Click on the table directly in the window for the 8 and 4 character names and type the desired names for both the '8 and 4 Char Name', or either as desired.

Custom Status							
Index	Sources	Nr. Char	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	VTR 1	8 Char Name 4 Char Name	HD VTR 1		VTR1 AUD		
1	VTR 5	8 Char Name 4 Char Name		SD VTR 5		VTR5 AUD	

FIGURE 2-52. Source Custom Status Table with Entries

- Click the 'Save' button and then click 'OK' when finished.
- To delete a custom status entry, click on the index number for the row that will be deleted and then click 'Delete'. Click 'Yes' when confirmation box opens.



Destinations

1. Click on the 'Custom Status' button **Custom Status** located to the right of the main destination table and the following table will open.

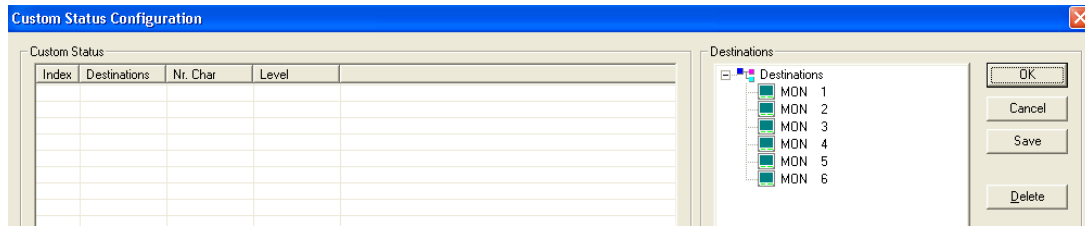


FIGURE 2-53. Destination Custom Status Table

2. Scroll through the destination list and locate any of the names that would need a custom name created for them. Click and hold the name and drag it to any location on the table and drop it. It will automatically go to the next open location in the table. The names are assigned an index number and then appear in the column labeled 'Sources'. There will be blank entries for all the levels in the source table.

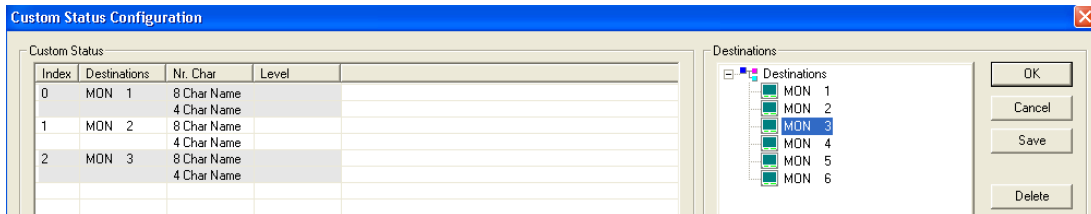


FIGURE 2-54. Destination Custom Status Table with Entries


3. Click on the table directly in the window for the 8 and 4 character names and type the desired names for both the '8 and 4 Char Name', or either as desired.

Custom Status				
Index	Destinations	Nr. Char	Level	
0	MON 1	8 Char Name 4 Char Name	ENG RACK	
1	MON 2	8 Char Name 4 Char Name	QC MON	
2	MON 3	8 Char Name 4 Char Name	MC MON	

FIGURE 2-55. Destination Custom Status Table with Entries

4. Click the 'Save' button and then click 'OK' when finished.
5. To delete a custom status entry, click on the index number for the row that will be deleted and then click 'Delete'. Click 'Yes' when confirmation box opens.

Deleting Entries in the Source and Destination Tables

1. To delete a single entry, while in the source or destination table, click the row number of the desired entry that is to be deleted. This will highlight the entire row.
2. With the row highlighted, either hit the delete button on the keyboard or click the delete button  to the right of the table. When prompted to confirm the action, click 'Yes'.

Row	Index	8 Char Name	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	1	SRC 1	SR 1	1		1	65	
1	2	SRC 2	SR 2	2		2	66	
2	3	SRC 3	SR 3	3		3	67	
3	4	SRC 4	SR 4	4		4	68	
4	5	SRC 5	SR 5	5		5	69	


FIGURE 2-56. Highlighting Single Entry to Delete

3. To delete a group of entries, click on one row and then press and hold the Shift key on the keyboard and click the last entry to be deleted. This will block the group to be deleted. **Note: Only consecutive entries may be blocked and not every other entry.**



Row	Index	8 Char Name	4 Char Name	HD Vid	SDI Vid	AES 1/2	AES 3/4	
0	1	SRC 1	SR 1	1		1	65	
1	2	SRC 2	SR 2	2		2	66	
2	3	SRC 3	SR 3	3		3	67	
3	4	SRC 4	SR 4	4		4	68	
4	5	SRC 5	SR 5	5		5	69	
5	6	SRC 6	SR 6	6		6	70	
6	7	SRC 7	SR 7	7		7	71	
7	8	SRC 8	SR 8	8		8	72	
8	9	SRC 9	SR 9	9		9	73	
9	10	SRC 10	SR 10	10		10	74	

FIGURE 2-57. Highlighting Multiple Entries to Delete

4. With the group of entries highlighted, either hit the delete button on the keyboard or click the delete button to the right of the table. When prompted to confirm the action, click 'Yes'.
5. To delete an entire group, click on any single line on the row number for that group name, such as the name 'SRC' in the table above.
6. Click the 'Grp Delete' button  to the right of the table. When prompted to confirm the action, click 'Yes'.

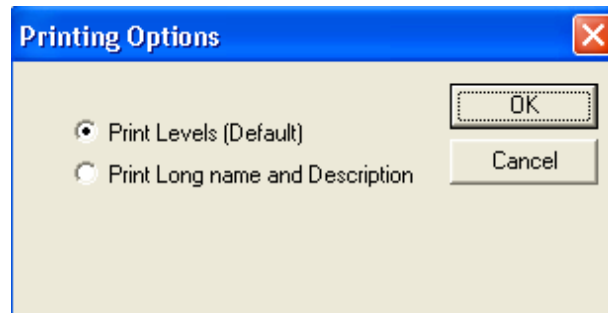
Printing the Source and Destination List

1. Located in the center of the device name table are the 'Long Name' and 'Description' entries. These can be whatever is desired to describe each device and can be sent to a printer along with the source and destination list if desired.

Long Name:	<input type="text" value="Located in Master Control"/>
Description:	<input type="text" value="HD Tape Machine"/>

FIGURE 2-58. Long Name and Description Dialogue for Device

2. While in the Source or Destination table, go to the top of the menu and select 'File' and then select 'Print Preview'. This will bring up the following box. To print only the levels and their numbers, select 'Print Levels'. Select 'Print Long name and Description' to include the names that were entered for each device.



Printing Source and Destination List Options

3. There is also a fly over option that can be enabled which will show the 'Description' that was typed for each device while flying over the names in the source and destination table without having to open each entry one at a time. To activate this, go to 'View' at the top of the menu and click on 'View Src/Dest Device Description'. With this view enabled, hold the mouse cursor over the devices in the source and destination tables and the description will appear.



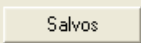
Using Salvos

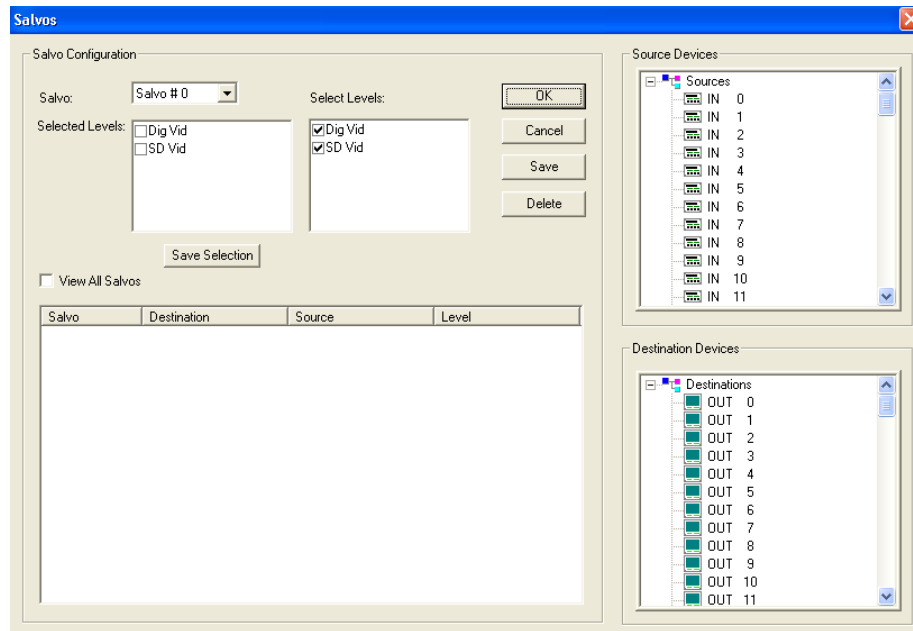
The definition of a salvo is where multiple sources and destinations are configured to perform routes within a single take. There are 128 possible salvos that can be created with any combination of sources and destination inside each salvo.

Creating Salvos

1. Double click on the SC4 icon or right click on it and click 'Edit'.



2. Click the button titled 'Salvos'  in the upper right section and the following window will appear.



3. Choose which salvo to configure by dropping down the arrow in the 'Salvo' window. The number 0 is the first salvo and the choices should go to 127.
4. In the 'Select Levels' window, choose the levels that will be required to switch sources and destinations. If it's all levels, then leave them all checked as they appear. These can be modified later if needed.
5. Choose the destinations first, from the 'Destination Devices' list in the lower right corner, that will be part of the salvo by left clicking on the output name and while holding the mouse button down, drag the name onto the main table. Notice that the 'Level' column will have the word 'All' for each line. How to customize the levels is shown in step 9 below.

6. Outputs can be dragged individually or as a group. To group multiple outputs, click and hold the mouse button down on the first output and then using the ‘Shift’ key or the ‘Ctrl’ key, click on all the other outputs that are needed. Drag that group to the table and let go of the mouse button. **Note: Outputs can be added to the table by simply double clicking the output names in the destination device list, after at least a single entry is already placed on the table.**

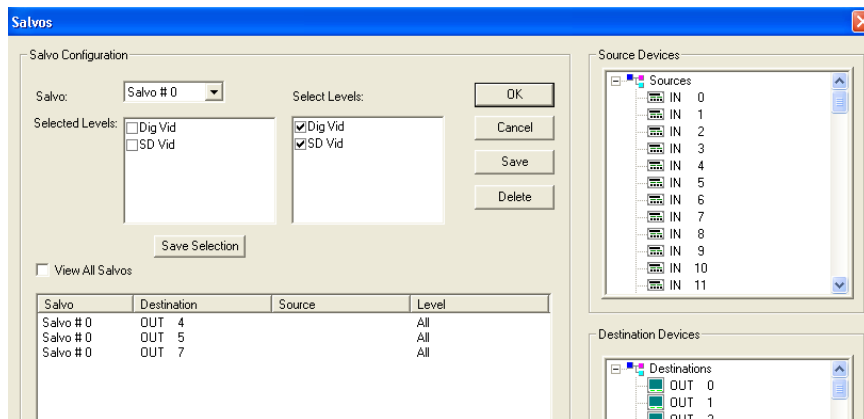


FIGURE 2-59. Salvo Table with Three Outputs Assigned and No Inputs Yet

7. The table above shows three outputs only for Salvo 0. Next, drag the desired inputs from the ‘Source Devices’ list in the upper right corner, to each of the outputs that they will be switched to. As with the destinations, groups of inputs can be dragged to outputs however, they will be added to the destinations in the order they are highlighted, and from the destination that they are dropped onto and down from there. Only one input can be assigned to any given output but that same input can be assigned to as many outputs as desired. Same rules for dragging apply.
8. Click the ‘Save’ button located just to the right of the ‘Select Levels’ table. This will save the salvo that is currently selected in the ‘Salvo’ drop down window.
9. If one or more of the outputs in the salvo need to have less than all of the levels assigned to it, then click directly on the output line in that salvo, on the table, and note that in the upper left window titled ‘Selected Levels’ it will show the levels with check marks on each one that is active for that output.



10. Uncheck or check all the desired levels in the left (Selected Levels) window for that output and then click the button titled 'Save Selection' just below that window. The level column should now show the word 'Customized' for all outputs that are less than all levels. **Note: Multiple outputs may be highlighted. To group multiple outputs, click and hold the mouse button down on the first output and then using the 'Shift' key or the 'Ctrl' key, click on all the other outputs that are needed.**
11. Click the 'View All Salvos' button just above the table to see all salvos that are configured. This will show each output with the source assigned to it as well as if they will switch all levels or not. To see which levels the customized outputs will switch, simply single click on any output line and it will show the levels above in the 'Selected Levels' window. The figure below shows all items discussed above.

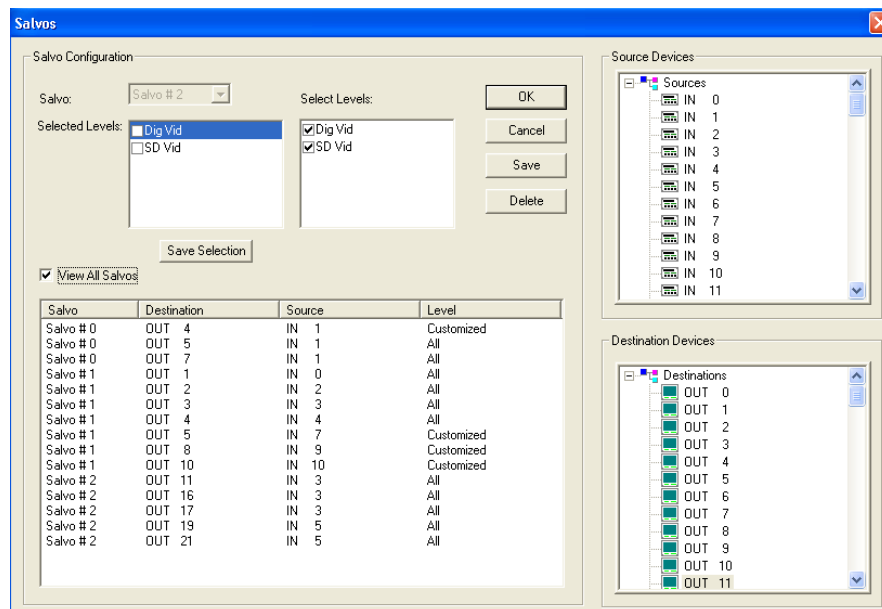


FIGURE 2-60. Salvo Table with Three Salvo Groups Fully Assigned

To delete a single salvo line, click on that output and then click the 'Delete' button located to the right of the 'Select Levels' table. Use the grouping procedure from above for selecting multiple outputs or entire salvo groups and deleting them with the same delete button.

Importing an SC-4 Configuration File

Use this feature if a configuration file has been edited manually and you wish to import it into the U-CON V4 software. The most common use (of this feature) takes place *after* the SC-4 has been programmed from U-CON V4 -- when the new index device numbers do not match the router numbers. In this instance, you could manually edit those tables to match the numbers, then import the new file. This would be of little concern if the SC-4 is a new system. In this case you should follow the steps for adding new names (below).

To import an already saved SC-4 configuration file, complete the following:

Note: See the *System Installation Guide, Appendix B*, to locate instructions for accessing the current config file (from the SC-4.) *Hint: Run the getencode.bat file from the table (page B-2).*

1. Start with the **System** tab visible (in U-CON V4) with no SC-4 icon on the screen. If this is a new data store there will be no panels created yet. If panels have already been saved, you will lose each one if you start with a new screen. To make sure the panels in the data store are preserved; open a *view* with all of the panels including the SC-4, right-click the SC-4 icon, then delete the device from the data store.
2. Go to the top of the menu bar, select **File**, then select *Import SC-4 Config File*.
3. Browse to the location where the config file is saved, then select it from the window.
4. You must type the name of the SC-4 when you are prompted to do so. This is the name you would have assigned earlier (page 2-3). You can modify the name by repeating the earlier SC-4 naming process (page 2-3).

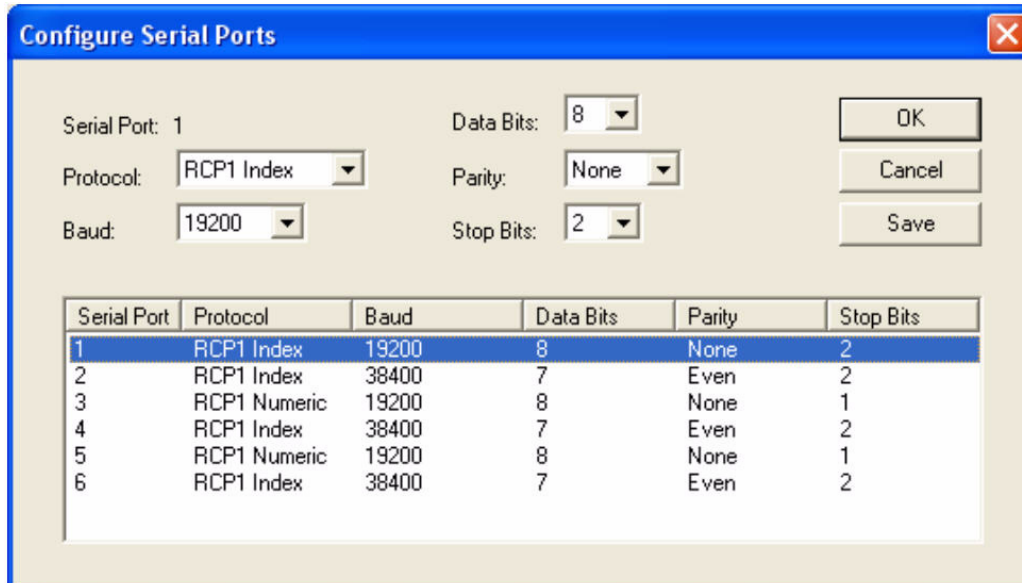
Press the RETURN key to send the new information to the Data Store. Go to the top of the menu and select **File**, then select *Save As*. Either overwrite the current data store, or save it to a new location on the PC.

Using Salvos

Detail to follow



Serial Ports



The dialog box titled "Configure Serial Ports" contains the following fields and controls:

- Serial Port: 1
- Protocol: RCP1 Index
- Baud: 19200
- Data Bits: 8
- Parity: None
- Stop Bits: 2
- Buttons: OK, Cancel, Save

Serial Port	Protocol	Baud	Data Bits	Parity	Stop Bits
1	RCP1 Index	19200	8	None	2
2	RCP1 Index	38400	7	Even	2
3	RCP1 Numeric	19200	8	None	1
4	RCP1 Index	38400	7	Even	2
5	RCP1 Numeric	19200	8	None	1
6	RCP1 Index	38400	7	Even	2

FIGURE 2-61. Serial Ports window

1. Right-click the SC-4 icon, then click the **Serial Ports** button.
2. Click (to highlight) the serial port within the actual table.
3. In the serial ports window (above) choose the desired baud rate and parity settings for the serial port that is highlighted in the window.
4. In the Protocol selection, choose *RCP1 Index* -- if the serial port will be used as an all level port. This would be one number sent from the automation. This is the most common way to configure the port.
5. Choose *RCP1 Numeric* if the serial port will be used for breakaway functionality. This allows the automation to 'choose' multiple numbers and levels to switch (used only in limited circumstances.)

Tie Line Configuration

Background

UCON version 3.2 and higher supports tieline configuration. Tielines are made up of 3 main areas:

- The first is tieline pools.
- The 2nd is source configuration, which enable tieline use for specific sources on specific levels.
- The 3rd is destination configuration that assigns tieline pools to destinations.

Tieline Properties

The *Maximum Tielines Property* will update automatically to display the number of tielines configured within the system. The *Maximum Search Property* will typically be (1). A value higher than 1 will enable the system to connect levels that are not directly connected together. For example, in a system containing a pool converting analog video to SD, and another pool upconverting SD to HD, connections will be enabled between analog video and HD if the Max search is set to 2. For efficiency, use the smallest number possible for the desired number of conversions.

Tieline Pools

Tieline pools are used to provide groups of connections between router levels. They may include signal conversions that go between various signal formats, or they can combine signals -- such as analog video and analog audio converted to SD Video with embedded audio.

Source Configuration

Source configuration for tielines involves editing a source definition to enable the use of tielines on levels that are not directly connected. For instance, a typical router system can support analog and digital video signal formats. An analog source has a physical connection on the analog video router (a BNC typically). The analog source typically does not have a physical connection on the digital video level. U-CON V4 allows the user to enter an attribute of TIE on the digital video level. This signifies that the source can use a tieline if a digital output is *switched up* to the analog source.



Destination Configuration

Destination configuration for tielines involves assigning (1) or more tieline pools to destinations the user wishes to use non-local source signals *on*. For instance, a typical router can support analog and digital video signal formats. If the user wishes to enable a digital output use analog sources, he must encode a tieline pool on the analog level. This is a very important step and should not be overlooked.

The user can create more than one tieline pool for the same level pair. For example, the user may have (2) areas in the station that need to use analog sources on digital outputs. Tielines are a finite resource, and it is possible to request too many analog sources on digital outputs. When this occurs, the last switch is denied as there are no more converting tielines to connect the source *with*. This could be a problem as the first area within the station could request (and use) all the tielines, leaving none for the 2nd area in the station. The solution is to create more than (1) tieline pool and dedicate each one to a specific area of the plant; for example, (1) pool for news and another for on-air operations. This would allow each area to manage their own use of tielines without competing with other areas of the plant.

(2) tieline pools have been created at this point. Digital router outputs used in the news area are encoded to use tieline pool **1**. Digital router outputs used in the on-air area are encoded to use tieline pool **2**.

Roadmap to Tie Line Success

Tielines are an advanced topic related to 'Router Configuration and System Design'. The user should have a thorough working knowledge of the U-CON V4 system, and routers in general, before attempting to design and implement tielines in a router control system.

Router configuration

Begin by configuring basic router control; including the SC-4 or SC-400 controller, router size, number of signal levels, router hardware, and logical router levels. If tielines are being added to an already existing system, then simply make sure that there are two distinct levels created that will use the tielines. Note: In order to use tielines there must be two levels created of which the tielines will pass between. These may come from a single router or from different physical routers, but in either case there must be two levels created in order for the tielines to function properly.



1. Open the configuration table by double clicking on the SC4/SC400 icon on the 'System' screen. The following is an example of a simple 10x10 router. If the router and level tables are already created and working then click the button titled 'Tie Lines' and proceed to the section below titled 'Tie Line Creation'. If not, then proceed with step 2.

MX Router Properties

Max Inputs	Max Outputs	Max Levels
10	10	2

Partyline Properties

Max Outputs	Max Panels
0	0

Tie Lines Salvos OK

Serial Ports Hardware Profile Save

SysLog Server SNMP Cancel

Data edited here will not appear in other editors until it is saved

Routers

Add	Delete	Edit
-----	--------	------

ind...	Router Name	Router Type	Router Model	Router Level	Simulate	Refresh
1	SDI Video	Digital Video	Utah 400	0	Off	On
2	HD Video	HD Video	Utah 400	1	Off	On

Levels

Add	Delete	Edit
-----	--------	------

ind...	Level Name	Level Type	Router Name (from table ab...	Follow Levels	Disc Input
1	SDI Vid	Embedded DI...	SDI Video		
2	HD Vid	HD Video	HD Video		

2. Enter the maximum number of inputs and outputs that the largest router type is capable of expanding to in the upper left windows on the screen above titled 'MX Router Properties'.

- To add physical routers, click the 'Add' button in the middle section titled 'Routers'. Enter the desired names and router levels in the appropriate windows. Router levels are offset by one. i.g. Level 1 would use as 0 for the entry. Make sure 'Refresh' is on for all. Click 'OK' to exit.

Routers						
<input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Edit"/>						
ind...	Router Name	Router Type	Router Model	Router Level	Simulate	Refresh
1	SDI Video	Digital Video	Utah 400	0	Off	On
2	HD Video	HD Video	Utah 400	1	Off	On

- After completing step 3, click the 'Add' button on the lower table titled 'Levels' and enter the levels and other items in the appropriate windows. The example below shows two levels already created. One for SDI and the other for HD. Click 'OK' to exit this screen.

Levels					
<input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Edit"/>					
ind...	Level Name	Level Type	Router Name (from table ab...	Follow Levels	Disc Input
1	SDI Vid	Embedded Di...	SDI Video		
2	HD Vid	HD Video	HD Video		

- Click 'OK' on the properties screen to exit and go back to the 'System' screen. Click 'File' from the drop down menu at the top of UCON and then click 'Save'.

Configuring Tielines

There are four parts to building and using tielines successfully. First, there must be tie pools created. These are basically groups of tielines, such as up or down converter tielines, of which each would have their own pool. Second is the table within the pool where tielines are built. Third, is to assign from the source table, desired sources to be

used as tielines. And fourth, is the destination table, where selections of destinations are made, as to which ones will be able to use the tielines.

1. From the 'System' screen, double click the SC4 icon to open the properties window.
2. Click on the button titled 'Tie Lines' as seen below, and a window will open showing both the tie pools and the tielines assigned to those pools.

MX Router Properties

Max Inputs	Max Outputs	Max Levels
10	10	2

Partiline Properties

Max Outputs	Max Panels
0	0

Data edited here will not appear in other editors until it is saved

Tie Lines Salvos OK

Serial Ports Hardware Profile Save

SysLog Server SNMP Cancel

[illegible]

3. To create the desired tie pools, click on the 'Add' button in the upper half of the tieline properties window. When the following window opens, enter the desired name for this pool, the capacity number (which is the number of tielines to be used in this pool) and a threshold number (which is the same as the tielines or less – used in rMan software for managing tielines). Then check the router level box from which the tielines will be coming from (Dst Levels) and then check the router level box to where the tielines will go into (Src levels).

The screenshot shows the 'Tieline Pool Definition' dialog box. It has a title bar with a close button (X). The dialog contains several input fields: 'Index' (empty), 'Name' (empty), 'Capacity' (empty), and 'Alarm Threshold' (empty) followed by a '%' sign and an unchecked checkbox. To the right of these fields are two lists: 'From (Dst levels):' and 'To (Src levels):'. Each list contains two items: 'SDI Vid' and 'HD Vid', both with unchecked checkboxes. At the bottom right are 'OK' and 'Cancel' buttons.

FIGURE 3. Empty Tie Pool

The screenshot shows the 'Tieline Pool Definition' dialog box with the following values: 'Index' is empty, 'Name' is 'SD to HD', 'Capacity' is '2', and 'Alarm Threshold' is '2' followed by a '%' sign and an unchecked checkbox. In the 'From (Dst levels):' list, 'SDI Vid' is checked and highlighted in blue, while 'HD Vid' is unchecked. In the 'To (Src levels):' list, 'SDI Vid' is unchecked and 'HD Vid' is checked and highlighted in blue. 'OK' and 'Cancel' buttons are at the bottom right.

FIGURE 4. Defined Tie Pool

4. Once these items are filled in, click 'OK' and then create any other pools using the previous steps



- Next, click on the desired tie pool in the upper table and then click on the 'Add' button in the lower table titled 'Tielines'. Enter desired name for this tieline and then either click the 'Find' button, allowing the system to use the first open source and destination that is not found in the source or destination tables and that falls within the MX router size that was built above, or simply type the router numbers into the table manually. Remember, these numbers cannot exist on the source or destination table.

The screenshot shows the 'Tielines' dialog box. At the top, there is a title bar with a close button. Below it, the 'Tieline Pool' is set to 'SD to HD'. There are three buttons on the right: 'OK', 'Cancel', and 'Find'. Below these buttons, there are two input fields: 'Tieline Index' with the value '1' and 'Tieline Name' which is empty. At the bottom, there are two tables. The left table has columns 'From (Dst levels)' and 'Physical Out...'. The right table has columns 'To (Src levels)' and 'Physical Input'. Both tables have one row with 'SDI Vid' and 'HD Vid' respectively.

From (Dst levels)	Physical Out...
SDI Vid	

To (Src levels)	Physical Input
HD Vid	

FIGURE 5. Empty Tieline Table

The screenshot shows the 'Tielines' dialog box with the 'Tieline Name' field filled with 'SD>HD 1'. The 'Tieline Index' is still '1'. The tables at the bottom now have data. The left table has 'SDI Vid' in the 'From (Dst levels)' column and '9' in the 'Physical Out...' column. The right table has 'HD Vid' in the 'To (Src levels)' column and '9' in the 'Physical Input' column.

From (Dst levels)	Physical Out...
SDI Vid	9

To (Src levels)	Physical Input
HD Vid	9

FIGURE 6. Defined Tieline Table

6. Build as many tielines, using the steps above, as needed for each pool, according to the capacity number in each pool. The figure below is an example of two pools, each with a capacity of 2 and with two tielines defined in each.

The screenshot shows the 'Tielines' configuration window. It has a title bar with a close button (X). The window is divided into several sections:

- Tieline Properties:** Contains two input fields: 'Max. Tielines:' with the value '4' and 'Max. Search:' with the value '1'. There is a checkbox labeled 'View all Tielines' which is currently unchecked. On the right side of this section are three buttons: 'OK', 'Save', and 'Cancel'.
- Pools:** This section contains four buttons: 'Add', 'Delete', 'Edit', and 'Print'. Below these buttons is a table with the following data:

Index	Pool Name	Capacity	Alarm Thresho...	From (Dst leve...	To (Src levels)
1	SD to HD	2	2	1	2
2	HD to SD	2	2	2	1
- SD to HD Tielines:** This section contains five buttons: 'Add', 'Delete', 'Edit', 'Replicate', and 'Print'. Below these buttons is a table with the following data:

Ind...	Name	Connection	SDI Vid	HD Vid
1	SD>HD 1	From (Dst lev... To (Src level)	9	9
2	SD>HD 2	From (Dst lev... To (Src level)	10	10

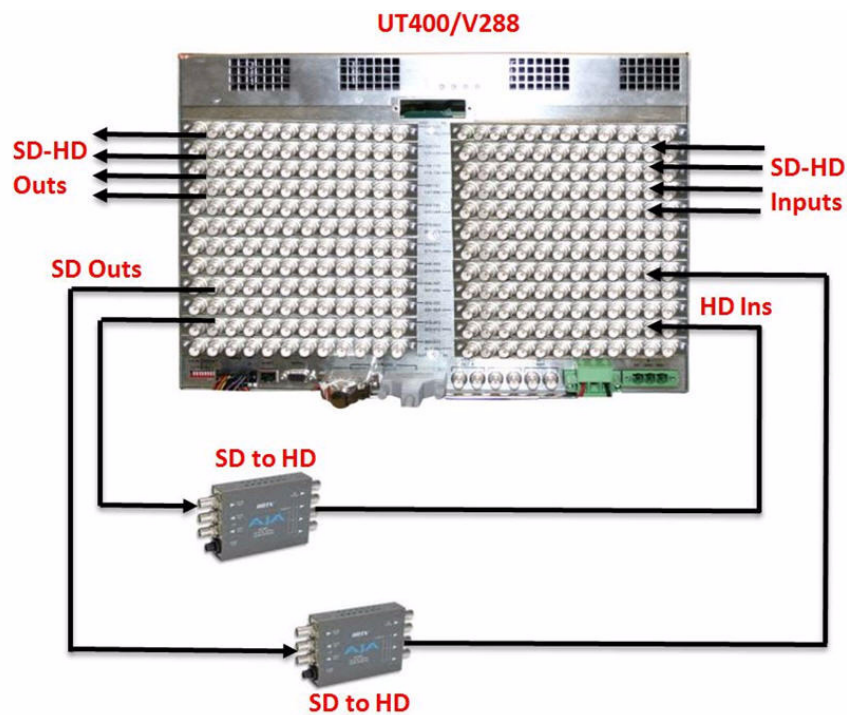
FIGURE 7. Pools and Tielines Defined



7. Once these tables are complete, click the 'Save' button and then the 'OK' button in the 'Tieline Properties' window. Then click the 'Save' and 'OK' buttons on the router properties window.
8. While at the 'System' view, save your work to the pc by clicking on 'File' at the top menu and then click the 'Save' menu item.

Note: This data will still need to be programmed into the SC4/SC400 before it will take effect in the system. However, there is no need to program the changes until the source and destination tables have been defined for tieline use. There will be a step in the next section for sending the data to the controller and any panels that will be used for switching tielines.

Configuring Sources and Destinations



The next step is to configure sources and destinations. If this is not already completed, then add inputs and outputs for both levels that tielines will be using, by referring to the section

titled 'Adding and Editing Sources and Destinations' in this Ucon manual. Note: in order to use tielines, the physical router numbers that will be used for these tielines, cannot be in the tables. These physical numbers will be added to the tieline configuration table in the SC4 properties.

1. Once the source and destination tables are defined, the next thing to do is to decide which inputs may be used to pass through the tielines. Example – if the system is to take SD sources in and upconvert to HD destinations, then which of all of the SD sources that go to the router, will be capable of going to HD destinations? The same thing goes for sources that are HD and will be passing through tielines, then through down converters and on to destinations that are SD.
2. With step one decided, open the source table by clicking the tab at the bottom of the system screen titled 'Sources'.
3. With the source table open as seen in the next figure below, either click on a single row or use the control or shift keys to block groups of rows. Then click the 'Edit' button to the right to open the editor.

