KRAMER

USER MANUAL
MODEL:

KRAMER NETWORK

Contents

Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront video, audio, presentation, and broadcasting professionals on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

This online user manual accompanies the **KRAMER NETWORK** application software. Download up-to-date Kramer user manuals and Installation guides from the Internet at this URL: www.kramerav.com/manual/Kramer Network.

New Features in Kramer Network Version 2.1

- Device discovery across the subnet.

- Management of devices that do not support P3K.

- Automatic detection of VIA devices.

- EDID management.

- Multi-deployment of matrix devices by replicating the configuration of one matrix to multiple devices with the same IN-OUT configuration.

- KDS-6 video streaming preview.

- KDS-4 video recording.

- Video-wall configuration and identification.

- Kramer Maestro new generic message trigger.

- 30-day device status report option.

New Features in Kramer Network Version 2.0

- Enhanced device management, including remote operation, FW upgrade and auto-discovery of modular matrices.

- Integrated Maestro room automation for use with any device or location.

- Email & SNMP trap notification.

- Increased security with LDAP authentication.

- Comprehensive integrated room scheduling.

- Fully customizable user scripts for endless applications & actions.

- Completely new look & feel.

- Multi-language support & online help.

New Features in Kramer Network Version 1.0.6

- Added video over IP device support (**KDS-EN4/KDS-DEC4**).
- Added video over IP device support (**KDS-EN6/KDS-DEC6**).
- Support for Dante devices and Pro AV matrix devices.
- Added Pro AV Master room controllers physical and virtual control panels for real-time control.
- Support for device firmware upgrade.
- Added report log for control, events, activity, users and device status.

New features in Kramer Network version 1.0.4

- Added Kramer Network Administrator Utility.
- Fully supports install, uninstall, repair and update processes.
- Server runs in the background: the console window was removed.
- Improved room controller project presentation support.
- Fixed various bugs.

Backward Compatibility

When upgrading **KRAMER NETWORK** version 1.0.4 to a higher version, you need to reload the virtual room controller **krnt** projects (in Room View), using Kramer **K-Config 3**.

Getting to Know KRAMER NETWORK

KRAMER NETWORK is an IP-based enterprise management software platform for AV networks. Using any laptop, PC or tablet, **KRAMER NETWORK** lets AV/IT Administrators easily configure, route, control, and manage Kramer Pro AV devices, room environments, and IP streaming devices from a single point in the network via a user-friendly web-based interface.

KRAMER NETWORK's scalability is unique in the world of AV/IT convergence with its flexible architecture and smart GUI, making managing a network of hundreds of ports as easy as handling a sports bar or retail facility.

KRAMER NETWORK can be installed on standard, enterprise, virtual or cloud servers for easy management and control of the entire AV and IP product range, as well as legacy AV, Dante™ and other devices.

The platform features enhanced security with intuitive user-access management of specific audio or video sources, rooms and predefined scenarios as well as LDAP authentication. IT and AV managers can also easily monitor the system's health status and track the connection between a source and a destination.

KRAMER NETWORK features:

- User-friendly web-based GUI – easily access and use from anywhere, anytime.

- Automated device detection – reduce configuration time with instant and automated device detection in the network.

- User-access management

- – delegate user access to specific audio or video sources, rooms and predefined scenarios.

- Topological AV system mapping – easily drill down to visualize a specific network, site, building, or room to start managing AV devices.

- View system status at a glance – quickly identify critical issues in the Network, including at the source-destination connection level.

- Enhanced security – with LDAP user authentication, SSL/TLS secure-connection option and advanced user management, enabling you to create different levels of access for different users.

- Powerful built-in room automation – enhance any device or location with built in Kramer Maestro room and device automation, configuration and management.

- Detailed site topology – easily drill down to visually examine a specific location.

- Live alert and response – proactive notifications such as email and SMNP traps keep you informed of issues in your system.

- Fully customizable scripts – increase the functionality of your system by creating custom scripts in almost any language to provide for the specific needs of a project.

- Integrated room scheduling and management – synchronized with your Outlook.

- Multi-lingual Support.

- Online Help.

- Remote maintenance – save time and budget with no need for on-site visits.

- Control over IP – control a virtually unlimited number of devices with access to a rich, dynamic library of 3rd-party device drivers.

- Software-based solution – **KRAMER NETWORK** installs on standard or virtual IT servers, reducing your total cost of ownership — no need for a dedicated server.

- Easy installation and use – simply install and start using the platform in minutes with no need for programming.

- Scalability to any size of installation – support hundreds of devices simultaneously.

- Easy Click & Connect system – make connections remotely between inputs and outputs on a physical matrix from anywhere on the network.

- Easy devices firmware upgrade – update device firmware remotely from a centralized location with a single click.

- Reports – show device activity logs, user status and administrative logs for user activities.

- Search filters – find devices easily and quickly with search filters such as Device Name, User Name and Device Activities (based on time periods or specific dates).

Installation

To install KRAMER NETWORK:

1. open the installation wizard and follow the directions online:
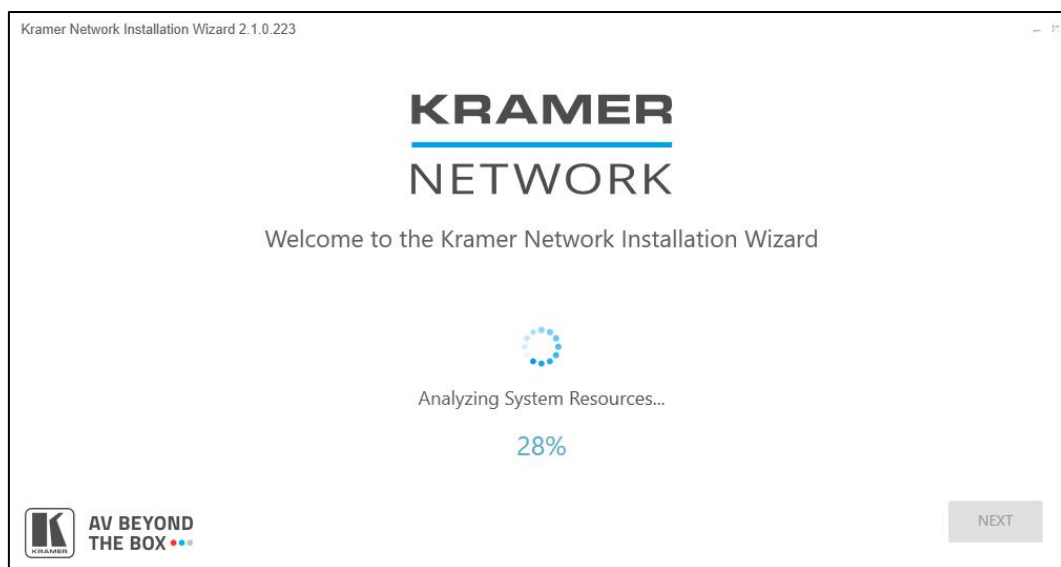
Figure 1: KRAMER NETWORK Installation Wizard

2. Click **NEXT**.

3. Check Upgrade or Uninstall.

Figure 2: Upgrading KRAMER NETWORK

4. Click **NEXT**. The list of devices to upgrade (or install) appears to the left:
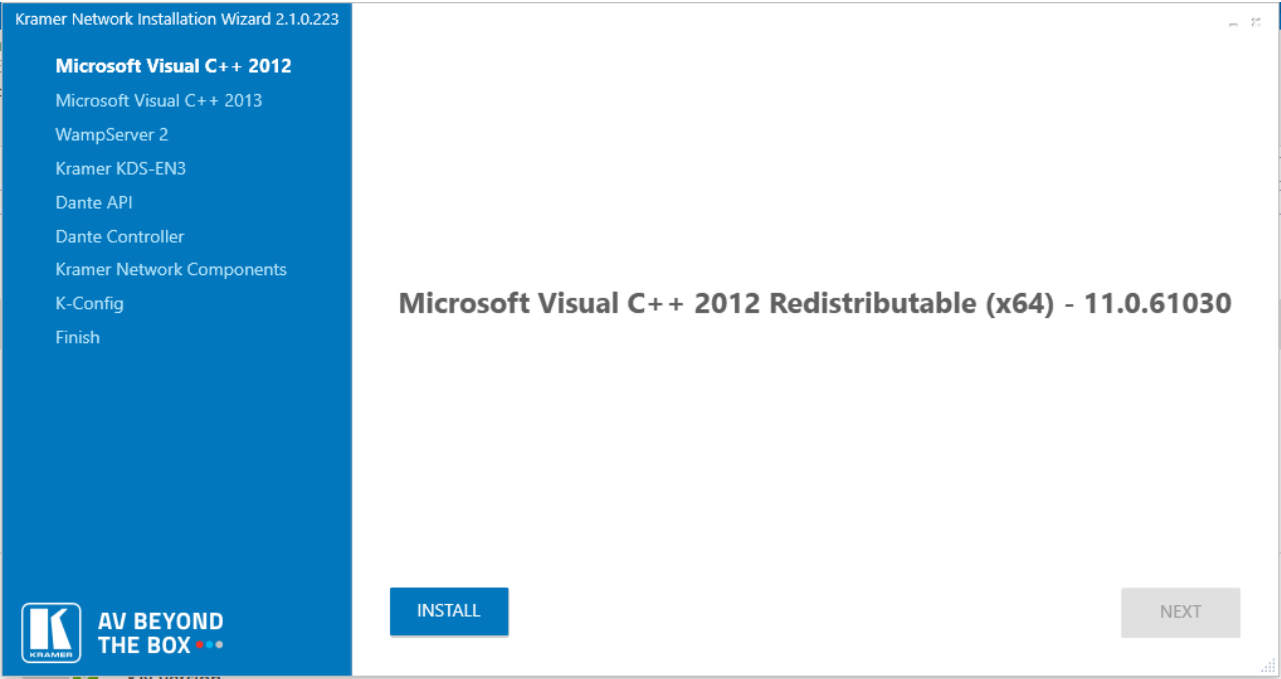
Figure 3: Upgrading KRAMER NETWORK Components

Following the installation of Kramer Network Components and while **K-Config** is installed, **KRAMER NETWORK** database is created (or updated) and the following info message appears:
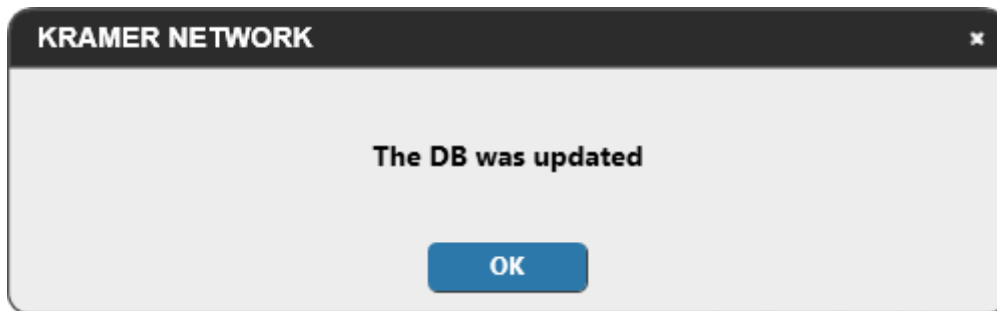

Figure 4: Data Base Updated

5. Click **OK** and wait for completion of the installation process. The **KRAMER NETWORK** Administrator Utilities program opens:
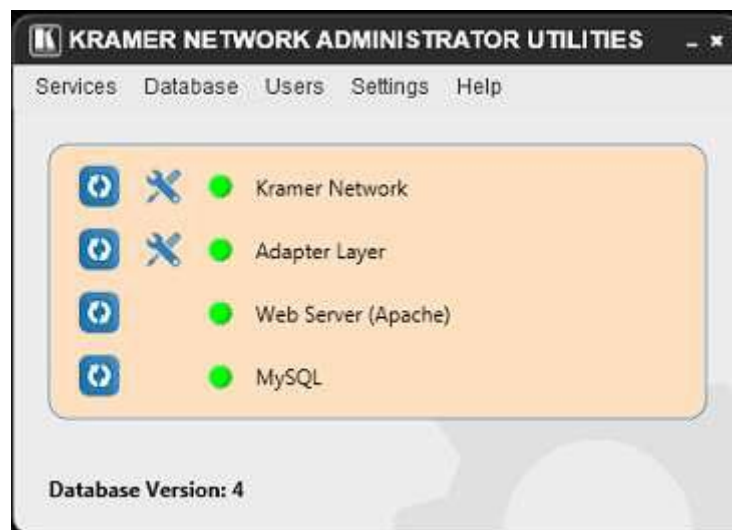
Figure 5: Kramer Network Administrator Utilities Window

The following message also appears:
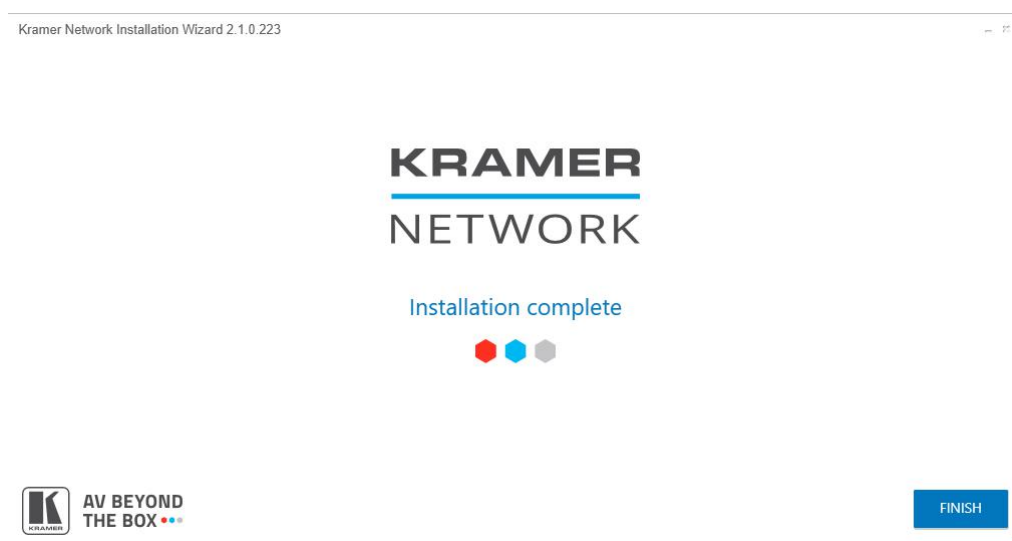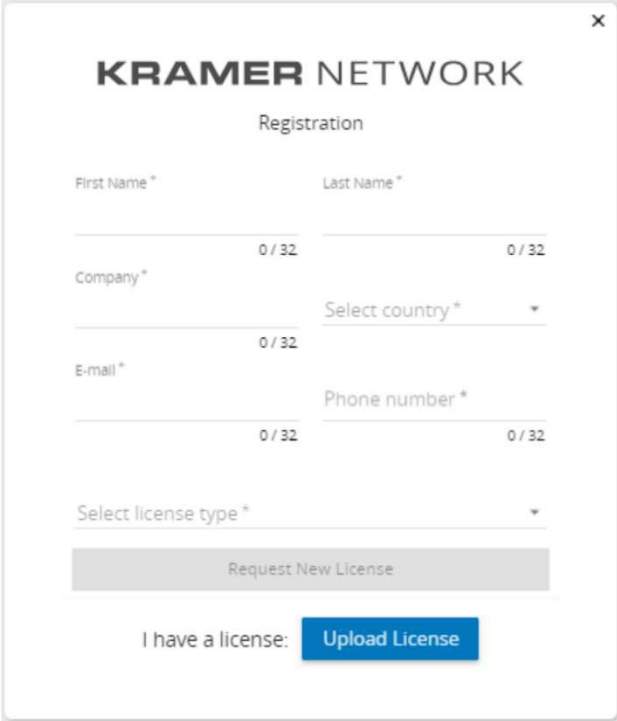
Figure 6: Installation is Complete

6. Click **FINISH**.

Registration

Upon installation, the Super user (which is the built-in user and the only user that can login for the first time) should register the copy of the software to be able to use it. When first logging in (as the Super user), a registration pop-up window appears:
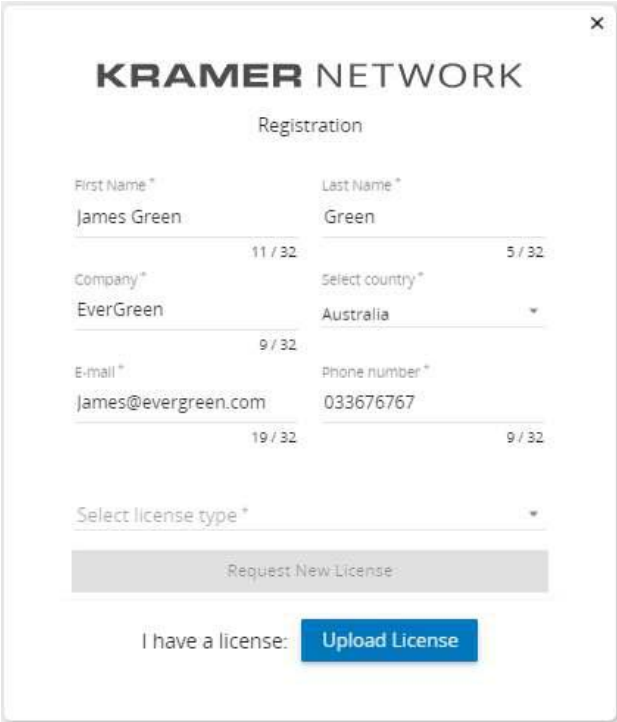
Figure 7: Registration Window

To register KRAMER NETWORK:

1. Fill in the details (name, company, country and so on).

Figure 8: The Registration Form

2. Select the license type.
   Go to www.kramerav.com/product/Kramer Network for further details.

3. Once selected, click **Request New License**. The license request window appears:

License request for MAC: 00-0e-04-b7-7e-6c

0A30333A737961640A303030303030313A736563697665640A6D6F632E6E65657
26772657665406E6565572673A6C69616D650A38373837383738373A656E6F6870
0A61696C6172747375413A7972746E756F630A6E656572267726576653A796E617
06D6F630A6E656572673A656D616E5F7473616C0A73656D616A3A656D616E5F
74737269660A63362D65372D37622D34302D65302D30303A63616D0A

In order to get license, send the license key to: kramernetwork@kramerel.com , with one of the
following options:

- **Copy to clipboard** - and past it to the email text.
- **Send by email** - will select the default email on this computer.
- **Save as file** - will download the file to the default browser location. Send this file by email as
  attachment.

Copy to clipboard   Send by email   Save as file

Figure 9: License Request Window

4. Select one of the three license-handling options:

   ▪ Copy the license key and paste it to the email text.

   ▪ Send it to the default email on your computer.

   ▪ Download the file and send as an attachment.

For example, when clicking **Send by email**, the email is ready to be sent:
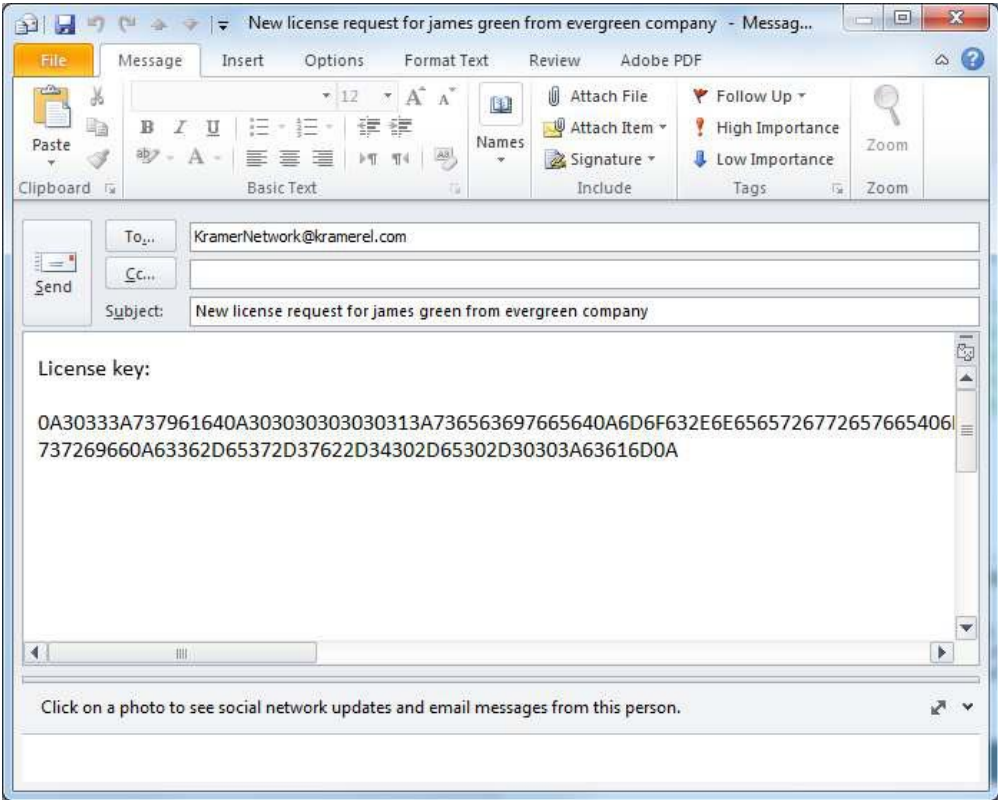
Figure 10: Send License Request by Email

5. Once you get the license file, click **Upload License** and download the license you have received (KNL file):
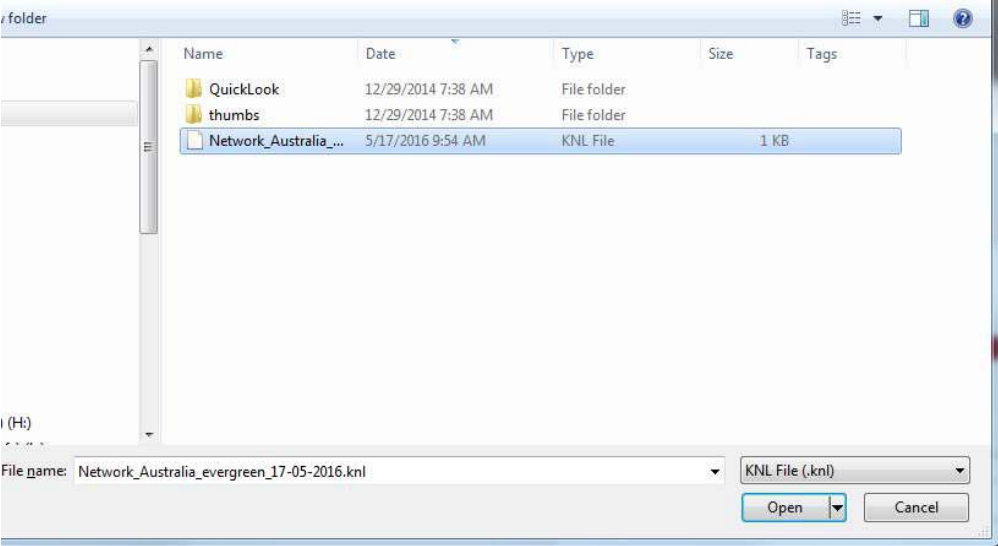
Figure 11: The License Key File

Wait for the license to upload. The web page reloads and the login page appears.

KRAMER NETWORK is managed in three permission levels: Super, Admin and User (see Users Management on page 96). When you first open the **KRAMER NETWORK** enter the default login for Super user:

User: super
Pass: 12345

6. Change the default password and click **CHANGE**:
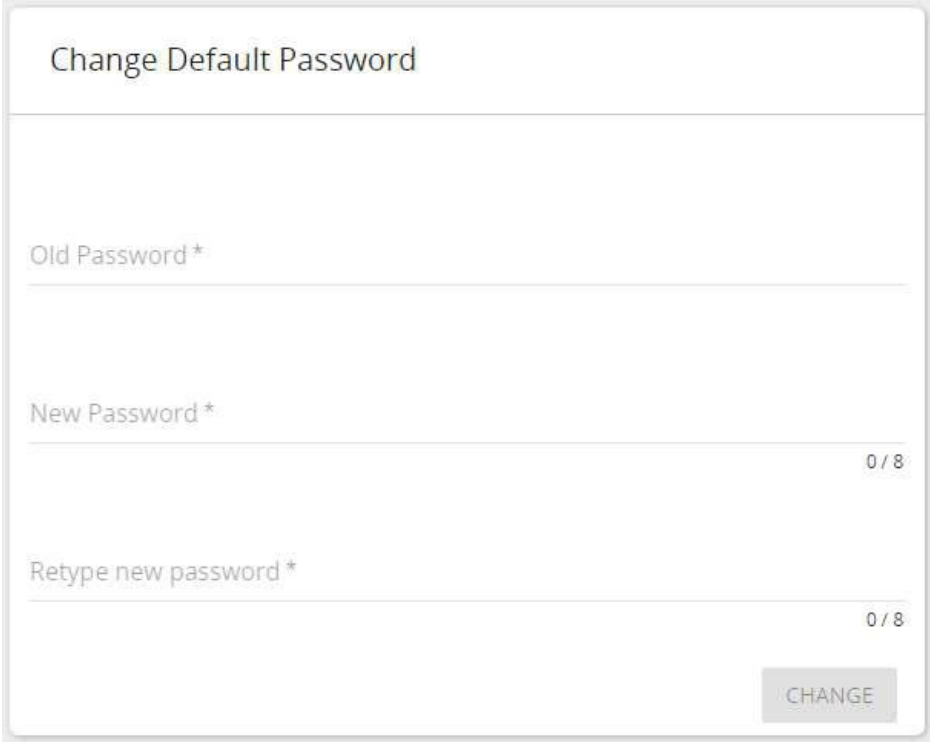
Figure 12: KRAMER NETWORK – Changing the Password

Logging In

To login:

1. Type your username and the new password and click **LOGIN**:
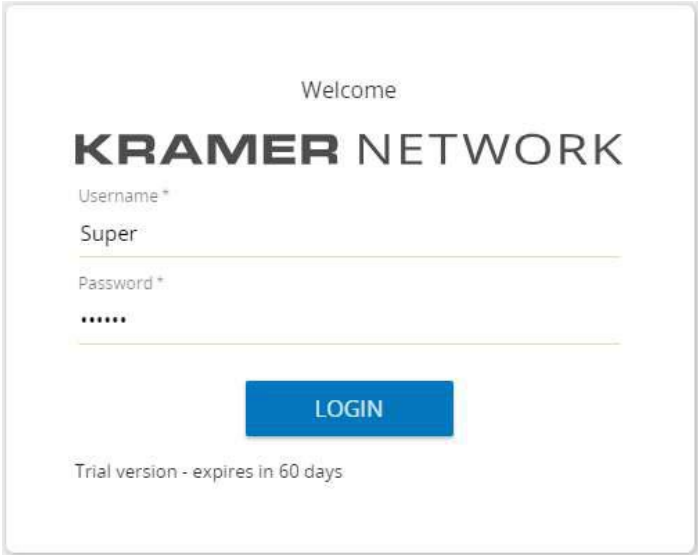
Figure 13: KRAMER NETWORK Login

If the program requires a license update, the following message appears:

Figure 14: Updating License

For details, go to Registration on page 7.

The following page appears when opening for the first time:
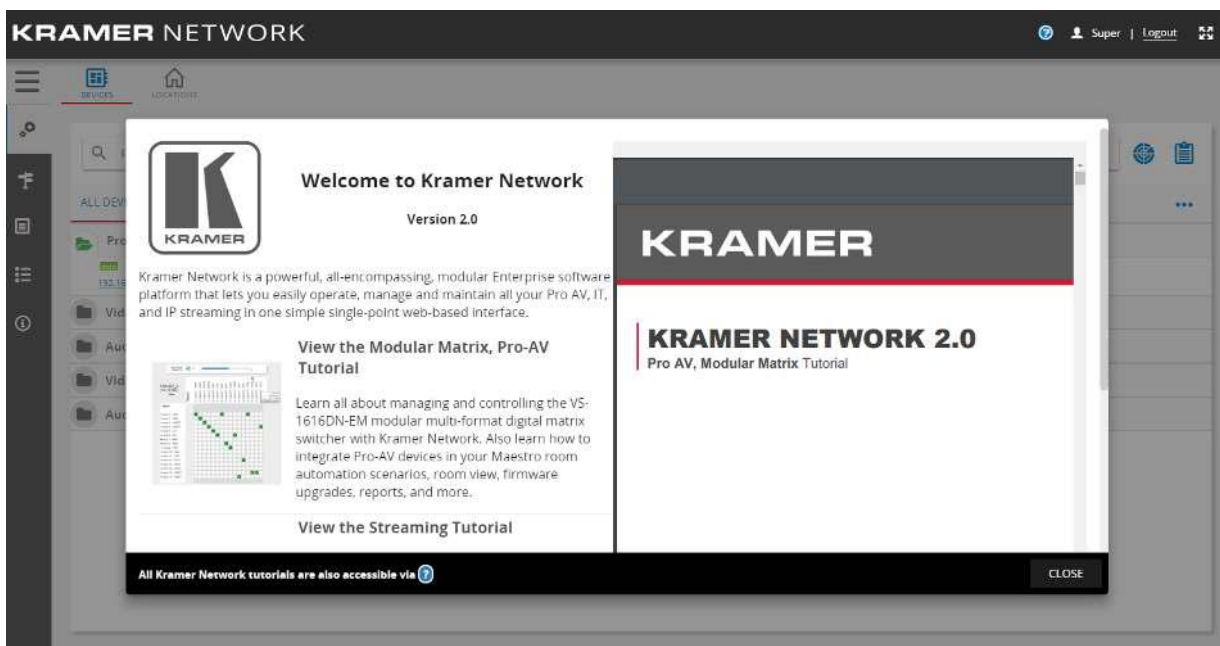
Figure 15: KRAMER NETWORK Main Page – Opening for the First Time

> You can use the tutorial as a quick reference guide for setting a streaming system or a modular matrix Pro AV matrix system.

2. Click **CLOSE**.

> Click on the top right at any time to access the tutorial documents and other help issues.

The system automatically scans for connected devices as the main page appears:

Figure 16: KRAMER NETWORK Main Page

Generally, at any point, you can:

- Click ⊙ to search for help topics.

- Verify the current user.

- Click **Logout** to exit **KRAMER NETWORK**.

- Click ⊕ to enter/exit full screen mode.

Below the title bar, click ☰ to view the full name of each page and click ✕ to view icons only:
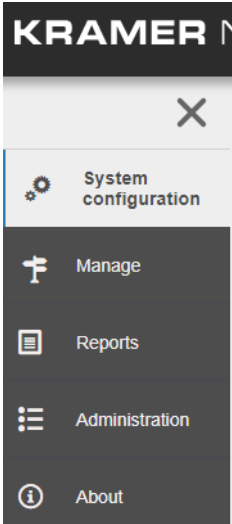
Figure 17: KRAMER NETWORK – Full Menu Names

System Configuration Page

The **System Configuration** page enables performing the following actions:

-
-
-

Configuring and Managing Devices

Once the **KRAMER NETWORK** main window (**System configuration** page) opens for the first time, the **ALL DEVICES** subtab in the **DEVICES** tab appears, and an automatic scan finds all the connected and supported devices in the system.

ⓘ For each discovered device, you can go to the Supported Device list (see Supported Devices List on page 109) to check which features are supported by **KRAMER NETWORK** for this device. For example, a device may be detected by the system, but routing via MATRIX VIEW is not supported.

The discovered devices are included within 5 built-in folders:

- Pro AV – Lists all the AV devices such as room controllers, control gateways, matrices and so on.
- Video IP Rx – Lists all the devices receiving video over IP.
- Audio IP Rx – Lists all the devices receiving audio over IP.
- Video IP Tx – lists all the devices transmitting video over IP.
- Audio IP Tx – Lists all the devices transmitting audio over IP.
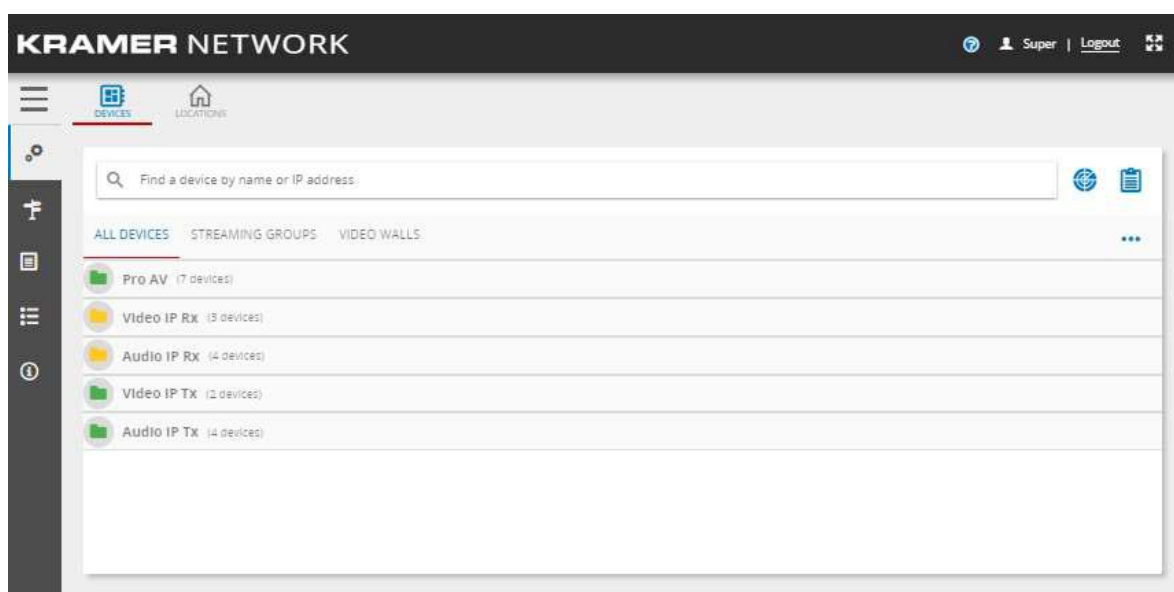
Figure 18: System Configuration Page

Device List

Select a device from the built-in folders to view its status. The following table defines the device status color key (same for audio and video devices):

Icon Color	Status Definition
▥	Ready (for example, the Pro AV device is ready).
🎥	Awaiting Connection (for example, the video device is awaiting connection).
🔇	Disconnected from the Network (for example the audio device was disconnected from the network).

After selecting a device from the list, you can also edit its name.

Use the ALL DEVICES subtab as follows:

- Click ⊕ (scan) any time to add the latest devices that were connected to your system (Super only).

- Click 📋 to find unassigned devices (see <u>Finding Unassigned Devices in the Network</u> on page <u>15</u>).

- Filter out a device by typing its name or part of its name in the search text box.

- Click ••• to add a device manually (see <u>Adding a Device Manually</u> on page <u>16</u>).

- Configure several devices at once (see <u>Configuring Several Devices Simultaneously</u> on page <u>18</u>).

ⓘ The source devices include Kramer encoder/decoder systems (such as the **KDS-EN4**, **KDS-EN6** and so on) and Dante™ encoder devices which are integrated into **KRAMER NETWORK**.
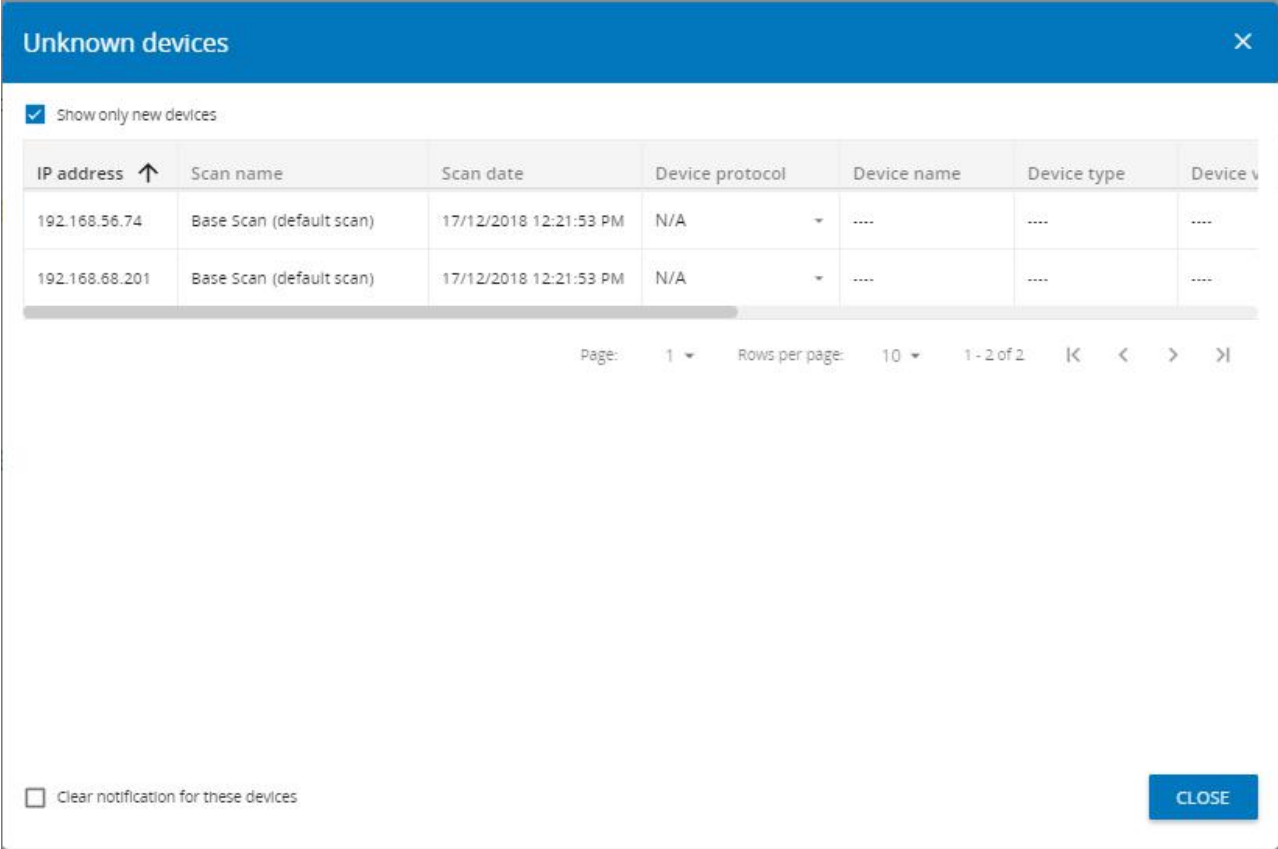
Finding Unassigned Devices in the Network

You can click 📋 to discover the IP addresses of devices in the network that could not be associated with any device in the auto-scan. By default, only the list of the unknown devices appears in the Unknown devices window.

