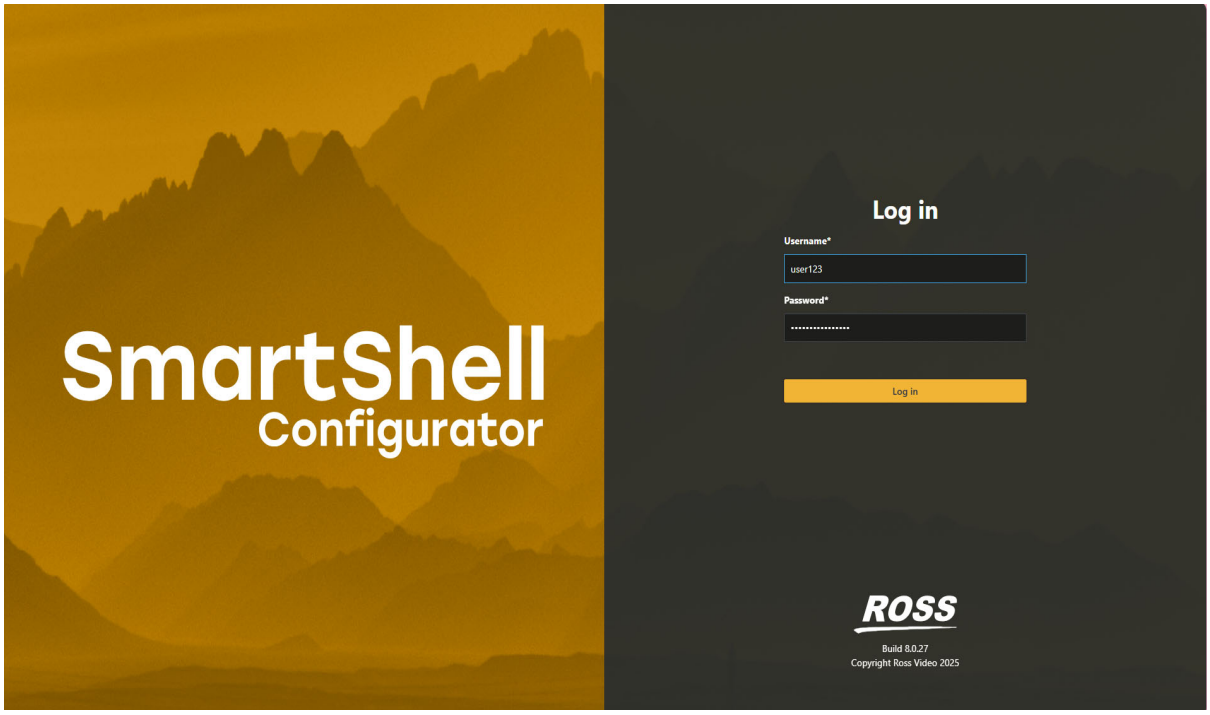

SmartShell Configurator

User Guide

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Our mission is to:

1. Provide a Superior Customer Experience
   - offer the best product quality and support
2. Make Cool Practical Technology
   - develop great products that customers love

Ross has become well known for the Ross Video Code of Ethics. It guides our interactions and empowers our employees. I hope you enjoy reading it below.

If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at *solutions@rossvideo.com*.

David Ross
CEO, Ross Video
dross@rossvideo.com

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2. We will do our best to understand our customers' requirements.
3. We will not ship crap.
4. We will be great to work with.
5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
6. We will keep our promises.
7. We will treat the competition with respect.
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User Guide for SmartShell Configurator

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Contents

Introduction to SmartShell Configurator

This is the User Guide for the SmartShell Configurator, introduced with SmartShell 8.0.

The SmartShell Configurator is a centralized, web-based application that replaces manual editing of SmartShell configuration files, providing a single interface to manage SmartShell Stations, Station Profiles, Robots, and DashBoard Stations.

Overview

What the Configurator Does

The SmartShell Configurator controls the system-level configuration for all SmartShell clients connected to a Robotics Server.

Users can create and manage user accounts, define stations, assign operational profiles, and register robotic devices.

System Architecture

All configuration data is stored on the Robotics Server and automatically synchronized to SmartShell clients.

When SmartShell 8.0 (or later) starts, it retrieves its configuration directly from the Configurator.

Using SmartShell Configurator

This section describes how to use the SmartShell Configurator to configure system settings for SmartShell and its connected robotics devices.

Using the Configurator, administrators can define user permissions, manage SmartShell Stations, edit Station Profiles, add DashBoard Stations, and register Robots for control within the Ross Robotics environment.

IMPORTANT: The procedures in this section assume that SmartShell 8.0 and the Robotics Server are already installed and communicating correctly on your network. Ensure that the Robotics Server and all SmartShell clients are fully operational before you configure the system using the SmartShell Configurator.

This section includes the following topics:

- **Accessing SmartShell Configurator**
- **SmartShell Configurator Workspace**
  - › Show Management
  - › Studio Management
  - › User Options
- **System Configuration**
  - › Users
  - › Roles and Permissions
  - › Manage Pending Changes
  - › SmartShell Stations
  - › Station Profiles
  - › DashBoard Stations
  - › Robots
  - › Routers
  - › Vision[Ai]ry
  - › RCCP
  - › Robotic
  - › Thumbnails
  - › Tally

IMPORTANT: Ross Video may provide updated versions of software and/or configuration files for your SmartShell Configurator. Updates may include new features and/or security improvements.

Accessing SmartShell Configurator

Before using the SmartShell Configurator, verify that you have the appropriate access permissions.

Only users with Configuration Management or Admin roles can modify configuration data.

To access and log in to SmartShell Configurator:

1. Open the Configurator application in a supported browser using the unique IP address where SmartShell Configurator is installed.
2. On the Login page (Figure 1), enter your username and password.
3. Select Sign In.

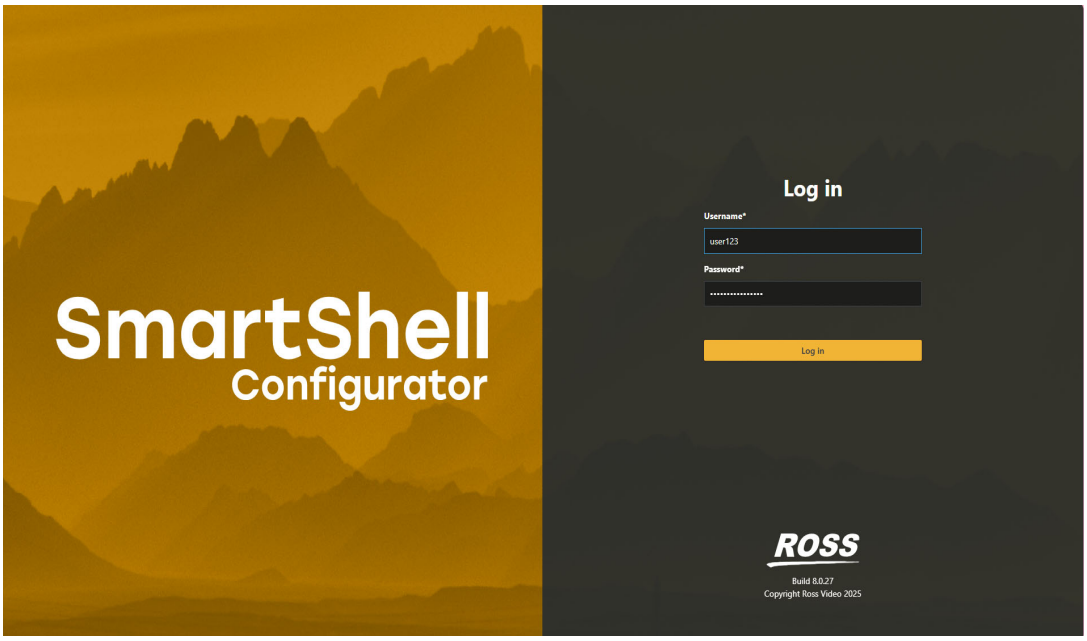


Figure 1 - *SmartShell Configurator Login Page*

SmartShell Configurator Workspace

The SmartShell Configurator interface is divided into pages for managing studios, shows, and system settings.

This section outlines the layout of the main interface and describes how to navigate between pages.

From this workspace, you can open the **Show Management** and **Studio Management** pages to organize robots into shows and studios. The navigation panel on the left also enables **Theme Selection** and a **Logout** option.

Within the top menu drop-down, **User Account** options enable profile management and a sign out option. **Note:** Ensure all changes are saved before signing out of a session.

The **Settings** window to configure system-level options such as users, stations, and routers.

Figure 2 shows the landing page layout.

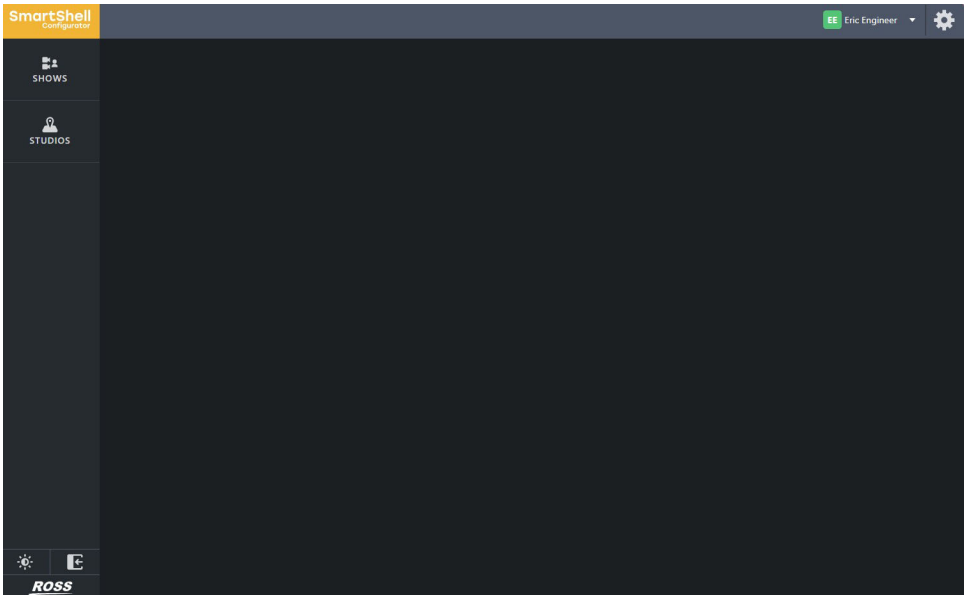


Figure 2 - *SmartShell Configurator Home Screen*

Show Management

The **Show Management** page is used to create, edit, and organize show groups.

A show defines a collection of robots used together for a specific production or workflow. Each show can include robots from multiple studios, and robots can belong to more than one show at a time.

Shows are similar in structure to studios, but they differ in that they have only a name. They do not include a location or color attribute.

Robots appear in the list grouped by the studio they are assigned to, allowing you to easily find and add them to a show. The order of robots in a show determines how they appear on the SmartShell panel and CX-3R during operation.

Figure 3 demonstrates the **Show Management** page.

