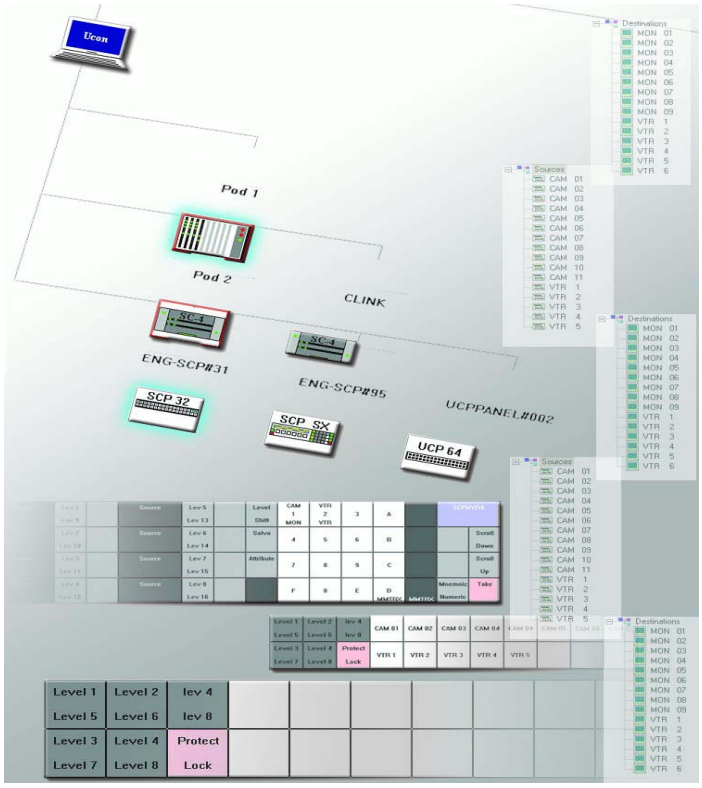
Utah Scientific

U-CON



Setup and Operations Guide

U-CON Operations Guide

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Utah Scientific, Inc.

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

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Immunity

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

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

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- EMC Directive 89/336/EED
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CE

Important Safeguards and Notices

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.
- Do not use this product in or near water. Disconnect AC power before installing any options or servicing the unit unless instructed to do so by this manual.

- This product is grounded through the power cord ground conductor. To avoid electric shock, plug the power cord into a properly wired receptacle before connecting the product inputs or outputs.
- Route power cords and other cables so they won't be damaged.
- The AC receptacle (socket) should be located near the equipment and be easily accessible.
- Disconnect power before cleaning. Do not use any liquid or aerosol cleaner - use only a damp cloth.

- Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed conductors and components while power is on. Do not insert anything into either of the systems two-power supply cavities with power connected.
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- To avoid fire hazard when replacing fuses, use only the specified correct type, voltage and current rating as referenced in the appropriate parts list for this product. Always refer fuse replacement to qualified service personnel.
- 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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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 has been created to help address these problems. The U-CON 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 utility includes the following:

Item	Minimum	Recommended
Processor	Intel Pentium II	Intel Pentium IV
Operating System	Windows 2000	Windows XP
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 Overview

System Page (Tab)

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

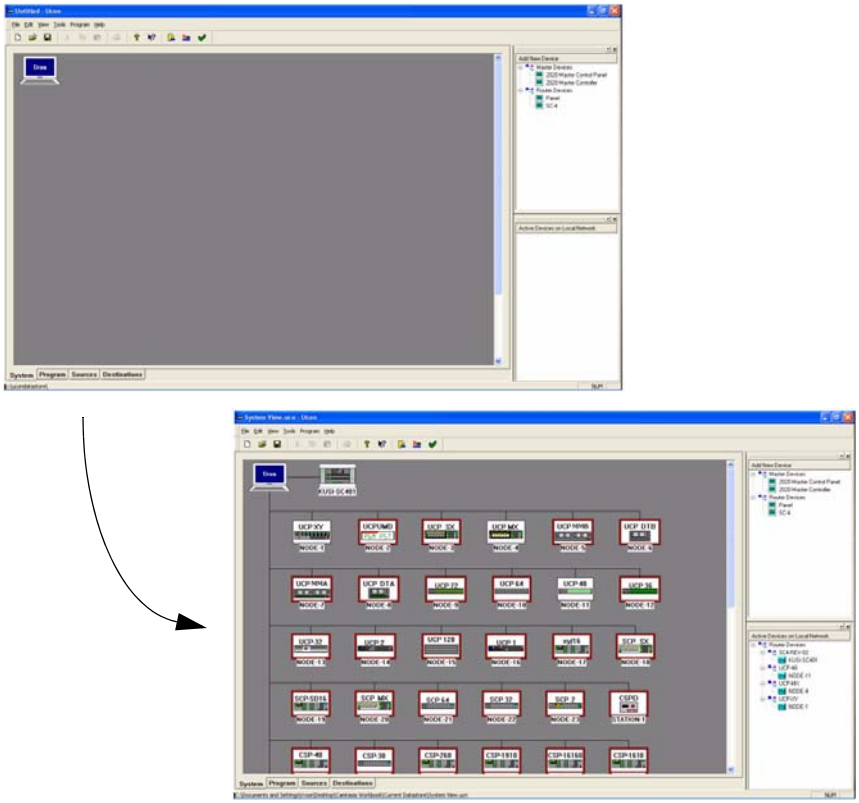


FIGURE 1-1. System page containing added devices

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. This document does not store the configuration for each device, rather, it specifies the devices that are in the current configuration. Configurations for the various devices are stored in a common database often 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.

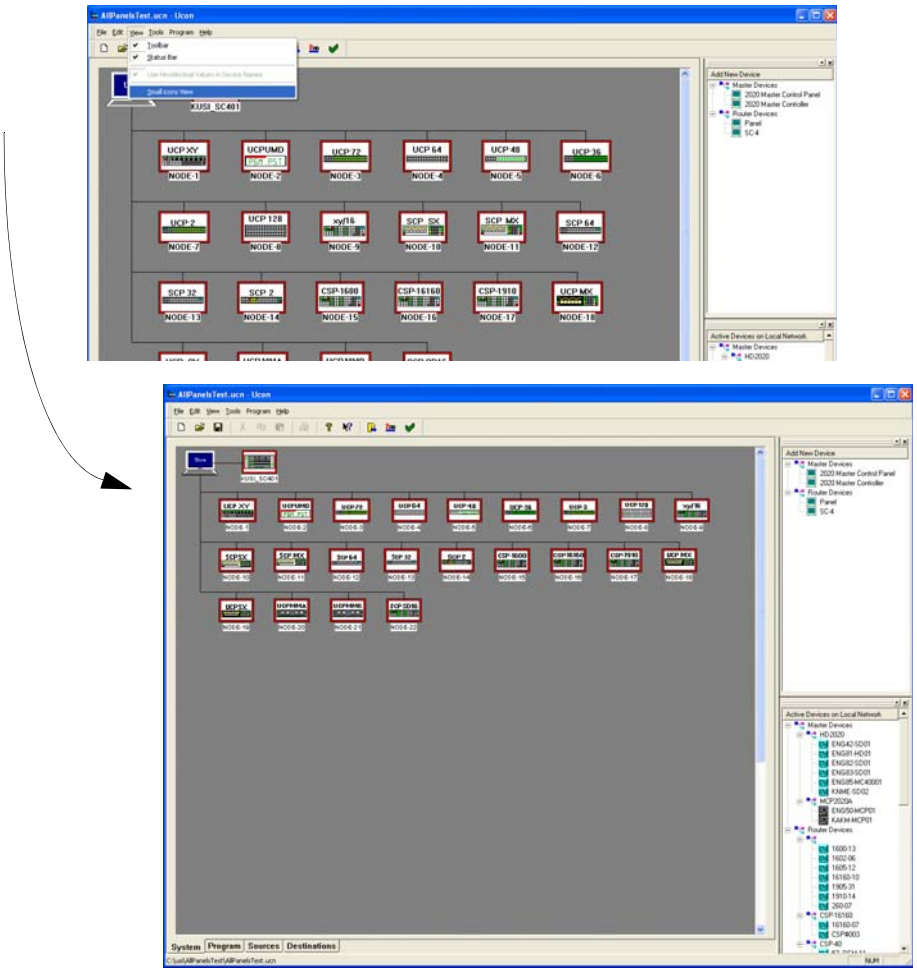


FIGURE 1-2. 'Small Icon View' selection

Program (tab)

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

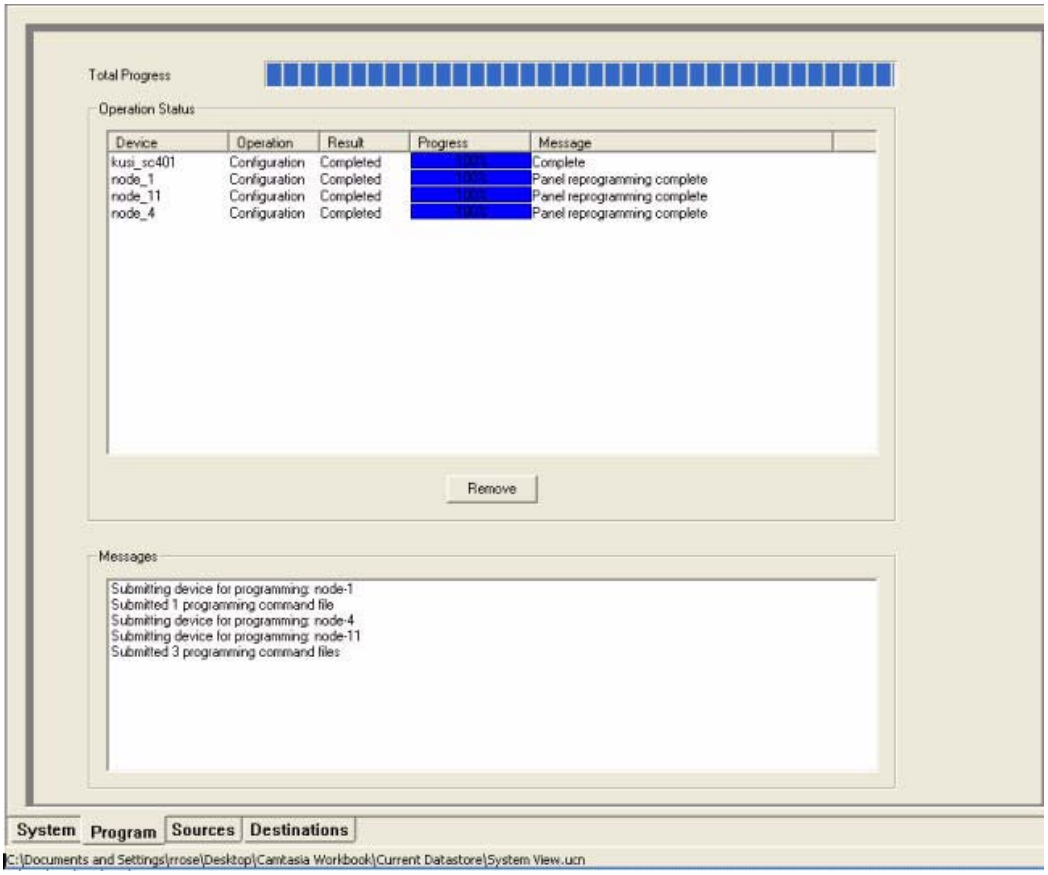


FIGURE 1-3. Program Tab view - with real-time activity

Source (tab)

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.

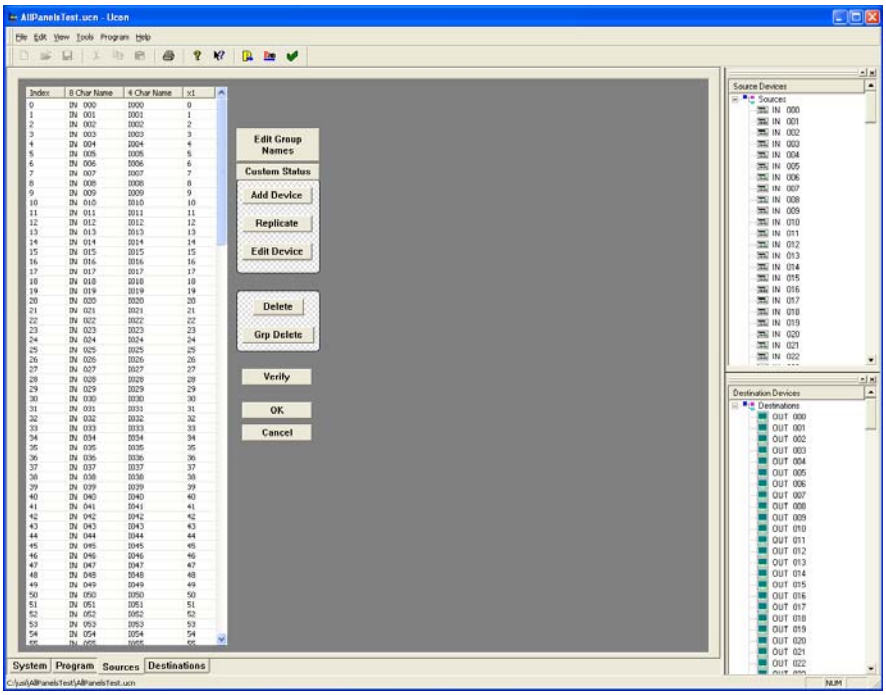


FIGURE 1-4. Source Tab view

Destination (tab)

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.

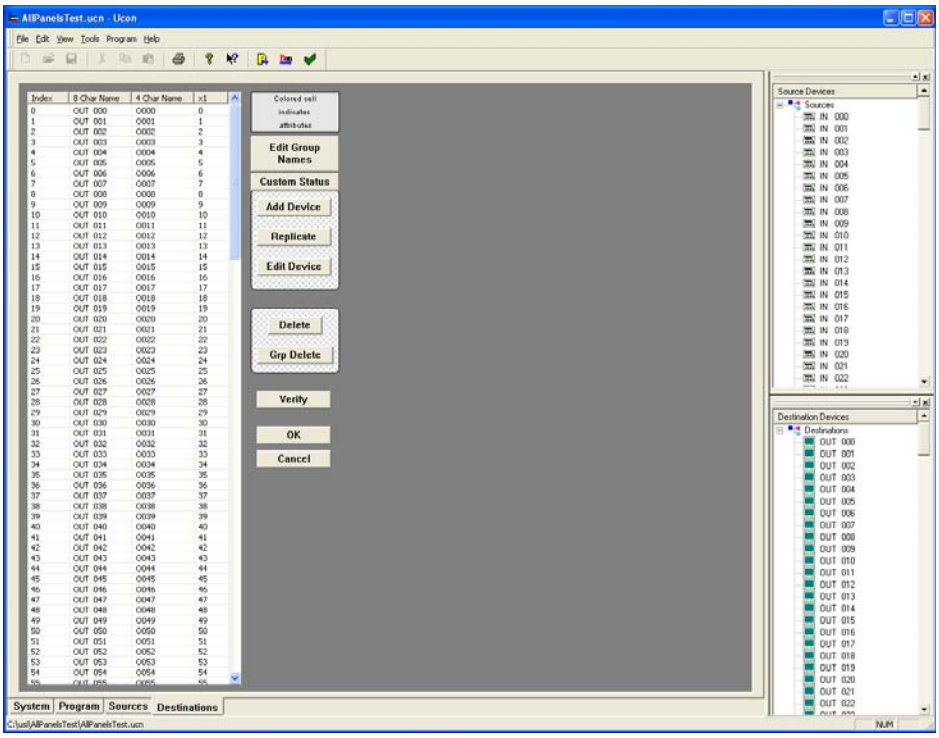


FIGURE 1-5. Destination Tab view

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.

Device Action

Right clicking on 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.

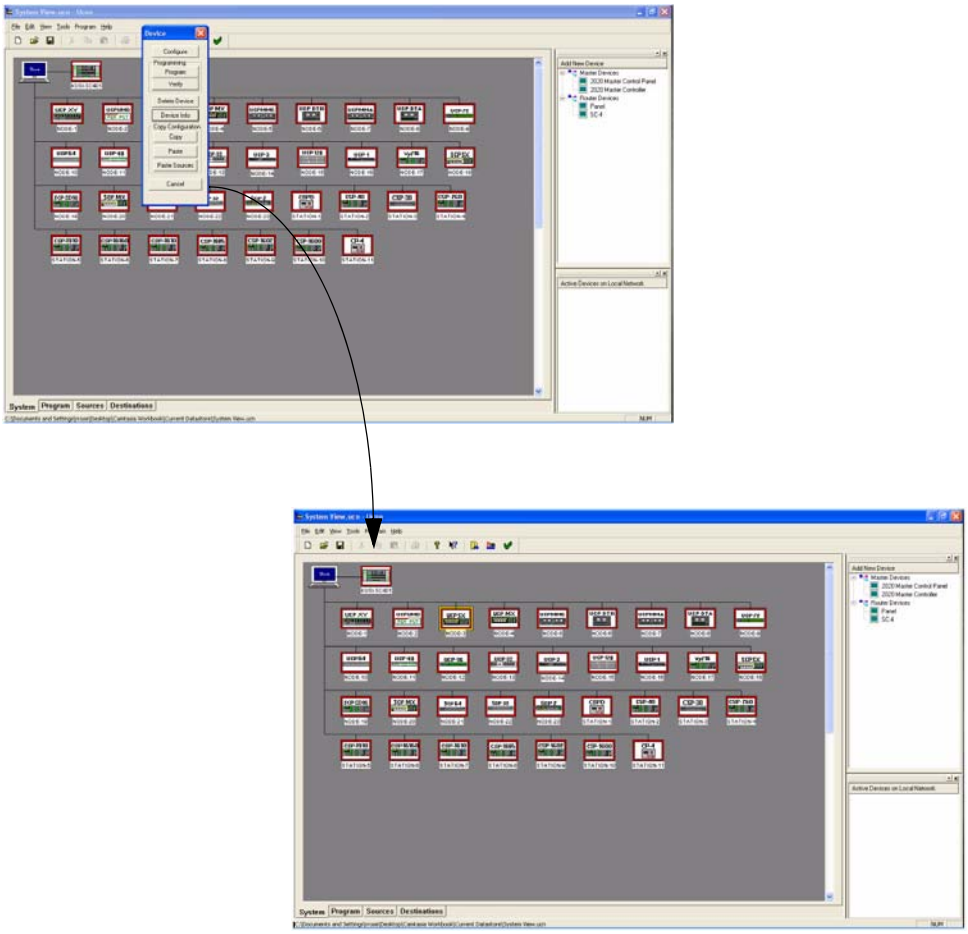


FIGURE 1-6. Device action panel

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.

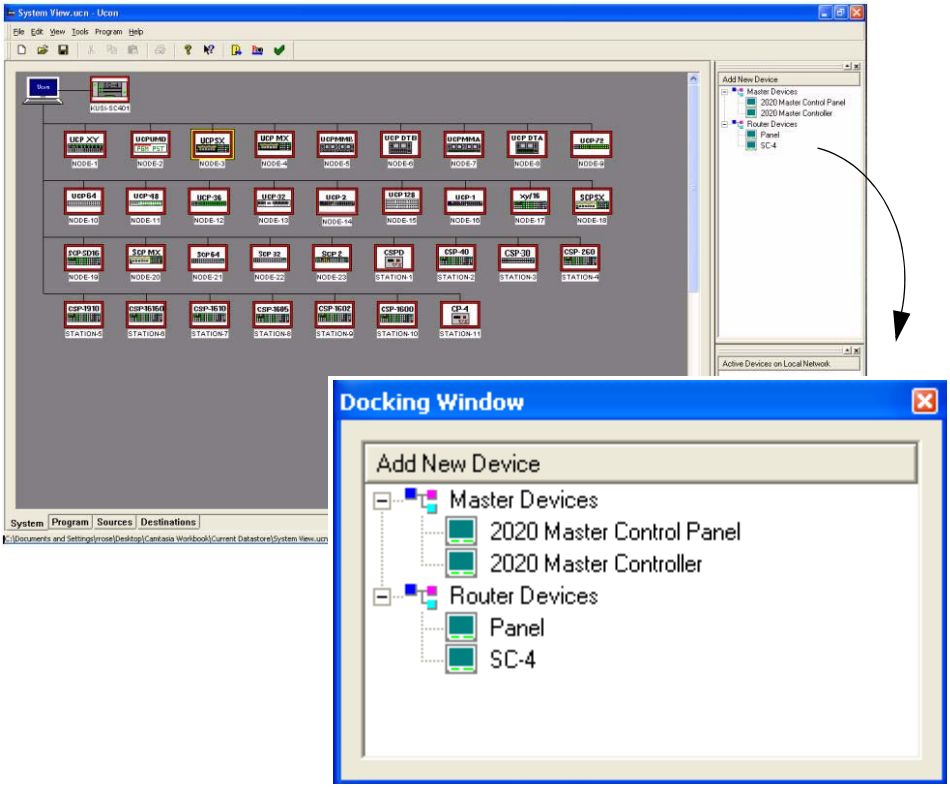


FIGURE 1-7. ***Add New Device*** **window**

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 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. 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.

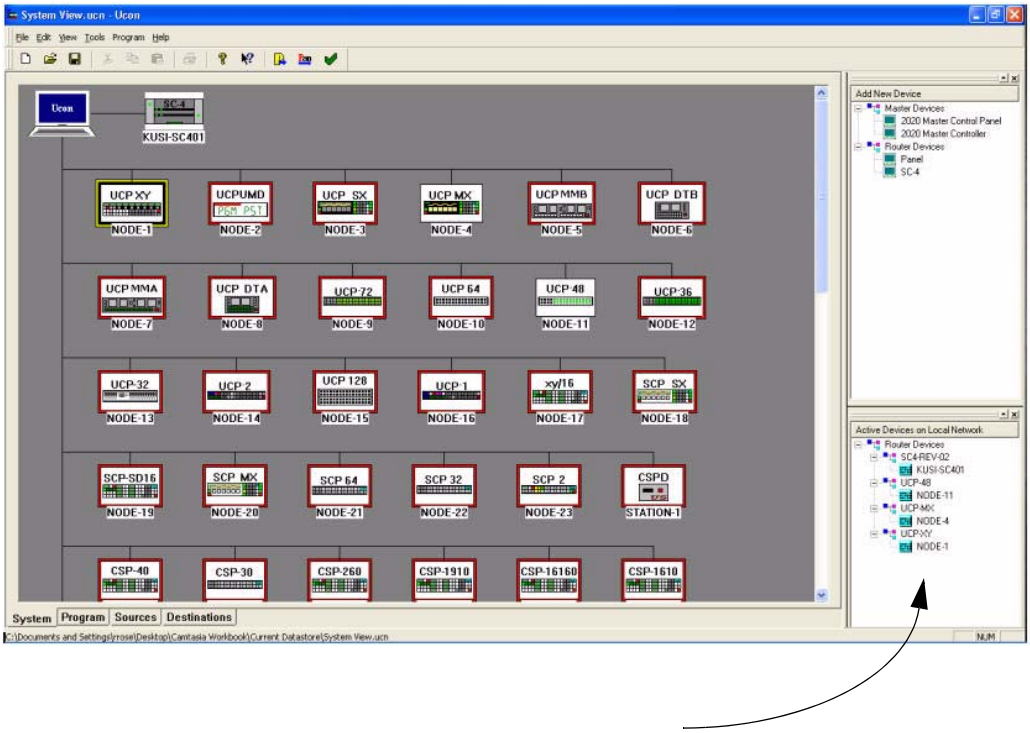


FIGURE 1-8. ***Online Device*** **window**

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, some 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.**

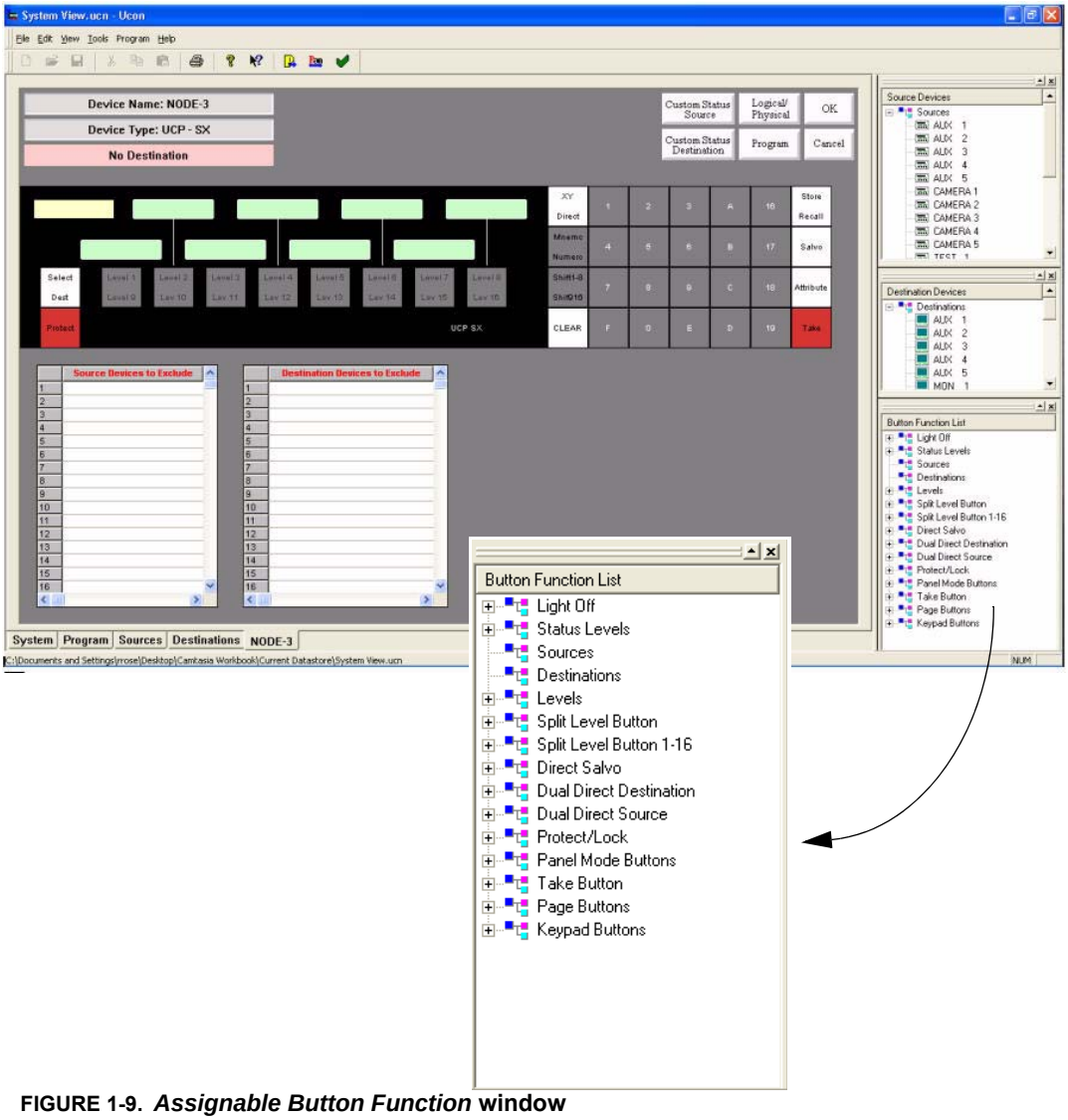


FIGURE 1-9. ***Assignable Button Function*** **window**

U-CON Tool Bar

U-CON 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 three buttons at the end of the tool bar relating to U-CON 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.