ⓘ This operation can be performed by the Super only.

To discover unassigned devices:

1. Select **System configuration** > **DEVICES** tab.

2. Click 📋. The Unknown devices window opens.

Figure 19: Unknown Devices Window

ⓘ If you recognize the IP address you can associate it with the device (for example, to a VIA device).

3. In the discovered device line, open the drop-down list under Device protocol and select Via. Via device details (such as device type, vendor, protocol, port number and so on) are added to the device line.

4. Click **ADD**.
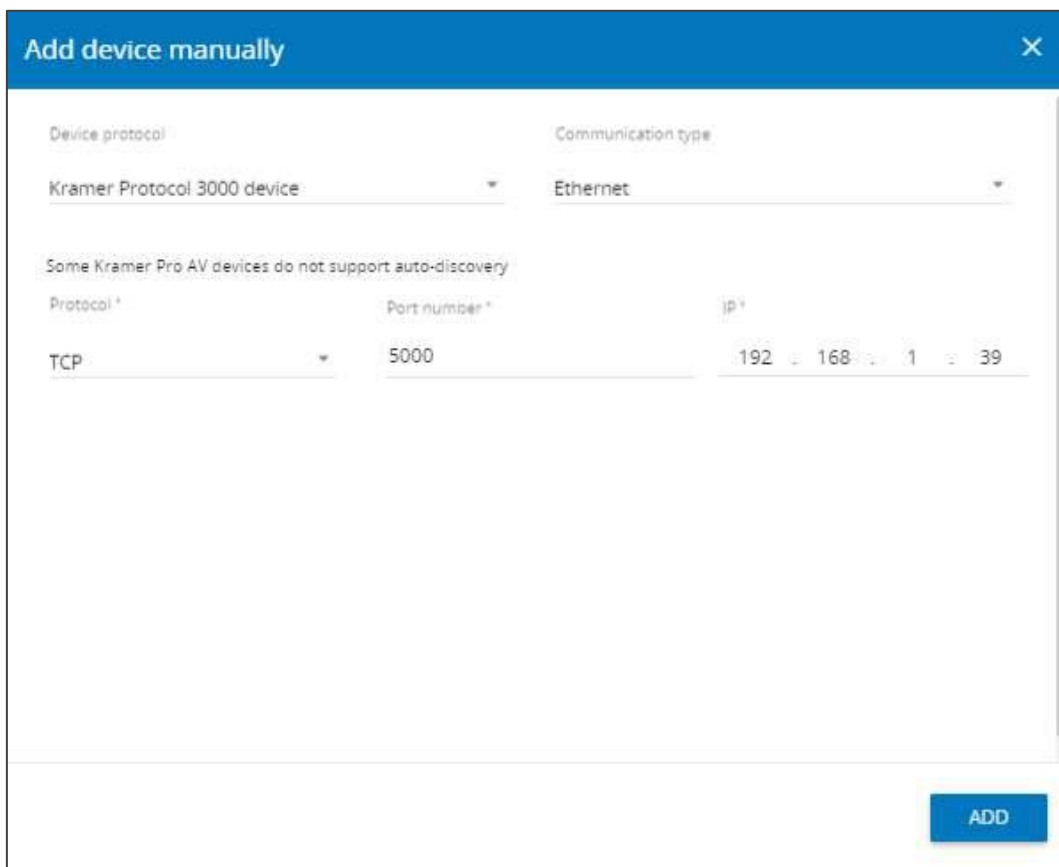
Adding a Device Manually

The following device types cannot be discovered via system scan and can be added manually:

- Offline devices.
- IP Kramer devices that do not support broadcast.
- Pro AV devices that are connected to I/O gateways.
- Non-IP devices (serial or IR).
- Certain non-Kramer devices.

To add a Kramer device manually:

1. Click ●●● and select **Add Device Manually.** The following window appears:

Figure 20: Add Device Manually Window – Ethernet Communication

2. Select the **Device protocol** Kramer Protocol 3000 device – for Kramer devices.

3. For Kramer devices that support protocol 3000, select the communication type: Ethernet, Serial or IR:

   - **ETHERNET**: select the Protocol (TCP or UDP), enter the port number and the IP address (see Figure 20).

- **SERIAL**: select the I/O gateway device for the serial communication (discovered automatically) and then select the serial port in this I/O gateway which you are using.

Figure 21: Add a Kramer Device Manually – RS-232 Communication

- **IR**: type the device Name, select the **Device type**, **Device vendor** and **Device model**. Choose the I/O gateway device from the list and then select the IR port to which the device is connected.

Figure 22: Adding a Kramer Device Manually – IR Communication

4. Click **ADD**.

To add a generic (non-Kramer) device manually:

1. **Click** ••• and select **Add Device Manually.**

2. Set the Device protocol to **Generic device**.

3. Select the communication type: Ethernet, Serial or IR:

   ▪ **ETHERNET**: select the **Protocol** (TCP or UDP), type the **Port number** and the **IP** address.
   Type the device name and then select the **Device type**, **Device vendor** and **Device model**.

   ▪ **SERIAL**: Type the device name and then select the **Device type**, **Device vendor** and **Device model**.
   Select the I/O gateway device for serial communication (discovered automatically) and the serial port in this I/O gateway which you are using.

   ▪ **IR**: Type the device name and then select the **Device type**, **Device vendor** and **Device model**. Choose the I/O gateway from the list and then select the IR port to which the device is connected.

4. Click **ADD**.

To add a VIA device manually:

1. **Click** ••• and select **Add Device Manually.**

2. Set the Device protocol to **VIA**.

3. Check **Use default credentials** or uncheck if you are adding the Username and Password manually.

4. Enter the IP address.

Configuring Several Devices Simultaneously

Use Multi-deployment for efficiently configuring **VS-1616** matrix devices by replicating the configuration of one matrix to multiple matrices with the same IN-OUT configuration simultaneously.

ⓘ   This operation can be performed by the Super only.

To replicate an existing configuration:

1. **Click •••** and select **Multi-Device Deployment**. The following window appears:
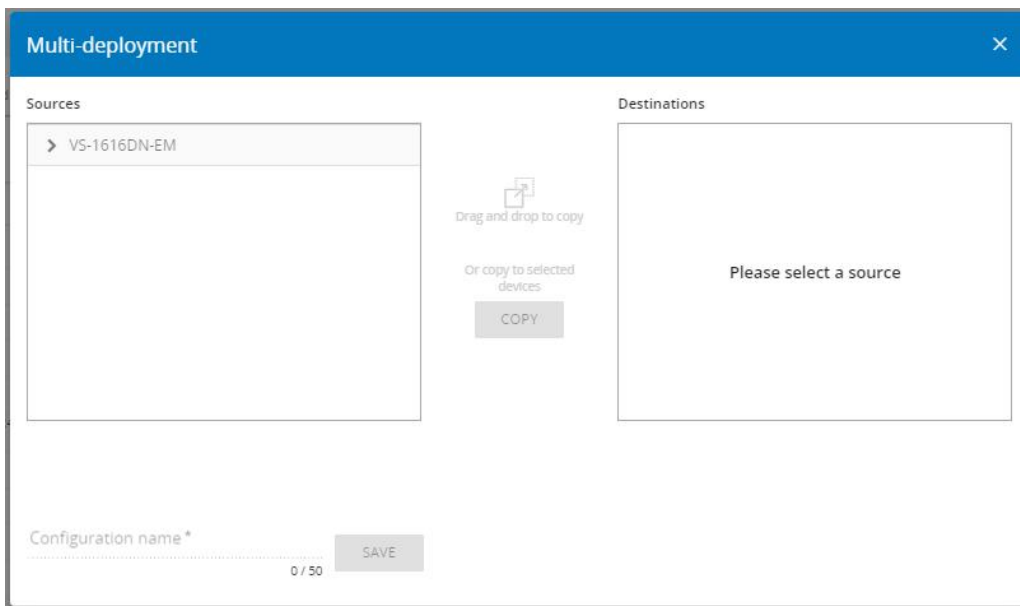

Figure 23: Multi-Deployment Window

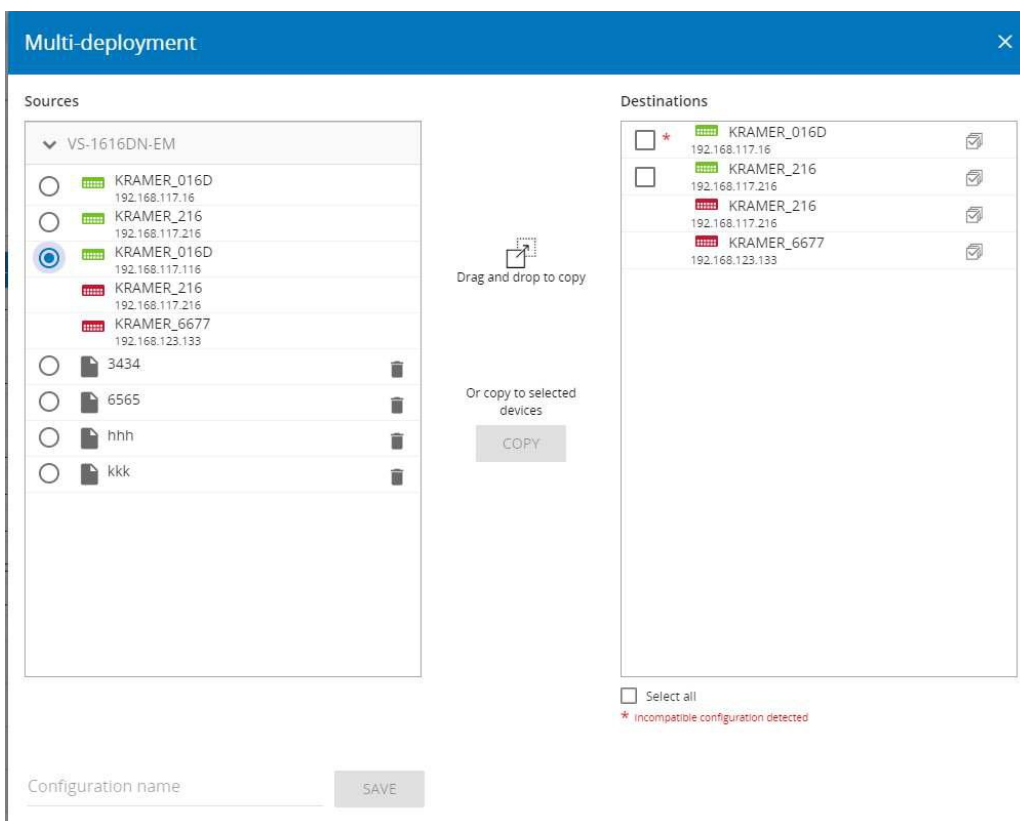2. Click the device type to open to view the configured devices list.

Figure 24: Multi Deployment Window

3. Drag a source (configured) device to a destination device (that needs to be configured). you can also check a device or click **Select all** to copy the source configuration to the selected devices in the destination list.

4. Type the received configuration name and click **SAVE**.

Viewing the Device Web Page

To view a device web page (for example, for FC-28):

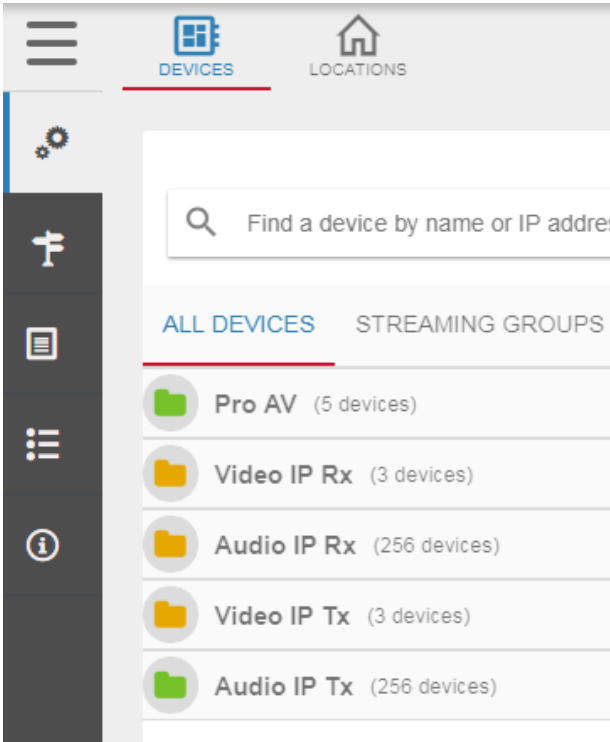1. Select **System configuration** > **DEVICES** tab > **ALL DEVICES** subtab.

Figure 25: Viewing the Device Web Page – The ALL DEVICES Tab
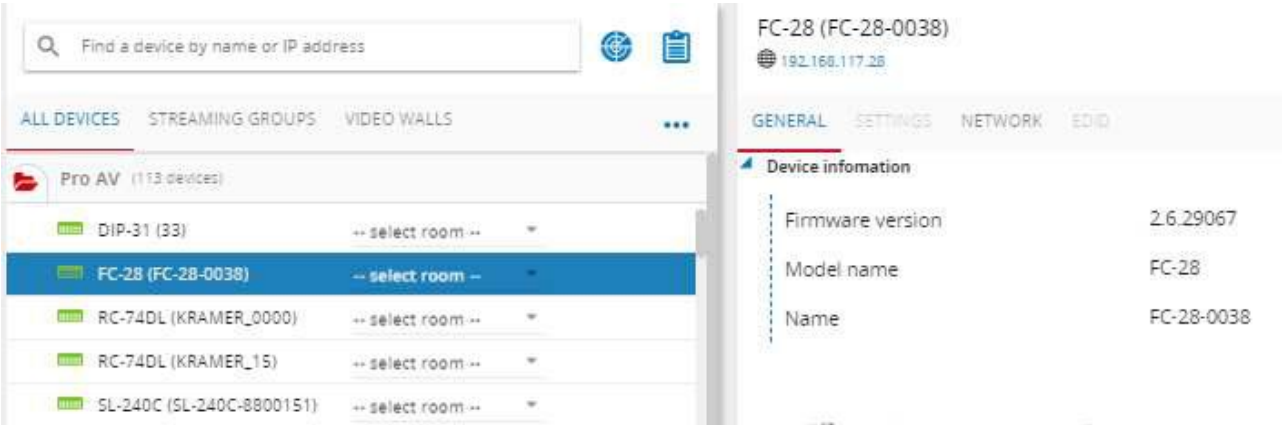
2. Click the **Pro AV** folder.

Figure 26: Viewing the Device Web Page – GENERAL Tab

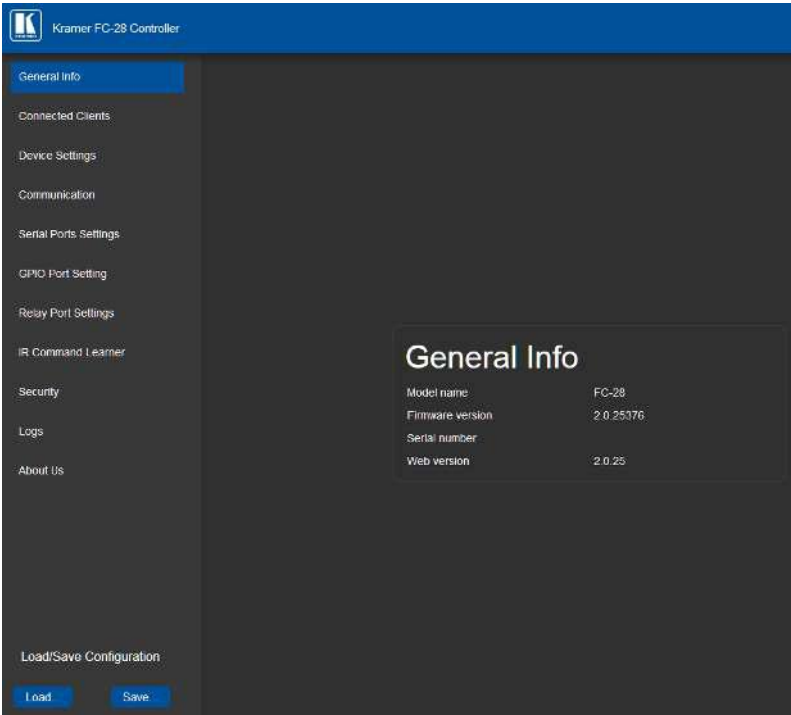3. Click the IP address below **FC-28** (on the top of the device details window). The **FC-28** web page appears:

Figure 27: Viewing the Device Web Page – FC-28 Embedded Web Pages

4. Perform any desired operations via the web pages.

Select the Location

Before selecting the physical location of the device, you need to define the locations via the **LOCATIONS** tab in the **System configuration** page (see Creating and Managing Locations on page 35).

Once the list of locations is prepared, click the drop-down box next to the device name and select the correct location.
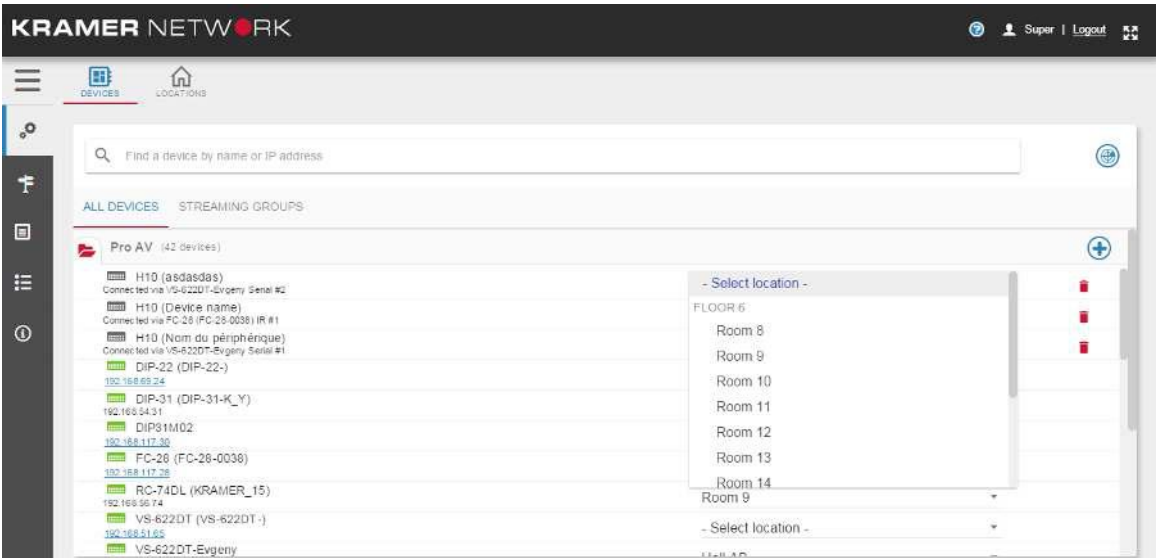

Figure 28: Selecting Device Location

Editing Device Parameters

To view and edit the device parameters (for example, the FC-28):

1. Select **System configuration** > **DEVICES** tab > **ALL DEVICES** subtab.

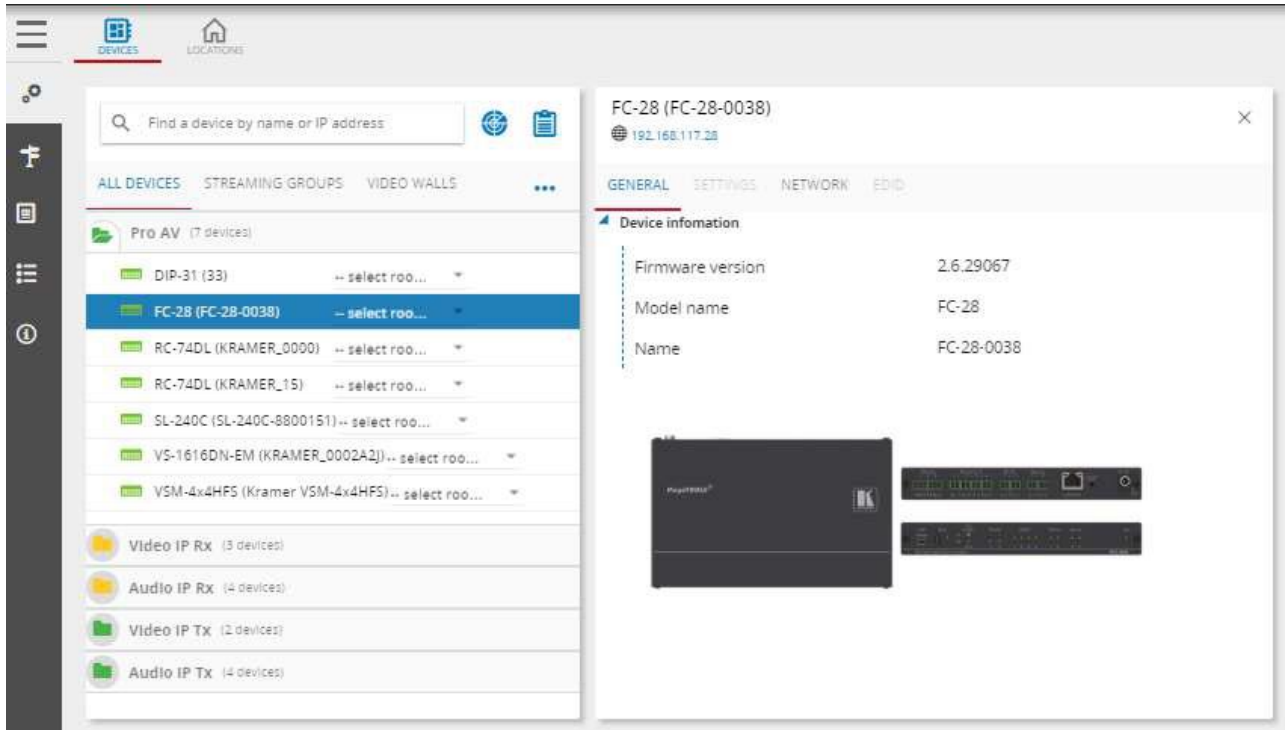2. Click the device name (**FC-28**). The parameter page opens:

Figure 29: Device Parameters

3. Perform the following operations (optional):

   - Hover over the photo of the device to enlarge details or click the device image to show it in a separate window.

   - Click the IP address to connect web pages.

   - Change the device name: click the device name (for example **FC-28** (FC-28-0038)) and type the new name.

   - In the **GENERAL** tab, view Device Information and when viewing the streamer manage the recording feature.

   - In the **SETTINGS** tab, view and change parameters.

   - In the **NETWORKS** tab, view network parameters.

   - In the **EDID** tab, to acquire the EDID, see .

(i) The **GENERAL**, **SETTINGS NETWORKS** and **EDID** tabs are specific for each device.

Managing the EDID

Copy the EDID from the inputs, outputs, default or an EDID file to the inputs using the EDID Management feature. You can read the EDID only for devices that support EDID (for example, **DIP-31**).

ⓘ   This operation can be performed by the Super only.

Each EDID configuration can be saved to the Files area by clicking 💾. The file is saved in the Files area.

To acquire the EDID from an input, output or read the default EDID:

1. Select **System configuration** > **DEVICES** tab > **ALL DEVICES** subtab.

2. Open the ProAV folder and select a device from the list.
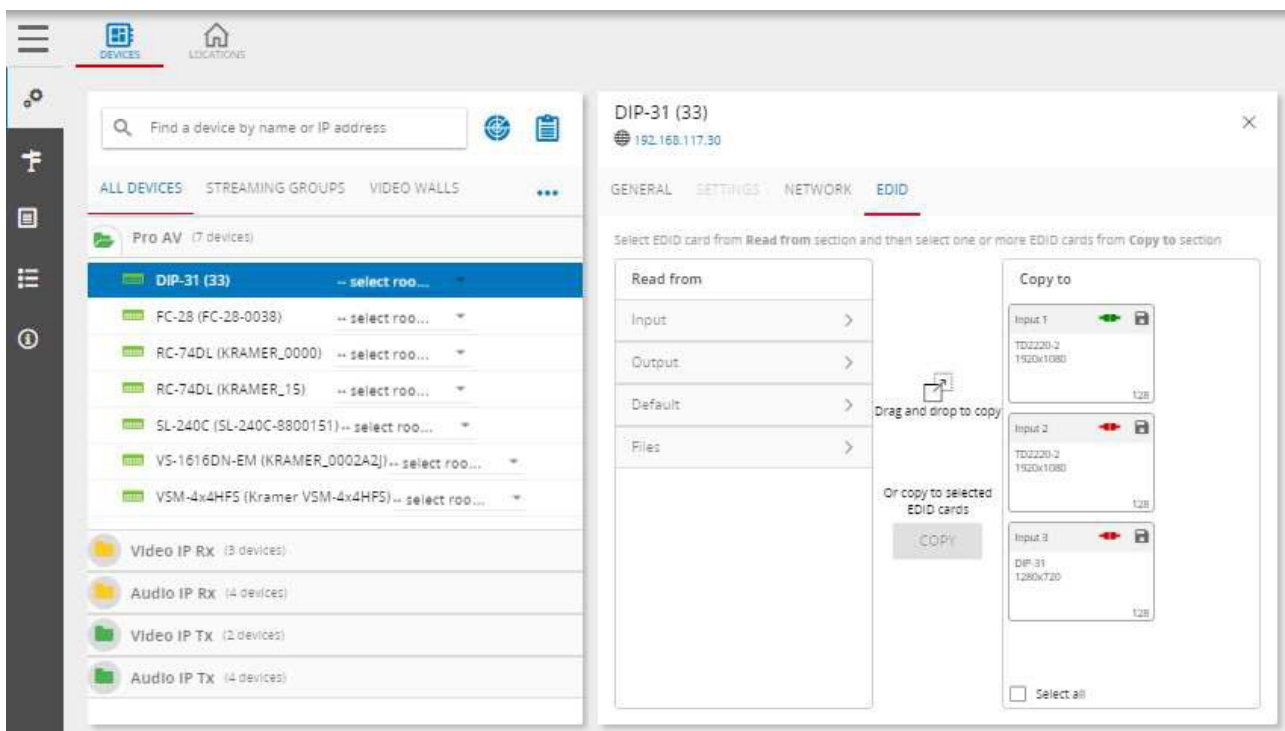
3. Click the **EDID** tab.

Figure 30: EDID Tab

4. Click an arrow in the **Read from** column to select an EDID source: Input, Output or Default.

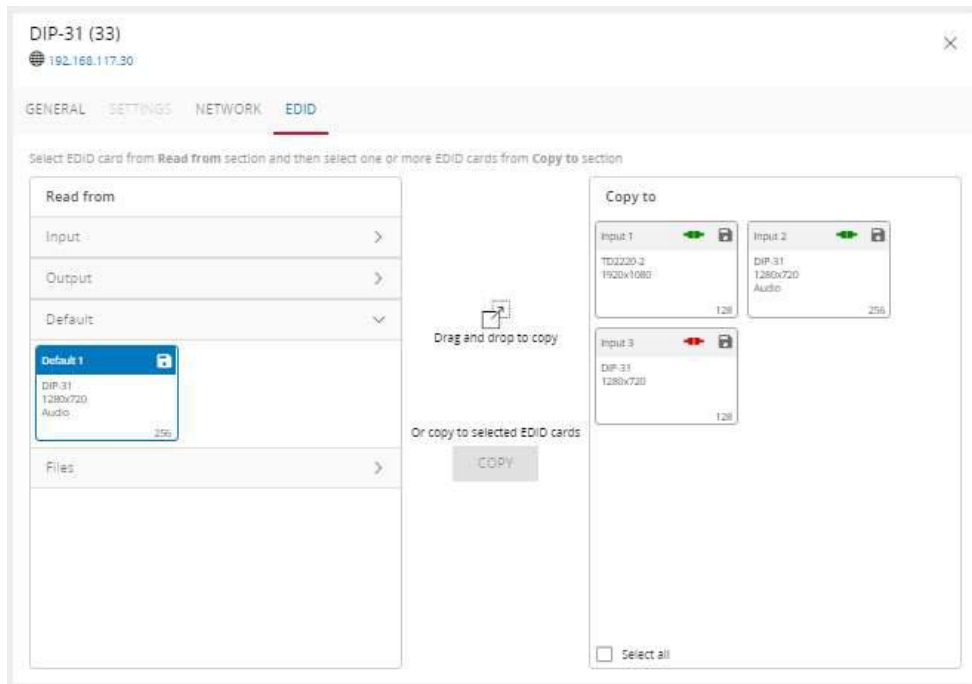5. Select the EDID source (for example, Default).

Figure 31: Selecting Default EDID

6. To copy the EDID to an input, do one of the following:

- Drag the selected EDID source to the **Copy to** column and drop it over the desired input.

- Select an input or several inputs (or check **Select all**) and then click **COPY**.
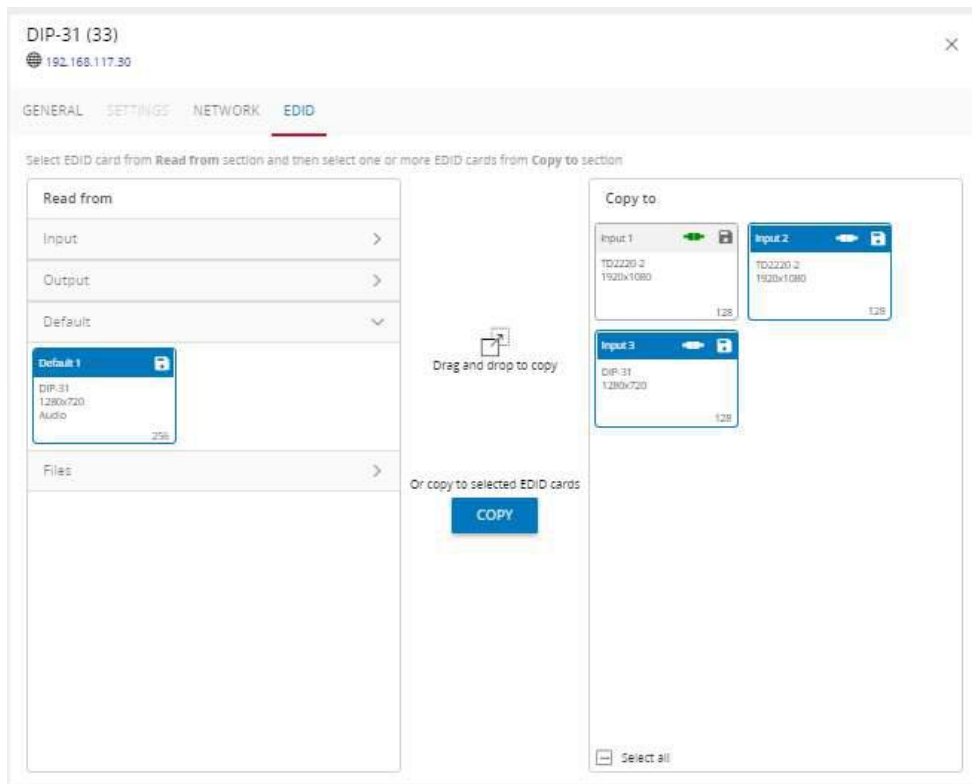

Figure 32: Copying the Default EDID

The EDID is copied to the input/s.

To acquire an EDID from a file:

1. Select **System configuration** > **DEVICES** tab > **ALL DEVICES** subtab.

2. Open the ProAV folder and select a device from the list.

3. Click the **EDID** tab.

4. Click an arrow in the **Read from** column to select an EDID source: Input, Output or Default.

5. Select the **Files** EDID source.
   Before copying the EDID from the file, you can check **Prevent device modification data** if you do not want the input configuration to be changed by the EDID that was copied (for example, retaining the EDID Force RGB feature on the input).
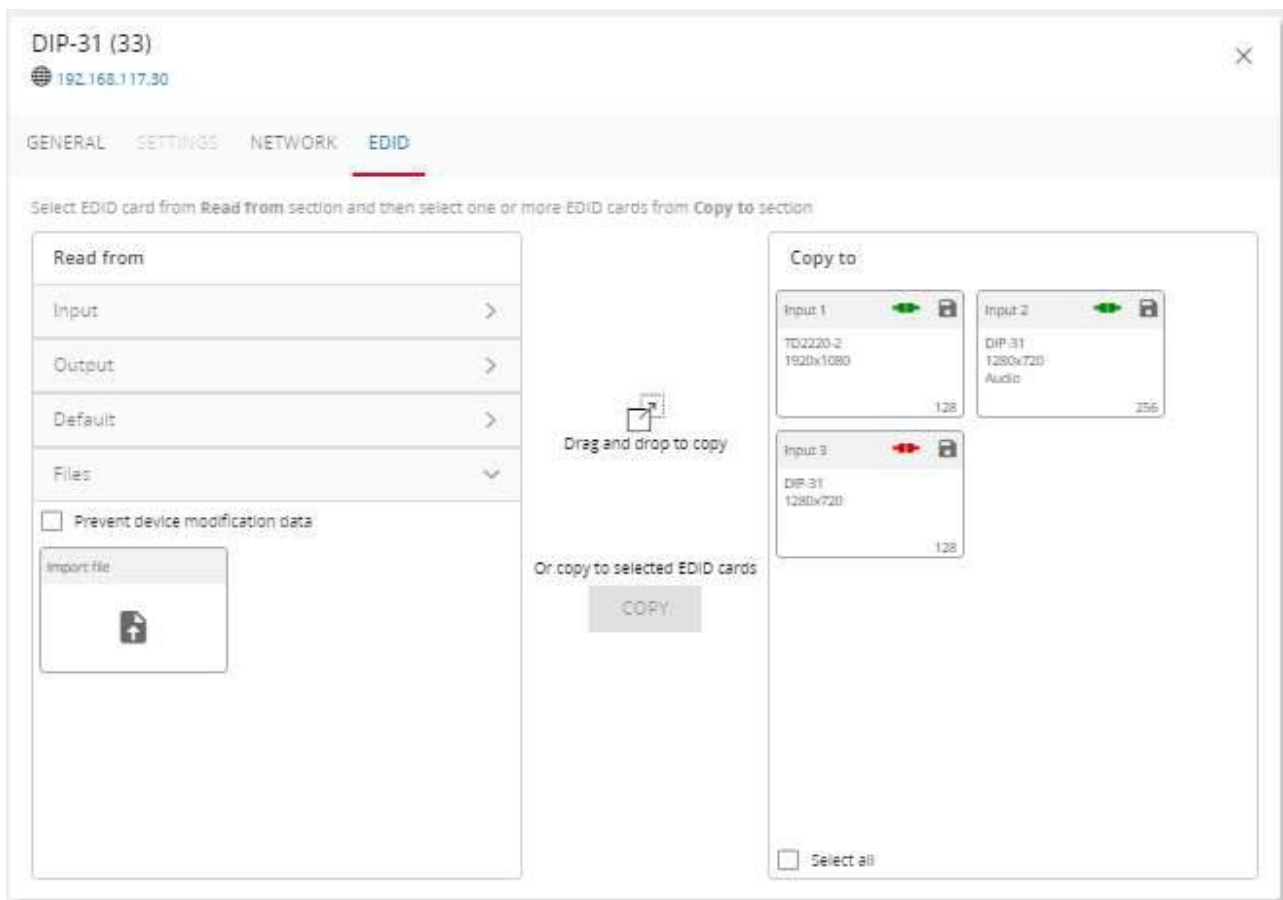
Figure 33: Selecting Default EDID

6. If you need to upload an EDID file:

   a. Click to upload a file.

   b. Select the EDID file from your folders and click **Open**. The Save EDID window opens.