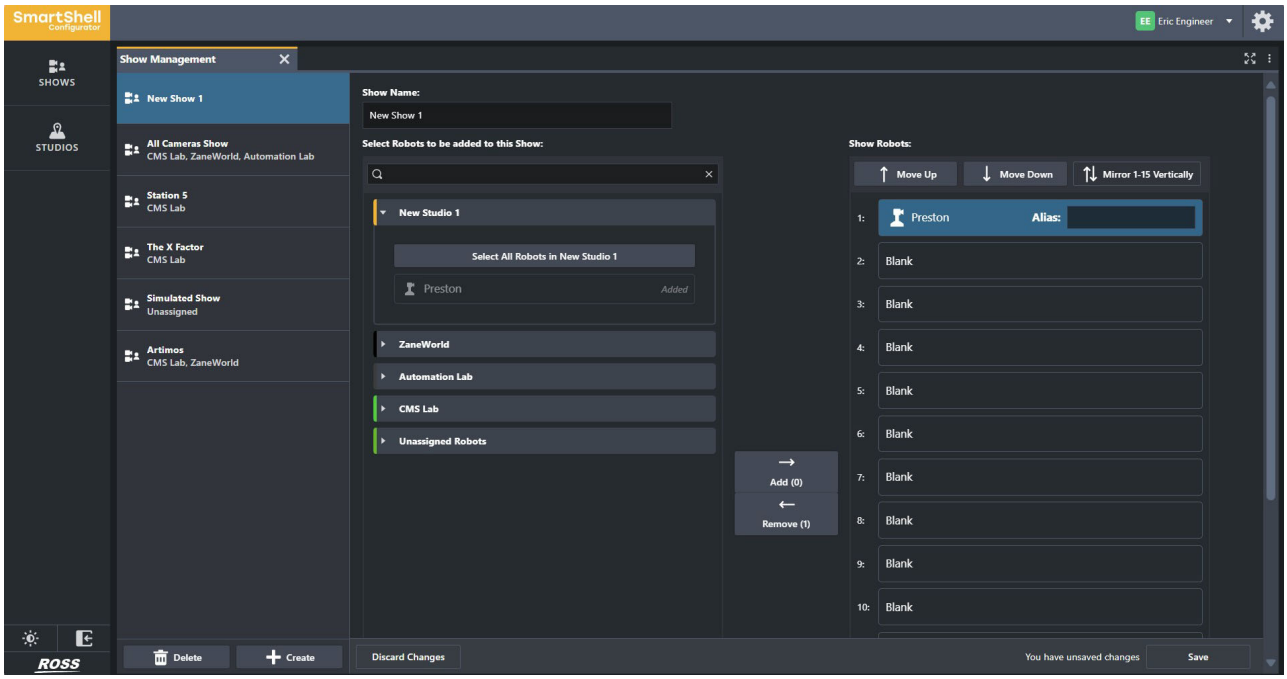


Figure 3 - *Show Management Page*

Show Management Page Overview

- **Show List (left panel)** – Displays all existing shows.
  Select a show to view or edit its configuration.
  Use **Create** to add a new show, or **Delete** to remove the selected show.
- **Show Name –** Enter or edit the name of the show.
- **Select Robots to be added to this Show –** Lists robots grouped by studio. Use the search bar to filter by name.
- **Select All Robots in [Studio Name] –** Adds all robots from a single studio to the show.
- **Add and Remove buttons –** Move robots between the available and assigned lists.
- **Show Robots (right panel) –** Displays the order in which robots appear on the CX-3R and SmartShell panel. An alias can also be assigned for each robot; the alias is the name shown on the CX-3R buttons. Blanks inserted here are not visible in SmartShell but appear as blank buttons on the CX-3R panel. Use the **Use Move Up**, **Move Down**, and **Mirror 1–15 Vertically** to adjust order.
- **Save / Discard Changes –** Save edits or discard unsaved modifications.

To Create or Edit a New Show

1. Select the **Show** button on the lefthand menu bar.
2. Select the **Create** button to add a new show, or select an existing show to edit.

3. Assign a **Show Name**.
4. Select Robots to be added to the show via the search function of the dropdown menus.
   Tip: If all robots in one group are desired, select the **Select All Robots in [Group Name]**.
5. Adjust the display order if required in the **Show Robots** panel.
6. Select **Save**.

   Note: Shows do not include location or color attributes.

Studio Management

The **Studio Management** page is used to create and organize studios.

A studio represents a physical area within a facility. Robots do not need to be assigned to a studio, but when assigned, each robot can belong to only one studio at a time.

Studios allow operators to manage groups of robots by location and to color-code them for easier identification within SmartShell.

IMPORTANT: A robot can belong to only one studio at a time.

Figure 4 shows the **Studio Management** page.

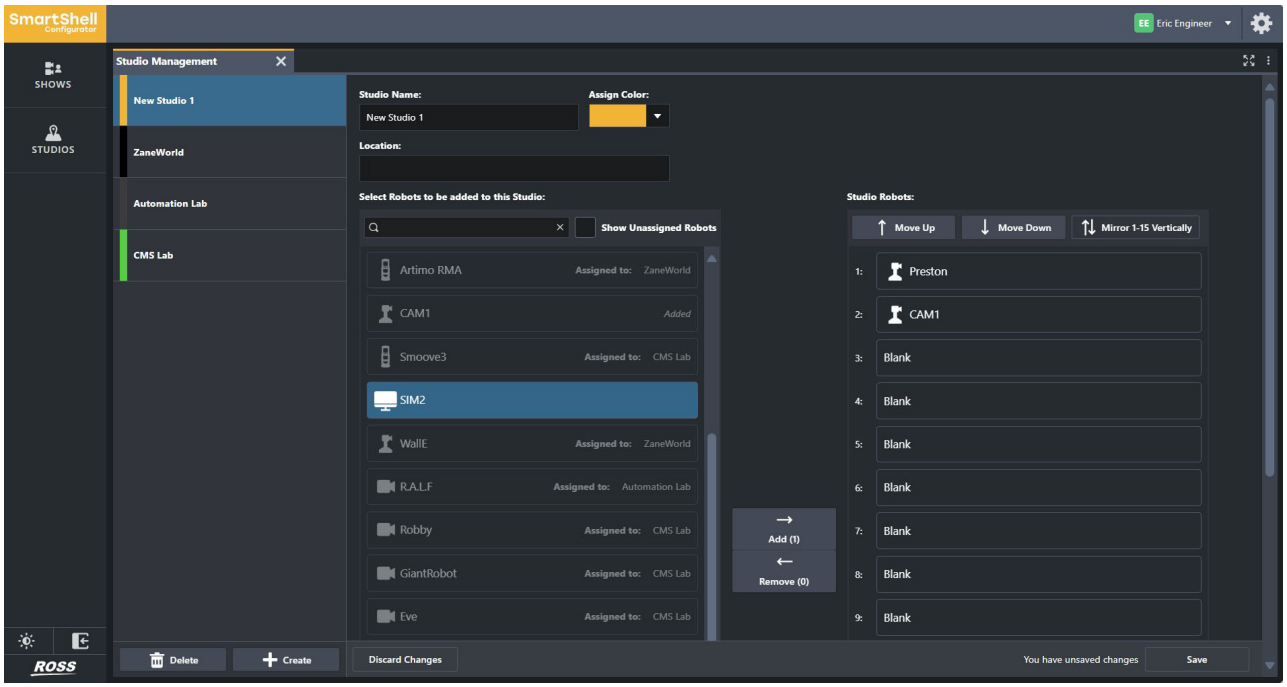


Figure 4 - *Studio Management Page*

Show Management Page Overview

- **Studio List (left panel) –** Displays all existing studios.
  Select a studio to view or edit its configuration.
  Use **Create** to add a new studio, or **Delete** to remove the selected studio.
- **Studio Name –** Enter or edit the name of the studio.
- **Location –** Optionally describe the studio location.
- **Assign Color –** Opens a color picker (Figure 4) where you can assign a studio color.
  Note: The color is used throughout SmartShell to visually identify robots that belong to that studio.
  Refer to Figure 5 shows the Studios tab.

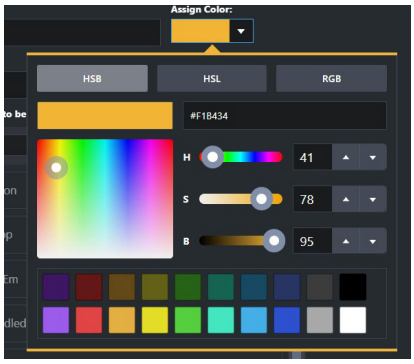


Figure 5 - *Studio Management Tab*

- **Select Robots to be added to this Studio –** Displays robots available for assignment.
- **Show Unassigned Robots –** Lists robots not currently assigned to any studio.
- **Add / Remove –** Moves robots between the available and assigned lists.
- **Studio Robots (right panel) –** Shows the order of robots in the studio as they will appear on the CX-3R panel. Use **Move Up**, **Move Down,** and **Mirror 1–15 Vertically** to adjust the order.
- **Save / Discard Changes –** Saves or cancels pending modifications.

To create or edit a studio:

1. Select **Create** to add a new studio, or select an existing studio to edit.
2. Enter a **Studio Name** and, if desired, a **Location** description.
3. Select **Assign Color**, choose a color from the picker, and close the dialog.
4. Under **Select Robots** to be added to this **Studio**, select one or more robots and choose **Add**.
5. Use **Show Unassigned Robots** to display robots not yet assigned.
6. Reorder the robots as required in the **Studio Robots** list.
7. Select **Save** when finished.

Tip: Assign a unique color to each studio to help differentiate robots across multiple control stations.

User Options

The **User** dropdown menu provides access to personal account preferences and the ability to log out.

Figure 6 shows the **User** button.

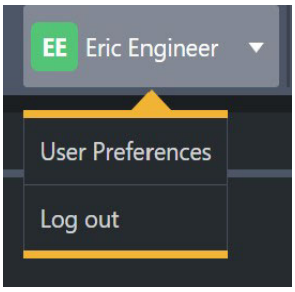


Figure 6 - *User Dropdown Menu*

To change your password:

Figure 7 shows the **User Preferences** window.

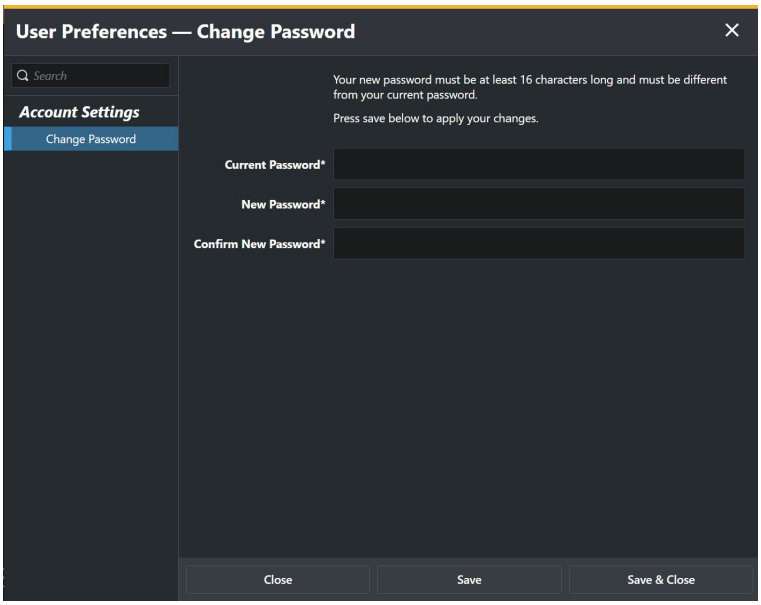


Figure 7 - *User Preferences – Change Password Window*

1. Select the **User** button and then select **User Preferences**.
2. Under **Account Settings**, select **Change Password**.
3. Enter your **Current Password**, **New Password**, and **Confirm New Password**.
   IMPORTANT: The new password must be at least **16 characters long** and different from the previous password.
4. Select **Save** or **Save & Close** to apply the change.

System Configuration

The **System Configuration** pages provide access to system-level settings for users, devices, and services.

Figure 8 shows the **System Configuration Button**.

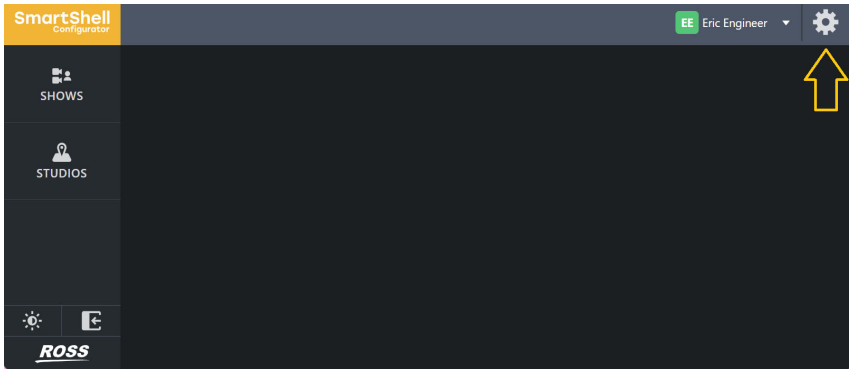


Figure 8 - *System Configuration Button Opens the System Configuration Window*

System Configuration pages are used to set up all system-level properties for SmartShell Configurator, including users, devices, robots, and connected services.

The left navigation menu organizes these pages into categories, including:

- **User Management**
- **Control Stations**
- **Robots**
- **Routers**
- **Services**

Each category contains configuration tabs and windows for specific components.

Figure 9 shows the **System Configuration Window**.