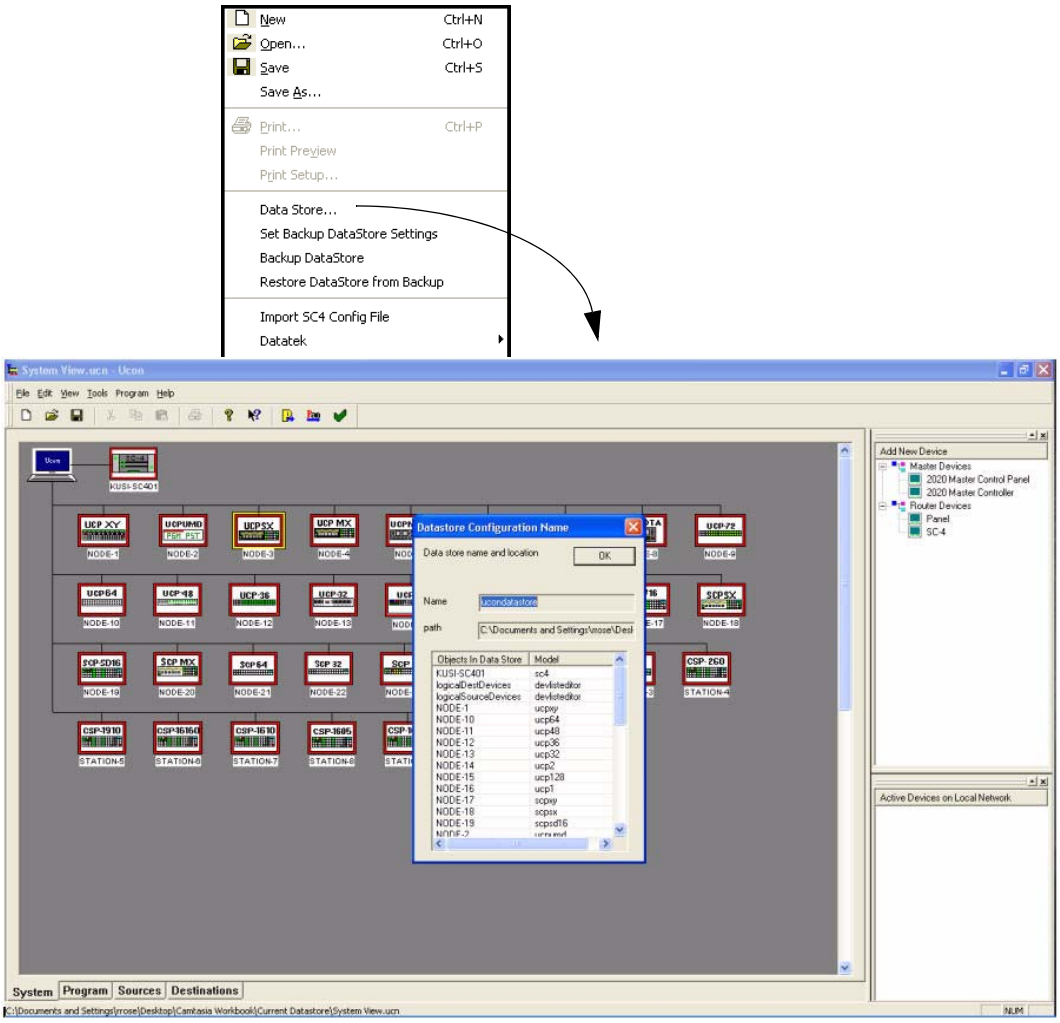
Finally, the **Verify** button is used to simply *verify* that the programming for all devices matches the configuration stored by U-CON.

Additional 'File' menu functions

The U-CON File menu contains some additional functions important to your operation.

Data Store

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

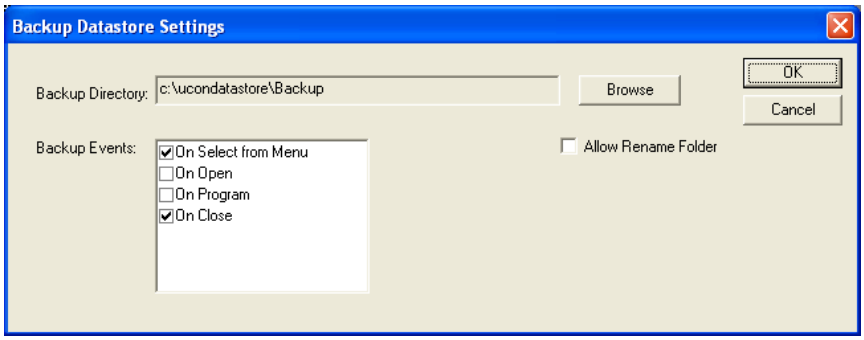


Backup DataStore

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'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

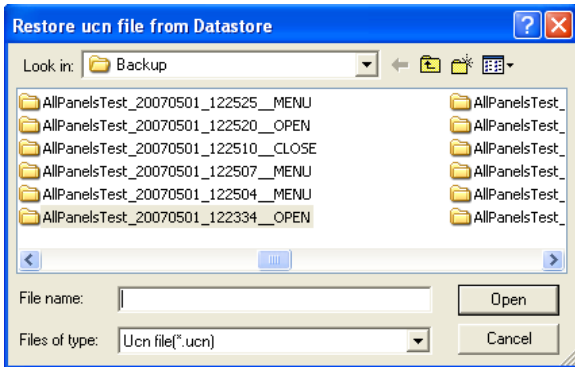
When checked, a datastore backup will be generated each time any device on the screen is reprogrammed (right-click, *Program*, or “P” Program button). Since reprogramming always involves changes to the datastore, this is the recommended method of for datastore backup.

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.

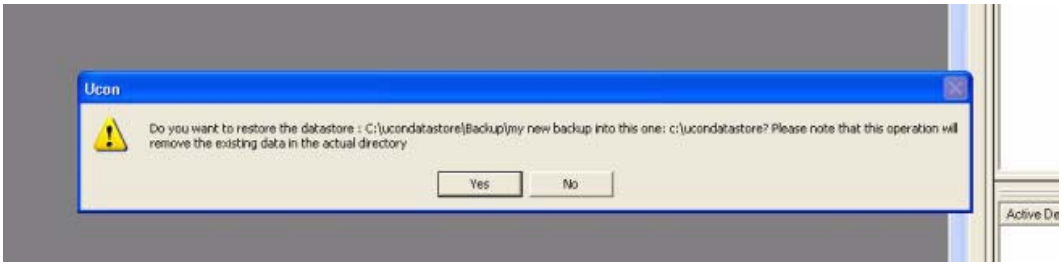


It is based on the date and time of the backup. It also indicates which datastore was being used and what operation caused this backup to occur.

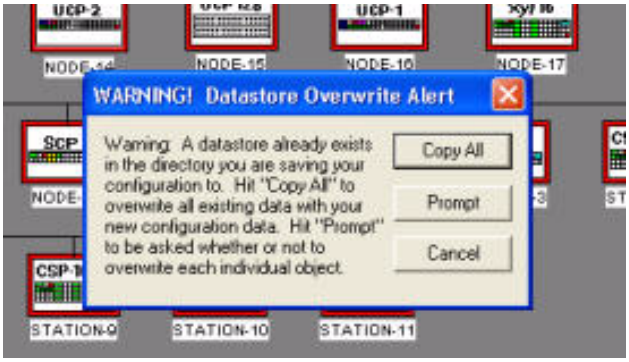
Complete the following if you need to restore a datastore from the backup directory:

Re-launch U-CON, 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 SC-4 Config File

File/Import SC4 Config File. Use this feature if a configuration file has been edited manually and you wish to import it into the U-CON software.

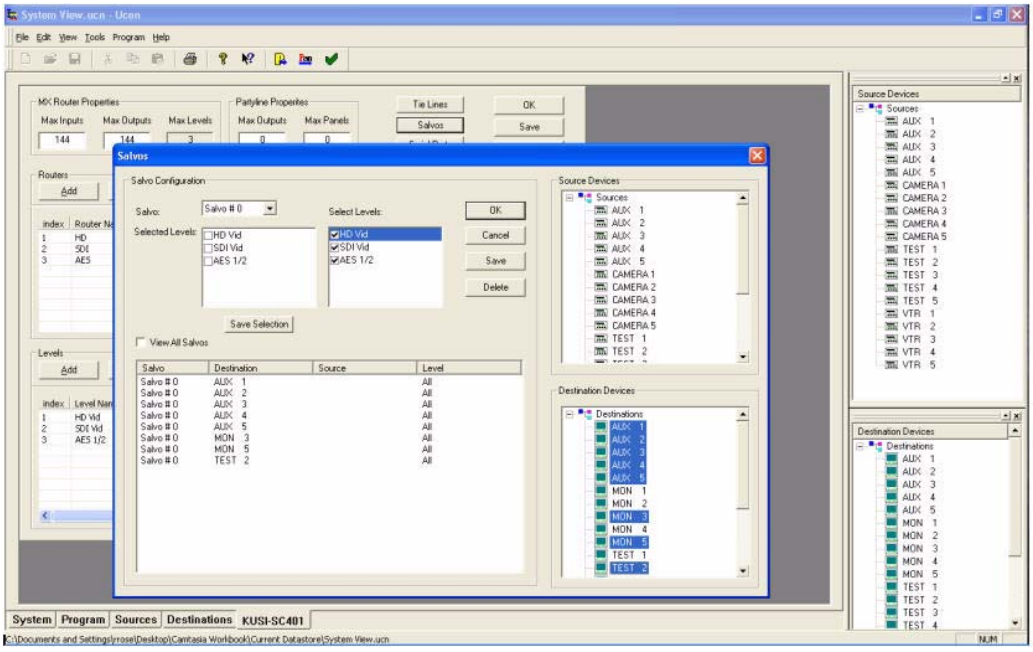


FIGURE 1-10. Router Interface Import

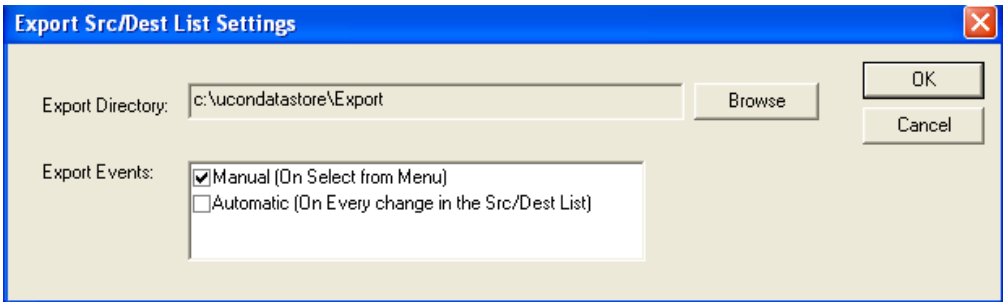
Refer to Appendix A for additional RMS information.

Load RMS Device List

Use this feature if you have an existing SC-3 system and are running RMS software. Refer to Appendix A.

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.

Inheritance Linking - Panels and Templates

U-CON supports Inheritance, providing the user with the ability to link multiple panels to a single template. In such an instance, the user can change the button definitions on the panel template and all panels (that have inherited the given template) will also be modified. Ultimately this gives the user the ability to change multiple panels by modifying only one panel. (Only the UCP-64 and UCP-48 panels and usable with this function.)

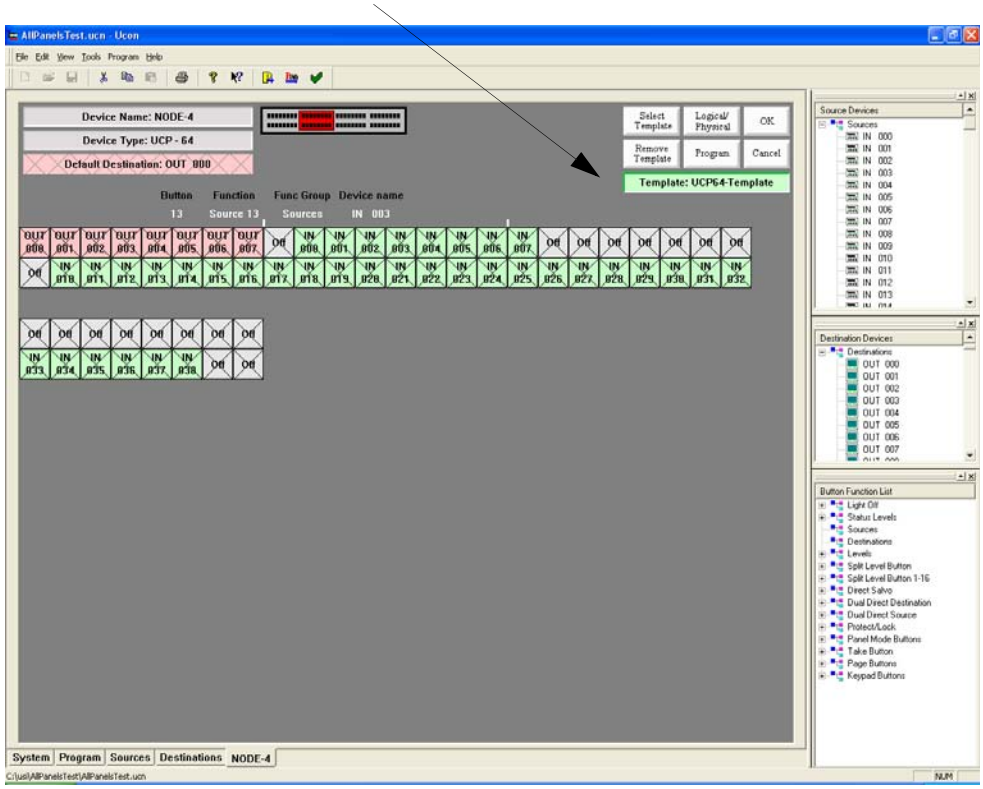


FIGURE 1-11. Inheritance selection

Chapter 2 - U-CON Operations

Datastore

U-CON'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 her current document in the c:\myconfigs and names it ucp2.ucn, a subdirectory will be created called c:\myconfigs\ucon 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's current datastore backup functionality. For additional information, see Backup DataStore (page 1-15).

Operation Overview

Without going in to details just yet, it is important to get a general understanding of the way U-CON 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, it is the System Controller (SC-4) 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 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 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 (SC-4, etc.) configuration contains the following parts; *the SC is the heart of all operations in the system.*

1. Hardware router specification
2. Hardware level definitions
3. Soft level (virtual level) definitions
4. Source and Destination lists

Complete the following to start from scratch

1. Go to the 'Add New Device' window and left-click SC-4 as the Router Device. Then click **Add New Device**.

2. Type the desired name for the SC -4. (Generally this is the call letters or company name.) Click **OK**.

3. Next, place a straight-through CAT 5 cable (9 pin) from the PC to the RJ-45 port on the desired device (SC-4/SC-400). You can also run a Telnet session to the SC -4's IP address. *(See the System Installation Guide, Appendix D - Table 1)*

4. At the prompt, type chassis -chid (SC-4 name from Step 2), then press RETURN.

5. You must reset the SC-4 to activate the new name. To do this, press and hold the Reset button on both the active and standby cards. Then let go of the active card's Reset button (first), then release the standby card's Reset button.

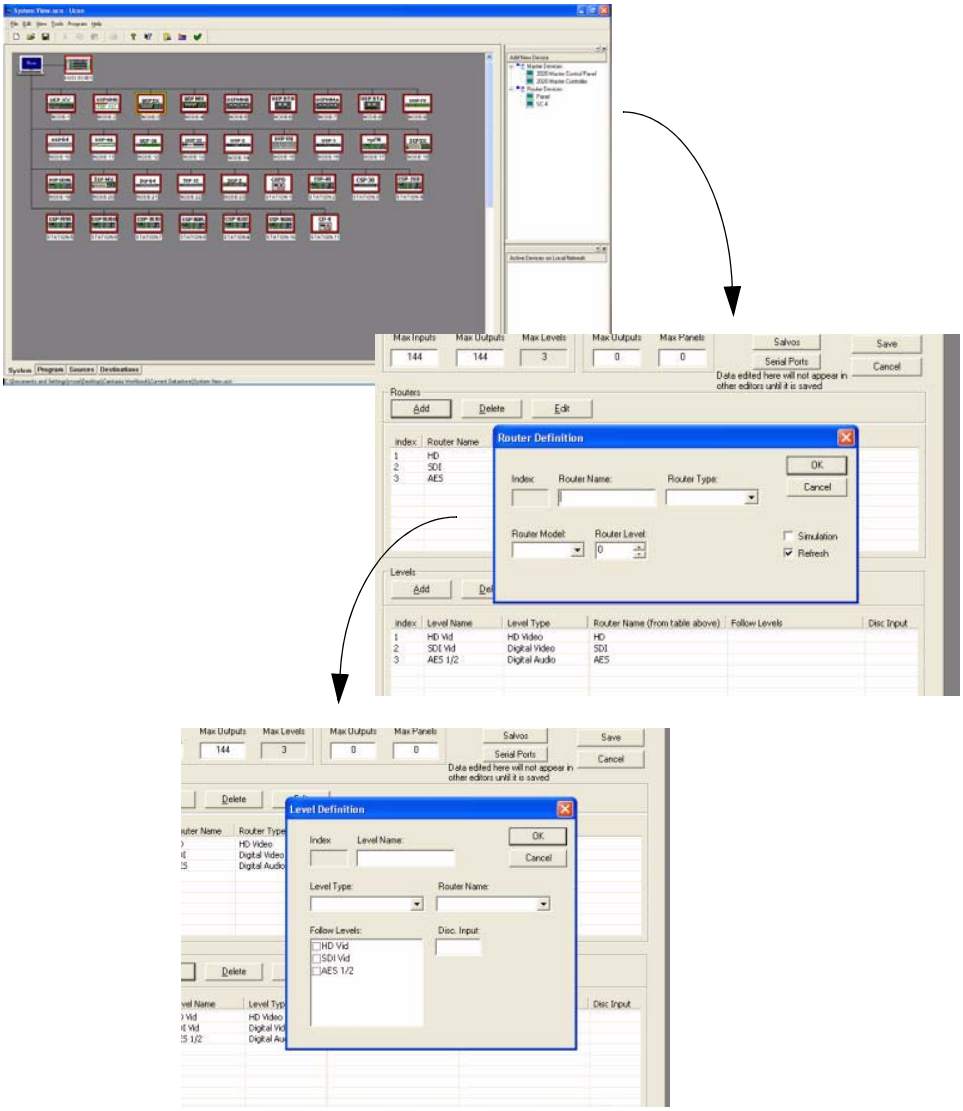


FIGURE 2-1. SC Configuration dialog window series

The Hardware router specification is just as it sounds. The System Controller needs to recognize each of the hardware modules in the system, such as router size and physical level types.

Router Definition

Defining the router is a relatively straight forward task. To access the table, right-click the SC-4 icon and click the *Configure* button.

In the top of the System Controller editor there are parameters for the number of inputs and outputs within the hardware router. There are entries for both MX routers and party line routers which both depend on the specific hardware in the system. The *Max Levels* entry corresponds to the number of 'level definitions', as shown in the *Levels* group box (Fig 2-1).

Below the router size definition is a list of the level types in the hardware router. Click the **Add** button (above the top table). The editor dialog is arranged as follows:

The user can name the level anything that is appropriate. This name will be used later for reference only when specifying virtual levels at the bottom of the SC edit dialog.

The next field is the *Router Type* designation.

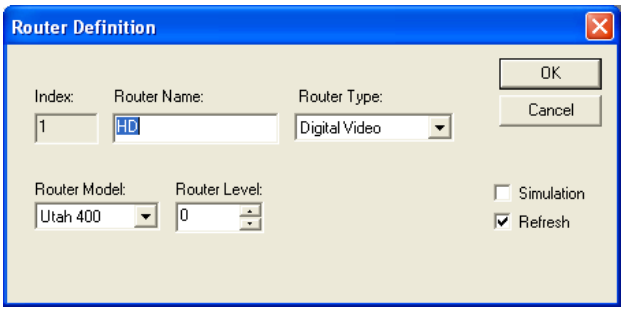


FIGURE 2-2. Router Dialog

Current supported types are:

- Analog Video
- Analog Audio
- Digital Video
- Digital Audio
- High Definition Digital Audio (HD)
- Data

The next field specifies the router model. Currently, Utah 300 and 400 are the supported types. (Use the Utah-300 menu selection for Utah-200 and AVS series routers.)

The next field contains the router level. This is the physical level assigned to that particular router. (See Appendix C in the System Installation Guide for setting physical levels.) It is used by the system controller during configuration to reference the appropriate hardware.

The optional *Disconnect Input* and *Main Monitor Disconnect Output* fields are used to specify the input or output to automatically connect to, if the router is ever instructed to disconnect the level.

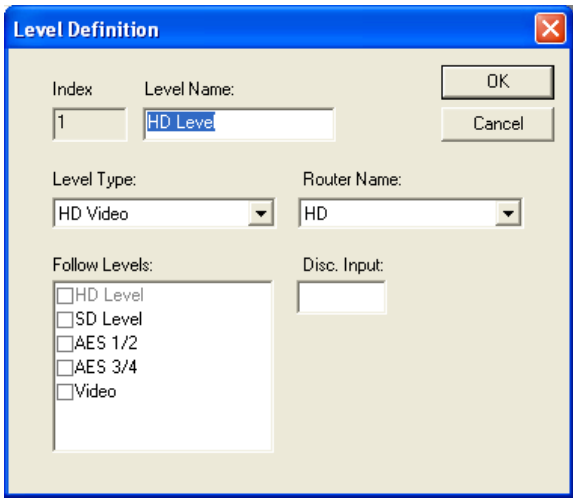
The Simulation check box will put the System Controller into simulation mode. This is used to simulate normal operation of the SC, typically used for diagnostic purposes for devices connected to the controller.

The refresh check box -- information to follow.

Level Definition

The bottom table in the System Controller dialog is used to create virtual levels. These are the levels actually used in source and destination device level specification when those lists are created. These levels were created to allow the user to connect anywhere in the hardware matrix and indicate where the levels exist in U-CON. In previous systems, groups of sources and destinations had to be grouped in a certain order and in certain places to make it work correctly. When new devices were added, many parts of the matrix had to be rearranged to maintain correct operation. This virtual level approach is designed to simplify connection operations.

These levels are generated using the following dialog: (click the **Add** button above the bottom table)



The first entry is an arbitrary index in the table of virtual levels. This index is required because it is used by the System Controller to know how to link to hard levels. However for the user's sake, they are arbitrary.

The next entry designates this level's name. This name should be somewhat descriptive since this will be the header for the level in the table defining sources and destinations.

The level type indicates a general signal type. Some level types enable system features, such as audio attributes (analog audio left, analog audio right). Data routing talkback and exclusives (the two data level types) are also enabled.

The following types are currently supported although others will be added as necessary:

- Analog Audio
- Analog Audio Left
- Analog Audio Right
- Analog Video
- Digital Audio
- Digital Video
- Embedded Digital Video
- HD Video
- Red
- Green
- Blue

Others include:

- Data (auto disconnect)
- Data (manual disconnect)
- AES Audio

The last field is a link to the hardware router table above the virtual table. It relates to the “Router Name” column in the Routers table. The drop down list will contain a list of all the names specified in the router table to make the choice easier to make and get right.

After completing the router and level tables, click the **OK** button in the upper right corner.

Salvos and Serial Ports

Salvos

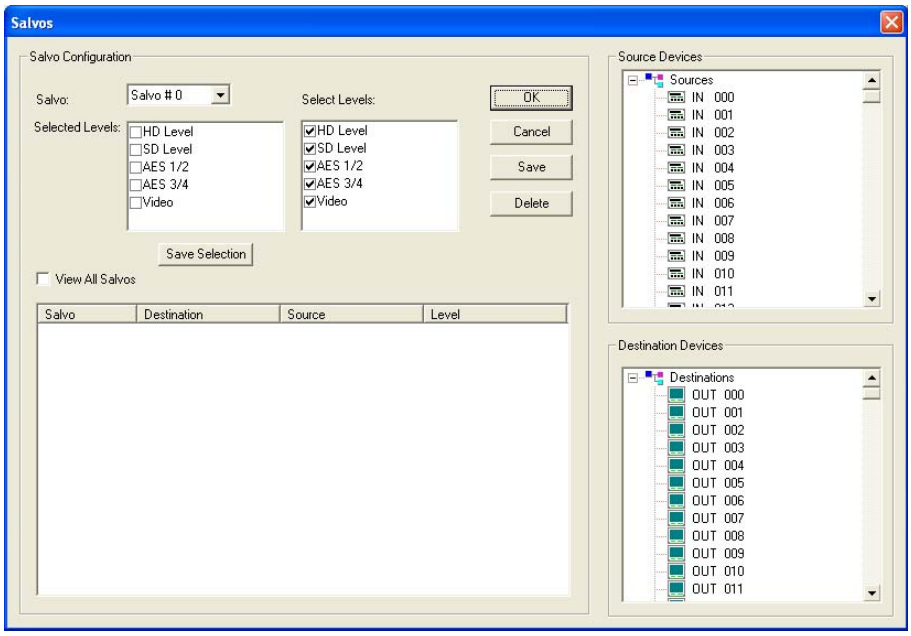


FIGURE 2-3. Salvos window

1. Right-click the SC-4 icon (System screen) and click **Configure**.
2. Click the **Salvo** button.
3. In the *Salvo* window (Figure 2-1) check the desired levels and salvo number. Then drag the Inputs and Outputs to the table for that salvo.
4. Click OK. Program the SC-4 by clicking the program button on the SC-4 icon.