Figure 34: Saving EDID Window

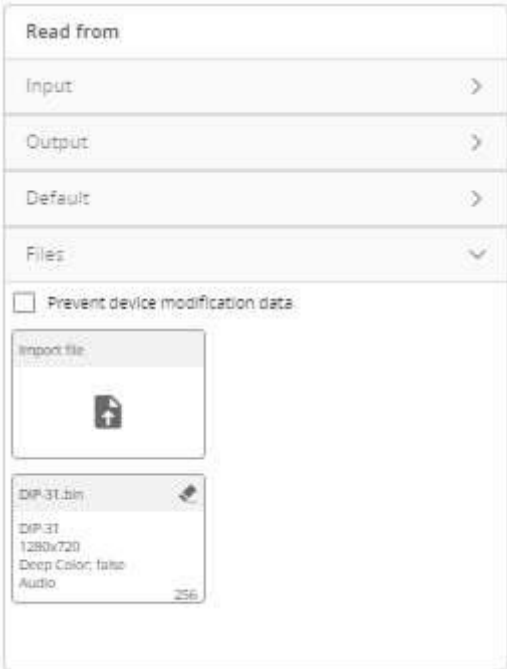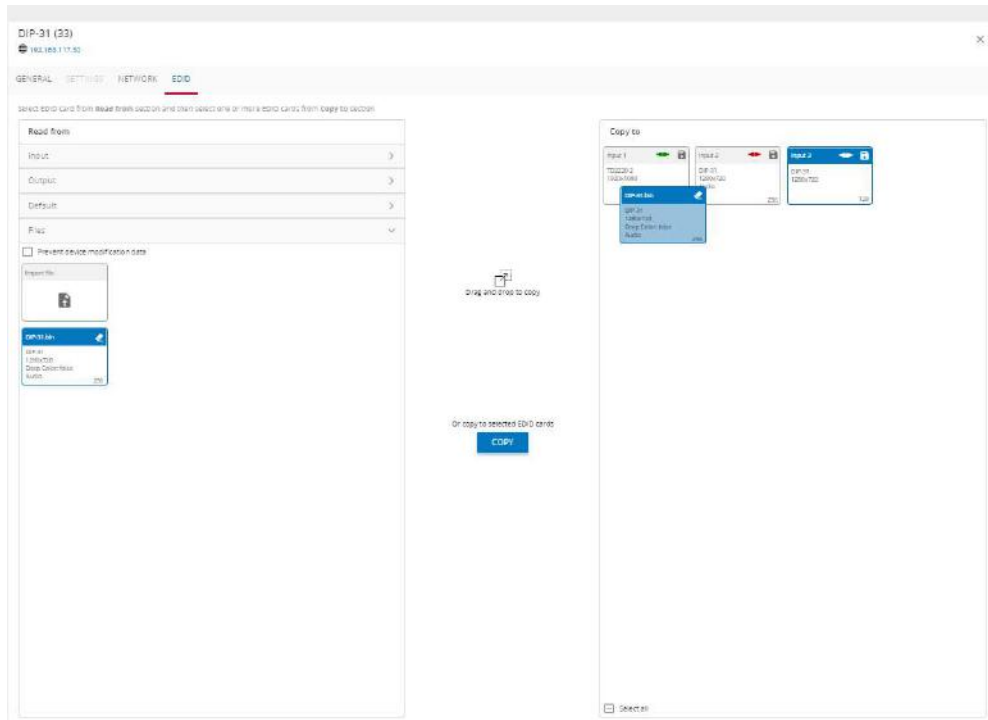   c. Optionally, change the file name and click **SAVE**. The DIP-31 EDID file is saved.

Figure 35: EDID File Added

7. Select the EDID bin file.

8. To copy the file to an input, do one of the following:

   - Drag the selected EDID source to the **Copy to** column and drop it over the desired input.

   - Select an input or several inputs (or check **Select all**) and then click **COPY**.

Figure 36: Copying the EDID from a File

The EDID is copied to the input/s.

Each EDID file can be deleted by clicking ✎.

Creating Streaming Groups

The streaming group includes all the streaming devices. Initially the STREAMING GROUP subtab displays the following message:
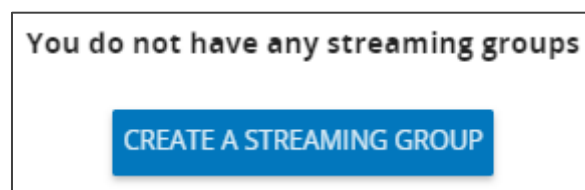
Figure 37: Streaming Group Message

To create a streaming group:

1. Select **System configuration** > **DEVICES** tab > **STREAMING GROUPS** subtab.

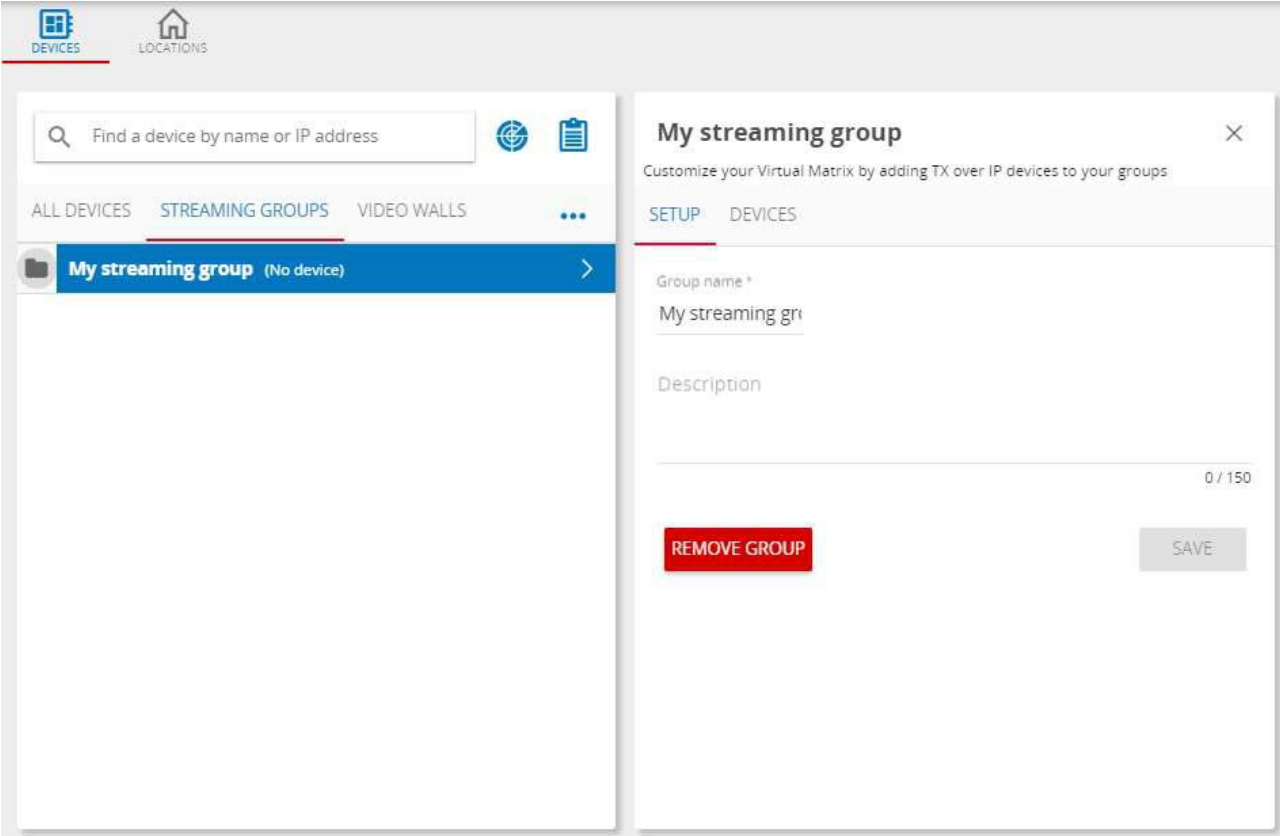2. Click **CREATE A STREAMING GROUP**. The SETUP sub-tab appears:

Figure 38: Adding Streaming Group

3. Enter the streaming group name (for example, Streaming A) and if required add a description to the streaming group.
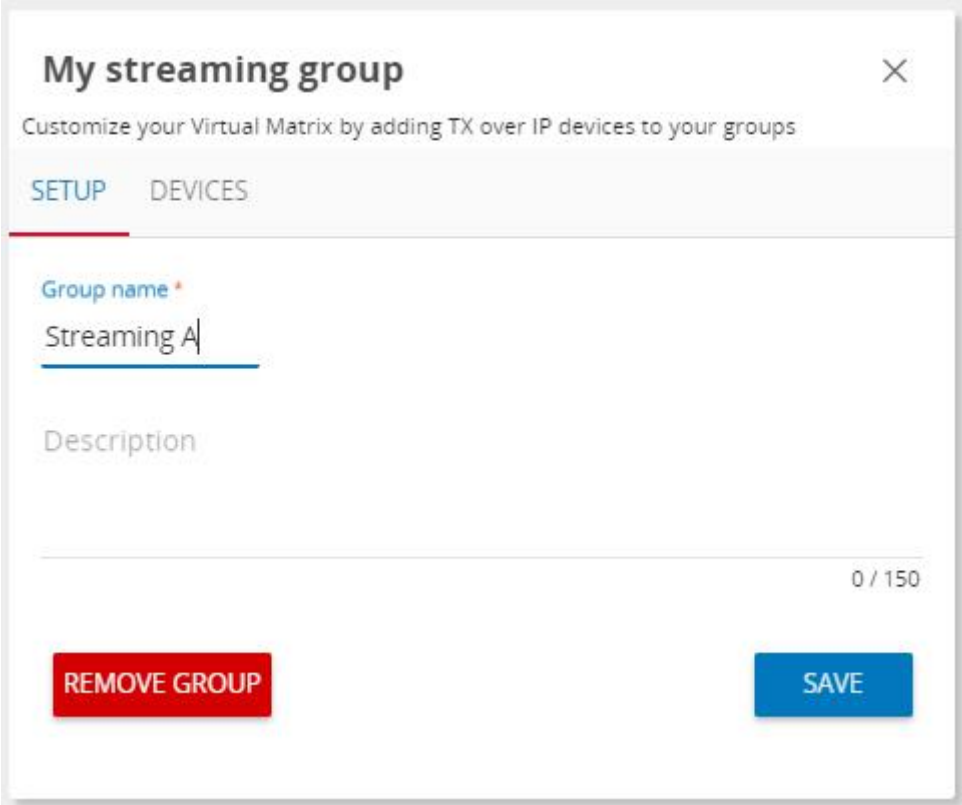

Figure 39: Adding Streaming Group – Entering Streaming Group Name

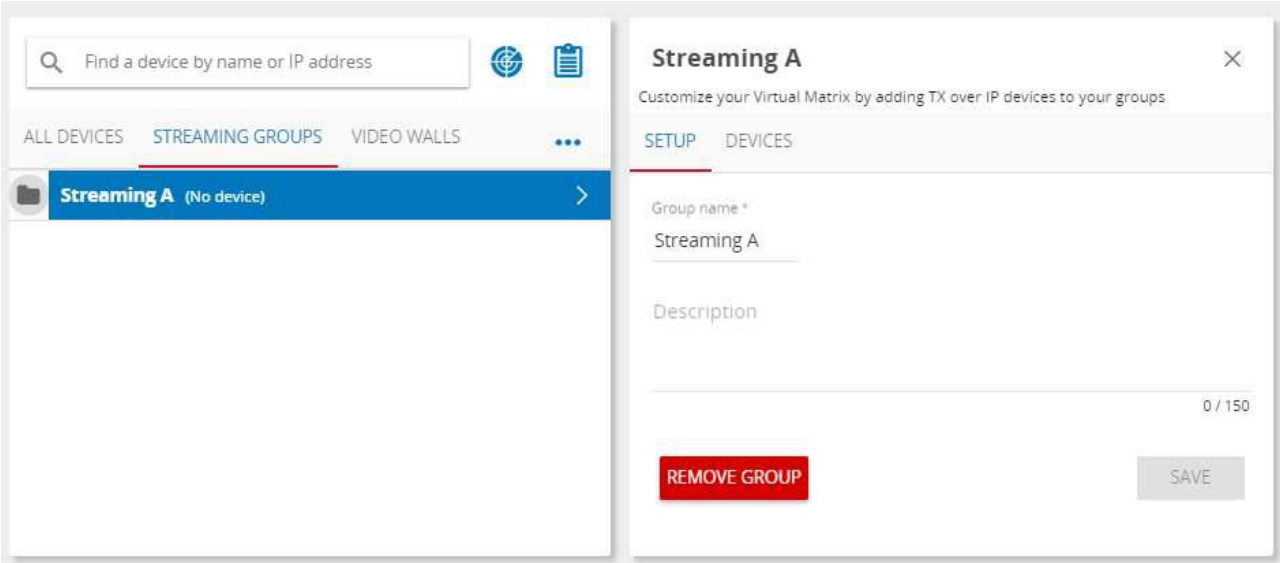4. Click **SAVE**. The streaming group appears in the left column:

Figure 40: Adding Streaming Group – Streaming Group Added

5. Add a Description to the new streaming group.

(i)   Click **REMOVE GROUP** to remove a group from the list.

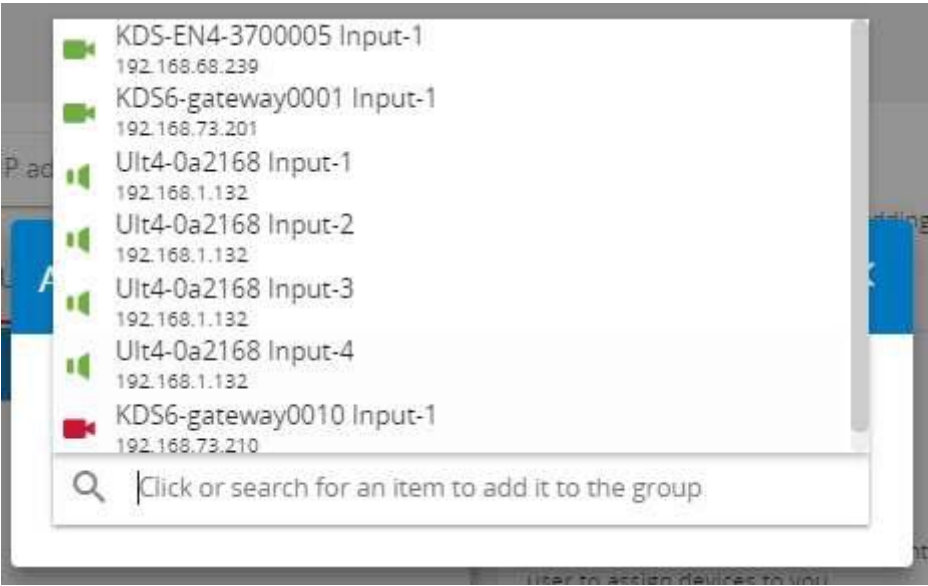6. In the DEVICES sub-tab, click [+ ADD] to add streaming devices to the group.

Figure 41: Streaming Group – Devices

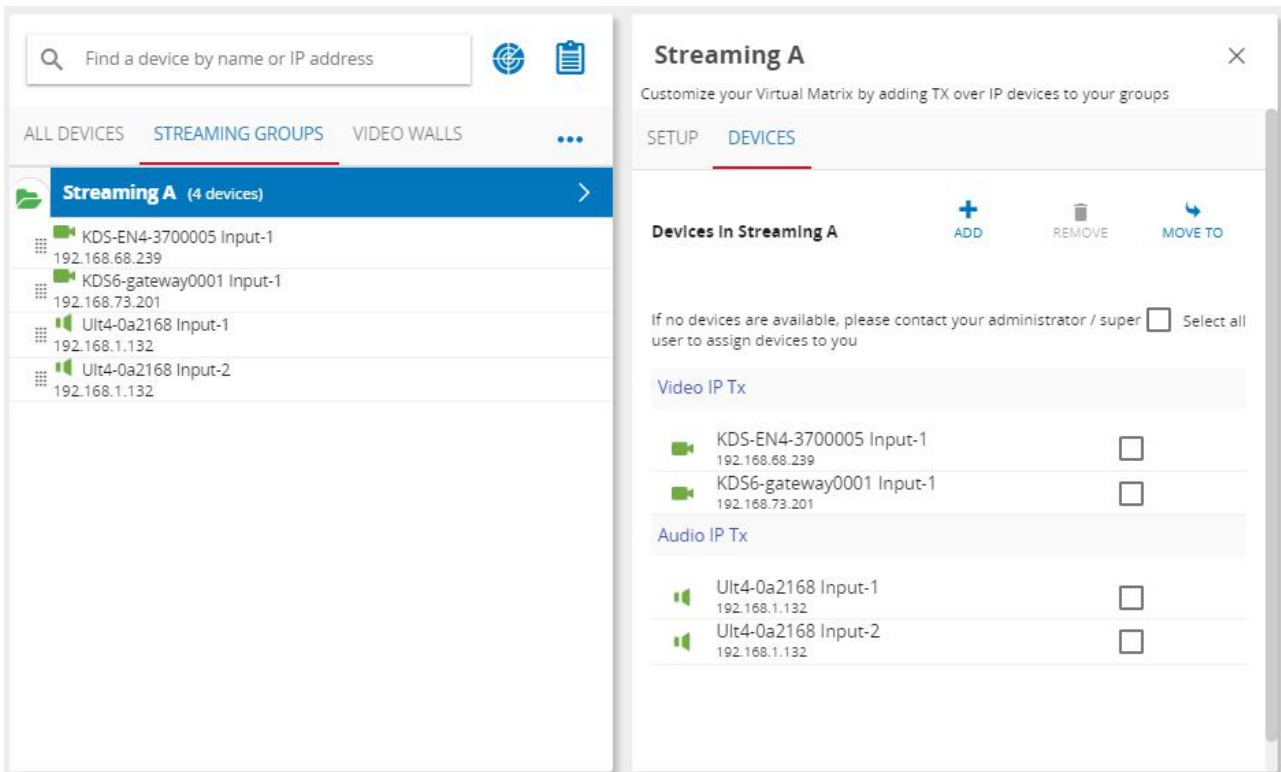7. Click a device to add it to the streaming group. You can select more than one device.

Figure 42: Streaming Group – Device List

You can:

- Select one or more devices and click ![REMOVE] to remove them.

- Move a device/s to a different group or add more devices to the group.

- Add another streaming group, by clicking ••• and selecting ⊕ Add streaming group .

Creating Video Walls

Use **KRAMER NETWORK** to configure, edit and test video walls.

(i) This operation can be performed by the Super and the Admin (upon permission) only.

To configure a video wall:

1. Select **System configuration** > **DEVICES** tab > **VIDEO WALLS** subtab.

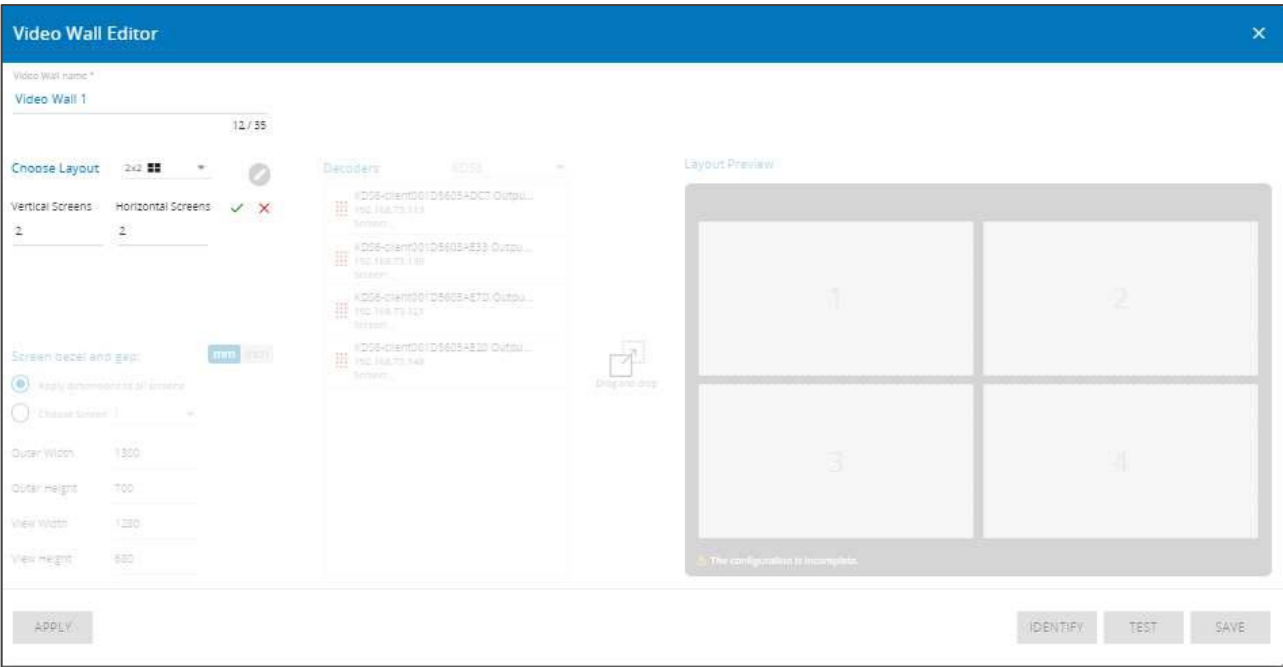2. Click ••• and select **Add Video Wall**. The **Video Wall Editor** window opens:

Figure 43: Video Wall Editor

3. Enter the Video Wall name (Video-Wall-1 in this example).

4. Set the layout from the drop-down list or configure a custom layout (2x2 in this example):

Figure 44: Video Wall – Name and Layout

5. Click ✓ to save the layout or ✗ to cancel it.

6. Set the screen bezel and gap and select **mm** or **inch** for measuring.

7. Check **Apply dimensions to all screens**, or **Choose Screen** and set each screen resolution separately.

Figure 45: Video Wall – Setting Bezel and Gap

8. Click **APPLY**.

The video wall layout is ready.

To assign the decoders to the screens in the layout:

9. From the **Decoders** list, drag and drop a decoder to its correct position in the screen layout.

The decoders should be assigned according to the real, physical setup of the screens they are connected to.
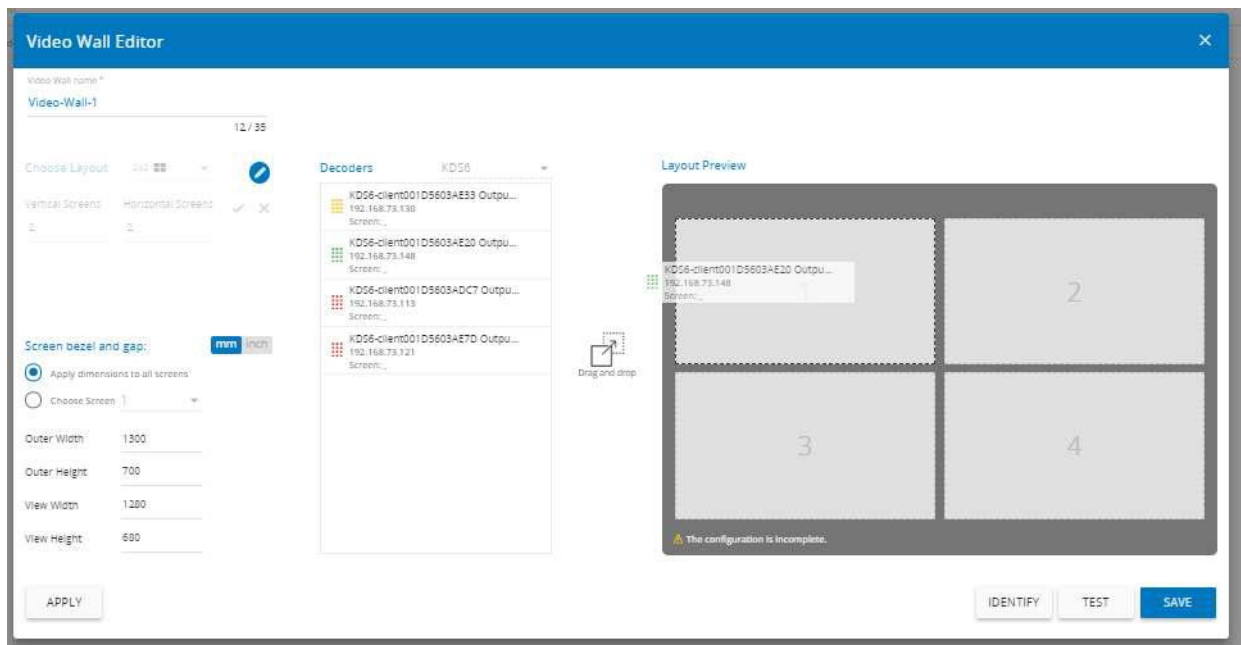

Figure 46: Video Wall – Assigning a Decoder to a Screen

10. Hover over an assigned screen with the mouse to view the model name, IP address and status of the decoder.
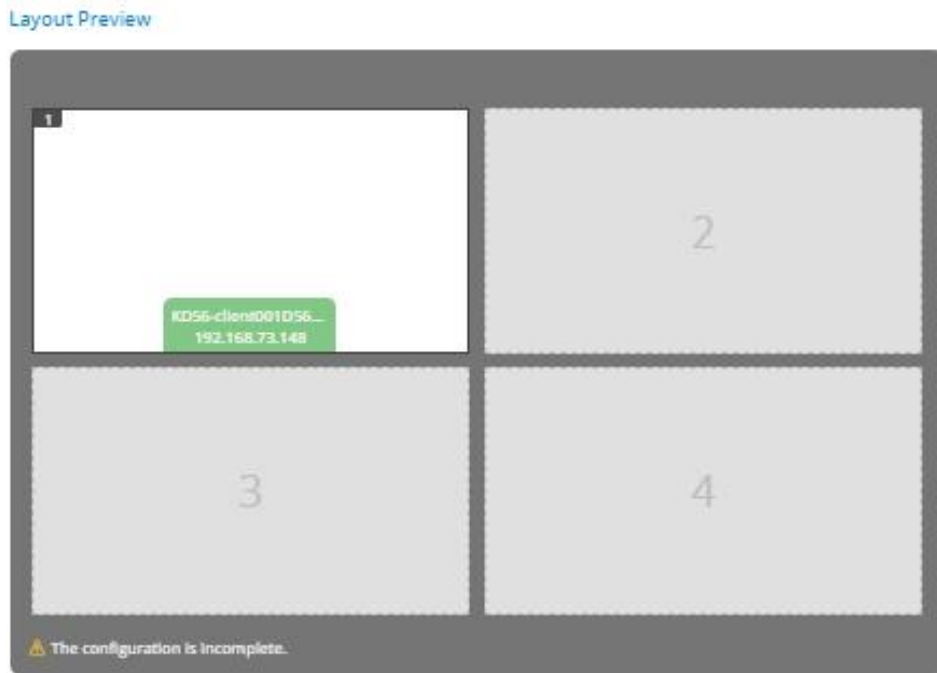An assigned screen turns from gray to white.

Figure 47: Video Wall – Decoder Status

11. In the same way assign the remaining screens.

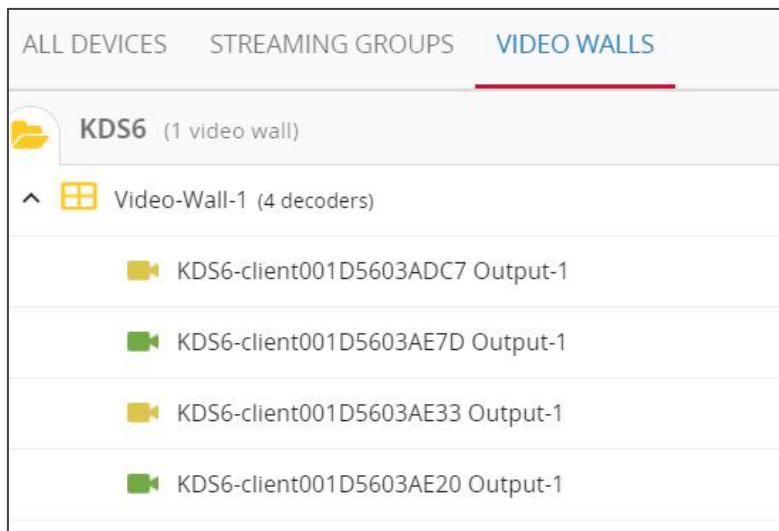12. Click **SAVE**. The video wall configuration appears:

Figure 48: Video Wall – List of Decoders

To create a custom video wall (for example, 2x1):

1. Select **System configuration** > **DEVICES** tab > **VIDEO WALLS** subtab.

2. Click ••• and select **Add Video Wall**.

3. Set the number of vertical and horizontal screens.

Figure 49: Video Wall – Defining the 2x1 Video Wall

4. Click ✓ to save the layout or ✗ to cancel it.

5. Set the screen bezel and gap and select **mm** or **inch** for measuring.

6. Check **Apply dimensions to all screens**, or **Choose Screen** to set each screen separately.

7. Click **APPLY**. The video wall layout is ready.

8. From the **Decoders** list, drag and drop a decoder to its correct position in the screen layout.
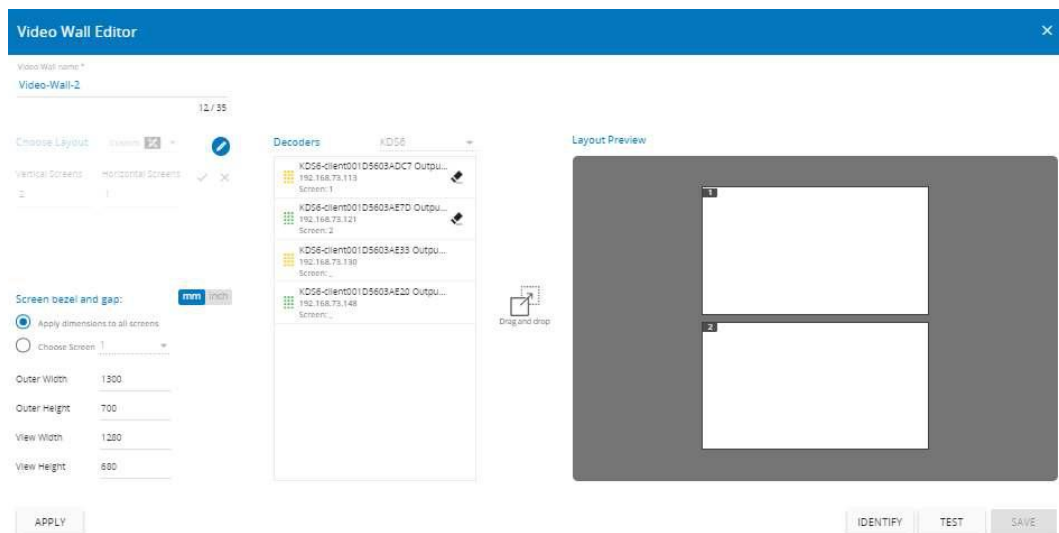
9. Click **SAVE**.

Figure 50: Video Wall – Placing the Decoders

For a given number of decoders you can define more than one video wall. In this example, the VIDEO WALLS tab includes two video wall configurations:

- 2x2 with four screens that are connected to four decoders.

- 2x1 with two screens connected to two decoders which are also part of the 2x2 video wall.
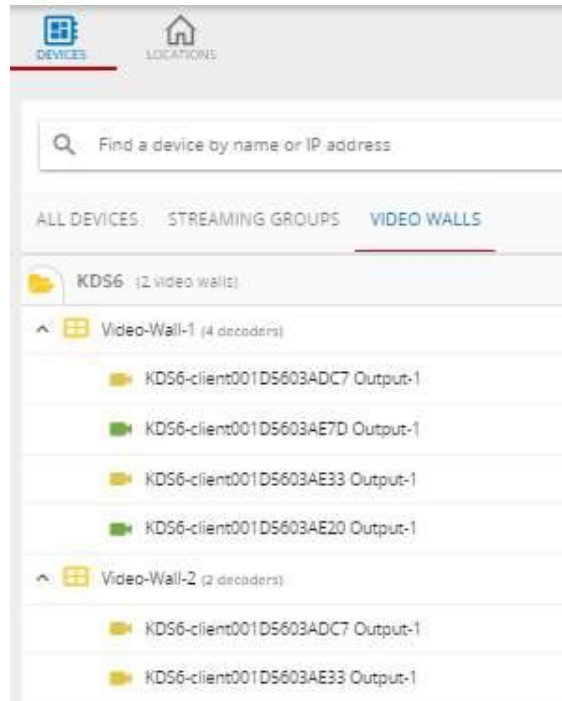

Figure 51: Video Wall Setups

You can get a preview the video wall via MATRIX VIEW in the Manage web page (see Routing Streaming Devices on page 75).

Creating and Managing Locations

Before assigning a location to each device, you need to create the locations in **KRAMER NETWORK**.

To create a location:

1. Select **LOCATIONS** tab. When setting locations for the first time, the following message appears:
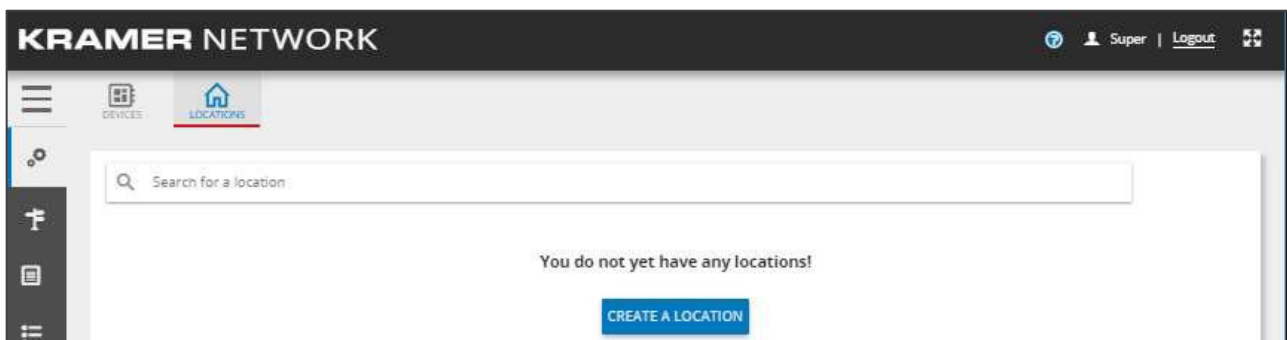

Figure 52: Creating a Location for the First Time
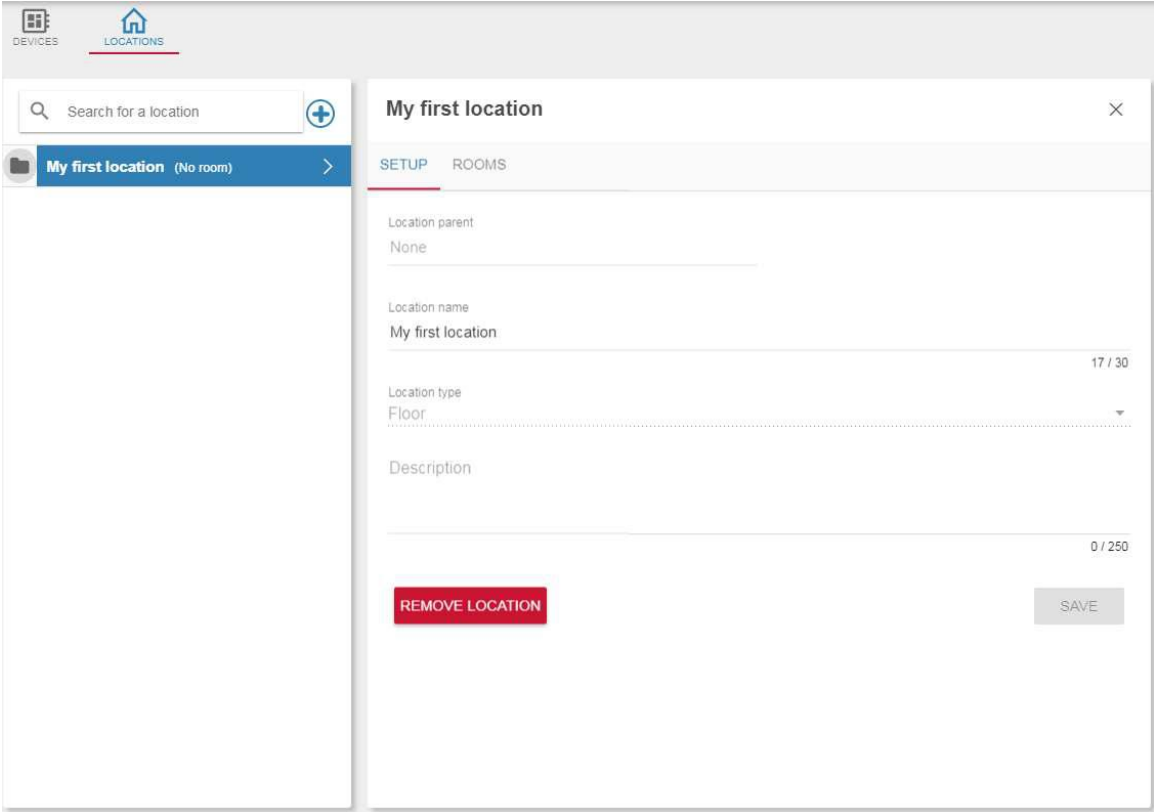
2. Click **CREATE A LOCATION**.