Ro...	Ind...	8 Char Name	4 Char Name	SDI Vid	HD Vid
13	0	SD VTR 1	SIN0	0	
14	1	SD VTR 2	SIN1	1	
15	2	SD VTR 3	SIN2	2	
16	3	SD VTR 4	SIN3	3	
17	4	SD VTR 5	SIN4	4	
9	5	SD IN 5	SIN5	5	
10	6	SD IN 6	SIN6	6	
11	7	SD IN 7	SIN7	7	
12	8	SD IN 8	SIN8	8	
4	10	HD VTR 1	HIN0		0
5	11	HD VTR 2	HIN1		1
6	12	HD VTR 3	HIN2		2
7	13	HD VTR 4	HIN3		3
8	14	HD VTR 5	HIN4		4
0	15	HD IN 5	HIN5		5
1	16	HD IN 6	HIN6		6
2	17	HD IN 7	HIN7		7
3	18	HD IN 8	HIN8		8

Edit Group Names

Custom Status

Add Device

Replicate

Edit Device

FIGURE 8. Source Table With No Tielines



- Once the source editor is open, go down to the 'Level Mapping to Router' section and drop down the arrow in the correct level and click the word 'Tieline'.

Note: To know which level to put the tieline in, it should be the level that does not have a number in the 'Input' column on that table, as seen by the arrow below.

Device Definition Dialog

Edit definition of this device

Index: 0

Source Name (8 Characters or less):

Group Name: SD VTR Extension: 1 Ext. Size: 1 Maximum value: SD VTR 9

Source Name (4 Characters or less):

Group Name: SIN Extension: 0 Ext. Size: 1 Maximum value: SIN 9

Long Name:

Description:

Level Mapping to Router

Levels	Input	Options
SDI Vid	0	Tieline
HD Vid		Remove Disconnect Tieline Salvo # 0 Salvo # 1 Salvo # 2

5. Click 'OK' when this is complete and repeat for all sources that will require a tieline. The next figure shows an example of all tielines in the HD and SD levels. After all tielines are entered in the table, click the 'Save' button to get back to the system screen.

Ro...	Index ...	8 Char Name	4 Char Name	SDI Vid	HD Vid
0	15	HD IN 5	HIN5	TIE	5
1	16	HD IN 6	HIN6	TIE	6
2	17	HD IN 7	HIN7	TIE	7
3	18	HD IN 8	HIN8	TIE	8
4	10	HD VTR 1	HIN0	TIE	0
5	11	HD VTR 2	HIN1	TIE	1
6	12	HD VTR 3	HIN2	TIE	2
7	13	HD VTR 4	HIN3	TIE	3
8	14	HD VTR 5	HIN4	TIE	4
9	5	SD IN 5	SIN5	5	TIE
10	6	SD IN 6	SIN6	6	TIE
11	7	SD IN 7	SIN7	7	TIE
12	8	SD IN 8	SIN8	8	TIE
13	0	SD VTR 1	SIN0	0	TIE
14	1	SD VTR 2	SIN1	1	TIE
15	2	SD VTR 3	SIN2	2	TIE
16	3	SD VTR 4	SIN3	3	TIE
17	4	SD VTR 5	SIN4	4	TIE

Edit Group Names

Custom Status

Add Device

Replicate

Edit Device

FIGURE 9. Source Table with Tielines Assigned

6. Open the destination table by clicking on the 'Destinations' tab at the bottom of the system screen.



7. With the destination table open as seen in the next figure below, determine which outputs will be used to switch tieline sources to and either click on a single row or use the control or shift keys to block groups of rows. Then click the 'Edit' button to the right to open the editor.

Ro...	Ind...	8 Char Name	4 Char Name	SDI Vid	HD Vid
13	0	SD SERV1	SOT0	0	
14	1	SD SERV2	SOT1	1	
15	2	SD SERV3	SOT2	2	
16	3	SD SERV4	SOT3	3	
17	4	SD SERV5	SOT4	4	
9	5	SD OUT 5	SOT5	5	
10	6	SD OUT 6	SOT6	6	
11	7	SD OUT 7	SOT7	7	
12	8	SD OUT 8	SOT8	8	
4	9	HD SERV1	HOT0		0
5	10	HD SERV2	HOT1		1
6	11	HD SERV3	HOT2		2
7	12	HD SERV4	HOT3		3
8	13	HD SERV5	HOT4		4
0	14	HD OUT 5	HOT5		5
1	15	HD OUT 6	HOT6		6
2	16	HD OUT 7	HOT7		7
3	17	HD OUT 8	HOT8		8

Colored cell indicates attributes

Edit Group Names

Custom Status

Add Device

Replicate

Edit Device

FIGURE 10. Destination Table without Tielines Assigned

8. Once the destination editor is open, click on the option arrow for the level in the lower table titled 'Level Mapping to Router' and select the tieline option such as 'SD to HD' or 'HD to SD'. The correct level would be the one that has no entries in the destination level as indicated by the arrow shown below.

Device Definition Dialog

Edit definition of this device

Index: 1

Destination Name (8 Characters or less):

Group Name: SD SERV Extension: 2 Ext. Size: 1 Maximum value: SD SERV9

Destination Name (4 Characters or less):

Group Name: SOT Extension: 1 Ext. Size: 1 Maximum value: SOT9

Long Name: Various

Description:

Level Mapping to Router

Levels	Output	Options	Attributes
SDI Vid	1		
HD Vid		HD to SD	

FIGURE 11. Destination Editor – with HD to SD Tieline Selected



- Click 'OK' when this is complete and repeat for all destinations that will require a tieline. The next figure shows an example of all destinations in the HD and SD levels. These will appear grayed out, which is the only indication that there is a tieline assigned. After all destinations are entered in the table, click the 'Save' button to get back to the system screen.

Ro...	Ind...	8 Char Name	4 Char Name	SDI Vid	HD Vid
13	0	SD SERV1	SOT0	0	
14	1	SD SERV2	SOT1	1	
15	2	SD SERV3	SOT2	2	
16	3	SD SERV4	SOT3	3	
17	4	SD SERV5	SOT4	4	
9	5	SD OUT 5	SOT5	5	
10	6	SD OUT 6	SOT6	6	
11	7	SD OUT 7	SOT7	7	
12	8	SD OUT 8	SOT8	8	
4	9	HD SERV1	HOT0		0
5	10	HD SERV2	HOT1		1
6	11	HD SERV3	HOT2		2
7	12	HD SERV4	HOT3		3
8	13	HD SERV5	HOT4		4
0	14	HD OUT 5	HOT5		5
1	15	HD OUT 6	HOT6		6
2	16	HD OUT 7	HOT7		7
3	17	HD OUT 8	HOT8		8

Colored cell indicates attributes

Edit Group Names

Custom Status

Add Device

Replicate

Edit Device

FIGURE 12. Destination Table with Tielines Assigned

- While at the 'System' screen make sure to save the work. Go to the 'File' menu item at the top of the screen and then click 'Save'.
- Open any panels on the 'System' screen and drag these desired sources and destinations onto the panel. Close the panel editors and repeat step 10 to save the work.
- Program all of these changes to the SC4/400 controller and panels by clicking on the yellow 'P' icon at the top of the screen. To verify that the changes were sent to the devices, go to the 'Program' tab at the bottom of the screen and see that each device was 100% completed.

System View and Device Info

With the datastore opened and the System View button pushed at the bottom of the screen, it will show the SC4/400 controller and any control panels that are connected to that specific controller, that have been put in the working view. This is called the document view. This view of all the icons can either be in 'Normal' view or it can be seen in a smaller view in order to show more panels. 'Small icon View' will have about nine panel icons across each row compared to only seven icons in 'Normal' view. Note: 'Small icon View' will also decrease the viewing size of the fonts while in any of the panel configuration files. This can make the view of the buttons and other names more legible in some cases.

There is also the ability to see the device description name of the controller and panels underneath the assigned name of the icon. This is a feature that allows for more details to be added along with the name on a device by device basis, which is discussed at the end of this section.

1. The view of the icons should be 'Normal' when the datastore is first created. Click 'View' from the top menu selection and verify that the 'Small icon View' is not checked. If it is checked, then it will show the devices about half the normal size. The following figures will show the example of both the 'Normal' view and 'Small icon View'.

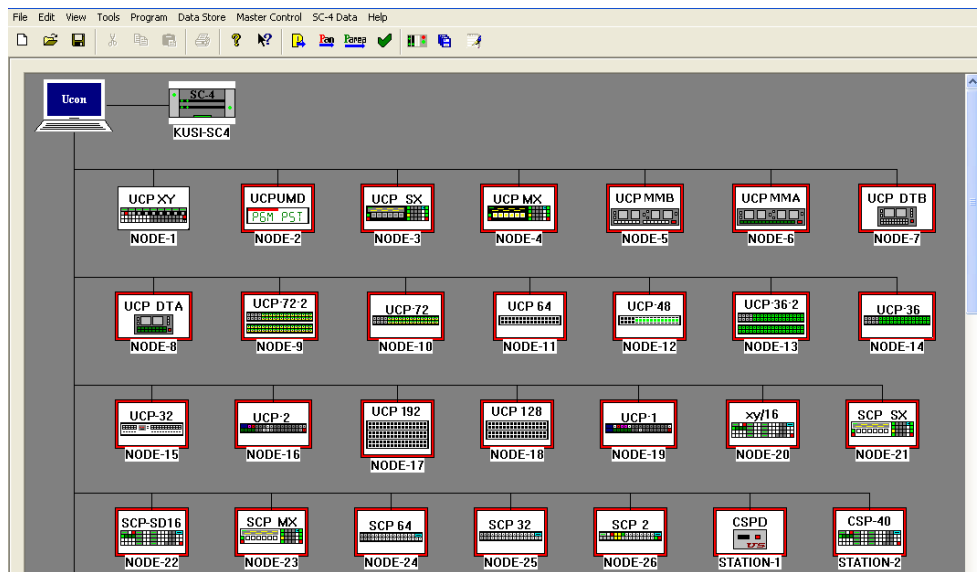


FIGURE 2-1. Normal Icon View on System Screen

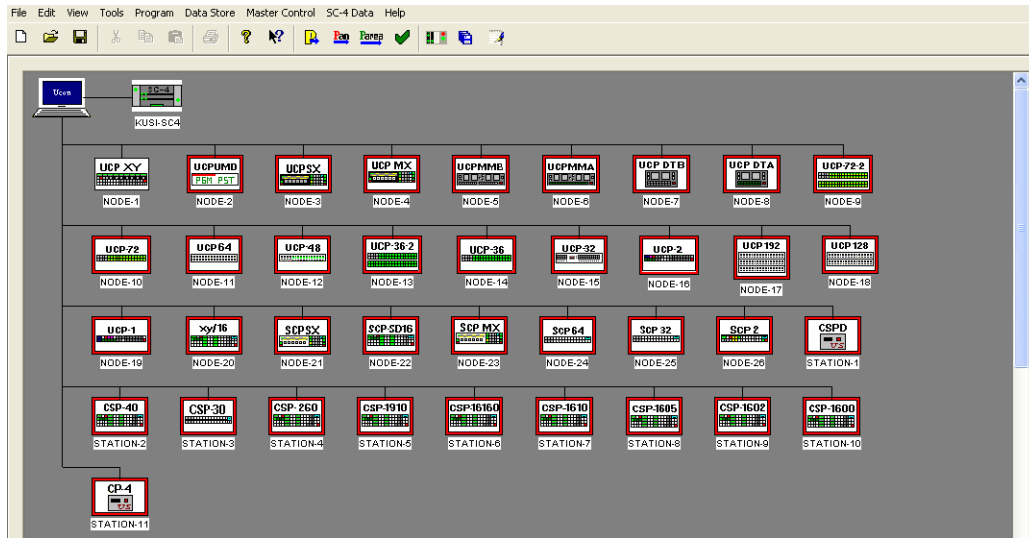


FIGURE 2-2. Small Icon View on System Screen

Device Menu Items

Each device on the system view has a menu associated with it which allows for various functions. The menu is exactly the same for the SC4/400 as it is for all control panels. To see the menu, right click on the device and it will appear. Menu 1 below is the main menu that will appear. Menu 2 is a sub menu that appears when the 'Device' item is selected. Menu 3 is a sub menu that appears when the 'Copy/Paste' item is selected.

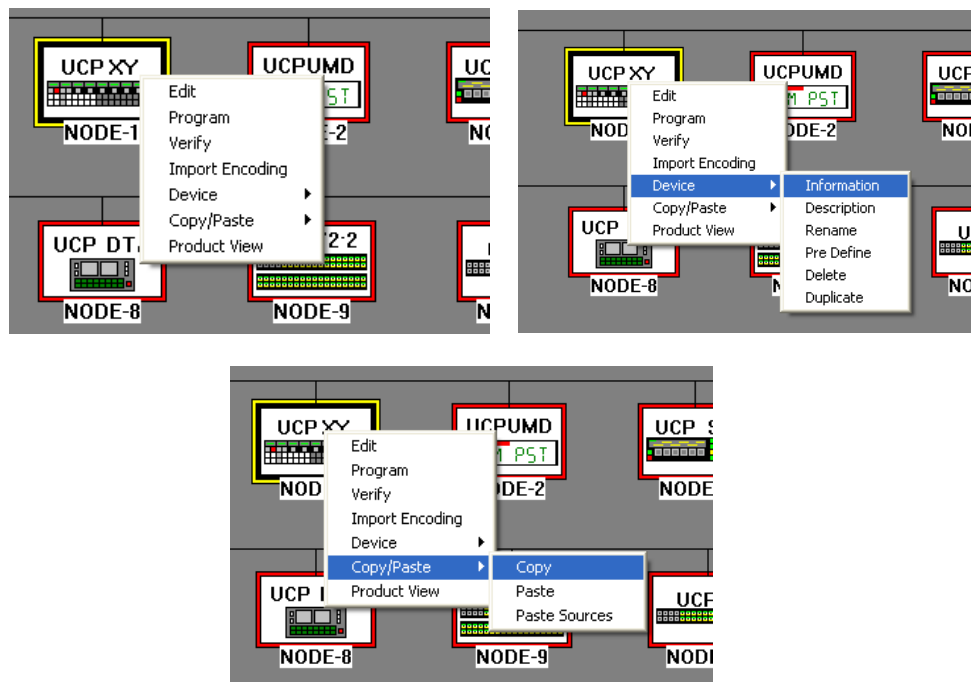


FIGURE 2-3. Menu 1, Menu 2, and Menu 3

Edit

Click here to open the device configuration table. The configuration file can also be opened by simply double clicking on the device icon.

Program

Click this to send the encoding to the device. For the controller, this would send the mapping tables and the source and destination tables. For panels, this would send buttons configurations. To verify progress, click on the 'Program' tab at the bottom of the screen which will show a progress bar.

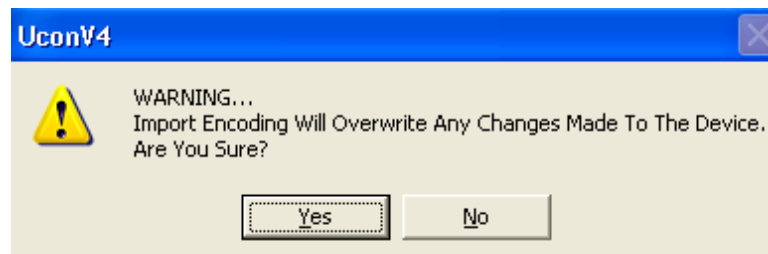


Verify

Click this to compare what is in the device with what is in the data store. To verify progress, click on the 'Program' tab at the bottom of the screen which will show a progress bar.

Import Encoding

Click on this to bring encoding from the device into the data store. The following warning will appear. Click 'Yes' and then to verify progress, click on the 'Program' tab at the bottom of the screen which will show a progress bar.

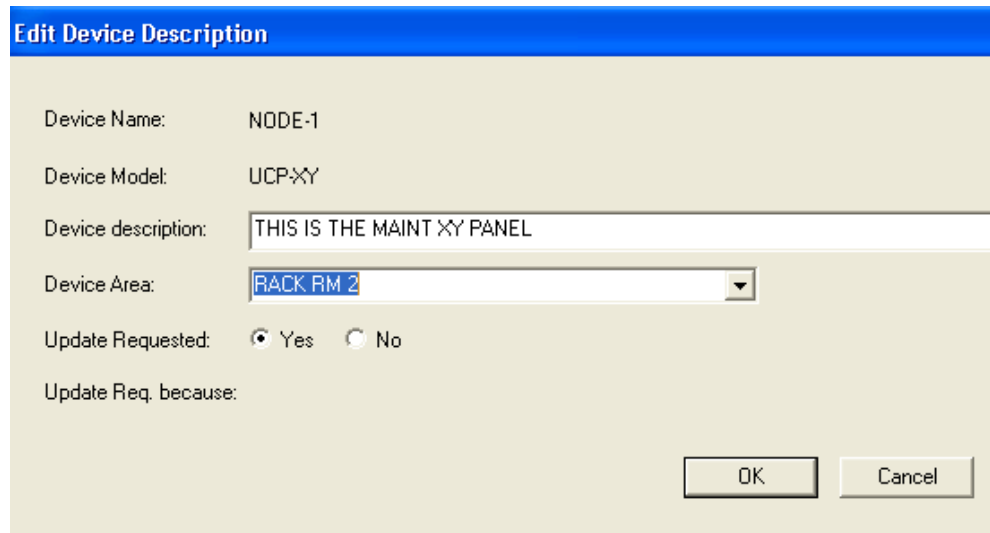


Device Information

Click on this to see details about the current device that was selected. Example below.

Device Description

Click this and then enter a description of choice for the device. This should be limited to 12 entries or less. More than 12 will put dots after the entries. If desired, type a name in the device area. This can be used later for grouping all devices by areas and then programming them all at once. To view the description click on 'View' at the top menu and select 'View Device Description'. **Note: The device description can also be added to each device from the 'Devices Info' table. See the section below titled 'Devices Info Table'.**



Edit Device Description

Device Name: NODE-1

Device Model: UCP-XY

Device description: THIS IS THE MAINT XY PANEL

Device Area: RACK RM 2

Update Requested: ☒ Yes ☐ No

Update Req. because:

OK Cancel

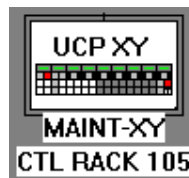


FIGURE 2-4. Device Description Setup and Icon with Description



Device Rename

To change the name of the device icon on the system screen requires two steps.

1. First click on 'Device' and then click 'Rename' and type the new name. This can be alpha numeric but cannot have any spaces or &*?[](){}<>/'\ characters. It can have an underscore or minus sign to separate words if desired. This is the same for the controller and the control panels alike. The panel will then show up with a red box around it with the new name below it. In this case the name was changed to 'NEW-NAME'.

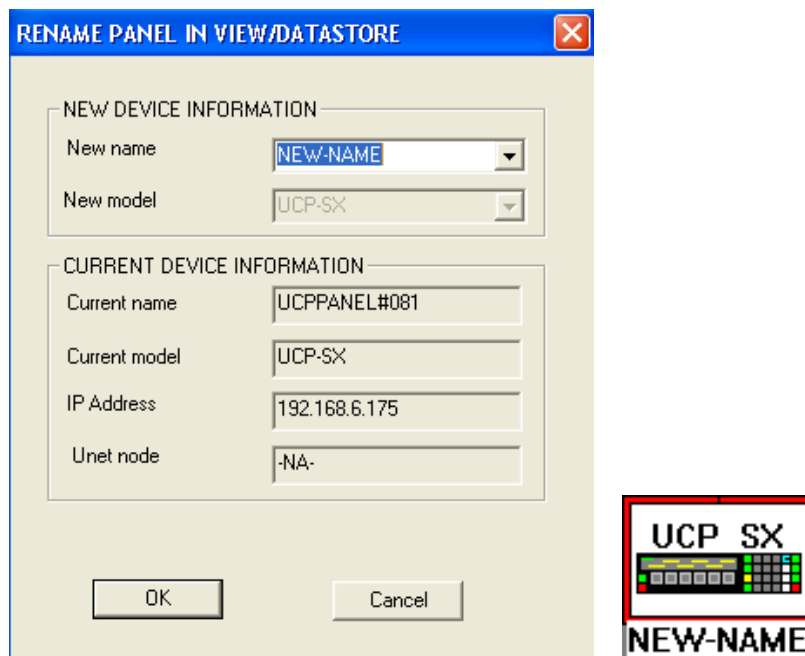


FIGURE 2-5. Device Rename on System View Icon

2. Second, go to the lower right section where the network devices are located and locate the device that was renamed on the system screen. Right click that device and click 'Rename' after which type in the exact name that was typed for the icon on the system screen and then click OK.

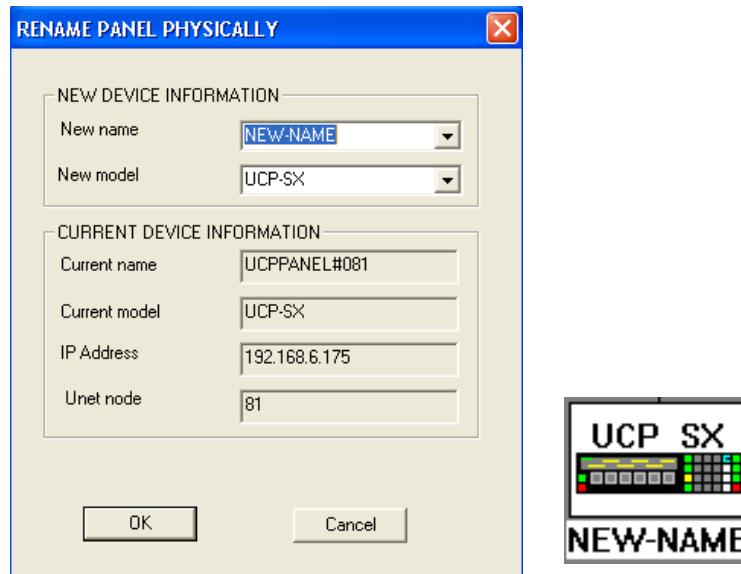


FIGURE 2-6. Device Rename in Lower Right Corner

3. Go to the lower tab at the bottom of the screen titled 'Program' and verify that the progress show 100% complete for that change. The panel will then lose the red box from around it on the view and appear with the changed name in the lower right corner as well.

Device Pre Define

This is used for setting up the network parameters for other SC4/400 controllers that are on different networks. This menu item shows up in the panel menu as well as the controller menu, however they both take the same path to the 'Pre-define' setup. This is also accessible from the top menu by clicking on 'Program' and then 'Setup Pre-Defined'.



1. The first window that appears after clicking on 'Device' and then 'Pre Define' will show the name of the current data store in view.

Target Name: KUSI-SC4

Target IP Address: . . .

NMS Tier Port: 5590

Configuration Port: 5580

2. Type in the name of the SC4/400 that would be on another network. This name should match the name of the controller icon in the system view. Also type in the IP address of that same SC4/400. Leave the Tier Port and Configuration Ports as the numbers 5590 and 5580 which should work in most configurations. Click 'OK' when done.

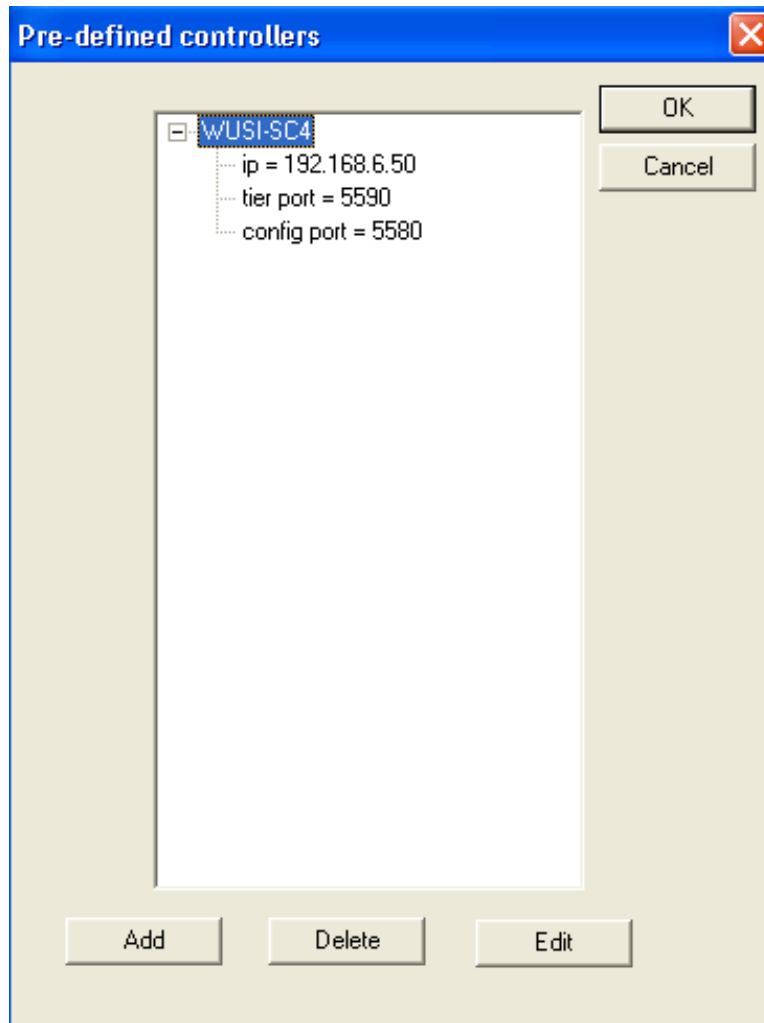
Target Name: WUSI-SC4

Target IP Address: 192 . 168 . 6 . 50

NMS Tier Port: 5590

Configuration Port: 5580

3. In the next window click the + sign next to the controller name to see the settings. To add additional controllers on other networks, click the 'Add' button and follow the same steps as above.



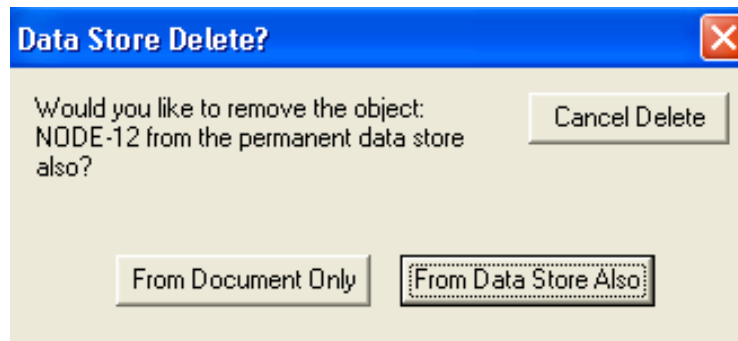
4. To delete a pre defined controller click on the controller name and then click the 'Delete' button.
5. To make changes to a controller, click on the controller and then click the 'Edit' button.



Device Delete

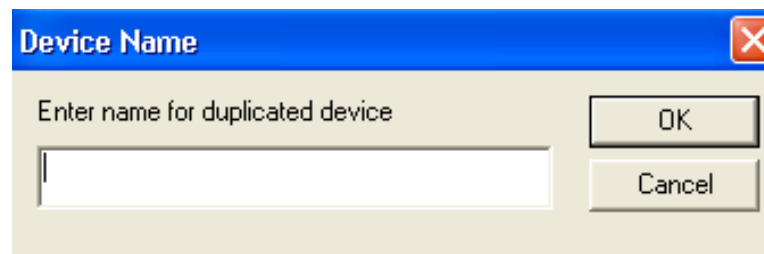
Click on this to remove the device. There are two options that will appear in a pop up window asking if it is to be removed from the view (document) only or permanently from the data store. 'From Document Only' would remove it from the view when that ucn file is opened but the device will still exist in the data store so it can be recalled back to the view.

'From Data Store Also' would remove it from the view and the data store and it would need to be rebuilt again if it were to be added later.



Device Duplicate

Click on 'Device' and then 'Duplicate' to make an identical panel device as one that would be the same. This would work in most cases, even if just some entries need to be modified as this could be faster than creating an entirely new device. The only thing that would not be duplicated is the panel name as each panel name must be unique. Therefore it will ask to enter the new name after which you would click 'OK'.



Copy/Paste 'Copy'

To copy the entire panel configuration from one panel to another, click the 'Copy/Paste' and then 'Copy' button. **Note: All panels may be copied; however the configuration may only be pasted in panels of the same type.**

Copy/Paste 'Paste'

To paste the entire panel configuration from one panel to another, click the 'Copy/Paste' and then 'Paste' button. **Note: All panels may be copied; however the configuration may only be pasted in panels of the same type.**

Copy/Paste 'Paste Sources'

This function works with UCP-48 and UCP-MM panels only. After copying one panel as shown above, to paste the sources only from one panel to another, click the 'Copy/Paste' and then the 'Paste Sources' button on another like panel.

Product View

Click the 'Product View' button to see a picture of that device. Example below is of a UCP-SX panel.



FIGURE 2-7. Example of Product View



Devices Info Table

This table is used to view all devices, including controllers and control panels. It is also used to select devices individually, by groups or by areas and then update those devices accordingly. Devices can also be removed from the data store while in this table. To enter this table click on the tab at the bottom of the screen titled 'Devices Info'.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	This panel is located in the control room		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMMA	This panel is located in the machine room		Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdia			No	
NODE-9	ucp72_2			No	
NODE-10	ucp72			No	
NODE-11	ucp64			No	
NODE-12	ucp48			No	
NODE-13	ucp36_2			No	
NODE-14	ucp36			No	
NODE-15	ucp32			No	
NODE-16	ucp2			No	
NODE-17	ucp192			No	
NODE-18	ucp128			No	
NODE-19	ucp1			Yes	Device Configuration edit
NODE-20	scpxy			No	
NODE-21	scpsx			No	
NODE-22	scpsd16			No	
NODE-23	scpmx			No	

Save Changes

Program Changed Panels

Program Selected Panels

Program Panels By Area

Set Select. Panels Area

Clear Select. Panels Area

Delete Selected Panels

Delete Device Area

Cancel

System Program Sources Destinations **Devices Info**

Once the table opens, the view will always revert to its default. To sort by different columns, click directly on the name box directly above the desired column, such as 'Device Name', 'Device Model', 'Description', etc.

Columns Defined

Device Name

This is the name that appears directly below the device icon on the system screen.

1. Click one time to highlight the entire row. This would be used for blocking groups of devices or just highlighting a single device, in order to clear or delete the area, delete the devices or program all the devices that are highlighted.

Device Name	Device Model	Description	Device area ▼	Update Req?	Reason for Update
NODE-1	UCP-XY	MAINT XY	Rack Rm 1	Yes	User requested update
NODE-2	UCP-UMD		RACK RM 2	No	
NODE-3	UCP-SX	THIS IS A PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.

FIGURE 2-8. Highlighting Multiple Devices to be Programmed

2. Double click on the name to open an edit window for that device. This will show the columns in an edit table which can all be changed here versus on the table itself.

Edit Device Description

Device Name: NODE-1

Device Model: UCP-XY

Device description: MAINT XY

Device Area: Rack Rm 1 ▼

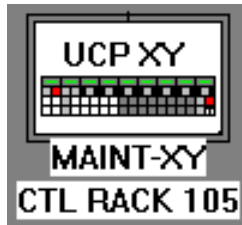
Update Requested: ☒ Yes ☐ No

Update Req. because:

OK Cancel



3. Type the device description directly in the entry area. This is the name that will appear below the device name for that icon on the system view.



4. Type a new name for the area or drop down the list to pick one that already exists. This allows for multiple devices to be selected and programmed by an area.
5. Click Yes or No in the 'Update Requested' box which will allow it to be programmed with other devices or not.

Device Model

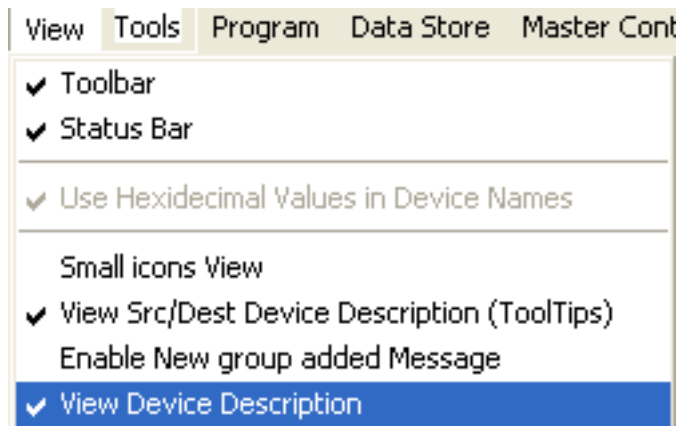
This is simply the model name for the type of device it is and is for viewing purposes only. Nothing can be edited here, however double clicking the model type name will open the edit table as described above for the Device Name.

Description

1. Type the device description directly in the entry area. This is the name that will appear below the device name for that icon on the system view. This entry should not exceed 12 entries as any more than this will only show dots after the 12th entry. This includes spaces. The figure below shows a name with twelve entries (spaces) and then with an actual space between names.