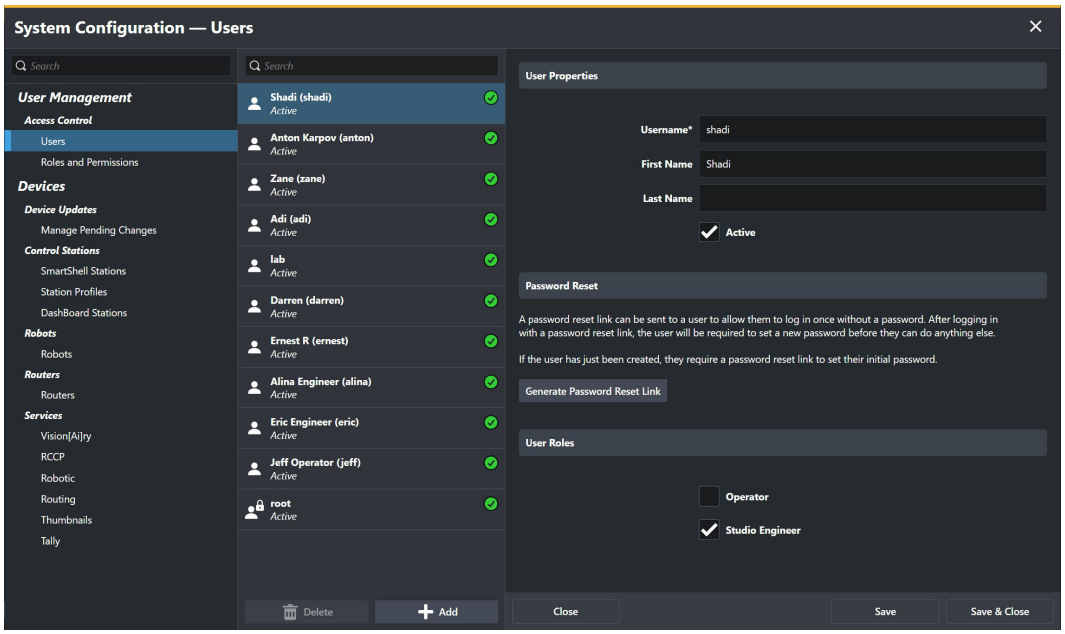


Figure 9 - *System Configuration - Users*

Users

The **Users** page, located under **User Management** > **Access Control**, is used to create and manage user accounts in SmartShell Configurator.

Administrators can add new users, assign roles, and generate password reset links.

Each new user account is active by default but must have a role assigned before it is considered valid.

IMPORTANT: A password reset link must also be generated before the user can log in for the first time.

Figure 9 shows the **System Configuration - Users** page.

Page Overview

- **User List –** Displays all existing users.
  Select a user to view or edit their account details.
  Select **Add** to create a new user or **Delete** to remove a selected user.
- **User Properties –** Enables the following properties to be altered:
  - **Username –** The unique identifier used to log in.
  - **First Name / Last Name –** Optional fields for descriptive identification.
  - **Active –** Enables or disables a user account. Active users can sign in; inactive users cannot.
- **Password Reset –** A password reset link allows the user to log in once without a password.
  After logging in with the link, the user must create a new password before continuing.
  If the user has just been created, a password reset link is required to set their initial password.
  - **Select Generate Password Reset Link** to send the link to the user.
    Note: A user must receive a password reset link before they can sign in for the first time.
- **User Roles –** Roles determine which areas of SmartShell Configurator a user can access.
  At least one role must be assigned for the account to be valid.
  Available roles include:
    - **Operator –** Grants access to basic operational controls.
    - **Studio Engineer –** Grants access to advanced configuration and setup options.

To Create of Edit a User

1. On the **Users** page, select **Add** to create a new user, or select an existing user to edit.
2. Enter a **Username**, **First Name**, and **Last Name**.
3. Check **Active** to enable the account.
4. Under **Password Reset**, select **Generate Password Reset Link** to send a setup link.
   Note: This step is required when adding a new user and is optional when editing an existing one to reset their password.
5. Under **User Roles**, assign at least one role.
6. Select **Save** or **Save & Close**.

   Tip: A role must be assigned for the account to be considered valid.
   Newly created users must have a password reset link before they can log in.

Roles and Permissions

The **Roles and Permissions** page, located under **User Management** > **Access Control,** defines user roles and their access levels within SmartShell Configurator. Roles determine which areas of the Configurator a user can view or manage. Each role can include a combination of view and manage permissions for different configuration areas such as **Admin**, **Configuration**, **Studios**, and **Shows**. **IMPORTANT:** Each user must have at least one role assigned in the **Users** page.

Figure 10 shows the **System Configuration - Roles and Permissions** page.

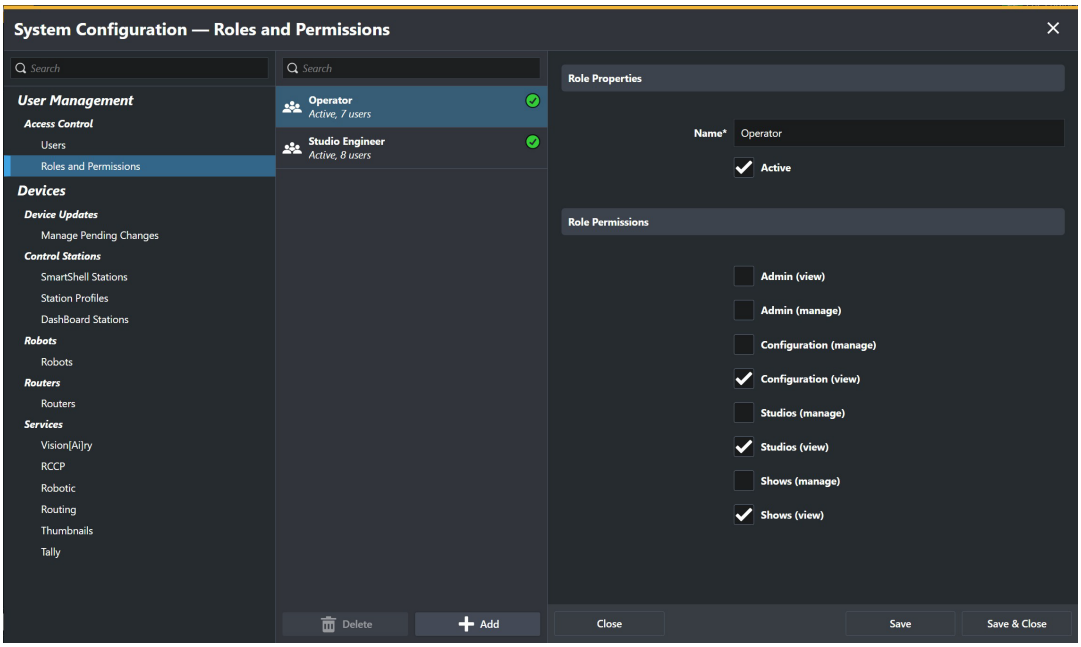


Figure 10 - *System Configuration - Roles and Permissions*

Page Overview

- **Role List –** Displays all existing roles and the number of users assigned to each. Select a role to view or modify its permissions. Use Add to create a new role or Delete to remove a selected one.
- **Role Properties** – Enables the following properties to be altered:
  - **Name** – The label for the role.
  - **Active** – Enables or disables the role. When inactive, users assigned to the role lose associated permissions.
- **Role Permissions** – Lists configurable access levels for each functional area:
  - **Admin (view / manage) –** Access to overall administrative pages.
  - **Configuration (view / manage) –** Access to system settings and configuration pages.
  - **Studios (view / manage) –** Access to create, edit, or view studios.
  - **Shows (view / manage) –** Access to create, edit, or view shows.
- **Save / Save & Close –** Saves role updates or exits without changes.

To Create or Edit a Role

1. On the **Roles and Permissions** page, select **Add** to create a new role, or select an existing role to edit.
2. Enter a **Name** for the role.
3. Check **Active** to enable the role.
4. Under **Role Permissions**, select the applicable view and manage options.
5. Select **Save or Save & Close**.

Manage Pending Changes

The **Manage Pending Changes** page, located under **Device Updates**, displays the current configuration status of all connected devices and system components.

This page allows administrators to review pending configuration updates, correct errors, and apply changes to all devices in the network.

Figure 11 shows the **System Configuration - Manage Pending Changes** page.

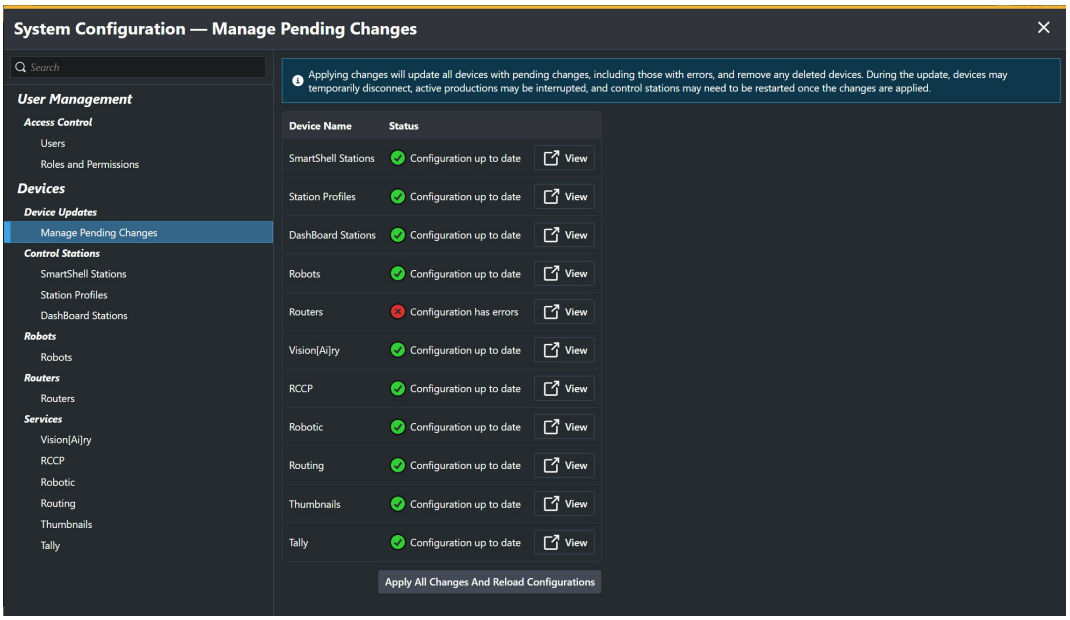


Figure 11 - *System Configuration - Manage Pending Changes*

Page Overview

- **Device Name –** Lists all devices and configuration categories, such as SmartShell Stations, Robots, Routers, and Vision[Ai]ry.
- **Status –** Indicates whether each device's configuration is up to date.
  Status icons include:
  -  **Configuration up to date –** No pending changes.
  -  **Configuration pending –** Changes are waiting to be applied.
  -  **Configuration has errors –** The configuration contains errors that must be corrected before updates can complete.
- **View –** Opens the configuration page for the selected device or service, allowing you to review and correct issues.
- **Apply All Changes And Reload Configurations –** Applies all valid pending changes to every device. Deleted devices are removed, and updated configurations are reloaded across the network.

To Apply Configuration Changes

1. Open the **Manage Pending Changes** page.
2. Review the **Status** column for each device.
3. If any device shows **Configuration** has errors, select **View** to open its configuration page and correct the issue.
4. When all configurations are valid, select **Apply All Changes And Reload Configurations**.

5. Wait for the process to complete. Some devices may temporarily disconnect while changes are applied.

   Tip: Use this page regularly to confirm that all devices are synchronized and up to date before starting production.

SmartShell Stations

The **SmartShell Stations** page, located under **Control Stations**, is used to define and manage SmartShell workstations and joystick panels connected to the Robotics network.

Each station represents a computer or control surface that runs SmartShell or hosts a CX panel adapter.

Figure 12 shows the **System Configuration - SmartShell Stations** page.

