CP-2232E
Remote Control Panel

User Guide

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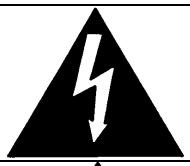
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

WARNING
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT.

WARNING
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.

WARNING
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

INFORMATION TO USERS IN EUROPE

NOTE

This equipment with the CE marking complies with both the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60065 Product Safety
- EN55103-1 Electromagnetic Interference Class A (Emission)
- EN55103-2 Electromagnetic Susceptibility (Immunity)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE	EN60065	Safety
	EN55103-1: 1996	Emission
	EN55103-2: 1996	Immunity

	EN504192 2005 Waste electrical products should not be disposed of with household waste. Contact your Local Authority for recycling advice

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment. Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

Evertz Microsystems Ltd FC For Commercial Use	Tested to comply with FCC Standards	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: This device may cause harmful interference, and this device must accept any interference received, including interference that may cause undesired operation.

REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	May 2010

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1. OVERVIEW

The CP-2232E remote control panel features two high resolution color touch-screen LCD displays alongside an array of function assignable and dynamic LCD buttons. The two LCD displays intelligently interact with the panel's buttons and rotary controls, updating automatically as different operation facilities are selected.

Each of the 32 LCD buttons is capable of displaying a multiple character text string or a graphical image. They can also be configured with a menu structure which allows quick navigation through the systems. When a menu button is pressed some or all of the buttons change their function and legend. Their operation is then defined by the configuration setup for this new menu. The selection of a new menu can also be configured to change the graphical display of one or both of the LCD screens.

The CP-2232E is the flagship panel of Evertz advanced control system, allowing control of automated tielines and pathfinding, and advanced breakaway routing while still supporting basic routing concepts like levels and categories. The CP-2232E requires the EQX SERVER Control System for router control.

The CP-2232E panel incorporates advanced control of all of Evertz's SNMP enabled devices. Devices or certain controls of devices can be grouped and/or ganged together and associated with sources and destinations on routers so that when a particular source or destination is used the appropriate controls are loaded up for interfacing on the panels LCD screens. This allows simple but powerful interfaces to be built to control parameters and recall presets for SNMP equipment in your facility as well as integrate with router systems.

The CP-2232E enables users to have real-time control over a MVP or VIP system, display graphical visualizations of layouts prior to loading them, control what signal is routed to what multiviewer window, select an audio to be monitored, etc. The CP-2232E is a very sophisticated advanced panel that allows you to create a very powerful and very simple interface to your entire system so users have real-time control over signals, displays and their router destinations.

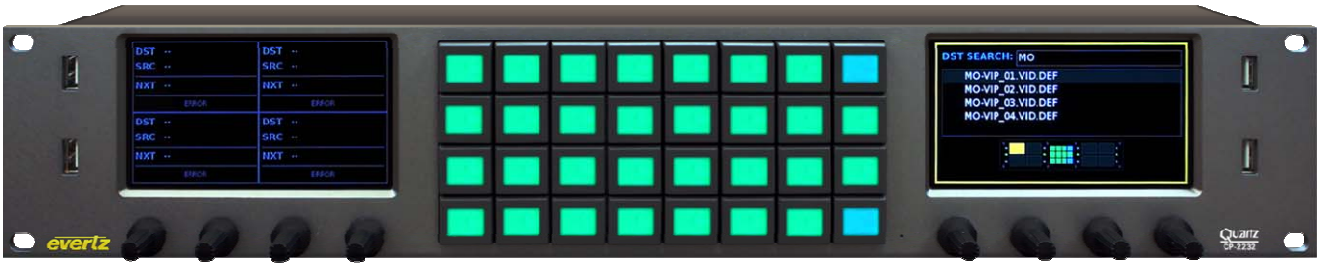

Figure 1-1: CP-2232E Control Panel

2. INSTALLATION

2.1. REAR PANEL

Figure 2-1 shows the rear view of the CP-2232E control panel. The following is a list of the ports and controls on the rear panel:

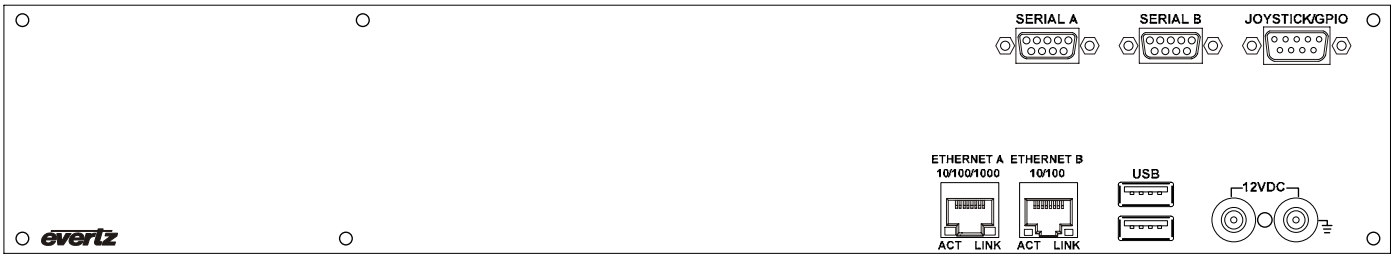

Figure 2-1: CP2232E Rear Panel

SERIAL A & B: Serial A & B connectors provide RS-232/RS-422 serial control ports.

ETHERNET (A & B): These RJ45 connectors are used for Network connections to the CP-2232E.

USB (A & B): These USB 2.0 Ports are used for USB-based mouse and/or keyboard connections to the CP-2232E.

JOYSTICK/GPIO: This connector is currently not supported.

12VDC: Two external 12 VDC inputs can used to provide fully redundant powering of the unit. The DC input connector is a 0.218 inch diameter center positive miniature DC power jack.

To connect the 12 VDC supply use an AC to DC converter rated at 12 VDC, 3 A minimum. A power supply converter can be ordered from your Evertz Products dealer (Evertz part # VSHES34-120300). The DC cable of the voltage adapter should be connected to the DC power jack on the rear panel. The voltage adapter DC connector-fastening collar can be screwed to the DC power jack to prevent accidental disconnection.

2.2. FRONT CONTROL PANEL

There are two LCD touch-screen displays located on the front control panel. When operating the panel, content can be selected and displayed on these screens The group of buttons located in the center of the CP-2232E front control panel are used navigation and selection.

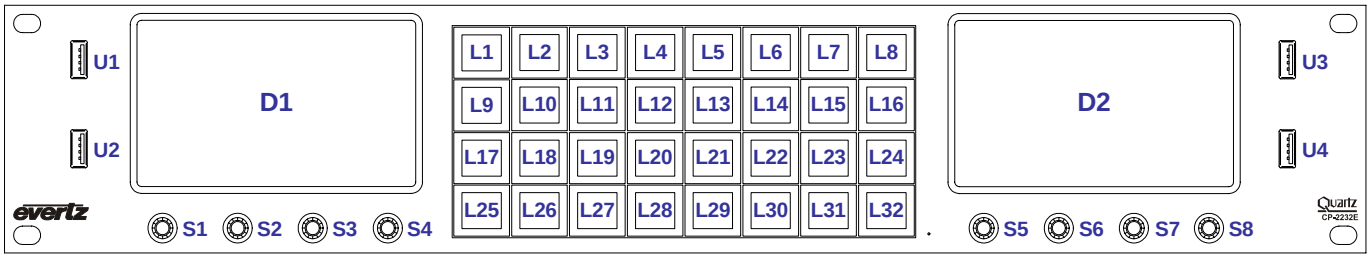

Figure 2-2: CP-2232E Front Control Panel

Please note that the labels in Figure 2-2 will NOT be displayed on the front panel of your CP-2232E device. The labels listed above are for reference purposes only when describing the panel controls in the following sections of the manual. The following chart describes the label and function of the associated button.

Label(s)	Description
D1 & D2	These labels identify the two display screens on the CP-2232E front panel. When operating the panel, the content will be displayed on these screens.
L1 to L32	There are thirty-two LCD buttons located on the front panel, which are labelled L1 to L32 in Figure 2-2.
S1 to S8	S1 to S8 identifies the eight shaft encoders that are available on the front panel. The user can adjust parameters or toggle through items by turning the shaft encoder knobs left and right. The user can also select items by pressing in the shaft encoder.
U1 to U4	There are four USB ports located on the front panel, which are labelled U1 to U4 in Figure 2-2. These ports are used for USB-based mouse and/or keyboard connections, and local upgrading of the panel.

2.3. POWER CONNECTIONS

The CP-2232E comes with an auto-ranging DC voltage adapter that automatically senses the input voltage. Power should be applied by connecting a 3-wire grounding type power supply cord to the power entry module on the DC voltage adapter. The power cord should be minimum 18 AWG wire size; type SVT marked VW-1, maximum 2.5 m in length. The DC cable of the voltage adapter should be connected to the DC power jack on the rear of the panel.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, GROUNDING OF THE GROUND PIN OF THE MAINS PLUG MUST BE MAINTAINED.

2.4. MOUNTING

The CP-2232E is equipped with rack mounting angles and fits into a standard 19 inch by 3.5 inch by 1.2 inch (483 mm x 89 mm x 32mm) rack space.

Cooling is achieved by passive air flow across and through the panel chassis.

3. FRONT PANEL CONTROL

To enter the setup menu of the CP-2232E press and hold the first and last rotary encoders (S1 and S4) on the far left side of the panel for approximately 6 seconds. You will then be presented with several menus which allow testing and configuration of the panel.

3.1. FRONT PANEL NAVIGATION OPTIONS

The user can navigate through the menu options three different ways:

1. **LCD Touch-screen Menu Tabs:** The user can choose a menu option by selecting a menu tab on the LCD touch-screen.

2. **LCD Touch-screen Arrows:** The user can navigate through the menu options using the left and right arrows on the LCD touch-screen.

3. **Soft-key LCD Buttons:** The user can navigate through the menu options using the left and right (L10 and L12) arrow soft-key buttons.

The **EXIT Setup** soft-key (L1) button will close the entire setup menu.

3.2. UPGRADING

The user can manually upload code onto the CP-2232E unit using the **Update** screen or the web interface (see section 4.1). The following procedures outline how to manually update the device. This practice is not recommended for typical users and should only be implemented when directed by Evertz personnel.

This practice is not recommended for typical users and should only be used when directed by Evertz personnel.

1. Plug a USB memory key into one of the USB ports on the rear panel of the CP-2232E.

2. Select the **Update** menu option.

3. The **Update** screen will display the updates available on the USB memory key. If there are no files listed, select the **Refresh** option on the touch-screen OR press the **Refresh** soft-key (L18) button to refresh the list. If there are still no files listed, try rebooting the system and ensure the correct files are loaded on your USB memory key.

4. If the available files are listed on the display screen (D1), toggle through the list using the bottom left shaft encoder (S4).

5. Once the desired file is highlighted, select the **Install** option on the touch-screen OR select the **Install** soft-key (L20) button.

6. The **Install Update** screen will appear after a few seconds enabling the user to select whether they would like to update the code. Select the **Yes** soft-key button to apply the update, or select the **No** soft-key button if you do not wish to update the code.

Once the **Yes** option is selected, the user can remove the USB memory key from the rear of the CP-2232E device. The CP-2232E device will automatically reboot. This may take approximately 2 to 3 minutes.

3.3. CONFIGURING THE NETWORK SETTINGS

The **Network** screen enables the user to configure the network settings for network ports A and B. The following procedure outlines how to set an IP address.

1. To change the IP address, toggle to the appropriate number using the bottom left **Select** shaft encoder (S1). Turning the shaft encoder clockwise will enable the user to advance forward and highlight the appropriate value. Turning the shaft encoder counter-clockwise will move the selection tool backwards.

2. Once the desired value is highlighted (the text will be bright yellow), use the bottom right **Change** shaft encoder (S4) to adjust the value of the selected number. Turning the shaft encoder clockwise will increase the number value, while turning the shaft encoder counter-clockwise will decrease the number value.

3. If you wish to apply your changed network settings, press the **Apply** option on the touch-screen OR select the **Apply** soft-key (L20) button.

4. **Bonding** may be chosen if you wish the CP-2232E to use the same IP address on BOTH Ethernet ports. This setting is ONLY to be used if ONE Ethernet cable is plugged into a single network OR if two completely isolated networks are in use. Using bonding, and plugging both ports into the same switch will cause a network loop and unsavoury results on your network.

3.4. TESTING THE PANEL'S FUNCTIONALITY

The **Test** screen enables the user to test the functionality of the LCD touch-screens and LCD soft-key buttons. The **Test** screen lists four main test options: **Key Test**, **LCD Test**, **Touchscreen Test**, and **GPIO Test**.

The user can select a test option using the touch-screen OR the designated soft-key buttons.

3.4.1. Key Test

Selecting the **Key Test** option enables the user to test the functionality of the 32 LCD buttons. After selecting the **Key Test** option, buttons L1 to L32 will cycle through the following pattern of colours: RED -> GREEN -> BLUE -> WHITE -> BLACK.

Following this, you will enter a test mode where buttons L1 through L32 display two numerical values (one on top of the other).

When an LCD button is operating correctly, you may push that button and it will sequence through different colours each time the button is pushed (RED -> GREEN -> BLUE -> WHITE -> YELLOW -> TURQUOISE -> PINK -> BLACK). Simultaneously, each time the button is pushed the two numerical numbers displayed in the button should increment as well.

To exit the **Key Test** screen, simultaneously hold down the first and last shaft encoders (S1 and S4) until the **Test** setup screen is displayed.

3.4.2. LCD Test

Selecting the **LCD Test** option enables the user to test the LCD monitors. To perform a LCD test, select the **LCD Test** option. The LCD screens will cycle through a variety of solid coloured and gradient screens. The screens will continue to cycle until the **LCD Test** is exited.

To exit the **LCD Test**, press any of the shaft encoders. This will return the user to the **Test** setup screen.