2. To turn the view on and off go to the top menu and click 'View' and then select 'View Device Description'. A check mark is 'View On' and no check mark is 'View Off'.



Device Area

Click directly in the box under this column for each device and type the desired area name. Once these are added they will appear in the drop down selection for each device area. A description on how to use these areas is located in the section below titled 'Device Info Table Menu'.

Update Req?

Click in this window and select Yes or No which will indicate if this device is to be programmed with other devices when the specific programming buttons are pressed.

Reason for Update

This is a status window only, indicating what the reason for the update was triggered by. There are various reasons that an update may be needed such as, if a source or destination on that device was changed, it will state that in this area. Or if it is simply requested by the user it will state this also.



Device Info Table Menu

The menu located to the right of the 'Device Info Table' is used mainly to program devices which are grouped in areas or by selecting the desired devices to be programmed and then programming them from here. This section will describe each of the buttons within the menu and how to use them.

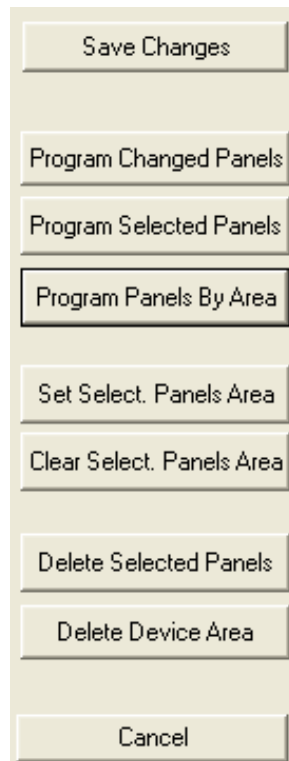


FIGURE 2-9. Device Info Table Menu

Save Changes and Cancel

When 'Save Changes' is pressed it will save all changes that were made on the screen and exit the table. When 'Cancel' is pressed it will exit the screen but prompt for changes to be saved.

Program Changed Panels

Any device that has had some change performed to its tables, whether it is the SC4 or a control panel, will show the change in the 'Reason for Update' column for that device. If there is a reason and the 'Update Req' column is marked as 'Yes', then when this button is pressed all of the devices that meet these requirements will be programmed. If the device is offline, then an error window will pop up that looks like the following figure.

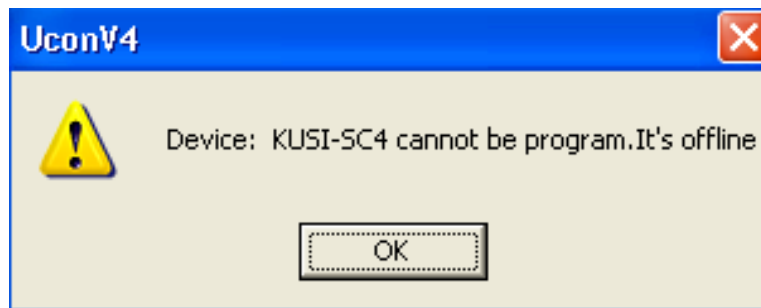


FIGURE 2-10. Error when device is offline

Any panels that are marked as 'No' in the 'Update Req' column will be passed over and there will be no message in the 'Reason for Update' column. To view the programming progress and to verify all devices were programmed go to the tab at the bottom of the screen titled 'Program'.

Program Selected Panels

This button is used to program devices that are selected in individual, random order or as a group of devices that are selected in order. When the button is pressed it will program only the devices that are selected.

1. To select individual devices that are not in order, hold down the 'Ctrl' button on the keyboard and then click the left mouse button on the first device in the group to be selected.



2. While still holding down the 'Ctrl' button, next click on each device that is to be in the group of selected items to be programmed. The following figure is an example of how this might look.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	MAINTENANCE PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMA			Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdta			No	

FIGURE 2-11. Program Selected Devices in random order

3. Click the 'Program Selected Panels' button and all the selected devices will be programmed one by one. To view the programming progress and to verify all devices were programmed go to the tab at the bottom of the screen titled 'Program'.
4. To select items that are in order, hold down the 'Shift' button on the keyboard and then click the left mouse button on the first device in the list to be selected.
5. While still holding down the 'Shift' button, next click on the last item in the list of devices to be selected and it will highlight the entire group. The following figure is an example of how this might look.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	MAINTENANCE PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMA			Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdta			No	

FIGURE 2-12. Program Selected Devices in order

6. Click the 'Program Selected Panels' button and all of the selected devices will be programmed one by one. To view the programming progress and to verify all devices were programmed go to the tab at the bottom of the screen titled 'Program'.

Program Panels by Area

The first thing to do when using this button is to make sure that the column titled 'Device Area' is filled in for the devices that will be programmed by area. The area can be any name with alpha numeric entries including spaces. The only allowable character is a period. Then length of the name will only be as long as what fits in the window. Generally this would be 10 to 15 entries.

1. Type the name and then hit the 'Enter' button on the keypad to set the name in the box.

This also adds it to the drop down list.

2. After the name is in the list, go to each desired box and drop down the list to select an area for that device.
3. Click the 'Program Panels by Area' button and a window will open.
4. Drop down the arrow and select the desired area in which to program.

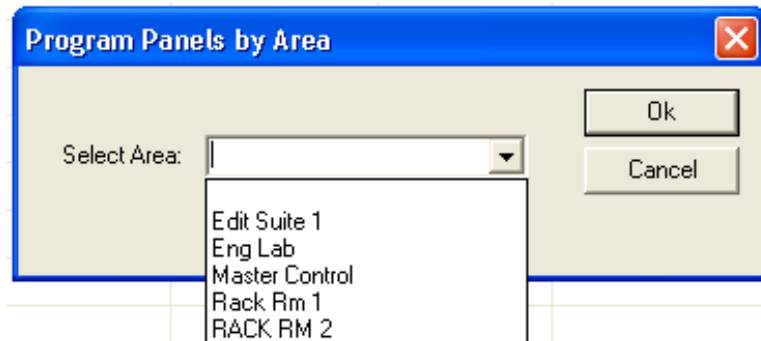


FIGURE 2-13. Set Area for Group of Panels

5. Push the 'Program Panels by Area' button and all devices with that area will be programmed. To view the programming progress and to verify all devices were programmed go to the tab at the bottom of the screen titled 'Program'.



Set Selected Panels Area

This button is used for adding areas to devices, similar to the step above in Programming Panels by Area. The devices are selected in individual, random order or as a group of devices that are selected in order. When the button is pressed it will open a window with a drop down menu as shown in the following figure.

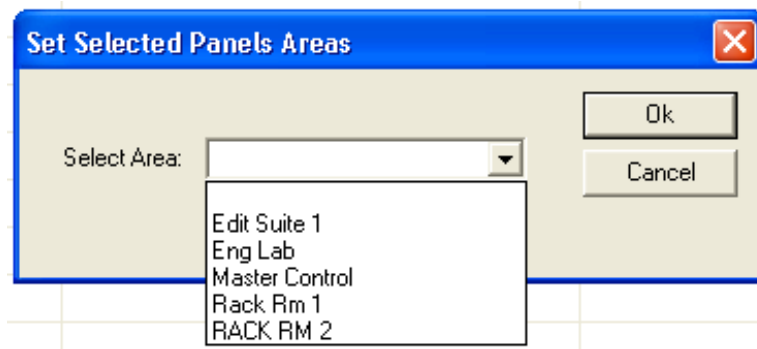


FIGURE 2-14. Set Area for Group of Panels

1. To select individual devices that are not in order, hold down the 'Ctrl' button on the keyboard and then click the left mouse button on the first device in the group to be selected.
2. While still holding down the 'Ctrl' button, next click on each device that is to be in the group of selected items to assign the area to. The following figure is an example of how this might look.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	MAINTENANCE PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMA			Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdta			No	

FIGURE 2-15. Selected Devices in random order

3. Click the 'OK' button and all the selected devices will be assigned that area and will appear as such in the 'Device Area' column.
4. To select items that are in order, hold down the 'Shift' button on the keyboard and then click the left mouse button on the first device in the list to be selected.

- While still holding down the 'Shift' button, next click on the last item in the list of devices to be selected and it will highlight the entire group. The following figure is an example of how this might look.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	MAINTENANCE PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMA			Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdta			No	

FIGURE 2-16. Selected Devices in order

- Click the 'OK' button and all the selected devices will be assigned that area and will appear as such in the 'Device Area' column.

Clear Selected Panels Area

This button is used for clearing areas assigned to devices. The devices are selected in individual, random order or as a group of devices that are selected in order. When the button is pressed it will remove the area for all the devices that are highlighted.

- To select individual devices that are not in order, hold down the 'Ctrl' button on the keyboard and then click the left mouse button on the first device in the group to be selected.
- While still holding down the 'Ctrl' button, next click on each device that is to be in the group of selected items to clear the area from. The following figure is an example of how this might look.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	MAINTENANCE PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMA			Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdta			No	

FIGURE 2-17. Selected Devices in random order

- Click the 'OK' button and all the selected device areas will be removed from the 'Device Area' column view.



- To select items that are in order, hold down the 'Shift' button on the keyboard and then click the left mouse button on the first device in the list to be selected.
- While still holding down the 'Shift' button, next click on the last item in the list of devices to be selected and it will highlight the entire group. The following figure is an example of how this might look.

Device Name	Device Model	Description	Device area	Update Req?	Reason for Update
NODE-2	UCP-UMD		Rack Rm 1	Yes	New Device added to D.
NODE-3	UCP-SX	MAINTENANCE PANEL		Yes	New Device added to D.
NODE-4	UCP-MX			Yes	New Device added to D.
NODE-5	UCPMMB			Yes	New Device added to D.
NODE-6	UCPMMA			Yes	New Device added to D.
NODE-7	UCPDTB			Yes	New Device added to D.
KUSI-SC4	sc4			Yes	Src/Dest List edited
NODE-8	ucpdta			No	

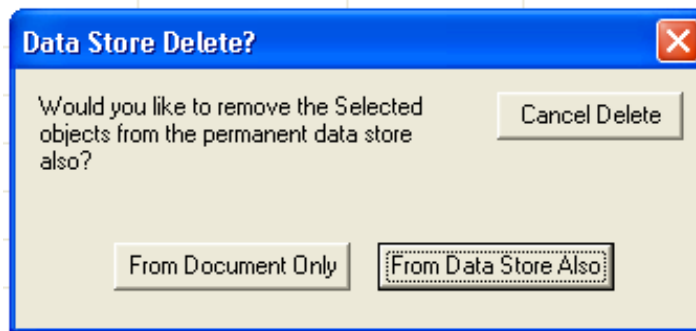
FIGURE 2-18. Selected Devices in order

- Click the 'OK' button and all the selected device areas will be removed from the 'Device Area' column view.

Delete Selected Panels

The controller as well as any panel can be deleted from the Device Info Table just as they are deleted from the System Icon View.

1. Highlight the devices that are to be removed using the same steps as above and then click the 'Delete Selected Panels' button. The following window will open.



2. To remove the device from the main System Icon View only, click the button titled 'From Document Only'. This will keep the device in the data store for future retrieval to the System View.
3. To permanently remove the device, click the button titled 'From Data Store Also'. **Note: this is permanent and will require adding the device back to the system and re-encoding the names and buttons again.**

Delete Device Area

This button is used to remove the 'Area' name permanently from the drop down list.

1. Select any device that shows the 'Area' that needs to be permanently deleted, by clicking on the 'Device Name'. This will highlight that entire row.
2. Click the 'Delete Device Area' button and then click 'Yes'.



Chapter 3 - U-CON V4 Panel Configuration

This Section contains an introduction to U-CON V4 Panel Configuration, U-CON V4 Editor views, and Descriptions. The Editor Views are specific to the following panel configurations:

- | | |
|-------------|-----------|
| - SCP-2 | - UCP-1 |
| - SCP-32 | - UCP-64 |
| - SCP-64 | - UCP-128 |
| - SCP-XY | - CSP-260 |
| - SCP-SX | - UCP-UMD |
| - SCP-MX | - UCP-MMA |
| - UCP-36 | - UCP-MMB |
| - UCP-72 | - UCP-DTB |
| - UCP-XY | - UCP-DTA |
| - UCP-SX | - UCP-32 |
| - UCP-MX | |
| - SCP-SD16 | |
| - UCP-48 | |
| - UCP-2 | |
| - CP-4 | |
| - CSP-1600 | |
| - CSP-1602 | |
| - CSP-1605 | |
| - CSP-1610 | |
| - CSP-16160 | |
| - CSP-1910 | |
| - CSP-30 | |
| - CSP-40 | |
| - CSP-D | |

Panel Configuration

For each control panel Utah Scientific manufactures, there is a corresponding editor that assists by quickly and correctly configuring the layout and operation of that panel. When the user right clicks on a panel and presses the **Configure** button, an editor of the device's type is started and is made available on the editor tab (at the bottom of the work window.) The configuration data is retrieved from the Datastore for the device, while the editor is initialized with that data. The editor is then ready for new configuration data.

- Each editor has an **OK** and **Cancel** button in the top right corner of the editor screen. The OK button allows the configuration in the editor to be sent to the Datastore for the device, then closes the editor. The **Cancel** button closes the editor without saving the data in the editor, basically leaving the panel configuration as it was before the edit session. Other tabs on the bottom of the screen can be selected so the user can view other editors, although the panel editors are kept active while other views are viewed. The only way to save or cancel data is by using the buttons provided. No data will be saved without the **OK** button being pressed.

Setting UCP Panel ID's (SC-4 Test Utility)

Introduction

Each UCP panel on an SC-4 system with U-CON V4 must have a unique panel ID. These ID's are set when the panel leaves the factory, but certain field operations can cause the panels to lose this ID. This section details the procedure for setting the panel ID so that it is usable with U-CON V4.

- The common symptom of a panel with an erased ID (though properly connected to the SC-4) appears to work and recognizes it's connection to the SC4, but will not appear in the 'Active Devices' list in U-CON V4.

Required Equipment / information

- Either a telnet connection or a debug port connection from a PC to the SC4. **Use Tera Term or Hyper Term to connect to either port.**
- The dipswitch settings of the panels you wish to change.

Procedure

Complete the following to assign names to each panel:



1. Connect to the SC4 using a serial cable, or run a Telnet session if you know the SC-4's IP address (*see System Installation Guide, Appendix C*).
2. At the '/>' prompt, type in the word 'test' followed by return. A menu will be displayed that shows the commands available in this 'test' program. This document describes the 'getpid' and 'setpid' commands. The following will be displayed:

SC-4 Test Utility Commands:

Table 3-1.

Command	Function
ping	ping SC-4 app
config <fstype> <path> <filename>	configure system
getcon <fstype> <path> <filename>	get configuration
shutdown	shutdown SC-4 app
startup	start SC-4 app
setpid <node> <name> <model>	set panel ID string
setplpid <node> <name> <model>	set PL panel ID string
getpid <node>	get panel ID string
getplpid <node>	get PL panel ID string
help	show command options
exit	exit program
quit	quit program

- Type 'getpid' followed by the panel number you wish to query, then press RETURN. Example: "getpid 27". This command will display the panel's current ID. It may be helpful to send a 'getpid' to a panel that you know is functioning correctly with U-CON V4 in order to see what the format looks like. A typical correct response will be:

"test> Panel 71 ID: DEMOROOM-XY UCP-XY"

This response shows that panel number 71 is set to ID "DEMOROOM-XY" and that its type is "UCP-XY". The panel type is very critical, because if it does not match a predetermined panel type, UCON will not know its layout, and will not be able to complete the programming. The following are allowable panel types:

1. SCP-XY/16
2. SCP-SX/16
3. SCP-MX/16
4. SCP-2
5. SCP-32



6. SCP-64/8
7. SCP-SD16
8. UCP-XY
9. UCP-36
10. UCP-48
11. UCP-64
12. UCP-72
13. UCP-128
14. UCP-48
15. UCP-2
16. UCP-MX
17. UCP-SX
18. UCP-1
19. UCP-MMA
20. UCP-MMB
21. UCP-DTB
22. UCP-DTA
23. UCP-32

Note: The above are all case sensitive.

- To set the panel id, use the 'setpid' command in this format –
 - setpid <node number> <ID – user definable> <panel type>. An example of this is – setpid 71 DEMOROOM1-XY UCP-XY.
 - The name and panel type cannot contain any spaces but may contain hyphens and underscores. The panel type must be typed exactly as seen above.
 - It is prudent to do a 'getpid' of this panel after you set it to make sure the information was updated correctly.
- After you have set and verified the ID in the panel, additional steps are required for panel recognition within U-CON V4.

- Exit the test program, then type 'quit' followed by RETURN to exit the test program.
- The panel must be reacquired by the SC4 for the new ID to take effect. The easiest way to do this is to remove power from the panel for a period of 1 minute, and then re-apply power.
- At this point, the panel should show up in the 'Active Devices' window in UCON.

Example

The following is an example session taken from an SC4 test shell.

Sash command shell (version 1.1.1)

```
/>
/> test
test>getpid 71
Panel 71 ID: DEMOROOM-XY  UCP-XY
test>setpid 71 NEWNAME-XY UCP-XY
test> getpid 71
Panel 71 ID: NEWNAME-XY  UCP-XY
test/>exit
/>
```

If you have already created panels offline using the "Add New Device" section within this guide, you would have already created a name for that panel. This panel will have a red box around it until the created name matches the assigned name given the panel through the SC4 test utility. In this case, use the same steps above, making sure to type the name in the setpid section exactly as it was created in U-CON V4. Simply cycle the power after it has been named. When the network finds the panel, the red box will disappear.



For all CSP style of control panels (coax party line cable) you will use the same format as above (for naming panels) with the exception that the commands are *getplpid* and *setplpid*. The list for allowable panel types are:

1. CP-4
2. CSP-1600
3. CSP-1602
4. CSP-1605
5. CSP-1610
6. CSP-16160
7. CSP-1910
8. CSP-30
9. CSP-40
10. CSPD
11. CSP-260

In the event that you are unable to name a panel using this procedure, or if you have named it and the panel is still not recognized by UCON, showing up in the Active Device List, then call Utah Scientific customer service for help.

Panel Editor Screens

Information applying to all panel screens

1. Exclude List

Any Source or Destination that is placed in the “Exclude” list will not be included in the list of panel controllable items.

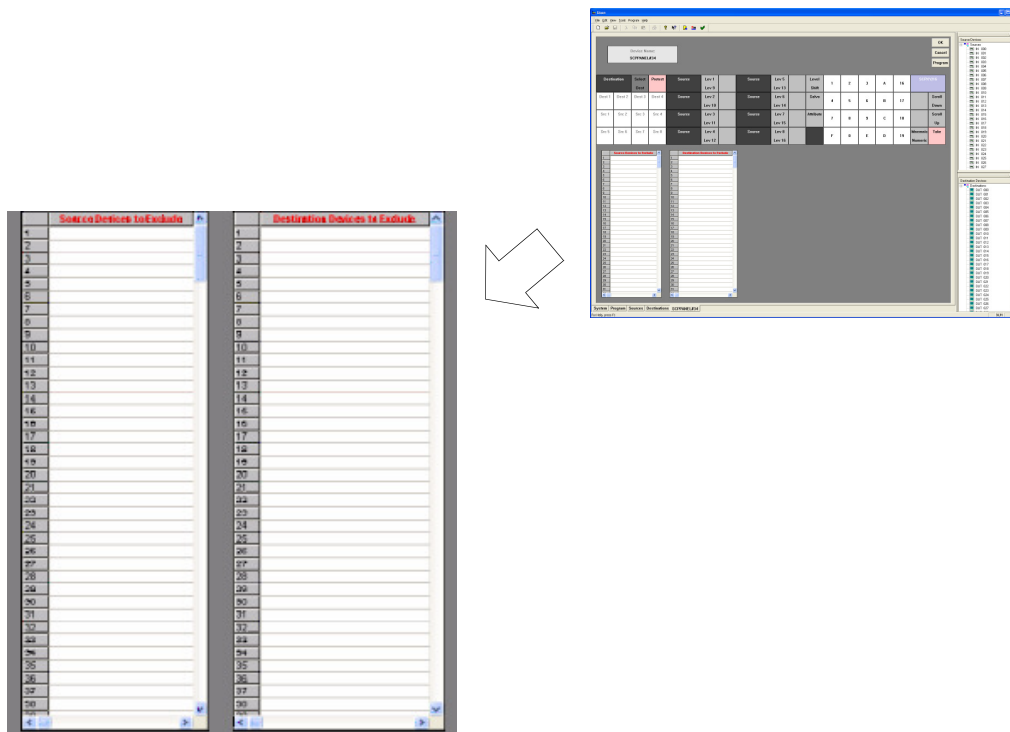


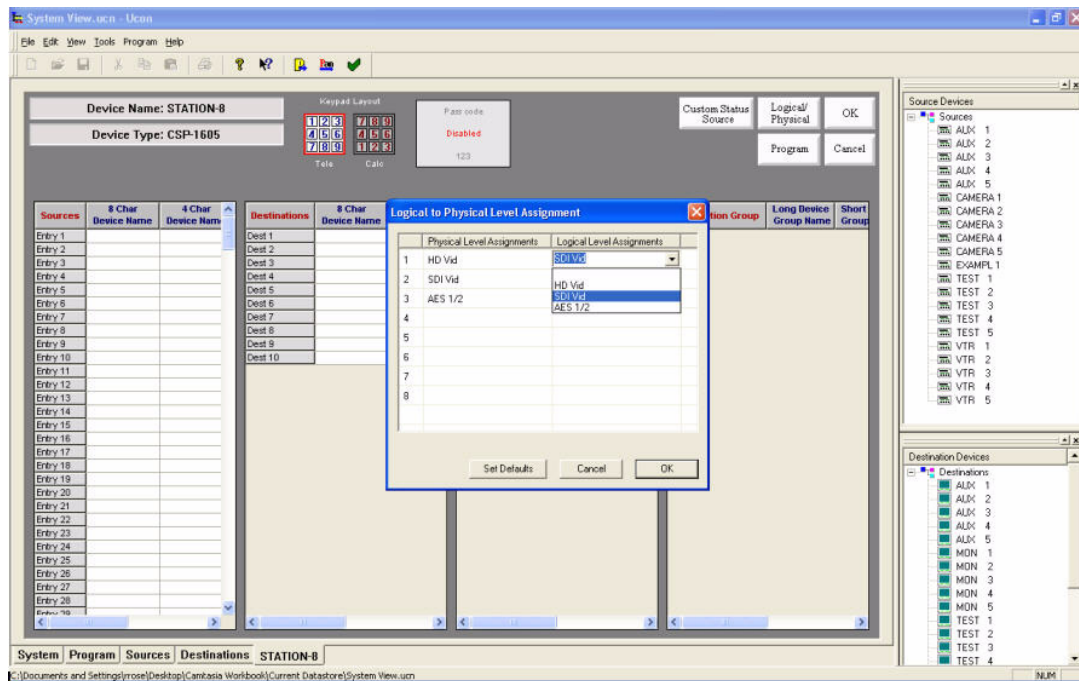
FIGURE 3-1. Exclusion list

2. Drag and Drop Sources and Destinations
3. Simplify consecutive Source entries by left clicking ‘Next Source.’ This will add it to the next button in order.
4. Default Destination Box
5. All grayed-out boxes are static and used only for the purpose of panel button location and description.



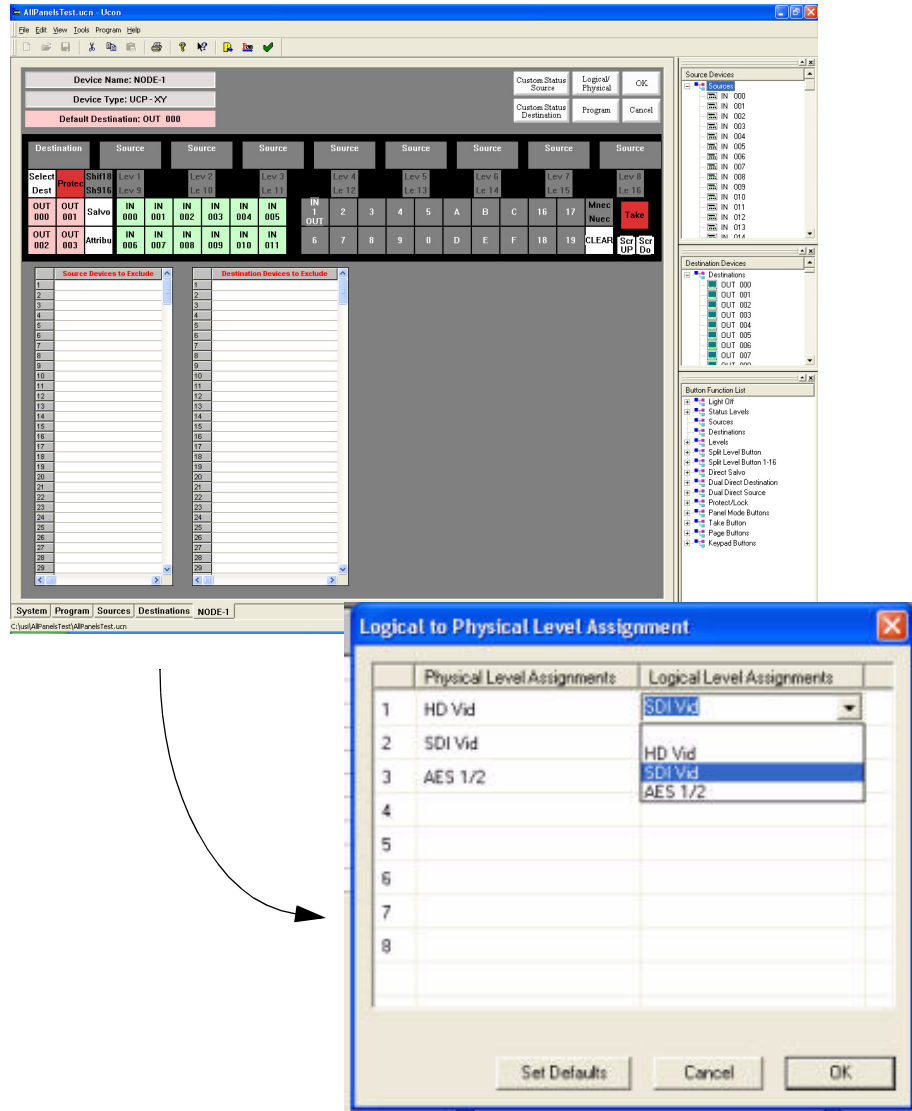
Logical to Physical for CSP Panels

You can also configure the Logical to Physical level assignments by clicking the corresponding button (**Logical to Physical**).



Logical to Physical allows you to maneuver the position you would like the physical level to appear within the panel's logical window.

Logical to Physical for UCP/SCP Panels



As with previous, Logical to Physical allows you to maneuver the position you would like the physical level to appear within the panel's logical window.



Button Label Printing

You have the ability to perform a label print of any panel layout (editor) that contains buttons. Printing options include *Print Selection Only*, *Change Background Color* (cell), and *Change Font*. Button label printing is available within the *Print Preview* window.

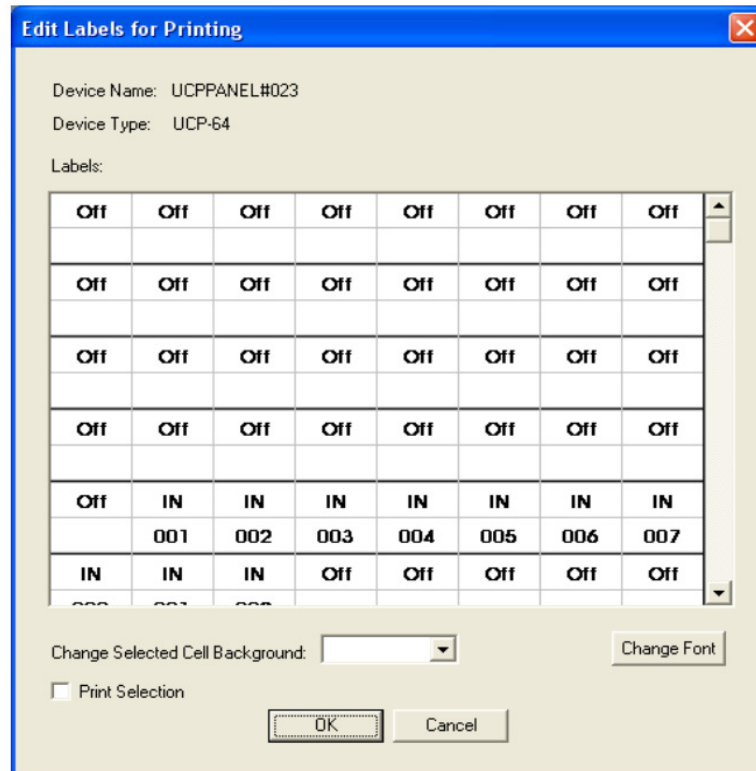


FIGURE 3-2. Label Editing for Print

Note: Using 'Print Preview' for label printing will only print the content of the current window. For customization purposes, refer to the System CD/Manuals/PDFs for available templates.

There are a few additional rules that apply to panel usage (drag and drop, multiple selection, etc.)

- The multiple selection drag and drop of direct source and direct destination functions are assigned sequentially, and will stop when the program locates a function button. This operation can replace OFF, Direct SRC, and Direct DEST buttons.
- If the user is semi automatically assigning buttons, the operation will skip the buttons with different functions and will go forward in an attempt to locate the next button with the same function type. The program will stop at the end of the button list. This operation doesn't replace buttons unless the element that has been dragged was a function.
- In instances where panels do not currently contain an active function window, the operation of multiple selection drag and drop will skip certain buttons -- such as ones ordinarily double-clicked.
- None of the dockable windows have the *single click* event active.



Additional button functions

Custom Status Source and Destination involves 1-button programming for each panel. Custom Status is enabled when Custom Status is clicked -- for Source or Destination -- for the specified panel.

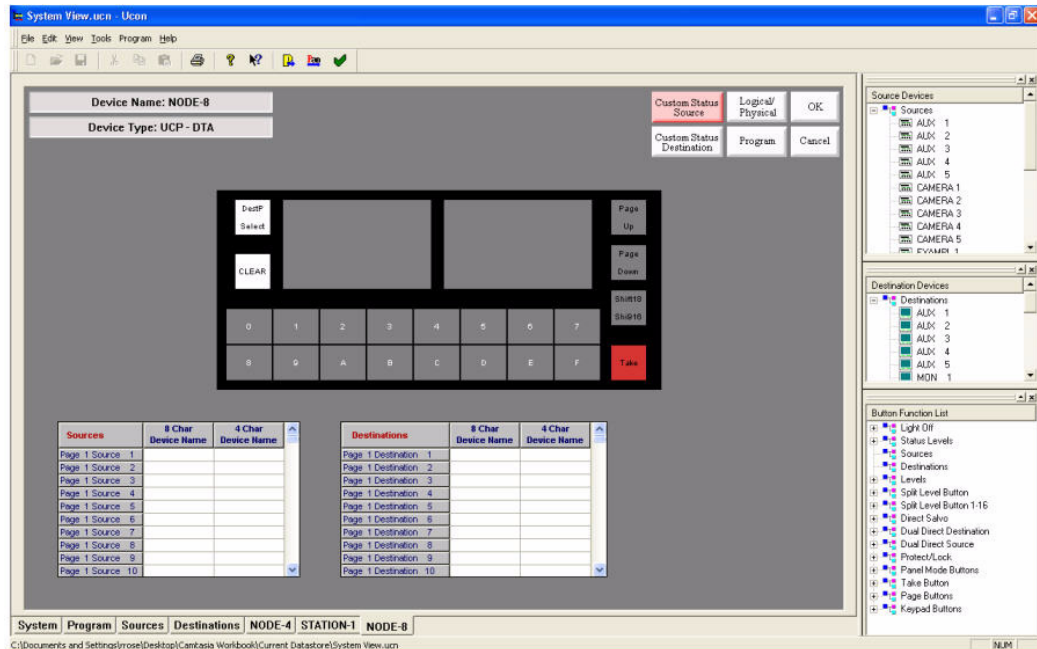




FIGURE 3-3.

Click the **Custom Status Source** button  to activate this feature. The button is red when active.

The **Program** button works the same for all panels. Use the Program button to program from the current screen (above example) to the indicated panel. 

The **OK** button Saves all changes and exits the current screen (returning to the System view).

The **Cancel** button ignores all changes and exits the current screen (returning to the System view.)

Using the SCP-2 Panel Screen

As with all SCP panels, the SCP-2 does not have button function editing capability.

- To configure the destination, left-click the desired destination at the right of the screen, then drag a destination from the “Destination Devices” list and drop it on the “Dest” button.
- This panel can be used to control one or two destinations. To control only one destination, simply keep the bottom half of the button unassigned.
- To configure a group on a group button, left-click any device in that group, then drag and drop the “Source Devices” to the desired button. All of the sources in that group will be included in the panel except the ones that are placed in the “Exclude” list.
- To configure a direct source in each of the four direct Source buttons, left-click the desired Source from the list and drag it onto the desired button.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Source Devices” list. To select a range click on the first device then while holding down the shift click on the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- To unassign a group name, destination, or direct source associated with a button, use the right mouse button and click on the button that you want to unassign.