Serial Ports

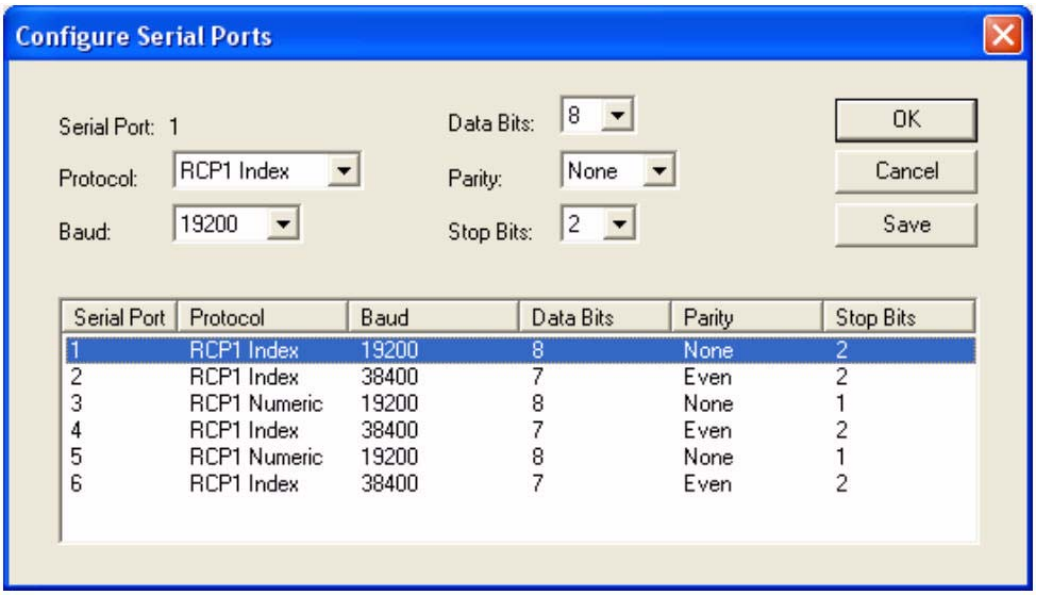


Figure 2-1. Serial Ports window

1. Right-click the SC-4 icon, then click the **Configure** button.
2. Click the serial port button.
3. In the serial ports window (Figure 2-2) 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.
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.

Source and Destination Devices Specification

Once the router has been defined and each virtual level has been specified, 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 U-CON screen.

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 software. The most common use (of this feature) takes place *after* the SC-4 has been programmed from U-CON -- 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) 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).
5. 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.

Loading RMS Files

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 software.

Considerations

- U-Con 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 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.

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:

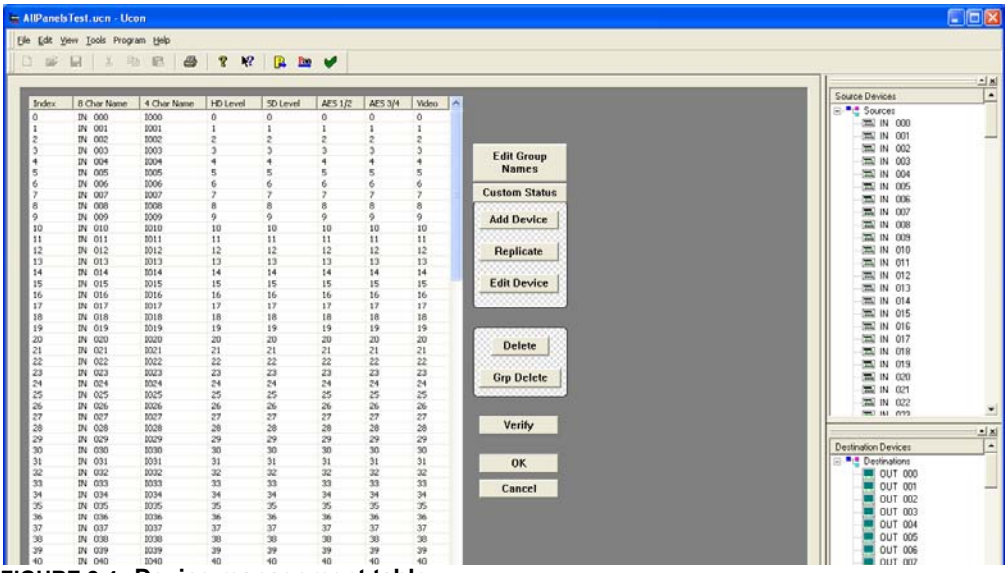


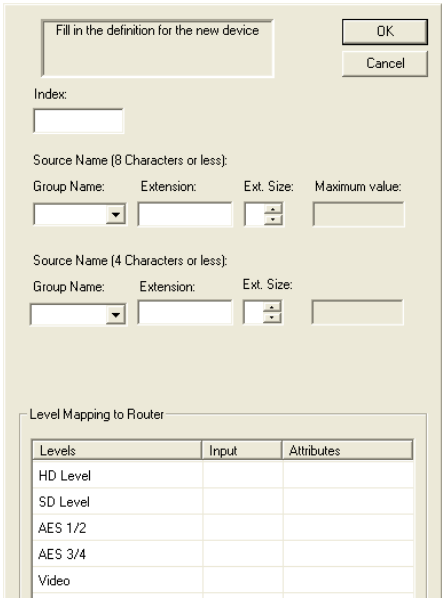
FIGURE 2-4. Device management table

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.**

In this case, Camera 1 through 20 are the first entries, Carts and CG's follow, etc. The port number where that device is plugged into the router is specified across the row for each device. As one would expect, all levels are not necessarily assigned for any given device.

A device is created in the list by using the **Add Device** button on the right. This will bring up an editor to allow specification of the device:



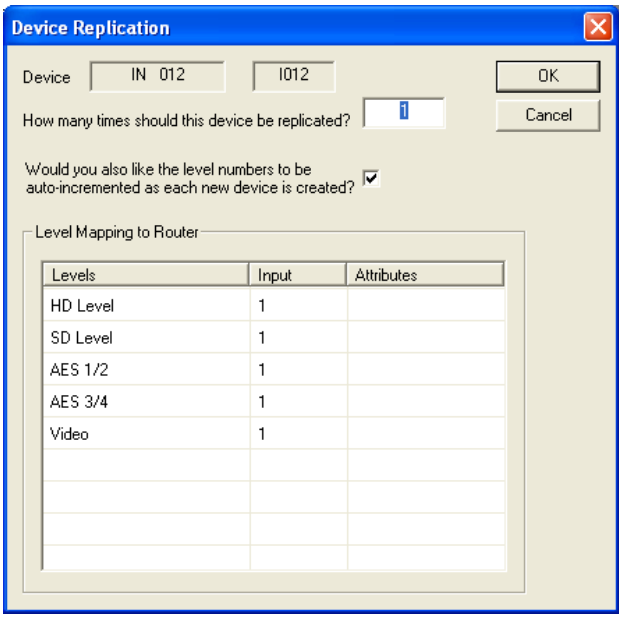
The user should add both an 8 character name and a 4 character name, although the 4 character name is only used on CSP and older devices. It is provided for completeness. The names entered will be auto formatted, so that the name part and the numeric suffix (if provided) are edge justified and limited to 8 characters. For example, device name VTR001 will be formatted to VTR 001 which is how the devices are displayed on panels that have displays. The 4 character names are handled in a similar fashion.

The level mapping entries are used to designate the level assignments that are also displayed in the Source and Destination tables. Enter the physical crosspoints number in the appropriate level box. Levels 1 - 16 are the virtual levels created in the SC-4 level mapping.

This editor also provides a way to replicate any defined device in the device list. This is very useful when the system has a large number of commonly named devices. In the table above, the first 20 entries are for cameras. This entire section of the list can be created in two steps:

1. Create the first device in the group as described above.

2. Select that device and press the **Replicate** button. The following editor will appear:

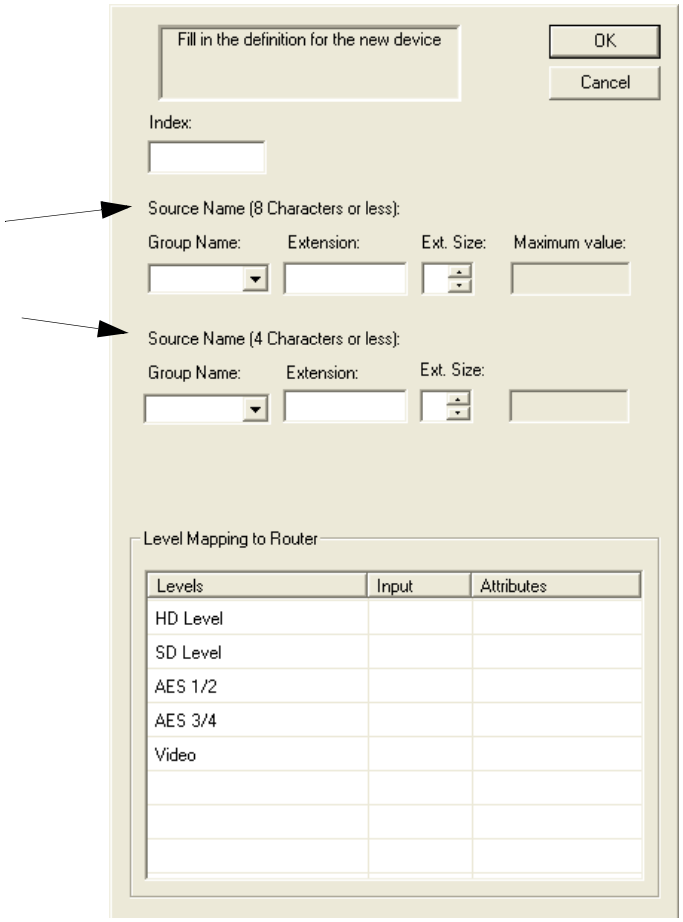


Enter the number of additional devices to be created for this group. The program will increment the number associated with the device name (for each successive device), while the new name is added to the list. Another helpful feature is allowing the level assignment numbers to be automatically incremented. The bottom table will allow level number assignments to be automatically incremented for each device, and increment values other than *one* can be specified.These are all tools provided to assist in creating device lists as quickly as possible.

Devices can also be deleted from the list. Any single device is removed by selecting the device and pressing **Delete**. An entire group of devices with the same name (all CAM devices for instance) can be removed by selecting any one of the devices in the group and pressing **Grp Delete**.

A **Cancel** button is also provided that will exit the device list editor without saving any of the changes that were made since the editor was started. Note that the device lists are always saved whenever the user switches away from the device list editor to any other tab. This is done this way so that devices added in the device list show up in the list of assignable devices for any panel editors.

Procedure for ‘8 and 4’ Character Naming (Adding a Device)



1. If there are any UCP or CSP control panels to be used in the system, the last (3) characters MUST be numeric. (For example, VTR001.) This also applies to any UCP-SD/16 panel.
2. UCP panels require only that the last character contain a number. The first seven (in the 8 character slot) can be alpha, and the first 3 characters (in the 4 panel slot) can be alpha.
3. The last three characters (8 characters) make up the extension, and can contain the numeric 0-9 or A-F. If A-F is used before a number or by itself, you must select *View Hexidecimal Values in Device Names* from the **View** menu. This will separate the name from the extension.

Printing Source and Destination tables

The source and destination tables can be printed by selecting *Print* or **Print Preview** from the **File** menu. The levels are displayed across the top with the data for each level displayed in the table below the level name. If there are more levels that will not fit on one page, the levels will be spread across 2 or more pages, as in the example below.

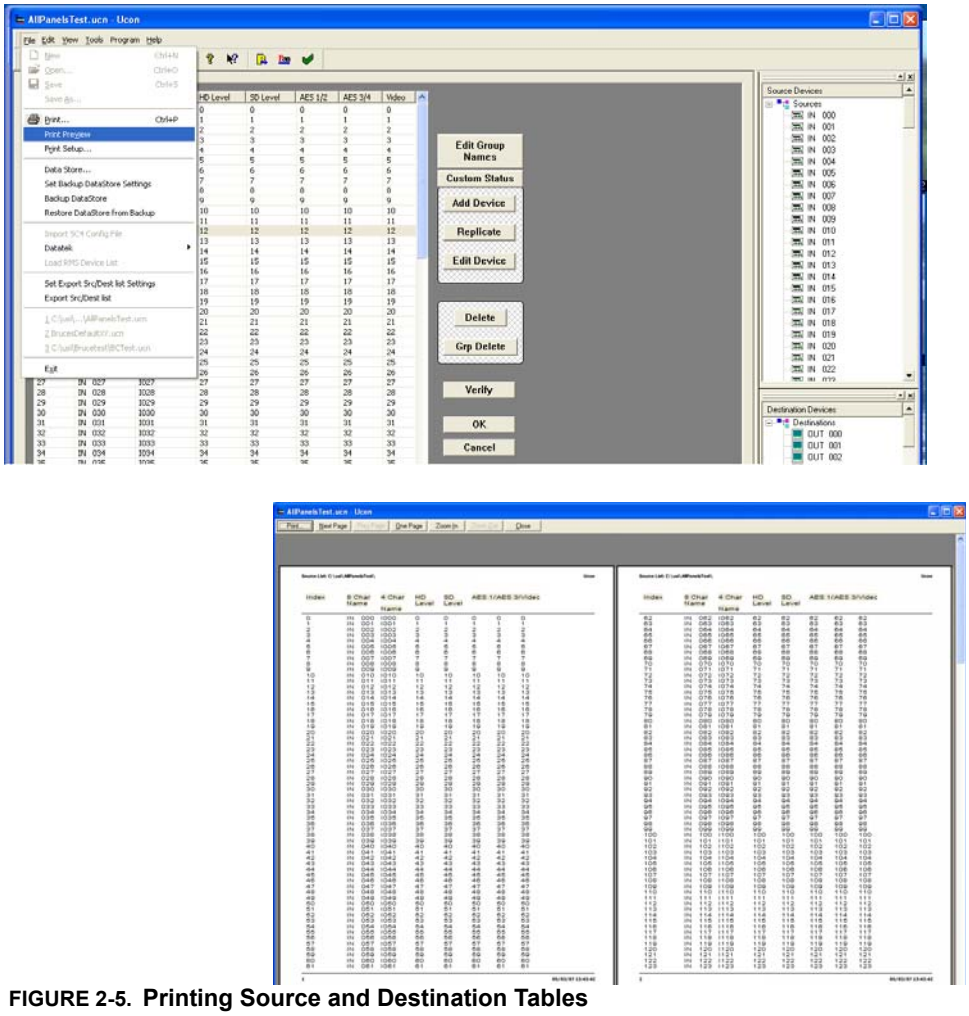
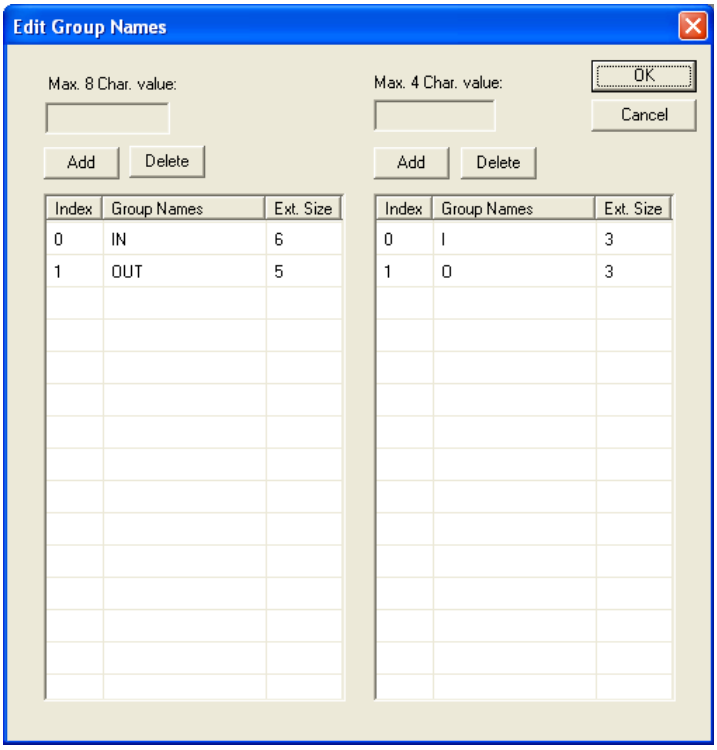


FIGURE 2-5. Printing Source and Destination Tables

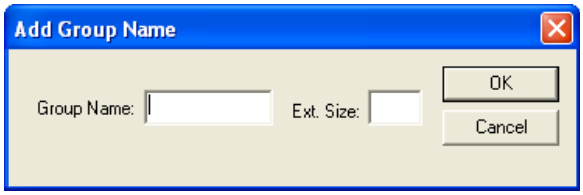
Edit Group Names

This allows you to create or delete the 8 or 4 character group names and what the extension length will be.



To Delete a group name select the line then click on delete.

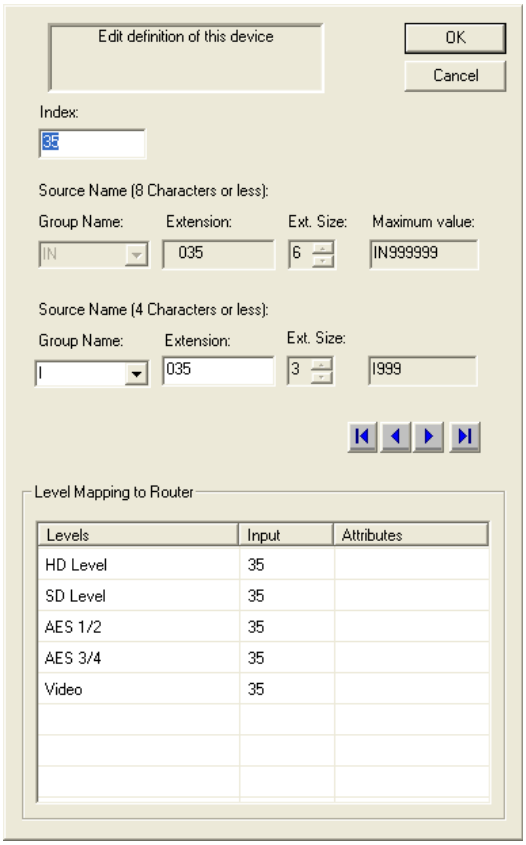
To Add a group click on Add. The following dialog will appear:



You can then enter the group name and the size you want the extension to be.

Edit Device

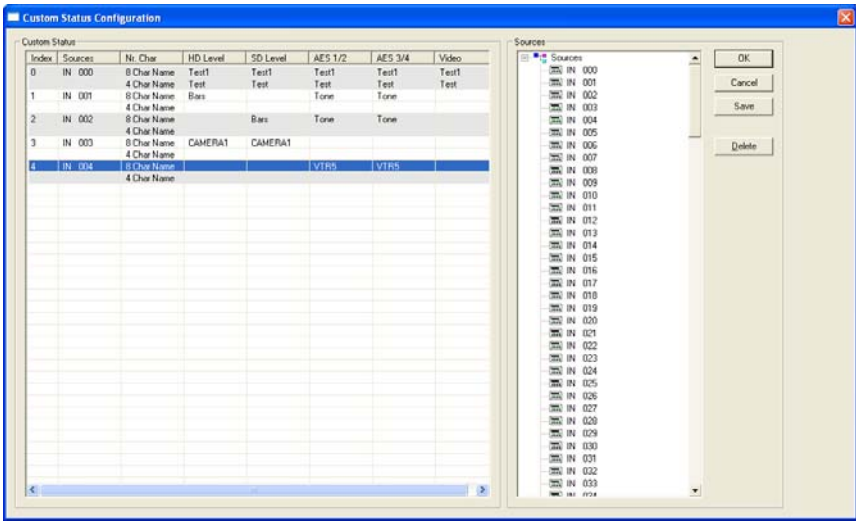
You can select a single line in the source or destination table then select “Edit Device”. The above dialog appears.



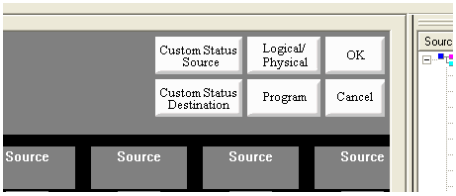
You can change the index number, change the 4 character name and change the level assignments. To move up or down the list in the table press the arrow buttons. They will place you at the beginning, or end of the table or allow you to move up or down one line.

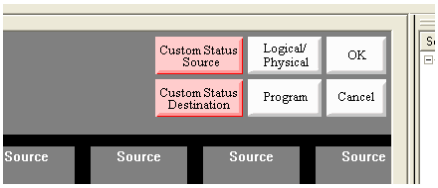
Custom Status Button

This allows you to create a “Custom” name instead of showing the original input name on a specific level.



In the example above when “IN 000” is switched up to an output on the “HD Level” it will display “Test1” instead of “IN 000”. After you configure this table with the custom status values, you must enable it on a panel by panel basis. Each panel has a “Custom Status” button that must be clicked to enable it or disable it.





When the “Custom Status” is enabled in the panel the button will turn “Pink”. To disable the “Custom Status” on the panel just click the button again to turn it off.

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 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**.

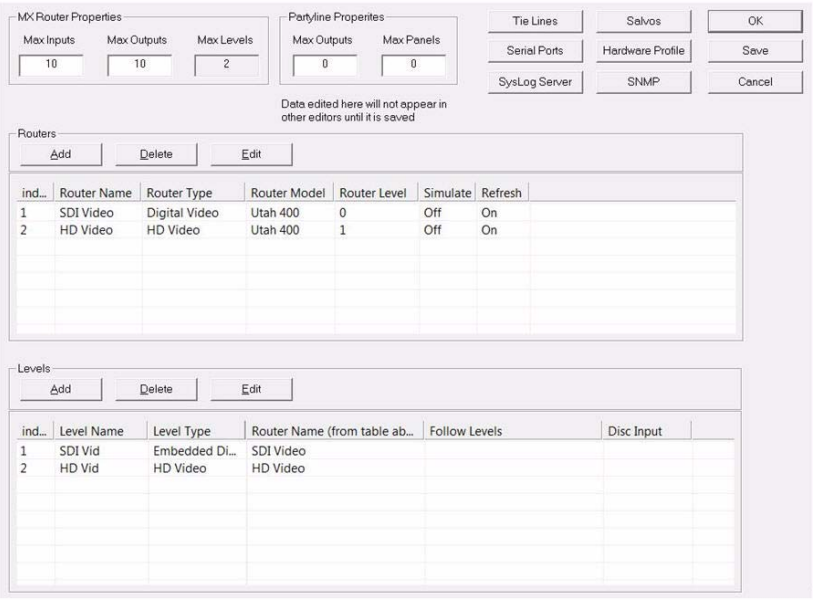
Roadmap to Tie Line Success

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

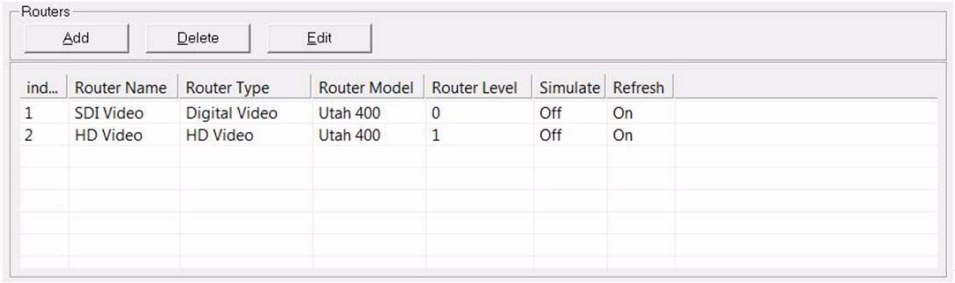
Begin by configuring basic router control; including the SC-4 or SC-400 controller, router size, number of signal levels, router hardware, and logical router levels. If tielines are being added to an already existing system, then simply make sure that there are two distinct levels created that will use 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 'Tieline Creation'. If not, then proceed with step 2.

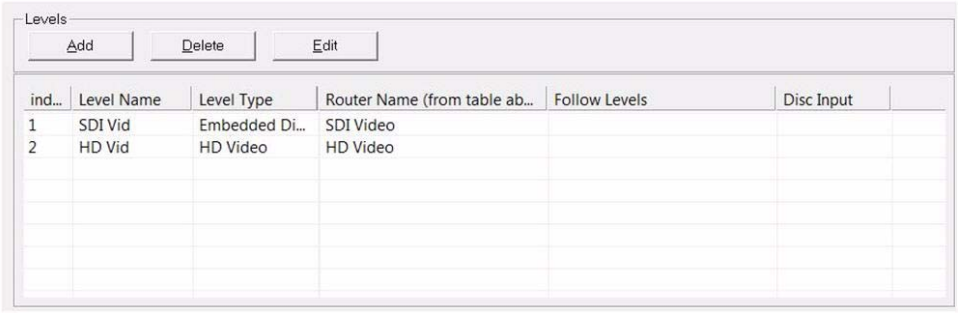


2. Enter the maximum number of inputs and outputs that the largest router type is capable of expanding to in the upper left windows on the screen above titled 'MX Router Properties'.

3. 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.



4. 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.



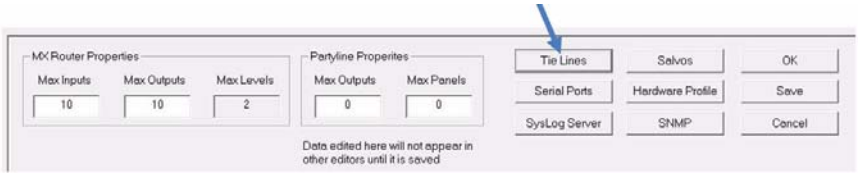
5. Click ‘OK’ on the properties screen to exit and go back to the ‘System’ screen. Click ‘File’ from the drop down menu at the top of UCON and then click ‘Save’.