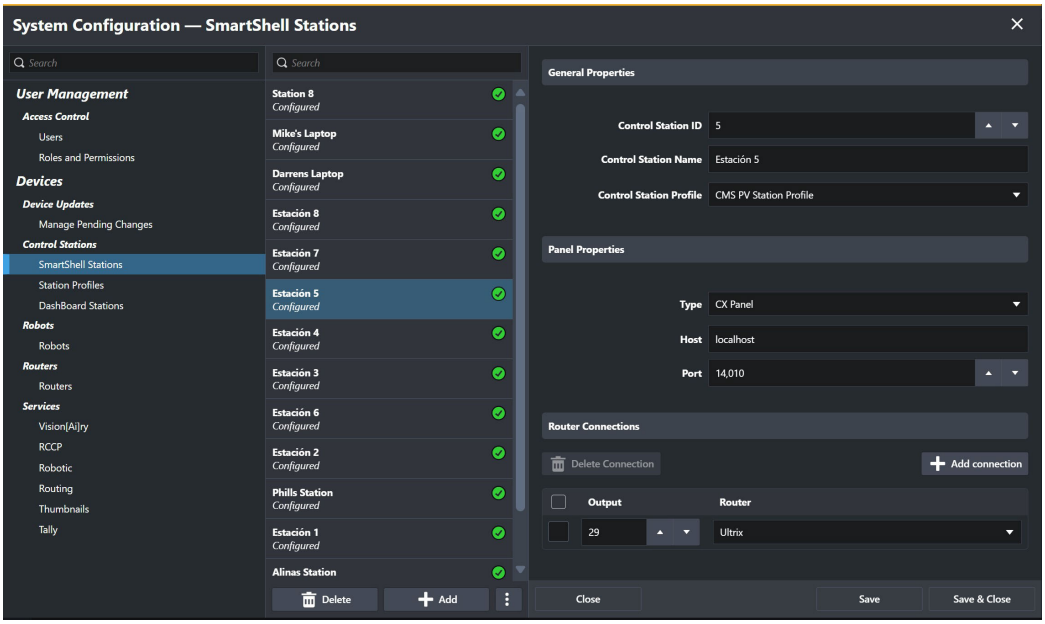


***Figure 12** - System Configuration - SmartShell Stations*

Page Overview

- **Station List –** Displays all configured SmartShell stations. Each station entry shows its assigned ID, name, and configuration status. Select a station to edit its details, or select Add to create a new one. Use **Delete** to remove a station from the list.
- **General Properties –** Enables the following properties to be altered:
  - **Control Station ID –** A unique numeric identifier automatically assigned to each station.
  - **Control Station Name –** The descriptive name of the workstation or panel.
  - **Control Station Profile –** Associates the station with a predefined Station Profile.
- **Panel Properties –** Defines connection parameters for CX joystick panels.
  - **Type –** Specifies the connected control panel type (for example, CX Panel).
  - **Host –** The hostname or IP address of the computer running the CX panel adapter.
  - **Port –** The network port used for communication with the CX panel.
- **Router Connections –** Allows you to define how the station connects to an external video router.
  Note: The router must already be configured for this to be done.
  Select **Add Connection** to create a new router mapping.
  Assign an **Output** number and select a **Router** from the drop-down list.
  To remove an existing mapping, select **Delete Connection**.
- **Save / Save & Close –** Saves or discards changes.

To Create or Edit a Station

1. On the S**martShell Stations** page, select **Add** to create a new station, or select an existing one to edit.
2. Enter or update the **Control Station Name**.
3. Confirm or edit the **Control Station ID** if required.

4. Select a **Control Station Profile** from the list.
5. Under **Panel Properties**, specify the **Type**, **Host**, and **Port**.
6. To define router routing, use **Add Connection**, assign an **Output**, and select a **Router**.
7. Select **Save** or **Save & Close**.

IMPORTANT: The Host address should point to the computer running the CX panel adapter. If the joystick panel is attached to the same workstation as SmartShell, use localhost.

Station Profiles

The **SmartShell Stations** page, located under **Control Stations**, is used to define and manage SmartShell workstations and joystick panels connected to the Robotics network.

Each station represents a computer or control surface that runs SmartShell or hosts a CX panel adapter.

Figure 13 shows the **System Configuration - Station Profiles** page.

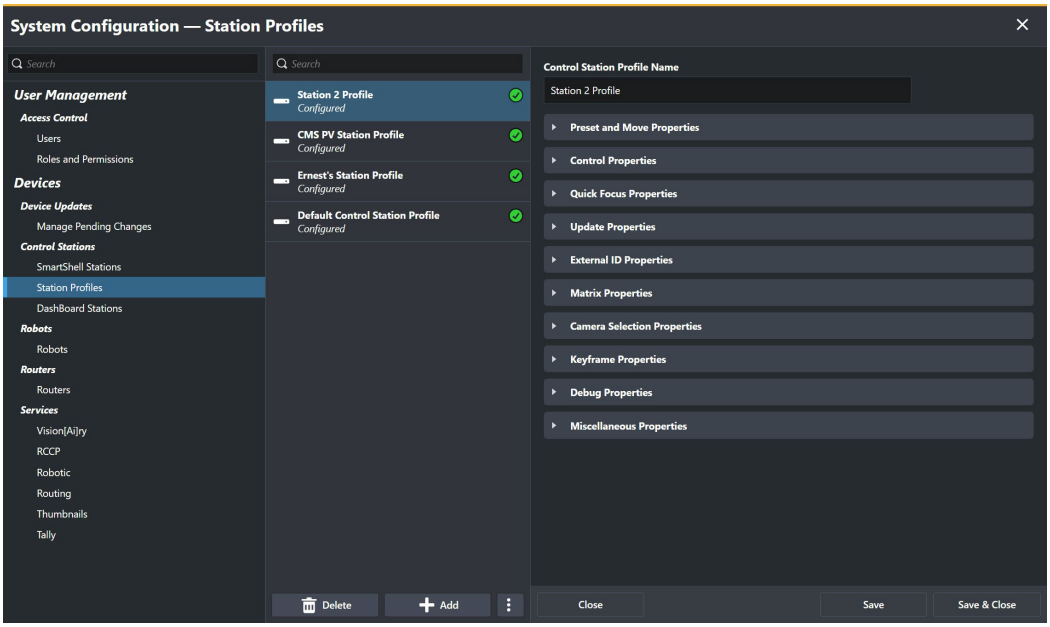


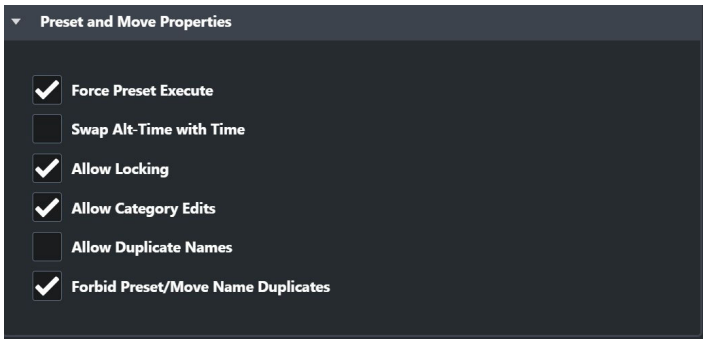
Figure 13 - *System Configuration - Station Profiles*

Page Overview

- **Station Profiles List –** Displays all configured station profiles. Each station profile entry shows its assigned ID, name, and configuration status. Select a station to edit its details, or select **Add** to create a new one. Use **Delete** to remove a station from the list.
- **Control Station Profile Name –** Text field that assigns the station name.

Station Profile Properties

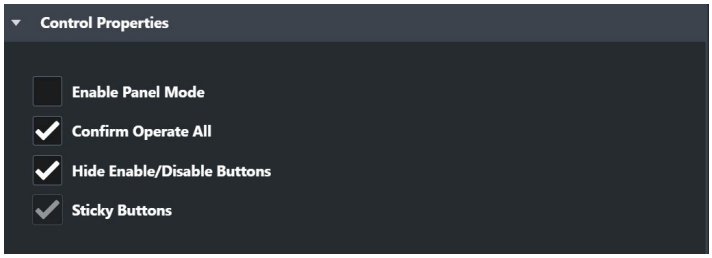
- **Preset and Move Properties –** Displays all preset and move options available in the selected station profile. Each option can be enabled or disabled as required, refer to the figure below.



  - **Force Preset Execute —** Introduced in version 4.6b, enables forced preset execution, allowing presets to run in the minimum possible time without prompting. Default: false.
  - **Swap Alt-Time with Time —** Introduced in version 6.0b, switches the TIME and ALT knob functions when recalling presets or moves. Default: false.

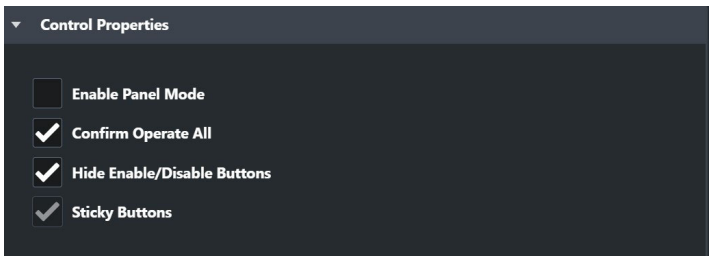
- **Allow Locking** — Introduced in version 4.6b, enables the ability to lock or unlock presets and moves. Default: false.
- **Allow Category Edits** — Allows preset and move categories to be modified. Default: true.
- **Allow Duplicate Names** — Permits presets or moves to share the same name. Default: false.
- **Forbid Preset/Move Name Duplicates** — Introduced in version 4.6b, Prevents duplicate preset or move names when duplicate naming is otherwise allowed. Default: true.

- **Control Properties –** Defines the control behavior and interface options applied to the selected station profile.



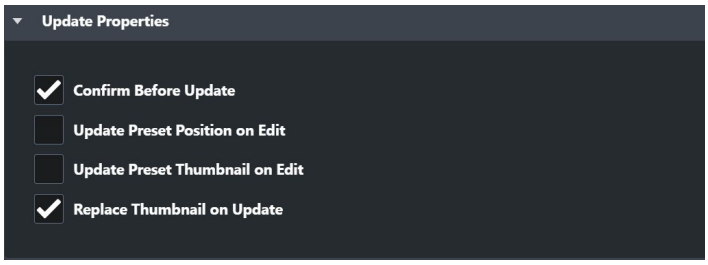
- **Enable Panel Mode —** Introduced in version 4.1a, sets SmartShell to operate in Panel Mode. When disabled, SmartShell operates in Shot Box Mode. Default: true.
- **Confirm Operate All —** Prompts confirmation before executing “Operate All” actions. Default: true.
- **Hide Enable/Disable Buttons —** Hides or displays the axis enable and disable buttons in the SmartShell interface. Default: false.
- **Sticky Buttons —** Keeps button selections active until manually deselected. Default: true.

- **Quick Focus Properties –** Controls how Quick Focus behaves within the selected station profile.



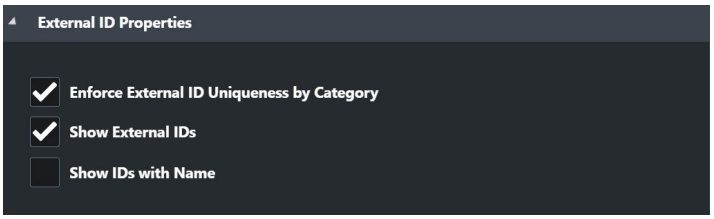
- **Disable Quick Focus —** Disables the Quick Focus feature. Default: false.
- **Disable Quick Focus Activation from Panel —** Prevents Quick Focus activation from the joystick panel. Default: false.
- **Allow On-Air Quick Focus —** Introduced in version 4.5, allows Quick Focus adjustments while a camera is on-air. Default: false.
- **Enable Update in Quick Focus —** Introduced in version 6.0b, allows the last recalled preset to be updated through Quick Focus instead of creating a new preset. Default: true.
- **Disable Add Popup in Quick Focus —** Introduced in version 6.0b, suppresses the Add Preset dialog in Quick Focus, making the ADD button a single-click action. Default: false.

- **Update Properties –** Controls how SmartShell handles preset updates and thumbnail changes for the selected station profile.



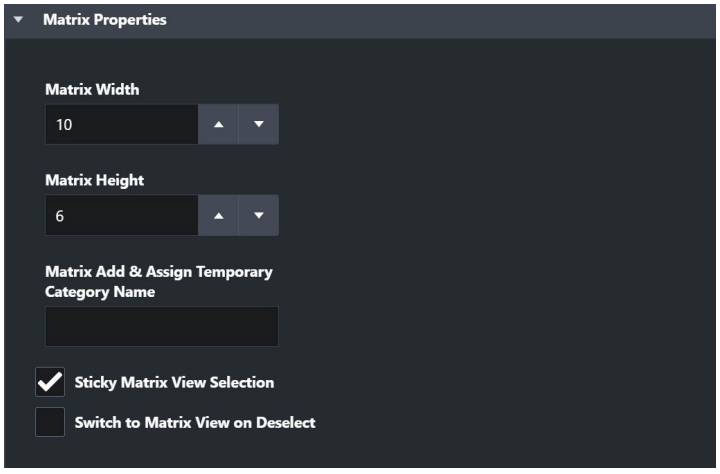
- **Confirm Before Update —** Displays a confirmation prompt before applying preset updates. Default: true.
- **Update Preset Position on Edit —** Updates the preset's saved position automatically when edits are made. Default: false.
- **Update Preset Thumbnail on Edit —** Updates the preset thumbnail image automatically when the preset is edited. Default: false.
- **Replace Thumbnail on Update —** Replaces the preset thumbnail each time the preset is updated. Default: true.