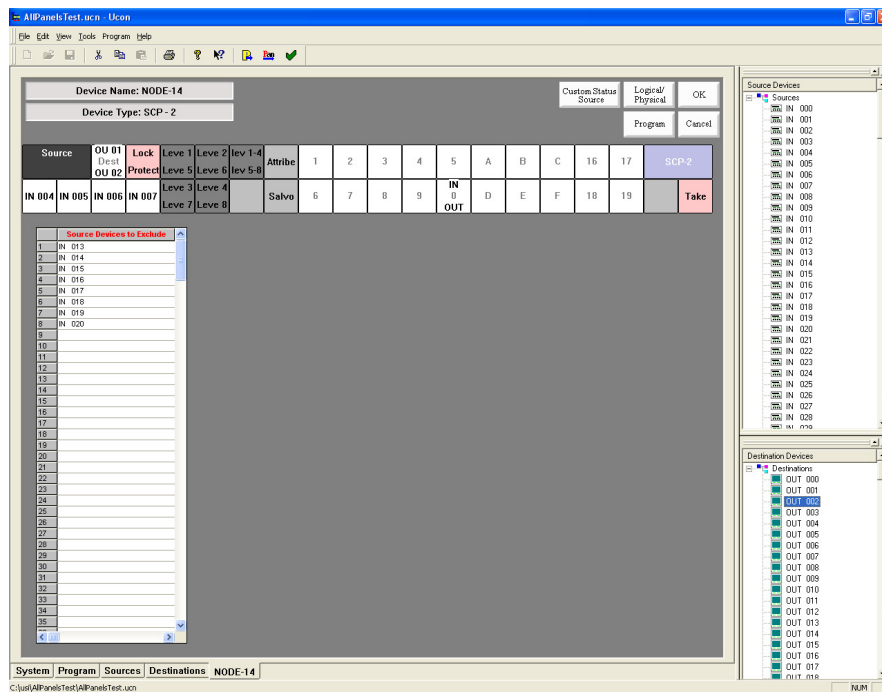




FIGURE 3-4. SCP-2 screen display

Using the SCP-32 Panel Screen

As with all SCP panels, the SCP-32 does not have button function editing capability.

- This panel is a single destination control panel with none of the buttons being used to select the destination. A default destination would require dragging a destination to the “Default Dest” box at the top of the screen.
- To set a source on the first button, left-click on the Source from the “Source Device” list and drop it onto a button. Then each source that is clicked (in the “Source Device” list) will be added to the next source button.
- To unassign a source from a specific button, use the right mouse button and click the button that you want to unassign.

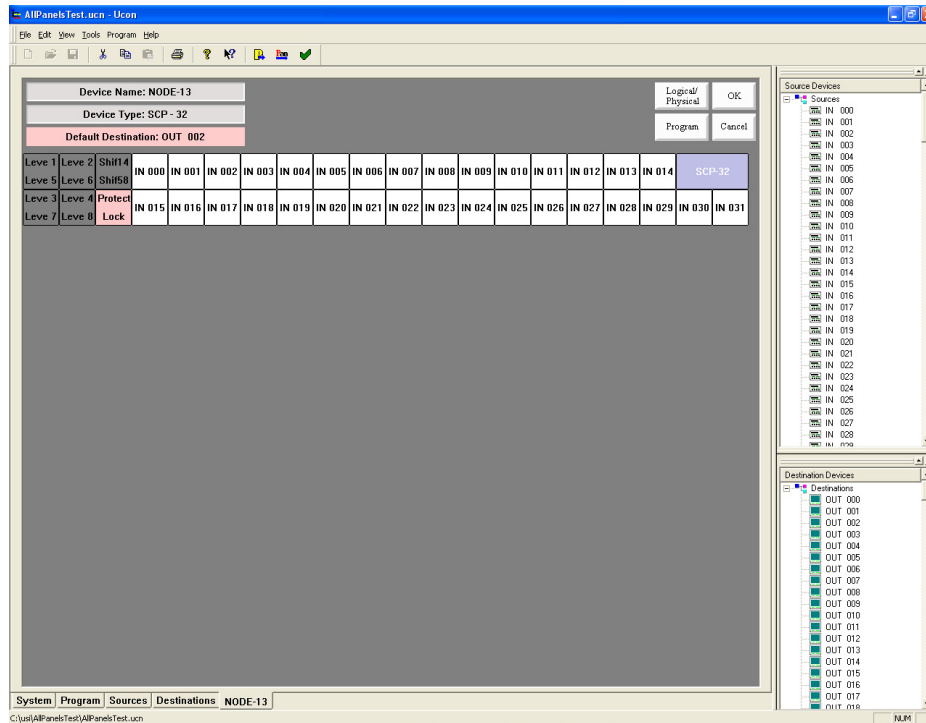


FIGURE 3-5. UCP/SCP-32 Screen display

Using the SCP-64 Panel Screen

As with all SCP panels, the SCP-64 does not have button function editing capability.

- This panel comes with one “Dual Destination” button and or “Source Shift” button.
- The Destination button can be assigned either a single destination or two destinations. If 1 destination is specified, all 64 buttons (both halves of each Source button) selects the source for that destination. If two destinations are assigned, the panel becomes two 32 source panels -- the top row of sources specifying selection for the top destination and the bottom row assigning for the bottom destination.
- If only one destination is assigned to the panel, the “Dest” button becomes a *Source Shift button* to select one of 64 sources to that destination.
- Right-click any button to unassign that particular button.
- To set up a source, drag a source device from the “Source Device” list and drop it onto a Source button. A feature is provided to assist in easier and quicker button assignment. Once a button has been assigned, subsequent selection (single left button click select) will assign that selected device to the next button on the panel.
- Destinations can be assigned by dragging and dropping a destination onto the “Dest” button.

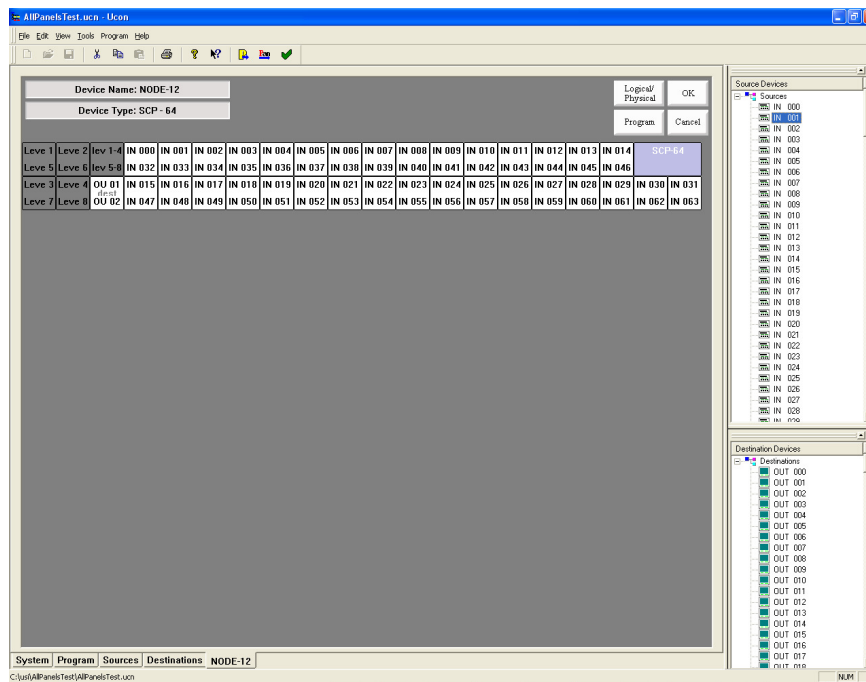


FIGURE 3-6. SCP-64 screen display



Using the SCP-XY Panel Screen

As with all SCP panels, the SCP-XY does not have button function editing capability.

- Assign a direct destination by dragging a destination from the “Destination Device” section of the screen and dropping it onto the direct destination buttons. After you have dragged one direct destination you can select the next three just by clicking on another “Destination Device” and it will be automatically assigned to the next button.
- Assign a direct source by dragging a source from the “Source Devices” section of the screen and dropping it onto the direct source buttons. After you have dragged one direct source you can select the next direct source by clicking on another “Source Device”. It will then be automatically assigned to the next button.
- To configure a group on a group button, left-click on any device in that group (from the “Source Devices” or “Destination Devices”) and drop it on the desired button. All of the sources or destinations in that group will be included in the panel, except the ones that are placed in the “Exclude” list.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click on the first device then while holding down the shift, click on the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- The panel will use the first Direct Destination as the default destination (the one that it will use when the panel powers up).
- To unassign a group name, direct destination, or source on a button, use the right mouse button and click the button that you want to unassign.

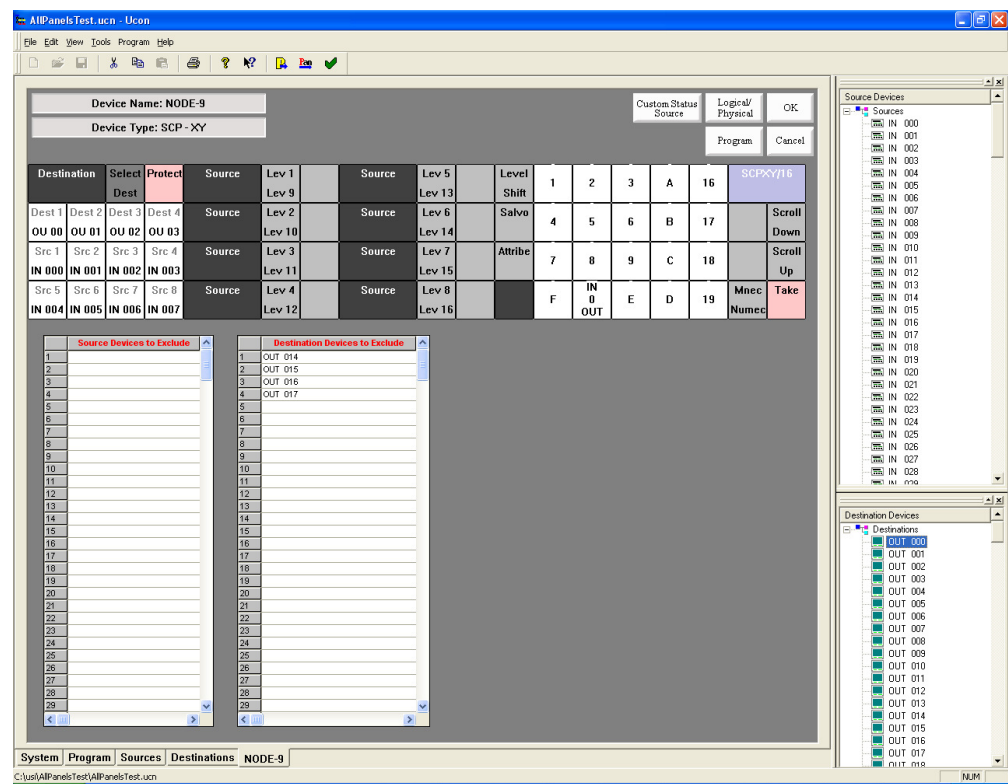


FIGURE 3-7. SCP-XY screen display



Using the SCP-SX

As with all SCP panels, the SCP-SX does not have button function editing capability.

- To configure a group on a *group* button, drag a group from the “Source Devices” or “Destination Devices”, left-click on any device within that group, then drop it on the desired button. All of the sources or destination in that group will be included in the panel, except the ones that are placed in the “Exclude” list.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click the first device. Then while holding down the shift key, click the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- A default destination can be assigned to this panel by dragging a destination from the “Destination Devices” list to the “Default Destination” section of the screen. The panel will default to this destination when it powers up.
- To unassign a group name, direct destination, or source on a button, use the right mouse button and click the button that you want to unassign.

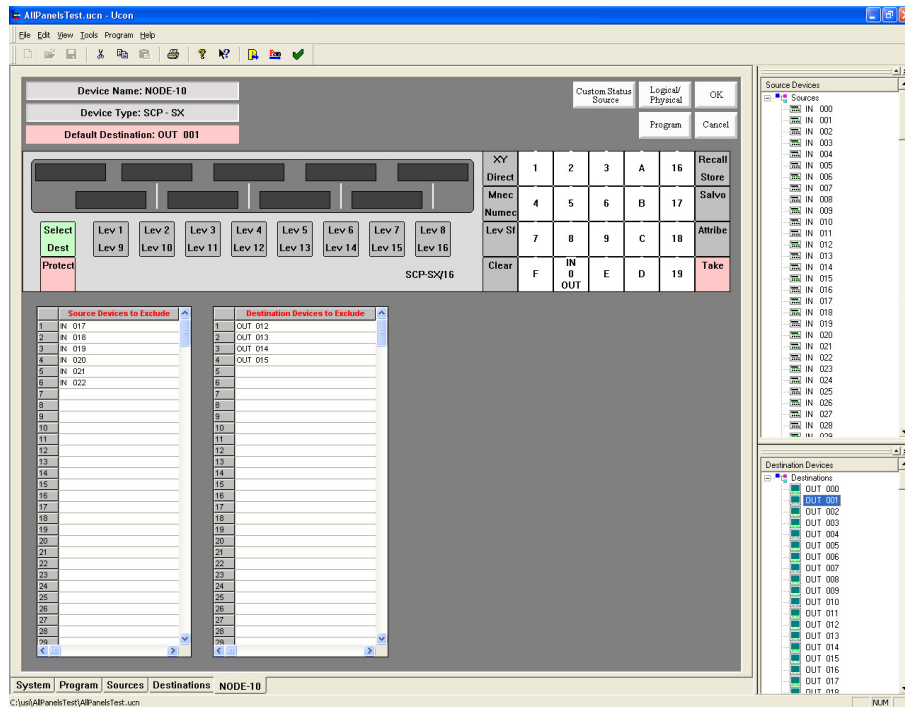


FIGURE 3-8. SCP-SX panel view

Using the SCP-MX Panel Screen

As with all SCP panels, the SCP-MX does not have button function editing capability.

- To configure a group on a *group* button, drag a group from the “Source Devices” or “Destination Devices”, left-click on any device within that group, then drop it on the desired button. All of the sources or destination in that group will be included in the panel, except the ones that are placed in the “Exclude” list.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click the first device. Then while holding down the shift key, click the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- A default destination can be assigned to this panel by dragging a destination from the “Destination Devices” list to the “Default Destination” section of the screen. The panel will default to this destination when it powers up.
- To unassign a group name, direct destination, or source on a button, use the right mouse button and click the button that you want to unassign.

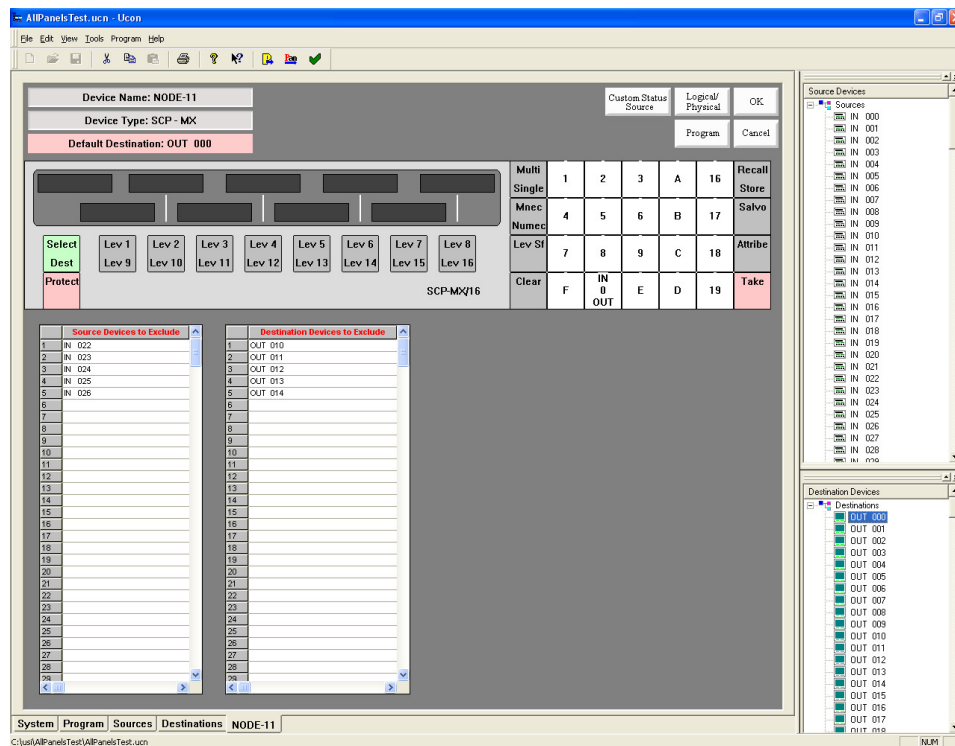


FIGURE 3-9. SCP-MX panel view



Using the SCP-SD16 Panel Screen

- Currently there is not a screen skin for the SCP-SD16. So the skin that is used is the SCP-XY.
- There are only 16 group buttons on the SD-16. However, the skin offers the possibility for up to 20 groups. (Buttons 16-20 are typically unused with this panel.)
- There are no direct source or direct destination button on the SD16. Therefore these buttons should be left empty for this panel type.
- To configure a group on a group button, drag a group from the “Source Devices” or “Destination Devices” and drop it on the desired button. All of the sources or destination in that group will be included in the panel except the ones that are placed in the “Exclude” list.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click on the first device. Then while holding down the shift key, click on the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- To unassign a button, use the right mouse button and click on the button that you want to unassign.

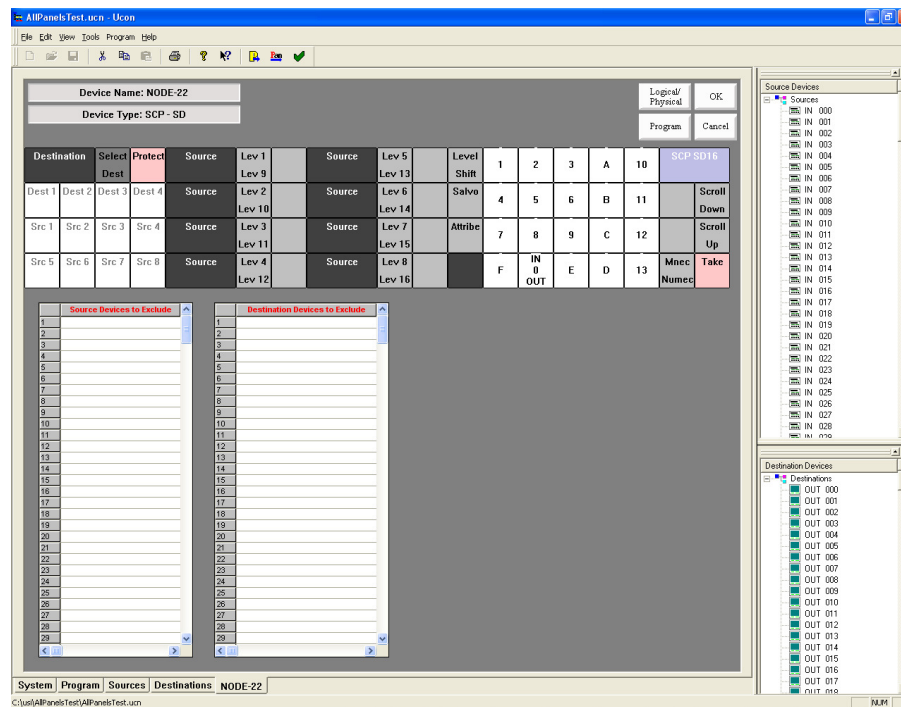


FIGURE 3-10. SCP-SD16 configuration

Using the UCP-2 Panel Screen

- The default functions for the panel are as shown. All of the buttons can be redefined to be different function by dragging a function from the “Button Function List” section and dropping it onto a button on the panel. (See Chapter 4 for additional detail.)
- Refer to the “Button Function List” (Section 4) to find what each button function does.
- To configure the destination, drag a destination from the “Destination Devices” list and drop it on the “Dest” button.
- This panel can be used to control one or two destinations. To control only one destination just do not assign a second destination to this button.
- To configure a group on a group button, drag a group from the “Source Devices” or “Destination Devices” and drop it on the desired button. All of the sources or destination in that group will be included in the panel except the ones that are placed in the “Exclude” list.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range click on the first device then while holding down the shift click on the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- To unassign a button use the right mouse button and click on the button that you want to unassign.

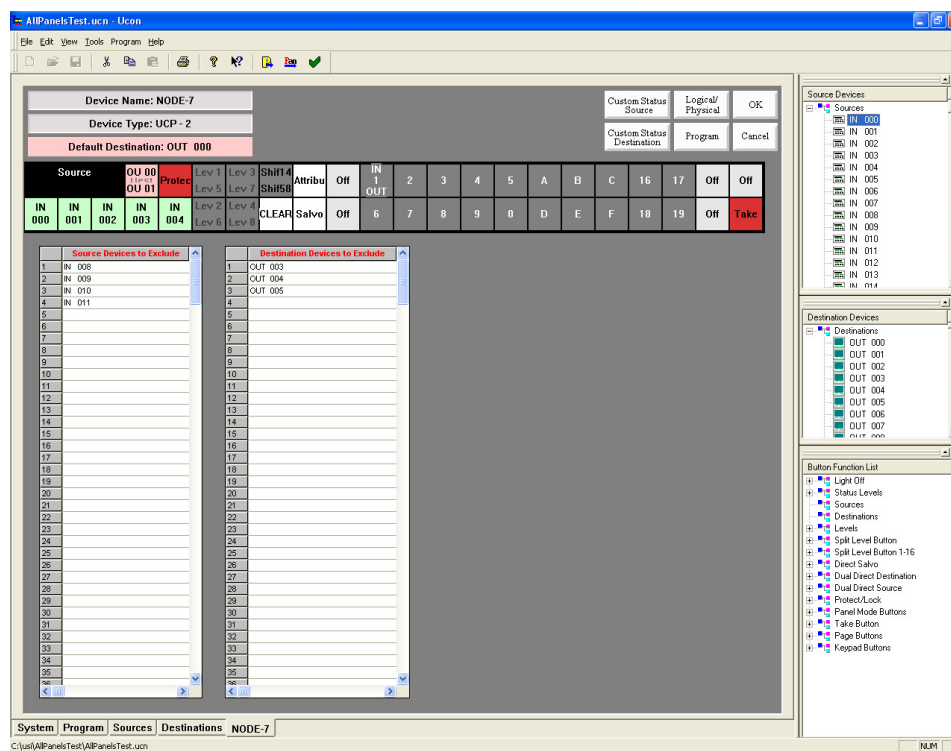


FIGURE 3-11. UCP-2 Panel screen display

Using the UCP-36 Panel Screen

- Dragging a source or destination and dropping it onto the panel will automatically assign it to be a source or destination function and then assign the source or destination to that button.
- This panel includes two “Dual Destination” buttons as a default. The user can change the function of these buttons to be something different, such as two more source buttons.
- The user can also change the “Dual Destination” buttons to a single “Destination” button.
- This panel can also be configured as a single destination control panel with none of the buttons being used to select the destination. A default destination would require dragging a destination to the “Default Dest” section of the screen. (All other buttons are considered “Sources”.)
- To unassign a button, use the right mouse button and click the button that you want to unassign.

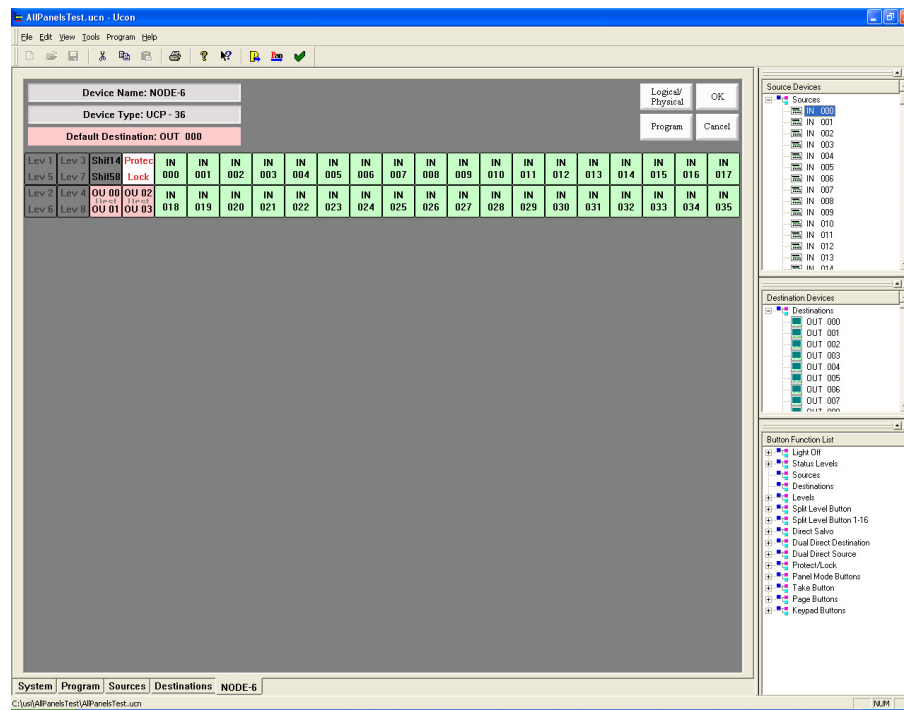


FIGURE 3-12. UCP-36 Assignment



Using the UCP-48 Panel Screen

The UCP-48 is a *re-legendable* button per source panel. By assigning sources to the page grid, the sources will show up in the panel on the assigned page. This allows the panel to support up to 20 pages of 32 sources each.

The first 16 buttons can be assigned to function as sources, destinations, levels, pages or most of the other functions available in the Button Function List.

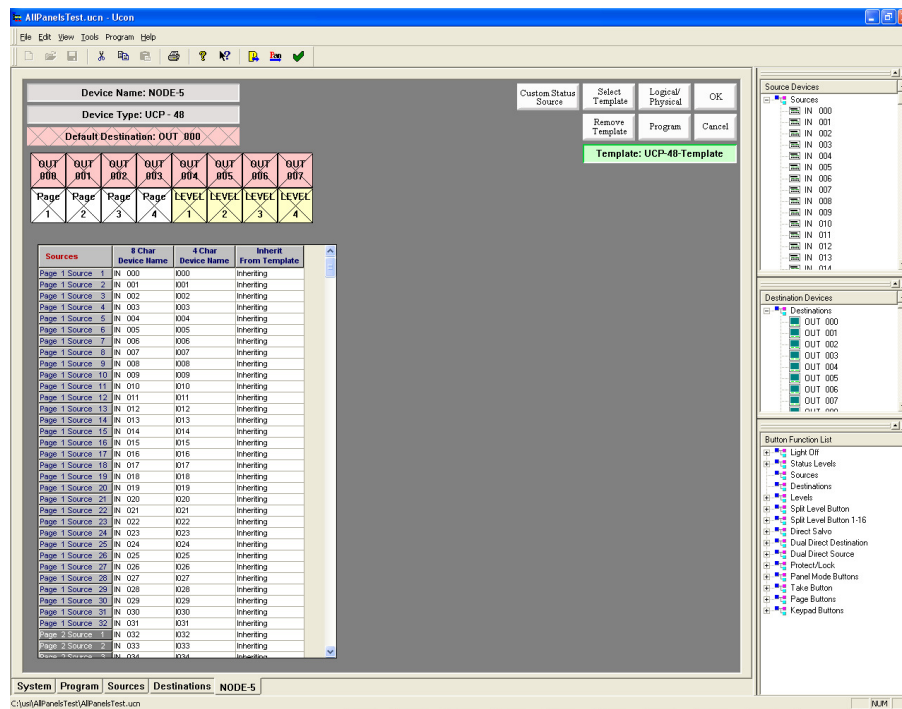


FIGURE 3-13. UCP-48 Assignment

Assigning a Source Button:

1. Manually Assign Each Button.
 - Place the mouse cursor over a Source in the Source Device window.
 - Press and hold down the left mouse button. Drag the Source and drop it on one of the gray keys on the panel layout.
 - Release the button when the mouse is hovering over the button that you want to assign to be a Source button. The source name will appear on the button in Green.
 - Repeat this for each button that you want to assign to be a source button.

2. Semi-Automatically Assign Source Buttons.

- Assign the first source button as described in the Manually Assign Each Button Section.
- Now that you have assigned the first button, each Source that you double click within the Source Device window will be assigned [in sequence] on the panel layout.
- To repeat this sequence on a different part of the panel, simply start by assigning a button manually. From that point forward, the semi-automatic operation will begin on the panel layout.

3. Assign a group of buttons to the panel.

- Click a source to start the selection.
- Hold down the SHIFT key and select a second source.
- Now drag the selected sources onto the panel button layout or the panel page grid and let go of the button.
- The sources will be assigned in succession.

Assigning a Destination Button:

1. Manually Assign Each Button.

- Place the mouse cursor over a Destination in the Destination Device window.
- Press and hold down the left mouse button. Drag the Destination and drop it on one of the gray keys on the panel layout.
- Release the button when the mouse is hovering over the button that you want to assign to be a Destination button. The destination name will appear on the button in Green.
- Repeat this for each button that you want to assign to be a source pink.

2. Semi-Automatically Assign Destination Buttons.

- Assign the first destination button as described in the Manually Assign Each Button Section.
- Now that you have assigned the first button, each Destination that you double click within the Destination Device window will be assigned [in sequence] on the panel layout.
- To repeat this sequence on a different part of the panel, simply start by assigning a button manually. From that point forward, the semi-automatic operation will begin on the panel layout.

3. Assign a group of buttons to the panel.

- Click a destination in the Destination Device window to start the selection.
- Hold down the SHIFT (or CONTROL) key and select a second destination.



- Now drag the selected destinations onto the panel button layout or the panel page grid and let go of the button.
- The destinations will be assigned in succession.

Unassign a button:

- Move the mouse pointer over one of the buttons that you want to unassign.
- Click the right mouse button on the button you want to unassign.

Assign Multiple Sources or Destinations at one time:

- Click the first source or destination in the Source Device or Destination Device window.
- Hold down the SHIFT key and select the second source or destination.
- Drag the selected sources or destinations drop them on the buttons or on the page layout grid at the spot that you want to start assigning the buttons.
- The sources or destinations will be assigned in succession.

Assign a default destination to this panel:

- Single Destination Panel. (This will be used to assign a panel to a destination without using a dedicated button.)
- Left click on a destination and drag it to the Default Dest section of the screen.
- Let go of the button to drop the destination on the Default Dest.

Multiple destination buttons:

- Assign the destinations to the buttons by dragging and dropping the destination onto a button.
- Decide which destination you want to be the default.
- Drag that destination from the Destination Device section of the screen and drop it onto the Default Dest section.
- If no default destination is selected, the panel will select the first button that it finds with a destination as the default.

Using the UCP-72 Panel Screen

- The default functions for the panel are as shown. All of the buttons can be redefined to different functions by dragging an item from the “Button Function List” section and dropping it onto a button on the panel.
- Refer to the “Button Function List” (Section 4) to find what each button function does.
- Dragging a Source or Destination to the panel button will automatically assign it as a source or destination function. From that point on, this is the assigned source or destination for that given button.
- This panel comes defaulted with one “Dual Destination” button and one “Source Shift” button.
- Refer to the “Button Function List” (Section 4) to find what each button function does.
- The user can also change the “Dual Destination” buttons to be a single “Destination” button. (See Section 4 for additional detail.)
- This panel can also be configured as a single destination control panel with none of the buttons being used to select the destination. A default destination would require dragging a destination to the “Default Dest” section of the screen. (All other buttons are considered “Sources”.)
- To unassign a button, use the right mouse button and click on the button that you want to unassign.