Figure 53: Setting the First Location

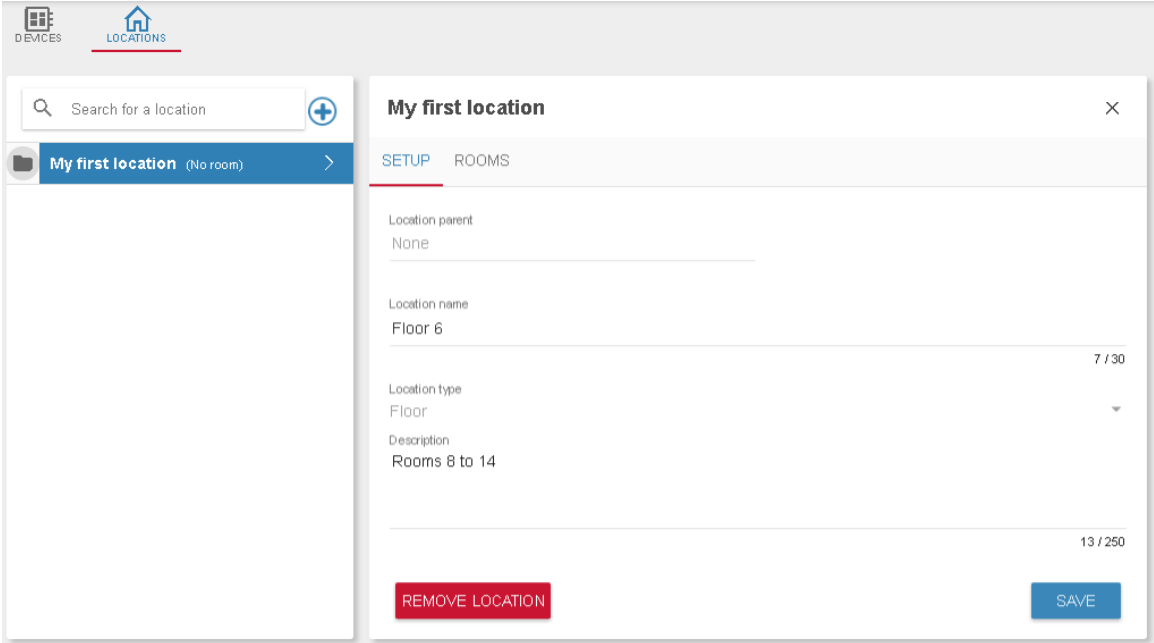3. Under **Location name**, enter the Location name (Floor 6) and Description.

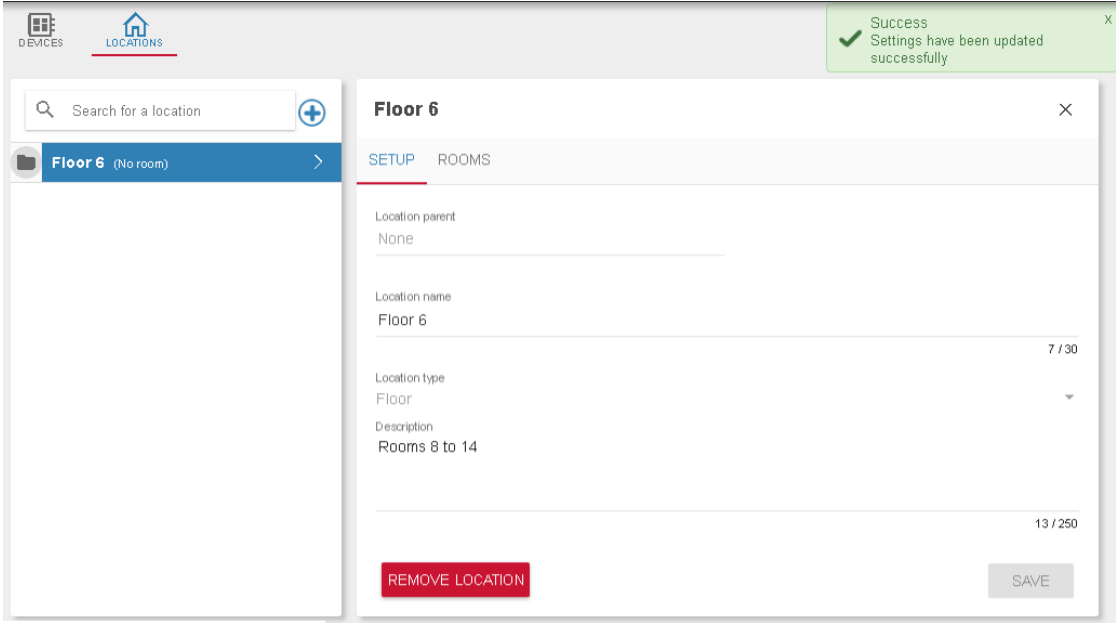Figure 54: Renaming My First Location

4. Click **SAVE.**

Figure 55: Location Defined

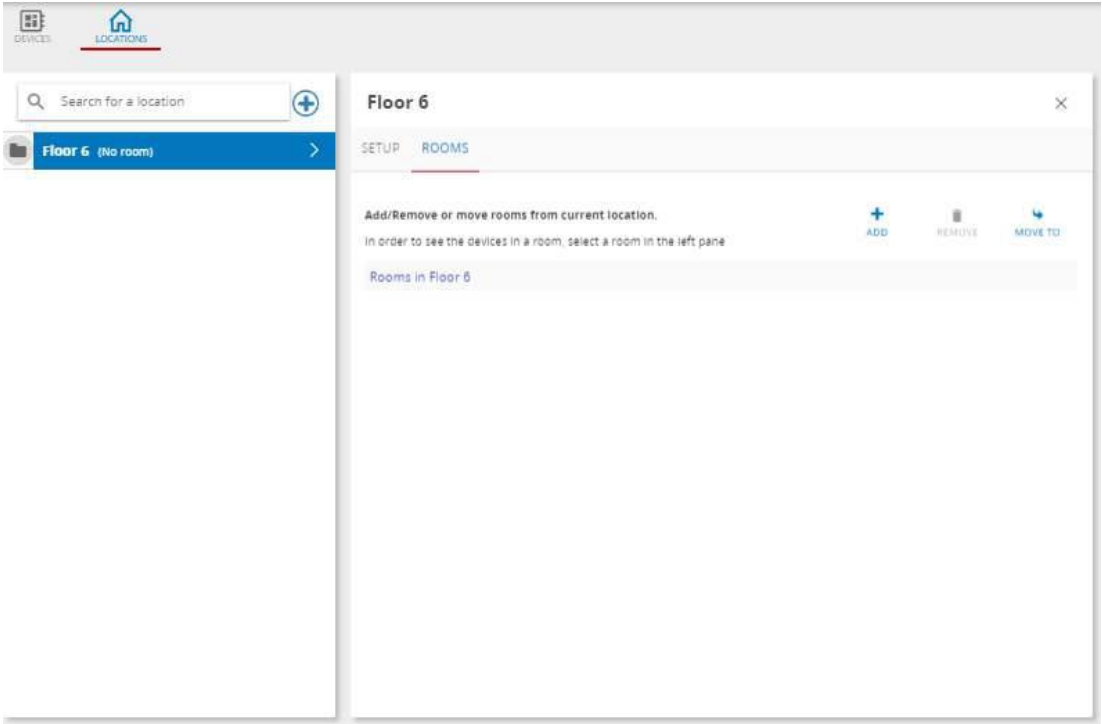5. Select the **ROOMS** tab (in Floor 6).

Figure 56: Defining Rooms

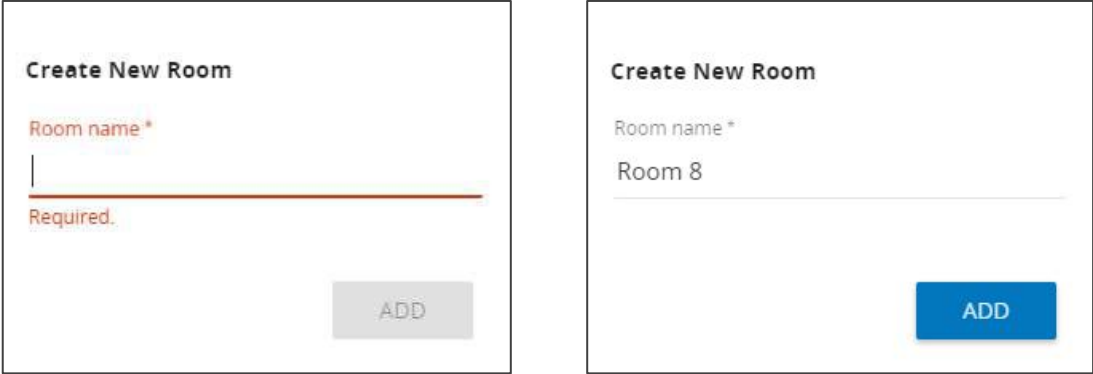6. Click to add a new room to Floor 6 and type the new room name:

Figure 57: Creating a New Room

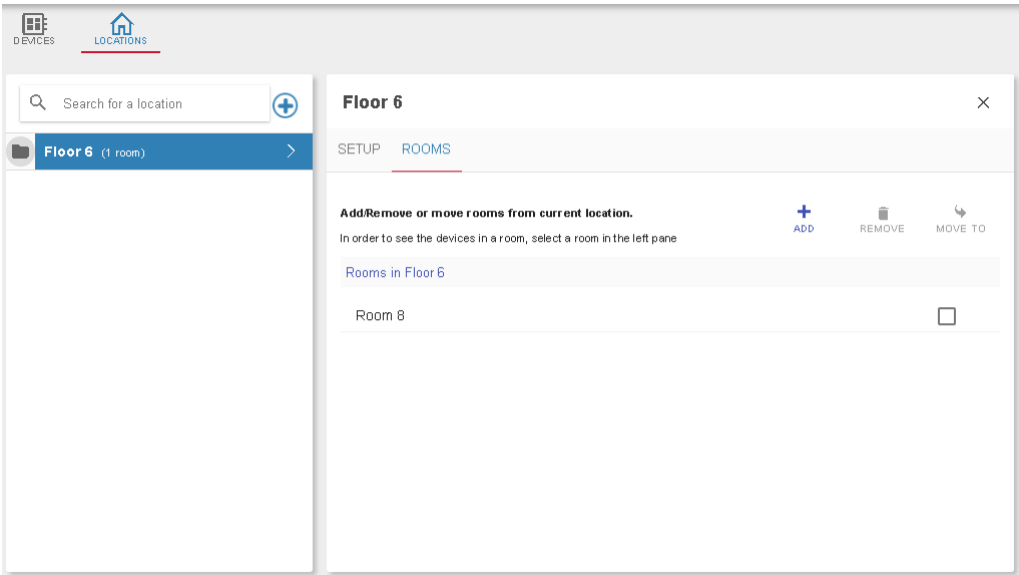7. Click **ADD**. The room is added to floor 6.

Figure 58: Adding Rooms to the Location

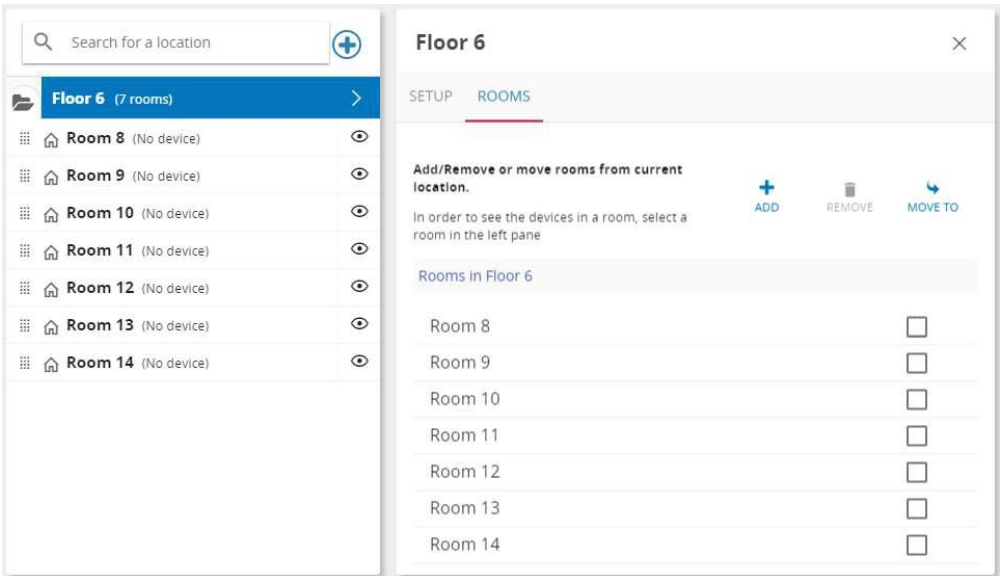8. Add the remaining rooms to Floor 6:

Figure 59: Adding Rooms 8 to 14

9. Once the rooms are added, you can:

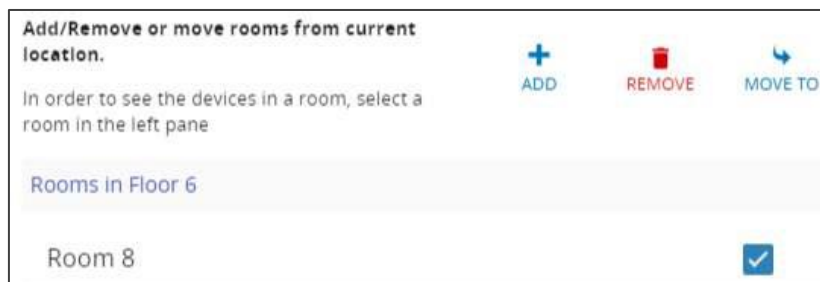   ▪ Check a room and click **REMOVE** to remove it from the list.

Figure 60: Removing a Room

   ▪ Click ⊙ to access the room view (see Arranging and Designing the ROOM VIEW on page 57).

   ▪ Click ✚ to add a floor.

   ▪ Click ⦙⦙⦙ to drag a room to a different floor (location).
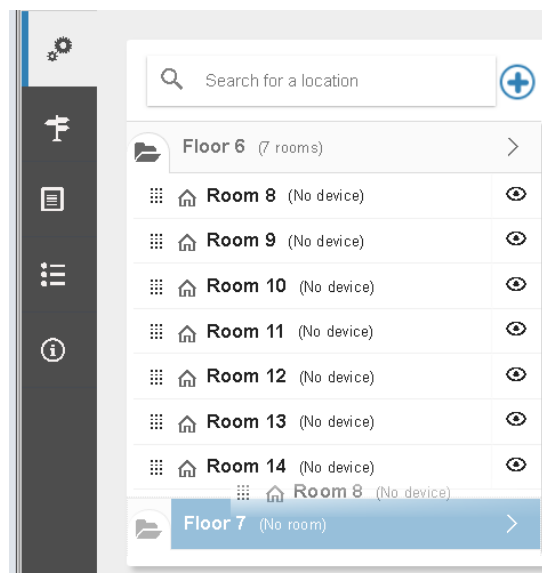
Figure 61: Moving Rooms to a Different Location

   ▪ Click **REMOVE LOCATION** to remove it from the location list. The following message appears:
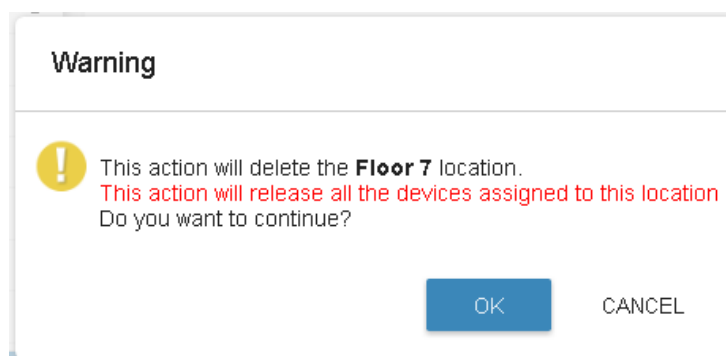
Figure 62: Remove Location Warning

Configuring the Rooms

The LOCATIONS tab enables performing the following actions:

-

-

-

-

Setting up the Room

Choose a room and select **SETUP** to change room name, enter the room description, upload a K-Config virtual control panel and, if required, download K-Config or remove the room.

Figure 63: Room Setup

Adding Devices to a Room

To add devices to a room:

1. Choose a room (for example, Room 8) and select **DEVICES** to add (move or remove) streaming devices, Pro AV devices or video walls to this room.

Figure 64: Adding Devices to a Room

2. Click ![ADD icon]. The list of devices in your Network appears.

Figure 65: Adding devices to a Room – Device List

3. Select the devices that are assigned to Room 8.
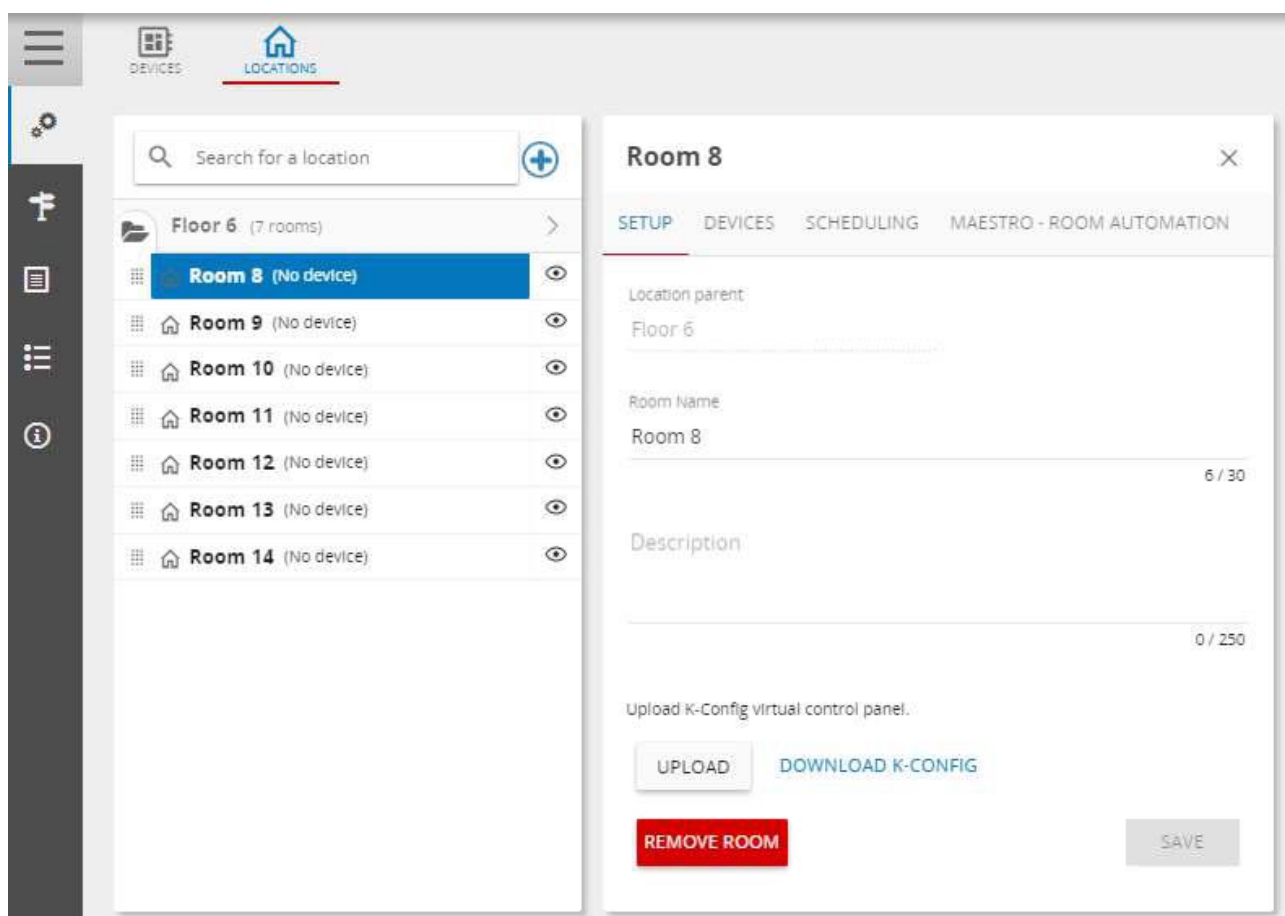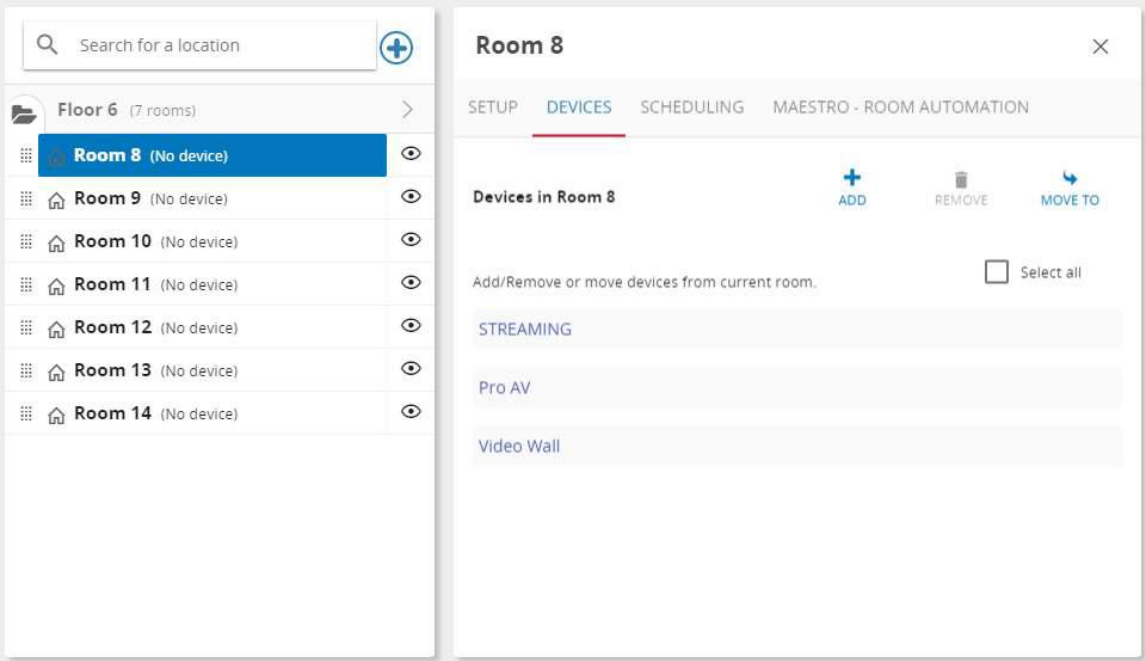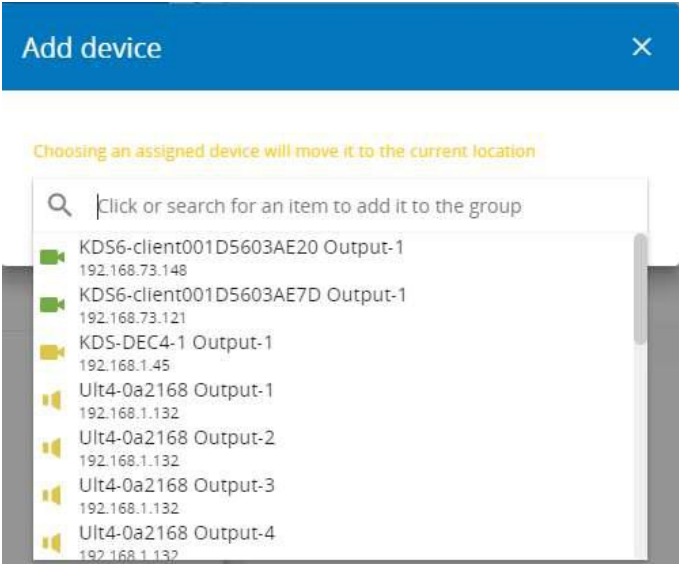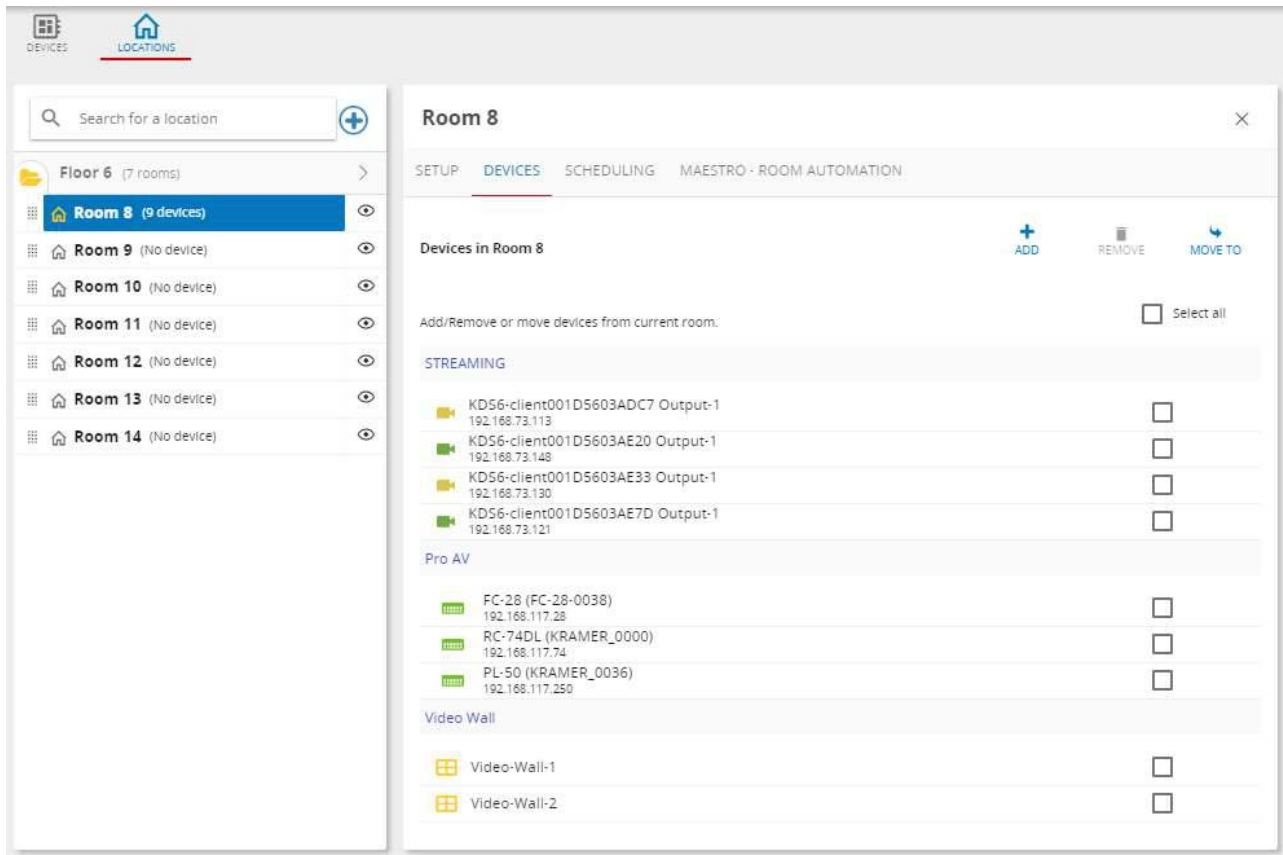

Figure 66: Adding devices to a Room – Devices Assigned to a Room

These include: 3 Pro AV devices (**FC-28**, **RC-74DL** and **PL-50**), 4 streaming devices (**KDS-DEC6** devices) and 2 video-wall configurations.

> The color of the 🏠 icon next to the room name indicates the status of the devices in the room (orange indicates that at least one device is awaiting connection and red means that at least one device is disconnected from the Network).

4. In the same way you can add devices to each of the meeting rooms on floor 6.

> Devices that are already assigned to a room do not appear on the list. You can also move devices to different rooms by checking the box to the right of the device in a room and clicking **MOVE TO**.

Meeting Room Scheduling

Each meeting room can be associated to a selectable scheduler. Before doing so, you need to define your LDAP (Lightweight Directory Access Protocol*)* connection, see . Once LDAP is defined, you can set the SCHEDULING.

To set the schedule for a room (for example, a training room):

1. In the navigation pane click **System configuration** and then select the **LOCATIONS** tab.

2. Select the SCHEDULING subtab. The following window appears.

Figure 67: Room Scheduling

3. Select the LDAP connection ("Kramer LDAP" in this example) and wait for the calendar room list to be uploaded:

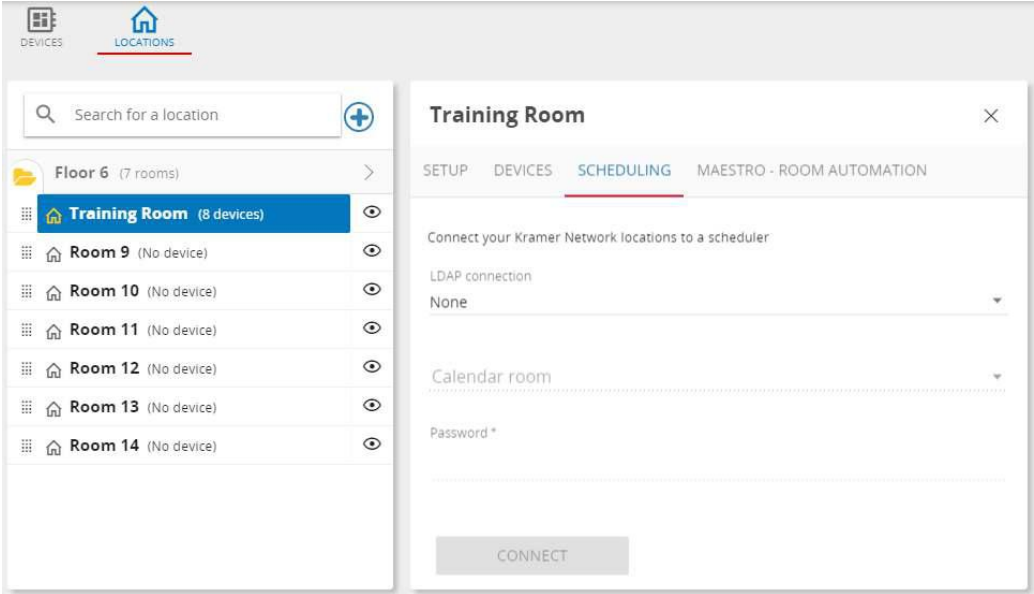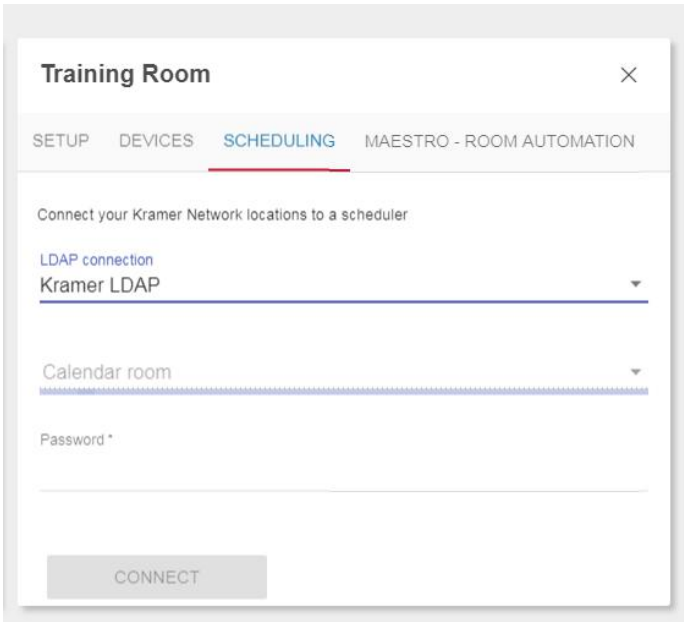Figure 68: Room Scheduling Selecting LDAP Connection

4. Select a room to associate to your room (KN_test_room1 in this example).

5. Enter the room password.

Figure 69: Room Scheduling Details Added

6. Click **CONNECT**.

Applying Room Automation via Maestro

Room automation involves creating a trigger (such as a certain day of the week) which activates a script that includes a sequence of actions. Actions may include device commands (such as turning on a projector), sending an email, activating DSP over IP and so on.

To trigger scripts:

- Enter actions through MAESTRO – ROOM AUTOMATION (see Creating Actions on page 44).

- Add a sequence of actions to a script (see Creating Scripts on page 51).

- Create a trigger to initialize a script or a list of scripts (see Creating Triggers on page 54).

Creating Actions

You can create several different types of actions to be activated by your room automation. Each action can be edited, tested or deleted at any stage.

The following action types are available: Device command, DSP-Over-IP, Email, Scenario, SNMP Trap, Upload Maestro Device Configuration, User script and WOL.