- **External ID Properties –** Defines how automation IDs are displayed and managed for presets and moves.



- **Enforce External ID Uniqueness by Category —** Ensures automation IDs are unique within each category. When integrating with an RCCP Server, this parameter should match the RCCP configuration. If the server is set to Category mode, enable this option; otherwise, disable it. Default: true.
- **Show External IDs —** Displays the automation IDs for presets and moves in the interface. Default: true.
- **Show IDs with Name —** Displays automation IDs alongside preset or move names. Default: false.

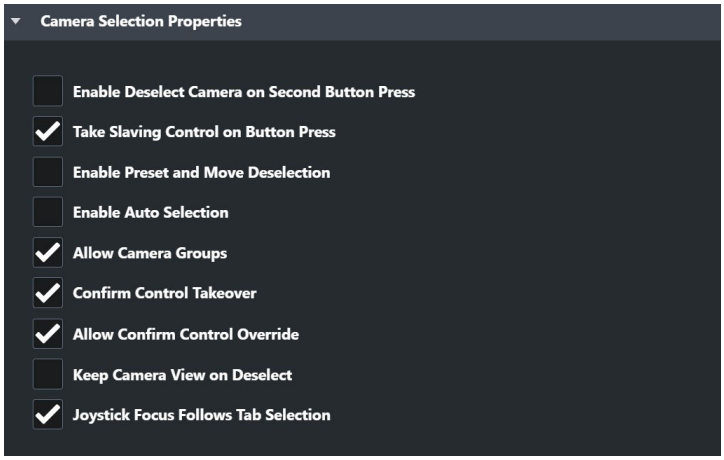
- **Matrix Properties –** Defines the layout and behavior of Matrix View for the selected station profile.



- **Matrix Width —** Sets the number of columns displayed in Matrix View.
- **Matrix Height —** Sets the number of rows displayed in Matrix View.

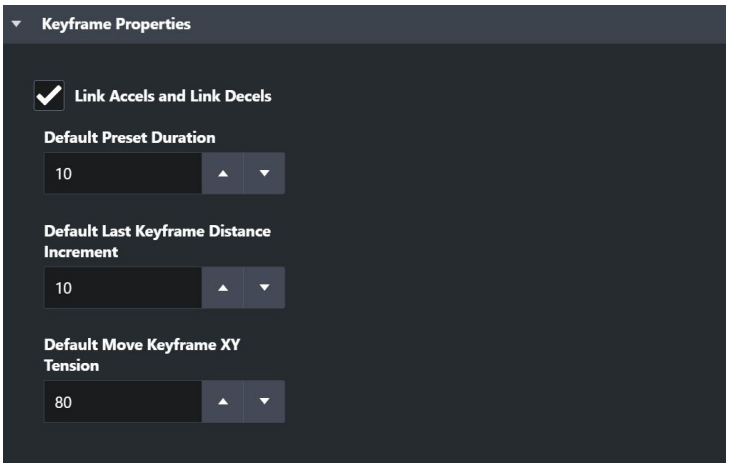
- **Matrix Add & Assign Temporary Category Name —** Introduced in version 4.8a, defines a temporary category used by the Matrix View Add & Assign feature. SmartShell creates this category automatically if it does not exist and prompts to delete it when exiting.
- **Sticky Matrix View Selection —** Keeps Matrix View selections active until manually cleared. Default: true.
- **Switch to Matrix View on Deselect —** Switches the interface to Matrix View when a camera is deselected. Default: false.

- **Camera Properties –** Defines how cameras are selected, deselected, and controlled within SmartShell.



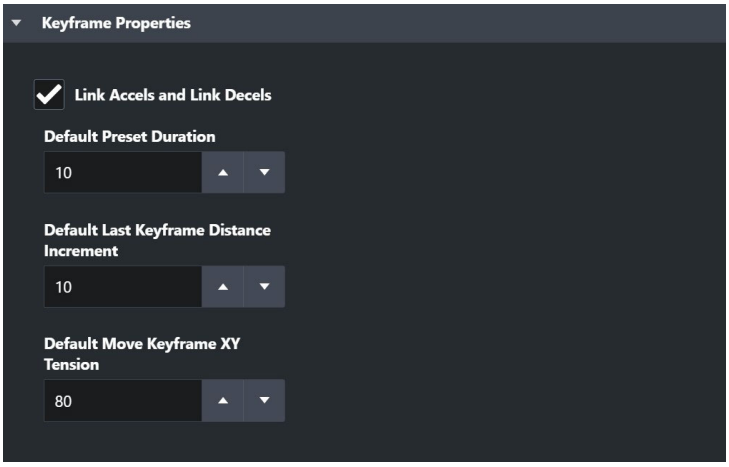
- **Enable Deselect Camera on Second Button Press —** Allows a camera to be deselected by pressing its control button a second time. Default: false.
- **Take Slaving Control on Button Press —** Introduced in version 4.5b, transfers joystick control automatically when selecting a camera, without the need to press Operate. Default: false.
- **Enable Preset and Move Deselection —** Enables the ability to deselect presets and moves from the interface. Default: false.
- **Enable Auto Selection —** Automatically selects the next available camera when the current selection is cleared. Default: false.
- **Allow Camera Groups —** Introduced in version 6.0b, enables the Camera Groups feature. Default: true.
- **Confirm Control Takeover —** Introduced in version 6.1a, displays a confirmation dialog when taking joystick control of a robot currently controlled by another client. Default: true.
- **Allow Confirm Control Override —** Introduced in version 6.1a, allows joystick control to be overridden when confirmation is required by holding ALT or SHIFT. Default: true.
- **Keep Camera View on Deselect —** Introduced in version 4.5b, maintains the camera view when deselected instead of displaying “No Device Selected.” Default: false.
- **Joystick Focus Follows Tab Selection —** Keeps joystick focus aligned with the currently selected tab. Default: true.

- **Keyframe Properties –** Defines the default parameters applied to keyframes for moves and presets.



› **Link Accels and Link Decels —** Introduced in version 6.0x, links acceleration and deceleration sliders across all axes when editing presets. Default: true.
› **Default Preset Duration —** Sets the default duration for new presets, in seconds.
› **Default Last Keyframe Distance Increment —** Introduced in version 6.0c, sets the default distance increment when adding keyframes to a move. Default: 10.0.
› **Default Move Keyframe XY Tension —** Introduced in version 5.x, sets the default XY tension applied when adding keyframes to a move. Default: 80.

- **Debug Properties –** Provides options used for monitoring and troubleshooting joystick operation.



› **Always Update Joystick Lights —** Keeps joystick LED indicators active and updated during all operations. Default: false.
› **Joystick Diagnostics Log —** Enables joystick diagnostic logging for troubleshooting purposes. Default: false.

DashBoard Stations

The **DashBoard Stations** page, located under **Control Stations**, is used to define connections between SmartShell and Ross DashBoard instances that manage PTZ cameras.

Each DashBoard station represents a DashBoard computer to which one or more PTZ cameras are assigned.

Figure 14 shows the **System Configuration - DashBoard Stations** page.

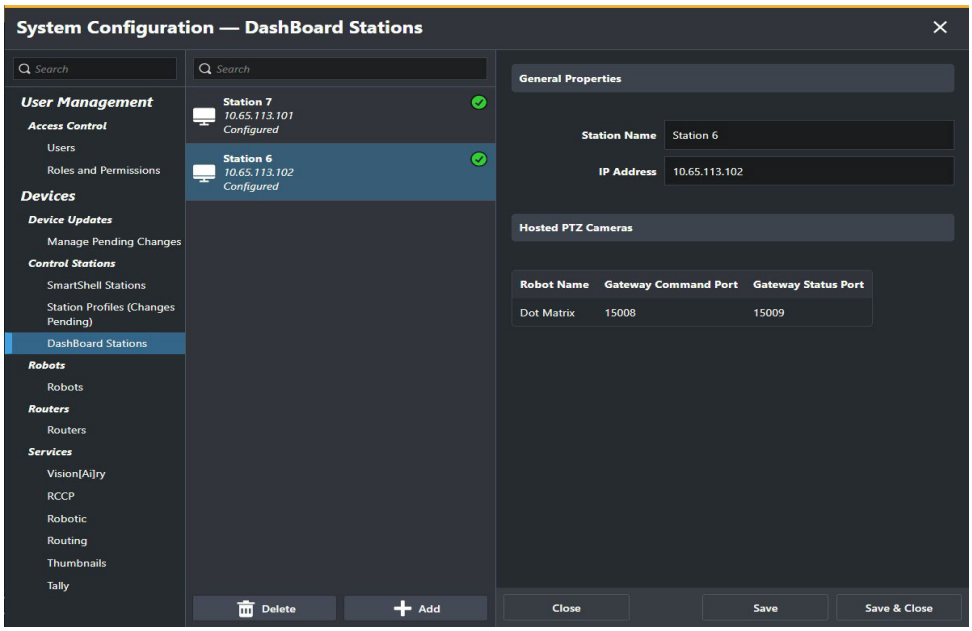


Figure 14 - *System Configuration - DashBoard Stations*

Page Overview

- **DashBoard Station List –** Displays all configured DashBoard stations. Each station entry shows its assigned name and IP address. Select a station to edit its details, or select **Add** to create a new one. Use **Delete** to remove a station from the list.
- **DashBoard Station Properties –** Enables the following properties to be altered:
  - **Station Name –** A unique name identifying the DashBoard instance.
  - **IP Address –** The IP address of the computer running DashBoard.
- **Hosted PTZ Cameras –** Displays a list of PTZ cameras assigned to the selected DashBoard station, including the robot name and gateway command and status ports.
- **Save / Save & Close –** Saves or discards changes made to the selected DashBoard station.

To Create or Edit a DashBoard Station

1. On the DashBoard Stations page, select **Add** to create a new station, or select an existing one to edit.
2. Enter a unique **Station Name**.
3. Enter the **IP Address** of the computer running DashBoard.
4. Select **Save** or **Save & Close**.

IMPORTANT: If PTZ cameras are added to more than one DashBoard instance, a separate DashBoard station must be created for each instance. As PTZ cameras are added to DashBoard, they will automatically appear under the corresponding DashBoard station in SmartShell Configurator.

Robots

The **Robots** page, located under **Devices**, is used to configure all robotic systems controlled by SmartShell.

Each robot entry includes identification, communication, and firmware information, as well as tally and routing settings.

Note: The fields available in the **General Properties** section vary depending on the connected robot type. Some properties may not appear for certain models or firmware versions. Features such as **Tally**, **Vision[Ai]ry**, and **Router Connections** are only available if they have been configured in the system.

Figure 15 shows the **System Configuration - Robots** page.