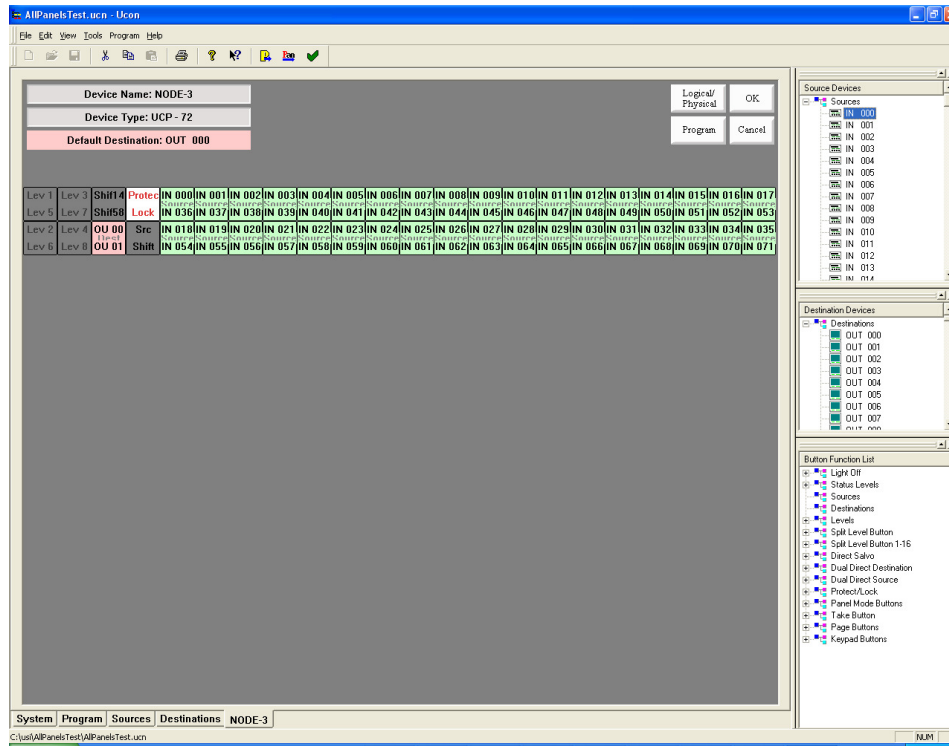


FIGURE 3-14. UCP-72 screen view

Using UCP-XY Panel Screen

- Assign a direct destination by dragging a destination from the “Destination Device” section of the screen and dropping it onto the direct destination buttons. After you have dragged one direct destination you can select the next three just by clicking on another “Destination Device” and it will be automatically assigned to the next button.
- Assign a direct source by dragging a source from the “Source Devices” section of the screen and dropping it onto the direct source buttons. After you have dragged one direct source you can select the next direct source by clicking on another “Source Device”. It will then be automatically assigned to the next button.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click on the first device then while holding down the shift, click on the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- The panel will use the first Direct Destination as the default destination (the one that it will use when the panel powers up).
- To unassign a group name, direct destination, or source on a button, use the right mouse button and click the button that you want to unassign.
- To configure a group on a group button, drag a group from the “Source Devices” or “Destination Devices” and drop it on the desired button. All of the sources or destination in that group will be included in the panel except the ones that are placed in the “Exclude” list.

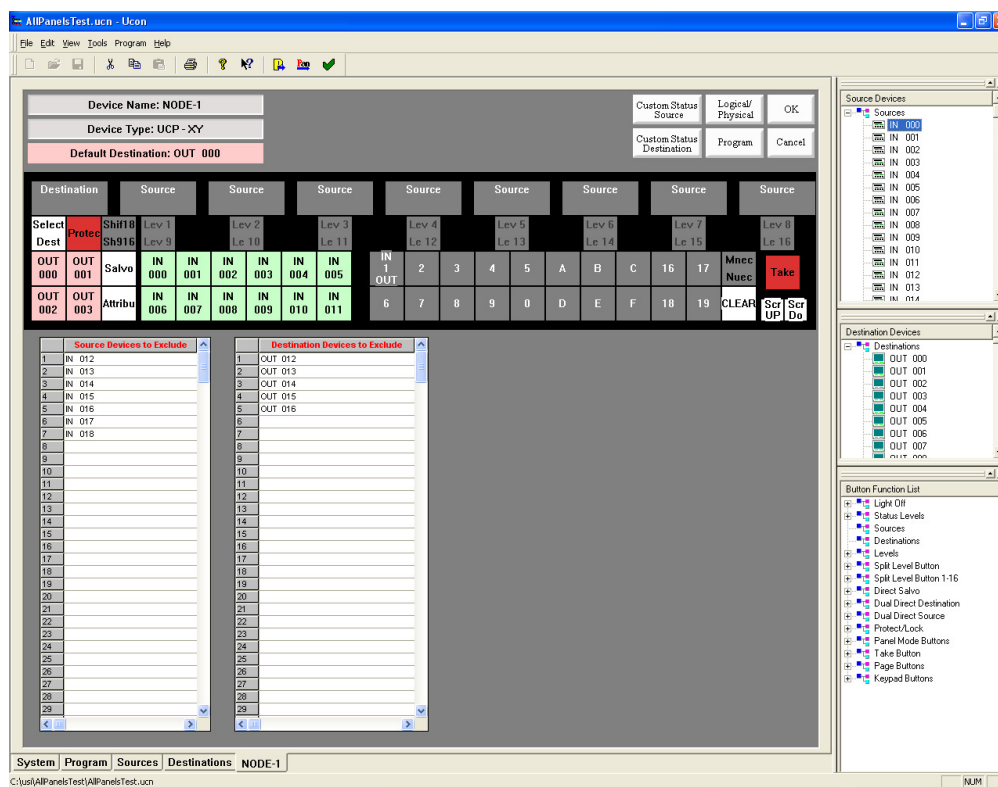


FIGURE 3-15. UCP-XY configuration

Using the UCP-SX Panel Screen

- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click the first device. Then while holding down the shift key, click the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- A default destination can be assigned to this panel by dragging a destination from the “Destination Devices” list to the “Default Destination” section of the screen. The panel will default to this destination when it powers up.
- To unassign a button, use the right mouse button and click on the button that you want to unassign.

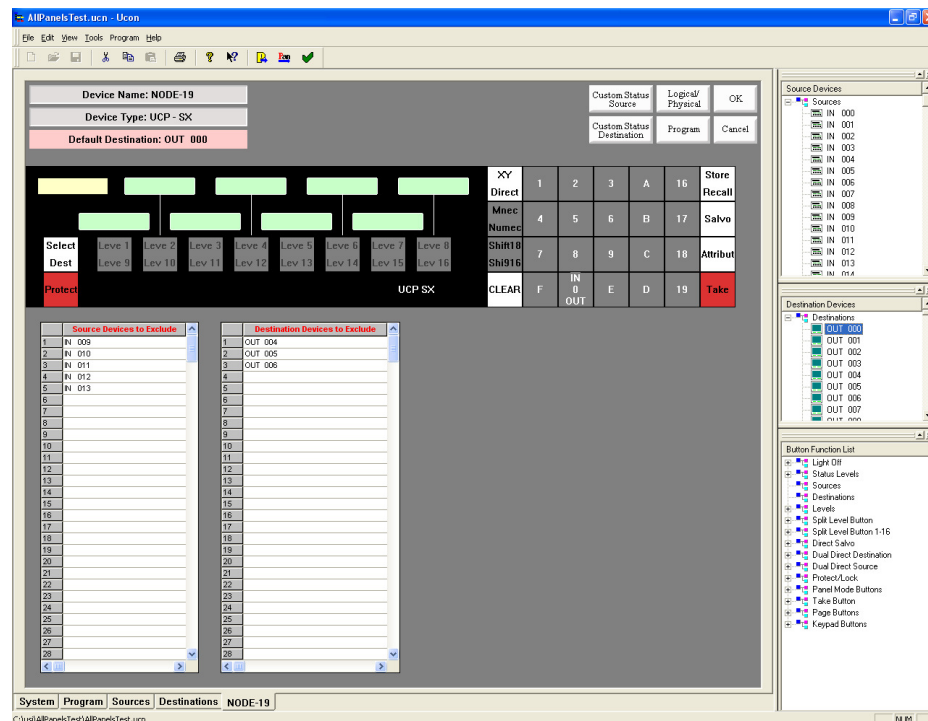


FIGURE 3-16. UCP-SX panel configuration

- To configure a group on a group button, drag a group from the “Source Devices” or “Destination Devices” and drop it on the desired button. All of the sources or destination in that group will be included in the panel except the ones that are placed in the “Exclude” list.



Using the UCP-MX Panel Screen

- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click the first device. Then while holding down the shift key, click the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- A default destination can be assigned to this panel by dragging a destination from the “Destination Devices” list to the “Default Destination” section of the screen. The panel will default to this destination when it powers up.
- To unassign a button, use the right mouse button and click on the button that you want to unassign.
- To configure a group on a group button, drag a group from the “Source Devices” or “Destination Devices” and drop it on the desired button. All of the sources or destination in that group will be included in the panel except the ones that are placed in the “Exclude” list.

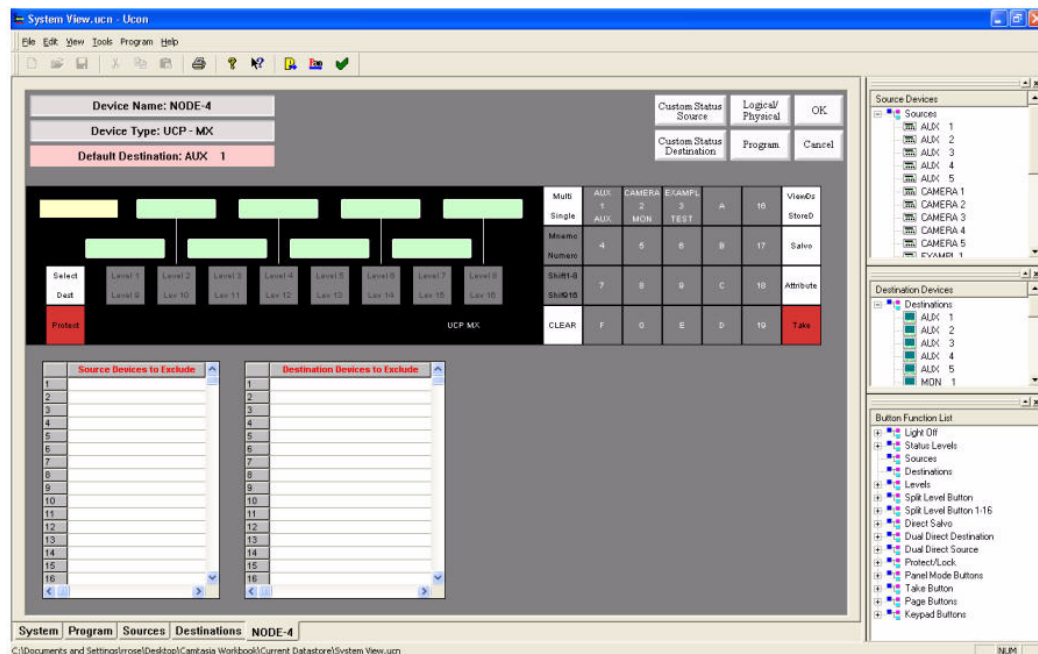


FIGURE 3-17. UCP-MX Panel Configuration



Using the UCP-64 and UCP-128 Panel Screens

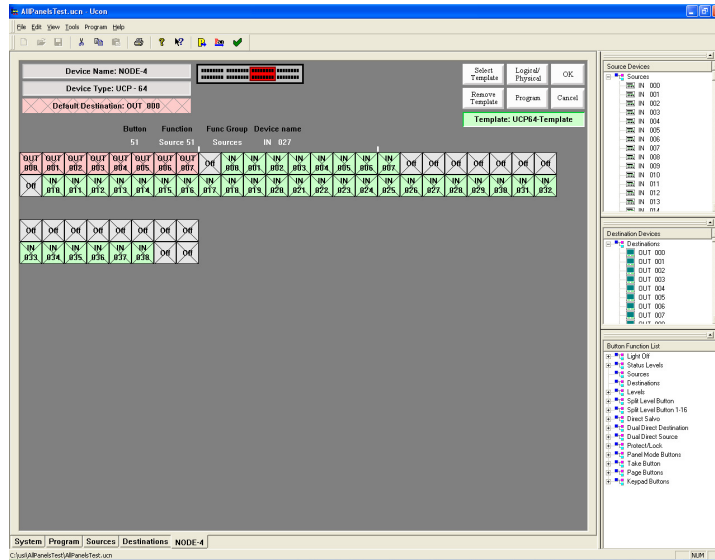


FIGURE 3-19. UCP-64

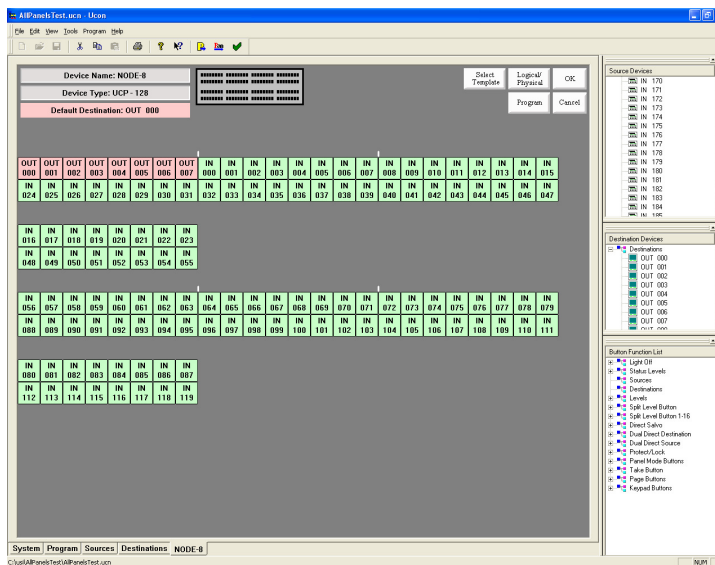


FIGURE 3-20. UCP-128

Assigning a Source Button:

1. Manually Assign Each Button.

- Place the mouse cursor over a Source in the Source Device window.
- Press and hold down the left mouse button. Drag the Source and drop it on one of the gray keys on the panel layout.
- Release the button when the mouse is hovering over the button that you want to assign to be a Source button. The source name will appear on the button in Green.
- Repeat this for each button that you want to assign to be a source button.

2. Semi-Automatically Assign Source Buttons.

- Assign the first source button as described in the *Manually Assign Each Button* Section.
- Now that you have assigned the first button, each Source that you double-click within the Source Device window will be assigned [in sequence] on the panel layout.

Note: The semi-automatic function is only usable on the current row, to the end of that particular row (top or bottom). You must then go to the same row (top or bottom) of the next section and perform a manual assignment again, followed by a semi-automatic assignment.

- To repeat this sequence on a different part of the panel, simply start by assigning a button manually. From that point forward, the semi-automatic operation will begin on the panel layout.

3. Assign a group of Sources in succession

- Click on the first Source to assign.
- Hold down the SHIFT key and click on the second Source.
- You may also use the CTRL key to choose sources that are not in sequence.
- Now drag the highlight section and drop it onto a button.



Assigning a Destination Button:

1. Manually Assign Each Button.
 - Place the mouse cursor over a Destination in the Destination Device window.
 - Press and hold down the left mouse button. Drag the Destination and drop it on one of the gray keys on the panel layout.
 - Release the button when the mouse is hovering over the button that you want to assign to be a Destination button. The destination name will appear on the button in Light Red.
 - Repeat this for each button that you want to assign to be a Destination button.
2. Semi-Automatically Assign Destination Buttons.
 - Assign the first destination button as described in the *Manually Assign Each Button* Section.
 - Now that you have assigned the first button, each Destination that you single click on in the Destination Device window will be assigned [in sequence] on the panel layout.
 - To repeat this sequence on a different part of the panel, simply start by assigning a button manually. From that point forward, the semi-automatic operation will begin on the panel layout.

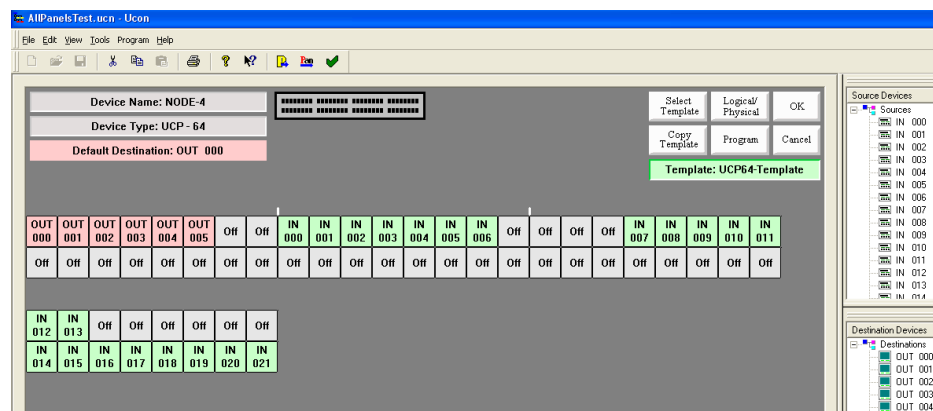


FIGURE 3-21. Button assignment (continued)

Unassign a button:

1. Move the mouse pointer over one of the buttons that you want to unassign.
2. Click the right mouse button on the button you want to unassign.

Assign a default destination to this panel:

1. Single Destination Panel. (This will be used to assign a panel to a destination without using a dedicated button.)
 - Left click on a destination and drag it to the Default Dest section of the screen.
 - Let go of the button to drop the destination on the Default Dest.
2. Multiple destination buttons.
 - Assign the destinations to the buttons by dragging and dropping the destination onto a button.
 - Decide which destination you want to be the default.
 - Drag that destination from the Destination Device section of the screen and drop it onto the Default Dest section.
 - If no default destination is selected, the panel will select the first button that it finds with a destination as the default.



Inheritance (UCP-64, UCP-128, and UCP-48)

Inheritance is a method of managing many panels with similar characteristics, as a single panel. This allows the user to modify one template, with all other linked panels being automatically modified.

Follow the steps below to link one panel to a template panel.

To link a panel to the template, click on the box labeled “Select Template”.

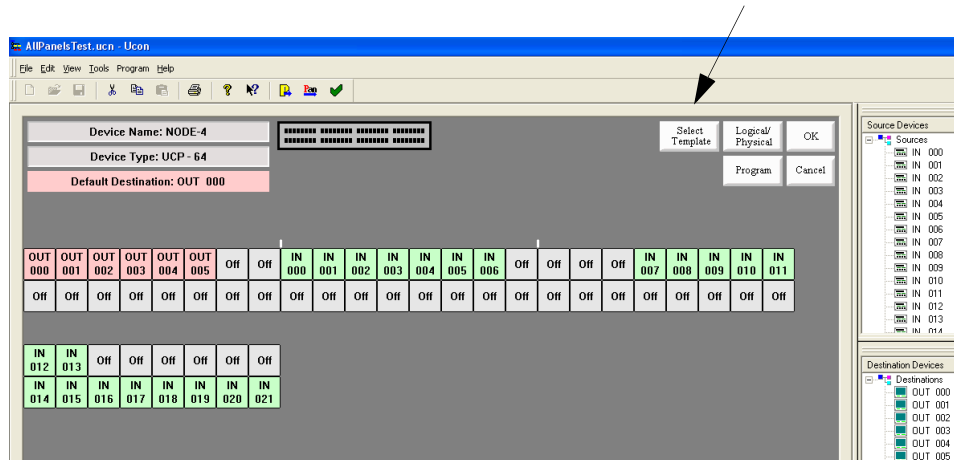


FIGURE 3-22.

The following dialog box appears, allowing you to select the panel from which to *inherit*.

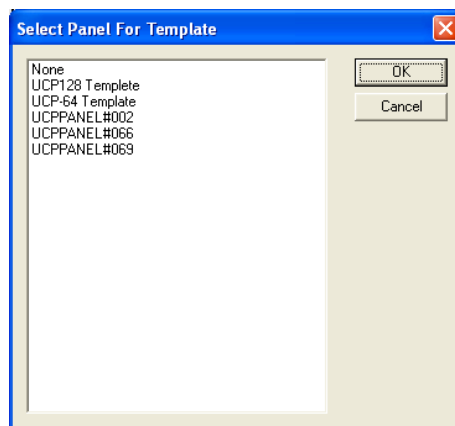
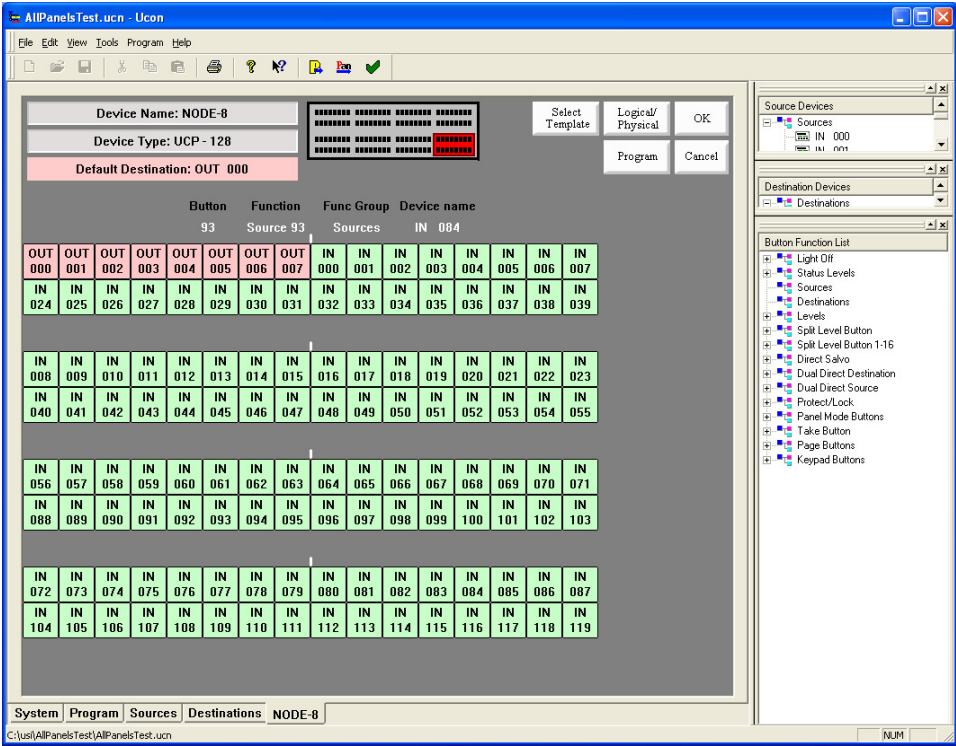


FIGURE 3-23.

Screen Resolution

Here are some more screens that need to be added to the UCP-64/128 section. They are examples of how the screen may be laid out based on the computer's screen resolution.

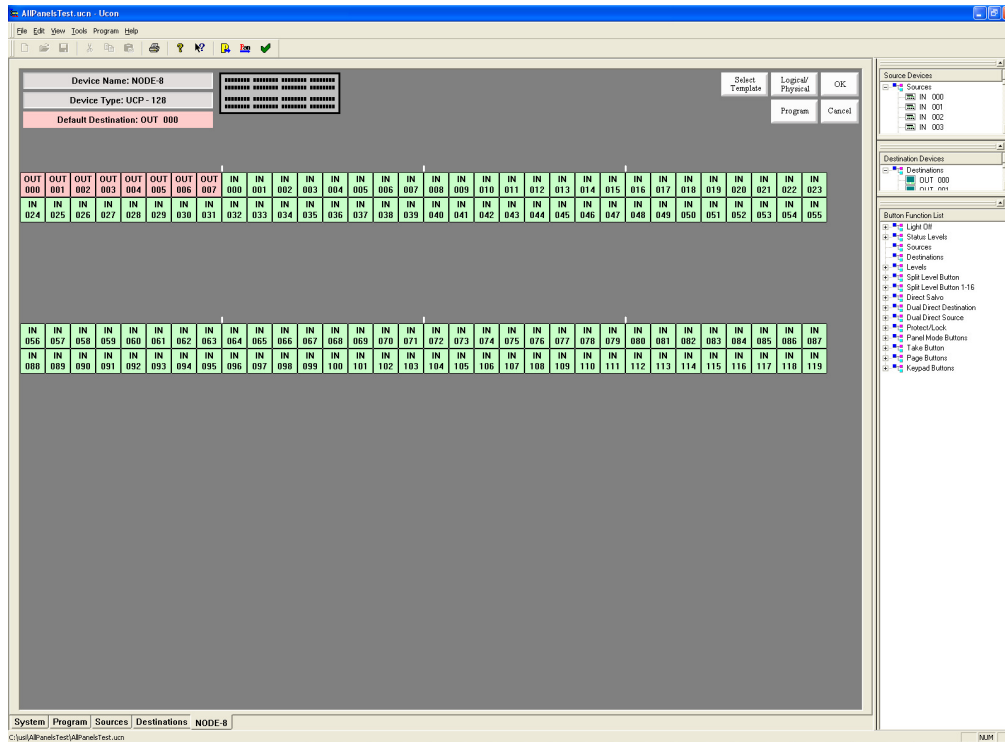


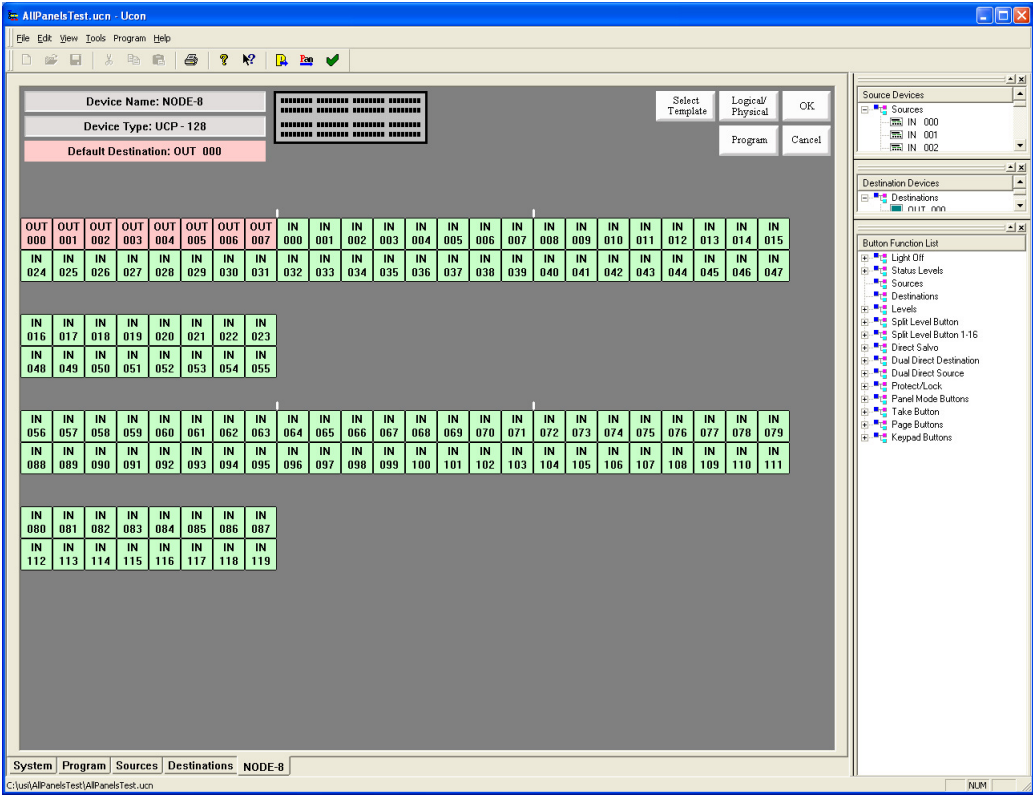
When the mouse is moved over a button the Red box at the top of the screen changes to indicate which bank of switches the button is associated with.

The screen also changes based on the resolution of the computer.



Here are some examples of how the screen may look on different resolutions monitors.







Select one of the above panels and then click **OK**.

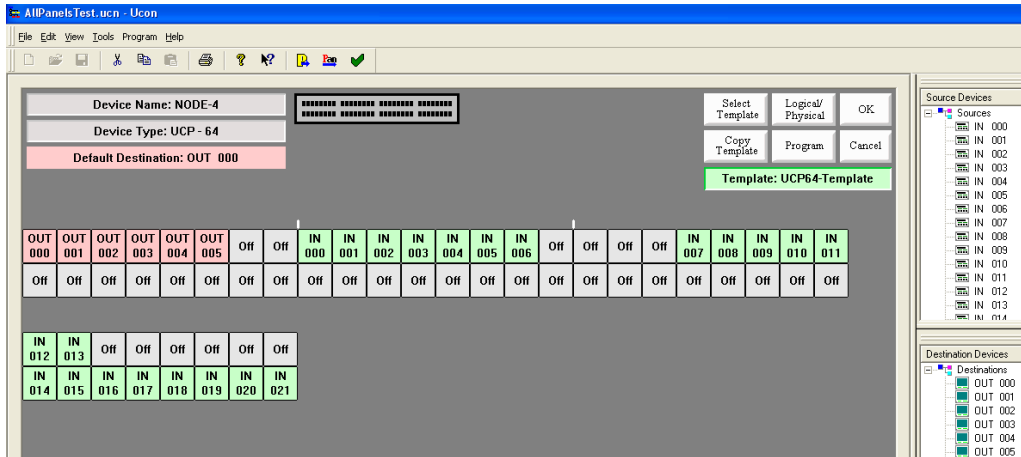


FIGURE 3-24.

After linking to a panel, you can click the “Copy Template” button to inherit all the buttons from the template panel. An “X” is placed over each button that will be used from the template.

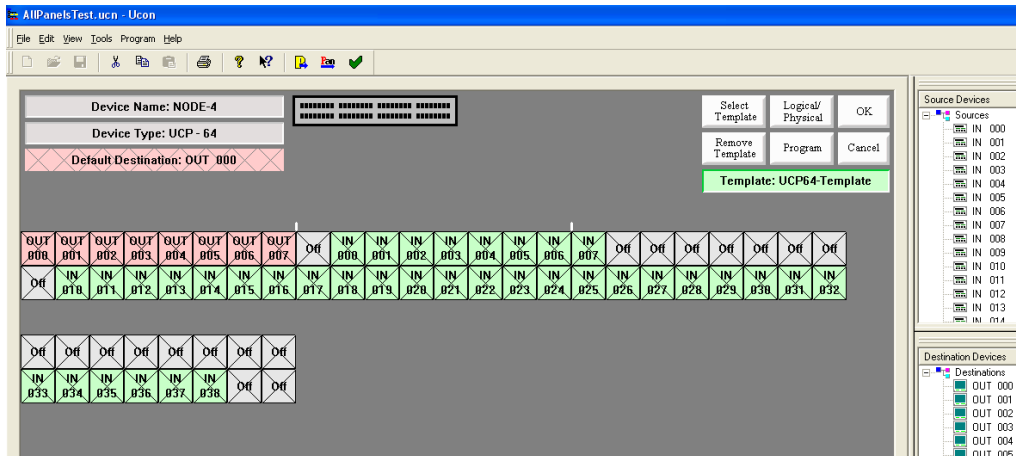


FIGURE 3-25.

If you want to *unlink* any specific button, simply double click the button and the “X” will disappear. The button can now be assigned in the normal manner. To re-enable inheritance double click the button and the “X” will re-appear.

You can also de-select a template for inheritance by clicking the **Select Template** button on the panel configuration screen, or by highlighting *None* and clicking **OK** in the *Select Panel for Template* window (shown below).

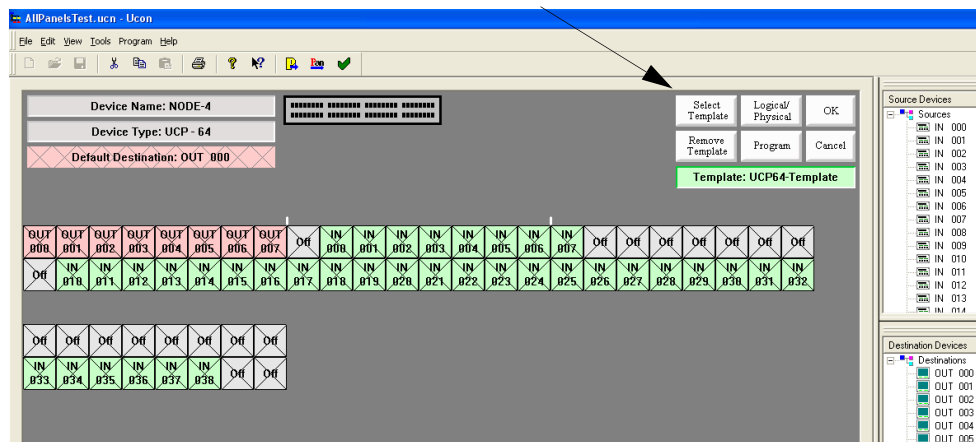


FIGURE 3-26. Inheritance de-selection

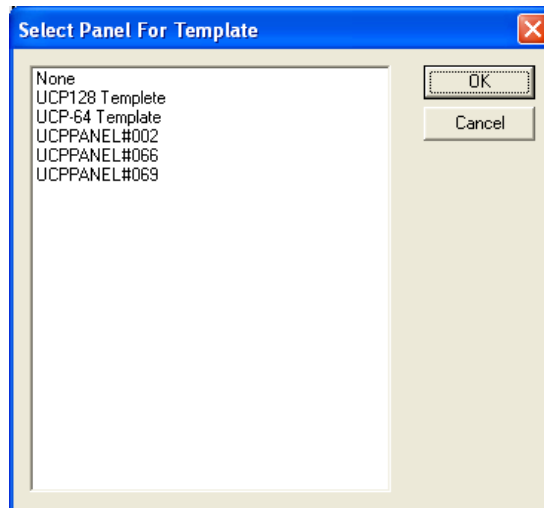


FIGURE 3-27.