To add an action:

1. Select a room in a floor.

2. Select **MAESTRO – ROOM AUTOMATION**.

3. Check that **Maestro active** slider is enabled or slide to enable it.
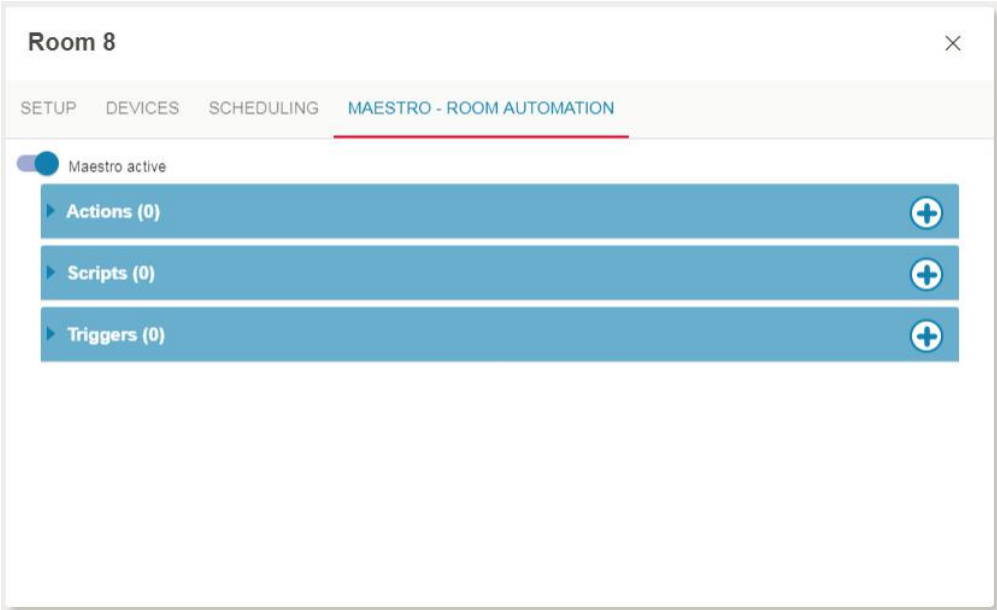
Figure 70: Maestro Room Automation Sub-tab

4. Click ⊕ next to **Actions** to add a new action.
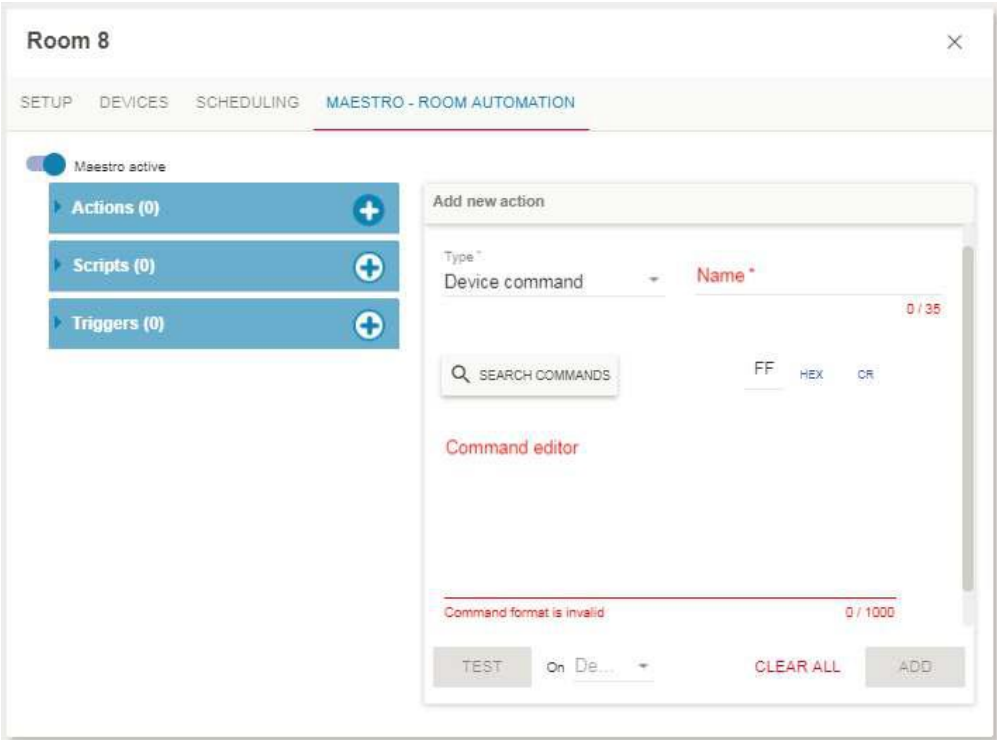
Figure 71: Maestro Room Automation Sub-tab – Actions Window

5. Select the new action **Type** (for example, a **Device command**).
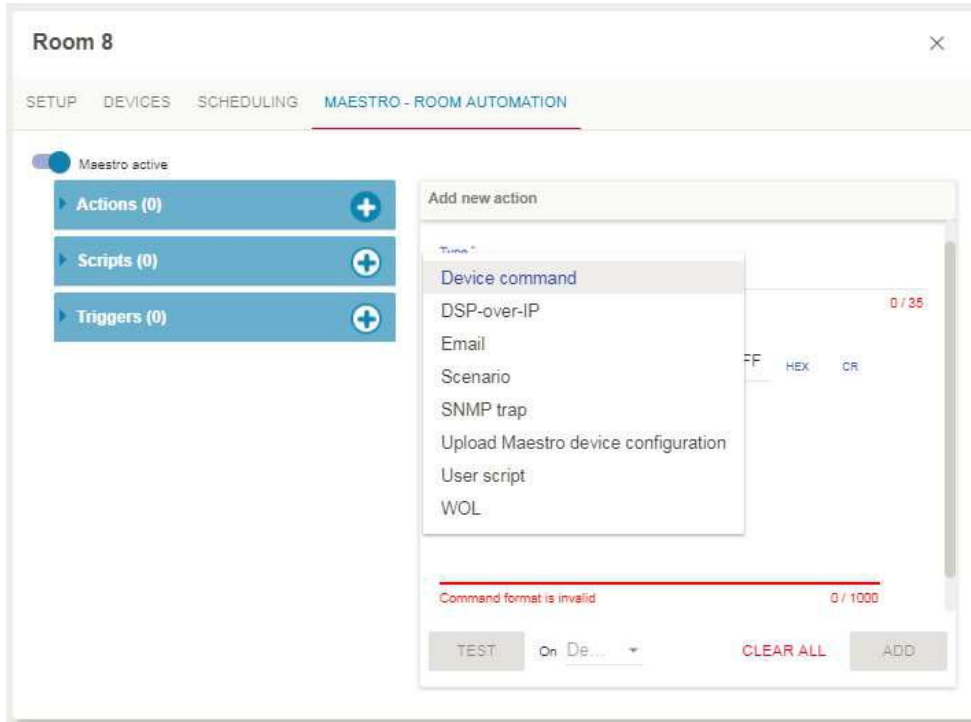
Figure 72: Maestro Room Automation Sub-tab – Adding a Device Command

6. Enter the command Name and then either search a command or type the command (click FF, HEX or CR to add common characters).
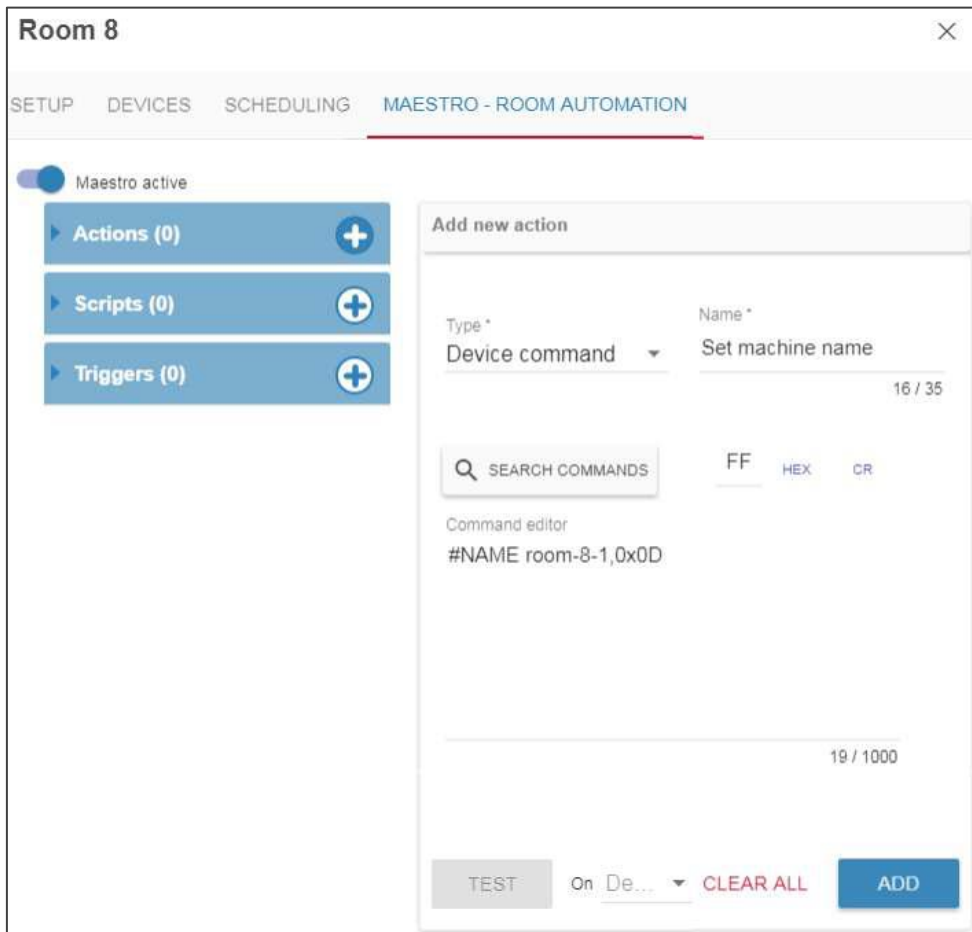
Figure 73: Maestro Room Automation Sub-tab – Entering a Command

7. Click **ADD**.
   The Action is added to the list:
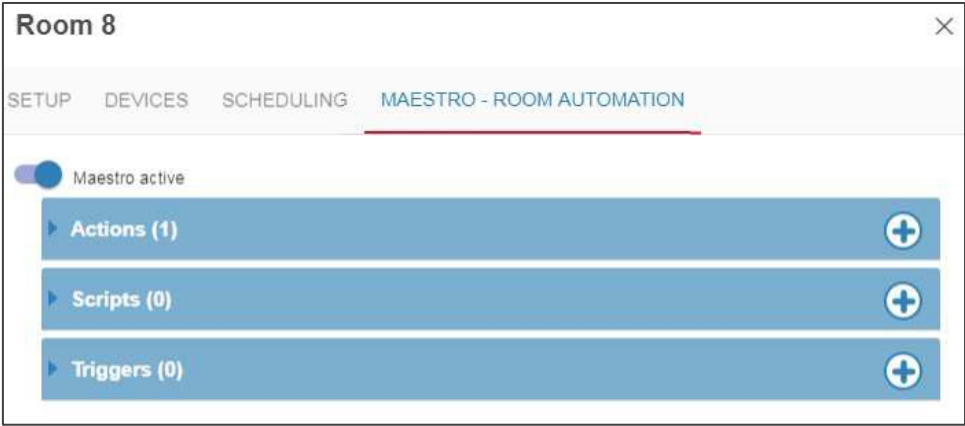
Figure 9: Maestro Room Automation Sub-tab – Action Added

To search a command:

1. Click ⊕.

2. Click **SEARCH COMMANDS**.
   The Search commands table appears:
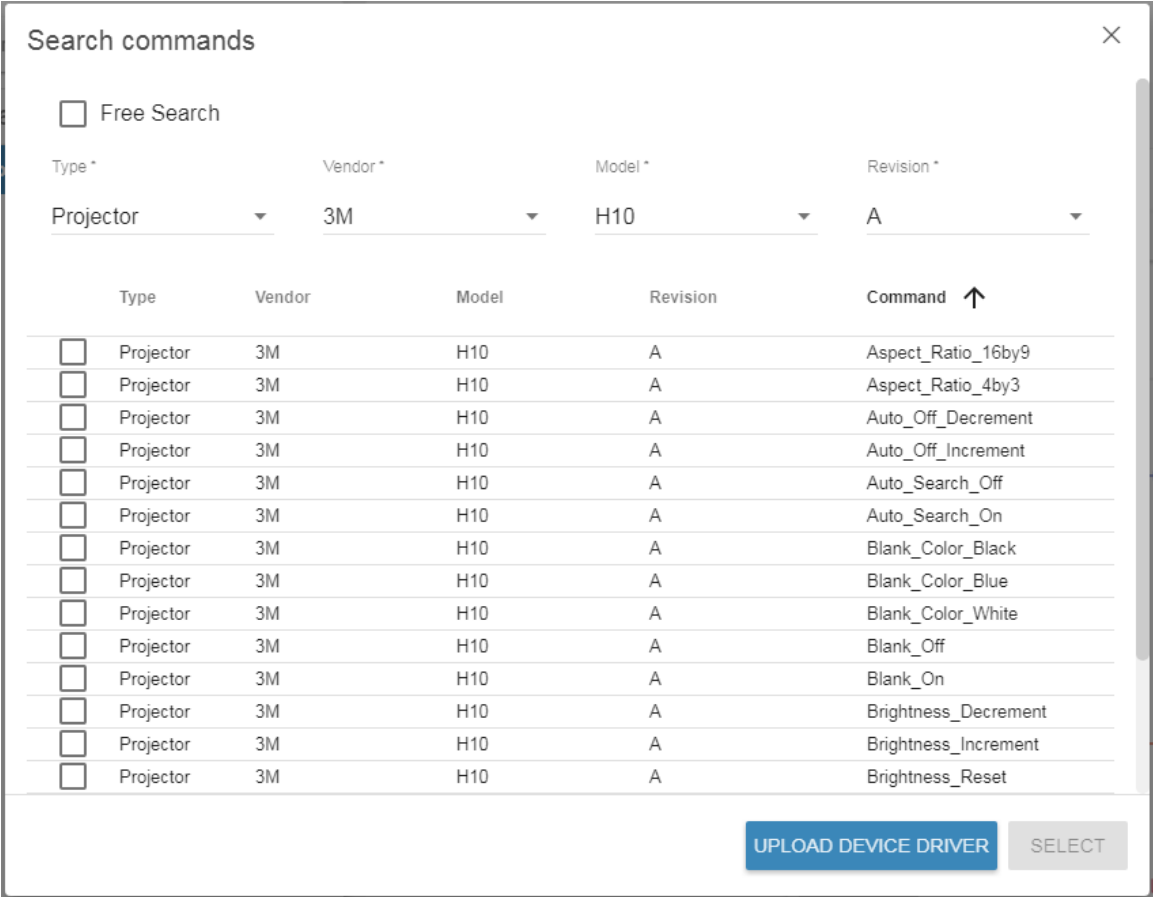
Figure 74: Maestro Room Automation Sub-tab – Searching for a Command

3. Select the Type, Vendor, Model and Revision. For example, select Control, Kramer, PL-50 and Revision A:

Figure 75: Maestro Room Automation Sub-tab – Selecting a Command

You can also:

Check **Free Search** to perform a free search.

Click **UPLOAD DEVICE DRIVER** and follow the instructions to add a new device driver.

4. Select a command.
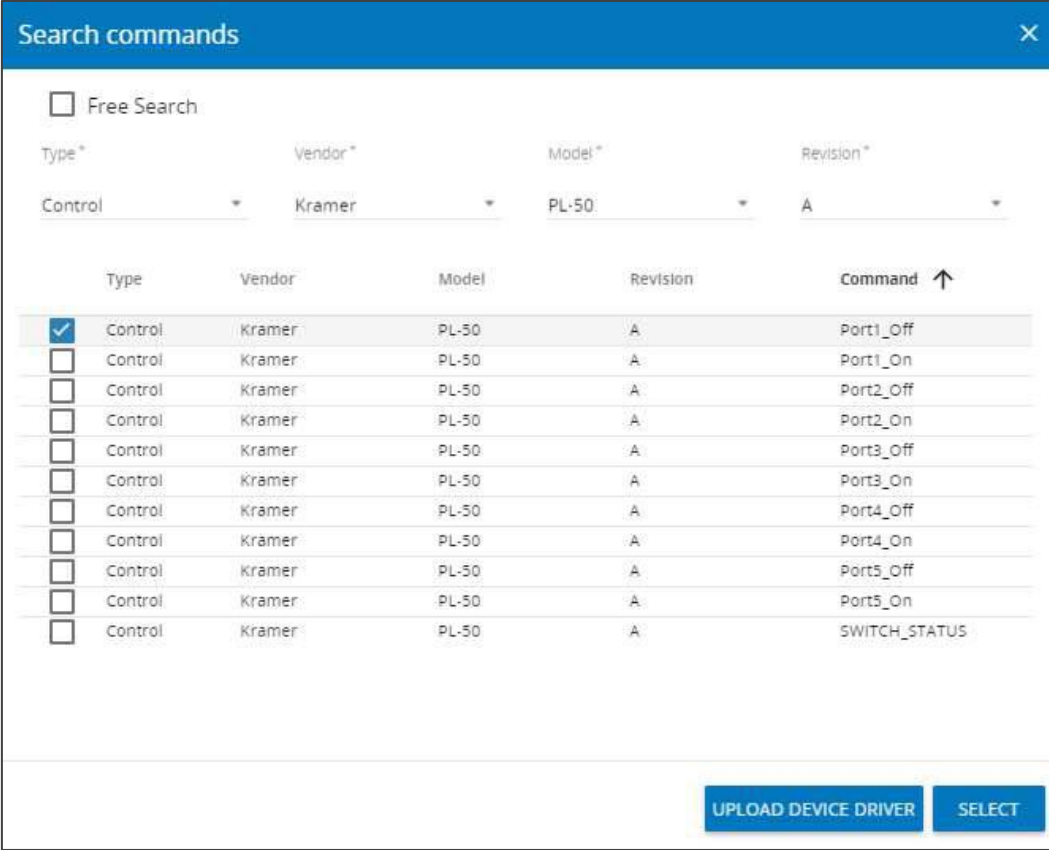
Figure 76: Maestro Room Automation Sub-tab – Selecting an Action

5. Click **SELECT**. The new action is added to the command editor.

6. Enter the command name:
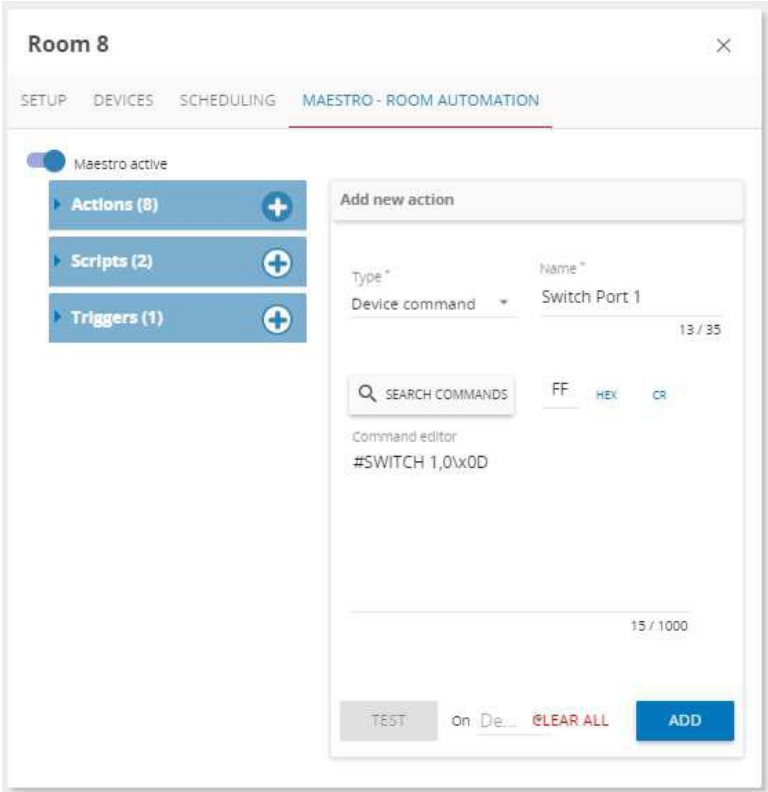
Figure 77: Maestro Room Automation Sub-tab – Action Name

7. Click **ADD**.
   In the same way add all the commands to the action list.

The number of commands in the Actions list appears next to **Actions**. Click the arrow next to Actions to view the list of commands:
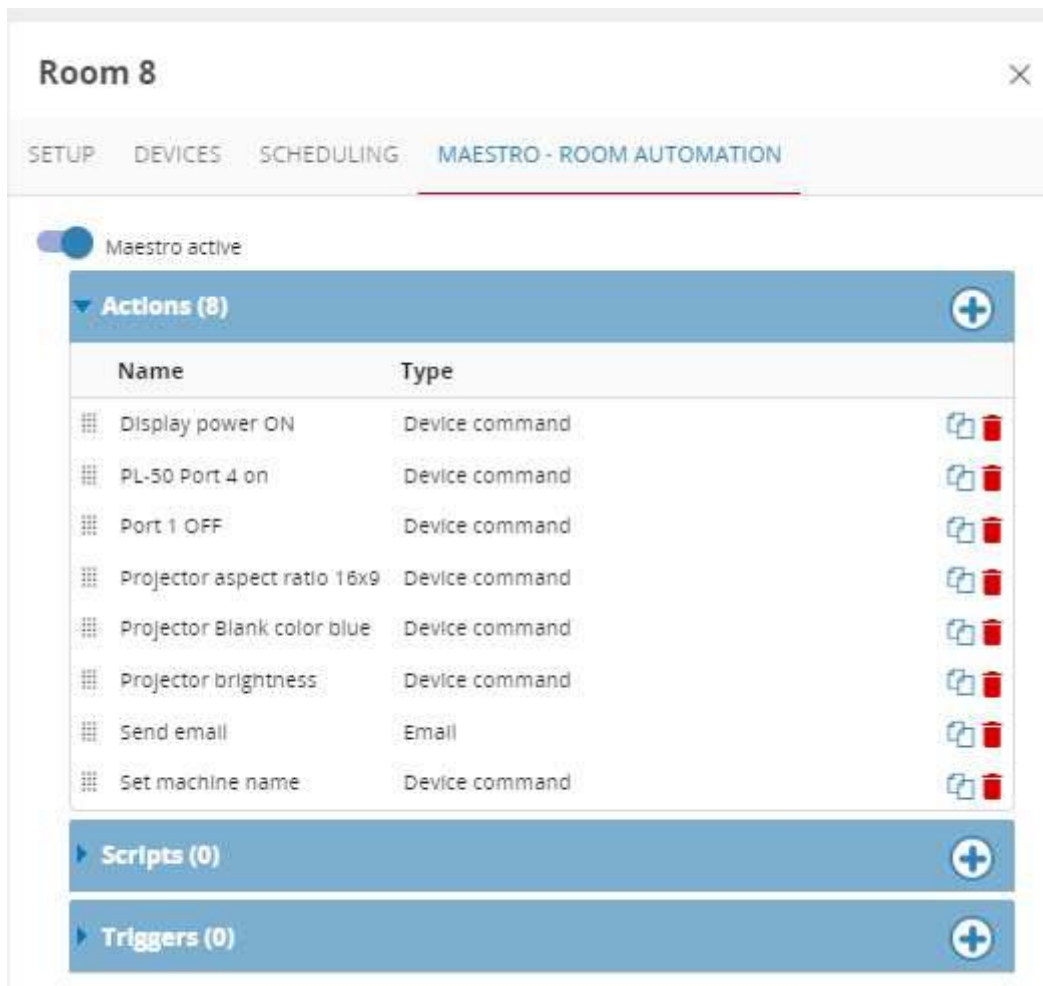
Figure 78: Maestro Room Automation Sub-tab – Actions List

(i)   You can drag-and-drop an action from the Action list to the Scripts action list.

Other types of actions require the following data:

Action Type	Enter the following Data
DSP-over-IP	Name, audio channel, DSP action (enable or disable).
Email	Name, Send to and cc.
Scenario	Name, Run scenario (select a scenario).
SNMP Trap	Name, select SNMP trap name, select Alert level, Message. You need to configure SNMP settings first.
Upload Maestro device configuration	Name, Select Maestro device; select Maestro configurations for the selected device.
User script	Name, click LOAD SCRIPT.
WOL	Name, add the MAC address of the device, select the port.

Creating Scripts

A script includes a sequence of actions. This section describes how to create scripts from the list of actions.

ⓘ In this section, the script examples show actions that are different than the actions obtained in Creating Actions on page .

To create a script:

1. Click ⊕ next to **Scripts**. The Scripts window appears:
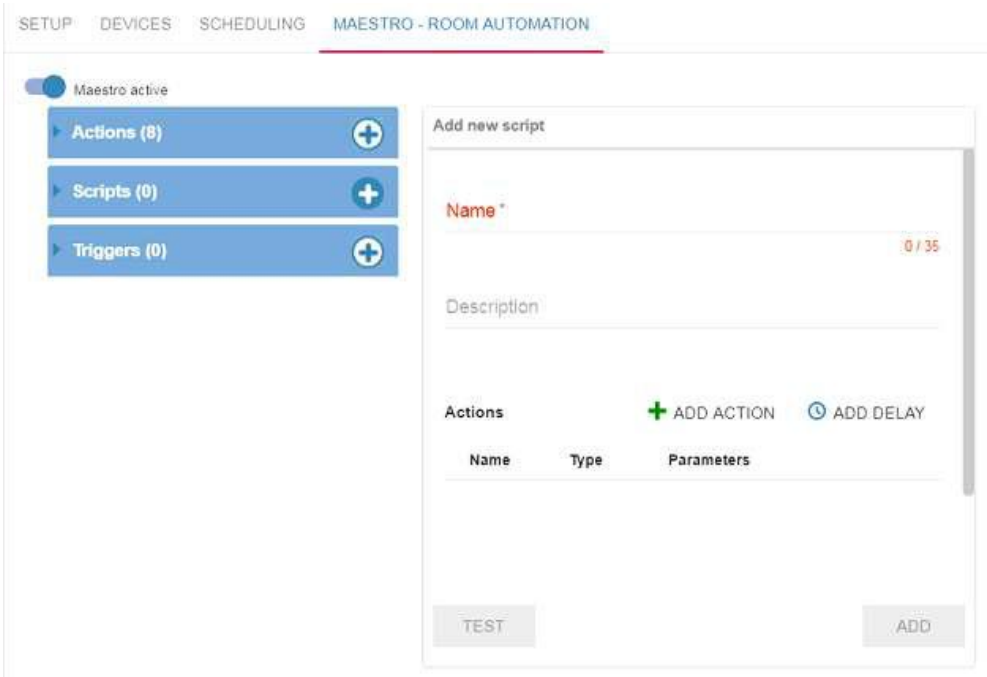
Figure 79: Maestro Room Automation Sub-tab – Scripts Window

2. Enter the Script Name and Description and click ✚ ADD ACTION (an Action line appears).
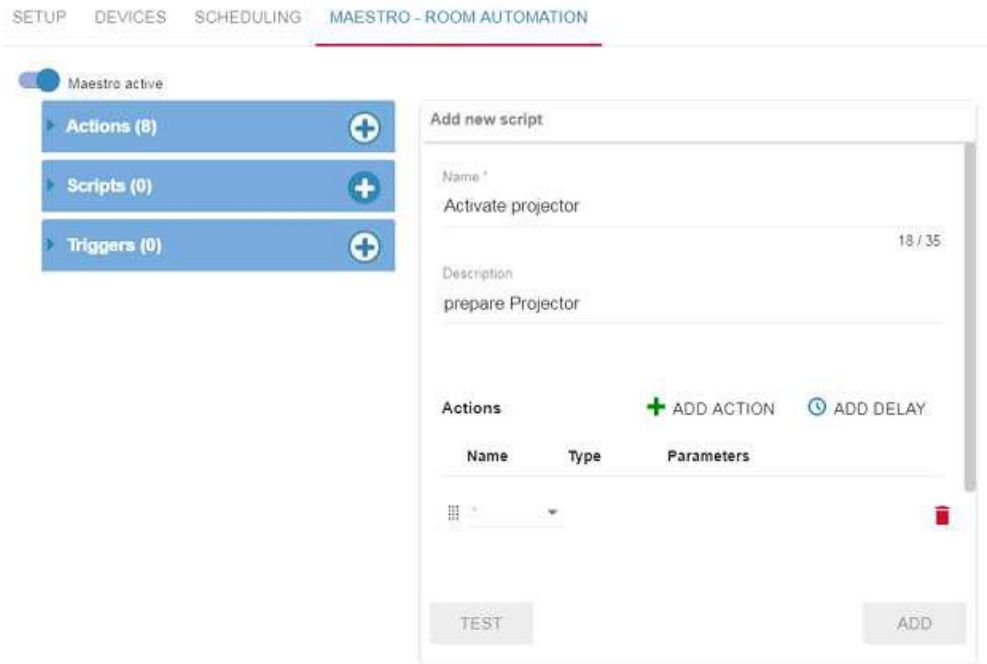
Figure 80: Maestro Room Automation Sub-tab – Adding an Action Line

3. Click the **Name** drop-down-box to select an action (the action type appears).
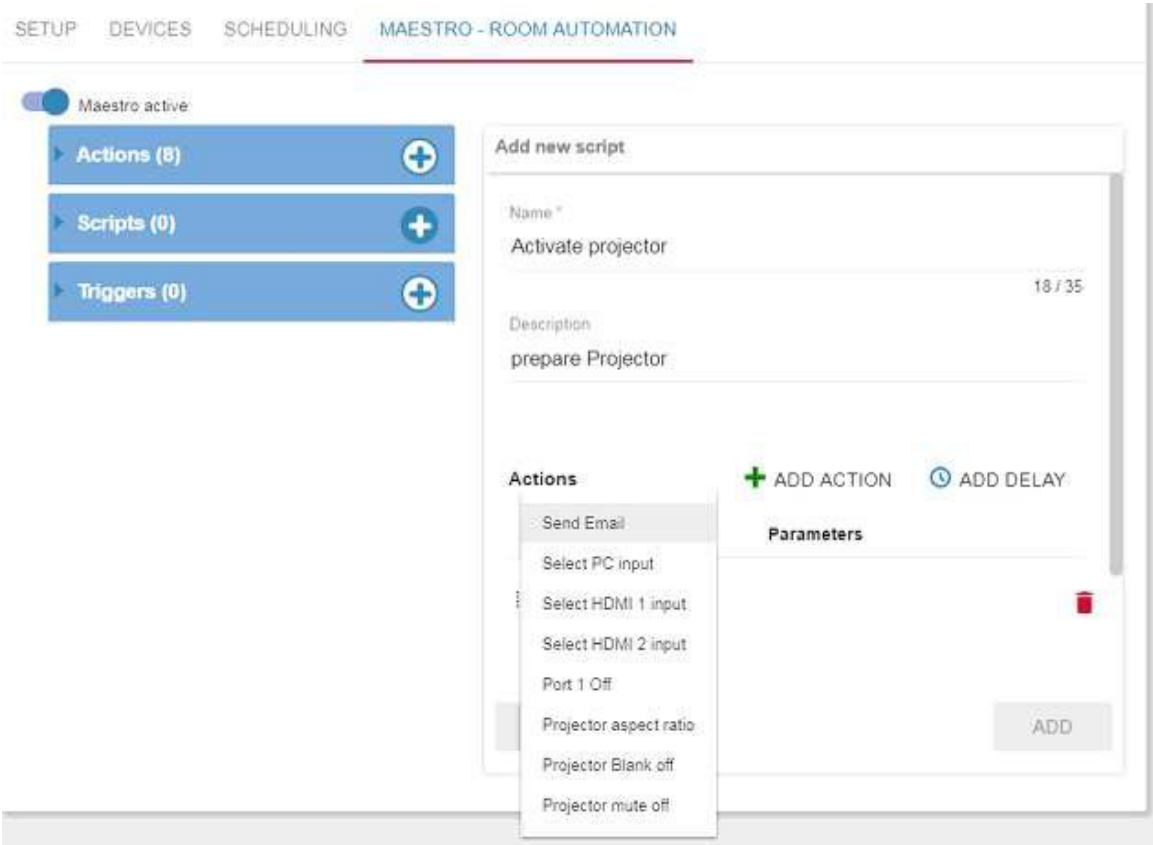
Figure 81: Maestro Room Automation Sub-tab – Selecting an Action

4. Select **Parameters**.
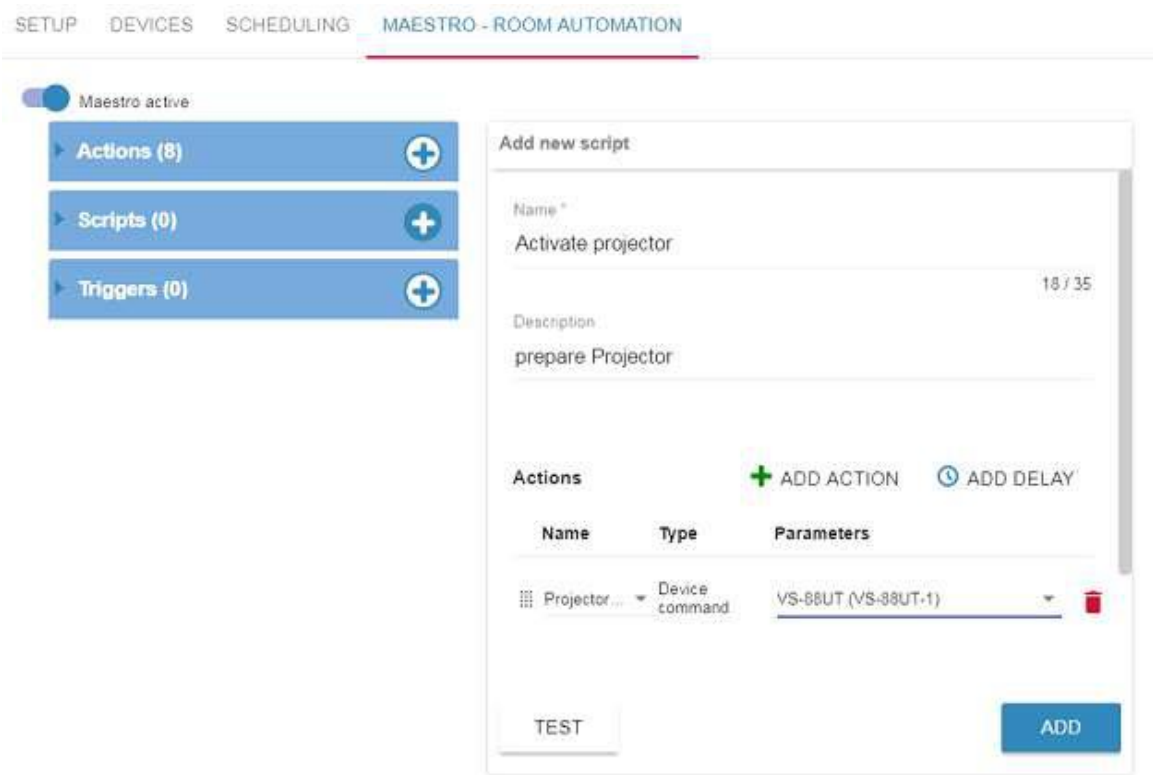
Figure 82: Maestro Room Automation Sub-tab – Selecting the Parameter

5. Add any number of Actions and delays to the script. If required, click ⠿ to move an action/delay line up or down.
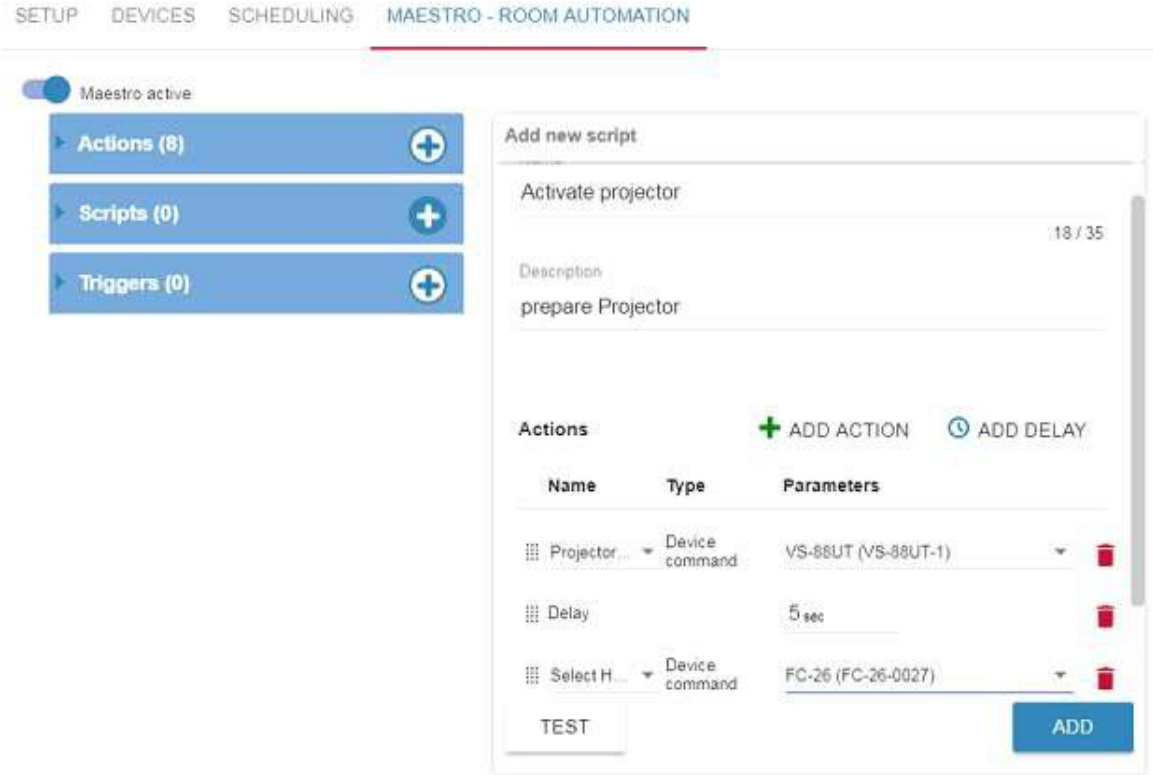
Figure 83: Maestro Room Automation Sub-tab – Actions Added to the Script

> ⓘ You can open the Action list and then drag-and-drop an action from the list to the Scripts action list.

6. Click **ADD**.
   You can edit a script by standing on the script line.
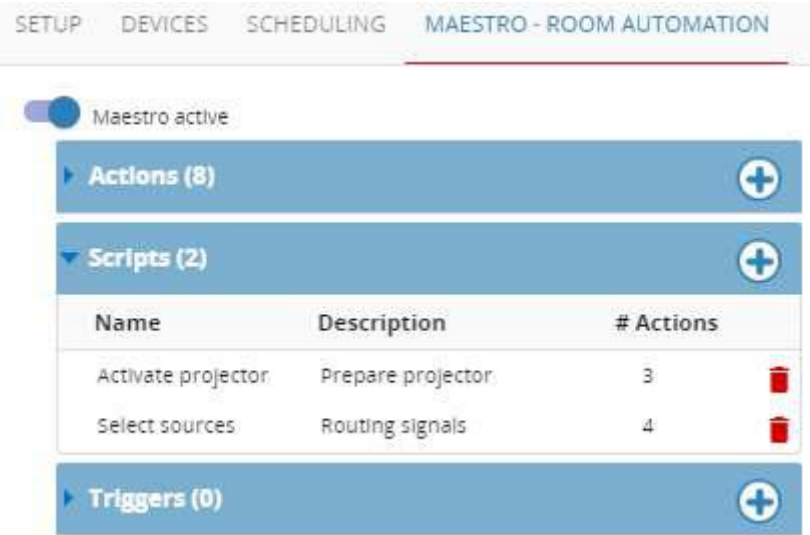
Figure 84: Scripts List

Creating Triggers

A script is carried out by a trigger.