3.4.3. Touchscreen Test

Selecting the **Touchscreen Test** option enables the user to test the functionality of the LCD touch-screen. A series of white dots will appear where the user touches the screen in order to show the screen's interactivity. Select the **Reset Test** soft-key (L27) button to clear the white dots. The **EXIT Test** soft-key (L25) button will return the user to the **Test** setup screen.

3.4.4. GPIO Test

Selecting the **GPIO Test** option enables the user to test **GPIs 1**-**7** and **GPOs 1**-**7**. To test the GPOs, press a GPO soft-key button and the corresponding GPI will become highlighted in green. To test the GPIs, activate a GPI and observe the corresponding GPI indicator. To exit the **GPIO Test** screen, press any of the shaft encoders. This will return the user to the **Test** setup screen.

3.5. CHECKING THE STATUS OF THE PANEL

The **Status** screen displays information pertaining to the performance of the CP-2232E.

- **Power Status:** Monitors the left and right power status of the system.
- **BIOS Release Date:** Displays the BIOS release date in month/day/year format.
- **Uptime:** Monitors the time elapse from the initial boot up sequence in hours:minutes:seconds format.
- **Workload:** Monitors the workload.

The **Reboot** option enables the user to restart the system. To shut down the CP-2232E, select the **Power Off** option.

4. SYSTEM CONFIGURATION

4.1. UPGRADING THE CP-2232E PANEL

4.1.1. Requirements

1. The user must have a laptop or PC connected to the same network as the CP-2232E.

2. The user must obtain upgrade files from Evertz Personnel.

    a. Your computer must be running the Mozilla Firefox web browser located at: http://www.mozilla.com/en-US/firefox/
    b. This browser is also available in Chinese simplified and traditional, if preferred, by clicking the "other languages…" option under the download link.

4.1.2. Getting Started

1. Set the IP address of the CP-2232E by holding down the first and last rotary encoders (S1 and S4) on the far left of the panel for 6 seconds.
    c. Select the "Network" page.
    d. Set the IP address for the A port and ensure "bonding" is off (a red x should appear next to it).
    e. Select *Apply*, then press the setup button.

2. Set the IP of your laptop or PC in the same range as the panel.

3. Ensure that Firefox is installed on your machine. If not, please review section 4.1.1 for instructions on installing Firefox.

4.1.3. Upgrading Firmware on the CP-2232E

1. To upgrade firmware using the web interface, open a Firefox web browser and enter the IP address of the CP-2232E, then press the <*enter*> key. The *CP2232e* web interface will appear, as shown in Figure 4-1.

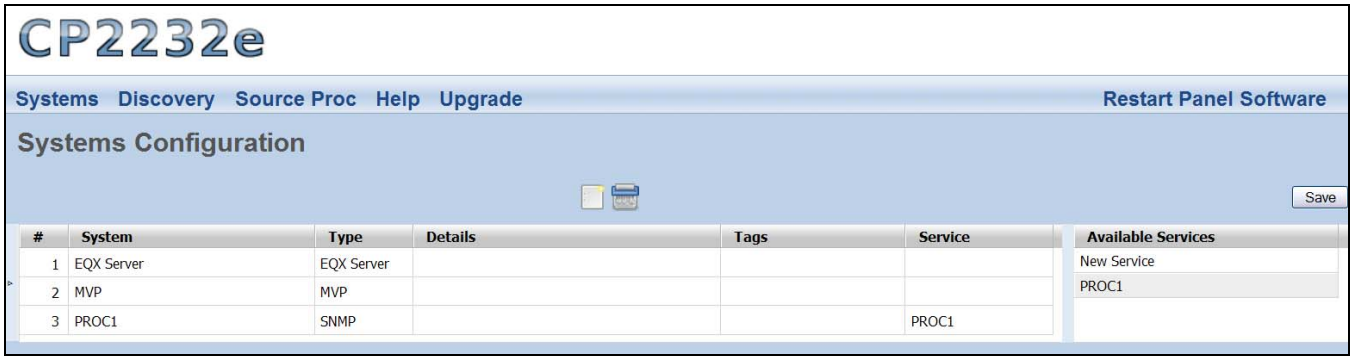

Figure 4-1: CP2232e Web Interface

2. Select the **Upgrade** menu and the "Install Firmware" page will open as illustrated in Figure 4-2.

Figure 4-2: Install Firmware Page

3. Click on the **Browse** button to select the file to be updated (i.e. CP2232e-1.1_1.efp) and then select the **Install** button to start the install.

4. If a reboot is required the panel should automatically reboot on its own otherwise you may reboot it using the front panel.

5. Once the panel has rebooted you are ready to configure the CP-2232E.

4.2. SYSTEMS MENU

The **Systems** menu enables the user to upload product jar files, create services and templates, and add systems. Figure 4-3 illustrates the **Systems** drop down menu.

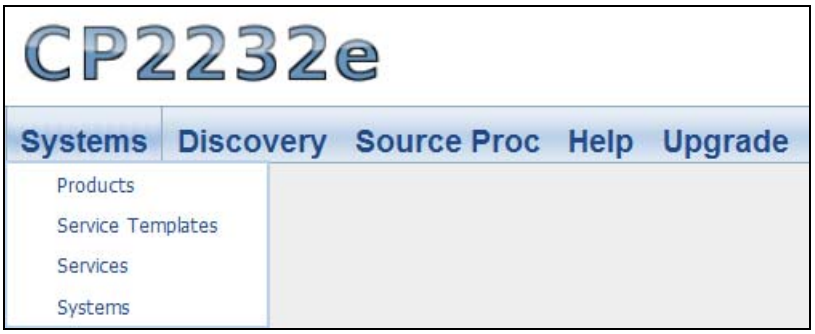

Figure 4-3: Systems Drop Down Menu

4.2.1. Products Page

The **Products** page, as illustrated in Figure 4-4, enables the user to upload product jar files to the control panel. Uploading the product files will provide access to the specific product parameters and enable configuration of such products.

To open the **Products** page, select the **Products** option from the **Systems** drop down menu.

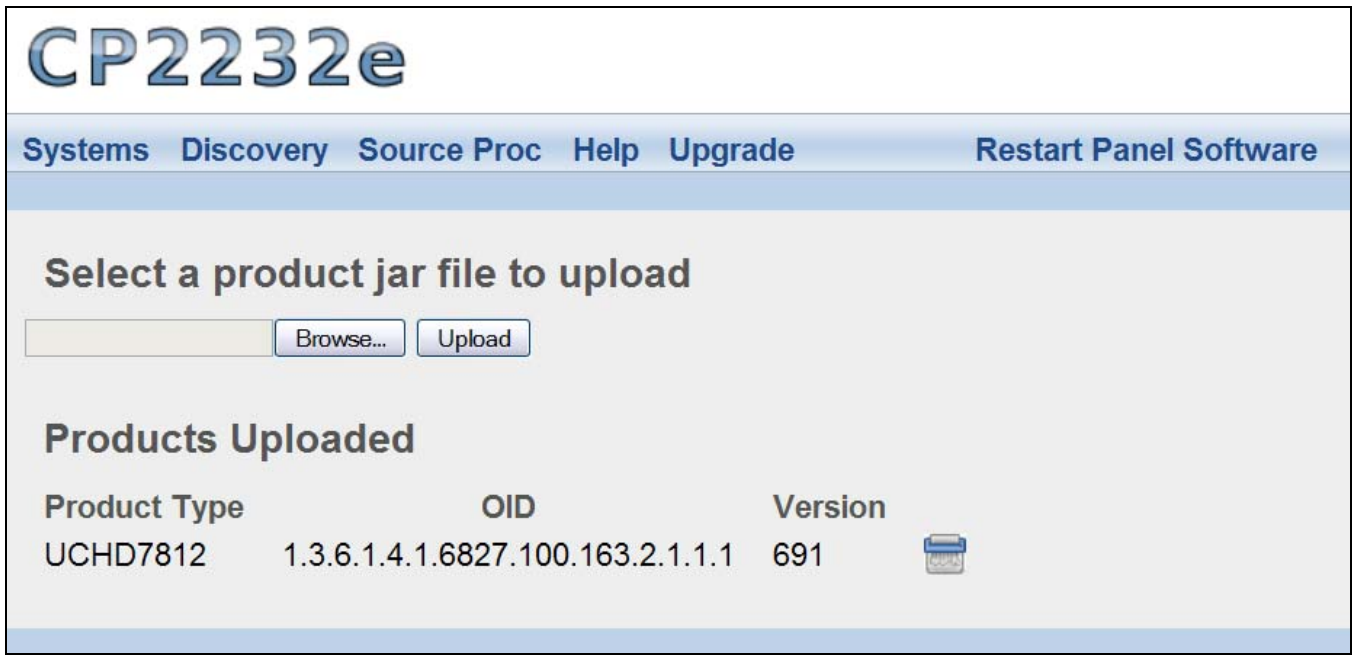

Figure 4-4: Products Page

The **Products** page has two control buttons, which are listed below:

- **BROWSE:** Selecting the *Browse* button will open a dialog box that enables the user to navigate to the desired jar file. Once the file is selected and opened, the filename will be displayed in the field to the left of the *Browse* button.

- **UPLOAD:** Selecting the *Upload* button will upload the selected file.

4.2.1.1. Products Uploaded

Products Type: This column lists the product files that are currently loaded on the control panel. If a product is loaded onto the panel, the product will be accessible in the **Service Templates** page (see section 4.2.2 for further information regarding the **Service Templates** page).

OID: This column identifies the product's unique address known as an "Object Identification."

Version: This column lists the product's current version number.

Select the  button to delete the product.

4.2.2. Service Templates Page

The **Service Templates** page enables the user to create templates that contain SNMP parameters and controls for specific products. These templates are then used for creating and defining SNMP Services on the CP-2232E control panel. The **Service Templates** page also allows the user to edit existing templates.

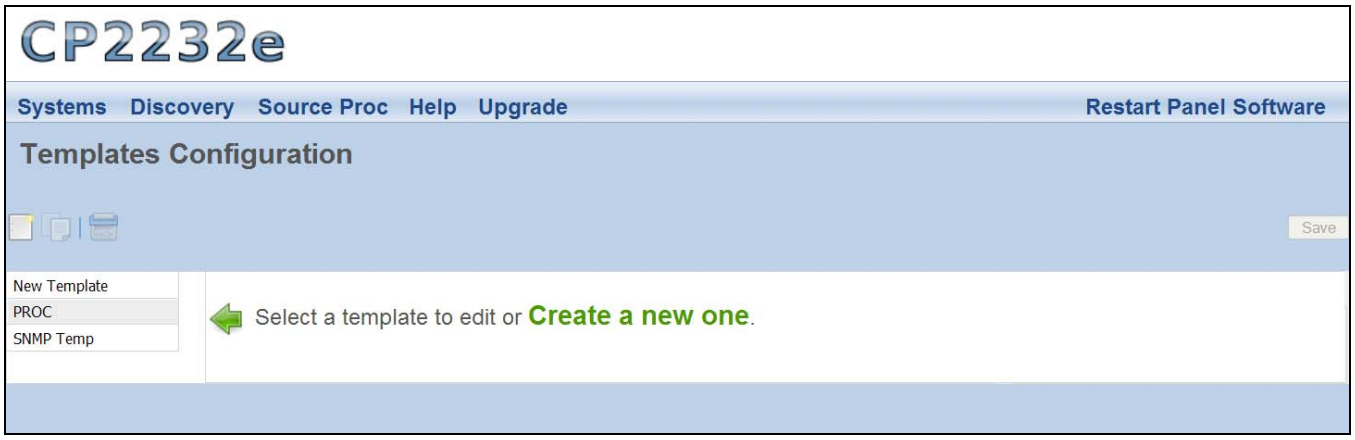

Figure 4-5: Systems – Service Template Page

The user can add, copy, or remove a template using the **Service Templates** buttons listed in Table 4-1:

Button	Image	Description
New Template		The *New Template* button enables the user to add and create a new template. Selecting this button will open a new template page as shown in Figure 4-9.
Duplicate Template		The *Duplicate Template* button enables the user to duplicate the selected template. Select the template that you wish to copy and then press the *Duplicate Template* button to create a replica of that template.
Delete Template		The *Delete Template* button enables the user to completely remove the currently selected template. Select the template that you wish to delete and then press the *Delete Template* button to remove the template.

Table 4-1: Service Template Buttons

The templates that currently exist will be listed in the far left column as illustrated in Figure 4-6.