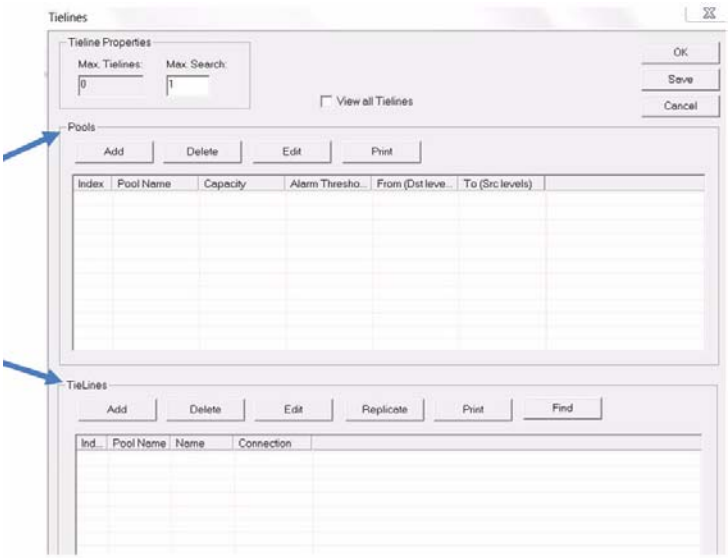
Configuring Tielines

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.





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).

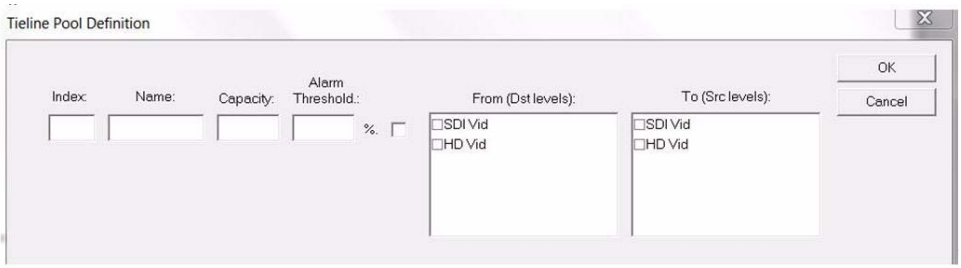


FIGURE 3. Empty Tie Pool

FIGURE 4. Defined Tie Pool

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

5. 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.

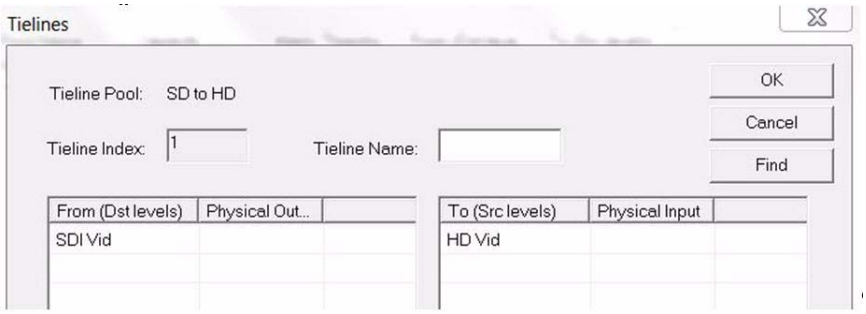


FIGURE 5. Empty Tieline Table

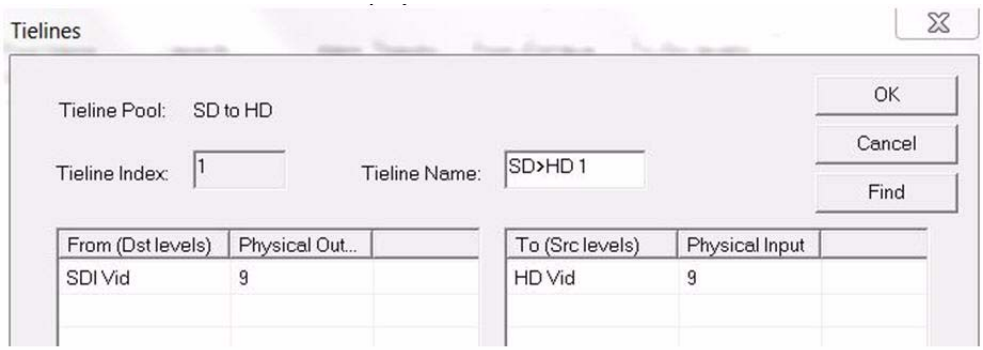


FIGURE 6. Defined Tieline Table

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.

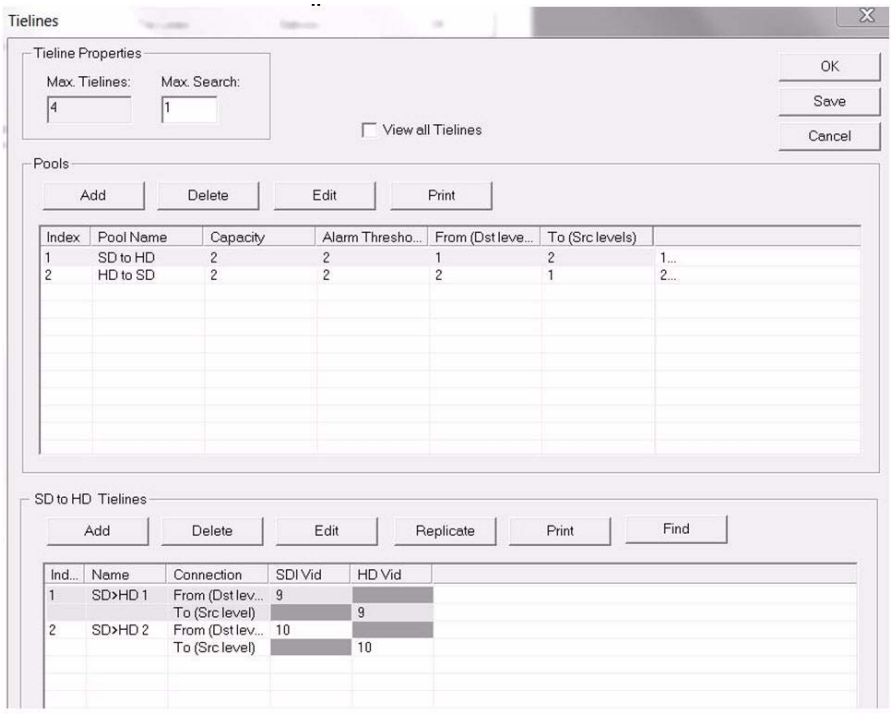


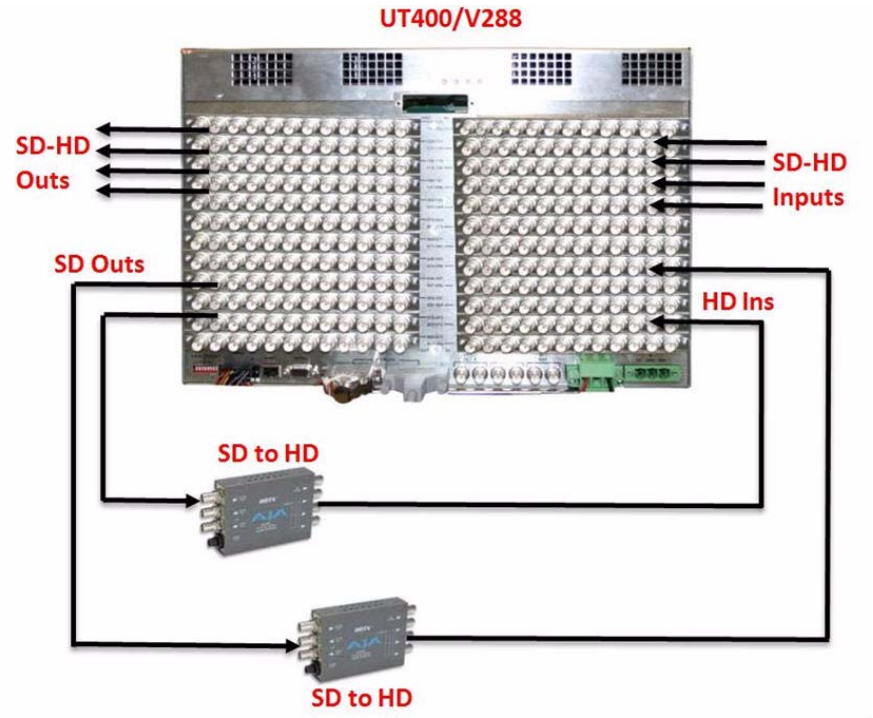
FIGURE 7. Pools and Tielines Defined

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.

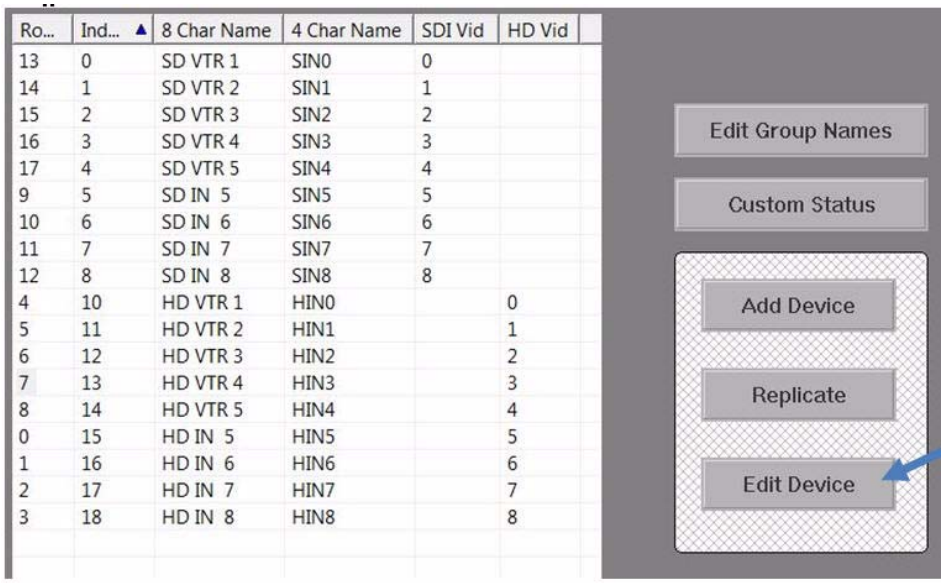
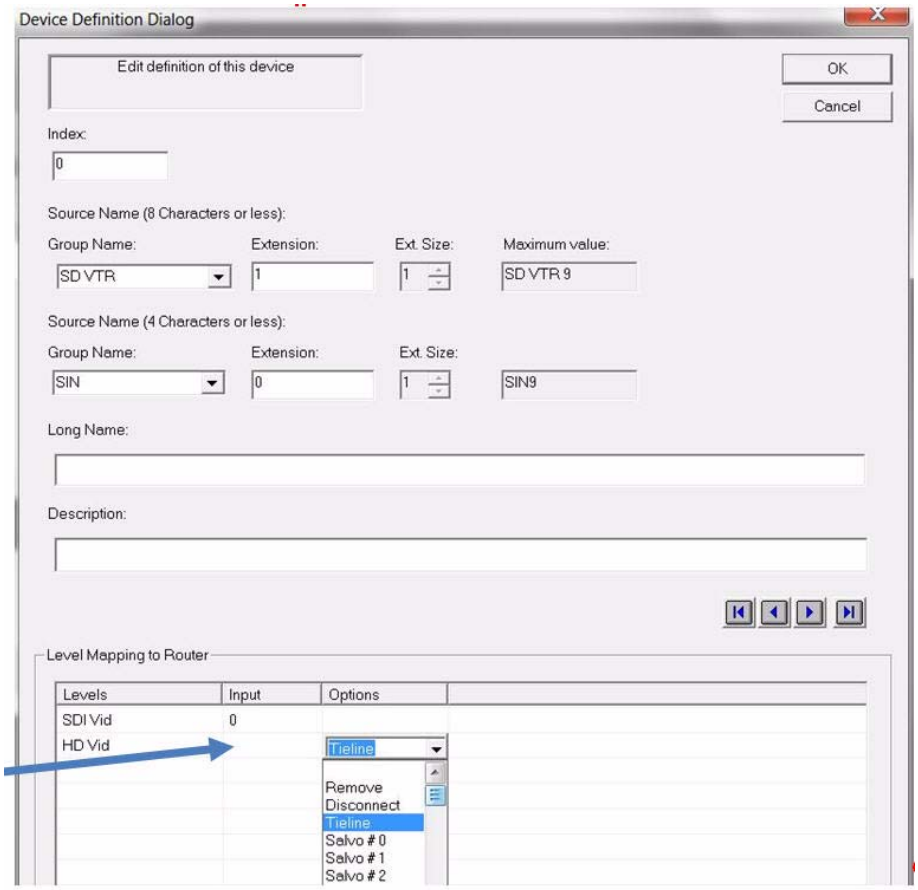


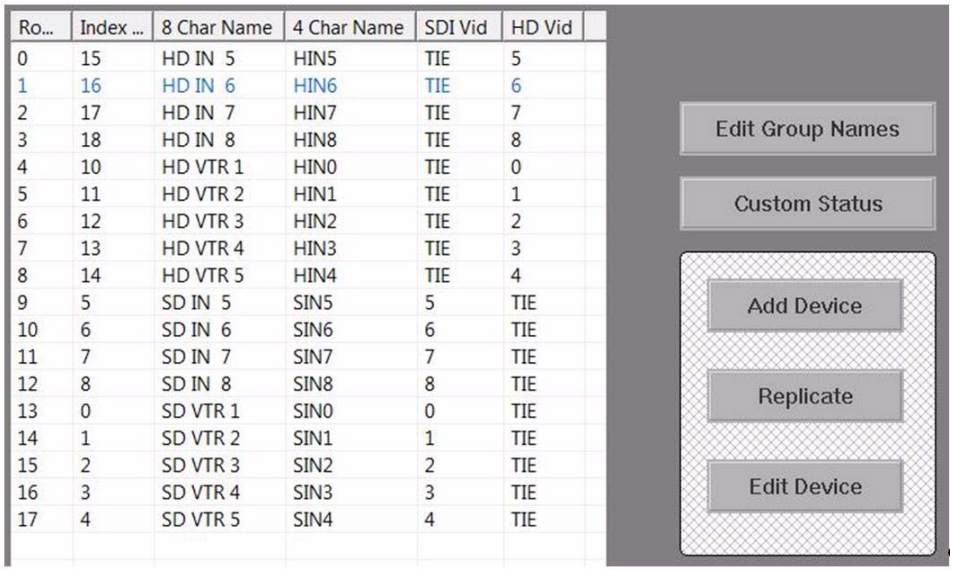
FIGURE 8. Source Table With No Tielines

4. 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.



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

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.

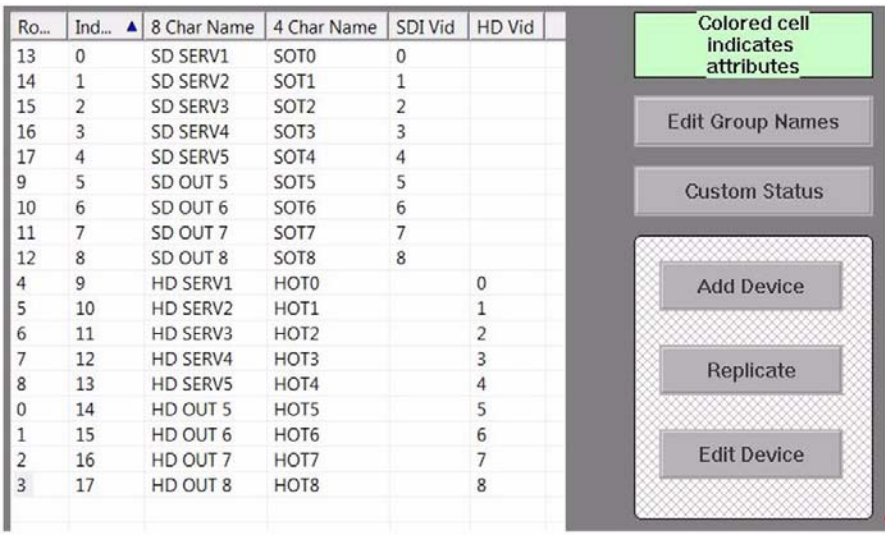


FIGURE 10. Destination Table without Tielines Assigned

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.

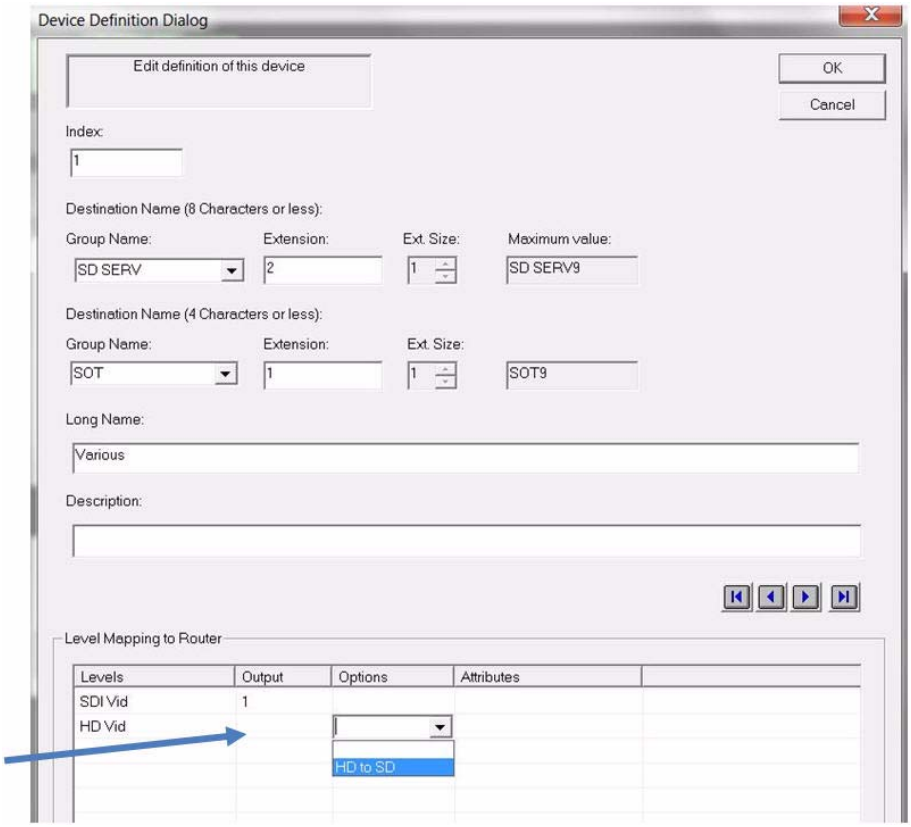


FIGURE 11. Destination Editor – with HD to SD Tieline Selected

9. 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.

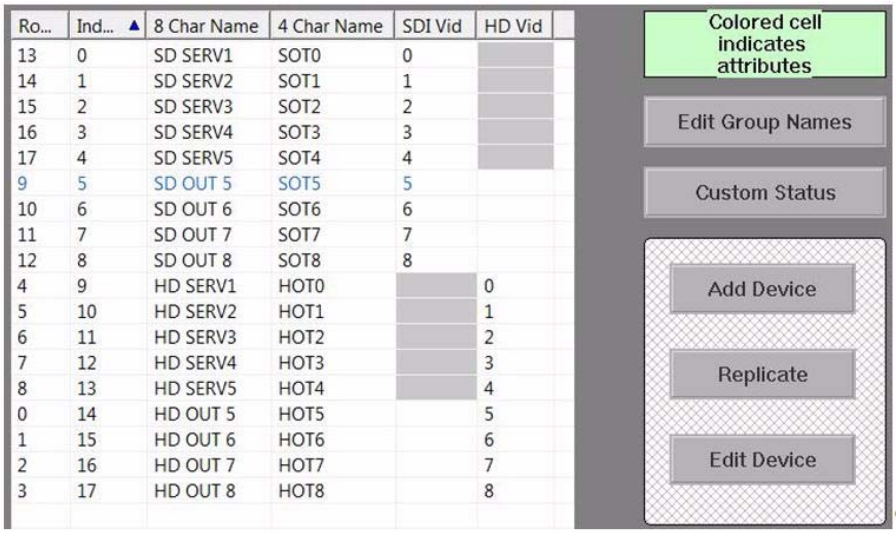


FIGURE 12. Destination Table with Tielines Assigned

10. 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’.

11. 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.

12. 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.

Chapter 3 - U-CON Panel Configuration

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

- SCP-2
- SCP-32
- SCP-64
- SCP-XY
- SCP-SX
- SCP-MX
- UCP-36
- UCP-72
- UCP-XY
- UCP-SX
- 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
- UCP-1
- UCP-64
- UCP-128
- CSP-260
- UCP-UMD
- UCP-MMA
- UCP-MMB
- UCP-DTB
- UCP-DTA
- UCP-32

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 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.

- 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.

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 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.

- 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. 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.

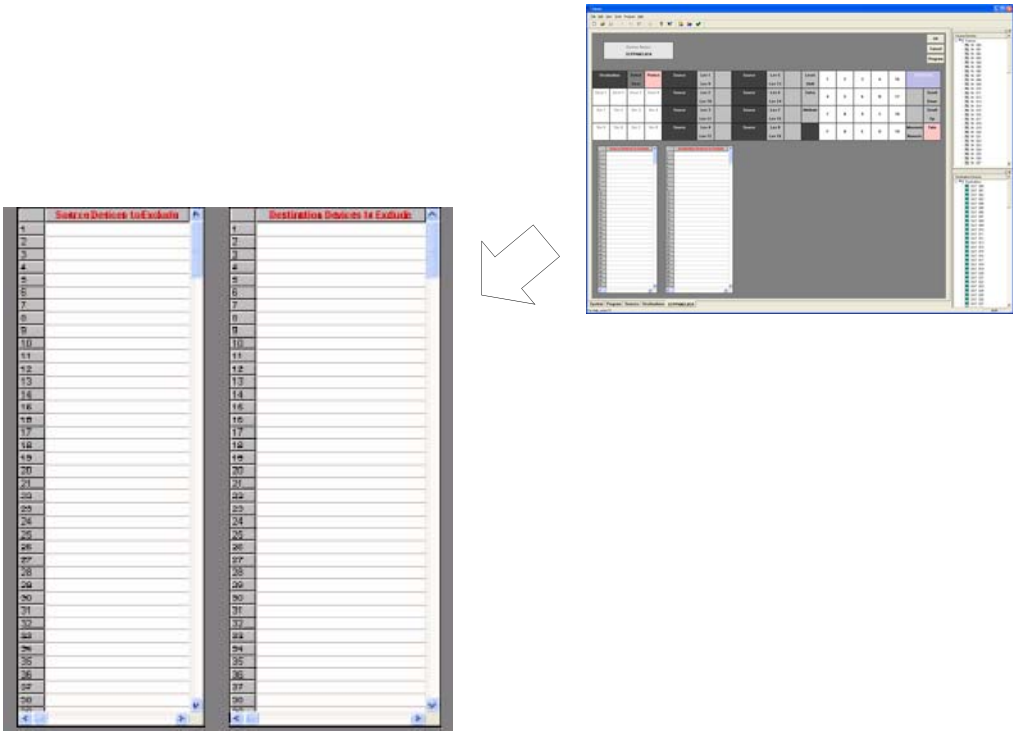


FIGURE 3-1. Exclusion list

2. Drag and Drop Sources and Destinations

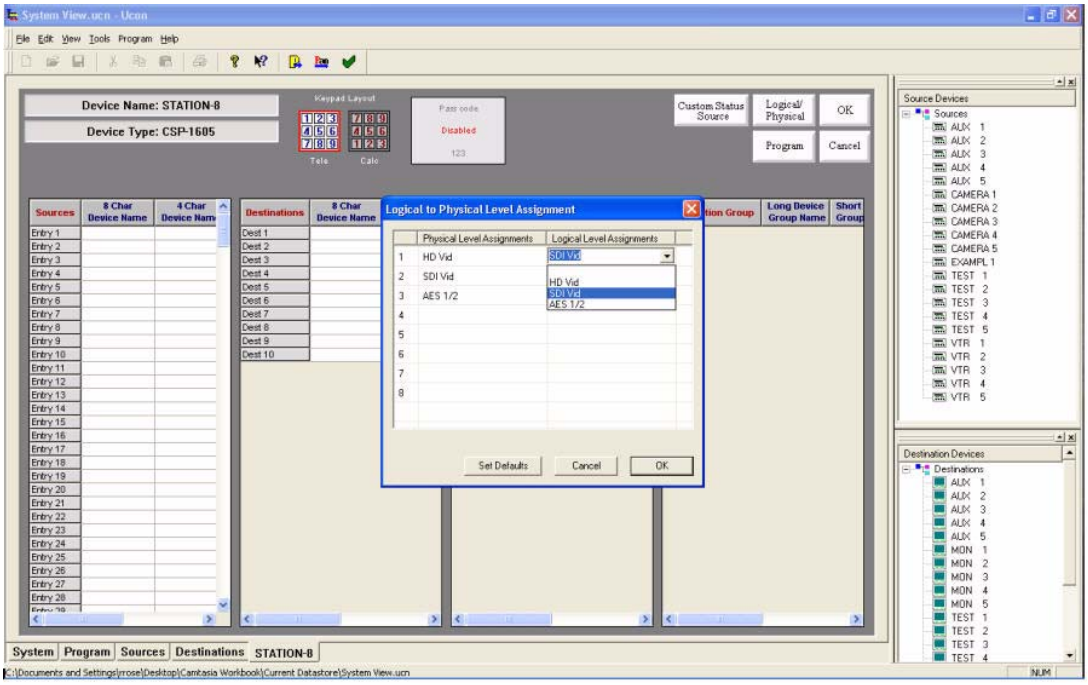
3. Simplify consecutive Source entries by left clicking ‘Next Source.” This will add it to the next button in order.