To create a trigger:

1. Click ⊕ next to **Triggers**.
   The Triggers window appears:

2. Select the trigger Type from the list (for example, recurring event).
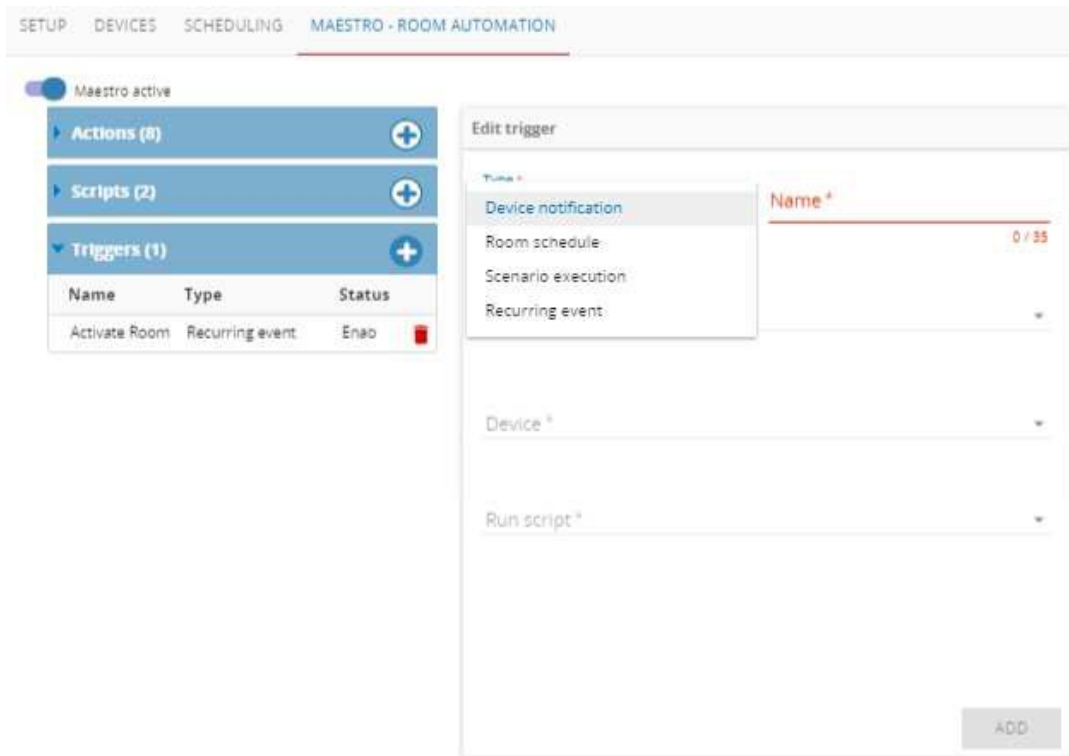
Figure 85: Maestro Room Automation Sub-tab – Triggers Window

3. Enter the trigger name and select the trigger status.

4. Set the scheduling type to weekly (select the days and time) or a one-time event (select the date and time).
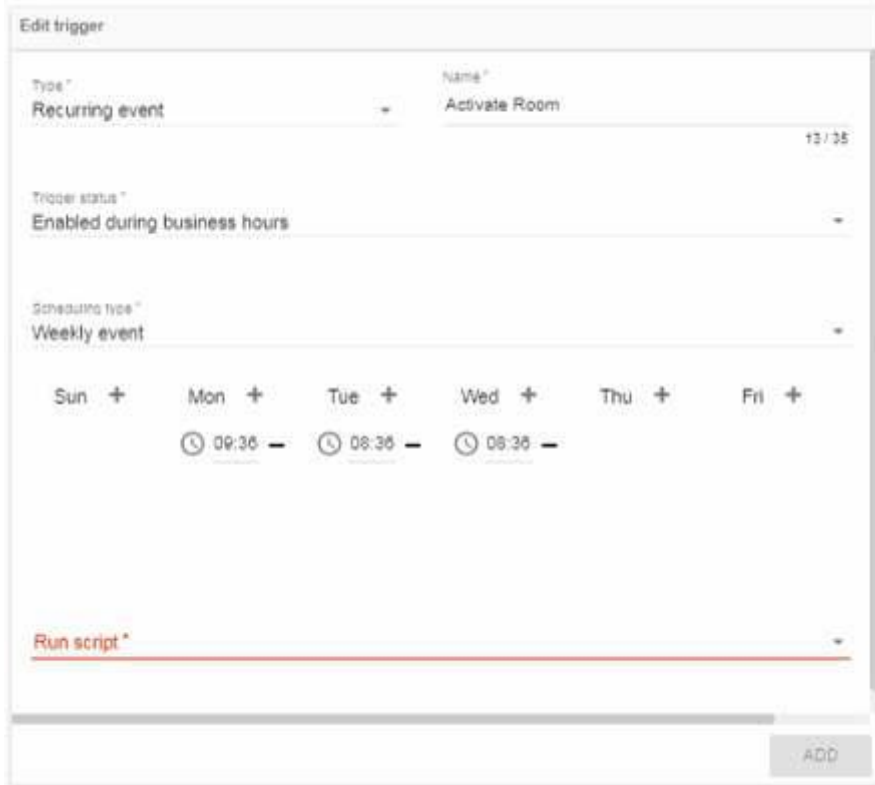
Figure 12: Maestro Room Automation Sub-tab – Creating a Trigger

5. Select the script from the list.
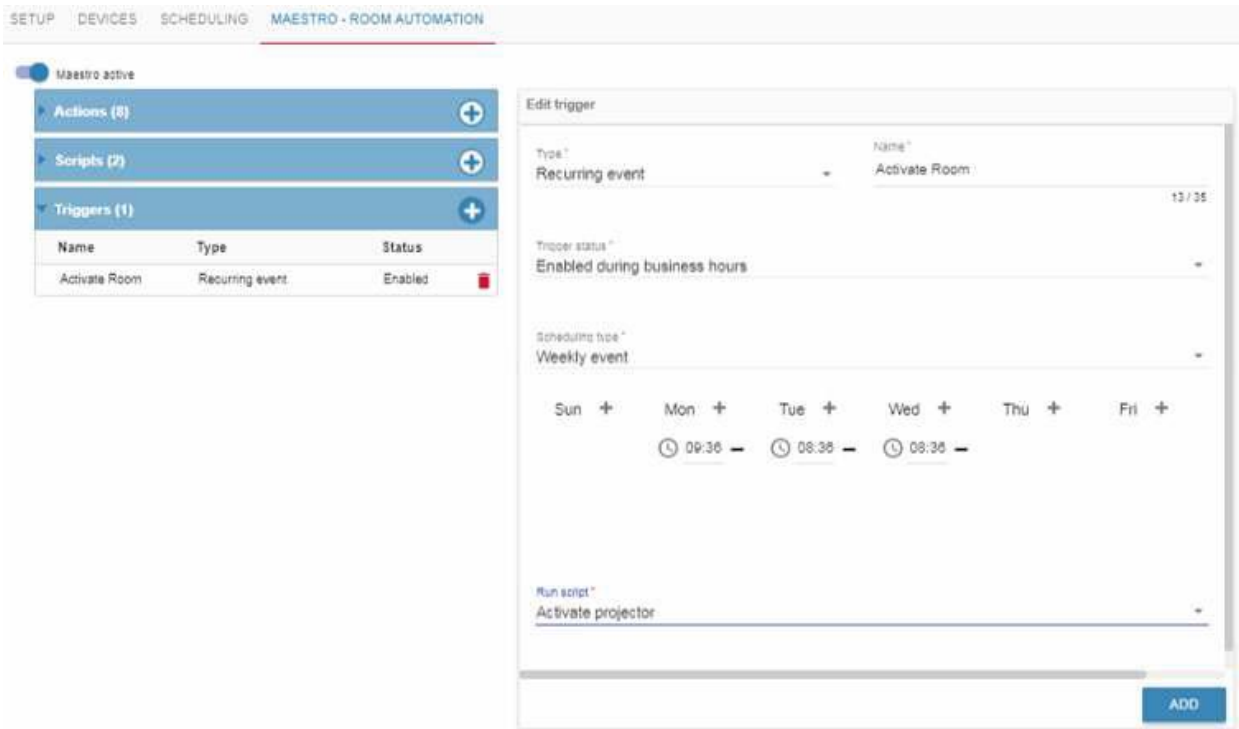
Figure 86: Maestro Room Automation Sub-tab – Adding the Run Script

6. Click **ADD**.

In the same way, add as many triggers as required.

Available trigger types include:

- **Device notification** – The script is triggered once the selected device connectivity is ON/OFF or if an incoming generic message from the device is sending a predefined value (a device control software sends a certain value to **KRAMER NETWORK** via port 3340, by default – this default port number can be changed via the utilities software).

- **Room schedule** – The script is triggered before/after a meeting.

- **Scenario execution** – The script is triggered once a selected scenario is carried out (within/out office hours).

- **Recurring event** – The script is triggered once a weekly (day and time) or one-time (date and time) event occurs.

Manage Page

The **Manage** page enables performing the following:

-
-

Arranging and Designing the ROOM VIEW

Use the Room View tab to arrange and design the room view.

(i) Admins can be granted permission to access a group of rooms from the Super. Users can be granted permission to access specific rooms from Admins.

In the ROOM VIEW you can:

- Select rooms (to edit) and Pro AV devices (to add to a room) from the left-side column.
- Create or edit the room view within the center window.
- Associate scenarios (created in the **MATRIX VIEW** tab, see Managing Pro AV and AV Streaming Devices on page 73) via the **Scenarios** column to the right.

To access the ROOM VIEW:

1. In the navigation pane click **Manage** and then select the **ROOM VIEW** tab. The following window appears:
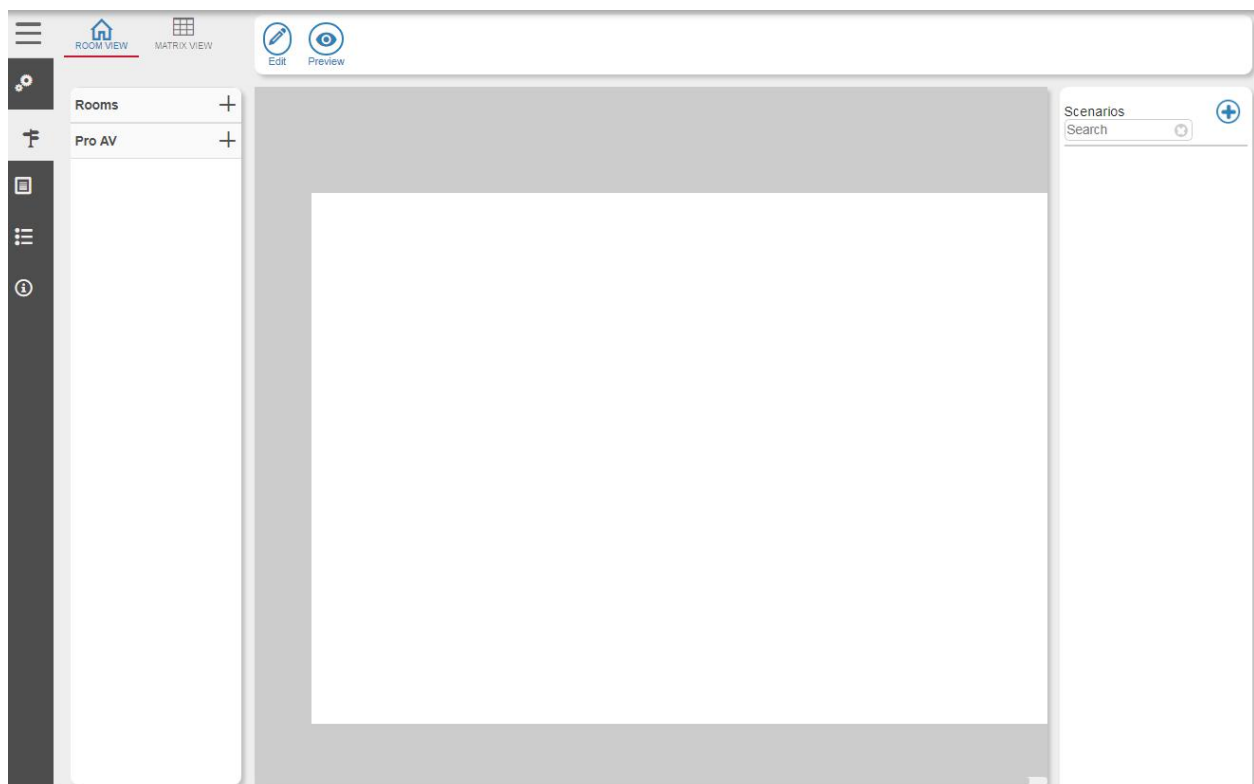
Figure 87: Room View

2. Click +to open the room view.

Creating Room View Design Elements

To create the room view design elements:

1. In the navigation pane click **Manage** and then select the **ROOM VIEW** tab.

2. Click ✏️ to open the ROOM VIEW editing options. All the editing options are displayed:

Figure 88: Room View Edit Bar

3. Click 🖼️ to download the images that you will use. The manage images window appears:
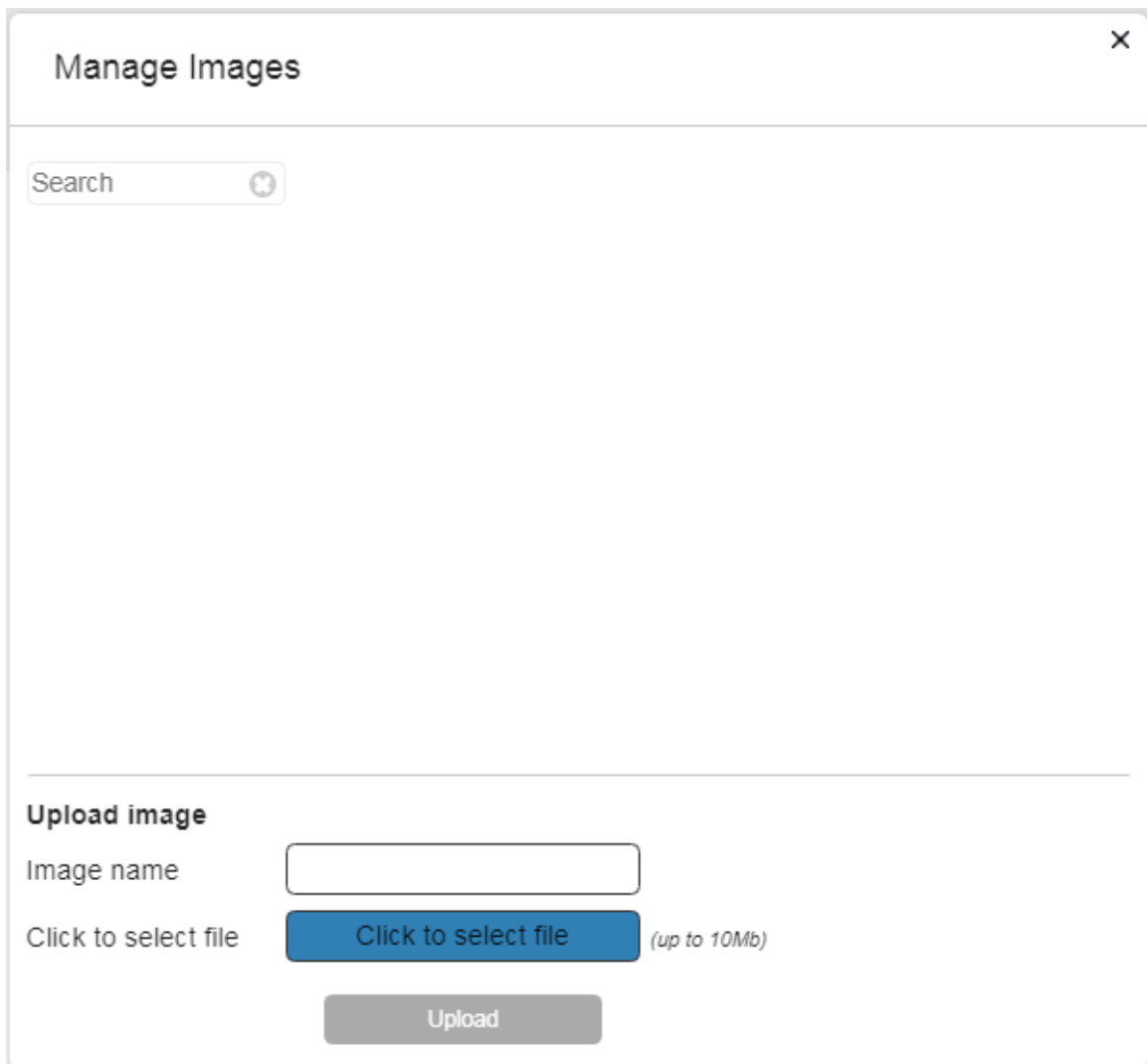
Figure 89: Downloading Images

4. Click **Click to select file**.

5. Select a background and click **Open**.

6. In the **Image name** text box, type its name and click **Upload**.
   In the same way select all the background images you need.
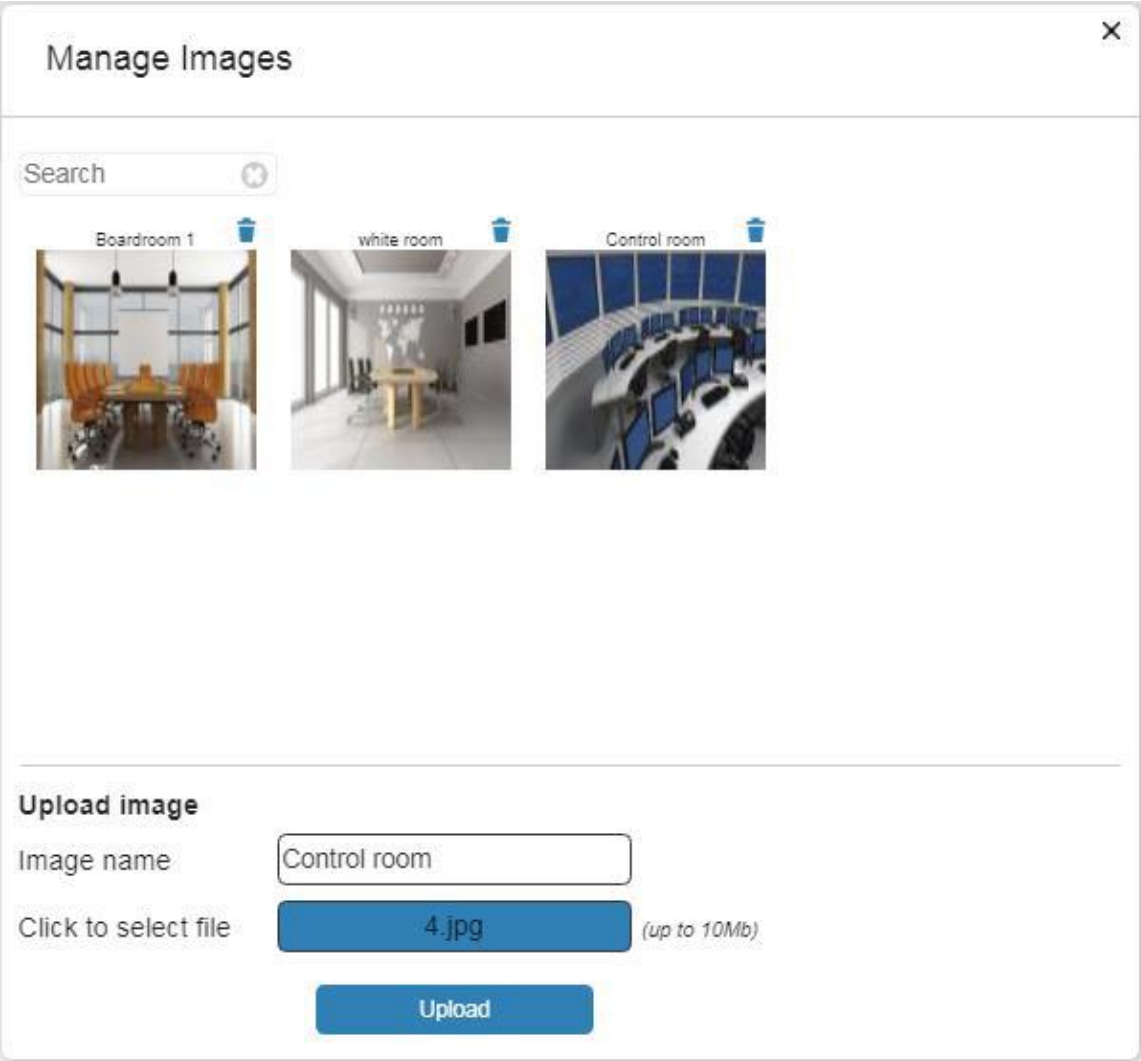
Figure 90: Uploaded Images

7. Click **x** at the top right to exit the **Manage Image** window.

Designing the Room View

To design the room view (Room 8 on Floor 6 in this example):

1. In the navigation pane click **Manage** and then select the **ROOM VIEW** tab.

2. Click ╋ to view the list of available rooms on floor 6.

Figure 91: Floor 6 Room List

3. Select room 8. Room 8 appears and displays the associated devices.
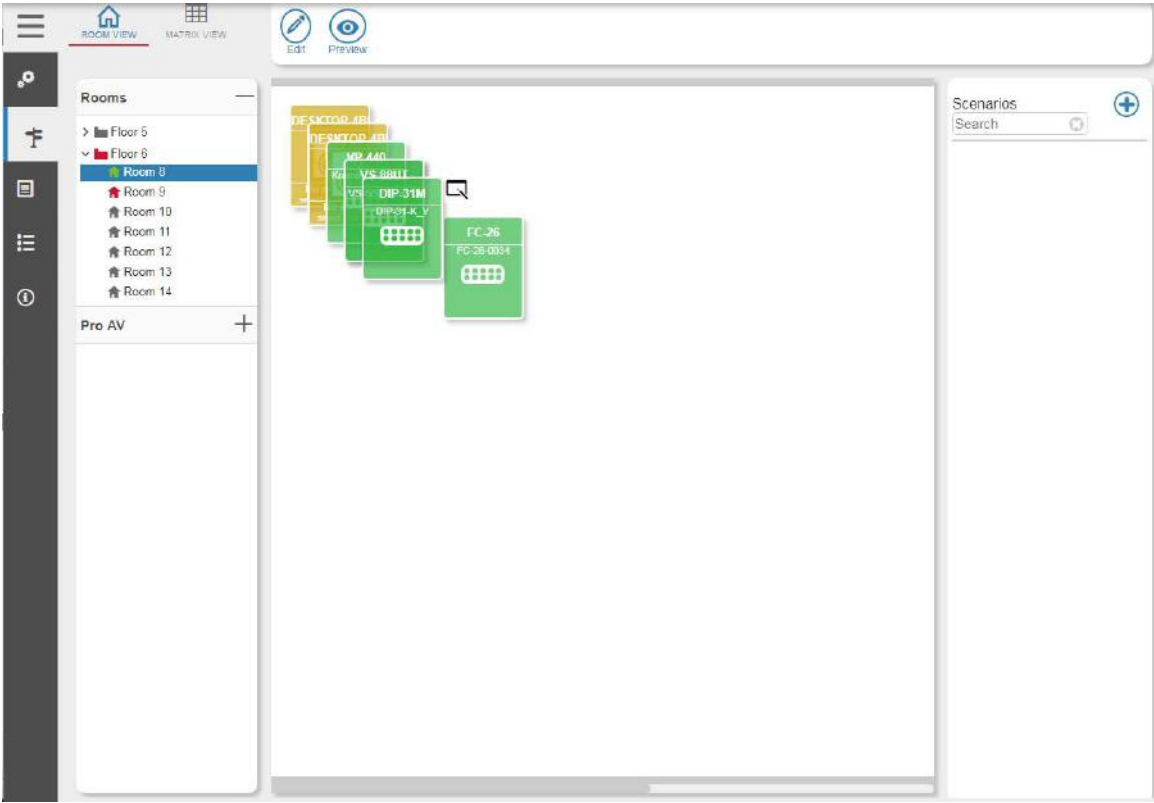
Figure 92: Devices in a Room

4. Click ✏️ .

5. Right-click the room-view window. The background dialog box appears:
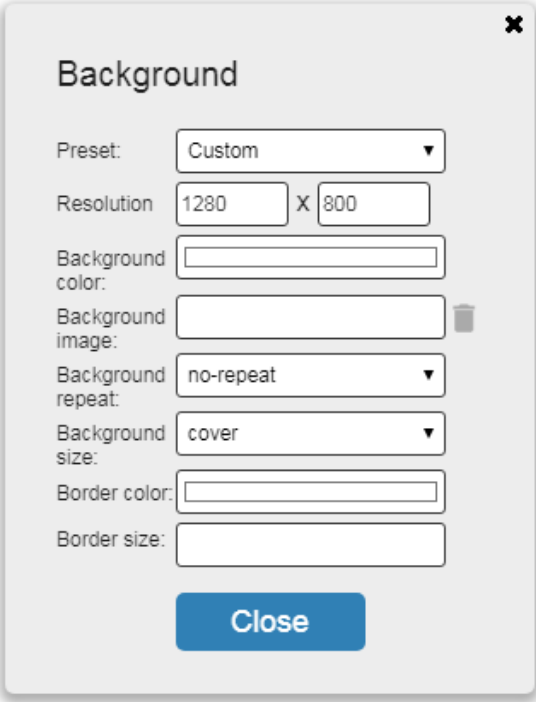
Figure 93: Creating a Background

6. Set the following:

- Click **Preset Resolution** to select the resolution: either a custom resolution, or a pre-defined resolution:
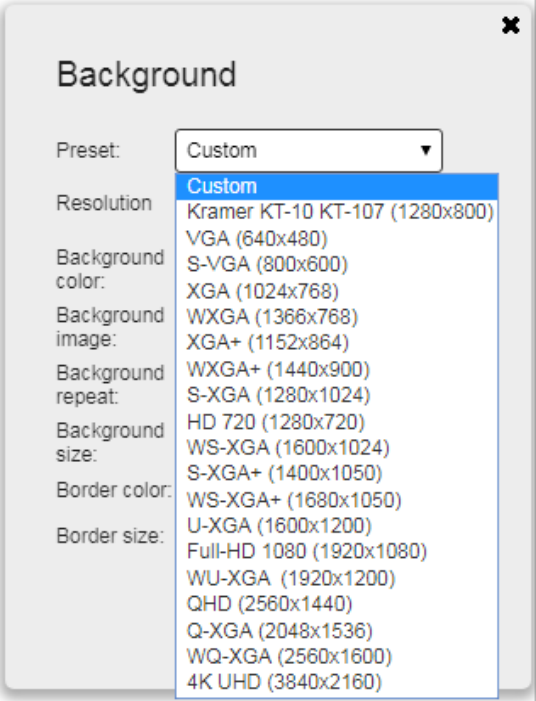
Figure 94: Setting the Resolution

- Click **Background color** to select the background color.
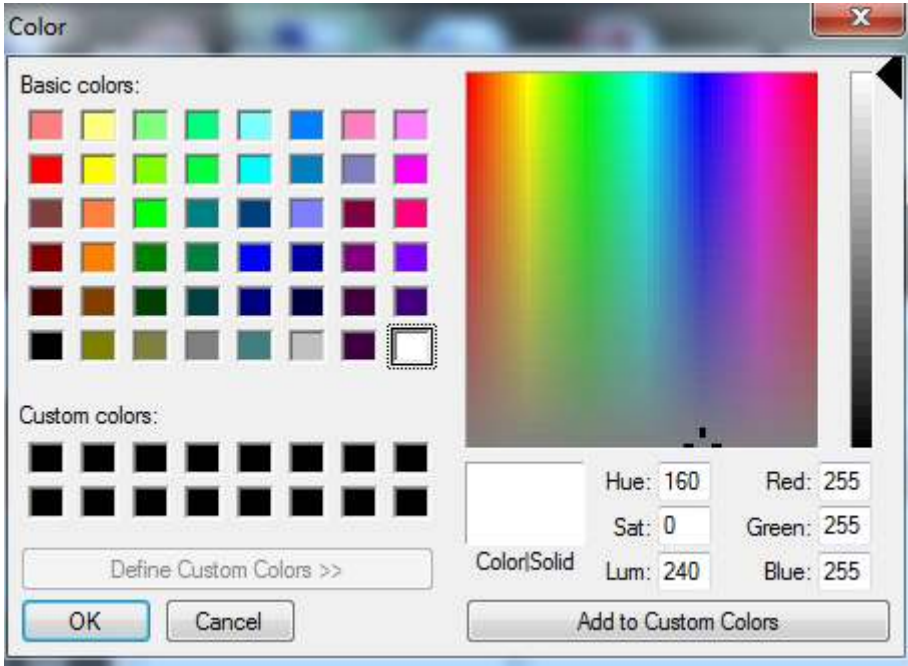
Figure 95: Setting Background Color

- Click **Background image** to insert a background image and also other images that you can use later (such as on/off buttons).
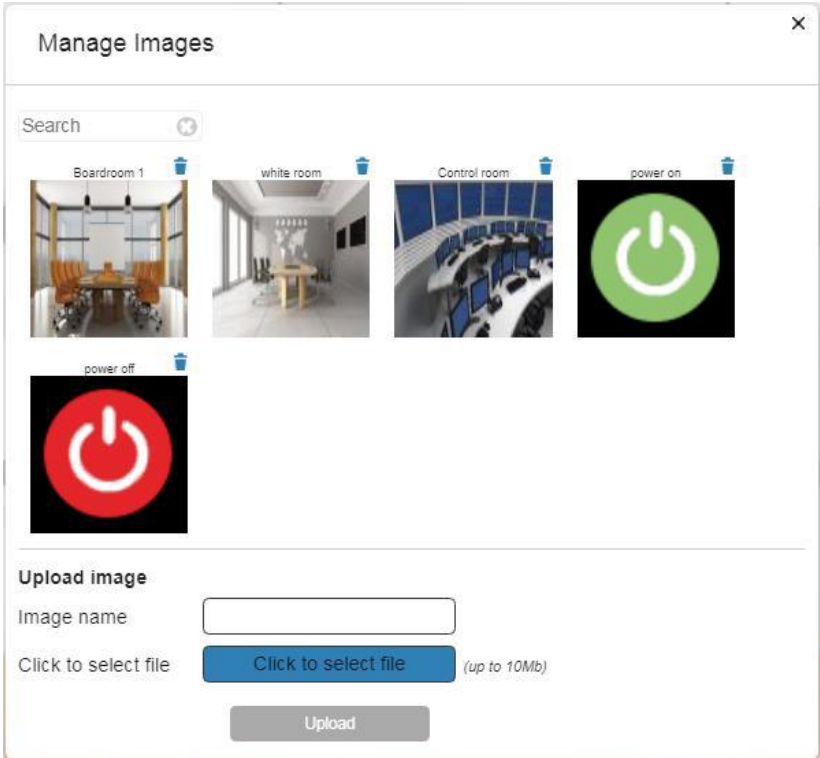
Figure 96: Selecting an Image

▪ Click **Background repeat** to select **no repeat**, **repeat**, **repeat-x** or **repeat-y**.

Background Repeat Options	Definition
No repeat (or empty)	The background-image will not be repeated.
Repeat	The background image will be repeated both vertically and horizontally.
Repeat-X	The background image will be repeated only horizontally.
Repeat-Y	The background image will be repeated only vertically.

▪ Click **Background size** to select **Initial**, **contain** or **cover**.

Background Size Options	Definition
Initial (or empty)	Leave the image at its initial size and crop it.
Contain	Scale the image so that both its width and its height can fit inside the content area.
Cover	Scale the background image to be as large as possible so that the background area is completely covered by the background image. Some parts of the background image may not be in view within the background positioning area.

▪ Click **Border color** and **Border size**.

7. Click **Close** after setting the background.

Figure 97: Background Setup Complete

The room view appears accordingly:
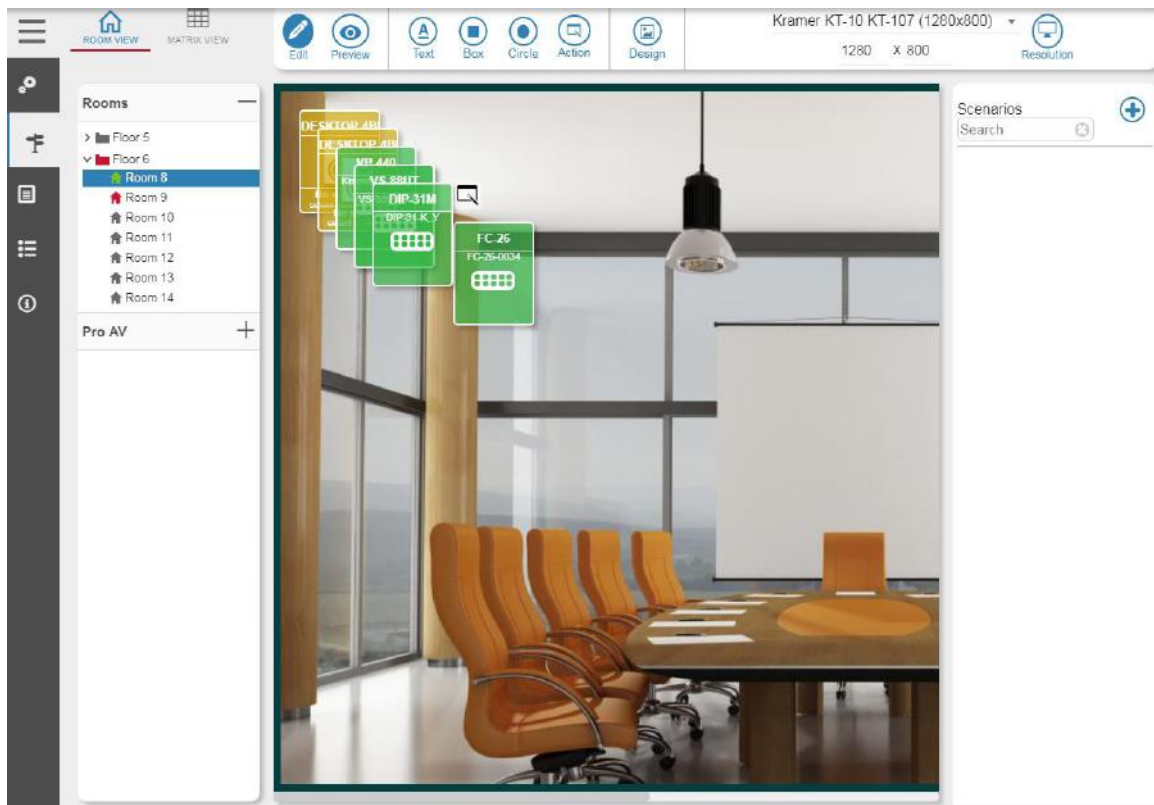
Figure 98: Designed Room View

8. If required, click ➕ to open the Pro AV list and add a device to the room.

9. Move the devices to place them next to their physical location (or any other convenient location).

10. Right-click a device to open its location parameters (left and top), and change the numbers to align the devices.

11. Hover over a device to see its details and double-click the icon to open its web page.

Figure 99: Device Details in Room View

12. If required, add the following elements to the room view:

   ▪ Text, see <u>Adding Text</u> on page <u>65</u>.

   ▪ Box and/or Circle, see <u>Adding a Box or a Circle</u> on page <u>66</u>.

   ▪ Action, see <u>Adding an Action</u> on page <u>67</u>.

13. Click 👁 to view the designed room.

Adding Text

Click Ⓐ to add text to the room view and then right-click the word **Text** that appears in the room view. The following window opens:

- Type the text, select its location (distance from **Left** and **Top**), the font size, **Opacity** (0 is transparent and 100 opaque) the font **Color** and appearance (**Bold**, **Italic** or **Underline**).

- Click 🗑 to remove the text from the room view.

You can drag-and-drop the text anywhere in the room view.

Text - Text	🗑
Text:	Text
Left:	0
Top:	0
Font size:	
Opacity:	
Color:	▬▬▬
Bold:	☐
Italicize text	☐
Underlined:	☐
	Close
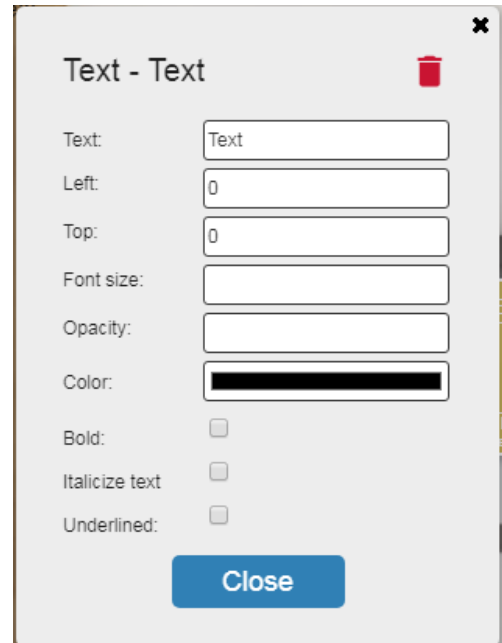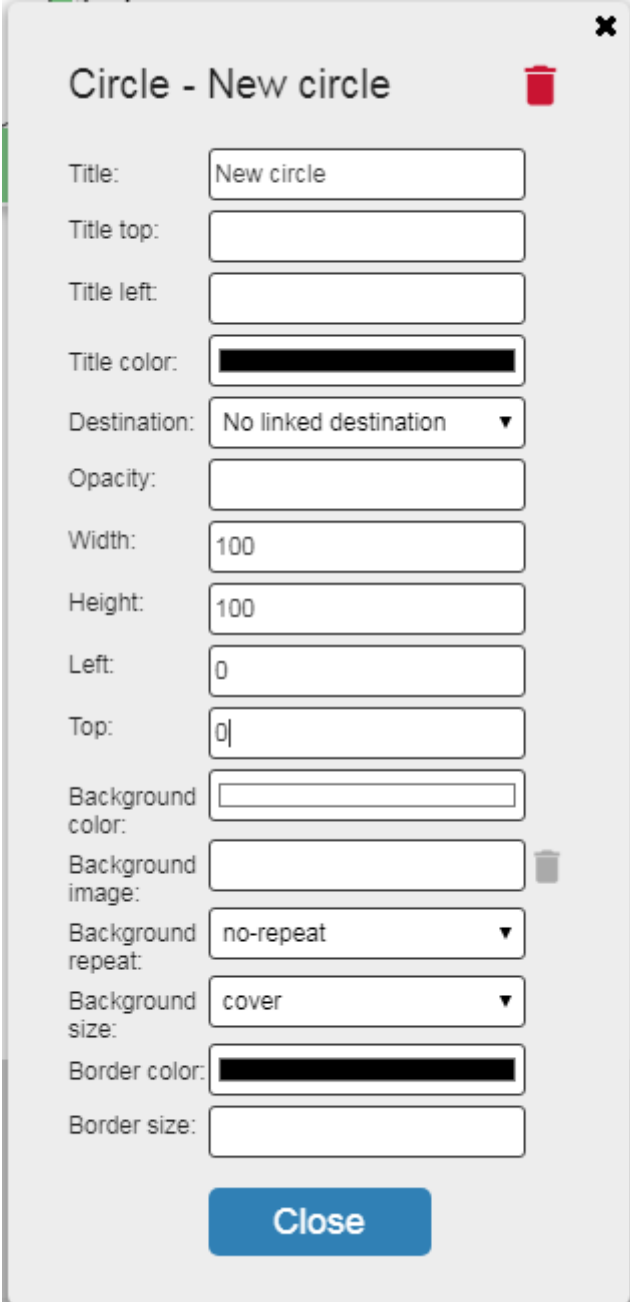
Figure 100: Adding Text

Adding a Box or a Circle

Click /. A box/circle appears in the room view. To edit the circle right-click the box area (this example shows a circle, but the same applies to a box).