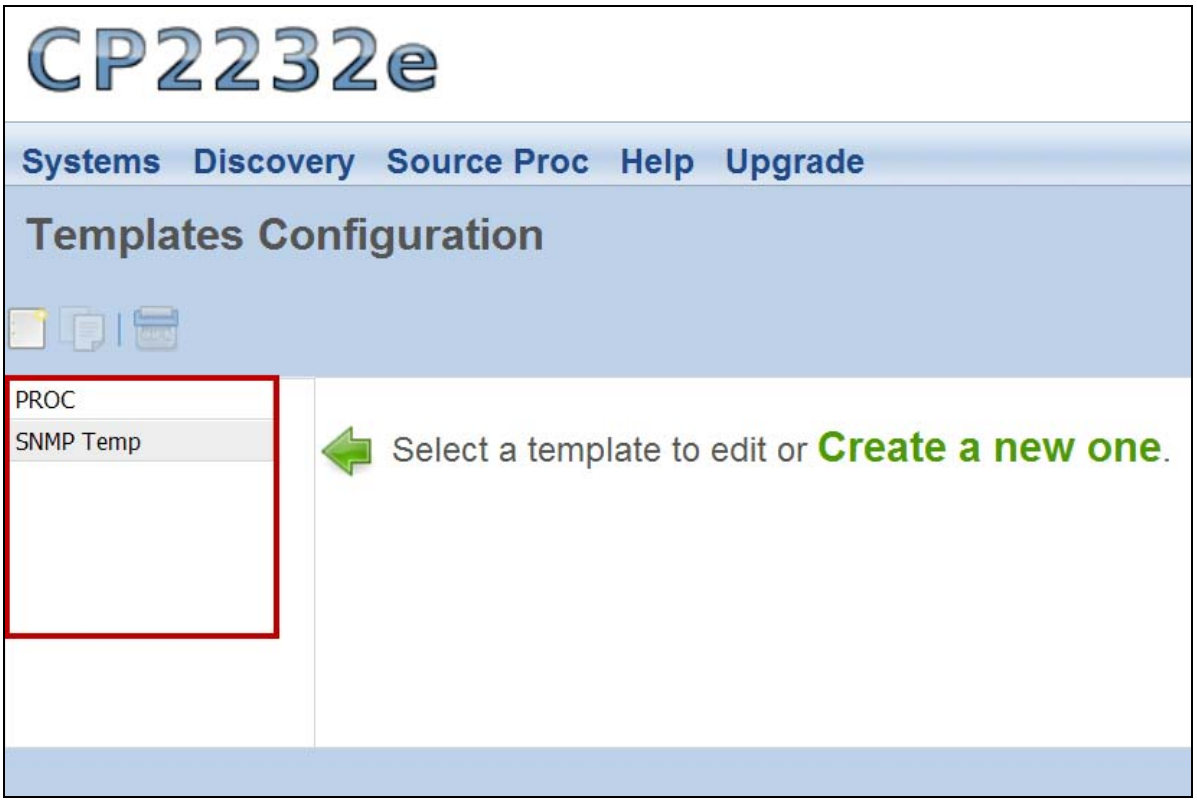

Figure 4-6: Service Template List

Once a template is selected or the user creates a new template, a new template page will appear enabling the user to add and/or edit parameters.

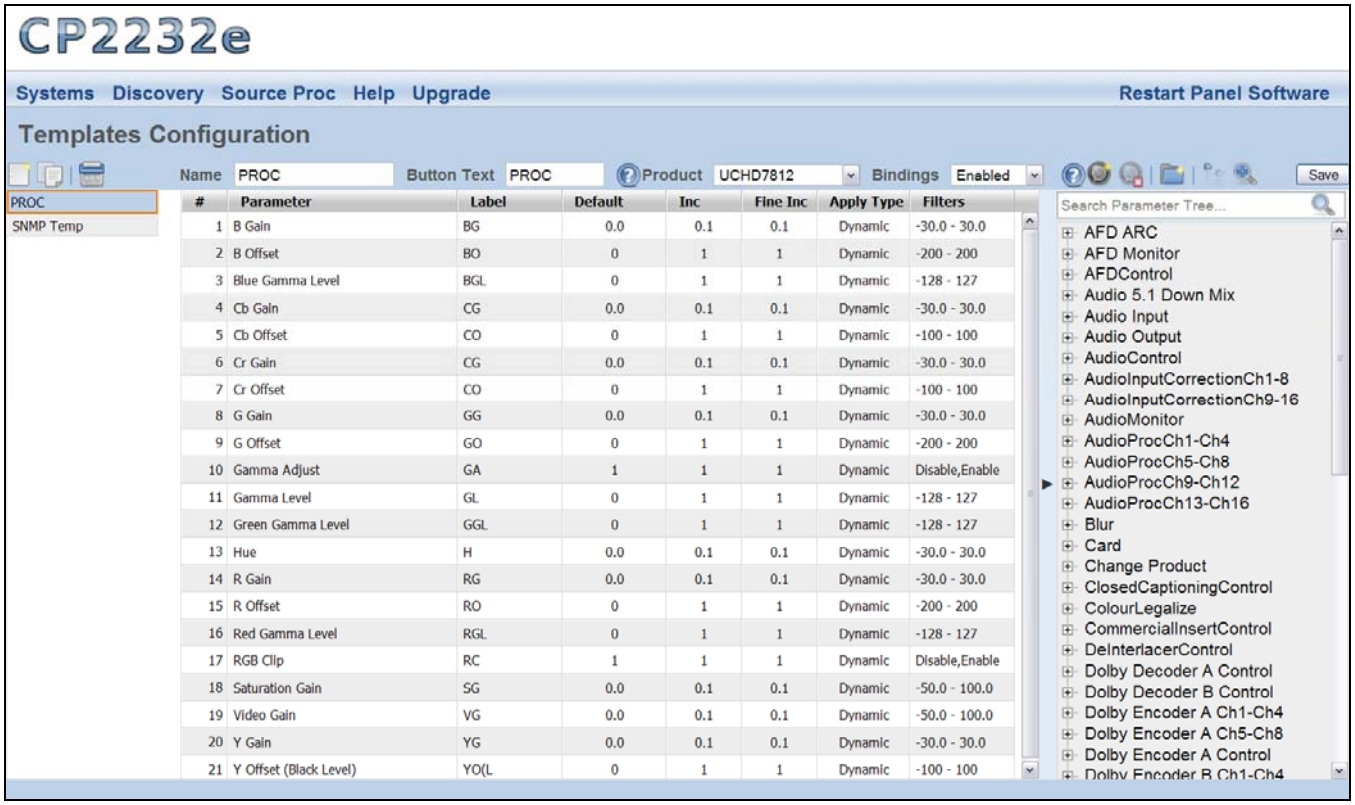

Figure 4-7: Customizing a Template

4.2.2.1. Service Template Controls

To modify the template, use the **Service Templates** controls as listed below:

- **Name:** To assign a name to the template, enter a unique name into the **Name** field.
- **Button Text:** To assign button text to the template, enter a unique name into the **Button Text** field. This is then used as a shortcut to the control when multiple templates are assigned to a SNMP Service.
- **Product:** The **Product** drop down menu provides a list of available products. Once the desired product is selected, the parameter tree will reflect the available parameter items for the selected product. More products can be added to this list by uploading product jar files using the **Products** menu under the **Systems** menu.
- **Bindings:** This setting allows the user to enable or disable the **Bindings** option. Bindings are used on controls that have can different parameters depending on the configuration of other controls. For example, if a specific card is set to use HD video the aspect controls would different than if the card was set to SD video.
-  **Add a Parameter:** To add a parameter to the list, select the **Add a Parameter** button

-  **Delete Selected Parameters/Groups:** Select the **Delete Selected Parameters/Groups** to delete a parameter/group.

-  **Add a Group:** To add a group to the list, select the **Add a Group** button.

-  **Hide Tree View:** Selecting the **Hide Tree View** button will hide the parameter tree view. Selecting this button again will show the parameter tree view.

-  **Show Details:** Selecting the **Show Details** button will toggle the content of the **Parameter** field. When the user selects the **Show Details** button, the path of the parameter and the abbreviated name will be displayed in the **Parameter** field (i.e. VideoControl > Video Control > H Phase Offset (HPhaseOffset). If the user wishes to only display the **Parameter** name, then press the same button again (now identified as **Hide Details**).

- **Save:** Press the **Save** button to save all the changes you have made.

4.2.2.2. Service Template Parameter Tree

The **Service Template Parameter Tree** is used to select parameters and add them to the template. The user can navigate through the parameter tree by pressing the plus (+) and minus (-) buttons to expand or collapse the parameter items. Once the user has located their desired parameter, they can transfer it to the list by dragging the parameter from the tree and dropping it onto the list.

To quickly locate a parameter, type the parameter name into the **Search Parameter Tree…** field and press the <enter> key on your keyboard or select the  icon. The search tool will expand the parameter tree to reveal the location of the parameter you entered.

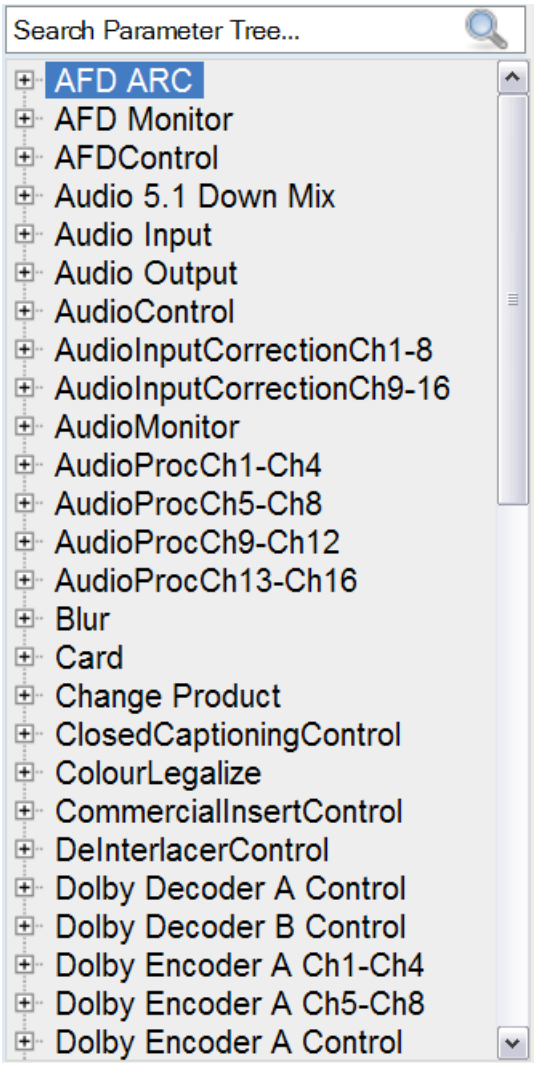

Figure 4-8: Parameter Tree

4.2.2.3. Template Properties

The user can adjust the template properties by entering the appropriate information into the fields below:

- **#:** Double-clicking a number in this column will highlight the corresponding parameter in the **Service Template Parameter Tree**.
- **Parameter:** This field identifies the parameter name and will display the location of the parameter in the parameter tree when double-clicked.
- **Label:** This field displays the name that is shown on the LCD screen for each control parameter. The user can customize the buttons by entering a new label into this field.
- **Default:** This field displays the default level for the selected parameter. The user can enter the appropriate unit into this field.

- **Inc:** Entering a number in this field will assign a number value that the encoder will increment when it is rotated. For example, if this value is set to **2**, each time the shaft encoder is turned (clicked over once) the value will increment by 2 instead of a regular default unit of 1.

- **Fine Inc:** Entering a number in this field will assign a fine increment value that will be used when the shaft encoder is pushed. This value will then be used each time the shaft encoder is turned (clicked over once).

- **Apply Type:** This field enables the user to select an **Apply Type**. The user can select "Pressed," "Dynamic," or "Cycle."

- **Filters:** This field displays the range of values and control options available for the selected parameter. The user can change the minimum and maximum values and the parameter options using this field.

4.2.2.4. Creating a New Service Template

To create a new template follow the procedure outlined below:

1. Navigate to the **Service Templates** control menu and click on the **New Template** button or select the **Create a New One** link. A new screen, as illustrated in Figure 4-9 will open.

Figure 4-9: New Template Page

2. Assign a new name to the template by entering a name into the **Name** field.

3. Assign a name for the designated LCD button using the **Button Text** field.

4. Select a product using the **Product** drop-down menu. Once the desired product is selected, the parameter tree will reflect the available parameter items for the selected product. More products can be added to this list by uploading product jar files using the **Products** menu under the **Systems** menu.

5. Enable or disable **Bindings** using the **Bindings** drop-down menu. Please refer to section 4.2.2.1 for more information.

6. Drag and drop a card parameter from the parameter tree to the template parameter list in the middle of the screen. Please refer to Figure 4-10.

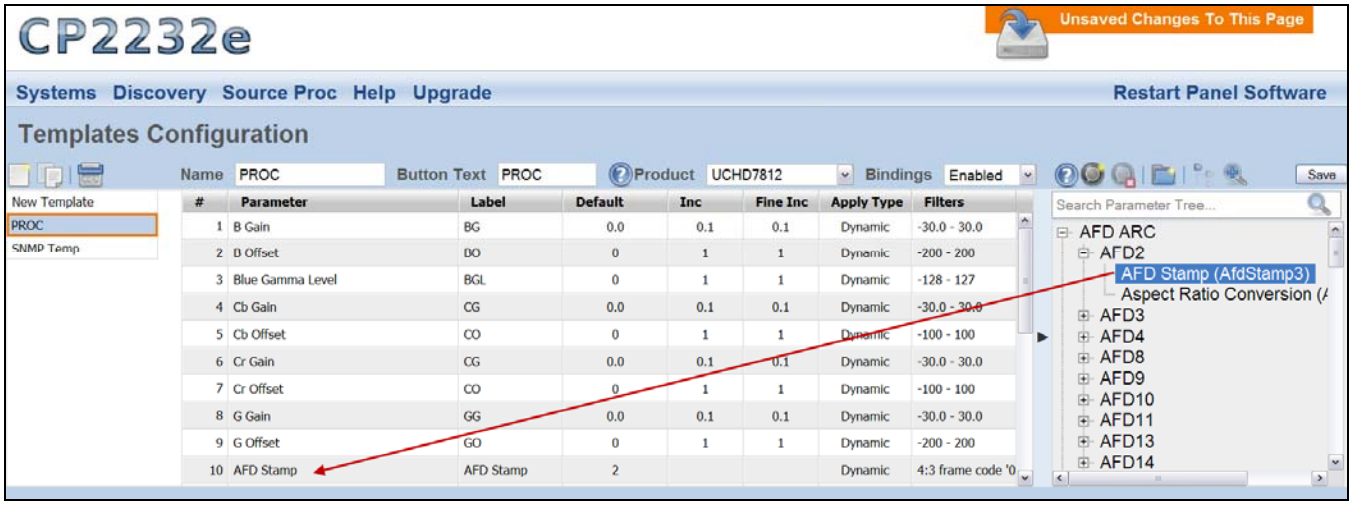

Figure 4-10: Assigning a Parameter

7. For each parameter that is added, the user can fill in the seven properties (i.e. *Parameter*, *Button Text*, *Default*, *Inc*, etc). Please refer to section 4.2.2.3 for more information.