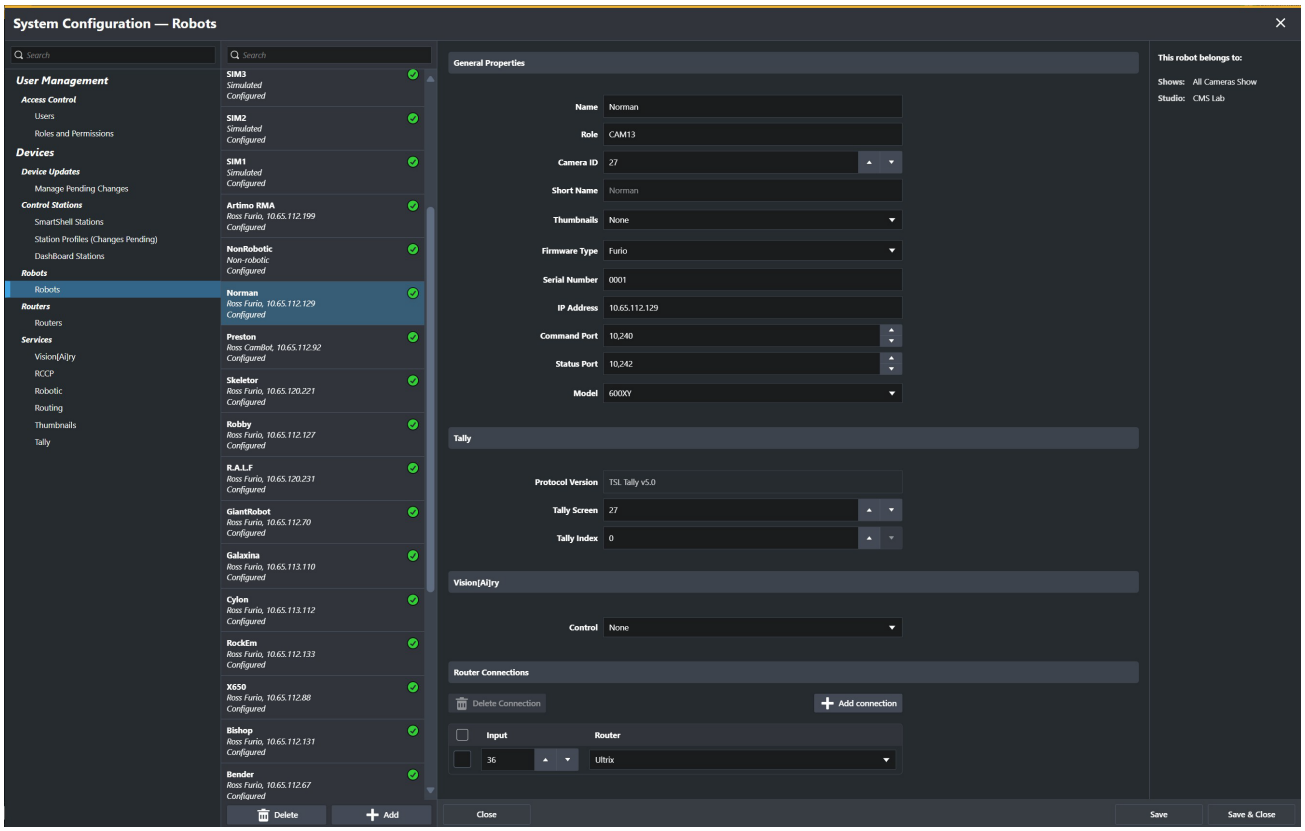


Figure 15 - *System Configuration - Robots*

Page Overview

- **Robot List –** Displays all configured robots. Each entry shows the robot name, firmware type, and IP address. Select a robot to edit its details, or select **Add** to create a new robot. Use **Delete** to remove a robot from the list.
- **General Properties –** Provides connection and identification fields for the selected robot:
  - **Name –** The unique name assigned to the robot.
  - **Role –** Defines the automation role or camera ID used by the control system.
  - **Camera ID –** The numeric ID assigned to the robot's camera.
  - **Short Name –** The abbreviated name displayed on SmartShell panels.
  - **Thumbnails –** Selects the video source used for generating thumbnail images.
    Note: When using a video input source, ensure that the selected format matches the defined thumbnail video format.
  - **Firmware Type –** Specifies the robot firmware (for example, Furio, CamBot, PTZ, or Simulated).
  - **Serial Number –** The robot's serial number for identification only for Furio devices.

  - **IP Address –** The network address used for communication with the robot.
    Note: For PTZ products, the Dashboard Station needs to be defined. There is a section for the IP of the PTZ, which is reserved for future use.
  - **Command Port / Status Port –** Defines the network ports used for command and status communication.
  - **Model –** Lists the model type of the connected robot.
- **Tally –** Defines tally integration parameters:
  - **Protocol Version –** Selects the tally protocol (for example, TSL Tally v5.0).
  - **Tally Screen –** Assigns the screen number used by the tally system.
  - **Tally Index –** Assigns the tally index for the robot.
- **Vision[Ai]ry –** Assigns the Vision[Ai]ry tracking controller used with the selected robot.
- **Router Connections –** Defines video router mapping for the selected robot:
  - Select **Add Connection** to add a router mapping.
  - Assign an **Input** number and select a **Router** from the drop-down list.
  - Use **Delete Connection** to remove an existing mapping.
- **Save / Save & Close –** Saves or discards configuration changes.

To Create or Edit a Robot

1. On the **Robots** page, select **Add** to create a new robot, or select an existing one to edit.
2. Enter the robot **Name**, **Role**, and **Camera ID**.
3. Select the appropriate **Firmware Type** and verify the **IP Address**, **Command Por**t, and **Status Port**.
4. If applicable, configure **Tally**, **Vision[Ai]ry**, and **Router Connections**.
5. Select **Save** or **Save & Close**.

   Caution: Each robot name, role, and camera ID must be unique.
   Duplicate identifiers may cause communication conflicts within SmartShell.

Routers

The **Routers** page, located under **Devices**, is used to configure video routers that interface with SmartShell and its connected robotic systems.

Note: When a destination is a control station, routing follows camera selection. The thumbnail server is automatically routed when capturing thumbnails. For more information about routing behavior during operation, refer to the ***SmartShell User Guide (5100DR-002-XX)***.

Each router entry includes identification, communication, and connection details.

Note: The fields available in the **General Properties** section vary depending on the selected router type and protocol. Some properties may not appear for certain router models or firmware versions.

Figure 15 shows the **System Configuration - Routers** page.

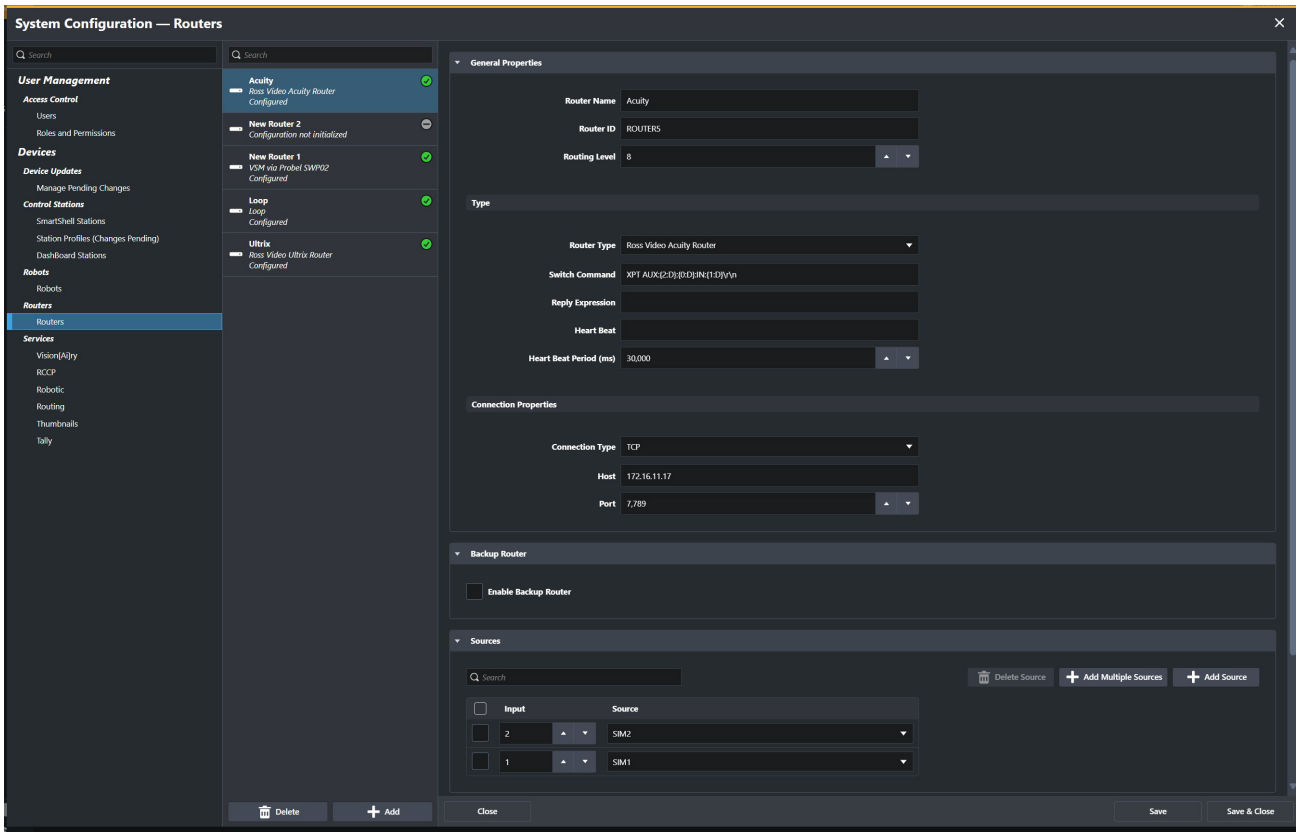


Figure 16 - *System Configuration - Robots*

Page Overview

- **Router List –** Displays all configured routers. Each entry shows its name, type, and configuration status. Select a router to view or edit its properties, or select **Add** to create a new router. Use **Delete** to remove a router from the list.
- **General Properties –** Defines basic identification and routing information for the selected router.
  - › Router Name – The descriptive name assigned to the router.
  - › Router ID – The system identifier used for the router.
  - › Routing Level – Specifies the routing level used by the router.
- **Type –** Defines the router model and communication protocol.
  - › **Router Type –** Selects the router model from the list (for example, Ross Video Acuity Router or Ultrix).

  - › **Switch Command / Reply Expression / Heart Beat / Heart Beat Period (ms) –** Used for defining the communication structure between SmartShell and the router.
- **Connection Properties –** Specifies how SmartShell communicates with the router.
  - › **Connection Type –** Selects the communication protocol (for example, TCP).
    Note: Only TCP connection fields (Host and Port) are displayed. Serial connections are supported but are seldom used in current systems
  - › **Host –** The IP address of the router.
  - › **Port –** The network port used for communication.
- **Backup Router –** Allows configuration of a secondary router connection for redundancy.
  Select **Enable Backup Router** to activate the backup configuration fields.
- **Sources –** Lists the inputs and sources assigned to the router.
  Use **Add Source** to add a new input and source mapping, or **Add Multiple Sources** to configure several mappings at once. Select **Delete** Source to remove an existing mapping.
- **Destinations –** Defines output routing for the selected router.
  Use **Add Destination** to create a new output-to-destination mapping, or **Add Multiple Destinations** to configure several outputs at once. Each destination entry lists the **Output** number and the assigned **Destination**. Select **Delete Destination** to remove an existing mapping.
- **Save / Save & Close –** Saves or discards changes to the router configuration.

To Create or Edit a Router

1. On the **Routers** page, select **Add** to create a new router, or select an existing one to edit.
2. Enter a **Router Name** and **Router ID**.
3. Choose the **Router Type** and set the Routing Level.
4. Under **Connection Properties**, enter the router's **Host IP** address and **Port**.
5. (Optional) **Enable Backup Router** and configure backup parameters if required.
6. Under **Sources**, add the required input and source mappings.
7. (If available) If the **Destinations** section is available, add the required output and destination mappings.
8. Select **Save** or **Save & Close**.

IMPORTANT: If the system uses multiple routers, ensure each router has a unique name and ID.

Vision[Ai]ry

The **Vision[Ai]ry** page, located under **Services**, is used to configure network connections between SmartShell and Vision[Ai]ry control servers. Each Vision[Ai]ry entry defines a connection that allows SmartShell to communicate with a Vision[Ai]ry instance for camera tracking.

Note: Field availability and configuration values may vary depending on the Vision[Ai]ry software version and system architecture.

Figure 17 shows the **System Configuration - Vision[Ai]ry** page.