- Type the **Title**.
- Set the distance of the title from the **Top** and **Left**.
- Select the **Title color**.
- Link **Destination**.
  Set a link in the page to any of the other rooms in the system, letting you go from one room to another by clicking the link in the box.
- Set **Opacity** (0 is transparent and 100 opaque).
- Define the **Width** and the **Height** of the circle.
- Set the location of the circle (distance from **Left** and **Top**).
- Set the circle's Background color or Background image.
- Choose **Background repeat** (no repeat, repeat-x, repeat-y) and **Background size** (initial, contain, cover).
- Choose the **Border color** and type the **Border size**.
- Click to remove the circle from the room view.
  You can drag-and-drop the circle anywhere in the room view.

Figure 101: Adding a Circle/Box

Adding an Action

The action button can activate a script (see Applying Room Automation via Maestro on page 44) and/or a scenario.

To select scenarios for the action button:

1. Click ⊕ to open the Scenario selection window:
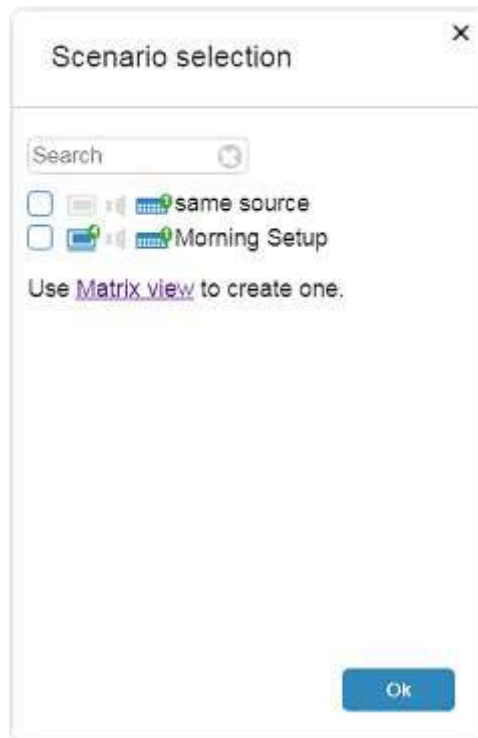
Figure 56: Scenario Selection Window

2. Check the scenarios to add to the room view and click **OK**. The selected scenarios appear under the scenario list.
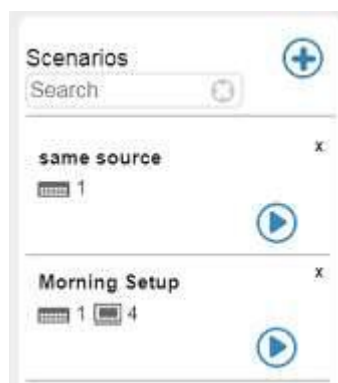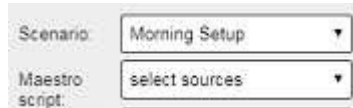
Figure 56: Room View Scenario List

You can run the scenarios or add them to an action button.

To add an action button (to run a script and/or a scenario):

1. Click 🔵. An Action circle appears in the room view.

2. Right-click the Action button to edit it.

- Select a **Scenario** type from the drop-down list.
- Select a Script type from the drop-down list.

Scenario:	Morning Setup	▼
Maestro script:	select sources	▼

- Type the **Title**.
- Set the distance of the title from the **Top** and **Left**.
- Select the **Title color**.
- Link **Destination**.
  Set a link in the page to any of the other rooms in the system, letting you go from one room to another by clicking the link in the box.
- Set **Opacity** (0 is transparent and 100 opaque).
- Define the **Width** and the **Height** of the circle.
- Set the location of the circle (distance from **Left** and **Top**).
- Set the circle's Background color or Background image.
- Choose **Background repeat** (no repeat, repeat-x, repeat-y) and **Background size** (initial, contain, cover).
- Choose the **Border color** and type the **Border size**.
- Type the Border radius.

  Click 🗑 to remove the circle from the room view. You can drag-and-drop the circle anywhere in the room view.
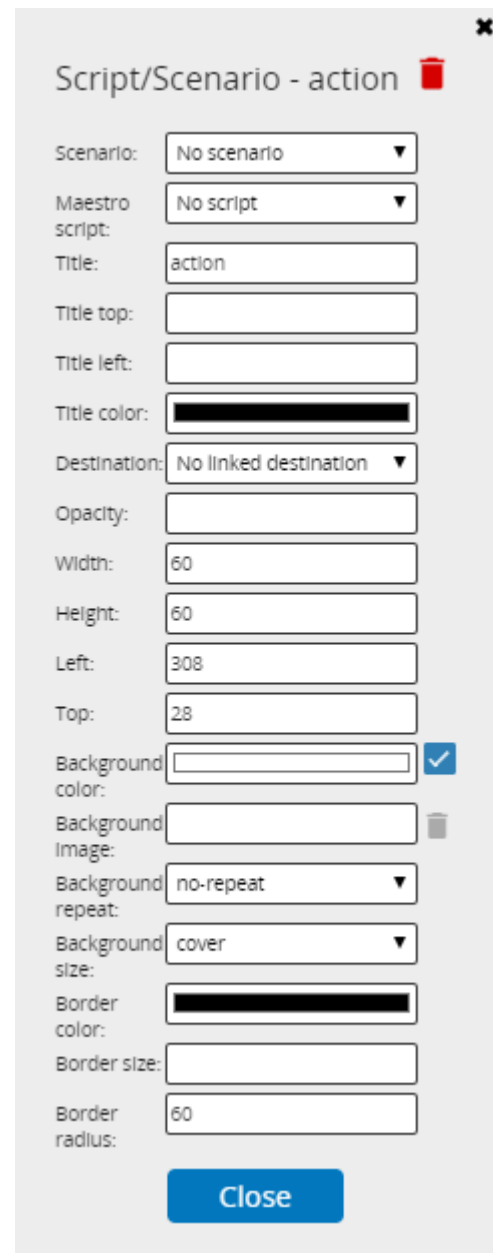
Figure 102: Add a Circle/Box

Device Operations in the Room View

Right-click a device to set its exact location in the room view. You can load projects such as virtual panels to room controllers.

To control via a Room Controller (for example, the RC-74DL):

1. Select Manage > **ROOM VIEW**.

2. From the Pro AV area, Drag-&-Drop the **RC-74DL** room controller device.

3. Fill-in the IP address, port type and number.

4. Right-click the device.
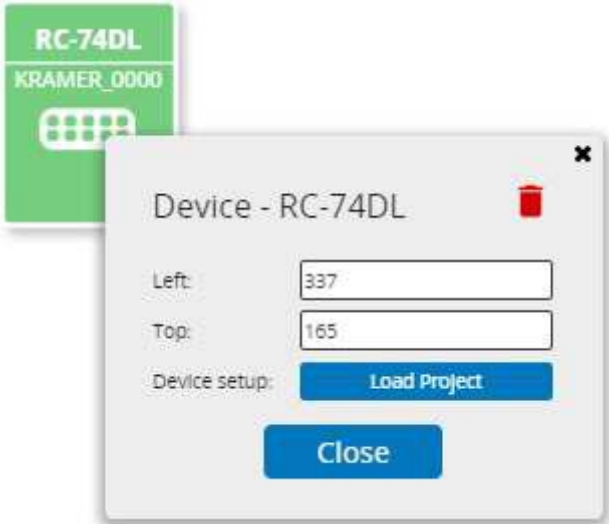
Figure 103: Loading a Room Controller Project

5. Click **Load Project**.
    After a few seconds, the list of panels (as configured in the **K-Config 3** project) is uploaded to the device.

The panels loaded include the physical Master panel, the auxiliary physical device panels and the virtual-panel (id: 11).
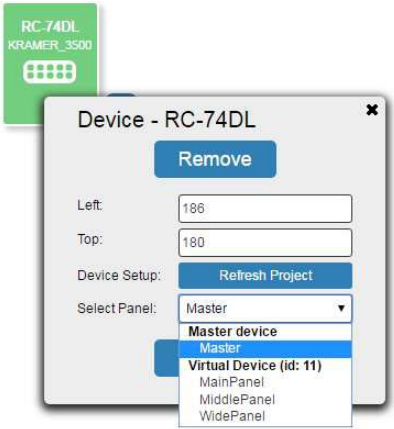
Figure 104: Loading Room Controller Panels

6. Select a panel and close the Device pop-up window.
    A control icon appears next to the **RC-74DL** device.

7. Click the control icon.
   The device control panel appears.
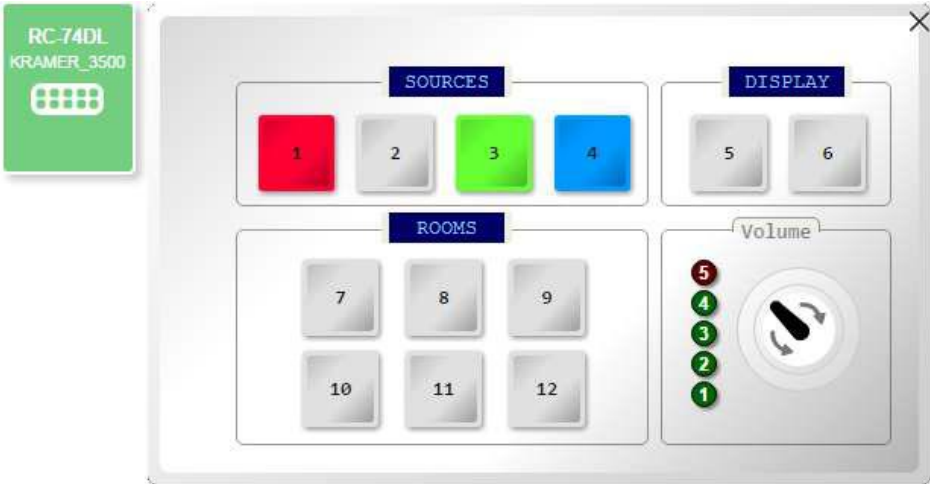
Figure 105: RC-74DL Control Panel

Selecting a Decoder Source

In the Room view you can preview and select a decoder source.

To select a decoder source:

1. Select Manage > **ROOM VIEW**.

2. Select an encoder and click **select a source**.

Figure 106: Selecting a Decoder

The following window appears:
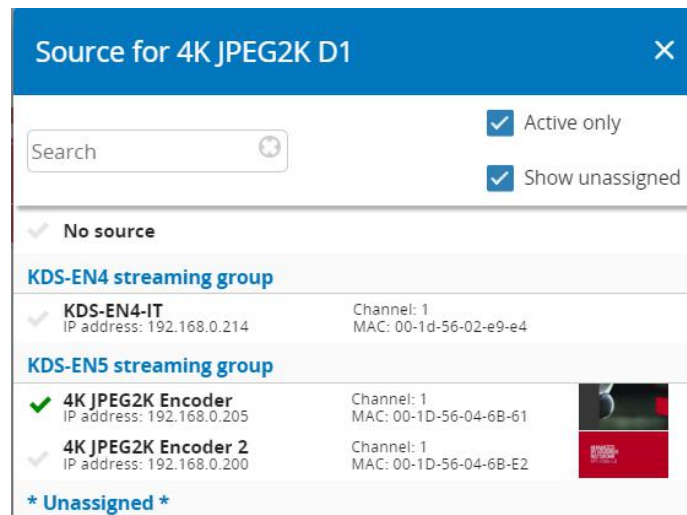
Figure 107: Source List and Preview

3. Check the desired source and close the window.

Room Schedule

Before you can manage room scheduling, check the room availability and schedule a meeting in a room via ROOM VIEW, you need to:

- Configure your LDAP authentication connection (see Creating LDAP Connections on page 115).

- Connect the rooms defined in LOCATIONS to a scheduler (see Meeting Room Scheduling on page 42).

To schedule a meeting:

1. In the navigation pane, click **Manage** > **ROOM VIEW**.

2. Access the room.
   The room status icon appears, on the top right side, with the room schedule on its right:

Figure 108: Room Availability and Schedule

3. Click **Room schedule**. The following message appears:
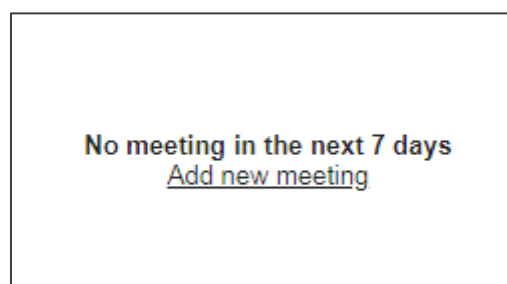
Figure 109: Scheduling Message

4. Click **Add new meeting**. The following window appears:

Figure 110: Creating a New Event

5. Type the meeting title, set the date and the time.

Figure 12: Meeting Details

6. Click **CREATE**. The event is created and a notification appears.

The room schedule for the current day appears as follows:

Figure 111: Room Schedule for the Day

Managing Pro AV and AV Streaming Devices

Use the **MATRIX VIEW** tab to manage PRO AV and AV streaming devices.

You can:

- Route **PRO AV** devices or **AV streaming** from the lists in the left-side column and switch the selected device's audio or video inputs to outputs within the selected matrix, see Routing Inputs to Outputs on page 73.

- Create scenarios via the **Scenarios** column on the right side, see Creating and Using Scenarios on page 79.

Routing Inputs to Outputs

You can route PRO AV devices or streaming devices to the outputs in various rooms. In the following example, **VS-88UT** is assigned to a Matrix Room.

To route VS-88UT video signals:

1. In the navigation pane click **Manage** > **MATRIX VIEW**.

2. Click + to open the Pro AV device list.

ⓘ If you cannot find a device in the list, go to the Supported Device list (see Supported Devices List on page 109) to check which features are supported by **KRAMER NETWORK** for this device.

3. Select **VS-88UT** from the list.
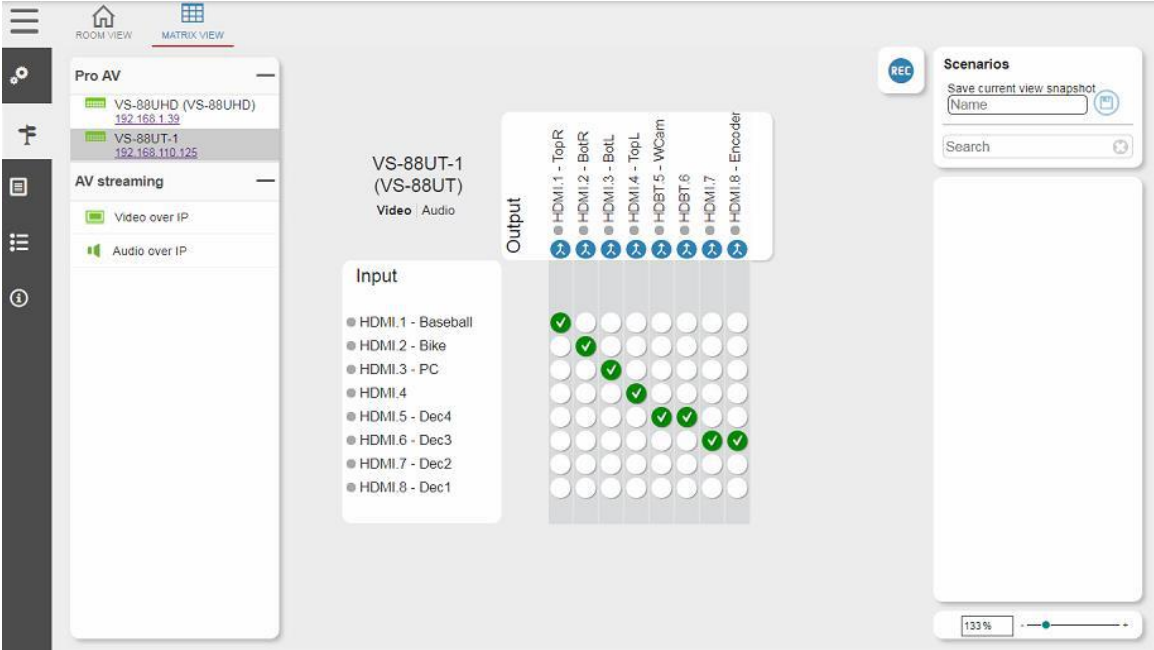
Figure 112: Matrix View – Pro AV Video Routing

4. Click an empty cross-point ◯ to connect an input to an output (for example, in Figure 112 HDMI 1 input is routed to HDMI 1 output but not to HDMI 2 output).

Cross-point Icons	Description
✅	Signal is detected and routed (Pro AV and AV Streaming).
❌	The device is disconnected from the Network therefore routing is not possible (AV Streaming).
⚠️	Warning. Routing is disabled. (AV Streaming).
◯	Cross-point is not selected (Pro AV and AV Streaming).

ⓘ Each selected matrix displays its special characteristics. For example, for **VS-88UT** you can set audio-follow-video or breakaway mode per output.

To route VS-88UT audio signals:

1. In the navigation pane, click **Manage** > **MATRIX VIEW**.

2. Click + to open the Pro AV device list.

3. Select **VS-88UT** from the Pro AV list.

4. In the Matrix view, select **Audio**.

5. Route the audio inputs to the outputs.
Specifically for **VS-88UT**, you can set audio-follow-video or breakaway mode and set the volume for certain inputs and outputs. Other devices may show different characteristics.
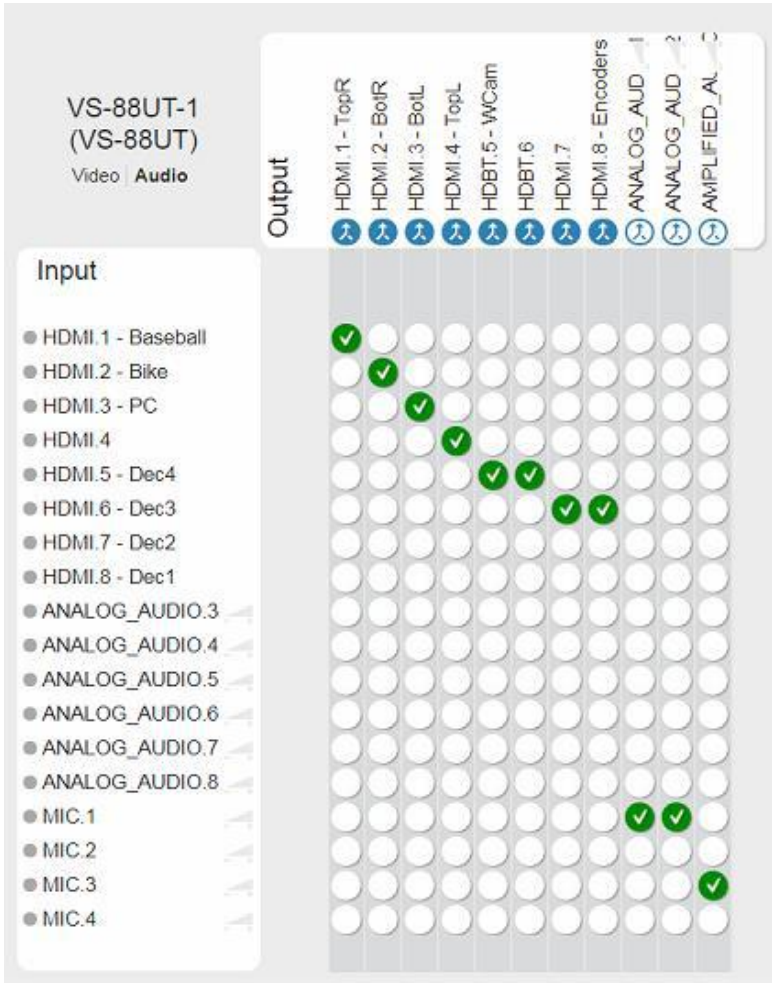
Figure 113: Matrix View – Pro AV Audio Routing

Routing Streaming Devices

To route streaming devices (for example, Video over IP):

1. In the navigation pane, click **Manage** > **MATRIX VIEW**.

2. Click + to open the AV streaming list.

3. Select **Video over IP** from the Pro AV list.

4. Click an empty cross-point ◯ to connect an input to an output.
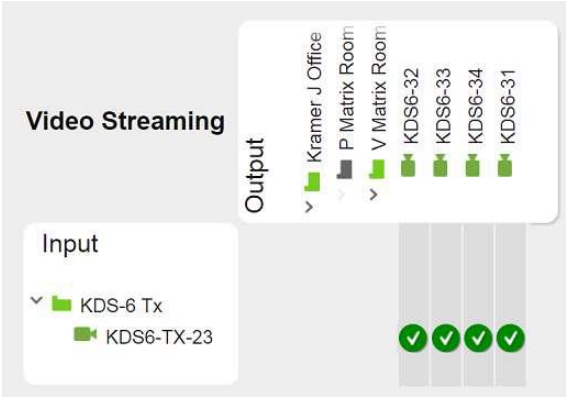
Figure 114: Matrix View – Video Streaming Routing

You can also:

- Hover over a device to view its details and video preview.
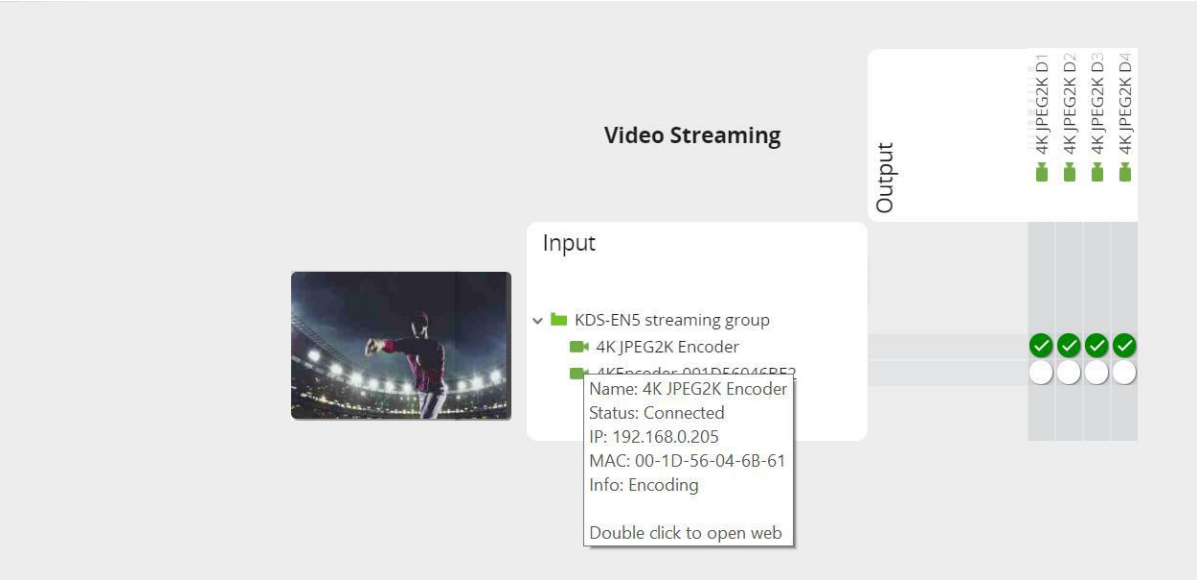
Figure 115: Viewing Device Details and Video Preview

- Click a Video wall (⊞) for a video preview.
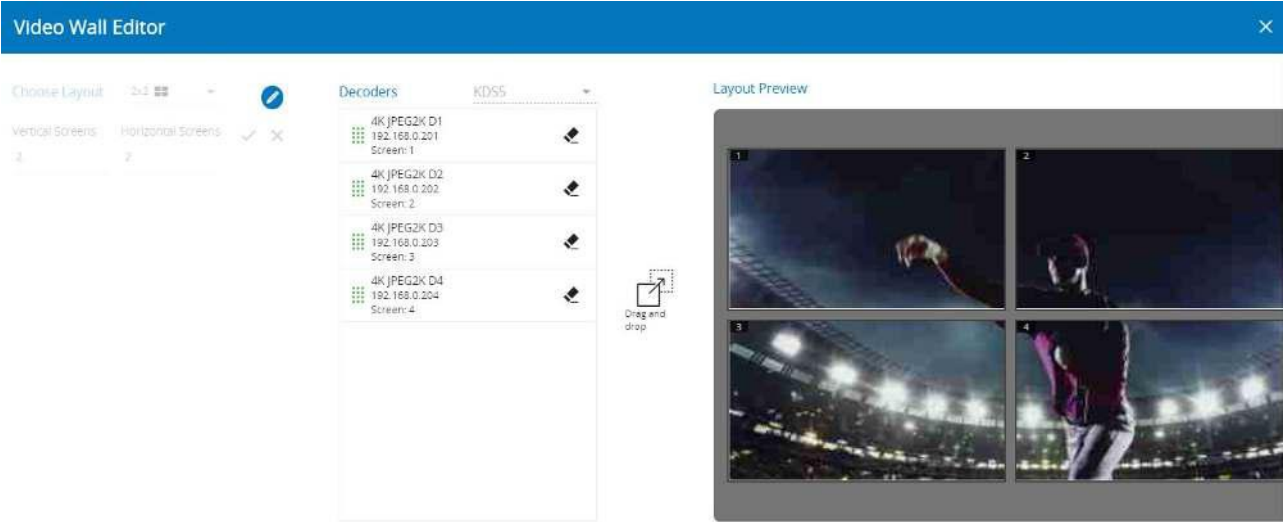
Figure 116: Video Wall Preview

Recording Streaming Content via the Encoder

You can use the streamer recording features to record content via **KRAMER NETWORK**.

To record the content running on an encoder:

1. In the navigation pane, click **Manage** > **MATRIX VIEW**.

2. Click **+** to open the AV streaming list.

3. Select **Video over IP** from the Pro AV list. The content recording icon appears next to a connected **KDS-EN4** device.
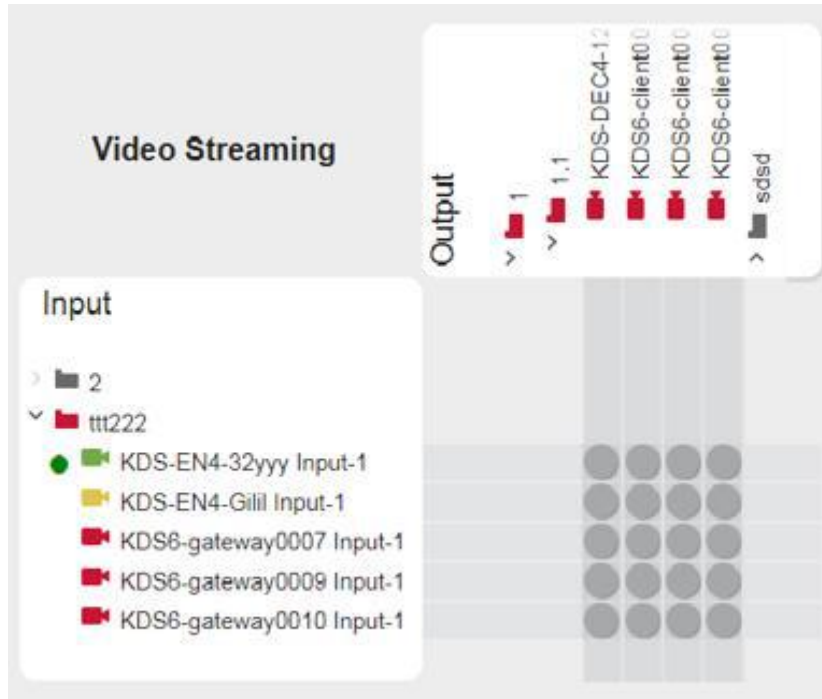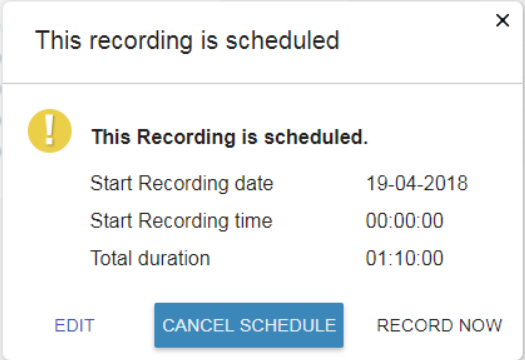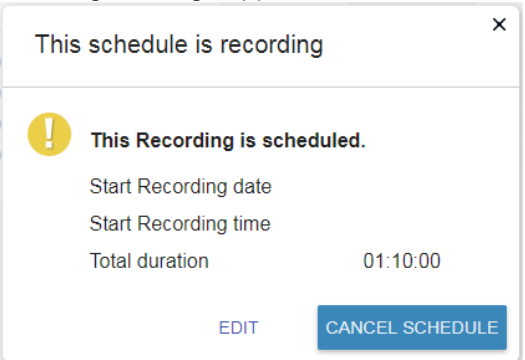
Figure 117: Matrix View – Recording Feature

4. Hover over an indication button to check its status and carry out any required action:

| Recording Indication	Description	Action
⚪ 🎥 KDS-EN4	The device is disconnected and recording is disabled.	N/A
⚪ 🎥 KDS-EN4	The device is not receiving content and recording is disabled.	N/A
🟢 🎥 KDS-EN4	The device is connected and recording is enabled.	**To start a recording:** Click the green indication button.
🔴 🎥 KDS-EN4	The device is connected and is currently recording (the red indicator flashes).	**To stop recording:** Click the red indication button. The following message appears Click **OK**.

Recording Indication	Description	Action
⏰ 🎥 KDS-EN4	The device is connected and a recording is scheduled.	To check recording schedule (if required): Click the clock indication button. The following message appears: **This recording is scheduled** ✕ ⚠ **This Recording is scheduled.** Start Recording date 19-04-2018 Start Recording time 00:00:00 Total duration 01:10:00 EDIT CANCEL SCHEDULE RECORD NOW Click **x** to close window, **EDIT** to edit schedule details, **CANCEL SCHEDULE** to cancel the recording, or **RECORD NOW** to cancel the scheduled recording and start the recording presently.
⏰ 🎥 KDS-EN4	The device is connected, the clock indication button is flashing, and the device is currently recording, as scheduled.	To check the recording status, if required: Click the flashing indication button. The following message appears: **This schedule is recording** ✕ ⚠ **This Recording is scheduled.** Start Recording date Start Recording time Total duration 01:10:00 EDIT CANCEL SCHEDULE Click **x** to close window, click **EDIT** to edit schedule details, **CANCEL SCHEDULE** to cancel the recording.

Although you can manage the recording via System configuration (see Editing Device Parameters on page 22), we recommend that you use the streamer's embedded web pages to configure the recording (For example, the Kramer **KDS-EN4** embedded web page):

Figure 118: Streamer Recording in the Embedded Web Page

Creating and Using Scenarios

Scenarios are routing setups that can be saved and then loaded whenever needed. You can create scenarios in the following methods:

- Snapshot Scenario on page 79, to save the current setup as a scenario.

- Recorded Scenario on page 81, to create a setup offline (without affecting the current setup).

Scenarios can be used as actions in scripts, added to the room view as part of an action button or used in MATRIX VIEW to quickly apply a setup.

Snapshot Scenario

To create a snapshot scenario:

1. In the navigation pane click **Manage** > **MATRIX VIEW**.

2. Click + to open the Pro AV device list.

3. Select **VS-88UHD** from the Pro AV list.
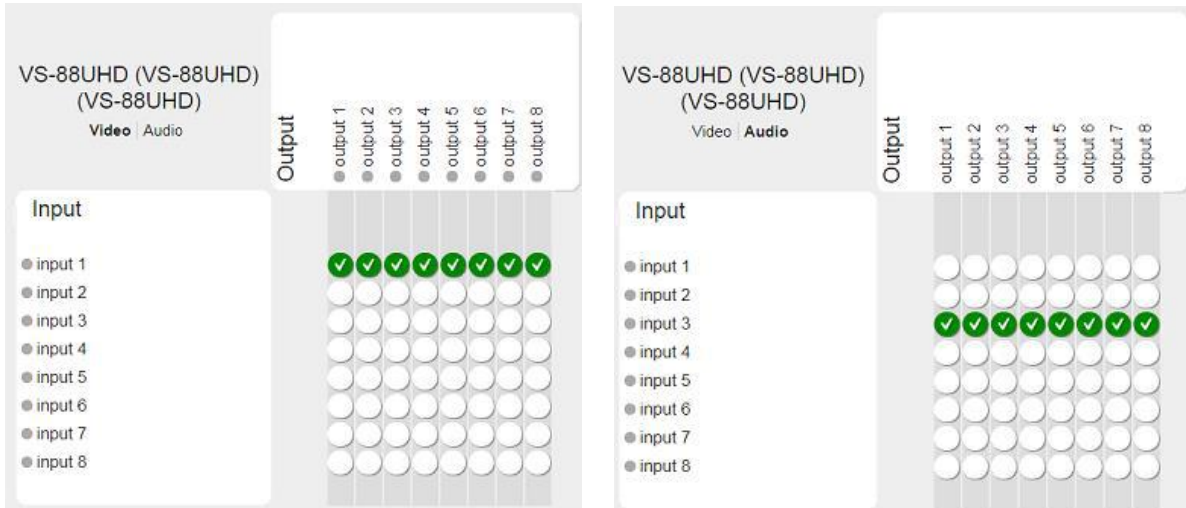
Current Video and Audio Setup

4. In the **Scenarios** box, enter the Scenario name to the text box under **Save current view snapshot**.

Figure 119: Snapshot Scenario

5. Click ⓘ. The scenario is saved in the scenario list.
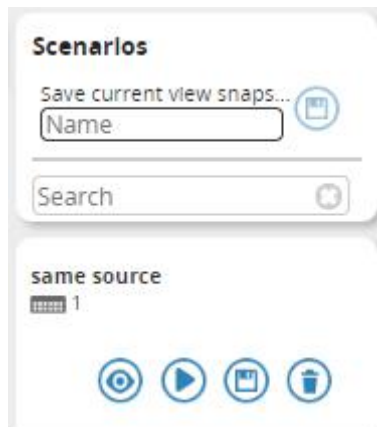
Figure 56: A Scenario Saved to the List

You can click:

- ◎ – to change the scenario details offline (switch to the recording method).
- ▶ – to upload the scenario.
- 💾 – to save updates to the scenario.
- 🗑 – to delete the scenario.

Recorded Scenario

The recorded scenario is created offline and can include multiple Pro AV and streaming devices in one setup. Once saved, an entire configuration can be uploaded with one press of a button.