8. Click the **SAVE** button on the right hand side of the screen to save the template.

Please note that the user must press the "Save" button in order for changes to be saved and then select "Restart Panel Software" to apply the changes to the control panel.

4.2.2.5. Service Template Controls

To modify the template, use the **Service Templates** controls. Please refer to section 4.2.2.1 for more information.

4.2.3. Services Page

The **Services** page enables the user to create a service or edit an existing service, which can be loaded onto the CP-2232E control panel. Services are created by linking a Service Template to a particular Service and then defining the frame, card in a particular slot, and input using the **Services** page.

The services that currently exist will be listed in the far left column as illustrated in Figure 4-11.

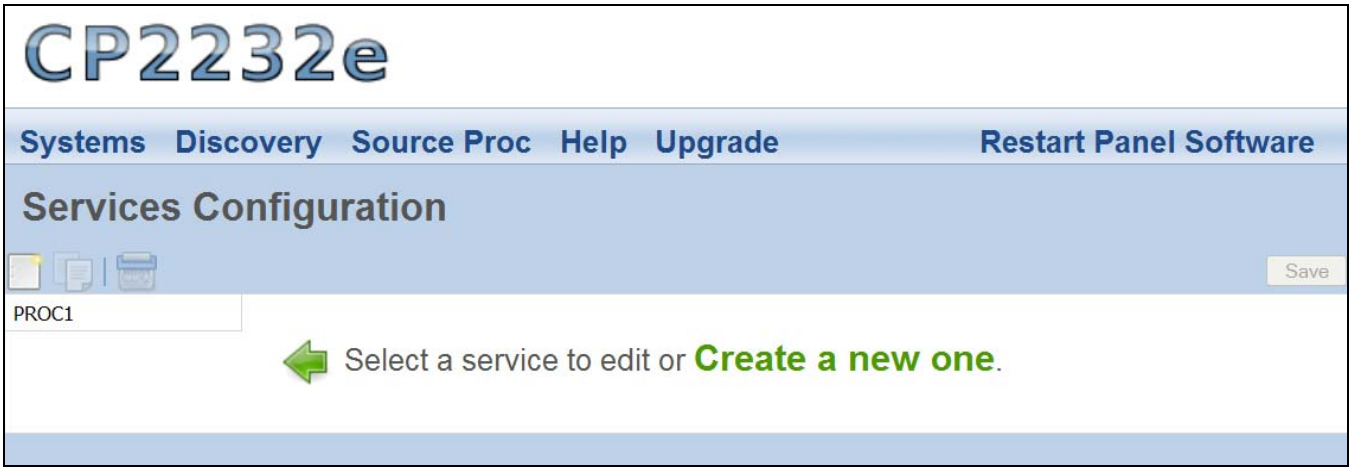

Figure 4-11: Services List

The user can add, copy, or remove a service using the **Service** buttons listed in Table 4-2:

Button	Image	Description
New Service		The *New Service* button enables the user to add and create a new service. Selecting this button will open a new service page.
Duplicate Services		The *Duplicate Services* button enables the user to duplicate the selected service. Select the service that you wish to copy and then press the *Duplicate Services* button to create a replica of that service.
Delete Services		The *Delete Services* button enables the user to completely remove the currently selected service. Select the service that you wish to delete and then press the *Delete Services* button to remove the template.

Table 4-2: Service Template Buttons

Once a service is selected or the user creates a new service, a new page will appear enabling the user to customize the service.

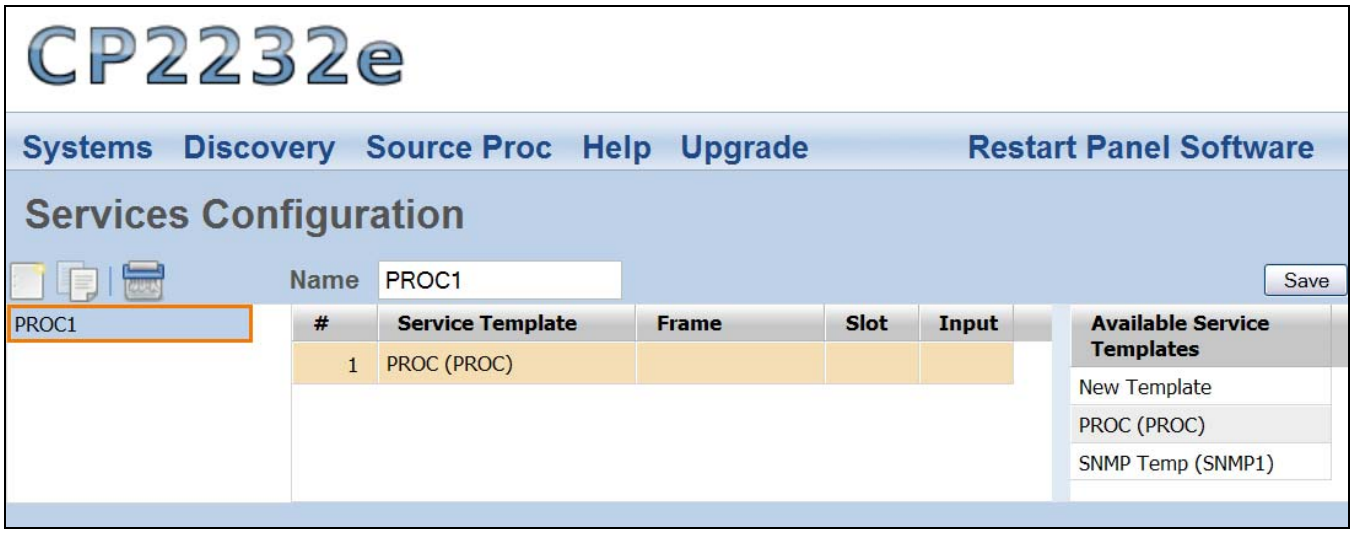

Figure 4-12: Customizing a Service

4.2.3.1. Service Controls

To name and save the service, use the **Service** controls as listed below:

- **Name:** To assign a name to the service, enter a unique name into the **Name** field.
- **Save:** Press the **Save** button to save all the changes you have made.

4.2.3.2. Available Service Templates

The **Available Service Templates** column provides the user with a list of **Service Templates** that are currently available. Selecting a template from the list will open the **Service Templates** page. The user can also drag and drop a template from the **Available Service Templates** column to the **Service Template** list in order to customize its properties.

4.2.3.3. Service Properties

The user can adjust the properties of the service by entering the appropriate information into the fields below:

- **#:** This field identifies the service template's number in the list.
- **Frame:** This field enables the user to select the appropriate frame for the service.
- **Slot:** This field identifies the slot number of the card in the frame that will be controlled by the panel.
- **Input:** This field enables the user to assign an input number.

4.2.3.4. Add a Service Template to the Service List

1. Navigate to the **Service** option from the **Systems** menu.
2. Select the desired template from the **Available Service Templates** column and drag and drop a template to the **Service Template** list.
3. Assign a "Frame," "Slot," and "Input" number to each service.
4. To apply these changes, select the **Save** button in the top right hand corner.

Please note that the user must press the "Save" button in order for changes to be saved and then select "Restart Panel Software" to apply the changes to the control panel.

4.2.4. Systems Page

The **Systems** page enables the user to view the devices that are currently available on the CP-2232E for connection and control as well as adding new devices. The user can also edit and/or change details, tags, and services for specific devices.

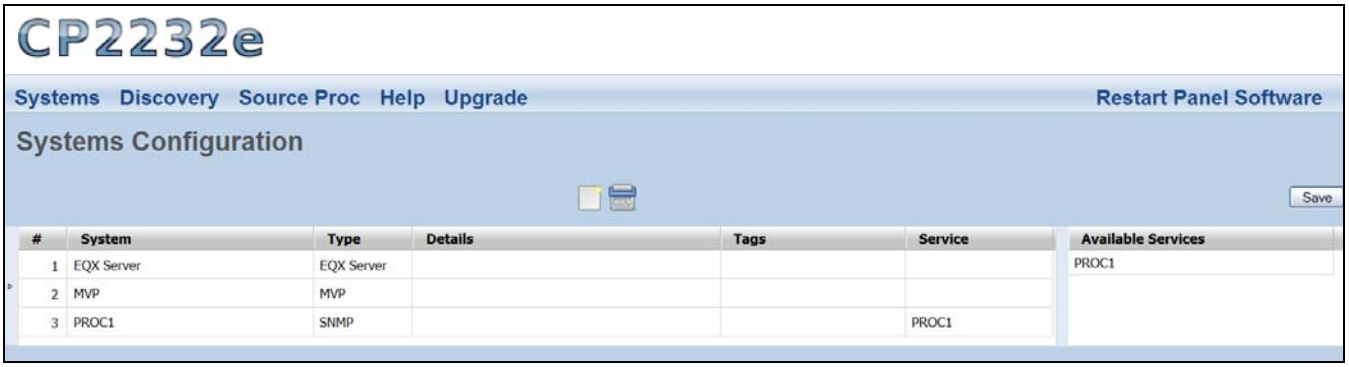

Figure 4-13: Systems Page

The user can add and/or remove a device using the **Systems** buttons listed in Table 4-3:

Button	Image	Description
New Device		The *New Device* button enables the user to add and create a new device. Selecting this button will open a new system window as shown in Figure 4-14.
Delete Device		The *Delete Device* button enables the user to completely remove the currently selected device. Select the device that you wish to delete and then press the *Delete Device* button to remove the device.

Table 4-3: Service Template Buttons

Figure 4-14: New System Window

4.2.4.1. Device Properties

The user can adjust each device's properties by entering the appropriate information into the fields below:

If the user double clicks the *System*, *Type*, *Details*, and/or *Tags* field, an *Update System* window will open as illustrated in Figure 4-15.

System: This field displays the device's name. If the user double clicks the **System** field, an **Update System** window will open. Here, the user can edit the device's name using the **Name** field.

Type: This field displays the device's type. If the user double clicks the **Type** field, an **Update System** window will open. Here, the user can select a device type using the **Type** drop down menu.

Details: This field displays specific details about the device. If the user double clicks the **Details** field, an **Update System** window will open. Here, the user can enter information about the device using the **Details** field.

Tags: This field displays the tags for a particular device. If the user double clicks the **Tags** field, an **Update System** window will open. Here, the user can add tags to the device in order to create shortcut buttons while searching for a system on the first selection screen of the panel.

Service: This field displays the available SNMP services for the device. The user can drag and drop a service from the **Available Services** column to the desired device's **Service** field.

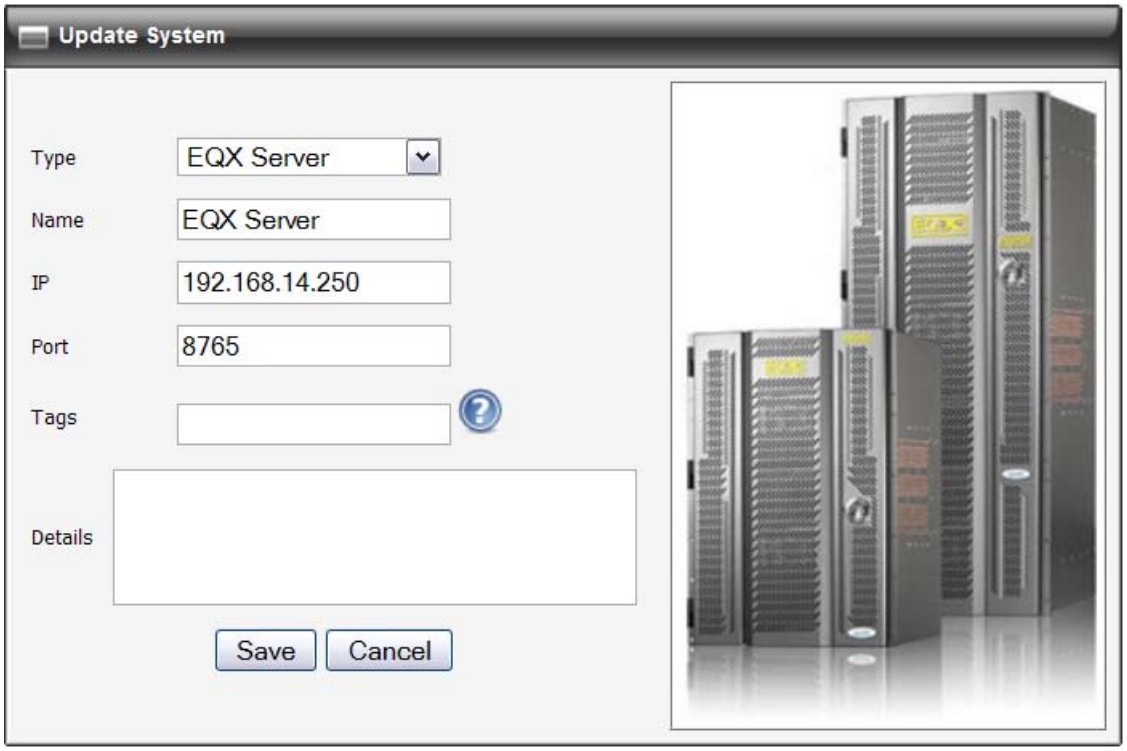

Figure 4-15: Update System Window

4.3. DISCOVERY MENU

The **Discovery** menu, as illustrated in Figure 4-16, enables the user to set the appropriate discovery settings for the panel. The user can also configure the CP-2232E for communication with the VistaLINK® Alarm Server.

Figure 4-16: Discovery Menu

4.3.1. Settings Page

The **Settings** page enables the user to lock the **Discovery** system and set the refresh rate of the device.