Using the UCP-LC32 Panel Screen

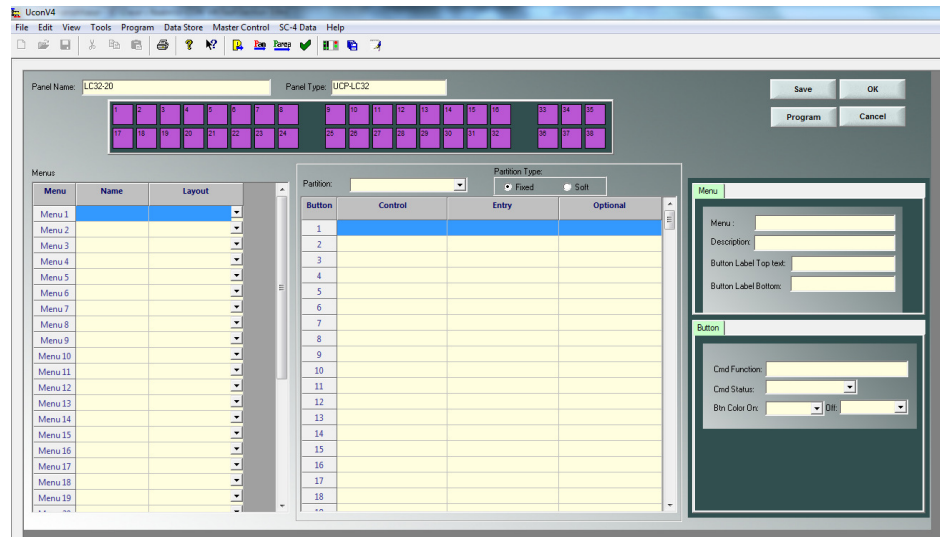
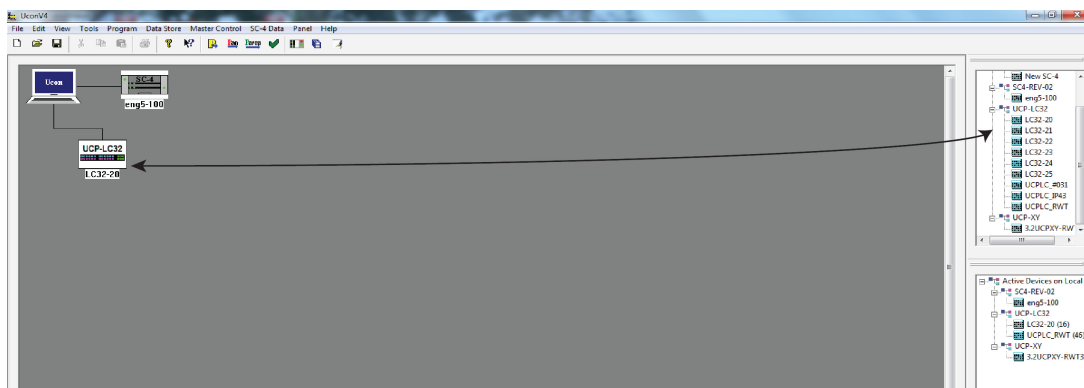


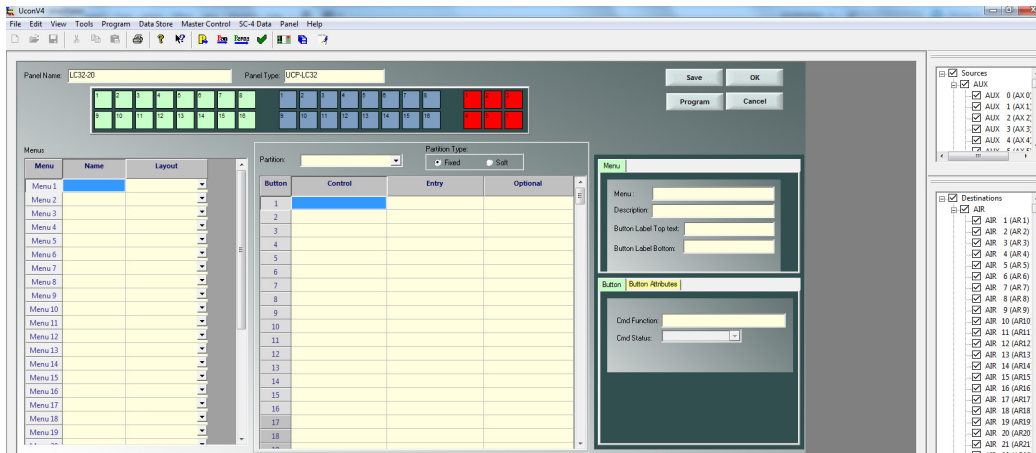
FIGURE 3-28. UCP-LC32 configuration screen

Basic Setup and Usage

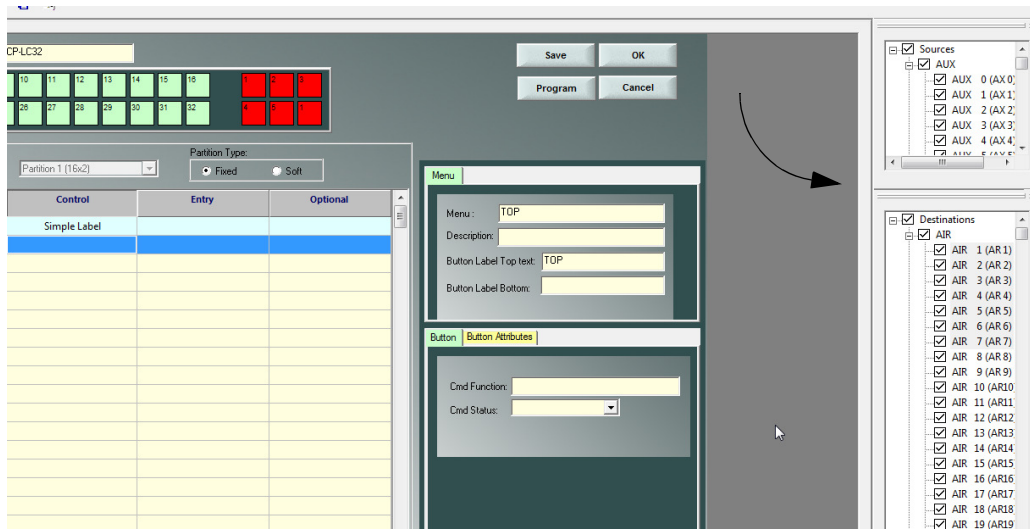
1. Drag a UCP-LC32 or 16 into the working view of UCON.



2. Double-click the new icon to start the editor session in a new tab.



3. Select the Sources and Destinations that will be active in this control panel. The default is set to all (checked).





4. Select the TOP menu and set the layout. Default to 16x2 and NAV.

Menus

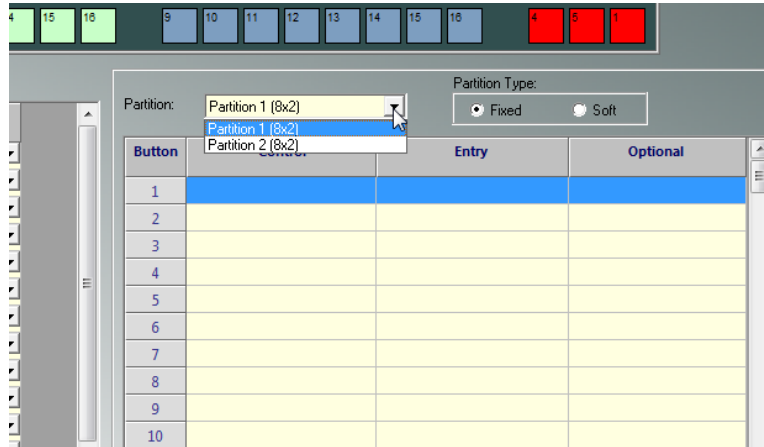
Menu	Name	Layout
Menu 1	TOP	16x2 and NAV
Menu 2		16x2 and NAV
Menu 3		16x1, 16x1 and NAV
Menu 4		8x2, 8x2 and NAV
Menu 5		Single
Menu 6		7x2,1x2, 7x2,1x2 and NAV
Menu 7		18x2 Page Up/Down

5. Select another menu and set the desired layout.

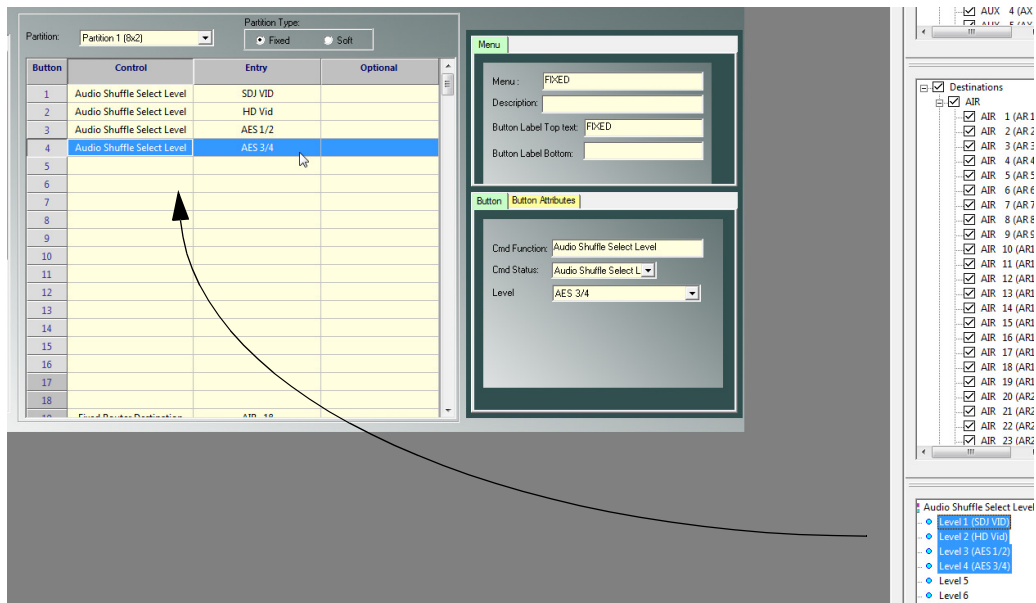
Menus

Menu	Name	Layout
Menu 1	TOP	16x2 and NAV
Menu 2	FIXED	8x2, 8x2 and NAV
Menu 3		
Menu 4		
Menu 5		
Menu 6		

6. Select the partition to begin adding controls *to*.



7. Drag functions onto the button locations.





8. Alternately you can drag other objects (menus, Sources, Destinations, etc.) onto the button which will auto-populate the function entry with an appropriate selection.
9. Modify other partitions for this new menu as necessary.
10. Modify the TOP menu to add the newly configured menu to one of the buttons. This allows the user to select this new menu on the control panel.
11. Repeat steps 6 through 10 as necessary until all menus are configured and accessible in the menu system.

Implementation

1. In the above exercise a new tab will be created in UCON to support editing of the UCP-LC32 and UCP-LC16 control panels.
2. Each panel will support a maximum of 32 menus.
3. each menu will support a maximum of 4 partitions.
4. Menus cannot be copied or stored outside a control panel data structure.
5. Panels will be identified by a physical name which cannot be shared between more than 1 control panel.

Assigning a Source Button

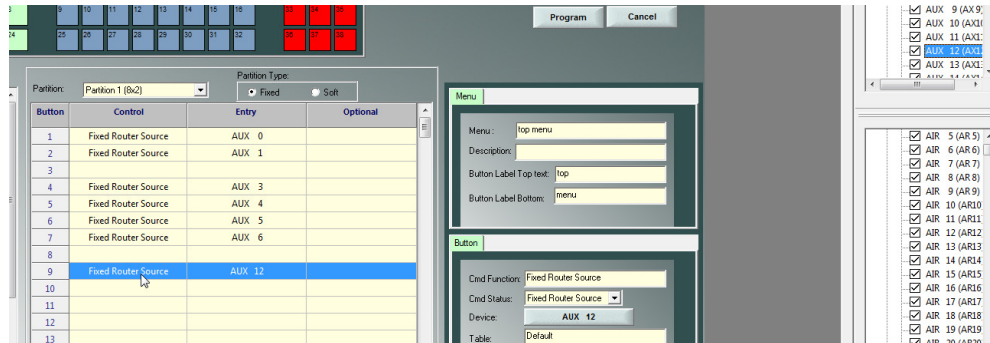
1. Manually Assign Each Button.

- Place the mouse cursor over a Source listing and double-click the desired item in the list.





- Press and hold down the right mouse button. Drag the Source and drop it on one of the rows within the table.



- Release the button when the mouse is hovering over the button that you want to assign to be a Source button. The source name will appear on the button in Green.
- Repeat this for each button that you want to assign to be a source button.

2. Semi-Automatically Assign Source Buttons.

- Assign the first source button as described in the *Manually Assign Each Button* Section.
- Now that you have assigned the first button, each Source that you double-click within the Source Device window will be assigned [in sequence] on the panel layout.

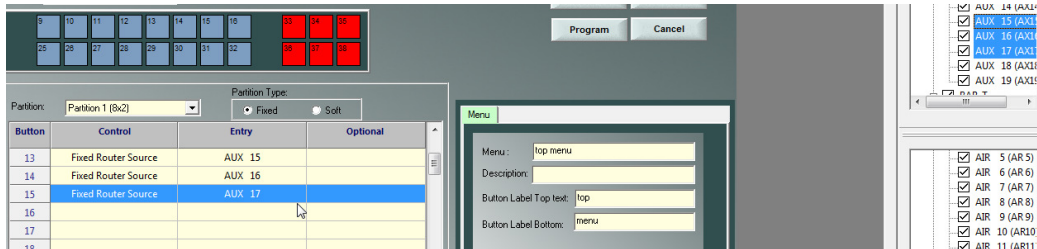
Note: The semi-automatic function is only usable on the current row, to the end of that particular row (top or bottom). You must then go to the same row (top or bottom) of the next section and perform a manual assignment again, followed by a semi-automatic assignment.

- To repeat this sequence on a different part of the panel, simply start by assigning a button manually. From that point forward, the semi-automatic operation will begin on the panel layout.

3. Assign a group of Sources in succession

- Click on the first Source to assign.
- Hold down the SHIFT key and click on the second Source.

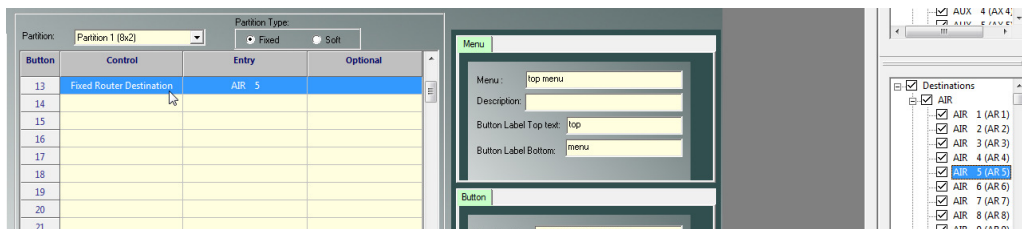
- You may also use the CTRL key to choose sources that are not in sequence.
- Now drag the highlight section and drop it onto a button.



Assigning a Destination Button

1. Manually Assign Each Button.

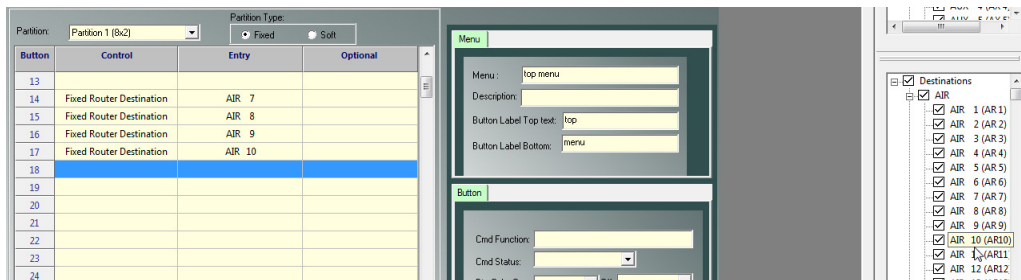
- Place the mouse cursor over a Destination in the Destination Device window.
- Press and hold down the left mouse button. Drag the Destination and drop it on one of the gray keys on the panel layout.
- Release the button when the mouse is hovering over the button that you want to assign to be a Destination button.



- Repeat this for each button that you want to assign to be a Destination button.
- #### 2. Semi-Automatically Assign Destination Buttons.
- Assign the first destination button as described in the *Manually Assign Each Button* Section.



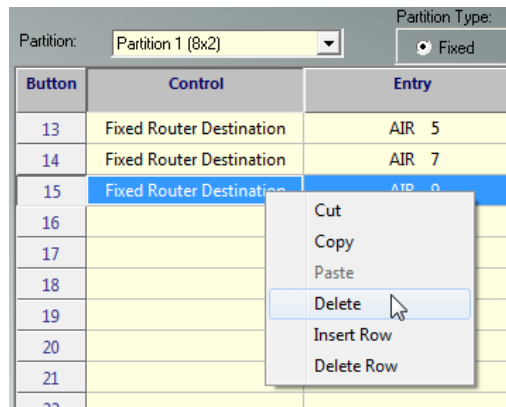
- Now that you have assigned the first button, each Destination that you double click on in the Destination Device window will be assigned [in sequence] on the panel layout.



- To repeat this sequence on a different part of the panel, simply start by assigning a button manually. From that point forward, the semi-automatic operation will begin on the panel layout.

Unassign a button

- Move the mouse pointer over one of the buttons that you want to unassign.
- Click the right mouse button on the button you want to unassign, then select Delete from the drop-down menu.



Assign a default destination to this panel

1. Single Destination Panel. (This will be used to assign a panel to a destination without using a dedicated button.)
 - Left click on a destination and drag it to the Default Dest section of the screen.
 - Let go of the button to drop the destination on the Default Dest.
2. Multiple destination buttons.
 - Assign the destinations to the buttons by dragging and dropping the destination onto a button.
 - Decide which destination you want to be the default.
 - Drag that destination from the Destination Device section of the screen and drop it onto the Default Dest section.

If no default destination is selected, the panel will select the first button that it finds with a destination as the default.



UCON Source and Destination Linking Feature

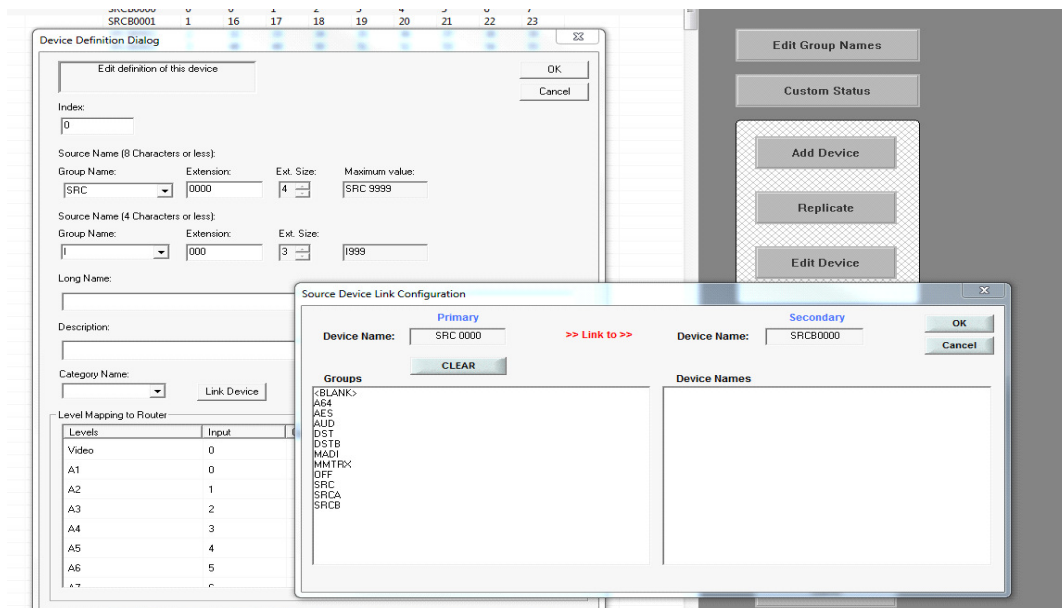
For systems that require 16 channel audio support, a facility has been added to UCON to allow one switch on a control panel to change up to 32 virtual levels at one time.

This facility is referred to as 'linking', and is available in the Device Definition Dialog box in the UCON source and destination editors.

In keeping with the examples so far in this white paper, the goal of a linked switch would be to get SRC 000 and SRCB 000 to switch to DST 000 and DSTB 00 with one command. This would accomplish the switching of the video and all 16 audio levels without having to make two switches.

To accomplish this, the user would link SRC 000 and SRCB 000 together. Whenever that source is switched to an output that is similarly linked, both switches occur and all 16 audio channels are routed simultaneously.

The pictures below show examples of the linking editor and the resultant source and destination tables after linking has been configured. Consult the UCON manual for more information on the linking function.



Source and Destination Link Tables - Examples

Ro...	Index	8 Char Name	4 Char Name	Category	Linked	Video	A1 ▲	A2	A3	A4	A5	A6	A7	A8	S1-RTR
0	722	OFF	OFF			DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC	
1	0	SRC 0000	I000		SRCB0000	0	0	1	2	3	4	5	6	7	
673	528	SRCB0000	S000		SRC 0000		8	9	10	11	12	13	14	15	
2	1	SRC 0001	I001		SRCB0001	1	16	17	18	19	20	21	22	23	
674	529	SRCB0001	S001		SRC 0001		24	25	26	27	28	29	30	31	
3	2	SRC 0002	I002		SRCB0002	2	32	33	34	35	36	37	38	39	

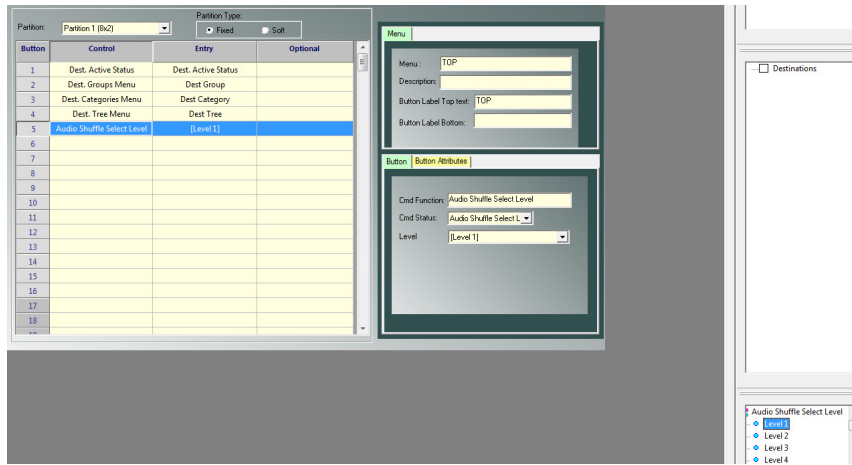
Ro...	Index	8 Char Name	4 Char Name	Category	Linked	Video	A1 ▲	A2	A3	A4	A5	A6	A7	A8	S1-RTR	S2144-rtr
0	0	DST 0000	O000		DSTB0000	0	0	1	2	3	4	5	6	7		
672	528	DSTB0000	D000		DST 0000		8	9	10	11	12	13	14	15		
1	1	DST 0001	O001		DSTB0001	1	16	17	18	19	20	21	22	23		
673	529	DSTB0001	D001		DST 0001		24	25	26	27	28	29	30	31		
2	2	DST 0002	O002		DSTB0002	2	32	33	34	35	36	37	38	39		



UCP LC-32 Template Use

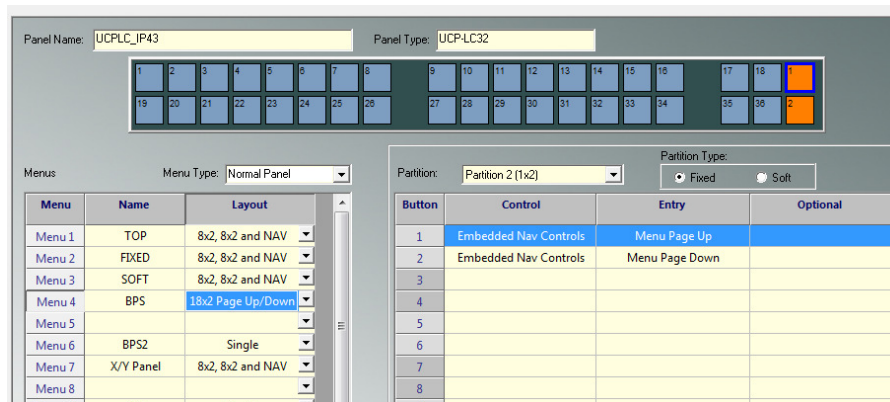
You can utilize the content of the opened template, or modify the content by assigning unique Source and Destination detail.

Panel functions are applied to the panel, as Partition Types, by dragging each from the Function list (lower right) to the Partition Type table as shown.



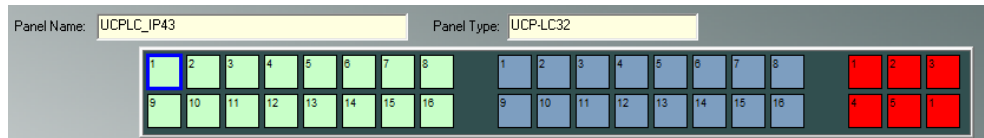
→ image 1

Menus are also designated within this table. Partitions relate to the sixteen button 'set' within the actual LC32 router graphic displayed along the top of the screen. This layout contains two partitions.



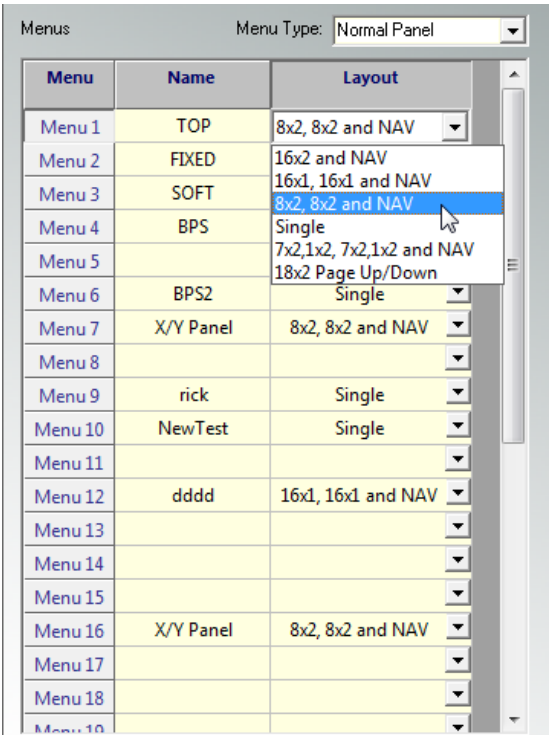
→ image 3

In this example, the red colored buttons at the right side of the display are programmable, typically used as Page Up and Down controls, which allow cycling through the various menu displays.



→ image 4

The panel type is defined by accessing the drop-down menu along the right column, then making a designation from the available panel configurations.



→ image 2



Button commands and attributes can be modified within the dialog area at the lower right portion of the display.

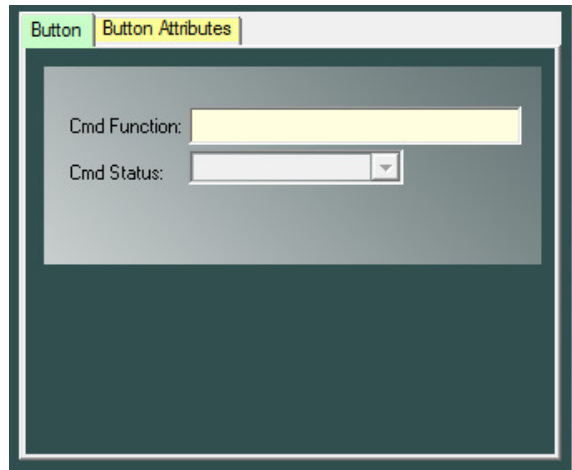


Image 5

The cells at the top of the display contain the current button label.



→ Image 6

CSP Panel Editors

CSP panels are supported in U-CON V4 but not as a full graphically depicted form of the panel. CSP panels are supported in a simple list fashion. The lists provided are adjusted in size according to parameters for any given CSP panels. Other items such as keypad layout options and pass code specification are provided as they apply.

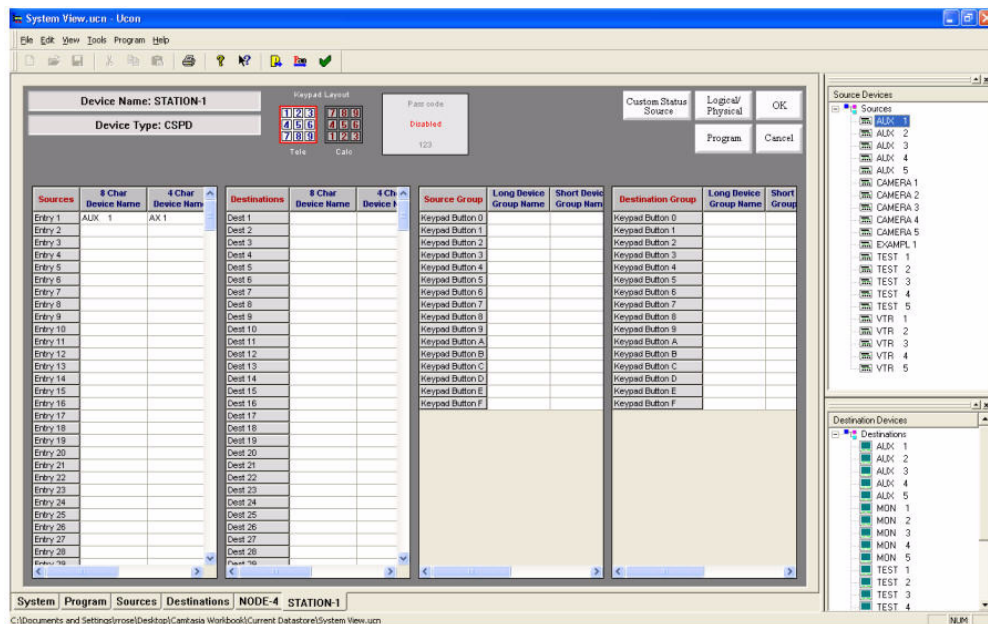


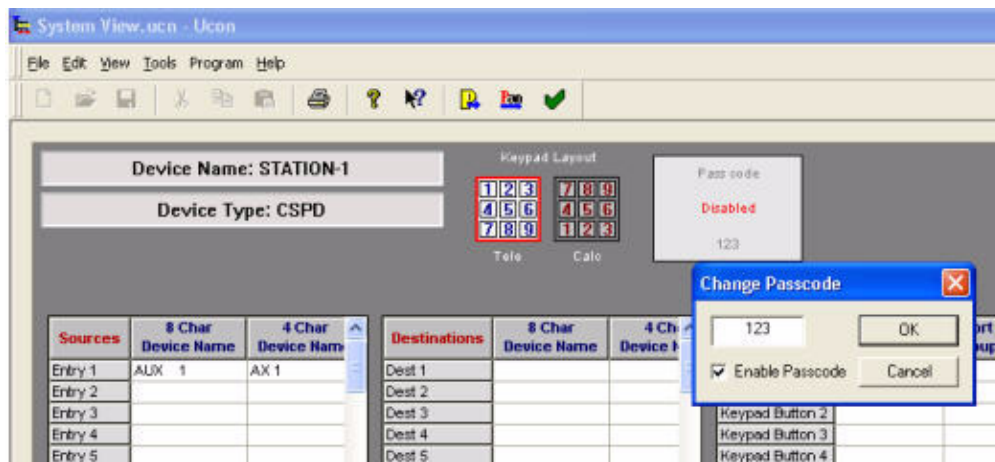
FIGURE 3-29. CSP Panel Layout

Unlike the UCP and SCP panels, the CSP tables (illustrated above) are ‘include’ as opposed to exclude tables.

- Add, by dragging to the panel, all Sources you intend to use from the listing.
- Button-per-source panels will be specific inputs assigned to each button.
- For the desired Destinations used on each panel, drag (to the panel) each destination you intend to use from the listing.
- Assign a direct destination by dragging a destination from the “Destination Device” section of the screen and dropping it onto the direct destination buttons. After you have dragged one direct destination you can select the next three just by clicking on another “Destination Device” and it will be automatically assigned to the next button.



- Assign a direct source by dragging a source from the “Source Devices” section of the screen and dropping it onto the direct source buttons. After you have dragged one direct source you can select the next direct source by clicking on another “Source Device”. It will then be automatically assigned to the next button.
- To configure a group on a group button, left-click on any device in that group (from the “Source Devices” or “Destination Devices”) and drop it on the desired button. All of the sources or destinations in that group will be included in the panel, except the ones that are placed in the “Exclude” list.
- Devices can be “Excluded” from the panel by dragging any single or a range of devices from the “Destination Devices” or Source Devices” list. To select a range, click on the first device then while holding down the shift, click on the second device that you want to exclude. Now drag the highlighted section and drop it on the source or destination exclude list.
- The panel will use the first Direct Destination as the default destination (the one that it will use when the panel powers up).
- To unassign a group name, direct destination, or source on a button, use the right mouse button and click the button that you want to unassign.
- For telephone or calculator style, click the corresponding keypad *mode*.
- To add a passcode for panel locking, left-click the passcode, enter the desired three digit number, check *enable passcode*, then click OK. Reprogram the panel to complete.