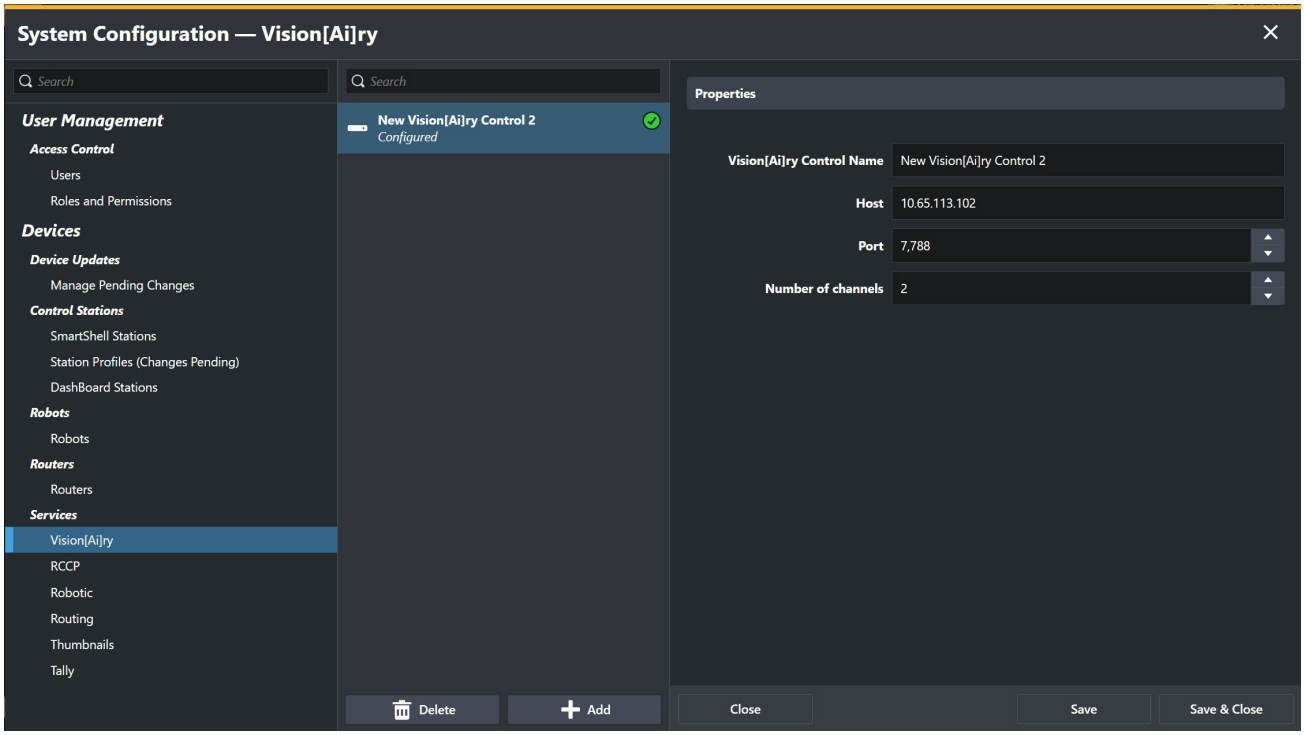


Figure 17 - *System Configuration - Vision[Ai]ry*

Page Overview

- **Vision[Ai]ry Connections List –** Displays all configured Vision[Ai]ry connections. Each entry shows the configured name and connection status. Select a connection to edit its details, or select Add to configure a new one. Use **Delete** to remove a Vision[Ai]ry connection from the list.
  - › **Properties –** Defines the network settings for the selected Vision[Ai]ry connection:
  - › **Vision[Ai]ry Control Name –** The descriptive name assigned to the Vision[Ai]ry connection.
  - › **Host –** The IP address of the Vision[Ai]ry control server.
  - › **Port –** The network port used for communication between SmartShell and Vision[Ai]ry.
  - › **Number of Channels –** Specifies the number of Vision[Ai]ry tracking channels supported by the connection.
- **Save / Save & Close –** Saves or discards configuration changes.

To Create or Edit a Vision[Ai]ry Control Server

1. On the **Vision[Ai]ry** page, select **Add** to create a new connection, or select an existing one to edit.
2. Enter a **Vision[Ai]ry Control Nam**e.
3. Enter the **Host IP** address of the Vision[Ai]ry control server.
4. Specify the **Port** and **Number of Channels**.
   Note: Further Vision[Ai]ry configuration, such as selecting tracking mode and assigning specific channels to robots, is performed at the robot level.

5. Select **Save** or **Save & Close**.

RCCP

RCCP (Ross Camera Control Protocol) is the communication protocol used between SmartShell and the RCCP Server to exchange camera, preset, and move data for automation and third-party control integration.

The RCCP page, located under Services, is used to configure communication settings between SmartShell and the RCCP Server.

These settings define how SmartShell exchanges preset and move data with RCCP for automation control.

Figure 18 shows the **System Configuration - RCCP** page.

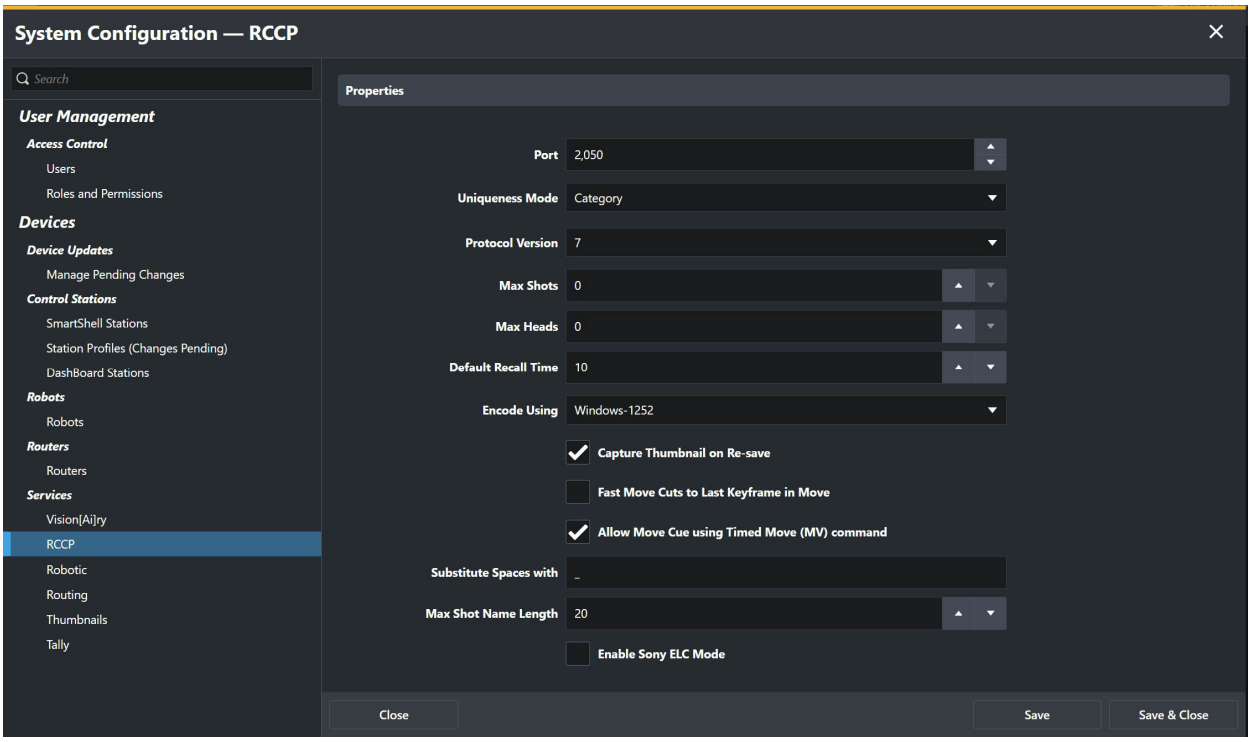


***Figure 18** - System Configuration - RCCP*

Page Overview

- **Properties –** Defines communication parameters and behavior for the RCCP Server connection:
  - **Port –** The network port used to communicate with the RCCP Server.
  - **Uniqueness Mode –** Determines how preset and move IDs are managed. This setting must match the configuration on the RCCP Server.
  - **Protocol Version –** Specifies the RCCP communication protocol version.
  - **Max Shots / Max Heads –** Sets the maximum number of shots and camera heads supported by the RCCP connection.
  - **Default Recall Time –** Sets the default preset recall time in seconds.
  - **Encode Using –** Selects the character encoding format used when communicating with RCCP.
  - **Capture Thumbnail on Re-save –** Saves a new thumbnail image when a preset is re-saved.
  - **Fast Move Cuts to Last Keyframe in Move –** Moves quickly to the last keyframe in a move sequence.

  - › **Allow Move Cue Using Timed Move (MV) Command –** Enables RCCP Move Cue using the Timed Move (MV) command.
  - › **Substitute Spaces With –** Defines the character used to replace spaces in preset and move names.
  - › **Max Shot Name Length –** Sets the maximum character length for preset and move names.
  - › **Enable Sony ELC Mode –** Enables compatibility with Sony ELC systems.
- **Save / Save & Close –** Saves or discards configuration changes.

To edit RCCP Settings:

1. On the **RCCP** page, select an existing configuration to edit.
2. Confirm or update the **Port**, **Protocol Version**, and **Uniqueness Mode** to match the **RCCP Server** configuration.
3. Adjust any additional parameters as required.
4. Select **Save** or **Save & Close**.
   IMPORTANT: The **Uniqueness Mode** value must match the **RCCP Server** configuration. Mismatch between SmartShell and RCCP settings can cause automation conflicts.

Robotic

The Robotic page, located under Services, is used to configure network communication parameters for SmartShell's robotic control system.

These settings define how SmartShell communicates with connected robots, including command, status, and base communication ports.

Figure 19 shows the **System Configuration - Robotic** page.

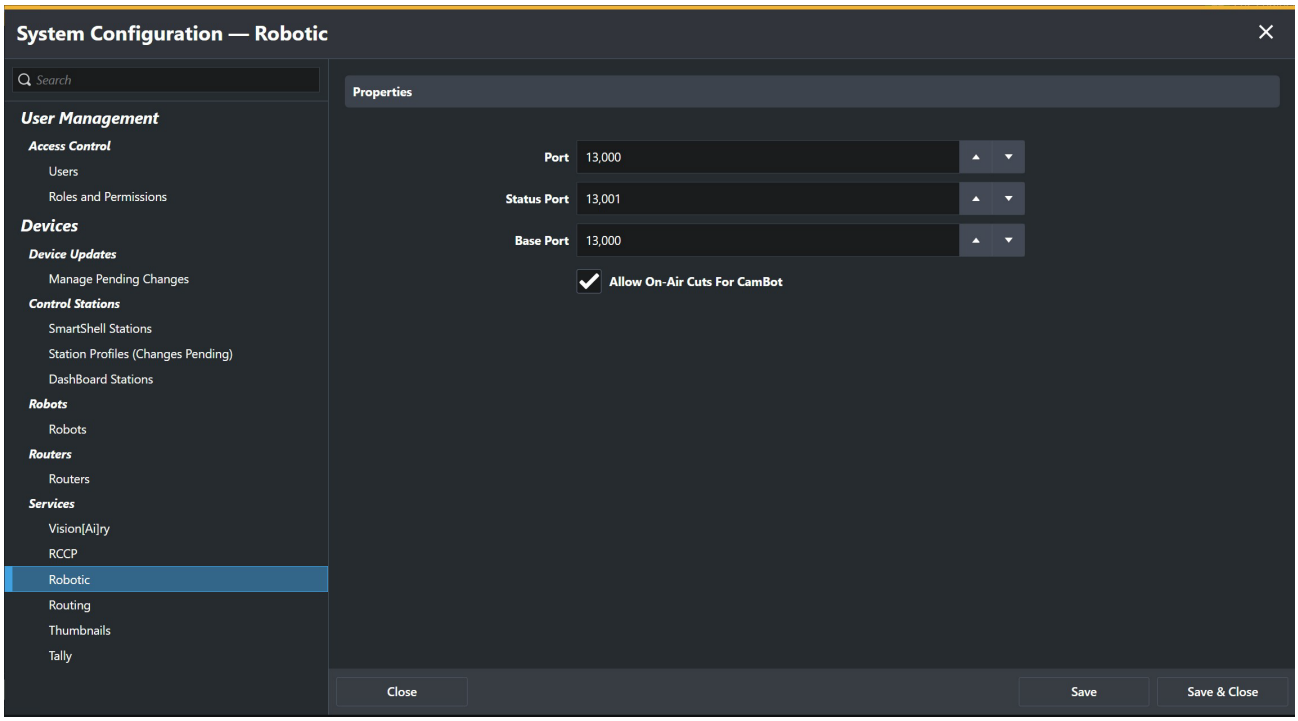


Figure 19 - *System Configuration - Robotic*

Page Overview

- **Properties –** Defines the ports and behaviors used by the Robotic control service:
  - **Port –** The primary network port used for robotic control communication.
  - **Status Port –** The network port used to receive status information from connected robots.
  - **Base Port –** The base communication port used by the robotic control service.
  - **Allow On-Air Cuts for CamBot –** Enables on-air camera cuts when using CamBot systems.
- **Save / Save & Close –** Saves or discards configuration changes.

To Edit Robotic Communication Settings

1. On the **Robotic** page, review the **Port**, **Status Port**, and **Base Port** fields.
2. Modify the values as required for the system network configuration.
3. (Optional) Enable **Allow On-Air Cuts** for CamBot if on-air cuts are required for CamBot operation.
4. Select **Save** or **Save & Close**.

Note: The required ports may vary depending on the installed firmware version and robotic system configuration.

Thumbnails

The **Thumbnails** page, located under **Services**, is used to configure how SmartShell captures and displays video thumbnails.