4. Default Destination Box

5. All grayed-out boxes are static and used only for the purpose of panel button location and description.

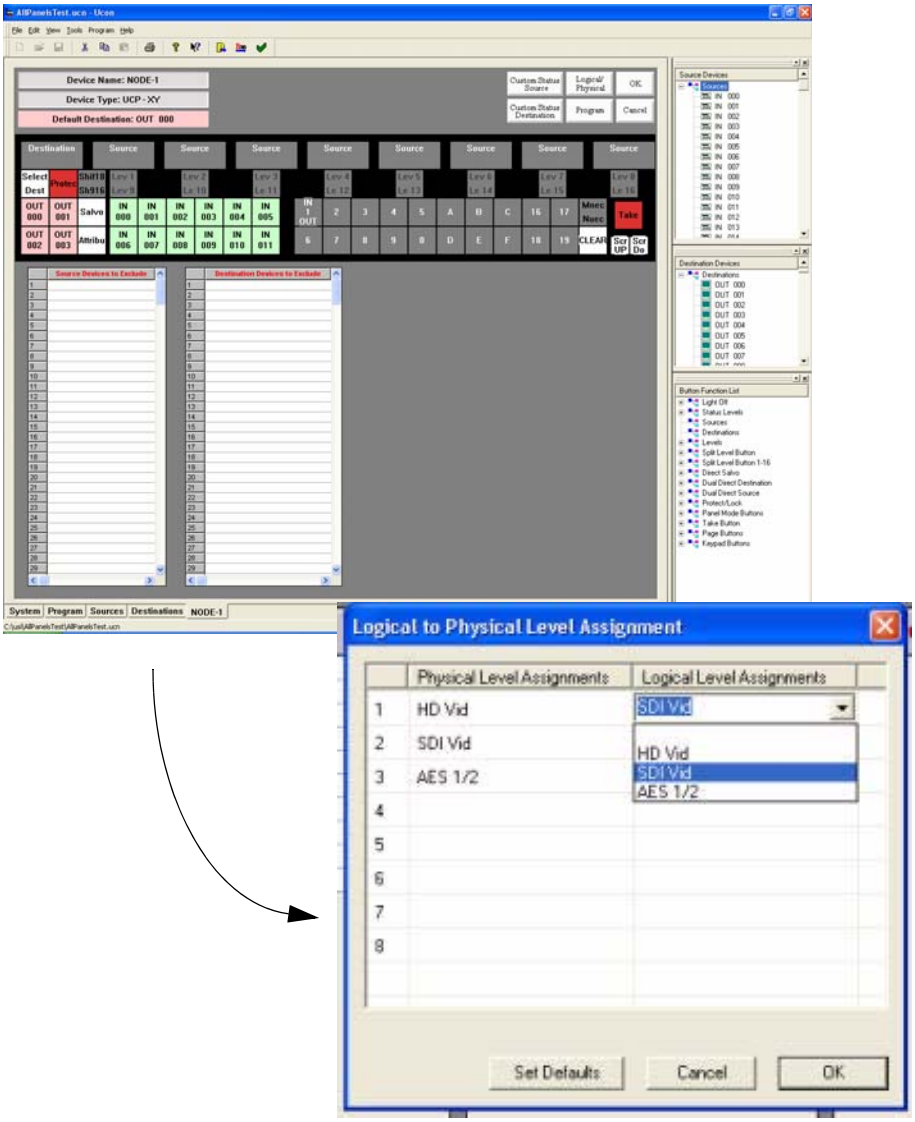
Logical to Physical for CSP Panels

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.

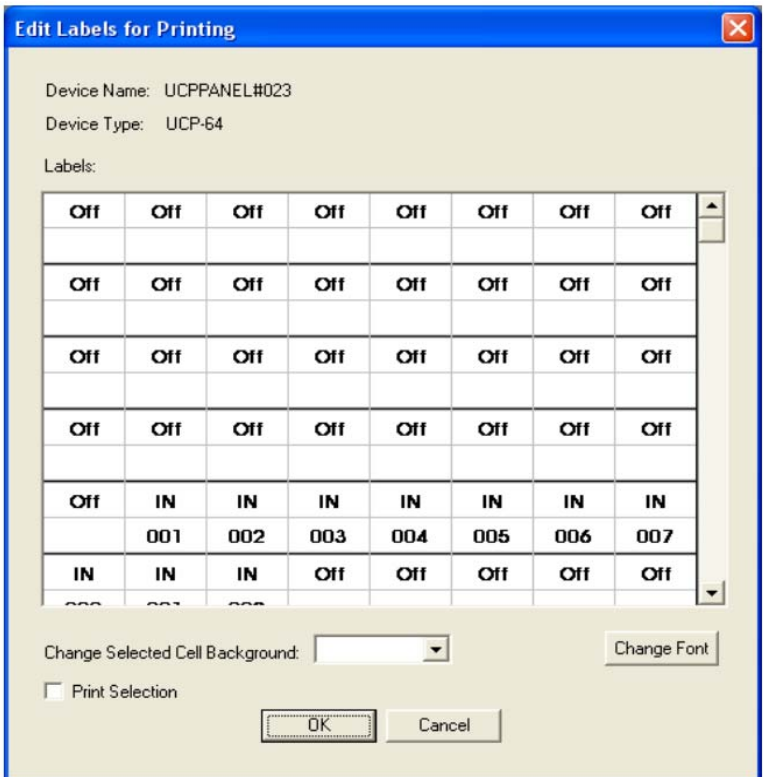


FIGURE 3-2. Label Editing for Print

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.

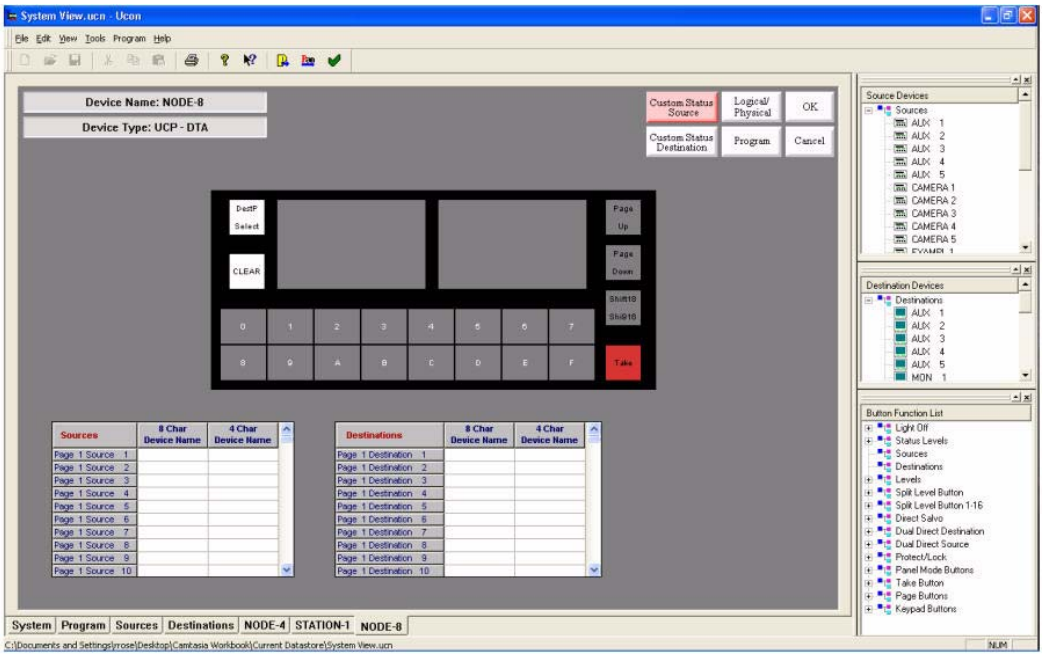


FIGURE 3-3.

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.

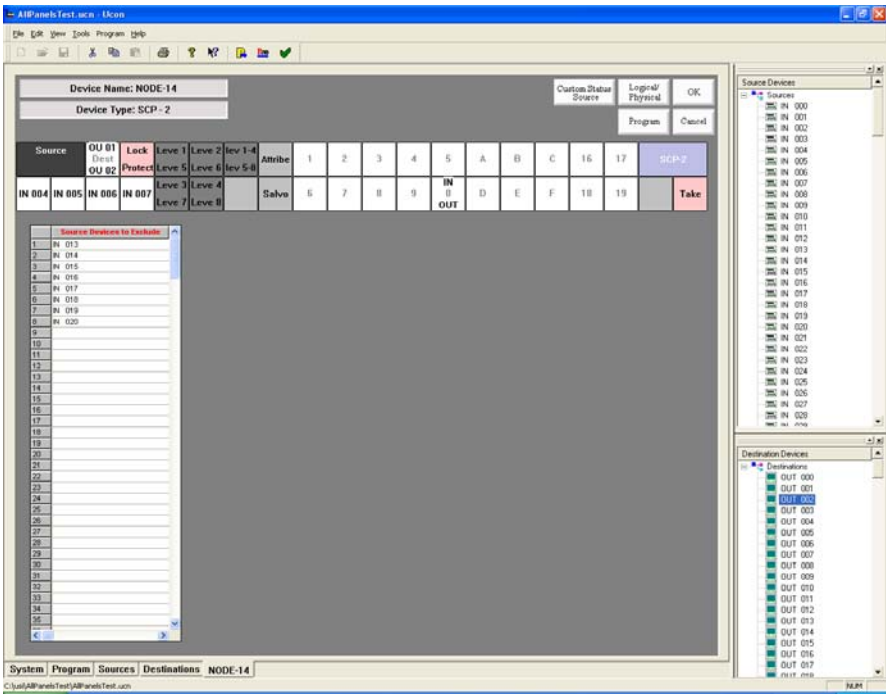


FIGURE 3-4. SCP-2 screen display

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.

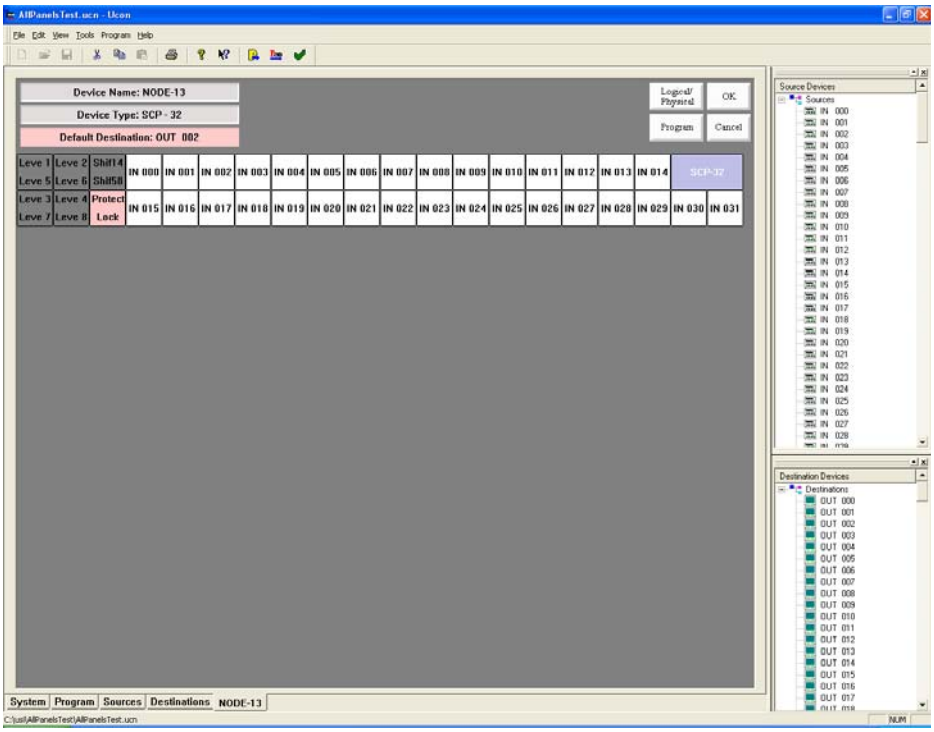


FIGURE 3-5. UCP/SCP-32 Screen display

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.

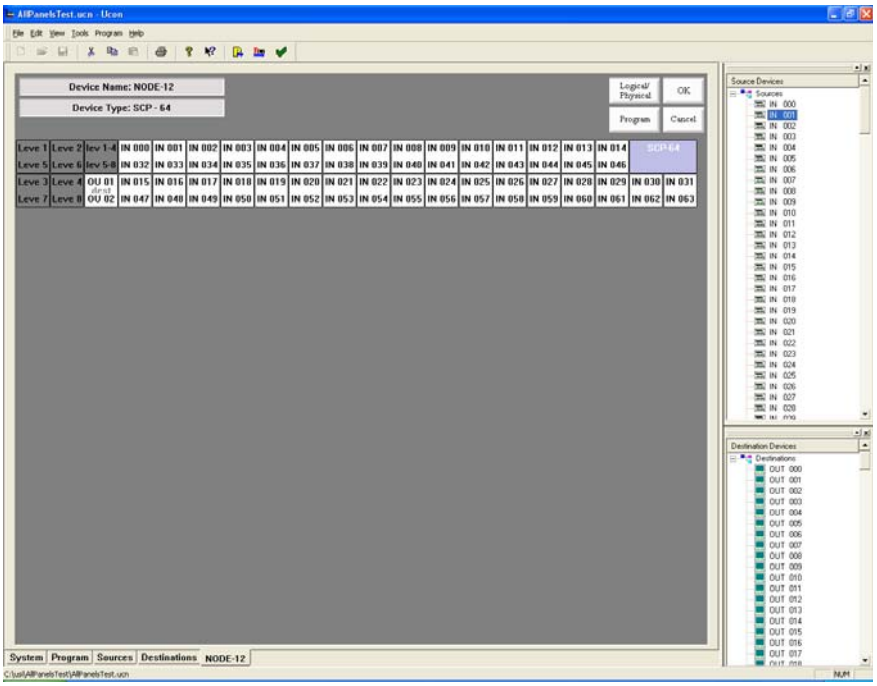


FIGURE 3-6. SCP-64 screen display

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.

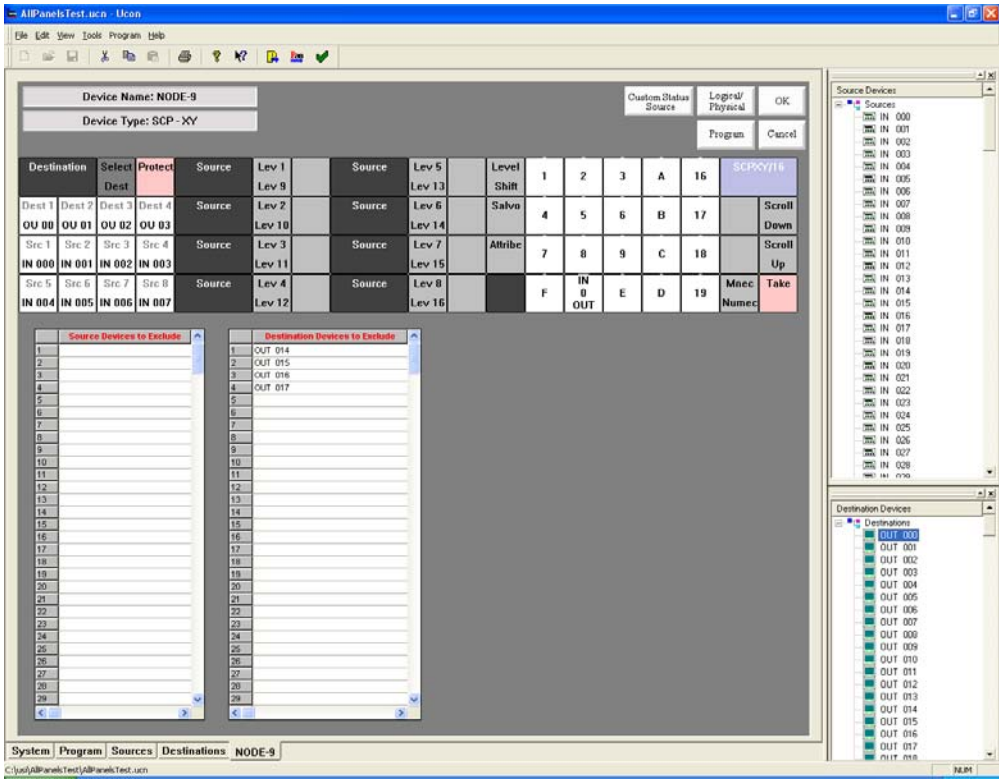


FIGURE 3-7. SCP-XY screen display

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.

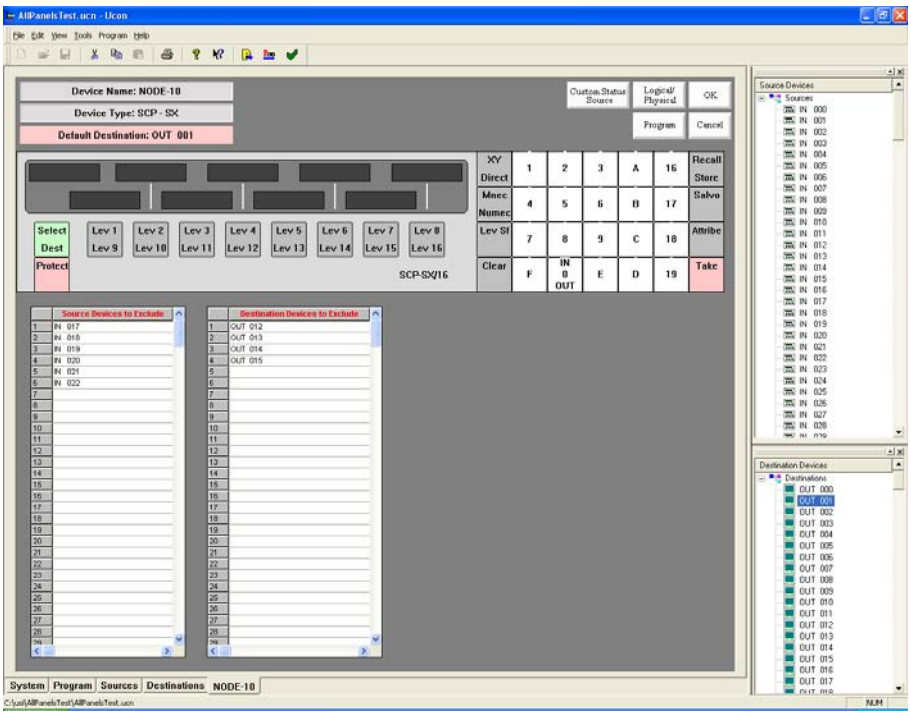


FIGURE 3-8. SCP-SX panel view

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.

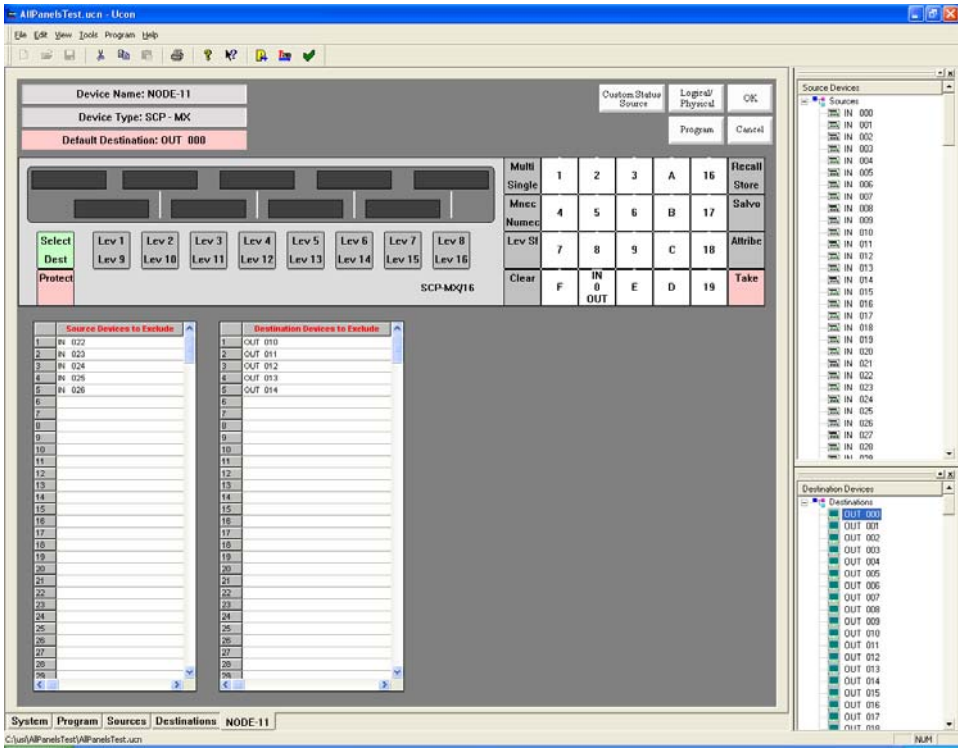


FIGURE 3-9. SCP-MX panel view

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.

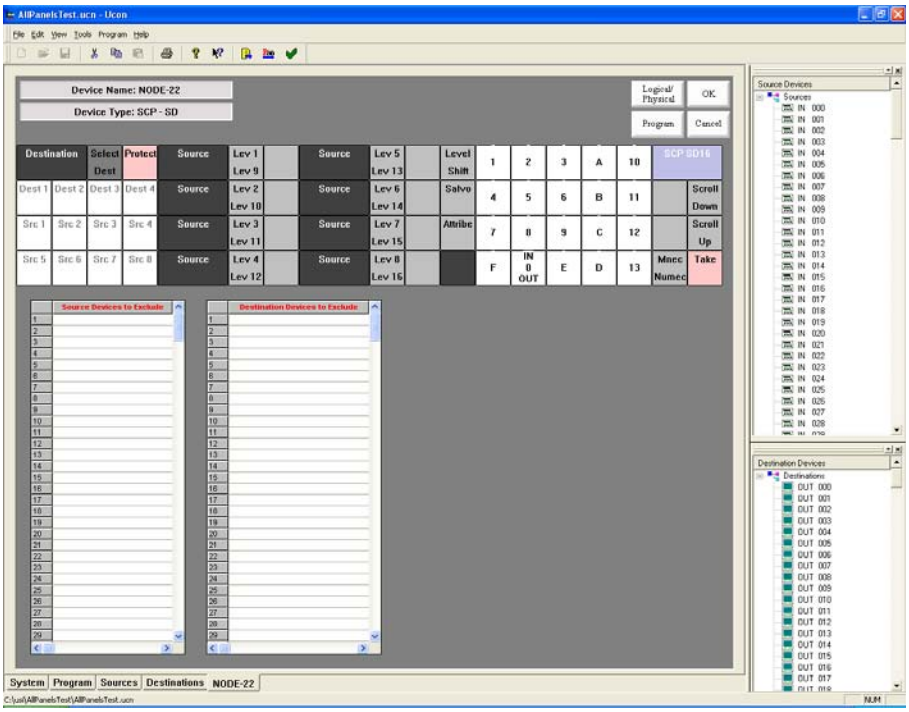


FIGURE 3-10. SCP-SD16 configuration

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 clink on the button that you want to unassign.

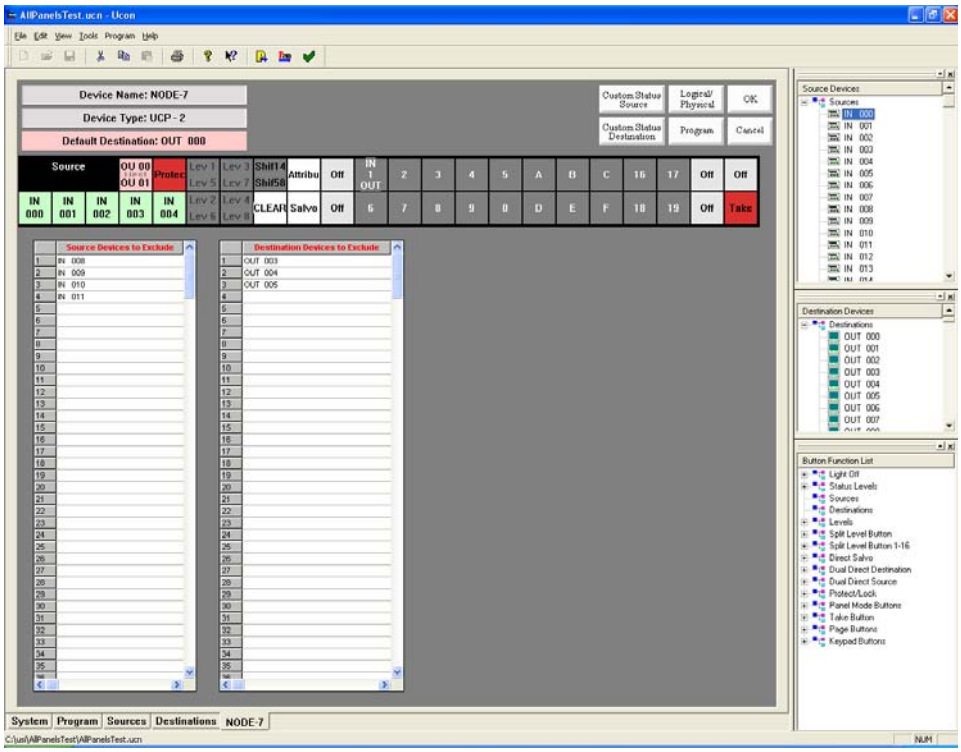


FIGURE 3-11. UCP-2 Panel screen display

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.

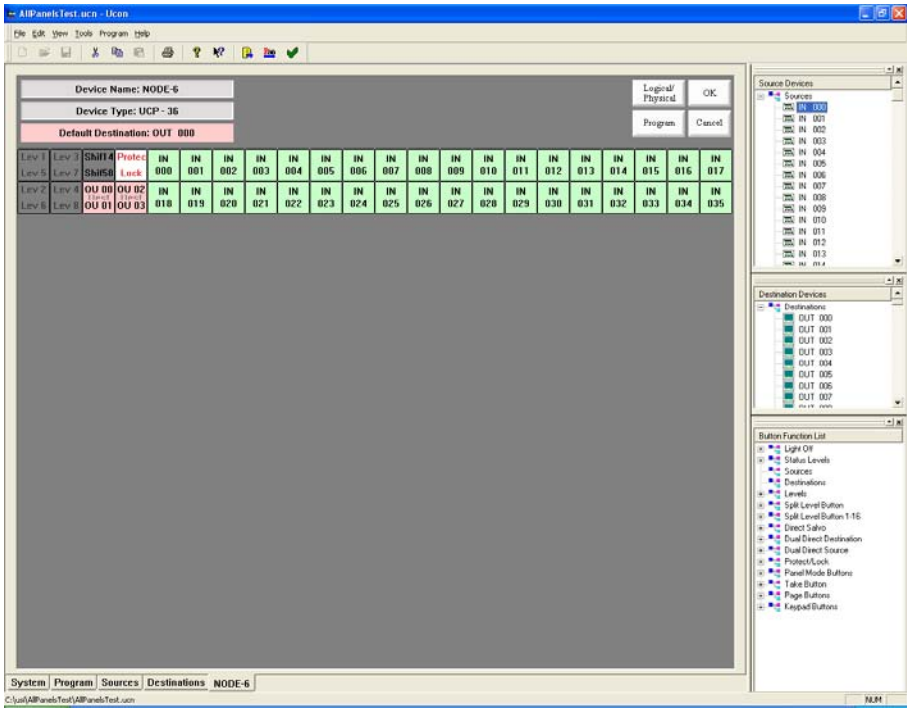


FIGURE 3-12. UCP-36 Assignment

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.