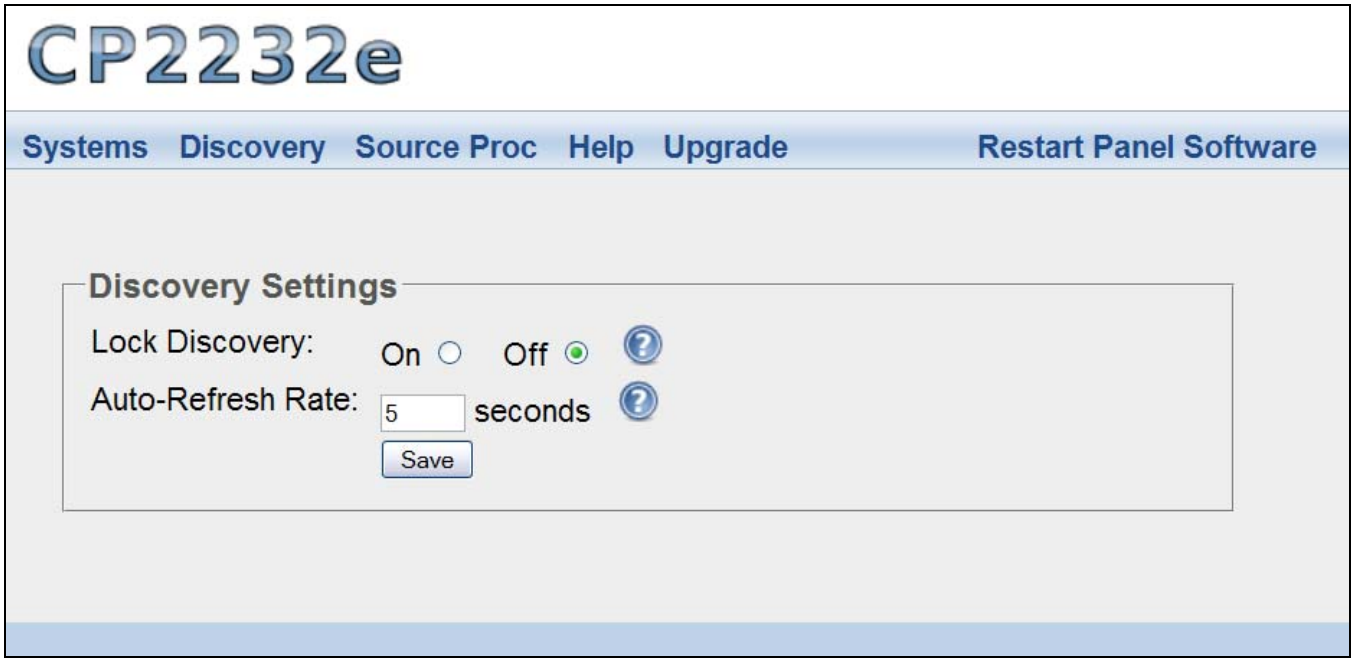

Figure 4-17: Settings Page

Lock Discovery: This parameter allows the user to enable or disable the **Lock Discovery**. If set to **On**, the **Discovery** system will not be permitted to add new hardware devices to the list of devices found. If set to **Off**, the **Discovery** system will be permitted to add new hardware devices to the list of devices found. Please note, when the **Discovery** system is set to **On**, hardware can be removed from the **Systems** page. It is recommended to leave the **Lock Discovery** setting to **Off**.

Auto-Refresh Rate: This parameter allows the user to set the auto-refresh rate of the panel. The minimum refresh rate is 5 seconds. To turn the auto-refresh feature off, enter 0.

Select the **Save** button to save all **Discovery** settings.

4.3.2. Ranged Discovery Page

This page enables the user to set the network range that the panel is to do its discovery in.

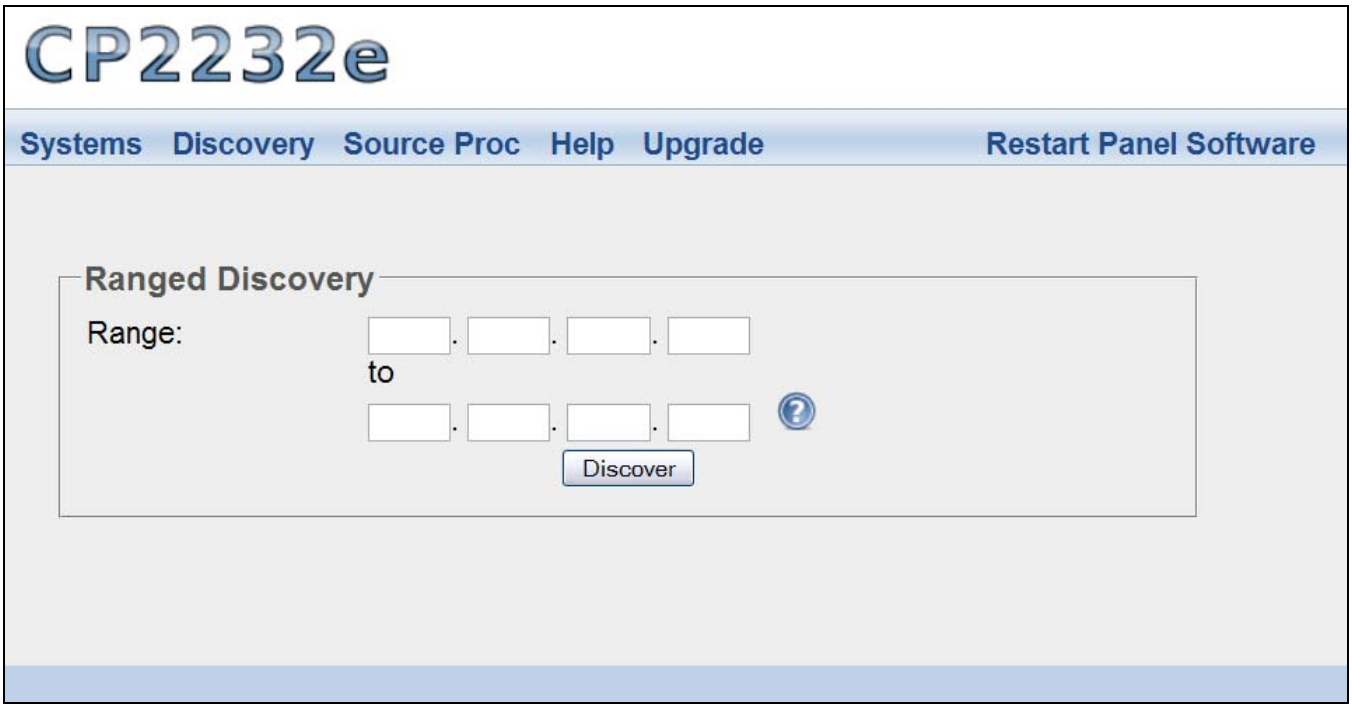

Figure 4-18: Ranged Discovery Page

Range: Enter the network range that the panel is to do its discovery in. Once the range is entered, select the **Discover** button. This process takes approximately 1 minute or less.

4.3.3. Import Device Labels

This page enables the user to import device labels in the Navigation Tree from VistaLINK®.

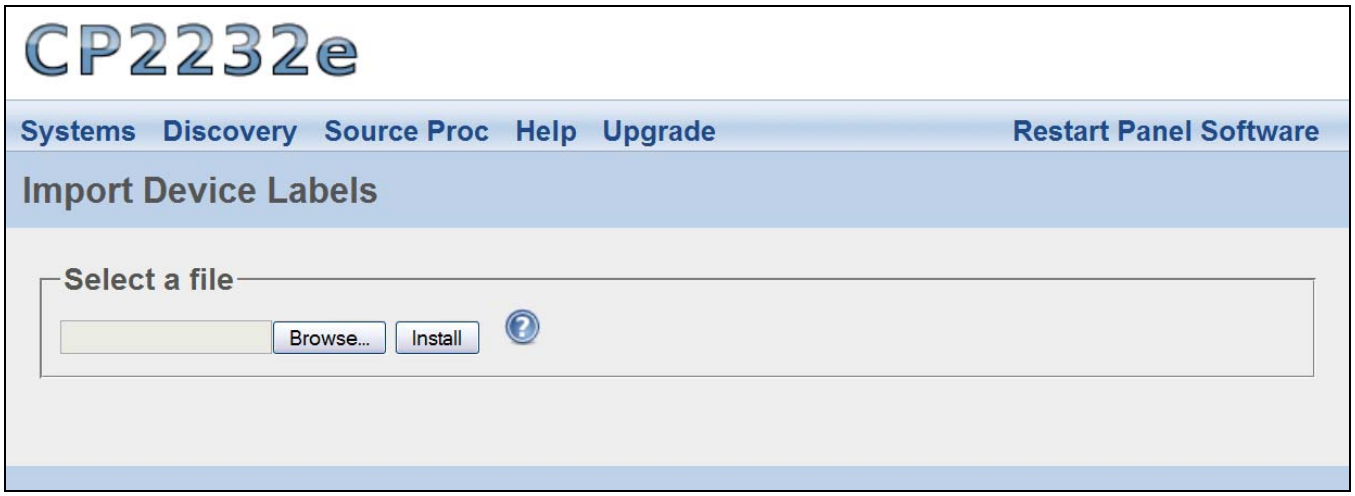

Figure 4-19: Import Device Labels Page

To import a device label, follow the instructions outlined below:

1. Select the **Browse** button and navigate to the appropriate .csv file and then select the **Open** button.

2. Once the file name is displayed in the field next to the **Browse** button, select the **Install** button.

The panel must be restarted when a file is imported. Click the **Restart Panel Software** button in the top right hand corner.

4.3.4. VistaLINK® Alarm Server

This page enables the user to configure the **VistaLINK® Alarm Server** settings.

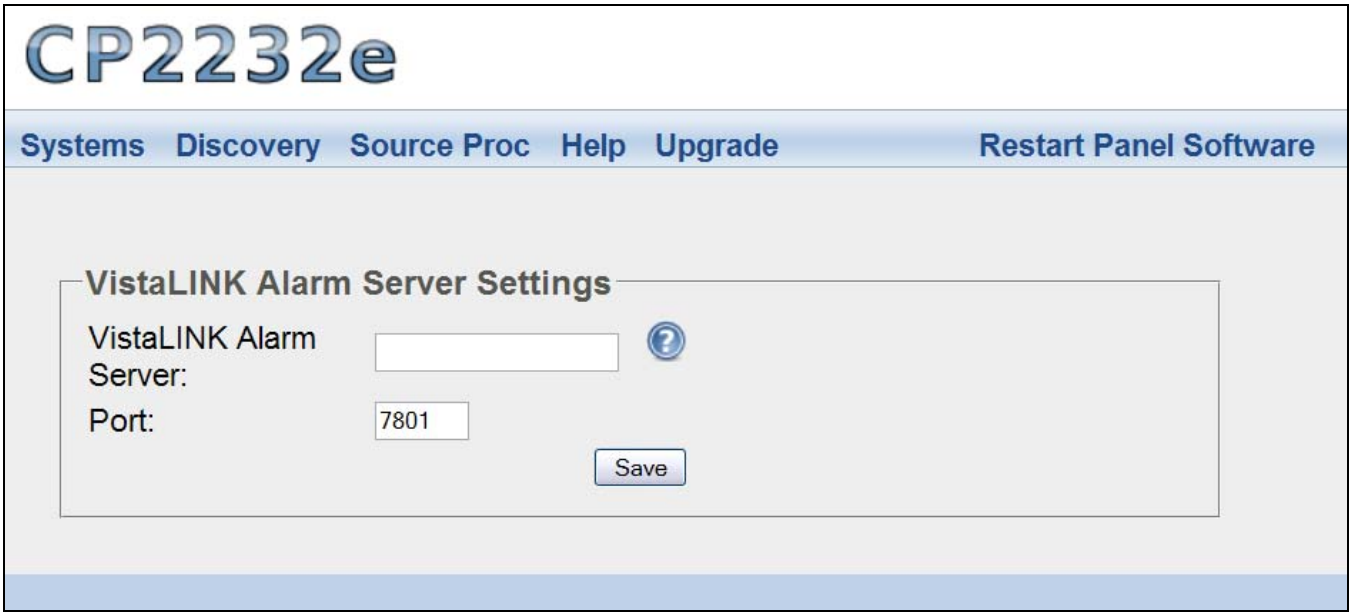

Figure 4-20: VistaLINK® Alarm Server

VistaLINK® Alarm Server: This field enables the user to enter the **VistaLINK® Alarm Server** network address.

Port: This field enables the user to enter the port number (the numerical input) to map to.

Select the **Save** button to save all settings.

4.4. SOURCE PROC MENU

The **Source Proc** menu enables the user to create source-service, destination-service, and macro-service mapping.

Figure 4-21: Source Proc Menu

4.4.1. Source Proc Page

The **Source Proc** page enables the user to attach an SNMP service to a router's input port.