Each thumbnail entry defines capture settings, network communication ports, and optional router connections for video input sources.

Figure 20 shows the **System Configuration - Thumbnails** page.

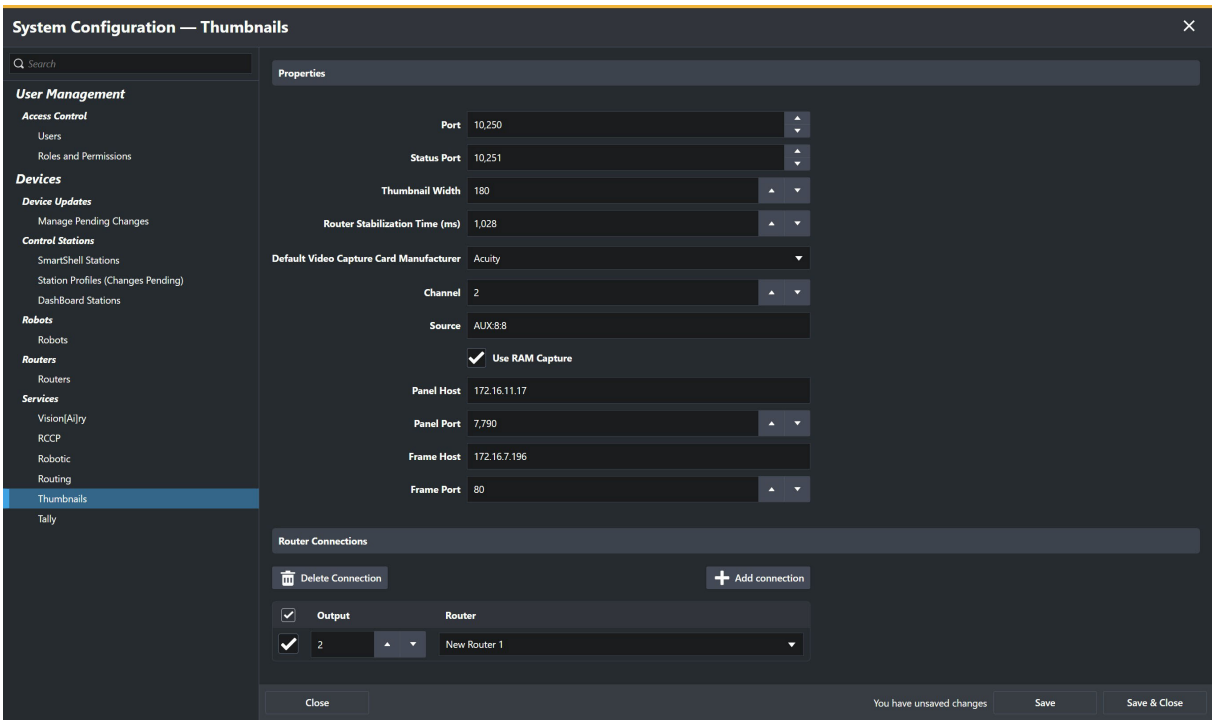


Figure 20 - *System Configuration - Thumbnails*

Page Overview

- **Properties –** Defines capture and communication settings for thumbnail generation:
  - **Port –** The primary network port used by the thumbnail service.
  - **Status Port –** The network port used to report thumbnail status updates.
  - **Thumbnail Width –** Sets the width of the generated thumbnails in pixels.
  - **Router Stabilization Time (ms) –** Defines the delay (in milliseconds) to allow router sources to stabilize before capture.
  - **Default Video Capture Card Manufacturer –** Selects the video card used for thumbnail capture (for example, Acuity).
  - **Channel –** Defines the capture channel used on the selected card.
  - **Source –** Identifies the video source or router output assigned to the thumbnail capture channel.
  - **Use RAM Capture –** Enables capture directly into system RAM for faster processing.
  - **Panel Host / Panel Port –** Defines the connection settings for the panel computer where thumbnails are processed.
  - **Frame Host / Frame Port –** Defines the connection settings for the frame source used in thumbnail capture.

    Note: The **Channel**, **Source**, **Use RAM Capture**, **Panel**, and **Frame** properties are only visible when Acuity is selected as the capture card manufacturer.
- **Router Connections –** Defines external router connections used for thumbnail capture.

  - › Select **Add Connection** to add a new router mapping, or **Delete Connection** to remove an existing mapping.
  - › Each router connection lists the **Output** and the assigned **Route**.
- **Save / Save & Close –** Saves or discards configuration changes.

To Edit Thumbnail Capture Settings

1. On the **Thumbnails** page, verify or update the **Port**, **Status Port**, and **Thumbnail Width** values.
2. Enter values for **Router Stabilization Time**, **Default Video Capture Card Manufacturer**, and **Source**.
3. **For Acuity only:** (Optional) **Enable Use RAM Capture** for improved thumbnail performance.
4. **For Acuity only:** If required, configure **Panel Host**, **Panel Port**, **Frame Host**, and **Frame Port**.
5. (Optional) Under **Router Connections**, add or remove router mappings as needed.
6. Select **Save** or **Save & Close**.

Tally

The Tally page, located under Services, is used to configure communication between SmartShell and external tally systems.

These settings define the tally protocol, communication port, and on-air indicators used by SmartShell.

Figure 21 shows the **System Configuration - Tally** page.

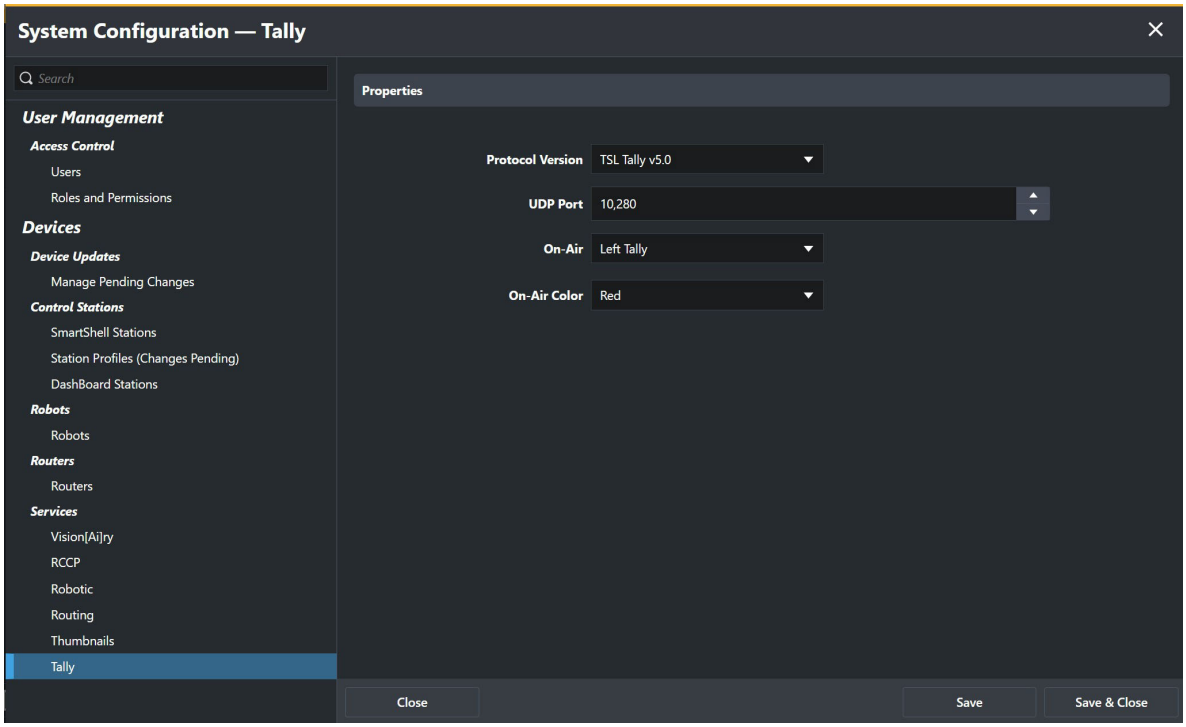


Figure 21 - *System Configuration - Tally*

Page Overview

- **Properties – Defines the communication and display settings for the tally interface:**
  - **Protocol Version –** Selects the tally protocol used for communication, such as TSL Tally v5.0.
  - **UDP Port –** Sets the network port used for tally communication.
  - **On-Air –** Selects which tally indicator is used to represent on-air status (for example, Left Tally). **Note**: For TSL Tally v3.1 On-Air is the only option and can be Tally1-4.
  - **On-Air Color –** Specifies the color displayed for on-air indication.
- **Save / Save & Close – Saves or discards configuration changes.**

To Edit Tally Settings

1. On the **Tally** page, review or modify the **Protocol Version** to match the connected tally system.
2. Enter or confirm the **UDP Port** number.
3. Choose the **On-Air** indicator and **On-Air Color** as required.
4. Select **Save** or **Save & Close**.

Troubleshooting

The following information summarizes common configuration issues and considerations based on SmartShell Configurator behavior.

Table 1 - Troubleshooting by Configuration Page

Configuration Page	Issue	Description	Resolution
Account Settings	Unable to change password	The new password does not meet SmartShell requirements.	Passwords must be at least 16 characters long and different from the current password.
	Password reset link not working	The reset link has expired or already been used.	Generate a new reset link from the System Configuration – Users page.
	User cannot log in after account creation	The user has not yet set an initial password.	Send a password reset link; the user must follow it to set a password before logging in.
Manage Pending Changes	Configuration changes not appearing	Updates have not been applied to the Robotics Server.	Open Manage Pending Changes and select Apply All to push updates to the server.
SmartShell Stations	CX panel not connecting	The Host address is incorrect or the adapter is not running.	If the adapter and SmartShell run on the same computer, use localhost. Otherwise, verify the IP address.
	Router mapping not functioning	The router referenced by the station has not been configured.	Add and configure the router in the Routers page before assigning it to a station.
Station Profiles	Parameter changes not taking effect	Profile modifications affect all stations using that profile.	Review assigned stations before saving changes.
	Matrix Add & Assign category not deleted	The exit prompt to delete the temporary category was dismissed.	Confirm deletion when prompted to remove the temporary Matrix category.
	Camera control override not working	The Allow Confirm Control Override option is disabled.	Enable Allow Confirm Control Override to permit joystick or keyboard takeover.
DashBoard Stations	PTZ cameras not appearing	The DashBoard station configuration does not match the active DashBoard instance.	Create a DashBoard station for each DashBoard instance; cameras appear automatically once linked.

Table 1 - Troubleshooting by Configuration Page

Configuration Page	Issue	Description	Resolution
	Duplicate IP addresses	Two DashBoard stations share the same IP address.	Assign a unique IP address to each DashBoard station.
Robots	Robot not responding	Network or port settings are incorrect.	Verify IP Address, Command Port, and Status Port values match those configured in the Robotics Server.
	Duplicate identifiers	Required connection parameters are missing or incorrect.	Ensure each robot has a unique Name, Role, and Camera ID.
	Incorrect or missing thumbnails	The thumbnail source does not match the defined video input format.	Confirm that Thumbnail Source and the video format match the connected hardware.
Routers	Router not initializing	Required connection parameters are missing or incorrect.	Verify the Host, Port, Connection Type, and Routing Level values.
	Missing source or destination mappings	No routing sources or destinations defined.	Define at least one Source and Destination mapping for each router.
Vision[Ai]ry	No tracking data received	Incorrect connection settings or network communication issue.	Verify that Host, Port, and Number of Channels match the Vision[Ai]ry control server configuration.
RCCP	Automation data not transferring	SmartShell and RCCP Server settings do not match.	Confirm that Port, Protocol Version, and Uniqueness Mode match the RCCP Server configuration.

Table 1 - Troubleshooting by Configuration Page

Configuration Page	Issue	Description	Resolution
Robotic	CamBot fails to cut on-air	On-air cuts are disabled for CamBot.	Enable Allow On-Air Cuts for CamBot in the Robotic configuration page.
Routing	Routing feedback not updating	Ports misconfigured or service not listening.	Verify that Port and Status Port values are set correctly for routing services.
Thumbnails	Thumbnail capture delayed or missing	Router stabilization delay too short or RAM capture disabled.	Increase Router Stabilization Time (ms) and enable Use RAM Capture for better performance.
	No thumbnails from router source	router source Router connections not configured when thumbnails are sourced externally.	Configure Router Connections only when using external router inputs.
Tally	Incorrect tally indication	Protocol version or port mismatch with connected tally system.	Verify Protocol Version, UDP Port, and On-Air color settings match the tally hardware.