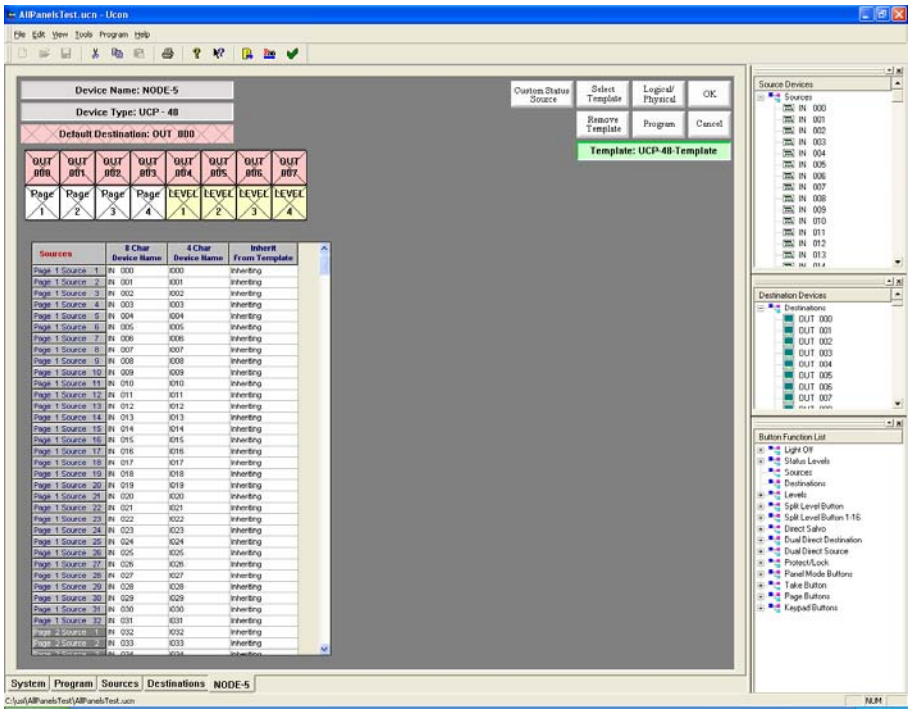


FIGURE 3-13. UCP-48 Assignment

Assigning a Source Button:

1. Manually Assign Each Button.
   - Place the mouse curser 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 curser 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.

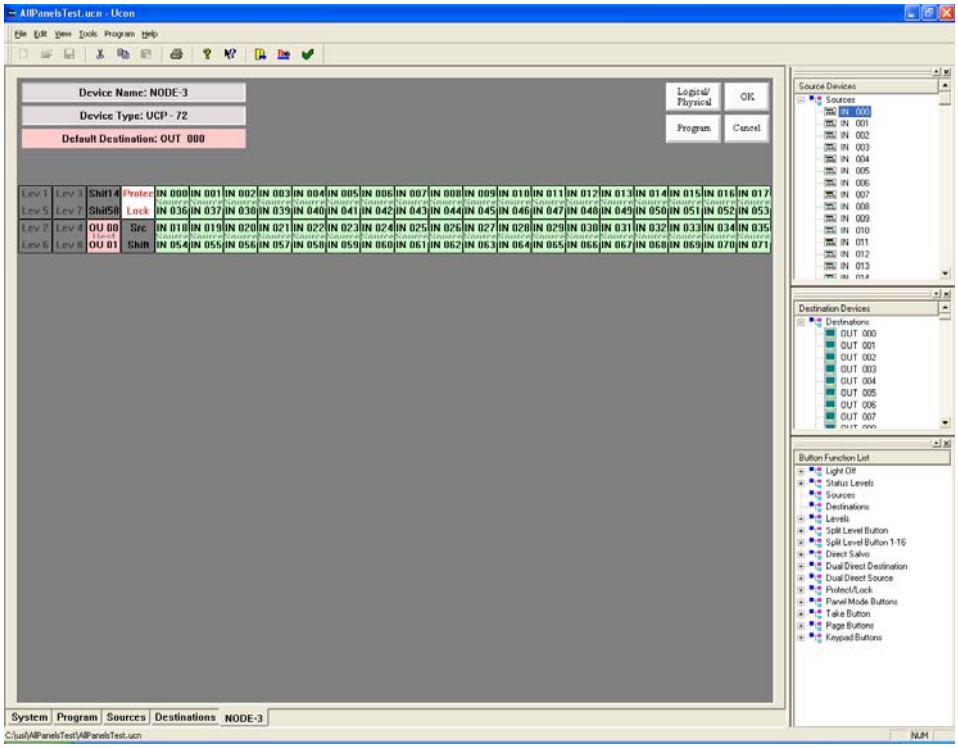


FIGURE 3-14. UCP-72 screen view

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.

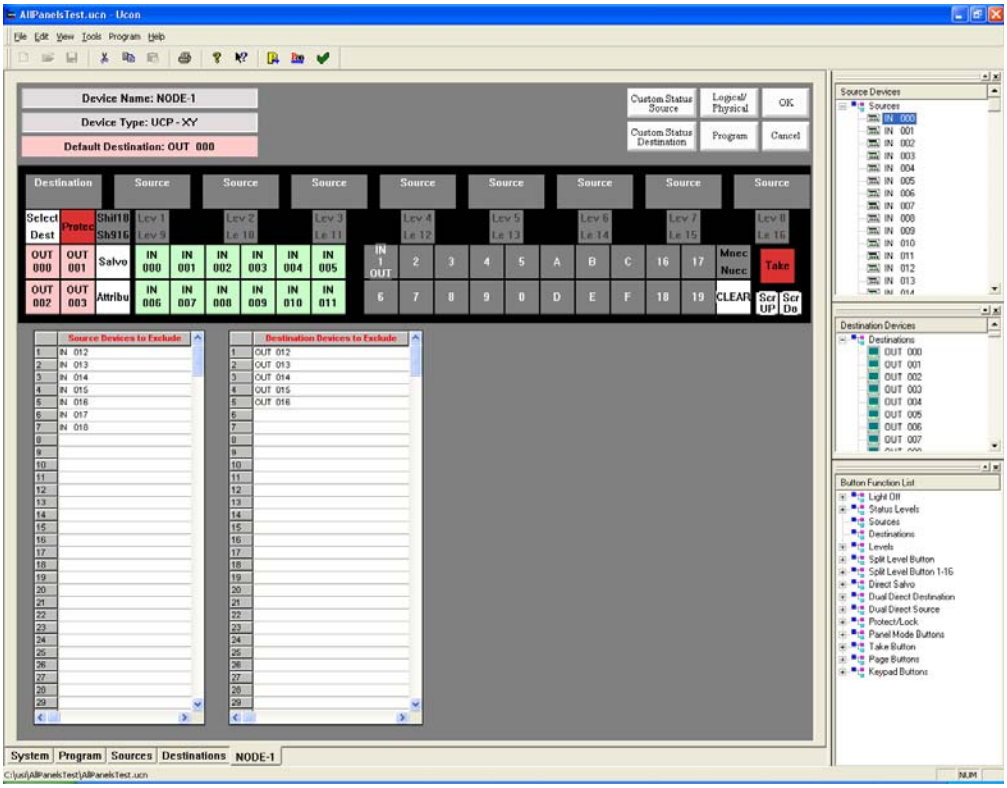


FIGURE 3-15. UCP-XY configuration

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.

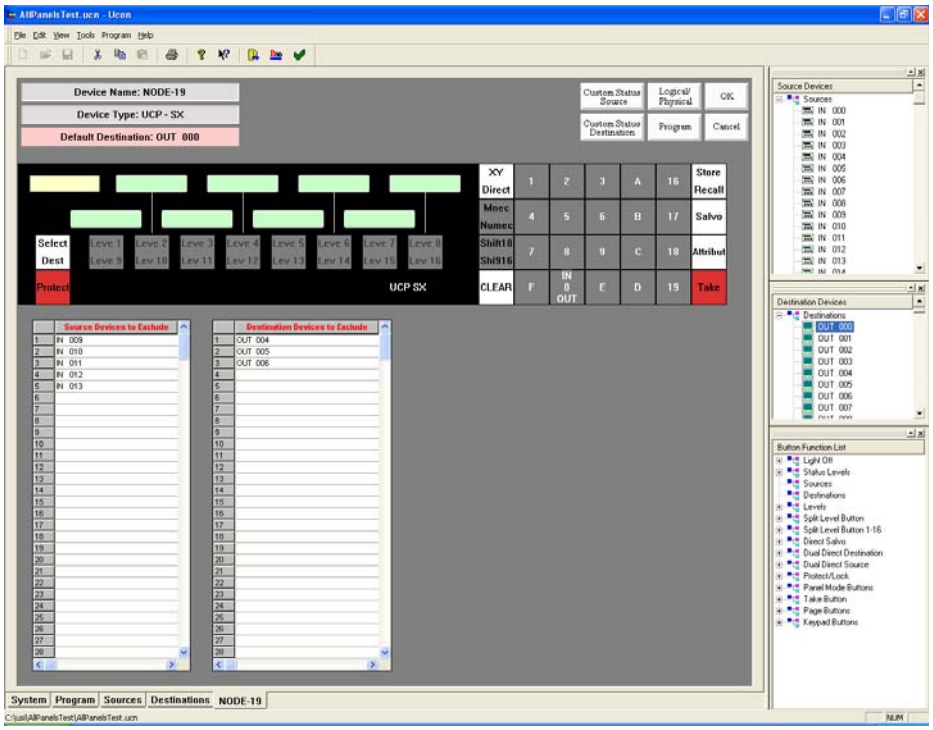


FIGURE 3-16. UCP-SX panel configuration

- 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.

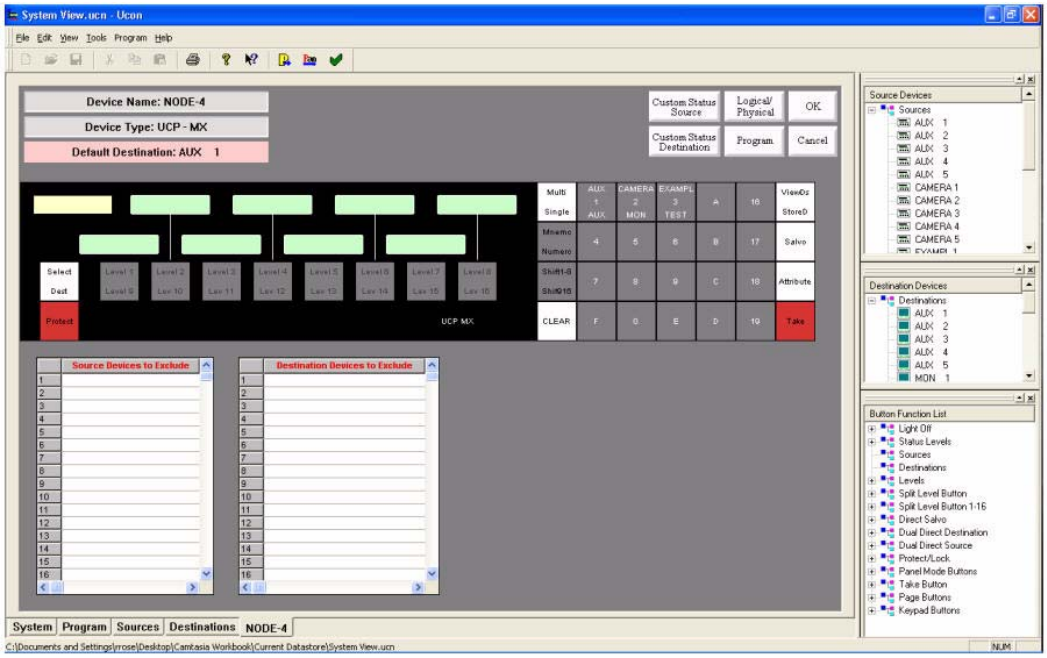


FIGURE 3-17. **UCP-MX Panel Configuration**

Using the UCP-1 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.

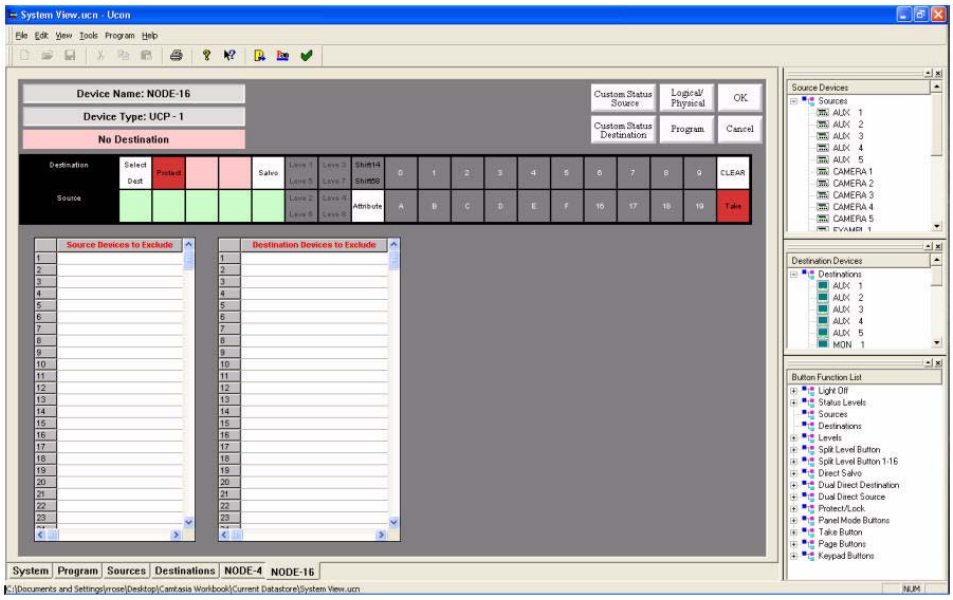


FIGURE 3-18. UCP-1 Panel Configuration

Using the UCP-64 and UCP-128 Panel Screens

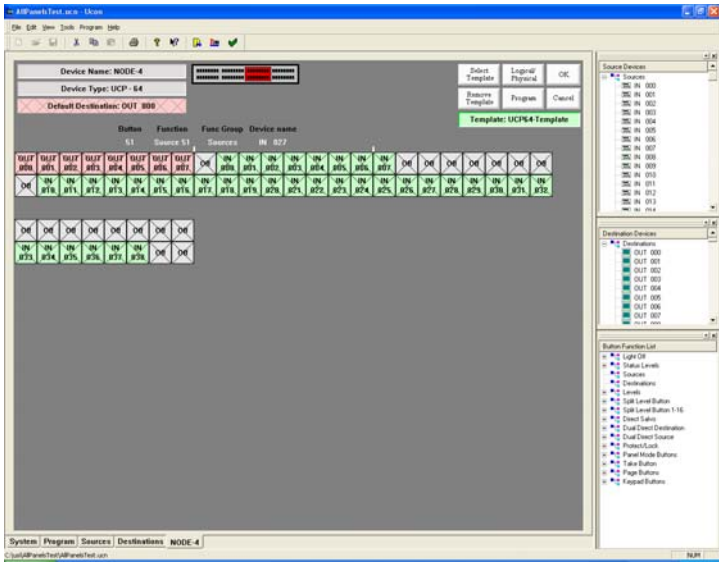


FIGURE 3-19. UCP-64

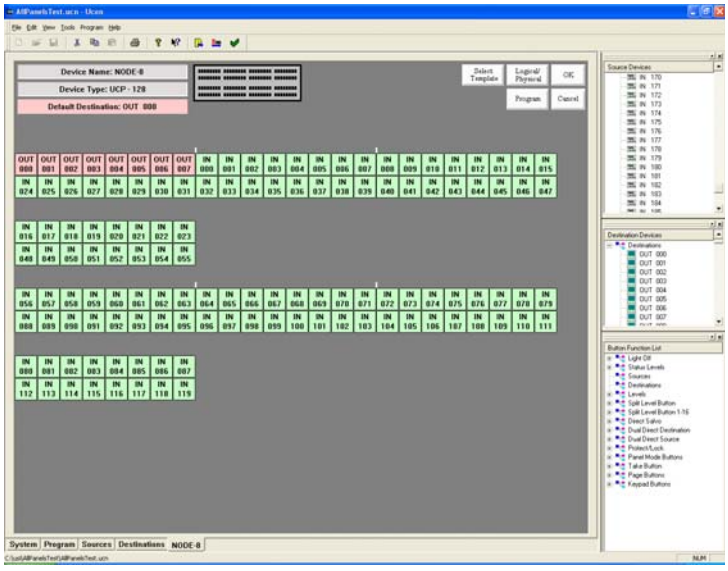


FIGURE 3-20. UCP-128

Assigning a Source Button:

1. Manually Assign Each Button.

- Place the mouse curser 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 curser 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.

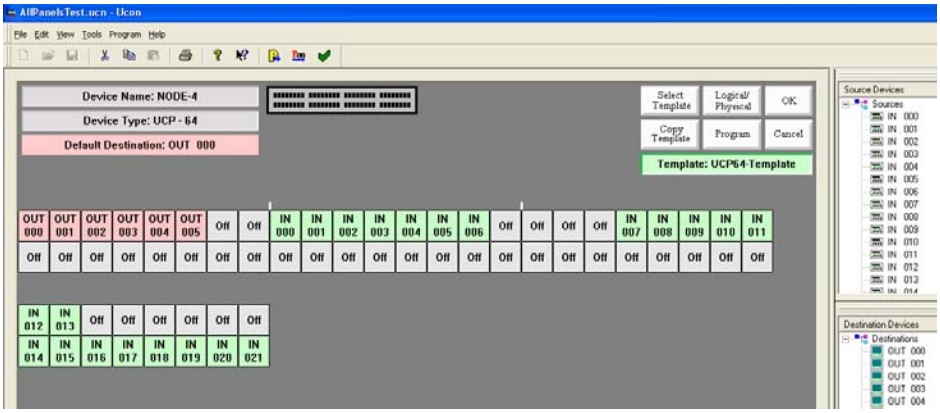


FIGURE 3-21. Button assignment (continued)

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”.

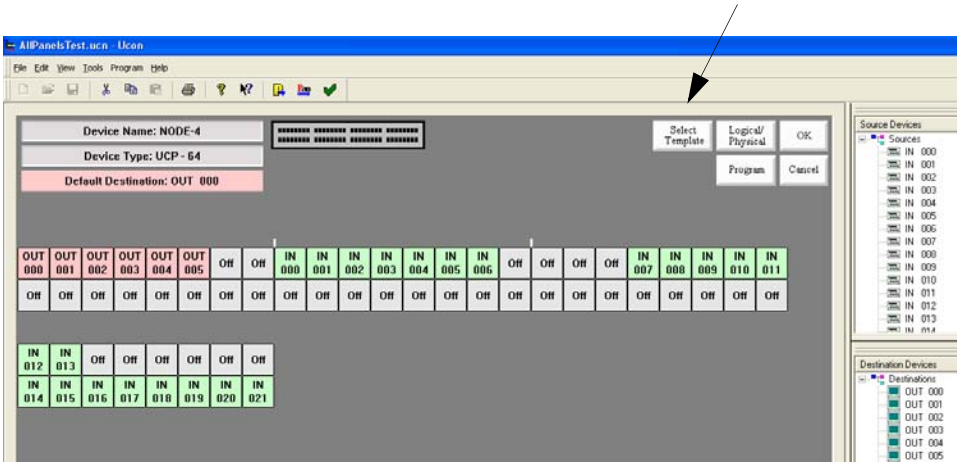


FIGURE 3-22.

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

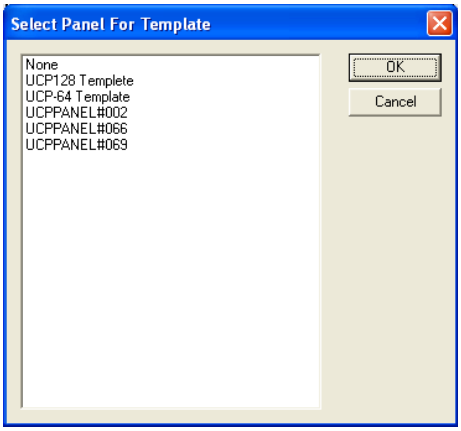
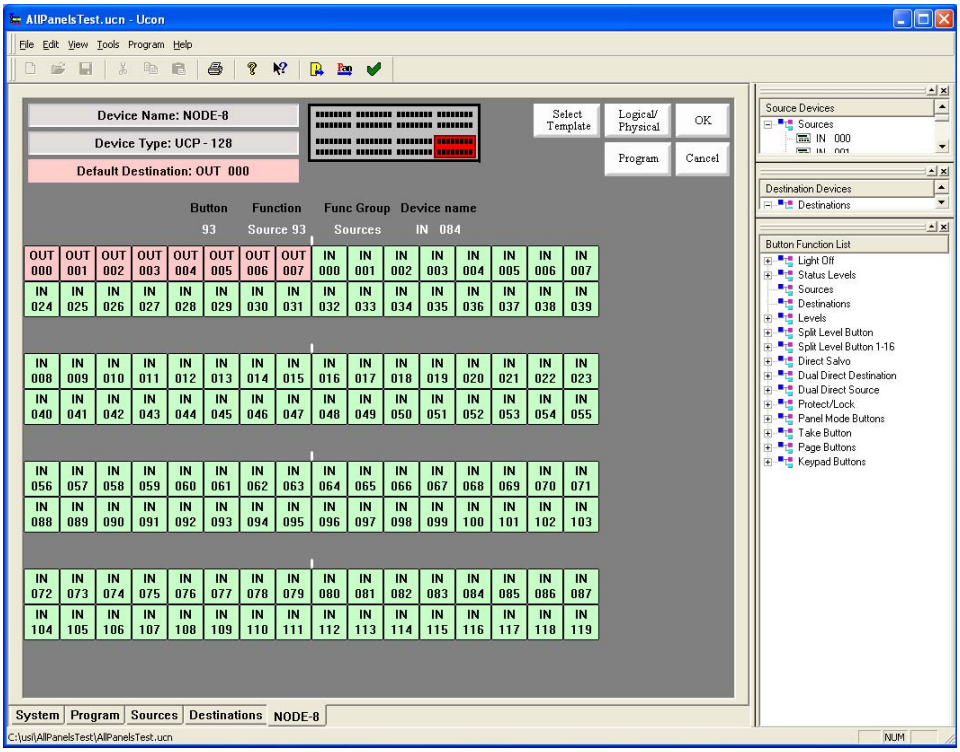


FIGURE 3-23.

Screen Resolution

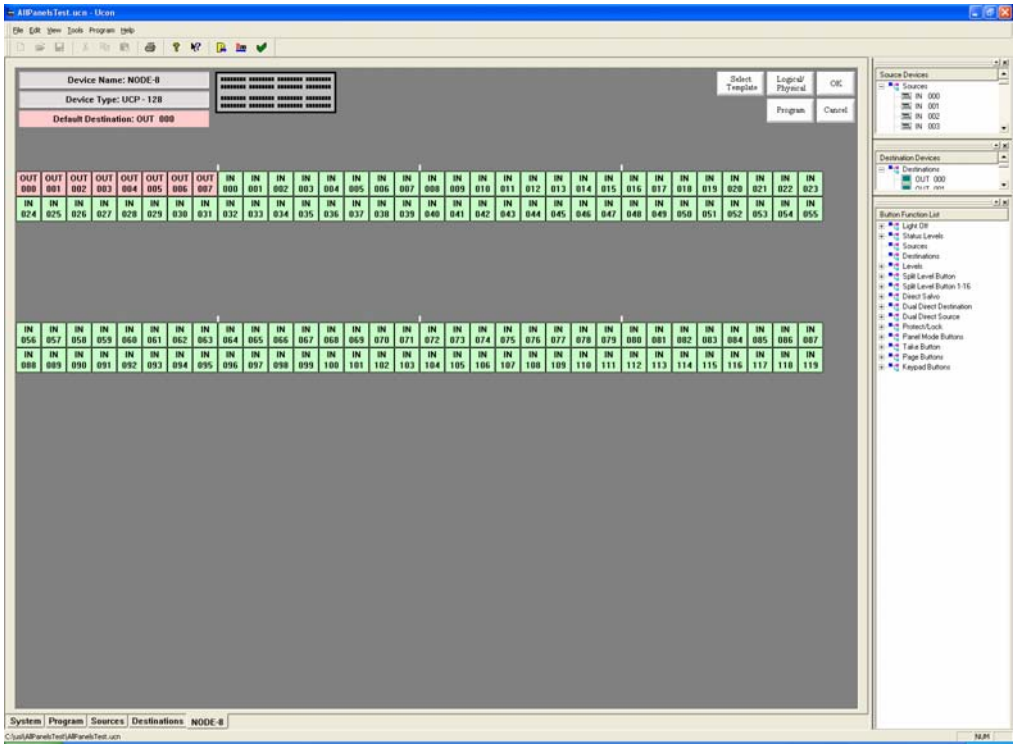
Here are some more screens that need to be added to the UCP-64/128 section. They are examples of how the screen may be laid out based on the computes screen resolution.