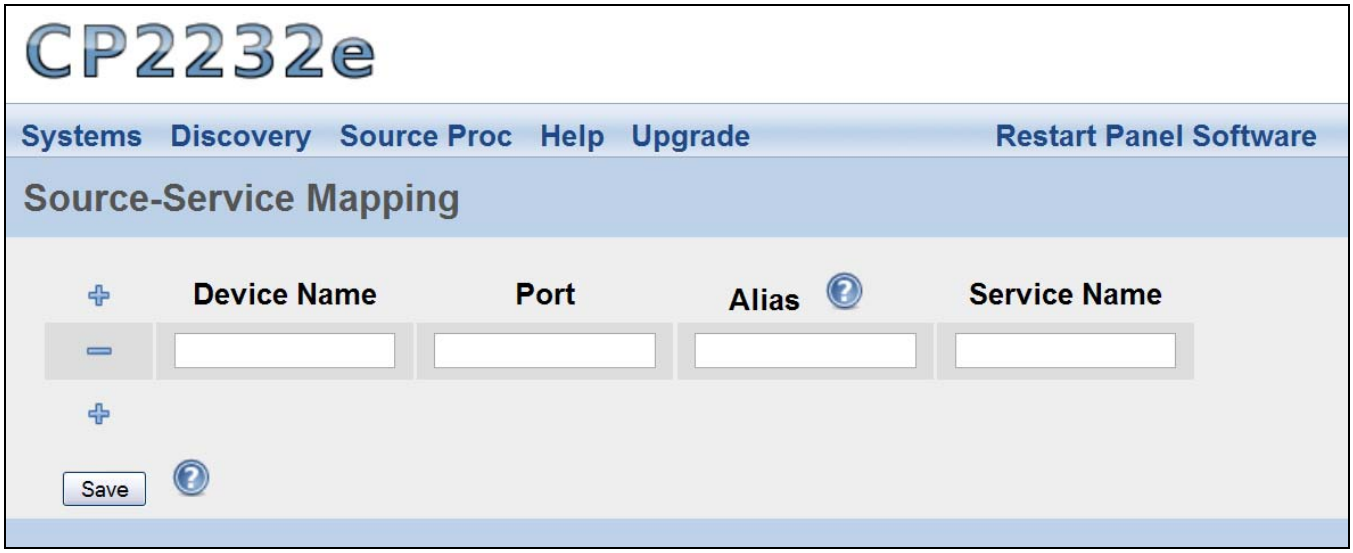

Figure 4-22: Source Proc Page

1. The following items will be required before you begin:

    a. The PRECISE "short name" from the EQX Server for the router containing the input or output you wish to map a service to.
    b. The PRECISE port number (in other words, the numerical input) the service should be mapped to. This number should be entered without any preceding zeros. Enter the number one as: 1 not 001.
    c. An *Alias* name for the router source (which will be used if the device name and port are not provided).
    d. A *Service* created and saved on the CP-2232E panel.

2. Select the plus sign to create a new mapping.

3. Enter the PRECISE "short name" of the router device to map to in the **Device Name** field.

4. Enter the port number (the numerical input) to map to in the **Port** field.

5. Enter an **Alias** name for the router source. Please note that this parameter is **optional.** An **Alias** will be used if a device name and port are not provided. The alias would be the Global name of the source as defined in the EQX Server.

6. Enter the name of the desired SNMP service in the **Service Name** field.

7. Once selected, click the **Save** button.

8. When you are finished mapping the SNMP Services, be sure to click the "Restart Panel Software" link found at the top of each page.

4.4.2. Destination Proc Page

The **Destination Proc** page enables the user to attach an SNMP service to a router's output port.

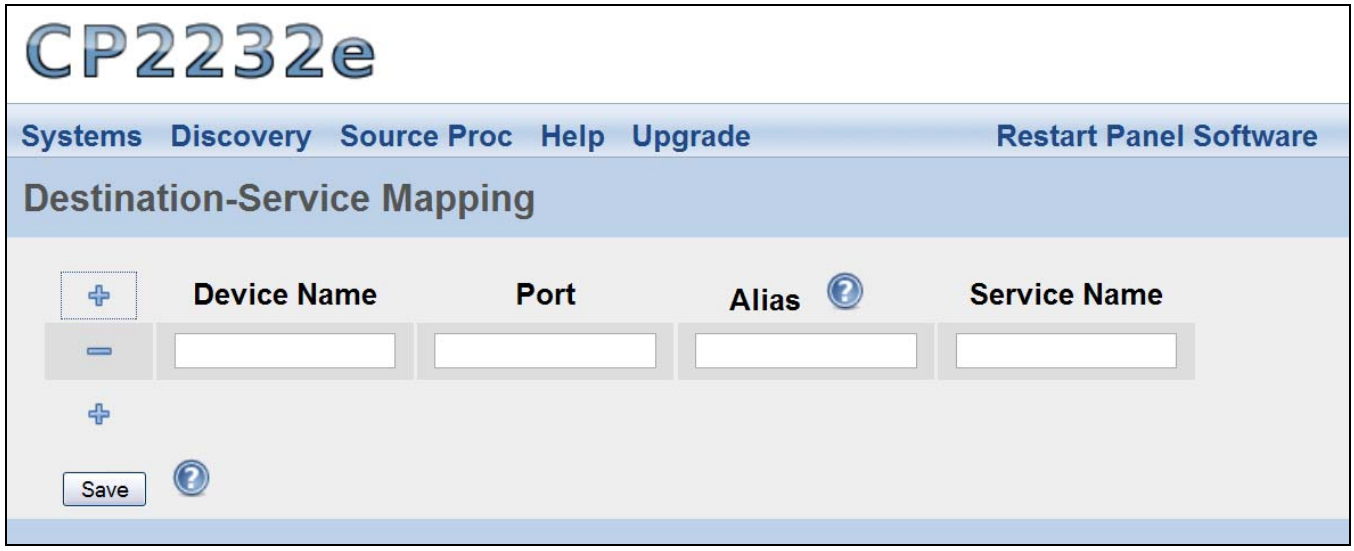

Figure 4-23: Destination Proc Page

To create a new **Destination-Service Mapping**, please follow the numbered instructions in section 4.4.1

4.4.3. Macros Page

The **Macros** page, as illustrated in Figure 4-24, enables the user to map a Macro to an SNMP Service. This will automatically fire the Macro on the **VistaLINK® Alarm Server** when the Service is loaded.

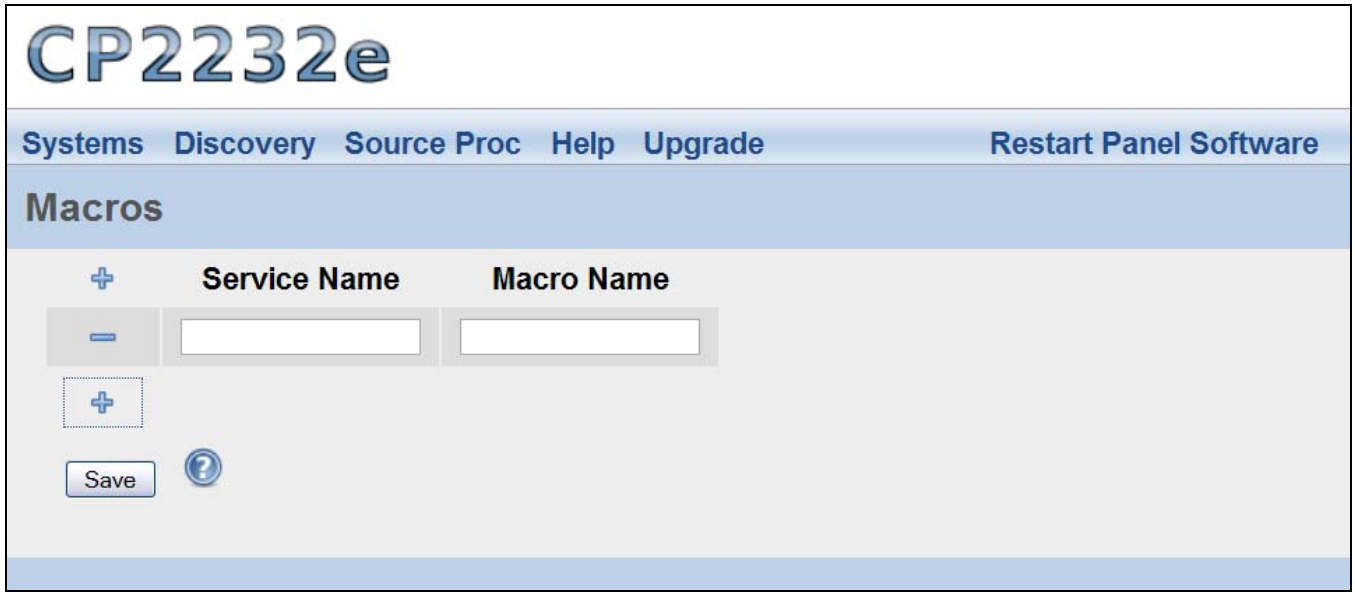

Figure 4-24: Macros Page

1. Select the plus sign to create a new Macro mapping.
2. Enter the name of the desired SNMP service in the **Service Name** field.
3. Enter the name of the Macro in the **Macro Name** field.
9. Once completed, select the **Save**.
4. When you are finished mapping the Macro, be sure to click the “Restart Panel Software” link found at the top of each page.

4.5. HELP MENU

The **Help** menu enables the user to view panel and products information, retrieve logs, change preference settings, and import/export configurations.

Figure 4-25: Help Menu

4.5.1. Help Page

Selecting the **Help** menu enables the user to view the current panel version, product support, and retrieve configuration and logs.

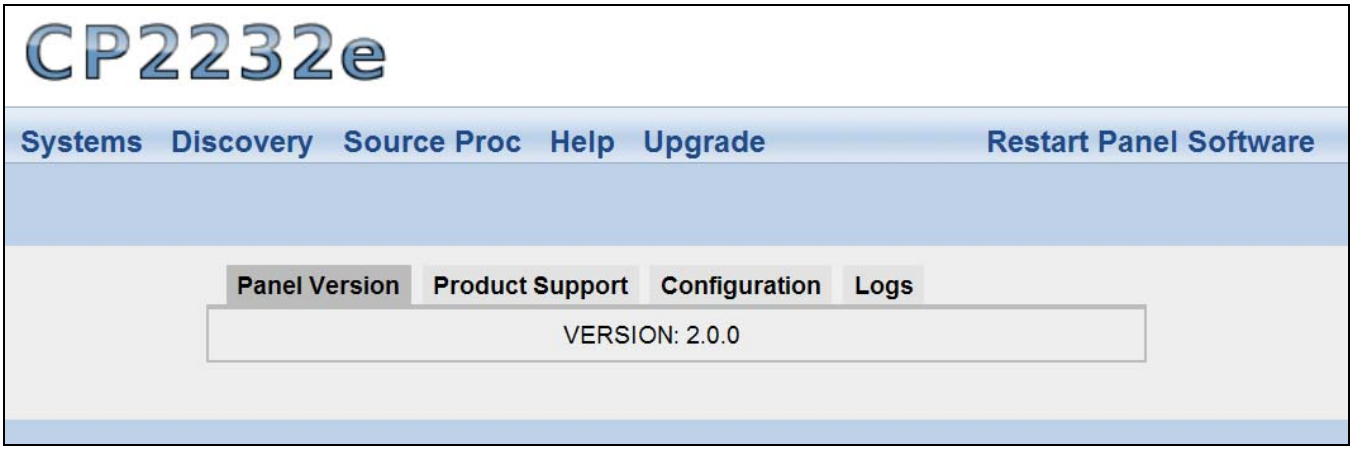

Figure 4-26: Help Page

4.5.1.1. Panel Version

Selecting the **Panel Version** option, as illustrated in Figure 4-26, will display the current panel’s version number.

4.5.1.2. Product Support

The **Product Support** option provides a list of current product versions.

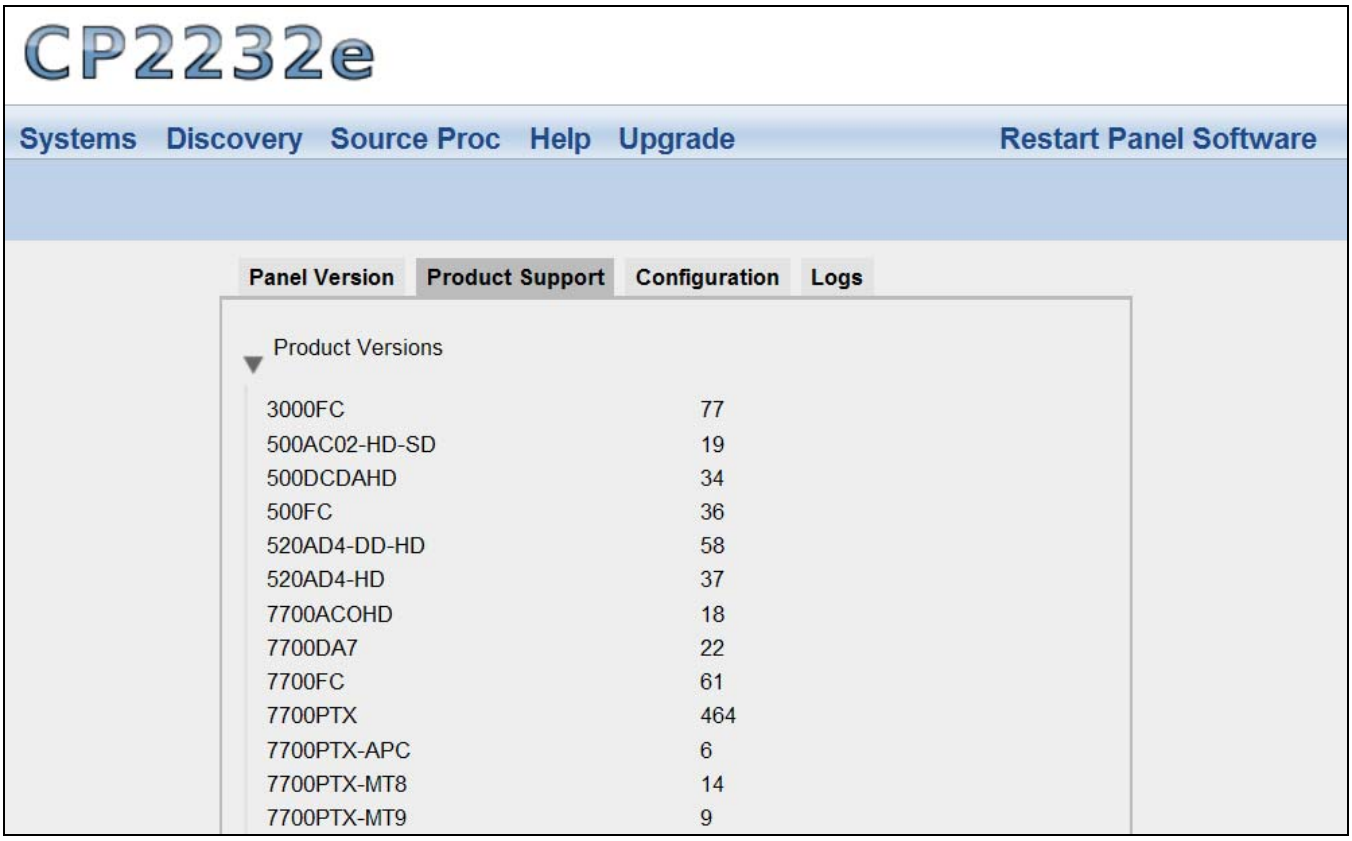

Figure 4-27: Product Support Tab

Clicking the **Product Versions** text will reveal a list of currently supported products and their version numbers.