- All odd destinations such as 1, 3, 5, etc., are considered Program 1 switching entries, while the even destinations (2, 4, 6, etc.) are considered Program 2 switching entries on the control panel. The toggle switch on the panel layout allows you to move from the 'odd' destination group to the 'even' destination group, or PGM 1 and PGM 2. This applies to any panel containing a PGM 1 and PGM 2 switch.
- The CP-4's panel icon will always remain red during panel programming. To solve this, you must remove the cover from the panel itself and move the board's jumper to the *program* position, then push the Take button on the panel. Once complete you can program the panel by right-clicking (the panel icon) and clicking the Program button.



Under Monitor Display

The UMD (Under Monitor Display) can be used as a static (no changes) display, or it can be used to monitor up to (2) outputs.

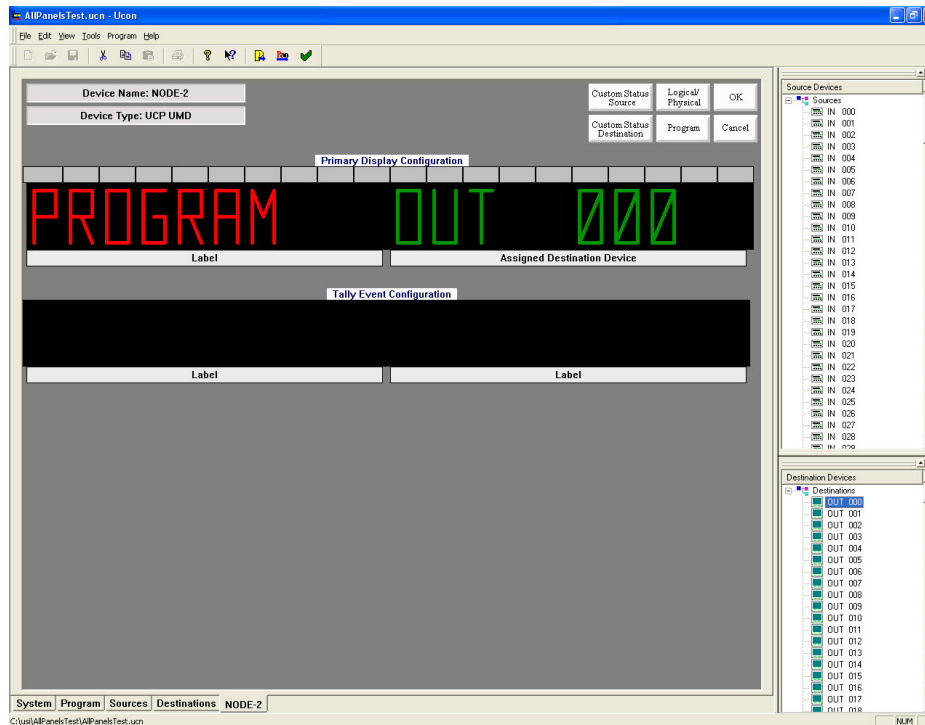


FIGURE 3-30.

To setup the displays to monitor the output, perform the following steps:

1. Highlight the output, then click the desired output.
2. While holding down the left mouse button, drag the output and drop in onto the desired display. The output name will display in the window. *Meaning that this half of the display will be monitoring that output.*
3. In the example above, the left half of the display is static and will always show the word “PROGRAM”, while the right half of the display will be monitoring “Out 000”.

- Remember that in the UMD panel, the output will not be displayed in the window. The source going to that particular output is what will be displayed.

To change the display to show a static word, click on any part of the display where the static word will be displayed. You will see the following screen.

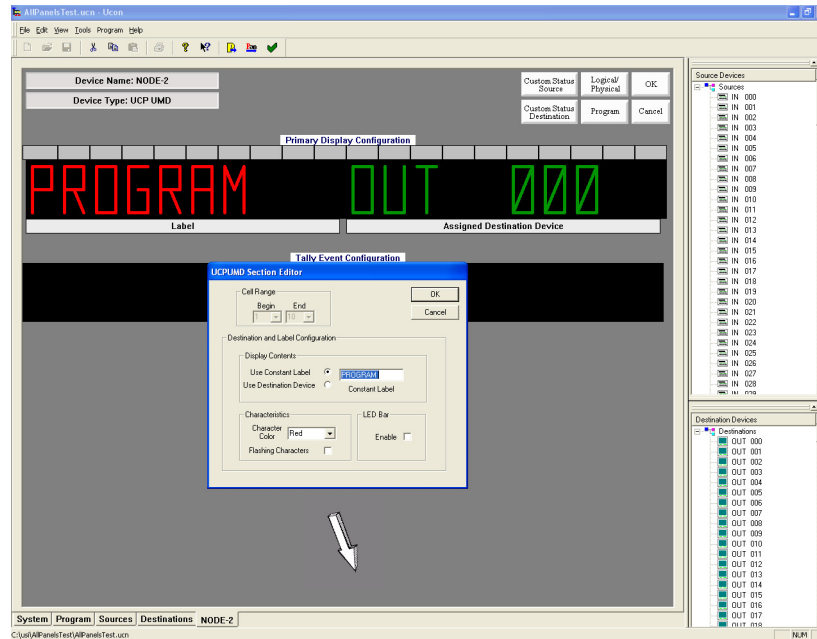


FIGURE 3-31.

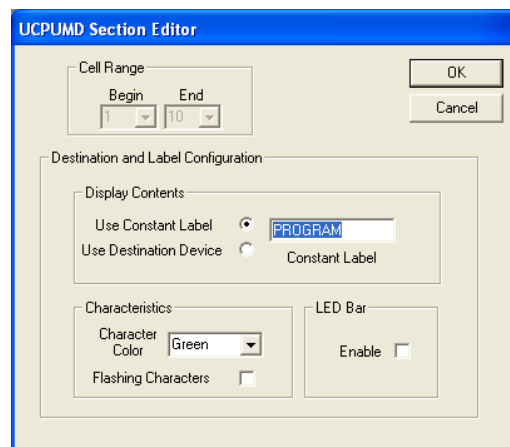


FIGURE 3-32.



The following options are not yet implemented:

- Character color
- Flashing characters
- LED Bar Enable
- Cell Range
- Tally Event Configuration (screen positions)

They will be included in future releases of the panel.

Additional Screen Layouts

UCP-MX

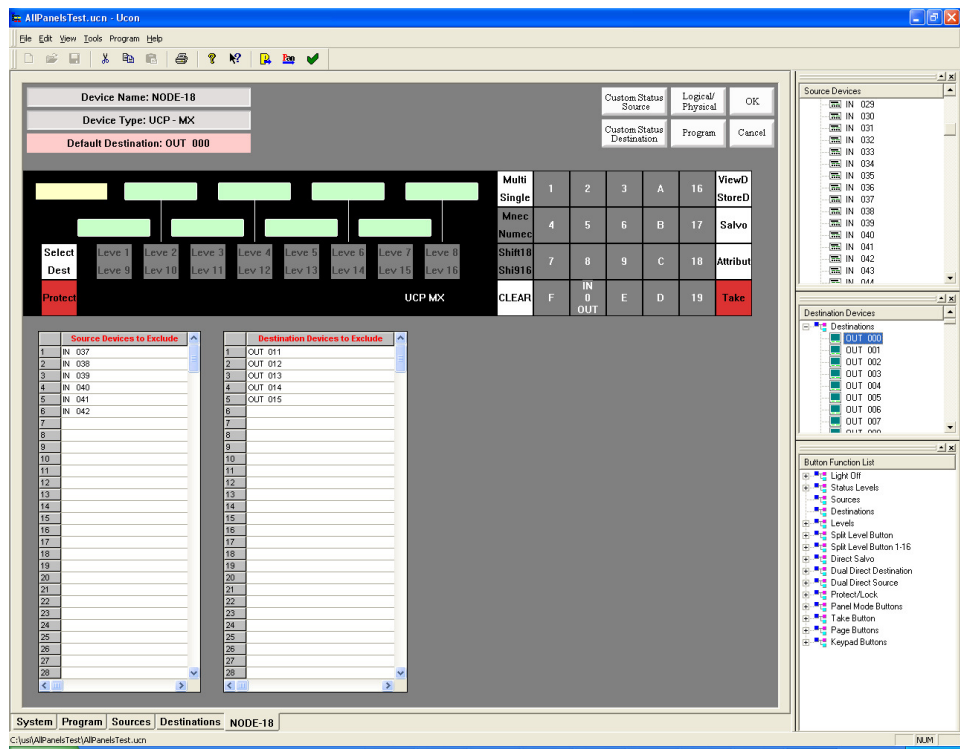


Figure 3-1. UCP-MX



UCP-MMA/MMB

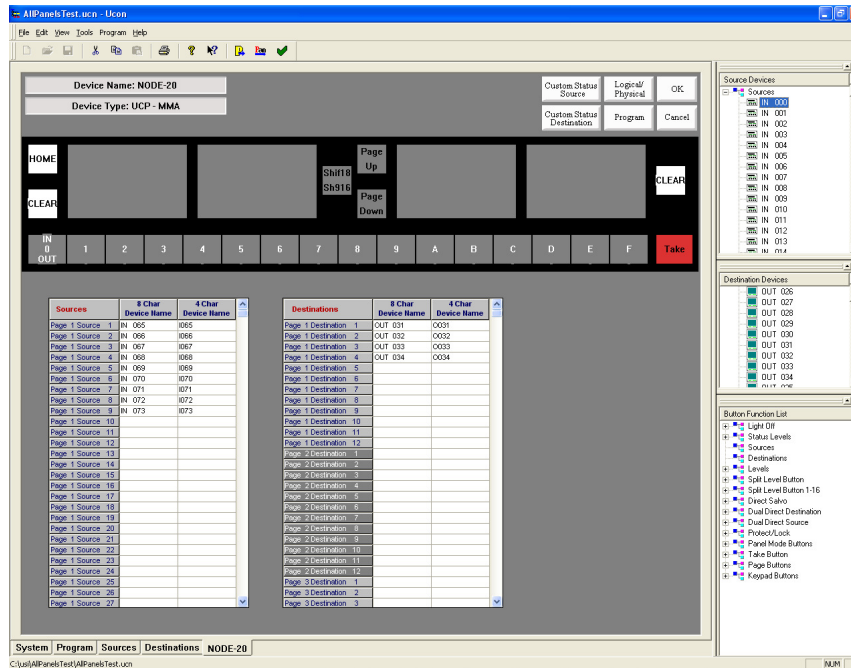


FIGURE 3-33. UCP-MMA and UCP-MMB views

- These panels contain *Include* but not *Exclude* tables. The desired sources are placed on the pages you would like them to appear. 40 entries per-page are allowed on up to 25 pages.
- There are 12 destinations per page. To add the desired destination, drag each one to the desired destination page.
- To configure a group on a group button, left-click on any device in that group (from the “Source Devices” or “Destination Devices”) and drop it on the desired button. All of the sources or destinations in that group will be included in the panel, except the ones that are placed in the “Exclude” list.

UCP DTA/DTB

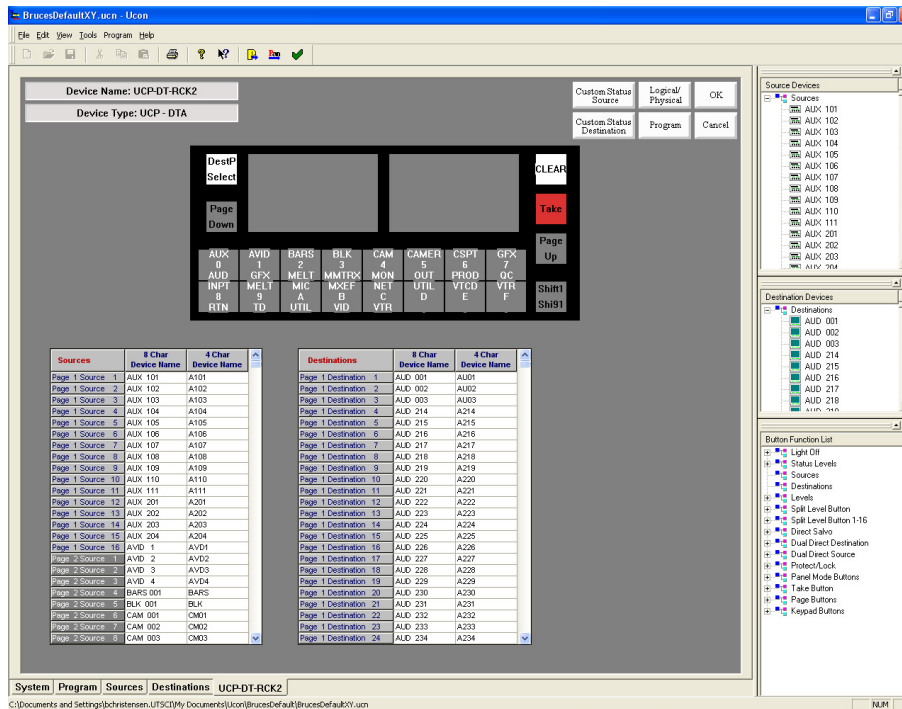


FIGURE 3-34. UCP-DTA and UCP-DTB views

Although panel programming is the same, the UCP-DTA is relegendable while the UCP-DTB's layout is fixed.

- These panels contain *Include* but not *Exclude* tables. The desired sources are placed on the pages you would like them to appear. 40 entries per-page are allowed on up to 25 pages.
- There are 12 destinations per page. To add the desired destination, drag each one to the desired destination page.
- To configure a group on a group button, left-click on any device in that group (from the "Source Devices" or "Destination Devices") and drop it on the desired button. All of the sources or destinations in that group will be included in the panel, except the ones that are placed in the "Exclude" list.



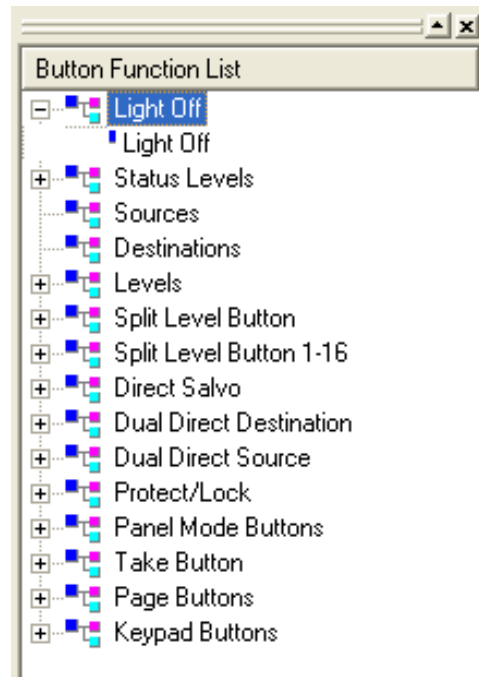
Chapter 4 - Button Function List Definitions

This section contains explanations of all Button Functions used during U-CON V4 operation. The following definitions are included:

- Light Off
- Status Levels
- Sources
- Destinations
- Levels
- Split Level Button
- Split Level Button 1-16
- Direct Salvo
- Dual Direct Destination
- Dual Direct Source
- Protect/Lock
- Panel Mode Buttons
- Take Button
- Page Buttons
- Keypad Buttons

NOTE: These Button Functions will appear on all UCP Panels. It should be noted however that not all button functions are utilized on certain panels. (There is no gray out of button functions on panels they don't apply.)

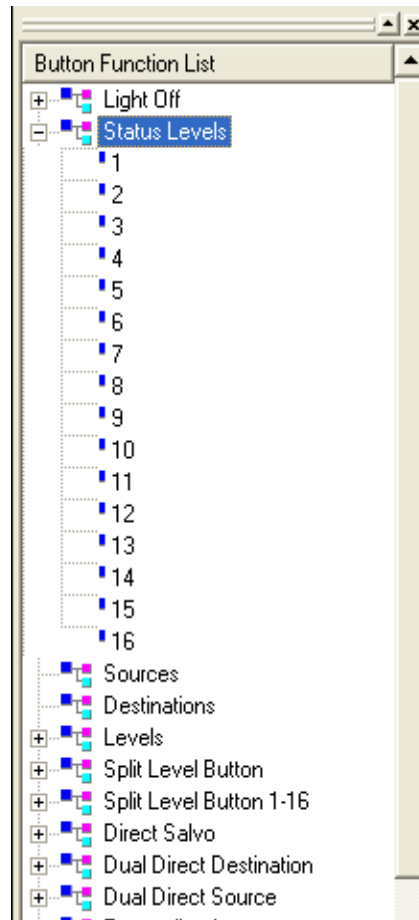
Light Off



- This will unassign a button so that the light will not turn on. This can be done in two different ways.
 - Drag the *Light Off* function and drop it on a button.
 - or*
 - Any additional buttons (directly to the right) can be unassigned by double-clicking *Light Off* in the function list



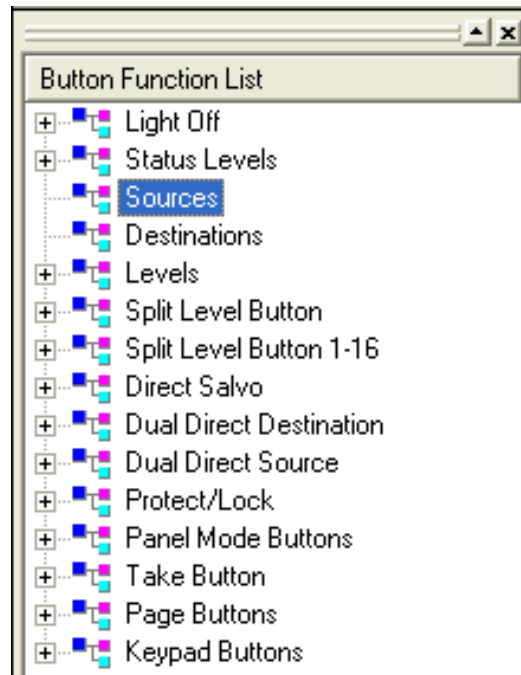
Status Levels



This type of button function is used for breakaway takes and to indicate which level is being statused on the source buttons. You can assign one of 16 levels to the buttons. The bright level is the one being statused. The dimly lit level buttons are the levels that are valid for this destination.

Press the Level button to select a level to be statused. It now becomes the bright level and it will be statused on the Source buttons. To setup a breakaway take, press the bright button again and the lamp will extinguish. As a result, this level will not be sent when the next Source button is pressed.

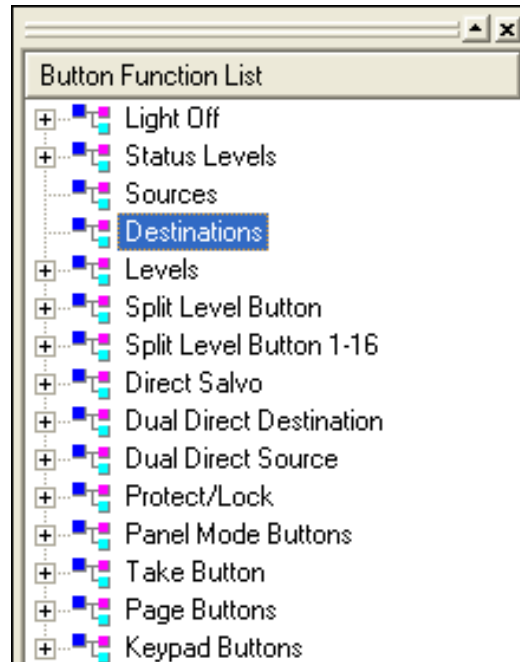
Sources



This is the Sources function, which will assign the button to the Source Group. When this button is pressed a direct take will occur, *when a specific source is added to (by dragging onto) the button itself.*



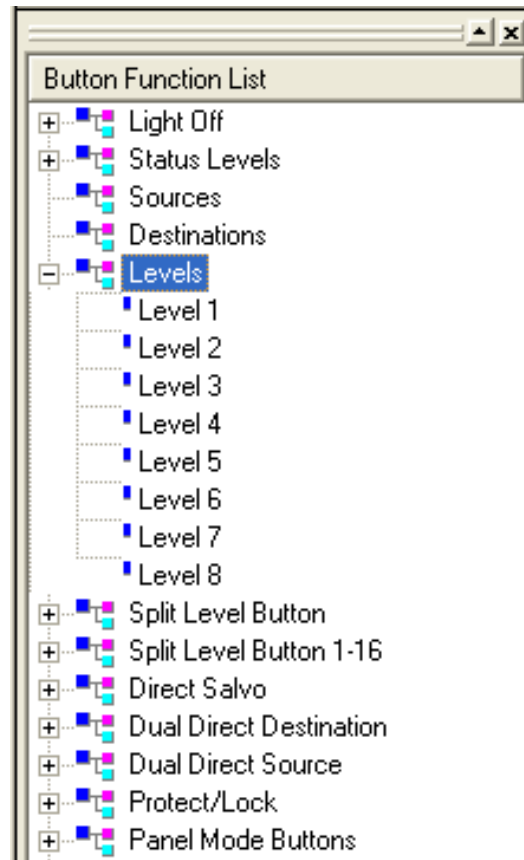
Destinations



The Destination group will assign a button to control a given destination for this panel. The brightly lit destination is the current one that this panel will be switching *to*. If this panel does not contain any destination buttons, there should be a default destination assigned and labeled somewhere. In this way, the users can determine the appropriate output for this panel's control.

You are taken directly to the destination on the panel when the button is pressed.

Levels



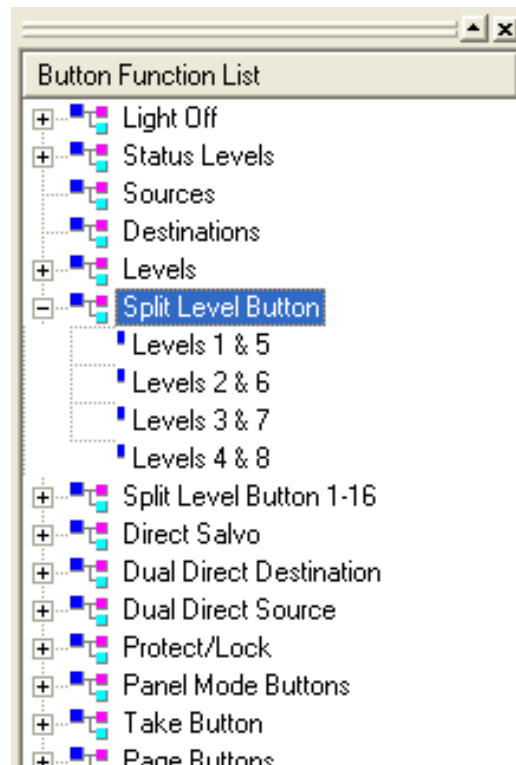
This type of level function is designed for simplicity and ease of use. If you assign a button as a "Level 1" through "Level 8" button, it functions in the following manner:

If the button is lit, this level will be used when the Direct Source button is pressed. If you want to eliminate a level from being taken with the next Direct Source button, press the button to extinguish it. In the same manner, press it again to illuminate it and this level will be included when the Direct Source buttons are pressed.

There is no indication as to which level is being statused on the Direct Source buttons. The level being statused is the last level button that was illuminated. For example, to see the status for "Level 1", press the "Level 1" button to turn it off, then press it again to turn it back on. This will set the panel to show the status on "Level 1".



Split Level Button

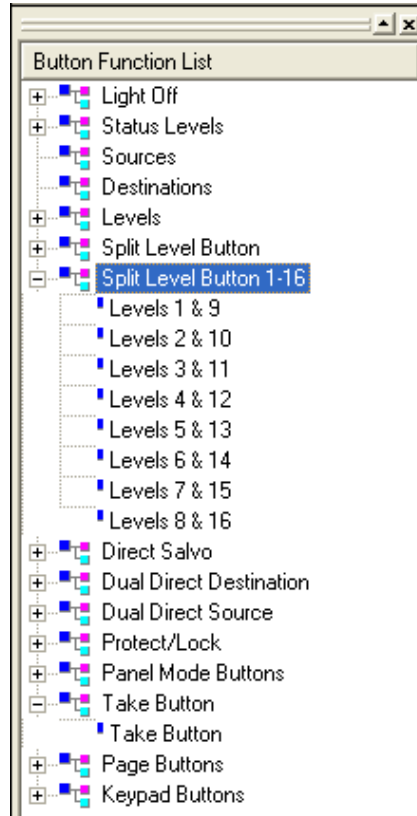


The split level buttons were designed to be used on the UCP-2, UCP-36, and UCP-72 panels. They give the user the ability to control 8 levels on 4 buttons. They should be used in conjunction with the “Panel Mode Buttons” and “Level Shift 1-4/5-8” button. This gives the user the ability to shift between levels 1-4 and 5-8.

The bright level is the level being statused. The backlit levels are valid for the current destination, while the levels that are off are not valid for this destination.

To setup a breakaway take, press the brightly lit button and it will start blinking. Select other levels in this same manner.

Split Level Button 1-16

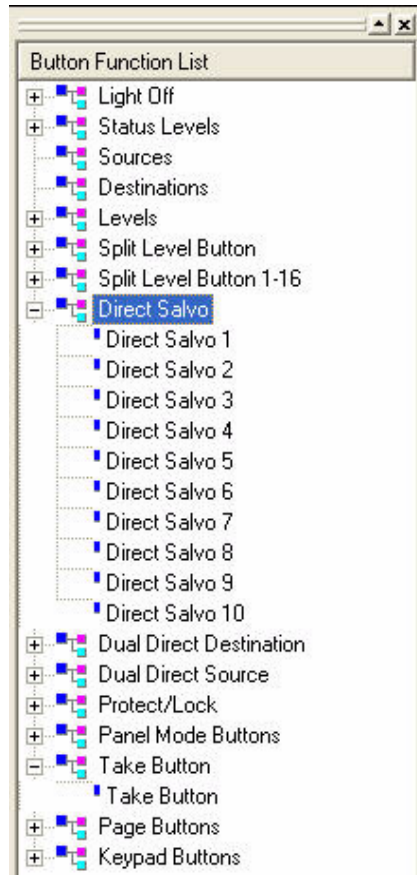


The split level buttons were designed to be used on the UCP-XY, UCP-SX, and the UCP-MX. They give the user the ability to control 16 levels on 8 buttons, and should be used in conjunction with the "Panel Mode Buttons" and "Level Shift 1-8/9-16" button. This gives the user the ability to shift between levels 1-8 and 9-16.

If one of these levels are bright, it indicates that this level is valid for the currently selected destination.

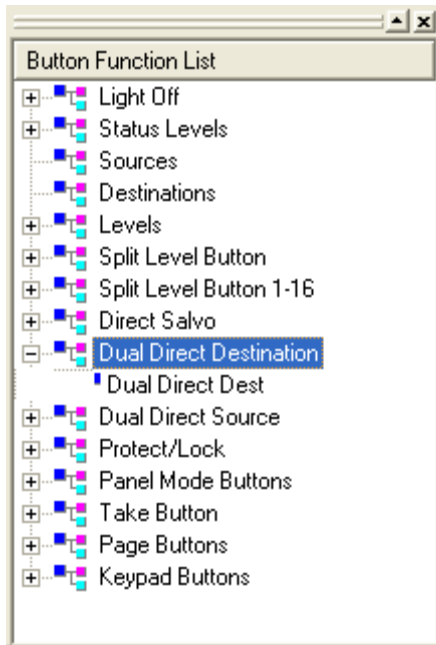


Direct Salvo



A Direct Salvo can be assigned to a button. To accomplish this, drag a “Direct Salvo #” and drop it on a button. When this button is pressed, it will send a command to the controller that will execute the direct salvo. The salvo must be configured in the SC4 *first* before this button will execute anything.

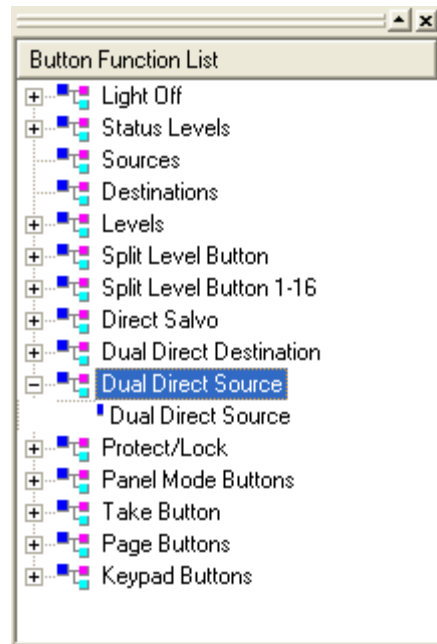
Dual Direct Destination



This allows a button to select the actual destination the panel will control. Assign (2) destinations to the button *after* assigning this function to the button. Once that happens, this button can be used to select the destination this panel will control.

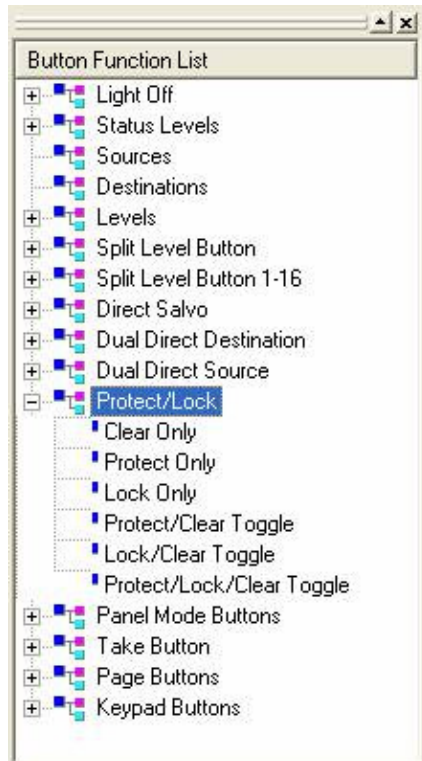


Dual Direct Source



This allows the button to select between two different direct sources on one button. Use this button function in conjunction with the *Panel Mode Buttons/Source Shift* function. In conjunction with the 'Source Shift', the user can have two different sources on one button. This will double the number of direct sources this panel can control.

Protect/Lock



1. Clear Only

This function clears a "Protect" or "Lock" that has been set on the current output. This type of button function should be used in conjunction with the *Protect Only* and the *Lock Only* functions. The user can set a "Protect" or "Lock" and then use this button to clear them.

2. Protect Only

This assigns the function of "Protect" to a button, allowing the button to set a protect on the current output. A protect will allow this panel to continue to make takes but will not allow any other panels to make takes on the current output.

3. Lock Only

This assigns the function of "Lock" to a button. This allows the button to set a lock on the current output. A *Lock* secures the output so that no panels can make takes on this output until the Lock is cleared.



4. Protect/Clear Toggle

This is a toggle button that allows the user to set a “Protect” on the current output. You can then press the same button to “Clear” the protect. A “Protect” will lock the output so that only the current panel can make takes on this output. (To clear the “Protect” press the button again.)

5. Lock/Clear Toggle

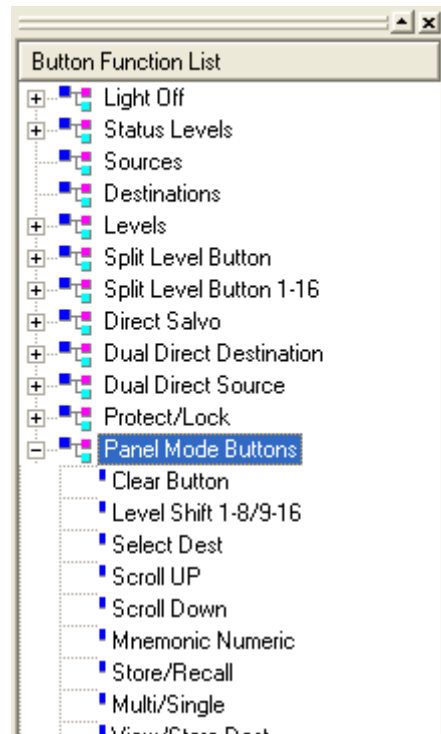
This is a toggle button that allows the user to set a “Lock” on the current output. You can then press the same button to “Clear” the protect. A “Lock” will lock the output so that no panels can make takes on this output. (Press the “Lock” button again to clear the lock.)

6. Protect/Lock/Clear Toggle

This is a toggle button that allows the user to press the button three times to cycle between a Protect-Lock-Clear. Press the button first to set a “Protect” on the current output. Press the button again to clear the “Protect” and set a “Lock”. Press the button a third time to clear the “Lock”.

- A “Protect” locks all other panels from making takes on the current output while allowing the current panel to continue to make takes.
- A “Lock” locks all panels from making takes on the current output.
- A “Clear” clears a “Lock” or “Protect” that have been set on the output.

Panel Mode Buttons



Button Function List

1. Clear Button

This button is used to cancel any pending operation such as a pending take. Pressing the clear button will return the panel back to a normal operating mode.

2. Level Shift 1-8/9-16

This button is used to shift the levels for the 8 source displays. This button is also used in combination with other buttons to view and set parameters on the panel. Check the UCP panel manual for more information about the function of this button.