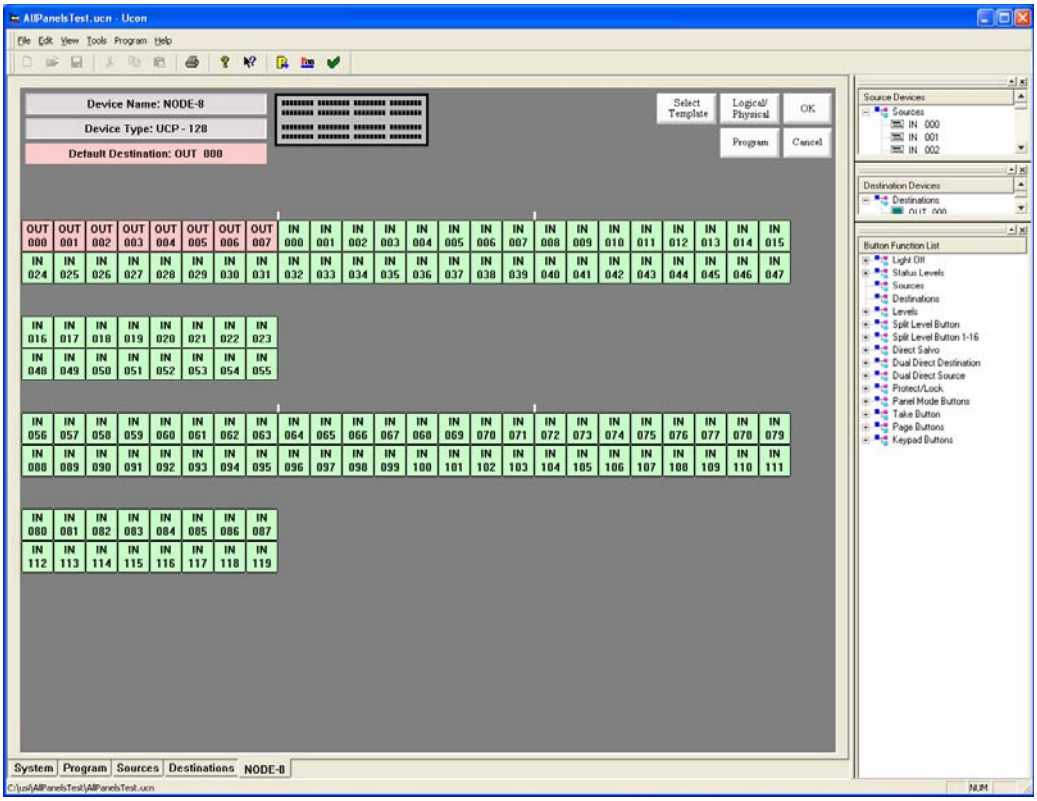


When the mouse is moved over a button the Red box at the top of the screen changes to indicate which bank of switches the button is associated with.

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.




AllPanelsTest.ucn - Ucon
File Edit View Tools Program Help
Device Name: NODE-8
Device Type: UCP - 128
Default Destination: OUT 000
Select Template
Logical/ Physical
OK
Program
Cancel
Source Devices
Destination Devices
Button Function List
System
Program
Sources
Destinations
NODE-8

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

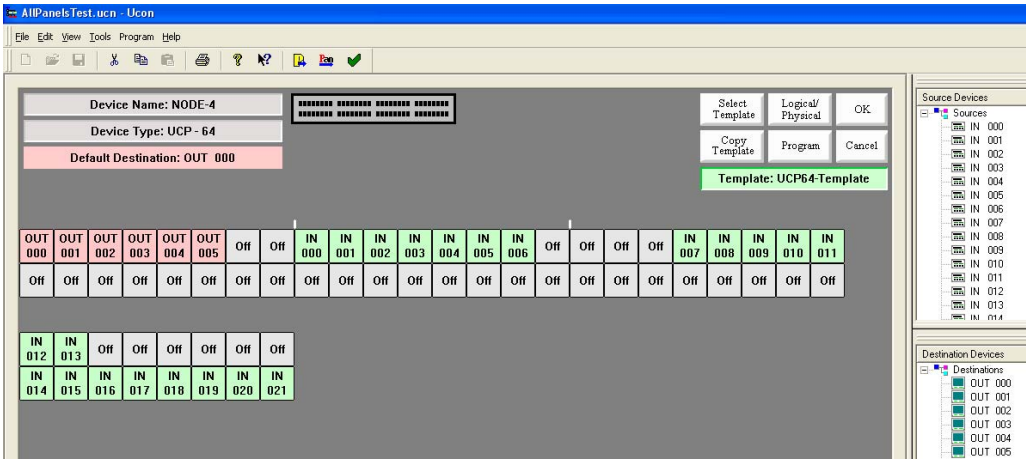


FIGURE 3-24.

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.

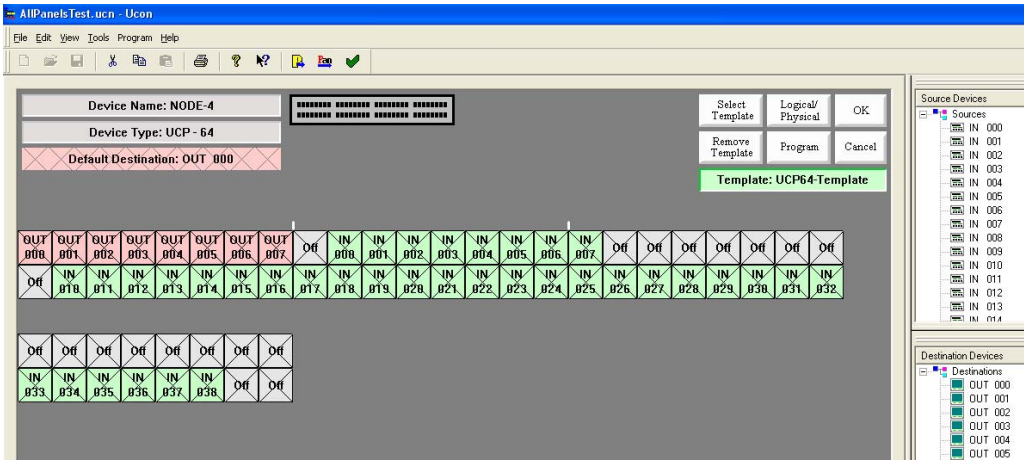


FIGURE 3-25.

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).

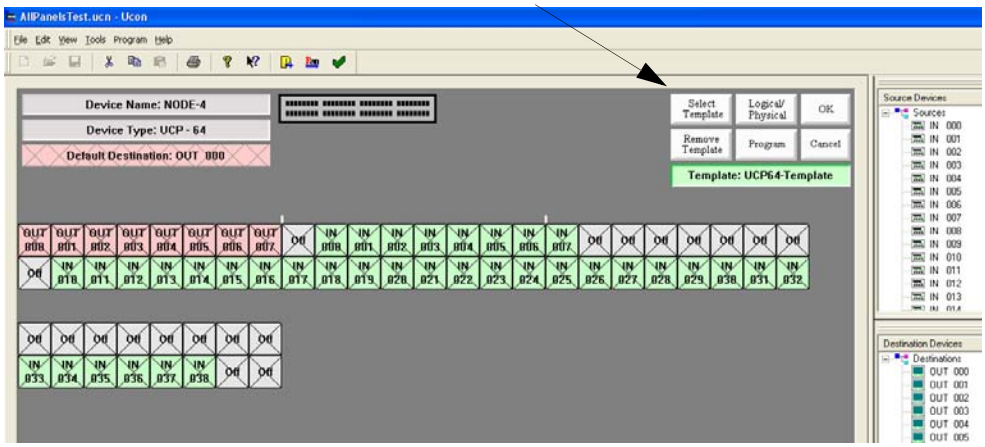


FIGURE 3-26. Inheritance de-selection

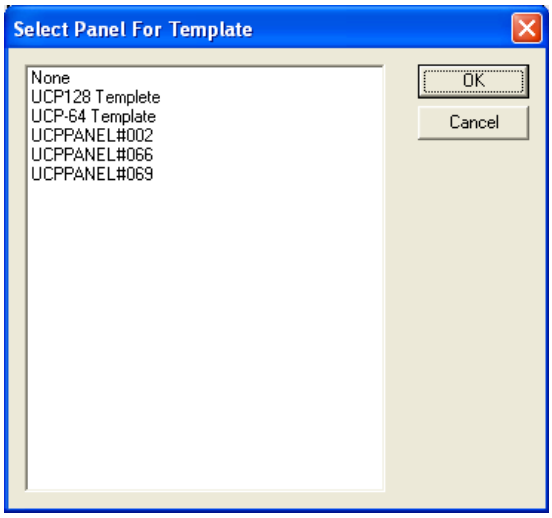


FIGURE 3-27.

CSP Panel Editors

CSP panels are supported in U-CON 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.

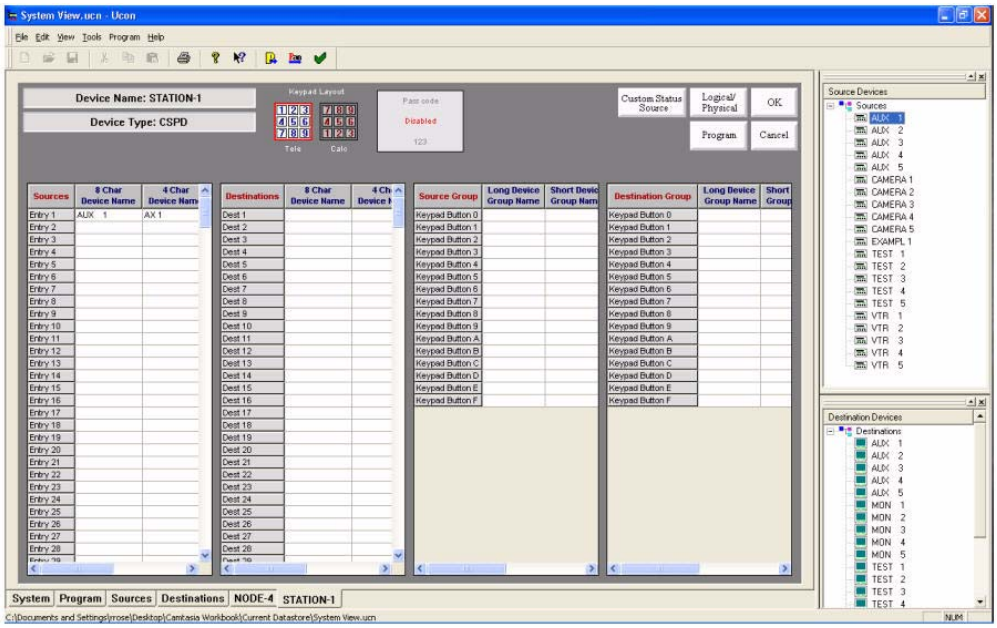
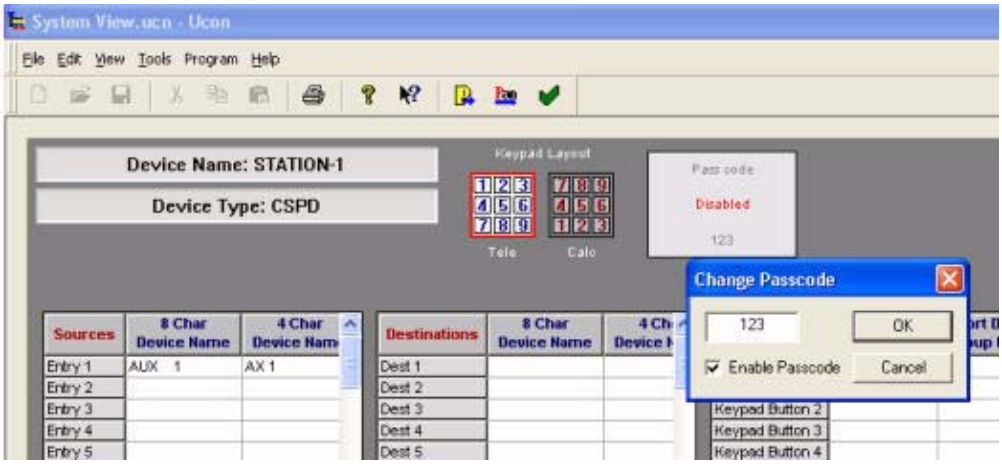


FIGURE 3-28. CSP Panel Layout

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.

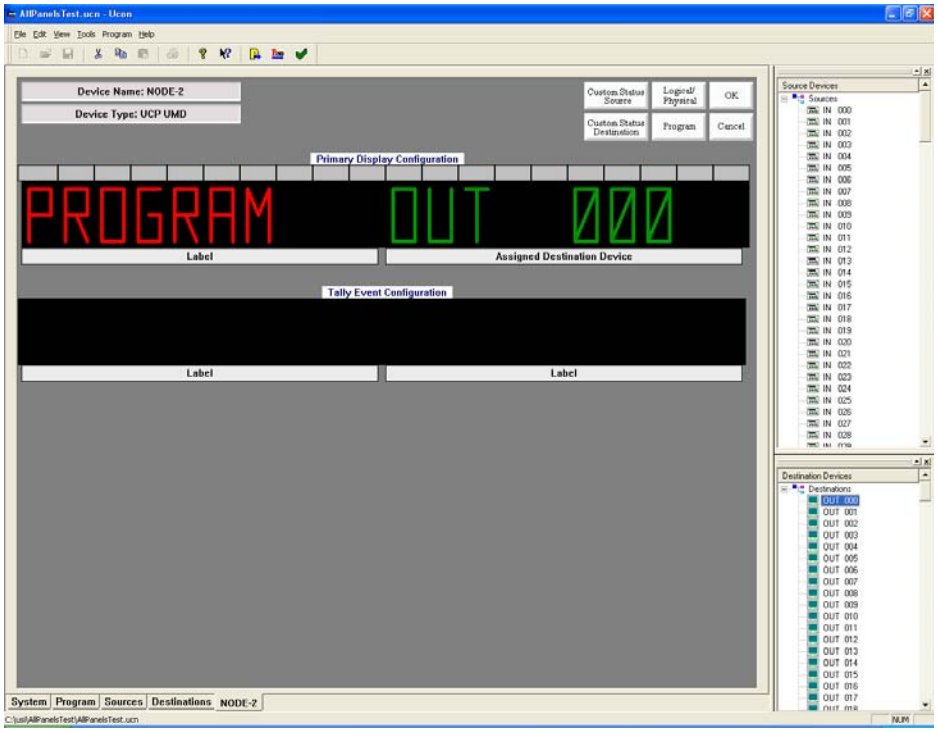


FIGURE 3-29.

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”.

4. 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.

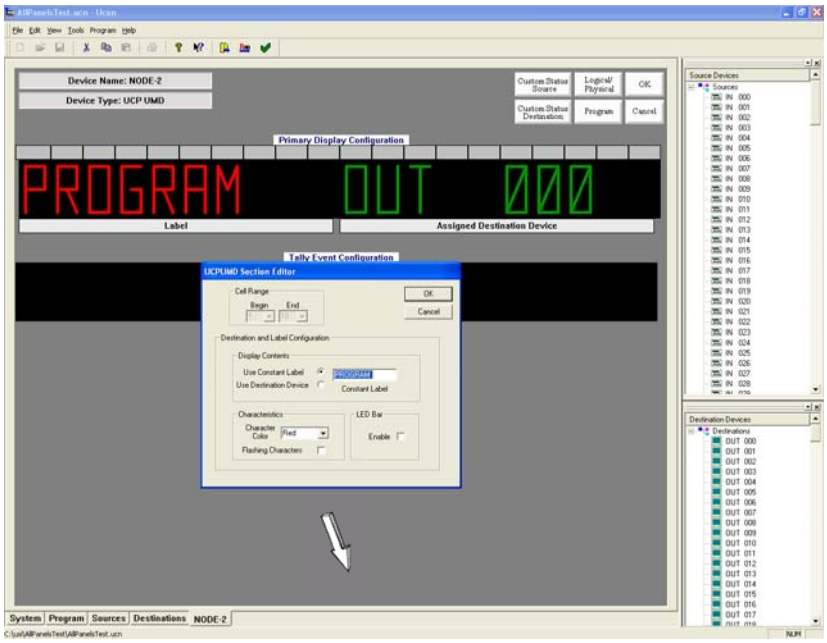


FIGURE 3-30.

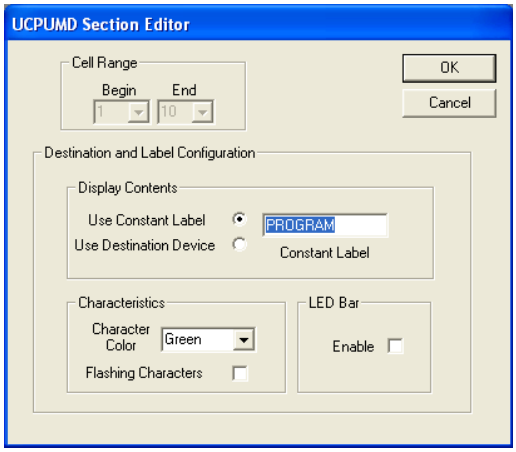


FIGURE 3-31.

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

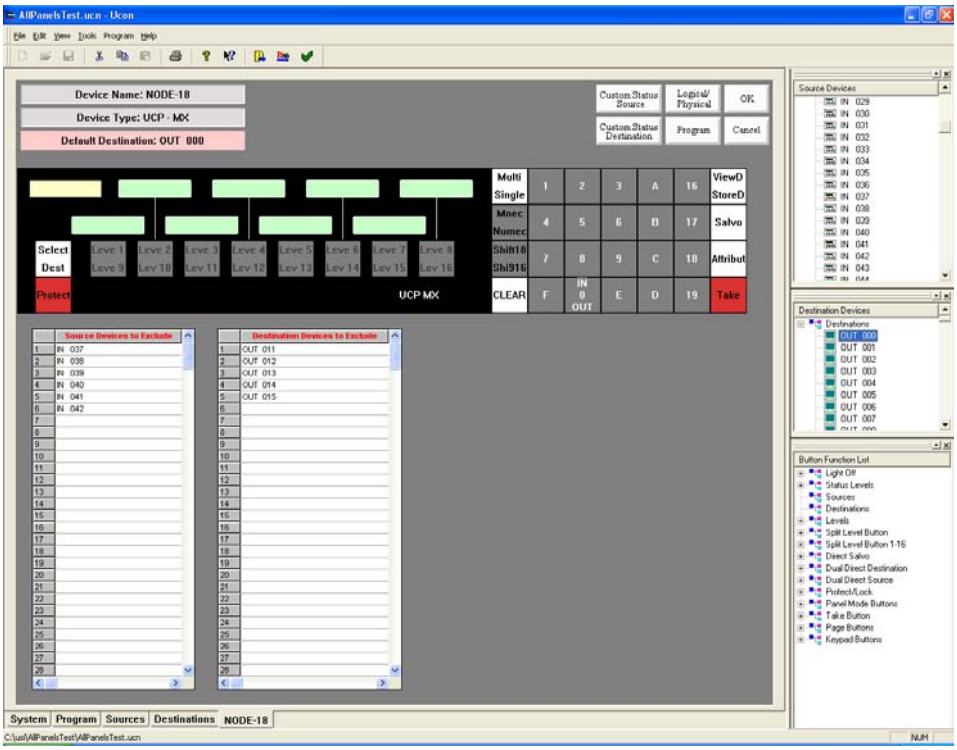


Figure 3-1. UCP-MX

UCP-MMA/MMB

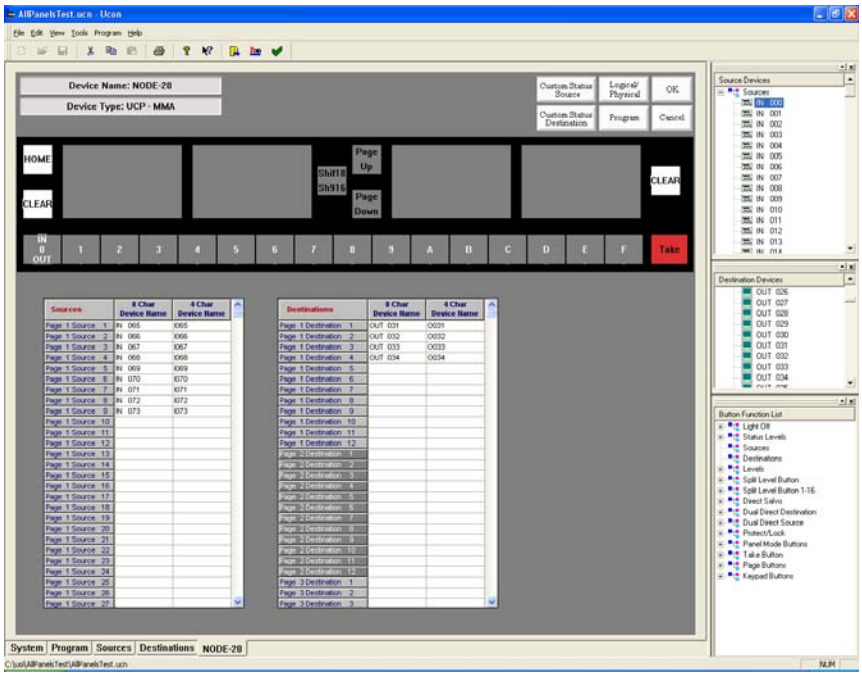


FIGURE 3-32. UCP-MMA and UCP-MMB views

- 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

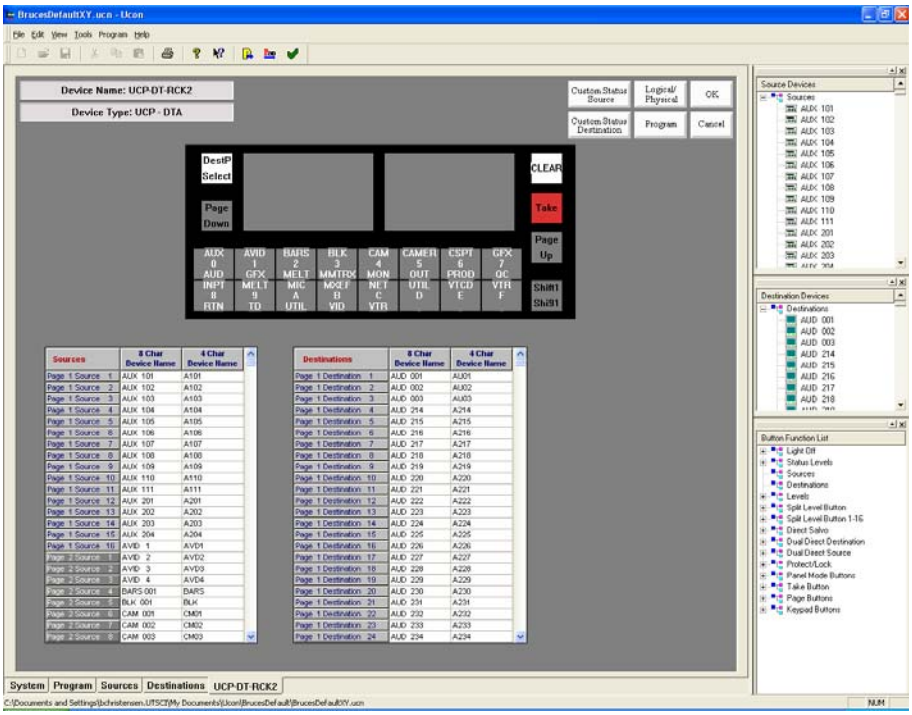


FIGURE 3-33. UCP-DTA and UCP-DTB views

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.

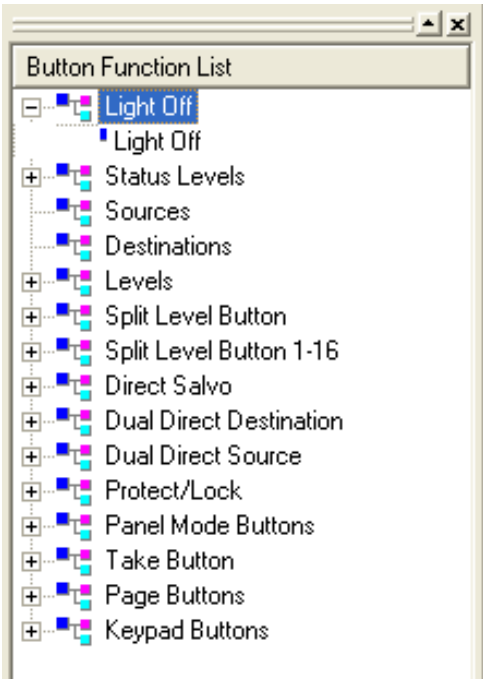
Chapter 4 - Button Function List Definitions

This section contains explanations of all Button Functions used during U-CON 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

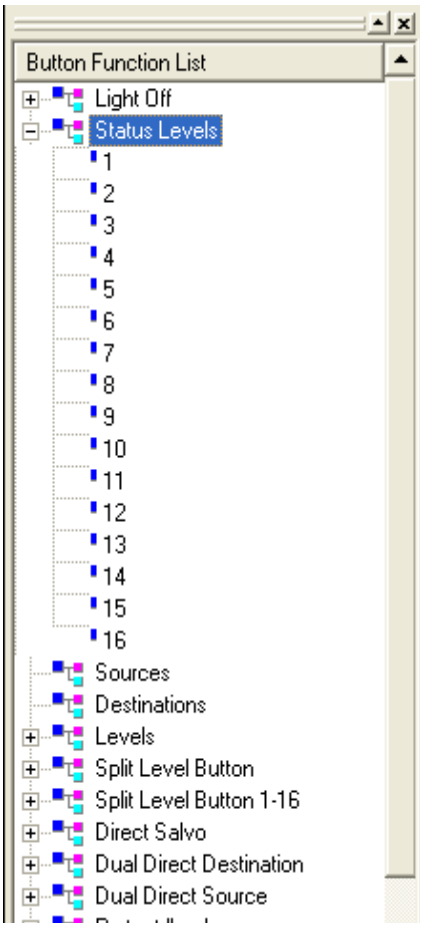


- This will unassign a button so that the light will not turn on. This can be done in two different ways.
  - Drag the *Light Off* function and drop it on a button.

    or

  - Any additional buttons (directly to the right) can be unassigned by double-clicking Light Off in the function list

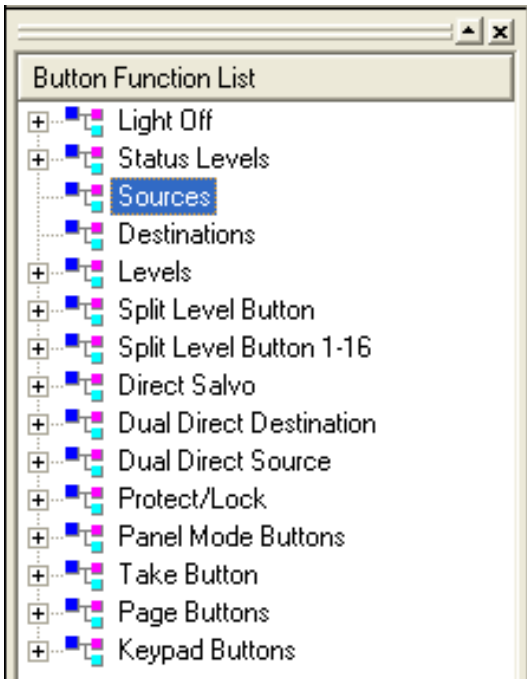
Status Levels



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.