4.5.1.3. Configuration

The **Configuration** tab, as illustrated in Figure 4-28, enables the user to export the panel's configuration settings.

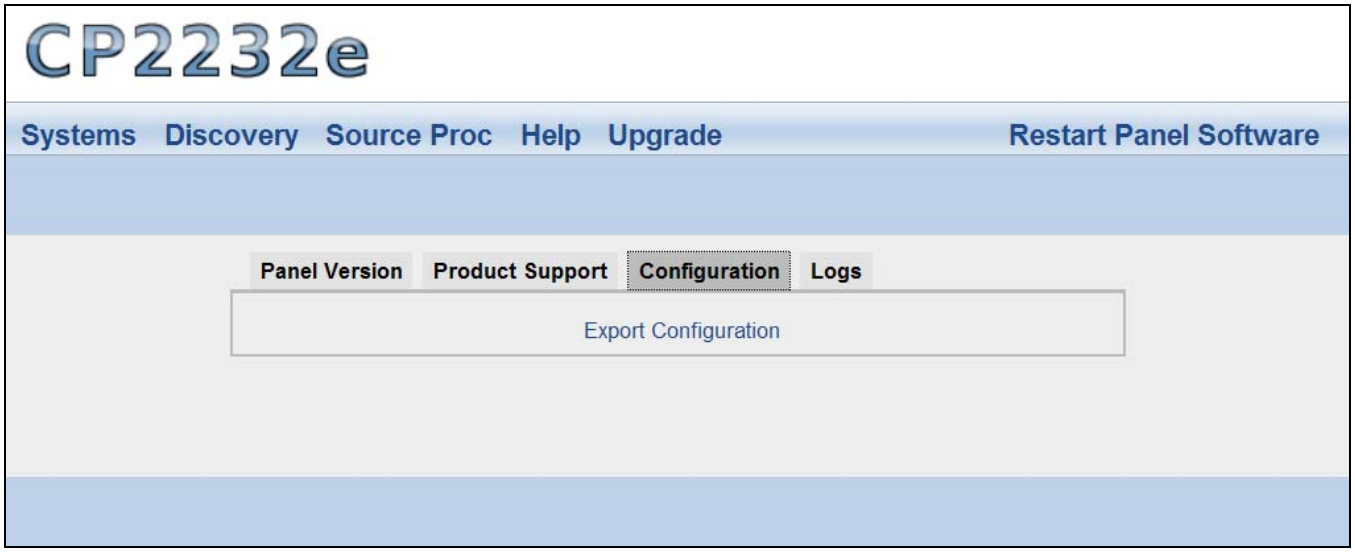

Figure 4-28: Configuration Tab

Select the **Export Configuration** text and an **Opening config.cf** dialog box will be appear which will prompt the user to open or save the configuration file.

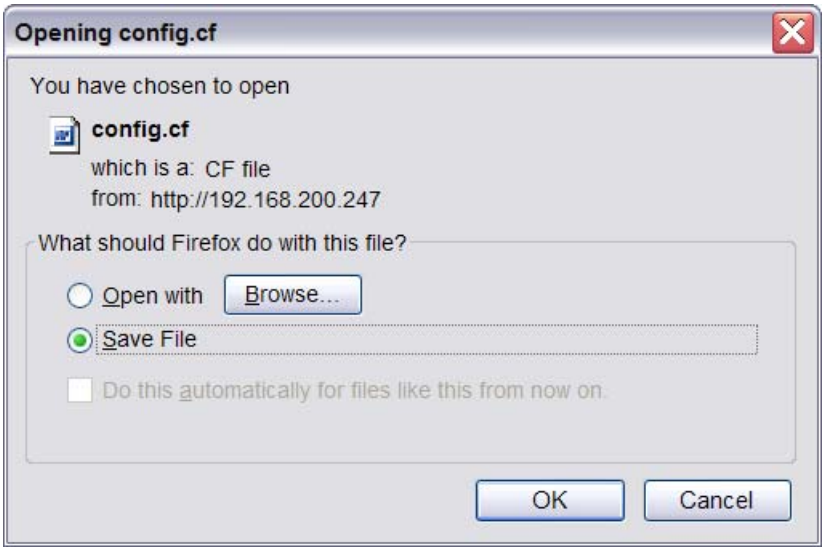

Figure 4-29: Opening config.cf Dialog Box

4.5.1.4. Logs Tab

The **Logs** tab, as illustrated in Figure 4-30, enables the user to retrieve configuration logs.

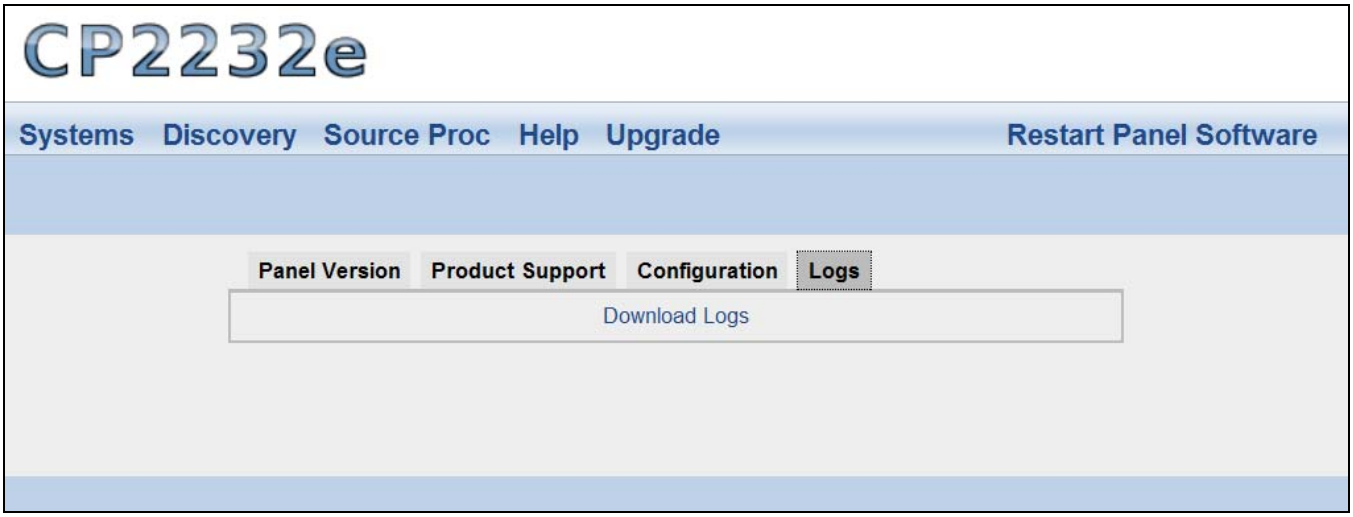

Figure 4-30: Logs Tab

Select the **Download Logs** text and an **Opening logs.lf** dialog box will appear which will prompt the user to open or save the log file.

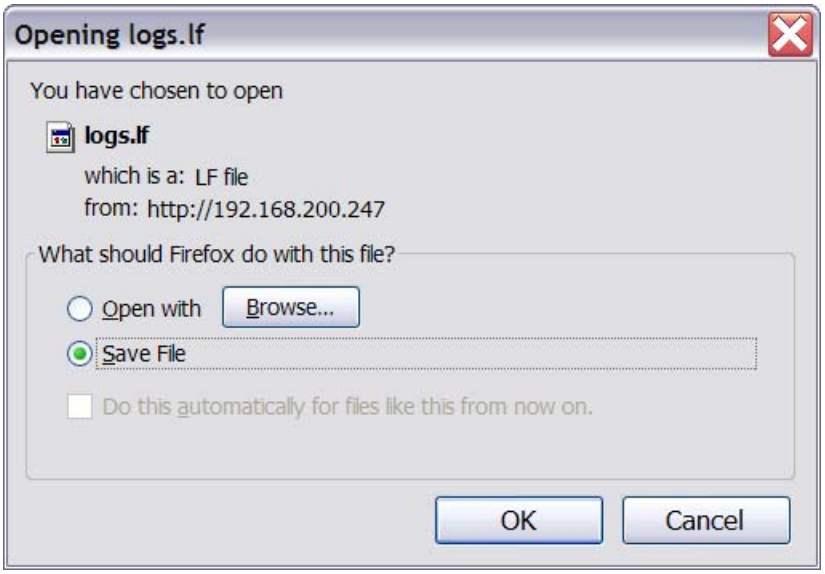

Figure 4-31: Opening logs.lf Dialog Box

4.5.2. Preferences Page

The user can select the **Preferences** option from the **Help** menu drop down menu. The **Preferences** page enables the user to change the visual settings of the panel.

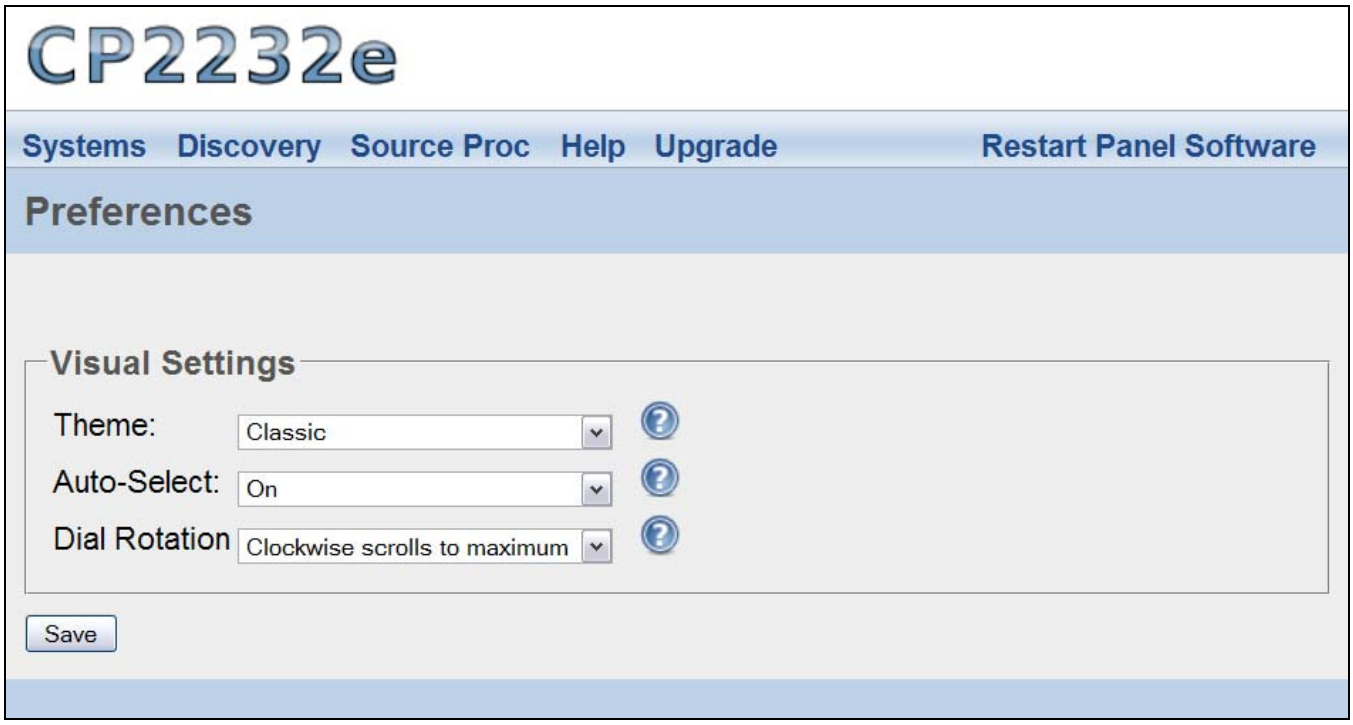

Figure 4-32: Preferences Page

4.5.2.1. Visual Settings

Theme: This parameter enables the user to the change the panel's colour palette. **Theme** options include: "Dark Gray," "Ocean Blue," "Forest Green," "Smokey Grey," and "Classic."

Auto-Select: This parameter enables the user to enable or disable the **Auto-Select** function. If set to **On**, a single item in a list will be automatically selected (where applicable) without having to use the **Select** button. If set to **No**, the **Select** button will need to be used in order to select an item from a list.

Dial Rotation: This parameter enables the user to change the shaft encoders' scrolling direction. The "Clockwise scrolls to maximum" option will increase the number value when turning a shaft encoder clockwise. The "Clockwise scrolls to minimum" option will decrease the number value when turning a shaft encoder clockwise.

4.5.3. Import/Export Page

The user can select the **Import/Export** option from the **Help** menu drop down. This page, as illustrated in Figure 4-33, enables the user to import and export an advanced panel configuration.