3. Select Dest

The Destination Select button is used to select a different destination on the panel. This button will allow you to enter a new group name and extension destination for this panel to control.



4. Scroll UP

This button is used to scroll up through the sources or destination on panels that have display windows. You can press the scroll button until you find the desired source then press the TAKE button. Check the UCP manual on how to switch the panel from scrolling between Destination and Sources.

5. Scroll Down

This button is used to scroll down through the sources or destinations on panels that have displays windows. You can press the scroll button until you find the desired source then press the TAKE button. Check the UCP manual on how to switch the panel from scrolling between Destination and Sources.

6. Mnemonic Numeric

This button will allow the panel to run in Mnemonic or Numeric mode. This button will only work on panels that have displays so that you can see the Numeric for a destination or source.

7. Store/Recall

This button is typically used on the UCP-SX panel. It is used to store or recall a pending take into one of the 16 Level buttons. This button is used in conjunction with the XY/Direct Mode button. Refer to the UCP panel manual for how to use these buttons and the UCP-SX panel.

8. Multi/Single

This button is typically used on the UCP-MX panel. It is used to switch the panel between viewing a single destination to viewing multiple destinations. This button is used in conjunction with the View/Store Dest button. Refer to the UCP panel manual for more information about this button type and the UCP-MX panel.

9. View/Store Dest

This button is typically used on the UCP-MX panel. It is used to store or view the one of 16 destinations that this panel can monitor. This button should be used in conjunction with the Multi/Single button. Refer to the UCP panel manual for more information about this button type and the UCP-MX panel.

10. Attribute Mode

This button allows panels that have displays to setup or breakaway audio attributes on the router. Pressing this button puts the panel in to "attribute" mode. It will stay blinking until it is pressed again. Refer to the UCP panel manual on how to use the Attribute mode in the panel.

11. Salvo Button

This button allows you to send a salvo buffer number take to the controller. Pressing this button the word "SALVO 0" is placed into the destination display. You can then enter a 3 digit number and then press TAKE. The panel will send that buffer number to the controller. If that salvo is configured on the controller it will execute it. Refer to setting up Salvo's in Chapter 2 of this manual.

12. Protect/Lock Mode

This button will place the panel into Protect/Lock Mode. It should be used on a panel that has displays. The Protect button will continue to flash until it is pressed again. While the panel is in protect mode you can setup Protects or Locks on different levels as well as different destinations. When the panel is not in Protect Mode this button will status Bright RED if the current destination has a protect or lock enabled on it.

13. XY Direct Mode

This button is typically used on the UCP-SX panel. It is used to switch the panel between the normal XY mode and the button per source mode. This button is used in conjunction with the Store/Recall button. Refer to the UCP panel manual for how to use these buttons and the UCP-SX panel.

14. Level/Dest Select

This button is typically used on the UCP-MX panel. Depending on which mode the panel is in (Multi or Single) this button will prompt for which level to view or which destination to change the panel to. Refer to the UCP panel manual for how this button is used on the UCP-MX panel.

15. Level Shift 1-4/5-8

This button is used on panels that only have 4 level buttons. It should be used in conjunction with the "Split Level Button" group defined in this chapter. It allows you to the ability to select 8 levels on the 4 level buttons by splitting the buttons in half.

16. Source Shift

This function should be used in conjunction with the "Dual Direct Source" function defined in this chapter. It allows the "Direct Source" buttons to control two sources instead of just one. The "Source Shift" button controls which half of the "Direct Source" button will be used when it is pressed.

17. Page UP

This button function is used to page up through the sources or destinations based on which panel it is place into.



18. Page DOWN

This button function is used to page down through the sources or destinations based on which panel it is placed into.

19. Home Button

This button is used on the UCP-MMA and UCP-MMB panels to change the mode between the Destination Select mode and the Button Per Source Mode.

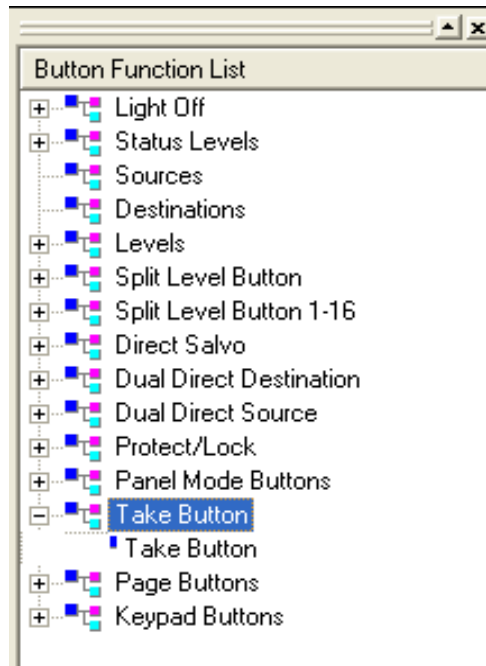
20. Menu Button

This button is used on the UCP-DT panel to change the mode between the regular XY mode and the Button Per Source mode.

21. Destination Page Select

Used on the UCP-MMA/B and UCP-DTA/B panels. Once pressed, the program will request the specific page you would like to access, then retrieve the page.

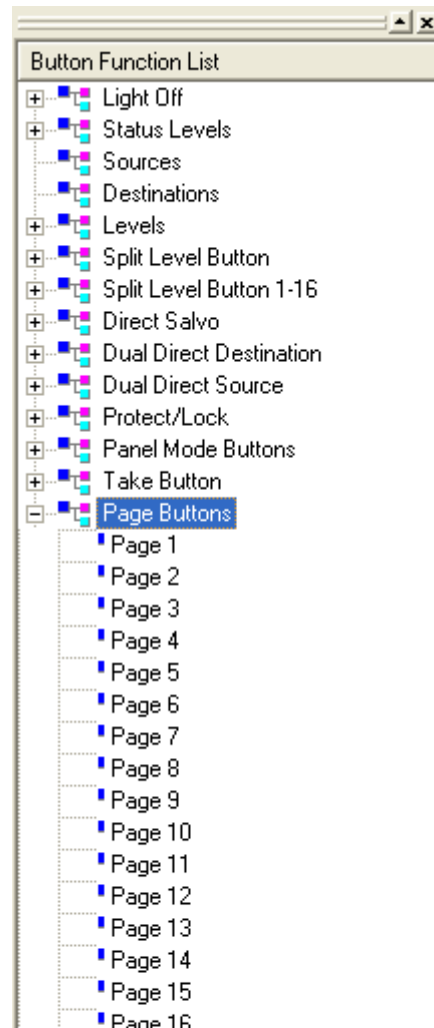
Take Button



This will assign the take functionality to a button. After configuring a take, this button should be pressed to send the take to the controller.

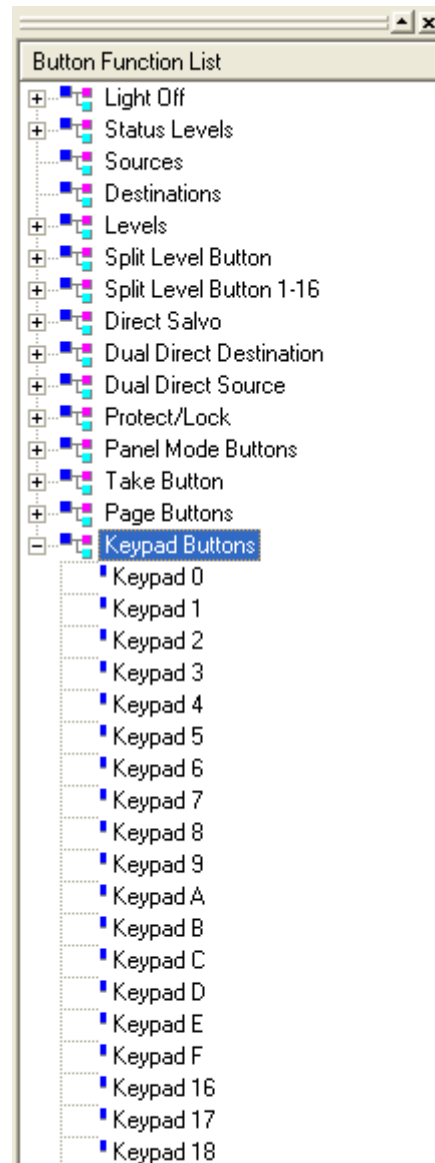


Page Buttons



This function is used on the UCP-48, UCP-MMA/B, and UCP-DTA/B panels. This function can be assigned to a button to hot switch to a particular page of sources that have been defined to the panel.

Keypad Buttons



The Keypad layout buttons are used on any panel requiring a keypad function -- numeric entry, and group dragging to buttons. They define the keypad layout of 0 - 9, A - F, and 16 - 19.





Chapter 5 - System Programming

This section contains information necessary for U-CON V4 Programming Operations.

The following topics are presented:

- Setting Up Communications
- Programming Devices
- Verifying Device Configurations

System Programming

Components in the system are programmed by sending configuration packets either directly to the device from U-CON V4, or sending packets through the System Controller, to devices it alone has access to. The System Controller is programmed the same way.

Setting Up Communications

U-CON V4 uses a networking standard (Network File System protocol) to transfer configuration files since the System Controller is very limited on internal storage. The NFS connection allows the System Controller to use the hard drive on the host computer (the machine running U-CON V4) as if it were its own hard drive. This allows U-CON V4 to simply put configuration files in an NFS exported directory while notifying the System Controller (or directly programmable device) through a direct socket network interface, where the files can be found.

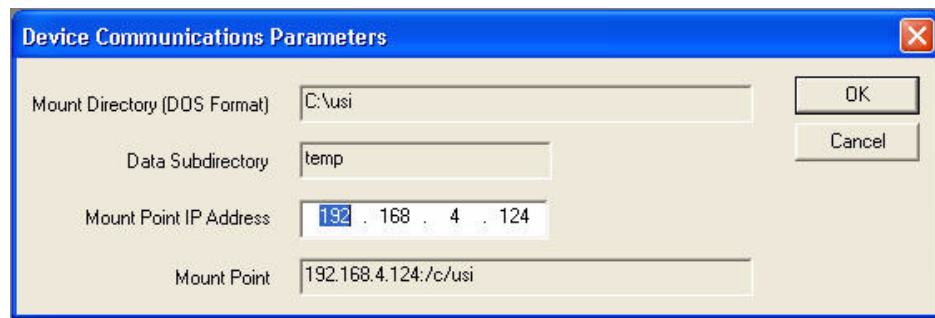
The NFS server is a third party software package from ProNFS™. It requires a separate license that should be included in the distribution of U-CON V4 as well as some other software packages provided by Utah Scientific. You can check to make sure ProNFS is installed by clicking the *Start* button and looking in programs and see if it is listed there. The menu item should be listed as ProNFS (latest version).

If *ProNFS* is not installed, see Section 1 (page 1-12) in the ***System Installation Guide***.

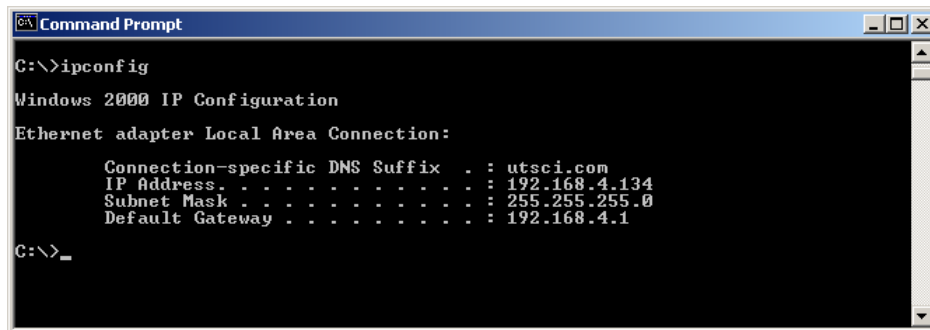


It is important that U-CON V4 communications parameters are properly defined. Use the following steps to make the correct designations.

1. Click on the **Program** menu item then select *Setup Transfer Parameters* from the drop down menu.
2. The device communications parameters dialog will appear (next illustration). Note that in this case the user exported C:\usi in the NFS server. That same path must be included here.





3. The second field is the IP address of the U-CON V4 PC. This is specified in standard Ethernet “dot” notation. This address is easily found on the PC by opening a DOS window and using the command “ipconfig”. The following figure shows the command and the output it generates:



4. The third field in the device communications dialog is the mount point, which will be passed to the machine that will actually mount it using NFS. This field is generated automatically from the first two entries.

Programming Devices

Once communication has been established with devices on the network, U-CON V4 can communicate and pass configuration to them. This can be done for the system as a whole, for *only* the panels in the system, or each device in the system individually.

- To program all devices, use the following button on the toolbar.  This initiates programming for everything in the current document.
- To program all devices *other than* the System Controller, use the  button.
- To program devices individually, left click on the device in the main system window and select “program”.

When any of the above methods are used to program devices, the results of this action can be monitored by clicking the *Program* tab at the bottom of the screen. This screen will update progress of programming actions in real time.



Note that only devices in the document can be programmed. The current system view is represented by this document view, so U-CON V4 is restricted to operations only on these devices. If other devices need to be configured, they must be added to the document, both for editing and programming.

Verifying Configurations

U-CON V4 can also compare the U-CON V4 version of a device's configuration with the configuration currently in the device. It is simple to determine whether they are the same or not.



Verification can be done in two ways. The toolbar contains a **Verify** button (left) that can verify all devices at once. Each device can also be verified independently by left-clicking the device in the main system view, then selecting "verify" in the menu. The verify operations can be viewed in the Program window the same as programming operations.

Saving the Database Views

All of the devices that are placed on the system window use the same Source and Destination list that exists with the associated SC-4. Therefore it is possible to have as many system views as needed.

Example: If your system has various control panels such as (10) UCP 64s, (1) UCP-XY, (6) UCP-MXs, and (12) UCP-2 panels, you can save each of these as a view of its own, as well as an "all panels" view if desired. To do this, you would simply click on the menu items (**File/Save As**) from the drop down menu, add the name, then the particular view required. It may be called "UCP-2" if that is all you have in that particular view, or "all panels" for that view.

Opening a Saved Datastore

You can either click in the open folder (in the toolbar) or click on **File/Open** from the drop-down menu. Browse to the location of the saved views; Add, then click on the desired file to open (click Open).

If "Save As" does not open a save box, you will need to toggle the window views by changing tabs below, or you can simply click anywhere within the current window.



Appendix A

The UCP-GPIO Control Panel

Overview

The UCP-GPIO Control Panel is designed to provide a U-Net or Ethernet based interface point for triggering opto-isolated inputs and controlling relay closure outputs. The panel provides sixteen GPIs and sixteen GPOs located on the rear of the 1RU chassis.



FIGURE A-1. Front panel view

The UCP-GPIO is programmable from the U-Con software for mapping the individual contacts to specific source/destination combinations.

The UCP panel in this example is configured in Take Mode. In this mode the panel receives a voltage on one of the GPIs and initiates the Take that corresponds to that Source/Destination combination. The associated GPO will close to *status* the success of the Take made on the indicated Source/Destination combination.

Rear Panel Layout



FIGURE A-2. Rear panel view

The rear panel layout has the GPIs 1-16 located on the left and GPOs 1-16 on the right.



FIGURE A-3 Rear panel layout



GPI Triggering

Current flow across the GPI pins will trigger the optos. The recommended voltage to activate the opto is 5-12V. There are no polarity requirements on these pins (the voltage can be positive or negative).

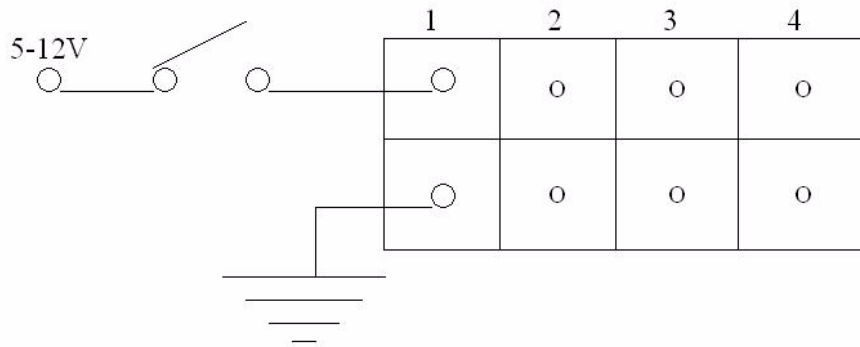


FIGURE A-4 GPI triggering

A source of 5 volts is provided on the rear panel. This voltage can be used as the trigger voltage for one or all of the 16 GPI circuits.

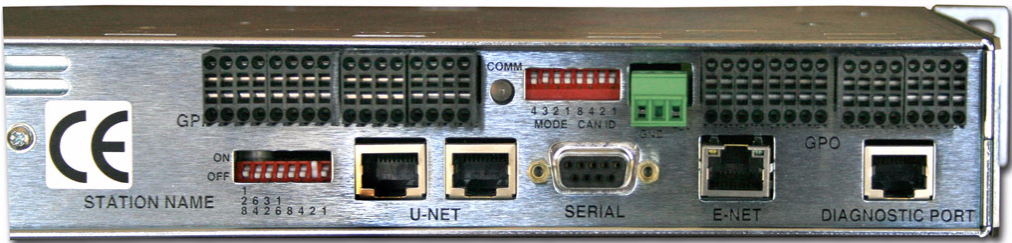


FIGURE A-5 UCP Series rear panel view

Configuration (Using UCON v3.XX)

The UCP-GPIO will currently be configured as a UCP-36 from U-CON. Only the first sixteen button locations will be used for this panel; all other locations should be ignored. The following layout represents the U-CON mapping for the GPIOs one through sixteen.

UCP-36/8																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

FIGURE A-6 configuration



UCP Panel View (GPIO)

For Use Only with UCON v3.XX)

The UCP-36 panel must be properly set up before GPIO operation can take place. Complete the following once the UCP-36 is called up within the U-CON interface:

- Drag Sources from the Button Function List to the first (16) buttons on the control panel. (These are the buttons that are presently green in the illustration.)

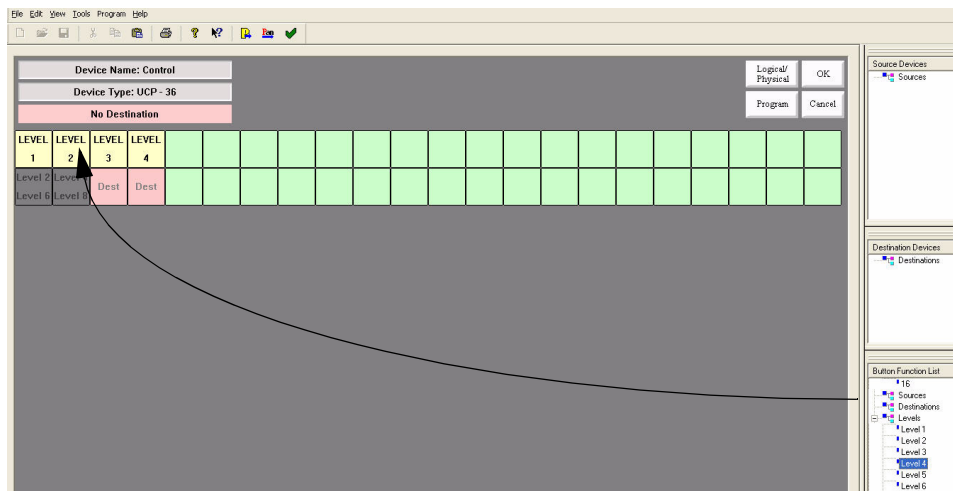


FIGURE A-7 UCP-36 view

The UCP-GPIO Control Panel

- From the 16th button forward, turn each one OFF by dragging 'Light Off' from the Button Function List. (You can either drag 'Light Off' to each button, or double-click 'Light Off' once the first Off designation has been made.)

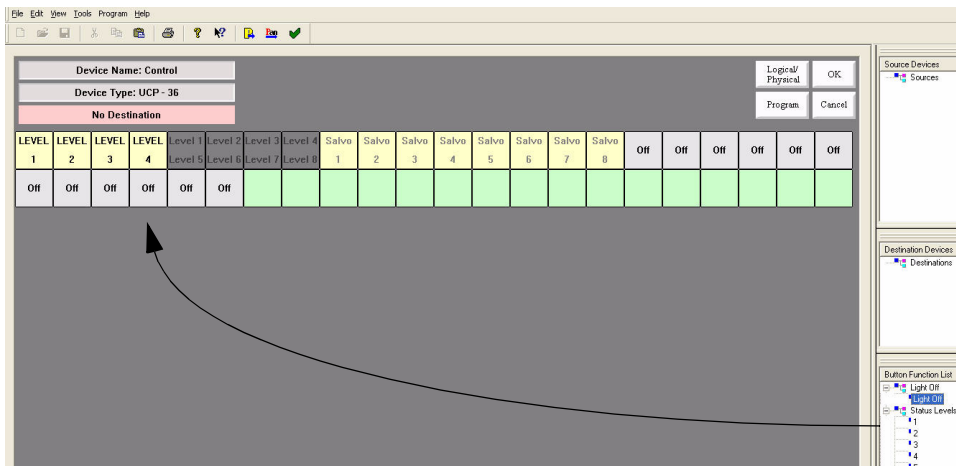


FIGURE A-8 Activating the 'Light Off' on each button

- Apply a Destination to this panel by dragging a selection from the 'Destination Devices' listing to the light red button located immediately above the UCP-36 layout. This will be the default destination, and will indicate 'No Destination' if no designation has been made.

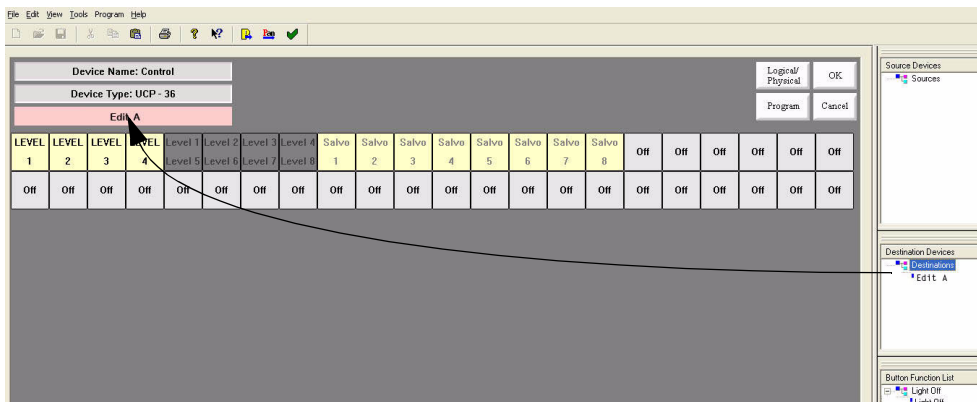


FIGURE A-9 Indicating the Default Destination



Your panel layout should appear as follows once the above changes have been made, and is an example of configuring a UCP-GPIO panel as a UCP-36.

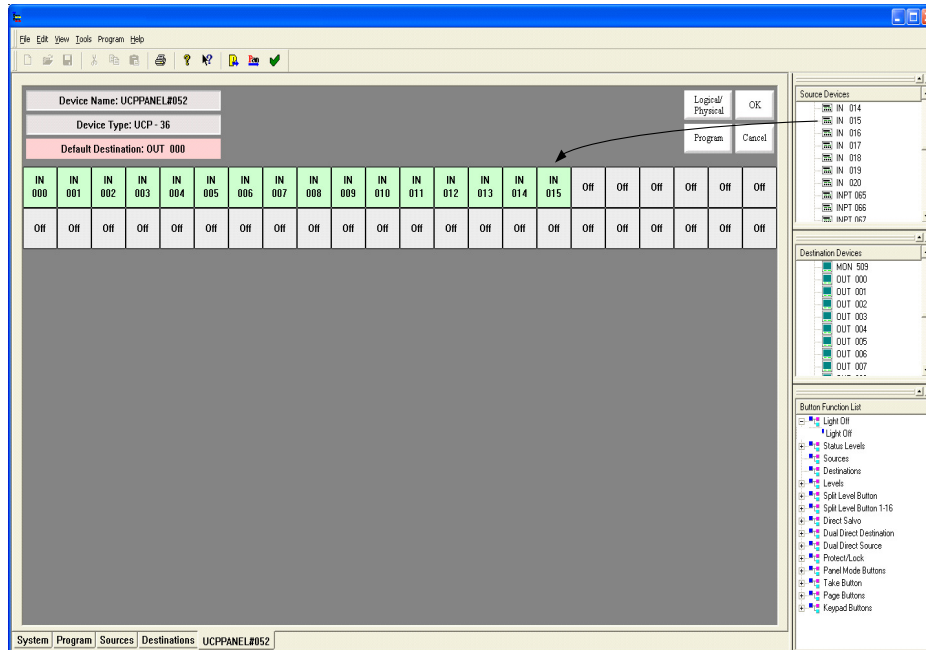


FIGURE A-10 Configured UCP-36 panel (U-CON)

For Use Only with UCON v4.XX

To begin this process, drag the GPIO panel to the system screen when it appears in the lower right “Active Device List.” Then double click to open the panel editor.

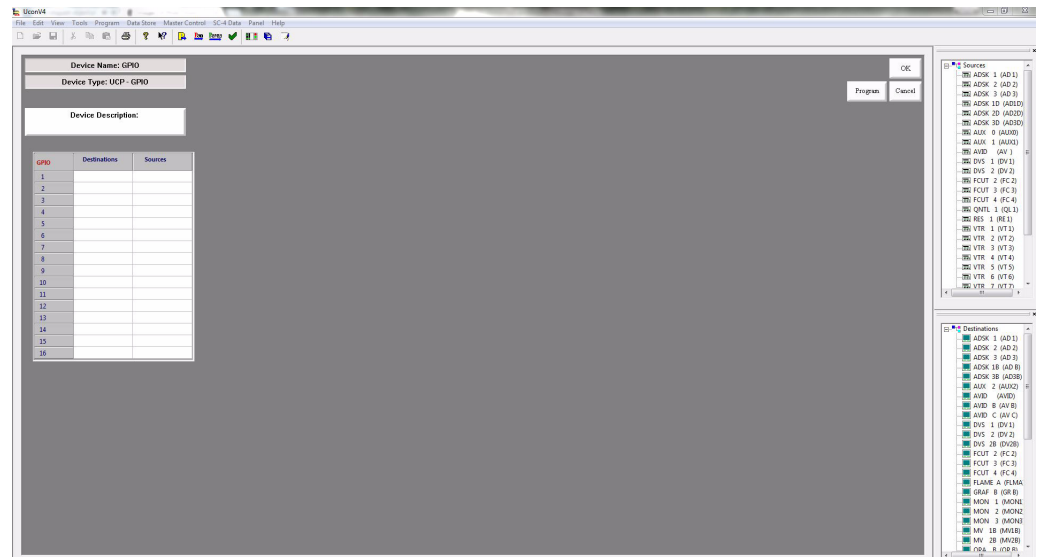


FIGURE A-11



Configuration (Using UCON v4.XX)

The GPIO will be configured as a UCON GPIO panel.

GPIO Panel View (For use only with UCON v4.XX)

Output Designation

Destinations are dragged from their scrolling columns at right side of the dialog window to their corresponding columns in the output area.

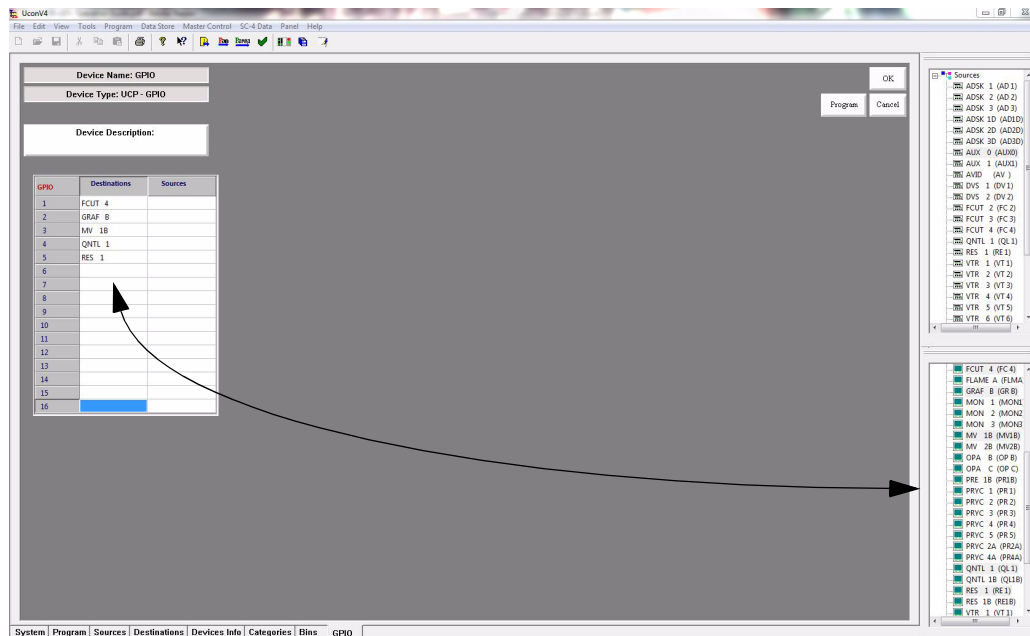


FIGURE A-12. Output designation

The UCP-GPIO Control Panel

Input Designation

Sources are dragged from their scrolling columns at the right side of the dialog window to their corresponding columns in the input area.

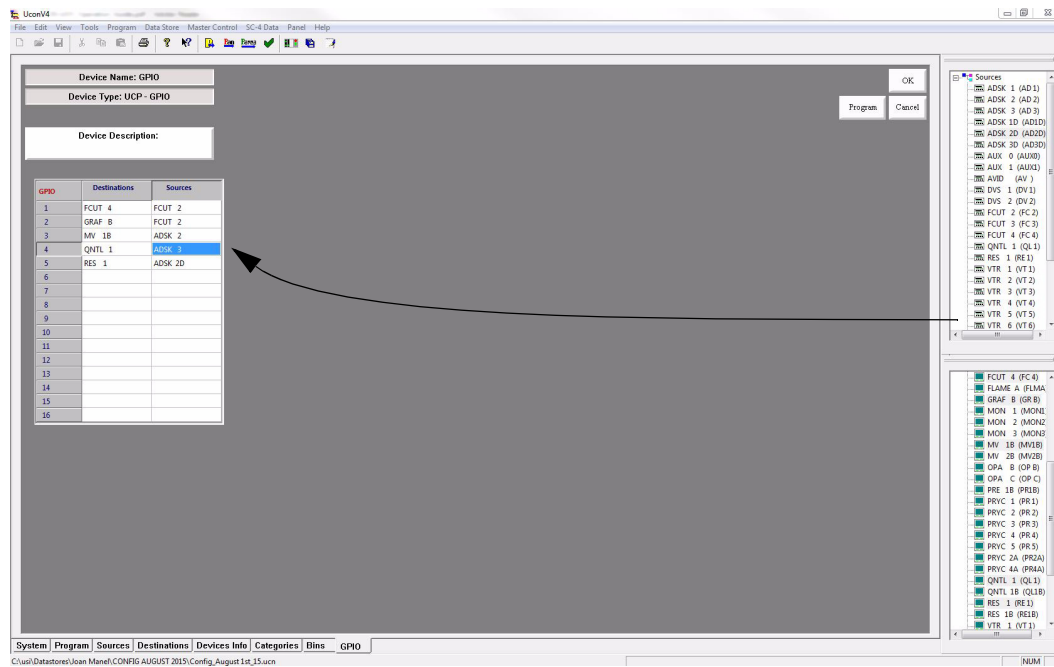


FIGURE A-13. Input designation

The GPIO panel must be properly set up before the GPIO operation can take place. Complete the following once the GPIO is called up within the UCON interface.



Save and Program

Press the Program button to send the changes to the GPIO panel. This can also be done from the main system view in UCON. Press the OK button to exit the panel editor and return to the system view.

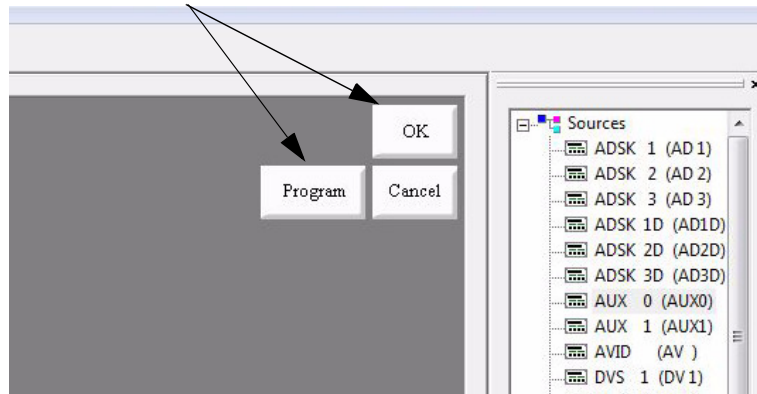


FIGURE A-14 Save/Program

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