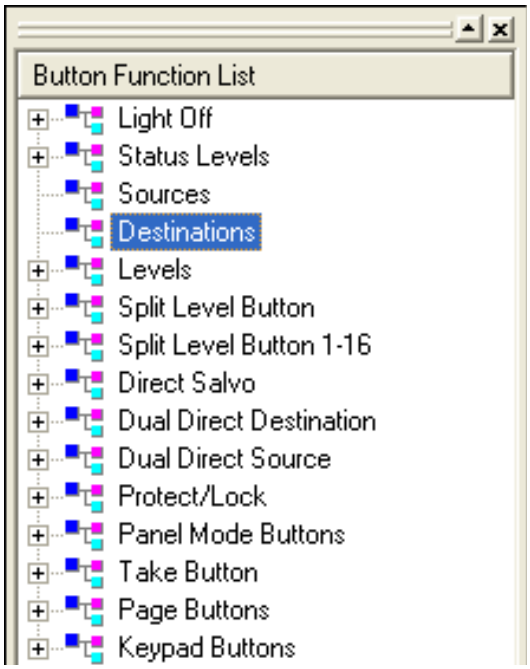
Press the Level button to select a level to be statused. It now becomes the bright level and it will be statused on the Source buttons. To setup a breakaway take, press the bright button again and the lamp will extinguish. As a result, this level will not be sent when the next Source button is pressed.

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*.

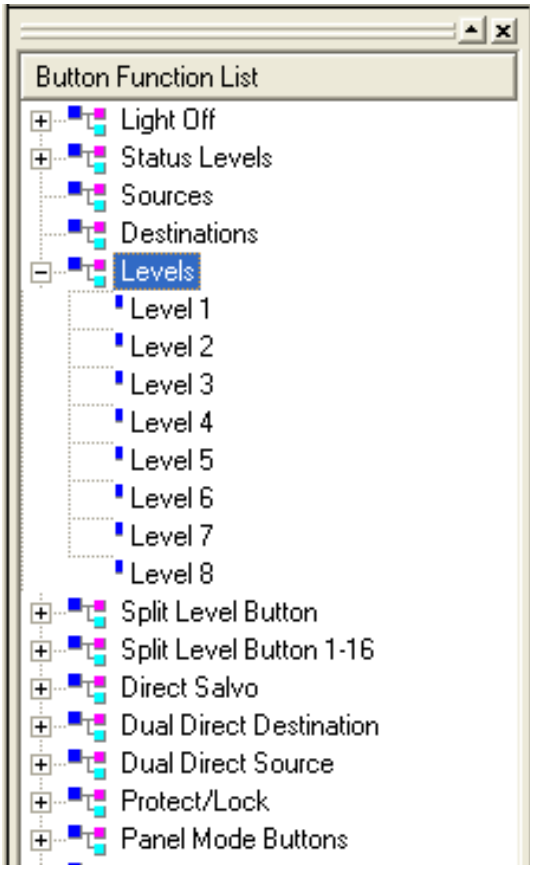
Destinations



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

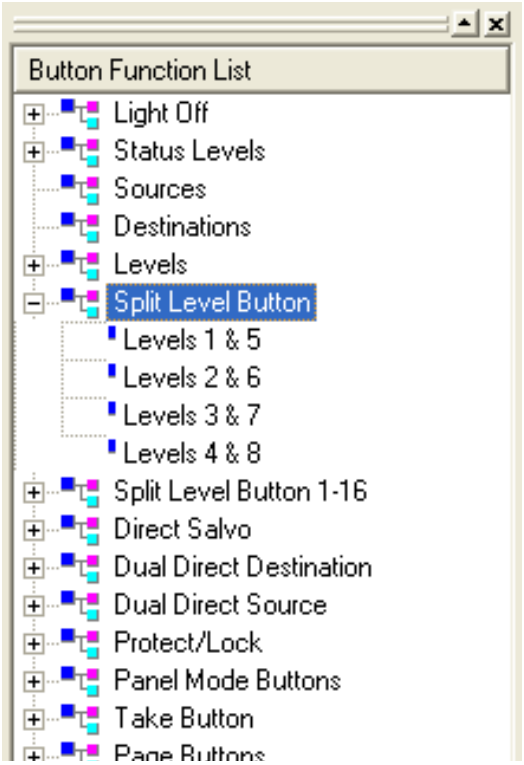


This type of level function is designed for simplicity and ease of use. If you assign a button as a “Level 1” through “Level 8” button, it functions in the following manner:

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

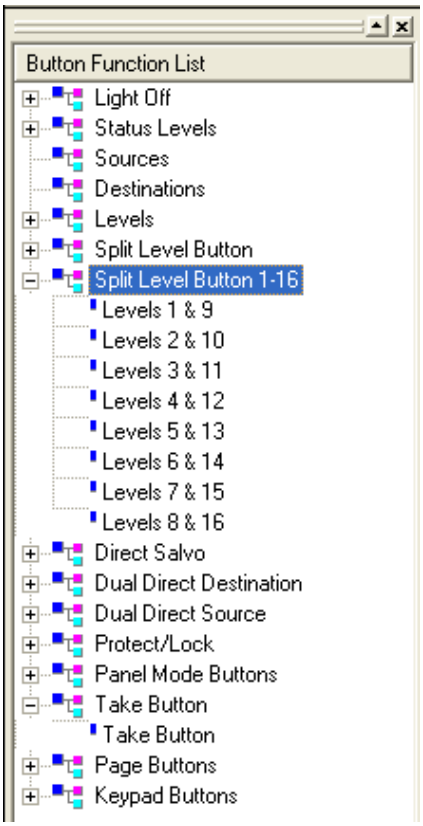


The split level buttons were designed to be used on the UCP-2, UCP-36, and UCP-72 panels. They give the user the ability to control 8 levels on 4 buttons. They should be used in conjunction with the “Panel Mode Buttons” and “Level Shift 1-4/5-8” button. This gives the user the ability to shift between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

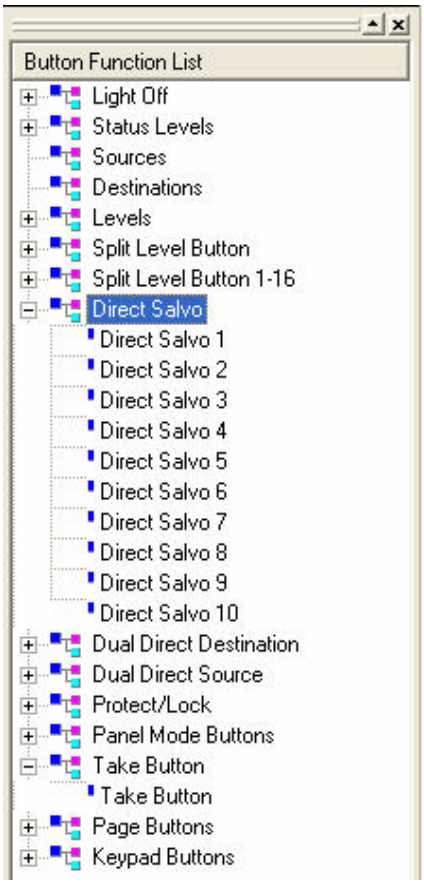
Split Level Button 1-16



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.

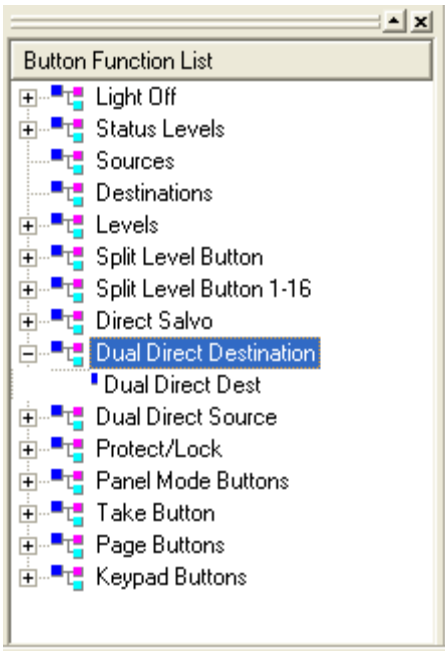
If one of these levels are bright, it indicates that this level is valid for the currently selected destination.

Direct Salvo



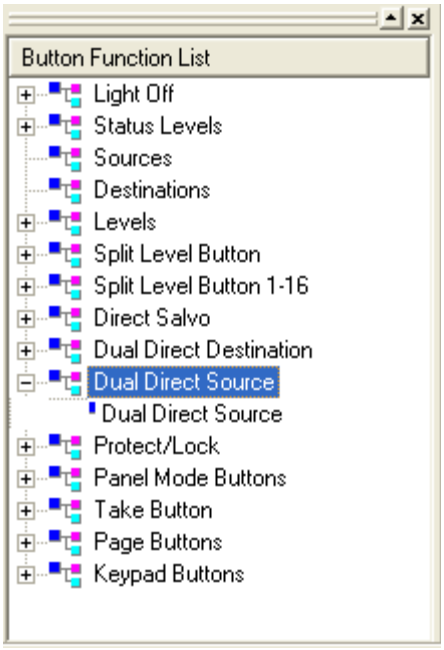
A Direct Salvo can be assigned to a button. To accomplish this, drag a “Direct Salvo #” and drop it on a button. When this button is pressed, it will send a command to the controller that will execute the direct salvo. The salvo must be configured in the SC4 *first* before this button will execute anything.

Dual Direct Destination



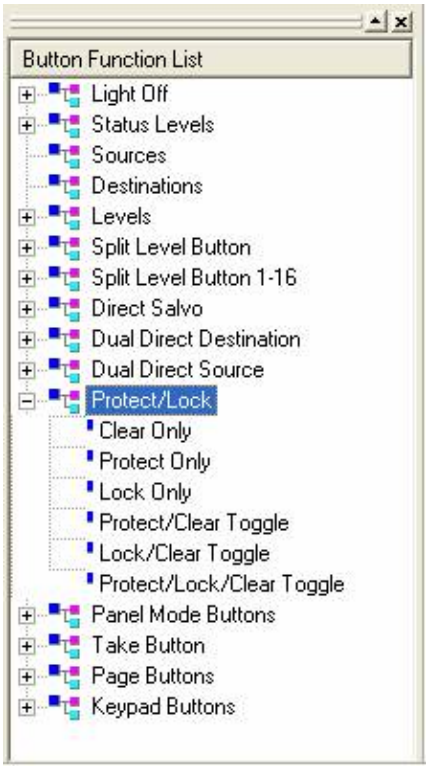
This allows a button to select the actual destination the panel will control. Assign (2) destinations to the button *after* assigning this function to the button. Once that happens, this button can be used to select the destination this panel will control.

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

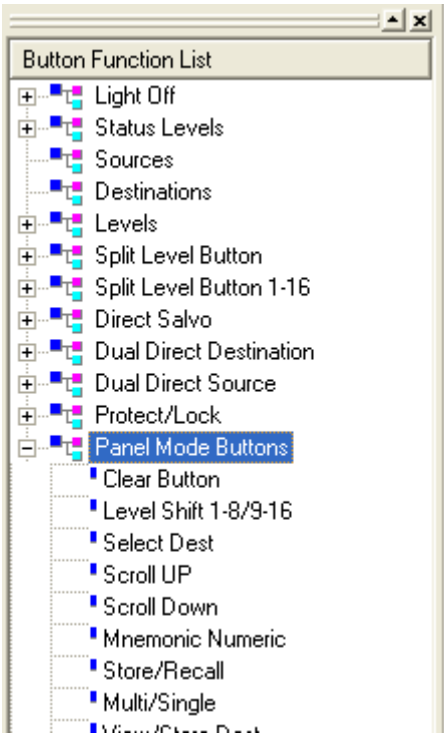
This is a toggle button that allows the user to set a “Lock” on the current output. You can then press the same button to “Clear” the protect. A “Lock” will lock the output so that no panels can make takes on this output. (Press the “Lock” button again to clear the lock.)

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 and 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 in 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 place 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.

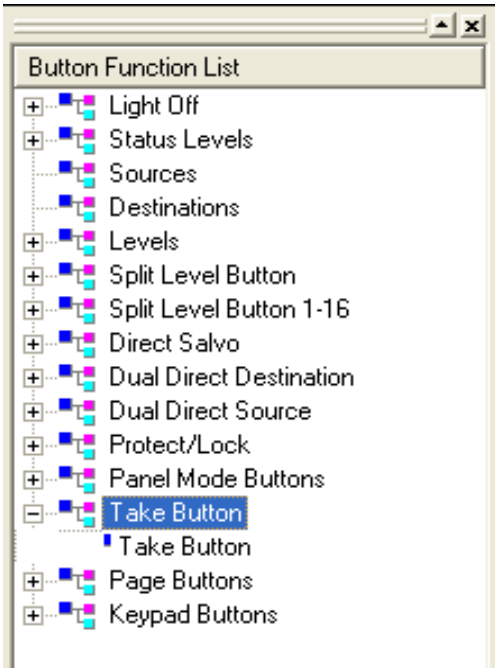
20. Menu Button

This button use 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

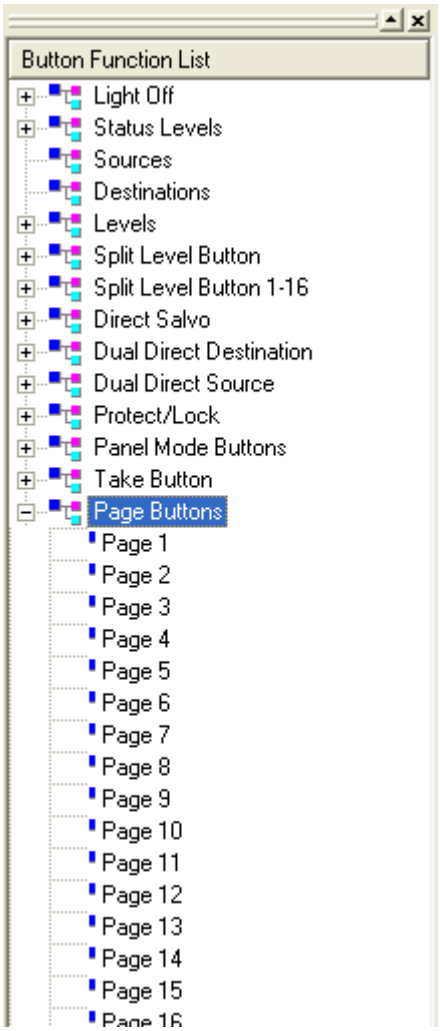
Used on the UCP-MMA/B and UCP-DTA/B panels. Once pressed, the program will request the specific page you would like to access, then retrieve the page.

Take Button



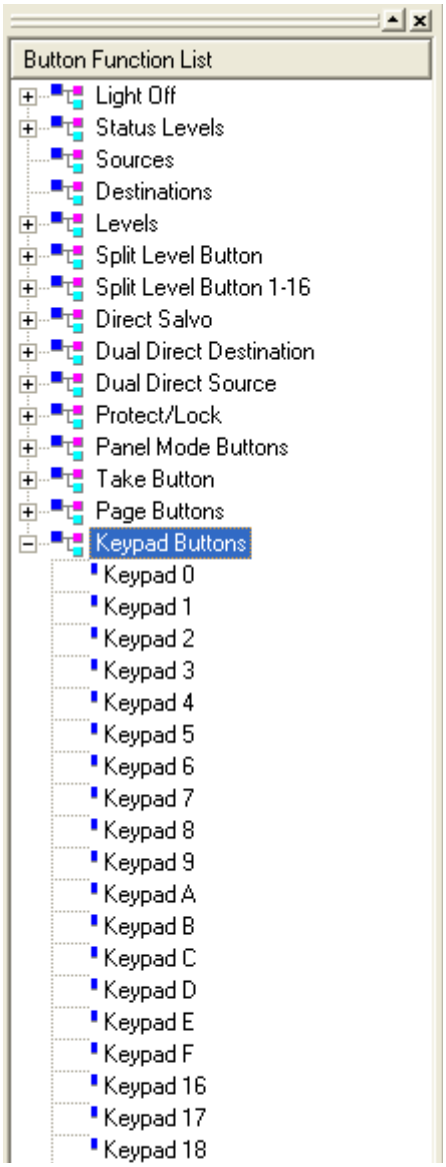
This will assign the take functionality to a button. After configuring a take, this button should be pressed to send the take to the controller.

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 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, 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

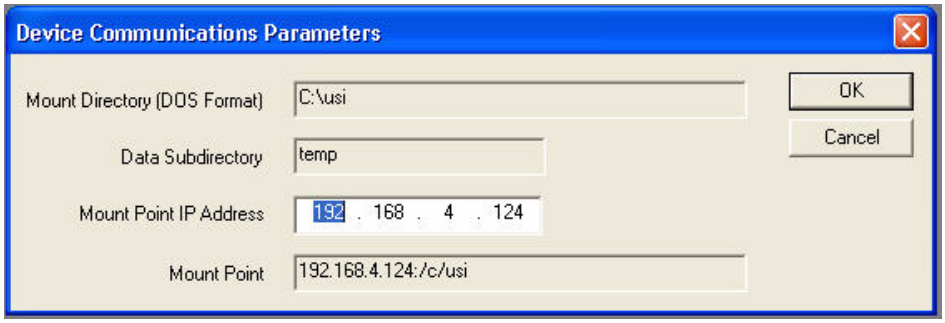
U-CON uses a networking standard (Network File System protocol) to transfer configuration files since the System Controller is very limited on internal storage. The NFS connection allows the System Controller to use the hard drive on the host computer (the machine running U-CON) as if it were its own hard drive. This allows U-CON 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 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).

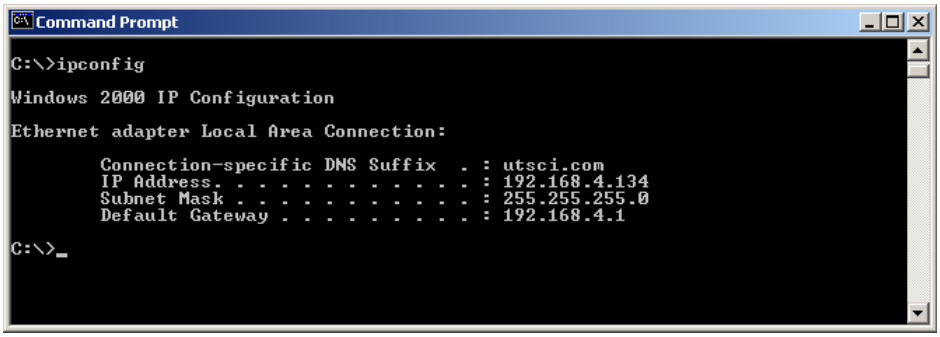
If *ProNFS* is not installed, see Section 1 (page 1-12) in the ***System Installation Guide***.

It is important that U-CON 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 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 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 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 can also compare the U-CON 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.

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

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

FIGURE A-1. 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).

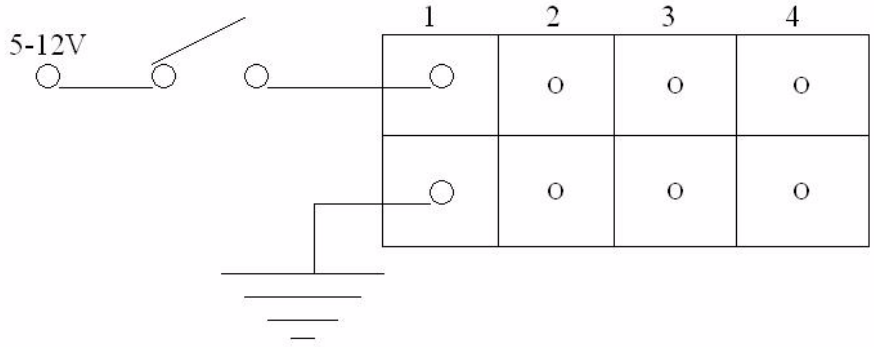


FIGURE A-2. GPI triggering

Configuration

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-3. configuration

UCP Panel View (GPIO)

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 Soures 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.)

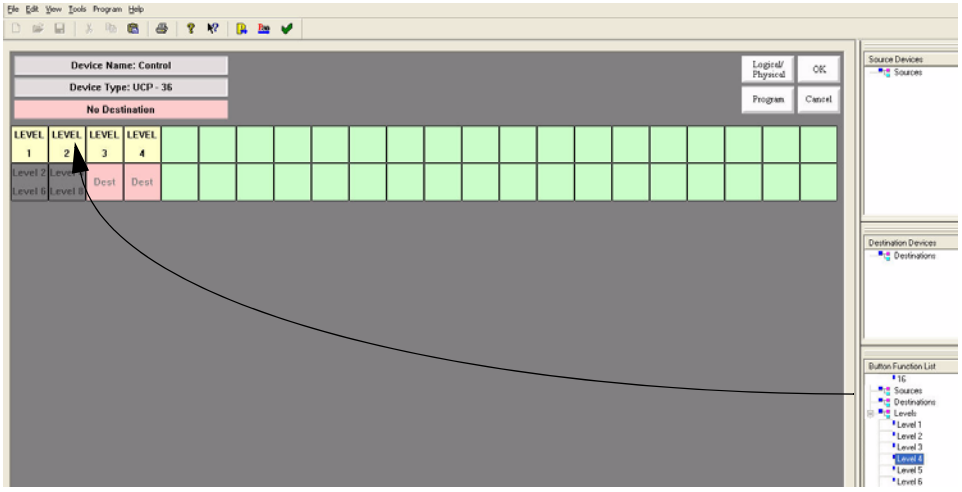


FIGURE A-4. UCP-36 view

Appendix A

- 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.)

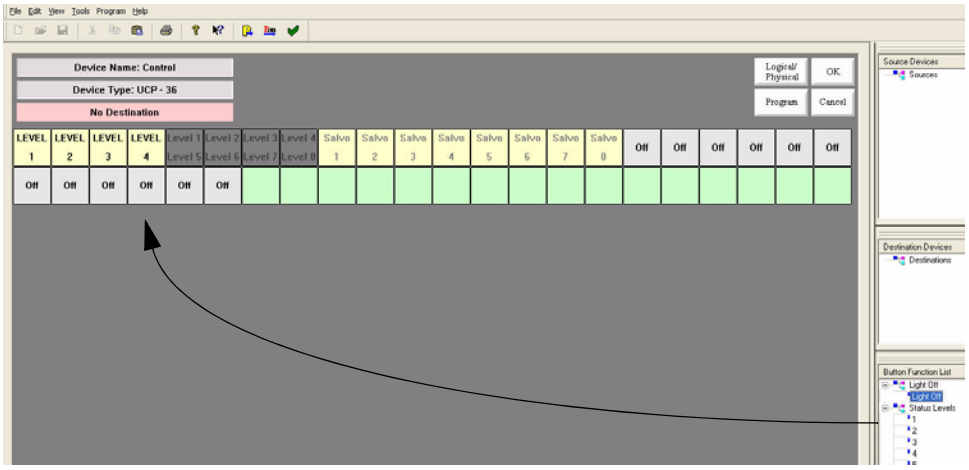


FIGURE A-5. Activating the ‘Light Off’ on each button

- 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.

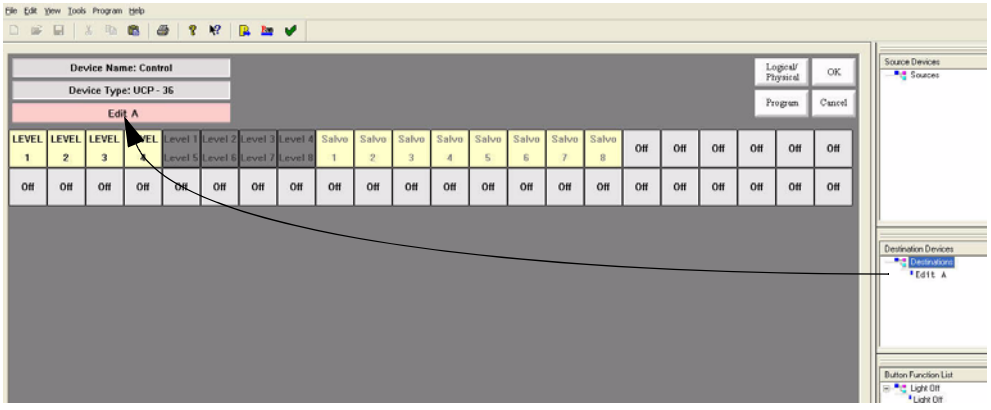


FIGURE A-6. Indicating the Default Destination

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..

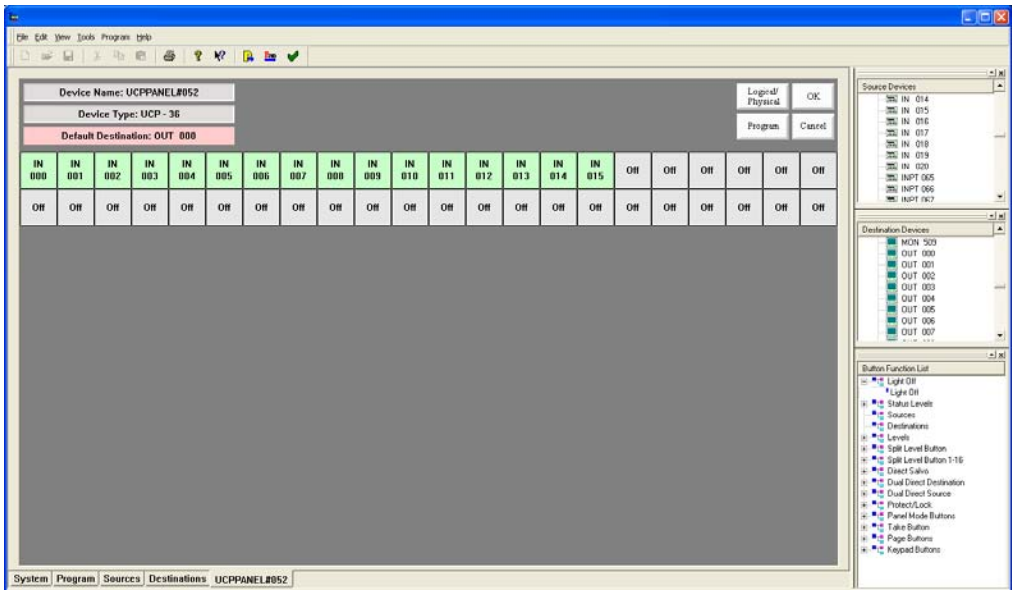


FIGURE A-7. Configured UCP-36 panel (U-CON)

Appendix A

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