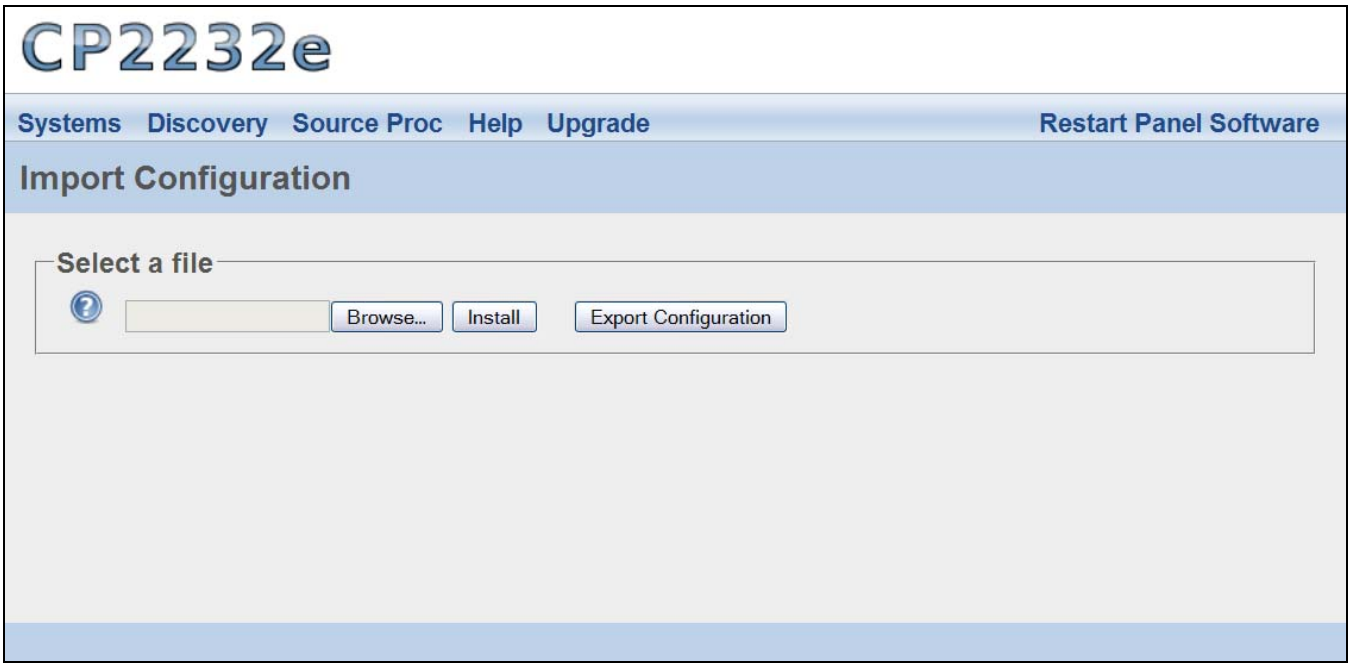

Figure 4-33: Import/Export Page

To import a configuration, follow the instructions outlined below:

3. Select the **Browse** button and navigate to the appropriate configuration file and then select the **Open** button.

4. Once the file name is displayed in the field next to the **Browse** button, select the **Install** button.

5. The panel must be restarted when a file is imported. Click the **Restart Panel Software** button in the top right hand corner.

To export a configuration, select the **Export Configuration** button. An **Opening config.cf** dialog box will be appear, as illustrated in Figure 4-29, which will prompt the user open or save the configuration file. Select “Save File” to download and save the configuration locally on the PC.

4.6. UPGRADE MENU

The **Upgrade** menu enables the user to upgrade the firmware on the CP-2232E panel. Select the **Upgrade** menu and the **Install Firmware** page will open as illustrated in Figure 4-34.

Figure 4-34: Install Firmware Page

For instructions on how to upgrade the panel's firmware, please refer to section 4.1.3.

5. ADDING AN EVERTZ SYSTEM TO CONTROL

5.1. CP-2232E CONTROL OF MVP SYSTEM

Controlling an MVP system from the CP-2232E panel requires a few "one time" steps (as well as a normal procedure) to be completed on the MVP system prior to working with the CP-2232E:

1. Set up the MVP system to allow control from the CP-2232E. (This step should only be performed once upon initial setup):
    a. Ensure the MVP server is in operation.
    b. Confirm the "listen" port of the MVP server in the configuration (default is 9680)
    c. Create a canvas file for your MVP system and send it to the server. (If possible, please provide the service with the number of display cards, displays, and resolutions that can be used to assist in building a custom canvas file)
        i. Using the "Transfer scripts" button in the server, choose the remote file type of canvas. Select the *browse* button and navigate to your *canvas.vssl* file. Once selected, click the *Transfer* button. Restart the server to apply this canvas.

2. Daily operation of the MVP to allow the CP-2232E control of a layout:
    a. Open an existing layout (while connected in maestro) and select the "save as script" option. Assign a descriptive name and then click send (you will need to do this with any layout you wish to appear on the CP-2232E).

3. Set up the CP-2232E (This setup should only have to be performed once):
    a. Using the firefox browser, enter the IP address of the CP-2232E into the address field.
    b. Navigate to the **Systems** page as shown in Figure 5-1 and click the  icon.

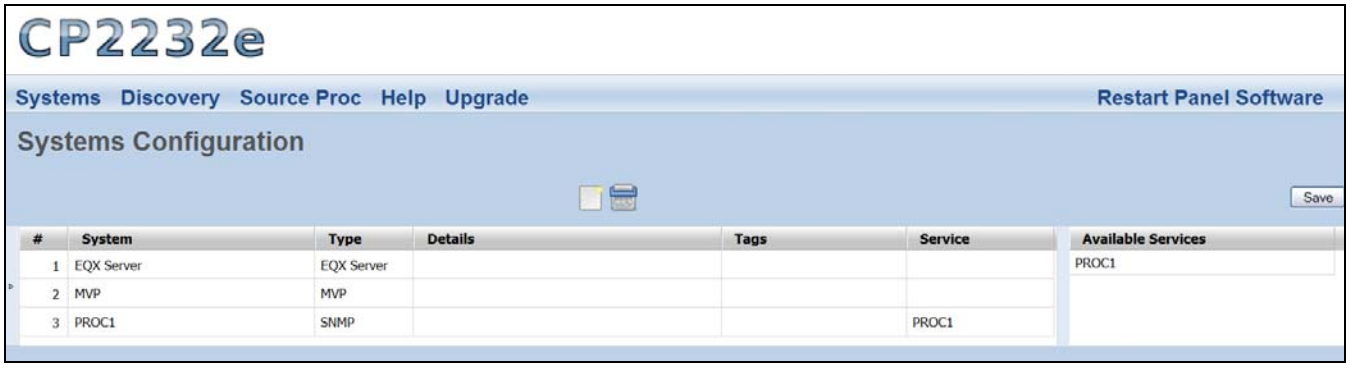

Figure 5-1: Systems Page

    c. A dialog box will appear enabling the user to create a new system. Use the **Type** drop down menu to select **MVP**. The dialog box will adjust to accommodate the MVP system parameters. In the **Name** field enter a unique identifier name (this name will appear on the panel). Enter the IP address of the MVP server system into the **IP** field and the appropriate port into the **Port** field (the default IP port for MVP systems is 9680). Enter information into the **Display Filter (Limits which Displays are available for control)**, **Tags**, and **Details** field.

Figure 5-2: Create a MVP System

d. Once the user has filled out all the fields in the **New System** dialog box, select the **Save** button.
e. Then select the **Save** button in the top right of the **Systems** screen.
f. The MVP system will be added to the list and a notification to restart the panel will appear. In the very top right of every page is a link to “Restart Panel Software”. Select this link and the panel software will take approximately three seconds to restart.
g. When the panel restarts, the system should be displayed on the front panel of the CP-2232E.

4. Daily operation of the CP-2232e (Directly using the panel)
   a. Select the MVP system from the CP2232E front panel by navigating to the appropriate system using the shaft encoders and soft-keys.
   b. Once the list is generated, select a display from the list and select *OK.*
   c. The layout that is currently loaded will be displayed and a list of layouts that the user can load will be provided. Select one of the layouts and then select the *load* button.
   d. The user can also change sources on the CP-2232E. This will allow you to pick a source that is already located on the MVP somewhere else, without making routes. The user can select which audio to route to the monitor outputs. Furthermore, it will allow the user the ability to view thumbnails generated in real-time from the VIP/VIPX/VIPA/MVP attached to the system.

5.2. ADDING SNMP SERVICES

This section will guide the user through the set up of SNMP services. SNMP services are parameters from one or several pieces of terminal equipment that you wish an operator to control from the CP-2232E panel. Parameters from multiple cards can be added and categorized for easy access and control.

1. In the web interface ensure the appropriate product jars are available to the CP2232E. This is done using the Systems / Products Menu

2. Select Systems / Service Templates Menu and create a Service Template that contains the controls required for the SNMP products. Save changes

3. Select Systems / Services Menu and create a Service mapping of the Service Template to a specifc Service that contains the appropriate frame, card, slot, input information for the SNMP enabled product for control. Save changes

4. Select Systems Menu and drag an available Sevice from the Available Services column to automatically create a SNMP System. The name of the Service will be autopopulated in the SNMP system name. Save changes

Figure 5-3: Create a SNMP Service

5.3. ADDING AN EQX SERVER

All router management of the CP-2232E for use in an EQX Server based system is done through the EQX Server WCT (web config tool). Please see the EQX Server manual for details on working with the CP-223E panel in that respect.

1. To add an EQX server, the user must open a Firefox browser and enter the IP address of the CP-2232E in the address field.
2. Navigate to the **Systems** page as shown in Figure 5-1 and click the  icon.
3. A **New System** dialog box will appear enabling the user to create a new system. Use the **Type** drop down menu to select **EQX Server**. The dialog box will adjust to accommodate the EQX Server parameters. In the **Name** field enter a unique identifier name (this name will appear on the panel). Enter the IP address of the EQX server host into the **IP** field. Enter the appropriate port into the **Port** field. ***The default port is 8765.*** The user can also enter information into the **Tags**, and **Details** fields.

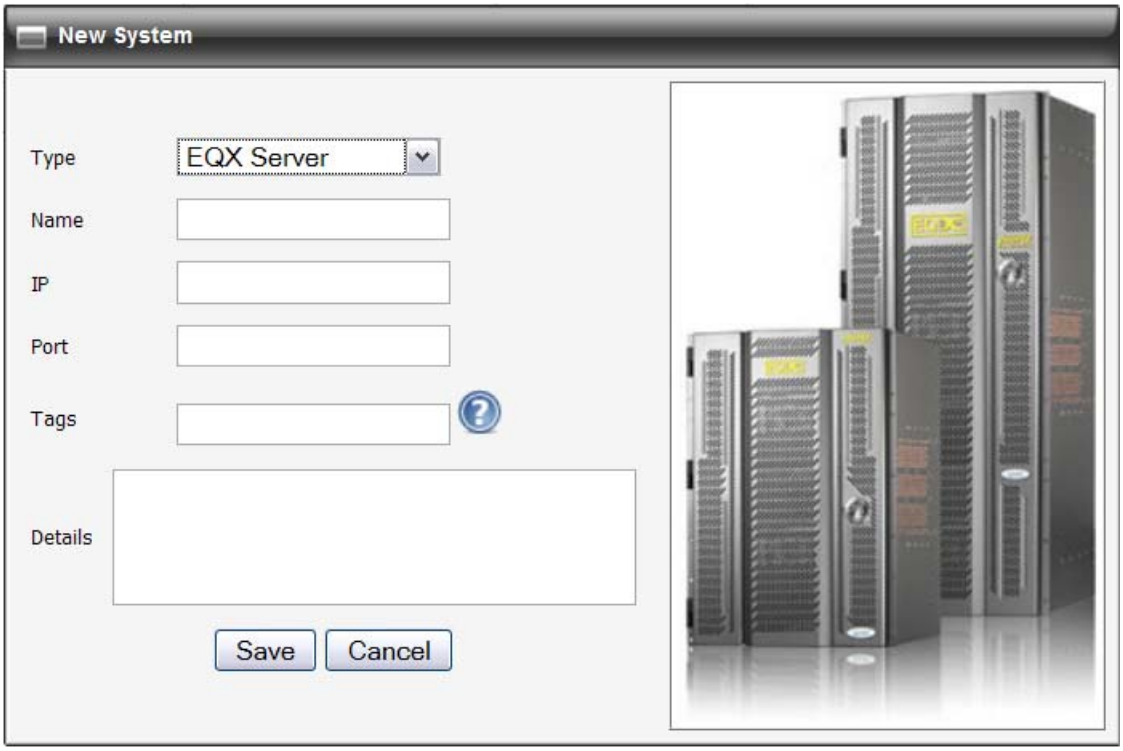

Figure 5-4: Add EQX Server

4. Once the user has filled out all the fields, select the **Save** button in the **New System** dialog box. Once you return to the **Systems** page, click the **Save** button on the top right-hand side of the screen. In the very top right of the page is a link to “restart panel software”. Select this link and the panel software will take approximately three seconds to restart. When the panel restarts, the user can use the shaft encoders and soft-key buttons to toggle to the new EQX system configuration.

5.4. CREATING SOURCE-SERVICE MAPPING

Source-Service mapping is a unique and powerful tool in the EQX Server and CP-2232E system. The process is simple. Create SNMP services and then choose the routing device and source port to attach the service to. In this way, SNMP Services (and therefore Terminal gear parameters) can be accessed from within the EQX Server portion of the CP-2232E and users do not have to filter through long lists looking for the correct Service name. For more information on Mapping, please refer to section 4.4.

6. TECHNICAL DESCRIPTION

6.1. SPECIFICATIONS

6.1.1. Control

Ethernet:	10/100 base T.RJ45 connector
Joystick:	Parallel contact closure TTL levels, D9 male

6.1.2. Electrical

Voltage:	Autoranging 100V - 240V AC, 50/60Hz
Power:	80 Watts
Fuse Rating:	250V, 4A, time delay

6.1.3. Physical

Dimensions:	19" W x 3.5" H x 1.2" D (483mm W x 89mm H x 32mm D)
Weight:	2lbs (.9kg)
Operating Temp:	0 - 40°C

6.1.4. Compliance

Safety:	ETL Listed, complies with EU safety directives
EMI/RFI:	Complies with FCC Part 15 Class A regulations Complies with EU EMC directive

6.2. SERVICING INSTRUCTIONS

These servicing instructions are for use by qualified service personnel.

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