To record a setup:

1. In the navigation pane click **Manage** > **MATRIX VIEW**.

2. Click + to open the Pro AV device list and + to open the AV streaming list.

3. Click ![REC]. The matrix turns offline.
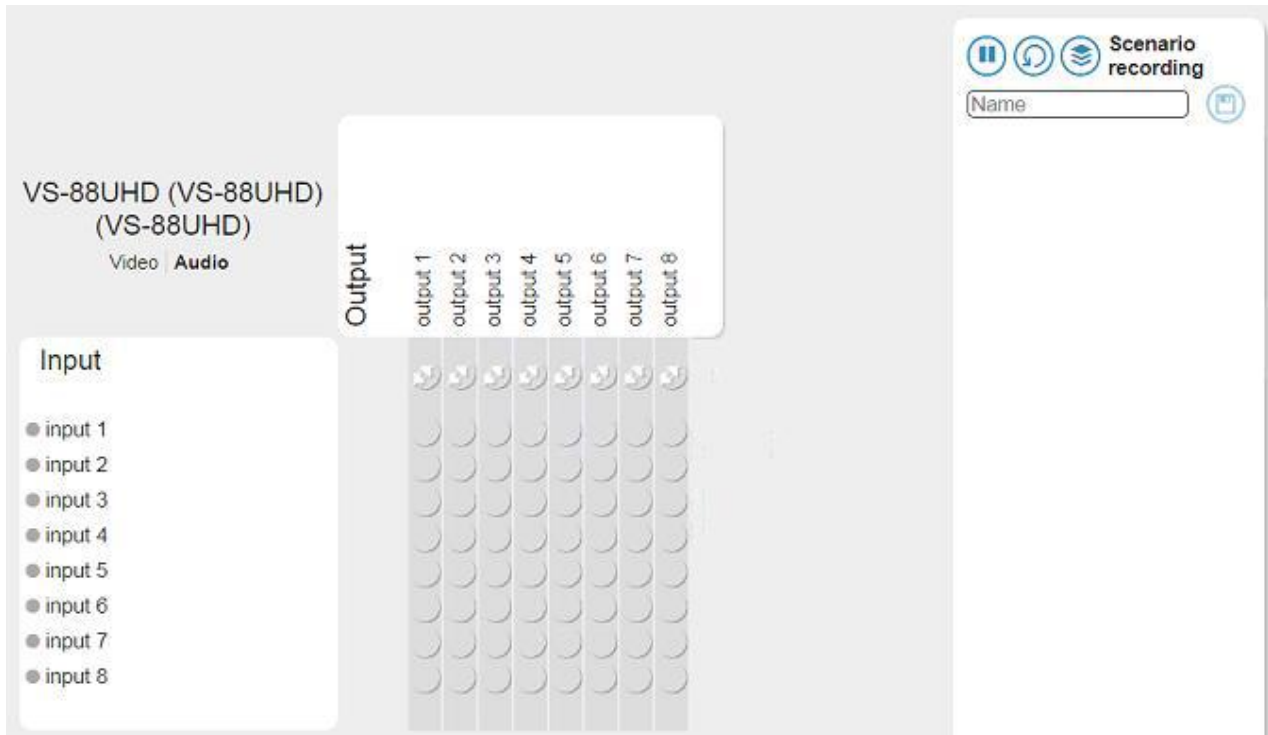
Figure 56: Recording a Scenario

4. Set the device (for example, **VS-88UHD**).
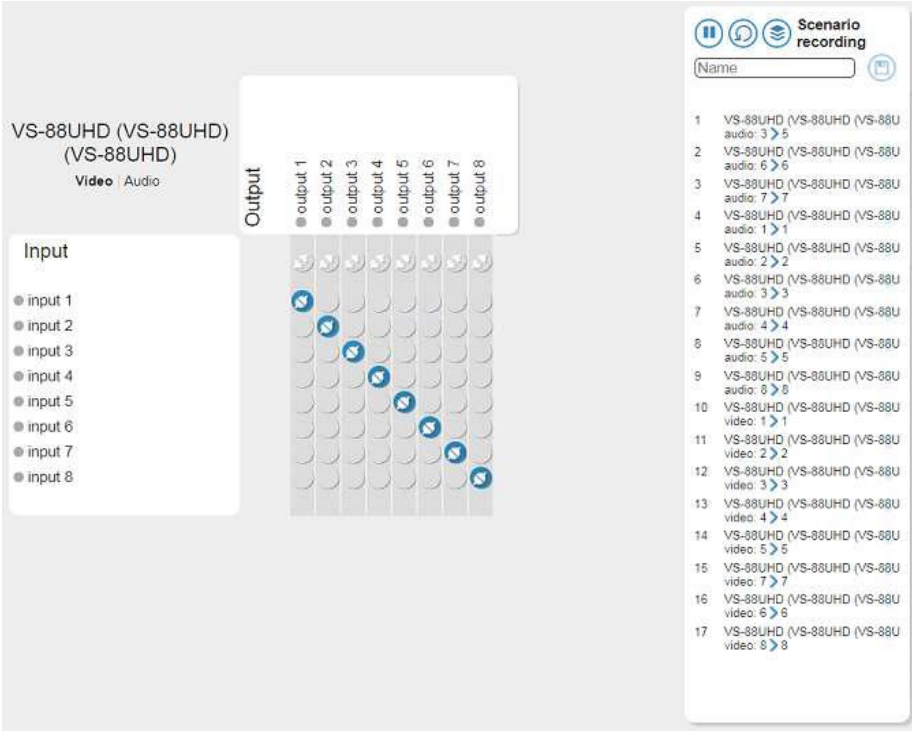
Figure 56: Recording Process (Pro AV)

The matrix shows the setup and the specific setups are list under Scenario recording on the right.

5. Select another Pro AV device from the list and set its configuration and/or open AV streaming devices (for example, under Video over IP) and configure them too.

Figure 56: Recording a Scenario (Pro AV and Streaming)

6. Once the recording is complete, enter the Scenario name.

Figure 56: Recorded Scenario List

7. Click 🖫. The recorded scenario is saved and added to the scenario list.

Figure 56: Recording a Scenario

While recording or after saving a scenario, you can click:

- ⏸ – to exit recording.
- ↺ – to delete recording.
- ⬆ – to remove duplicate lines.
- 🖫 – to save/save updates to the scenario.

Reports Page

The Reports page includes three types of reports:

DEVICE STATUS Report

The **DEVICE STATUS** report displays the current device (associated to a room or not) status and firmware version. The device status is indicated by the color of the icon: a green IP device icon indicates that it is connected; orange indicates a connection problem; and red indicates a disconnected device.
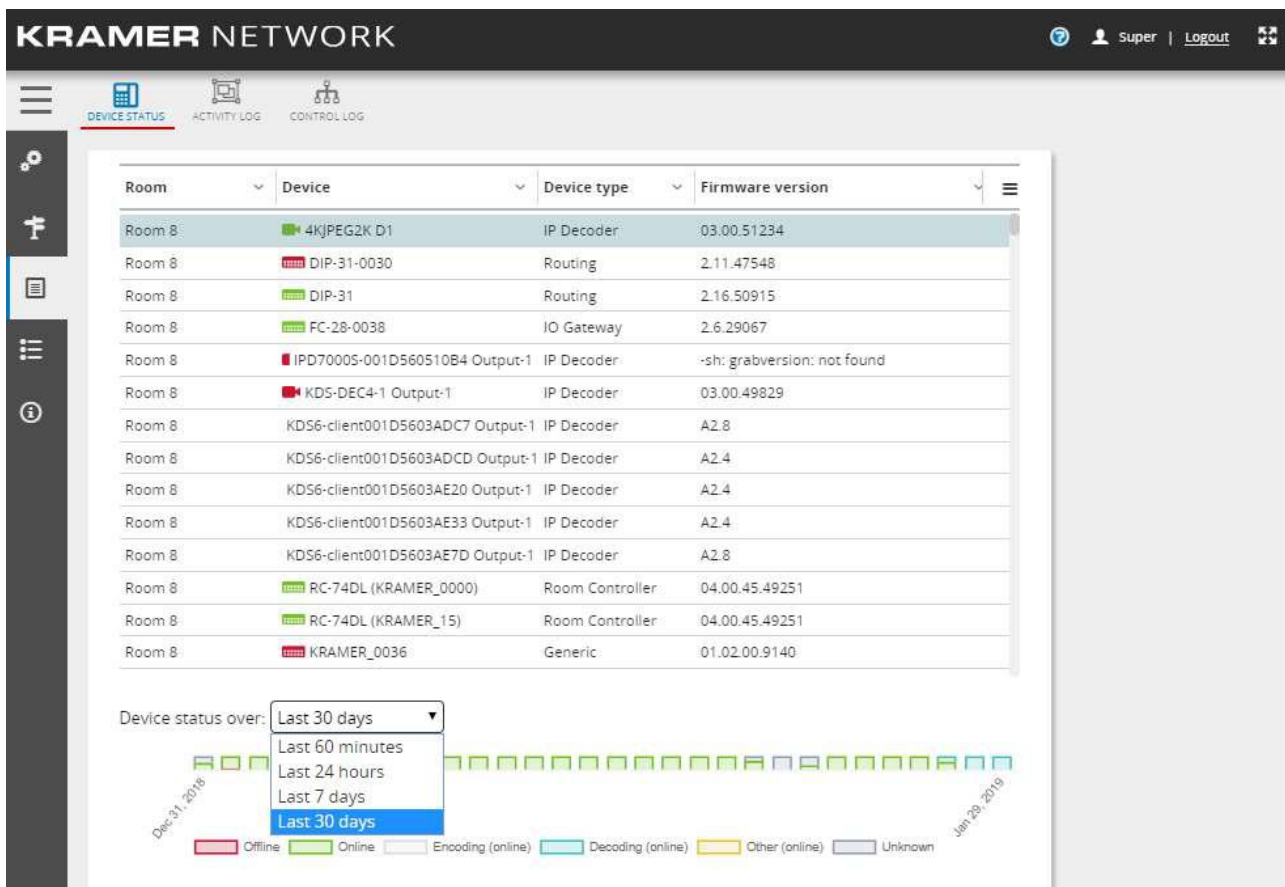
Figure 120: Device Status Report

You can sort each column in ascending or descending order or remove it from the table.

Click ≡ to open the menu:
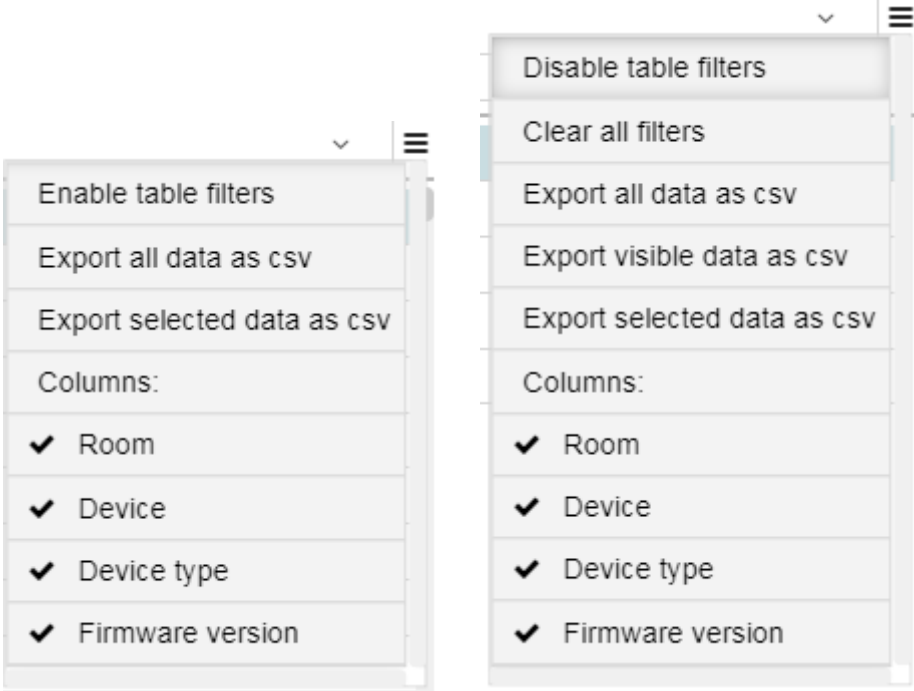
Figure 121: Device Status Menu

You can:

- Enable/disable table filters to filter data.

- Export all data as CSV (Comma Separated Values).

- Export selected data as CSV.

- Export filtered data (visible data).

- Select the columns in the table.

The lower part of the page lets you monitor the activity of a selected device by showing its activity over different periods of time:

- Open the drop-down box to select the **Last 60 minutes** up to **Last 30 days**.

- Hover over a bar to see the statistics:

Figure 122: Device Activity – Last 7 Days

- Click a bar to see the status per hour on a certain day.

Figure 123: Device Activity – 1 Day

- Click an hour in a day to see changes per minute:

Figure 124: Device Activity – 1 Hour

ACTIVITY LOG Report

The **ACTIVITY LOG** displays all Kramer Network activities in your network that are not related to the control of the room-assigned devices. For example:

- Adding / removing a user.
- Creating / removing / changing groups.
- Adding / removing devices.
- Device configuration changes (connection, switching).
- Device connectivity.

Figure 125: Activity Log Report

You can:

- Check the **Predefined** radio button to set the back-log period or filter out certain dates to view.
  By default, the back-log time is set to 7 days but you can set the back-log time from today to last month (last 31 days). Click **APPLY FILTER** to apply and click **CLEAR FILTER** to clear the filter.

- Check the **From**/**To** button below **Predefined** to set a time period (by setting **From** and **To** dates). Click **APPLY FILTER** to apply and click **CLEAR FILTER** to clear the filter.

- Open the **User** drop-down box to select a user and then filter logs by user. Click **APPLY FILTER** to apply and click **CLEAR FILTER** to clear the filter.
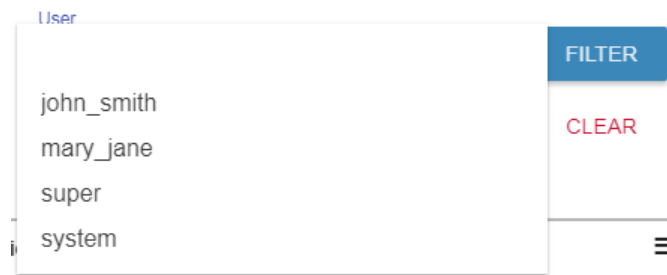
Figure 126: Activity Log Report – Filtering by User

- Click **SELECT EVENTS** button to view selected events (see SELECT EVENTS Window on page 90).

- Enable/disable table filters to filter data.

- Export all data as CSV (Comma Separated Values).

- Select the columns in the table.
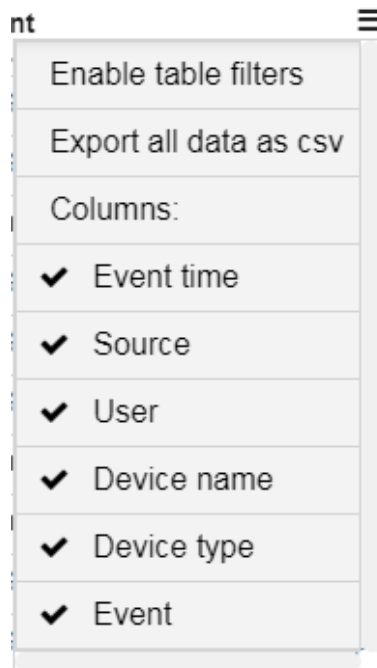
Figure 127: Activity Log Report – Selecting Columns

SELECT EVENTS Window

You can filter out events from the event list via the **SELECT EVENT** window.

To use the SELECT EVENTS window:

1. In the navigation pane, click **Reports** and then select the **ACTIVITY LOG** tab.

2. Click **SELECT EVENTS**.
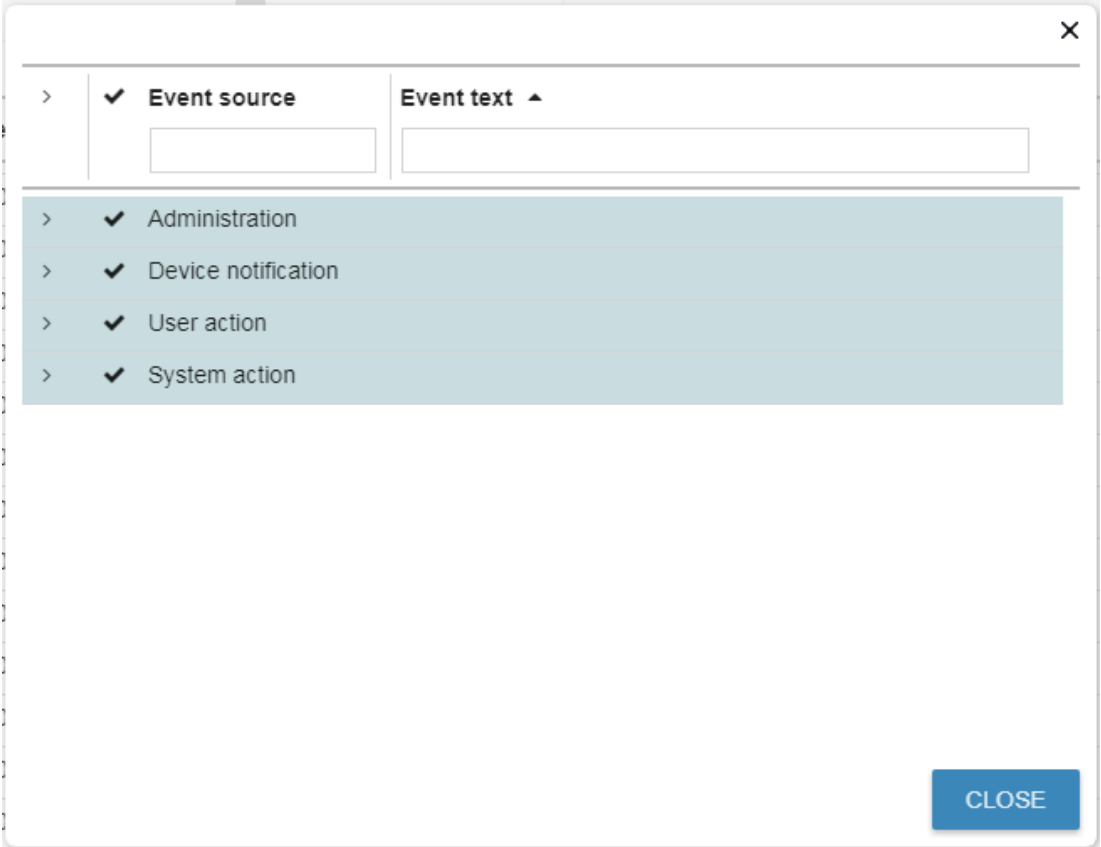
Figure 128: Activity Log Report – Selecting Events

3. Perform any of the following:

   ▪ Uncheck ✔ next to an Event category (**Administration**, **Device notification**, **User action** and **System action**) to filter out a specific category.
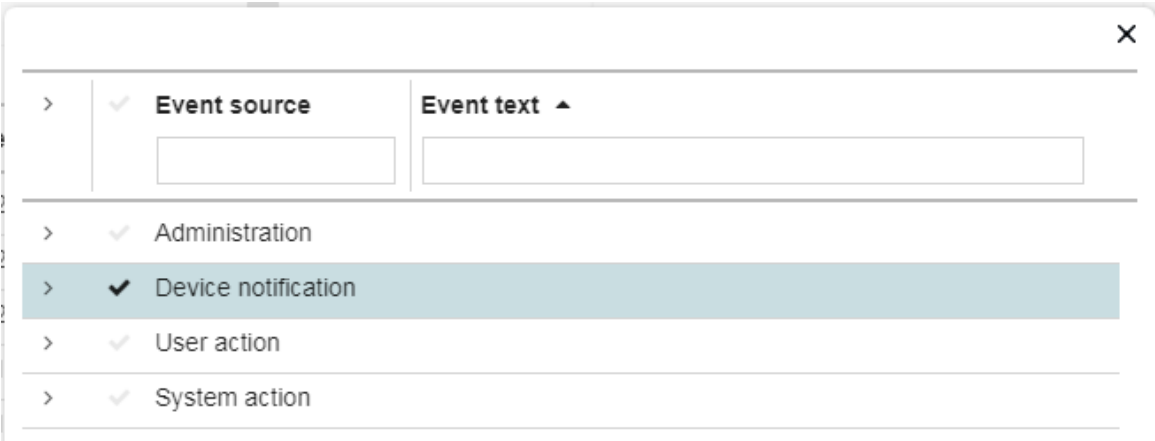
Figure 129: Filtering Out an Event Category

- Click ❯ next to an Event category to expand it and select specific events
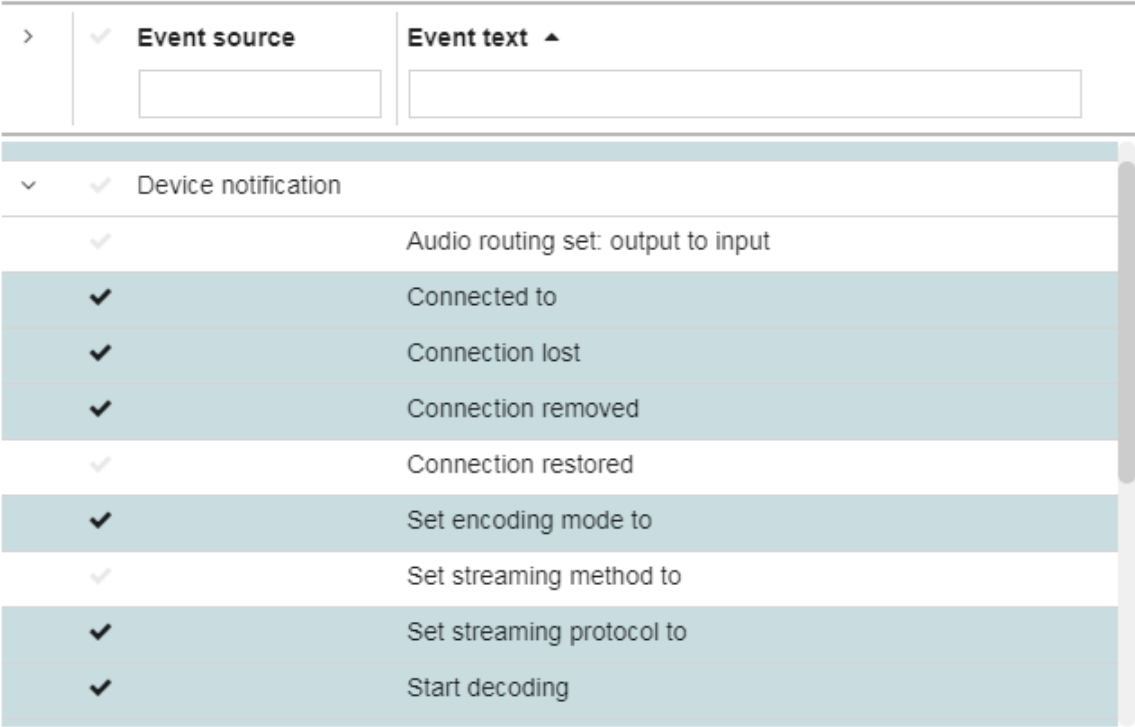
Figure 130: Expanding an Event

- Use the **Event source** and **Event text** text boxes to filter specific events.

Figure 131: Filtering Specific Events

4. Click **CLOSE** to exit the window.

5. Click **FILTER** to apply the selection of events on the list and click **CLEAR** to clear the filter.

CONTROL LOG Report

The **CONTROL LOG** presents all the events related to the **KRAMER NETWORK** control module which includes **K-Config** virtual control and monitoring of devices. Once a room is assigned with Virtual Master configuration, the logging begins.

1. In the navigation pane click **Reports** and then select the **CONTROL LOG** tab.
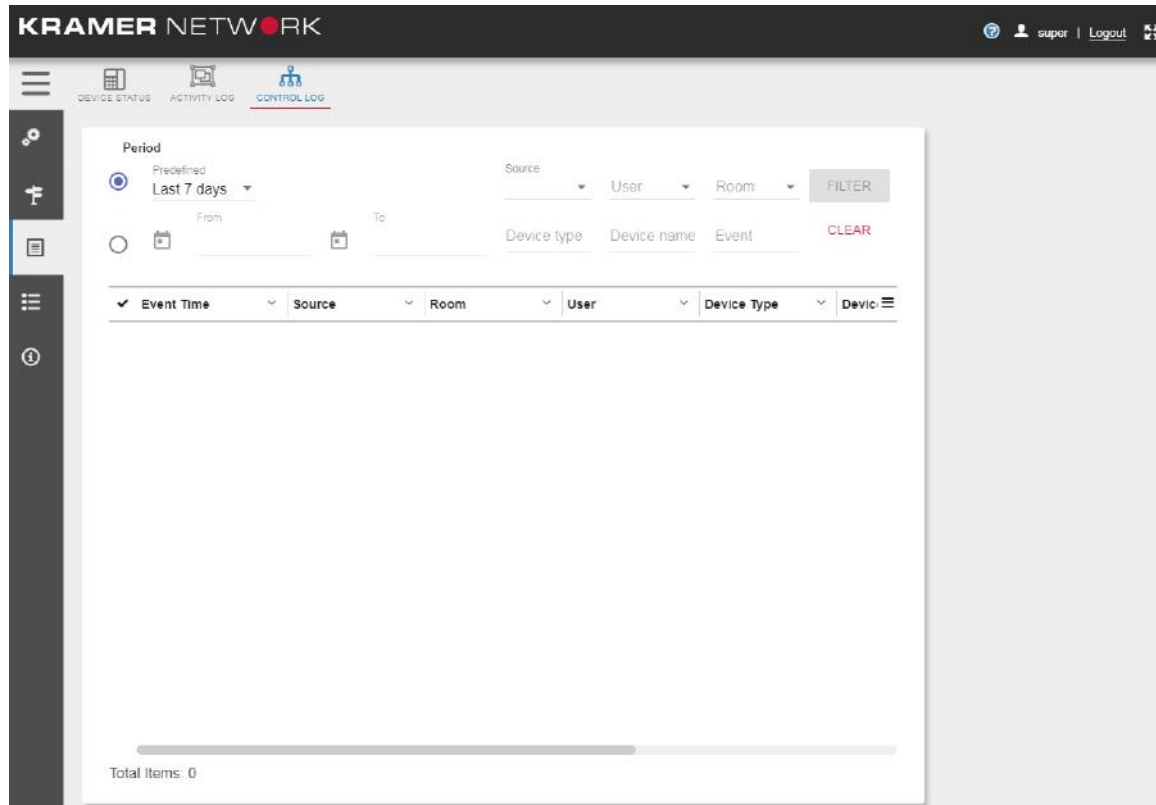
Figure 132: Control Log Report

You can set the LOG Period:

- Check the **Predefined** radio button to set the back-log time period or filter out certain dates to view.
  By default, the back-log time is set to 7 days but you can set the back-log time from today to last month (last 31 days). Click **APPLY FILTER** to apply and click **CLEAR FILTER** to clear the filter.

- Check the **From/To** button below **Predefined** to set a time period (by setting **From** and **To** dates). Click **APPLY FILTER** to apply and click **CLEAR FILTER** to clear the filter.

Filtering Control Events

You can filter **CONTROL LOG** data by using one or a combination of filters that are available (**Source**, **User**, **Room**, **Device type**, **Device** name and/or **Event**) and then click FILTER to apply or click **CLEAR** to clear the filter.

The system reports:

- Panel button activity.
- The resulting events of this activity.
- Devices connectivity status.

> **IMPORTANT**: If Comm_Status query has been defined by the **K-Config** device driver, **KRAMER NETWORK** checks the status of the device every 30 seconds when connected, and 3 times when disconnected, every 5 seconds. **KRAMER NETWORK** then sends the connect/disconnect message to the control log (the query is built into the krnt project).

Detecting Alerts

The system can detect alert messages coming from Room-controller devices (such as the **RC-74DL**) and add them to the control log.

Alerts from virtual room controller projects are recorded in the control log, using the following logic:

An alert of a known query (shared):
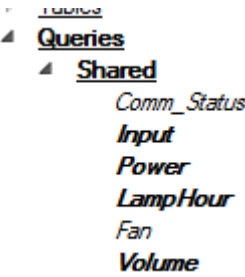
Status Value is:
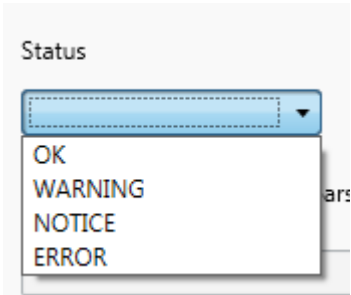
Status Message is:
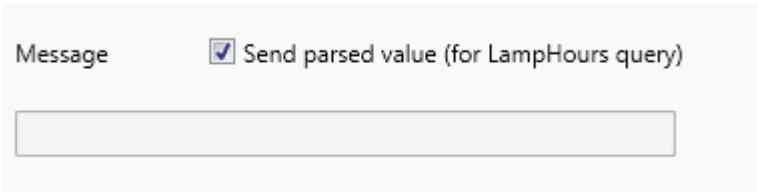
The DisplayName is the name of the query name but in a readable format, for example: "LampHour" = Lamp Hour

An alert of an unknown query (device-specific)
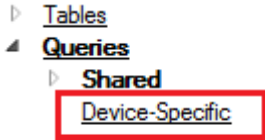
- StatusValue – the same as above

- StatusMessage – the same as above

- DisplayName: the name of the query name

An alert that does not belong to a query

- StatusValue – the same as above

- StatusMessage – the same as above

- DisplayName: "Alert"

You can set the back log for which you wish to view the log, or filter out certain dates to view. You can set the source, user, room, device type, device Name and/or an event to view.

At this point, StatusValue will not be present, only the StatusMessage. For example: in the **Event** column will display: "Lamp Hour: 33.33% [1000/3000 h]".

The following is an example of a Control Log page:

|	Event Time	Source	Room	Device Type	Device Name	Event	
✓	2016-11-16 15:11:37	Room controller	KDS-3	Projector	NEC: NP-PA500U	Power: Is stand by	
✓	2016-11-16 15:09:31	Room controller	KDS-3	Projector	NEC: NP-PA500U	Power: Is power on!!!	
✓	2016-11-16 15:06:56	Room controller	KDS-3	Projector	NEC: NP-PA500U	Power: Is stand by	
✓	2016-11-16 15:06:55	Room controller	KDS-3	Projector	NEC: NP-PA500U	Lamp Hour: 25.52% [49/192 h]	
✓	2016-11-16 15:05:47	Room controller	KDS-3	Generic	PJLink: PJLink	Lamp Hour: 25.80% [903/3500 h]	
✓	2016-11-16 15:05:23	Room controller	KDS-3	Generic	PJLink: PJLink	Lamp Hour: 0.00% [0/3500 h]	
✓	2016-11-16 15:04:45	Room controller	KDS-3	Generic	PJLink: PJLink	Lamp Hour: 25.80% [903/3500 h]	
✓	2016-11-16 15:04:21	Room controller	KDS-3	Generic	PJLink: PJLink	Lamp Hour: 0.00% [0/3500 h]	

Figure 133: Control Log Example

Click the menu to:

- Enable/disable table filters to filter data.

- Export all data as CSV (Comma Separated Values).

- Export filtered data (visible data) as CSV.

- Select the columns in the table.

Figure 134: Control Log Menu

Administration Page

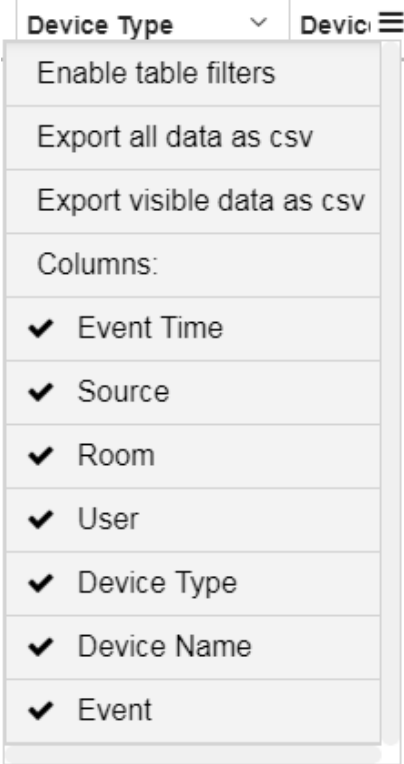The Administration Page manages system USERS, DEVCIES and other system settings.

Users Management

Three types of users can control and operate the system with different access permissions:

Users	Permissions	Menu Access
Super	**System Administrator/Network Manager**: • Defines the topology. • Manages devices. • Adds users and credentials (Admin/Users). • Grants Admin access to groups. • Creates Maestro room automation. • Grants scheduling permissions. • Creates the Room View, scenarios the video and the audio matrix. • Manages rights to room view, matrix view, configuring of locations, all logs and device statuses.	All the menu items.
Admin	**The Site Administrator (once granted access by the Super) can**: • Access/manage the Room View. • Access/manage the matrix, routing of physical/virtual matrix. • Access/export control/activity logs. • View/Manage devices. • Generate and manage scenarios. • Add users. • Grant users (operators) access to room scenarios. • Manage device firmware.	Permissions ☑ Room view — Access Room View Menu ☑ Matrix view — Access Matrix View Menu ☑ Config Locations — Access to locations in configure system ☑ Control log — View log of control events ☑ Activity log — View log of system activity ☑ Device status — View status of all devices ☑ Users — Manage users and permissions ☑ Firmware — Manage devices firmware
User	**The Operator (once granted access by the Super/Administrator) can**: • Log in to granted rooms. • Manage room view. • Use the scenarios. • Manage room routing (physical or virtual).	Permissions ☑ Room view — Access Room View Menu

The Super user has full access to all of **KRAMER NETWORK** features.

The Super can give permissions and set access limits separately for each Admin that is added to the system and similarly, the Admin can set permissions for different Users.

For example, the Super can be the company IT manager, the Admins can be managers of different offices and the users can manage a room or a set of rooms.

Creating Users

To create a user:

1. In the navigation pane click **Administration** > **USERS**.
2. Click ⊕ to open the Pro AV device list. Select the Administration page (USERS tab):
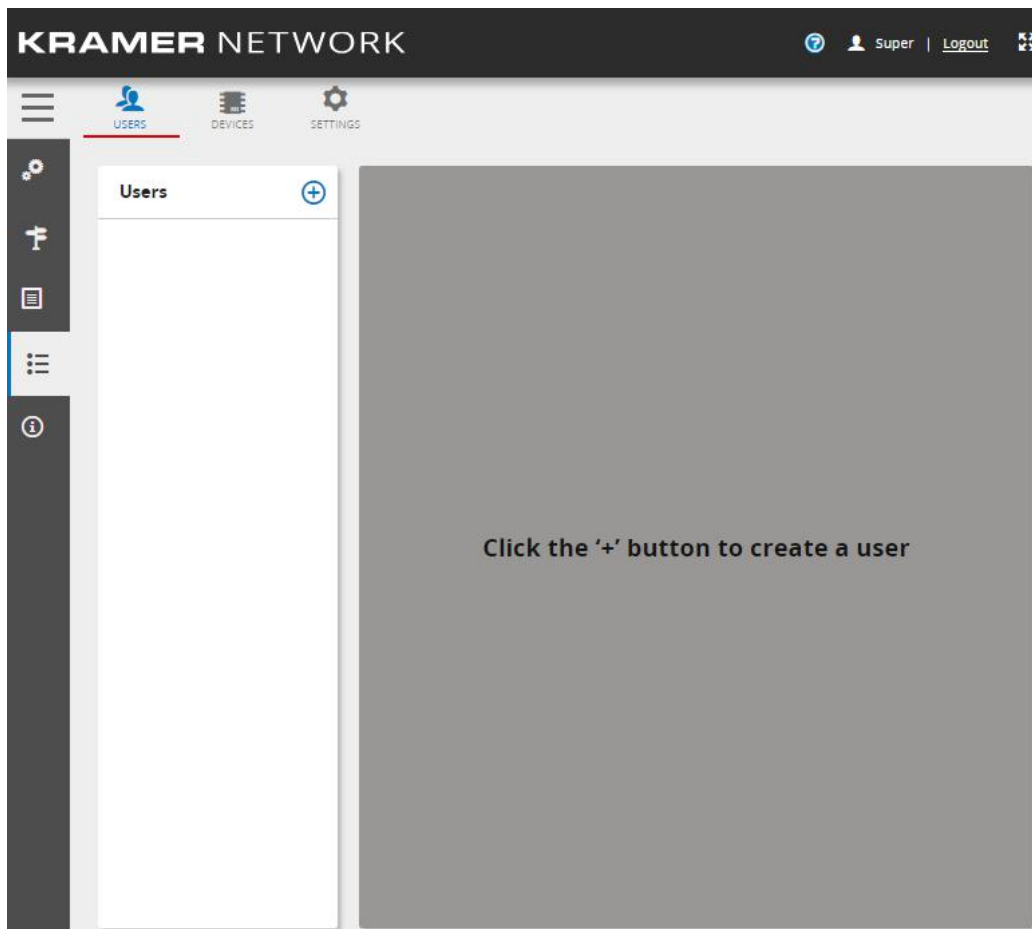
Figure 135: The Permissions Page

Click ⊕. The following window appears:
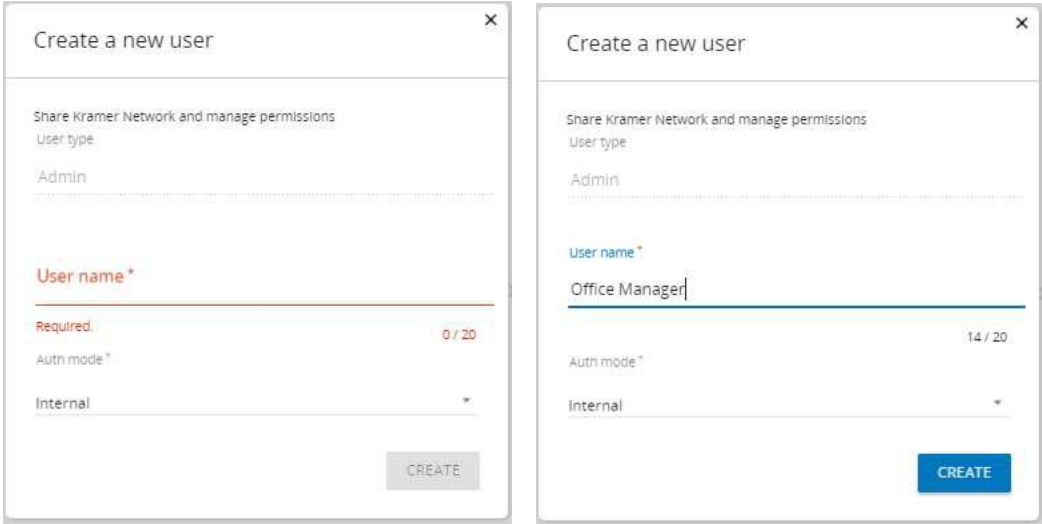
Figure 136: Creating a New Admin User

ⓘ   Auth mode can be set to internal or to LDAP.

Click **CREATE**. The new Admin is added to the list:
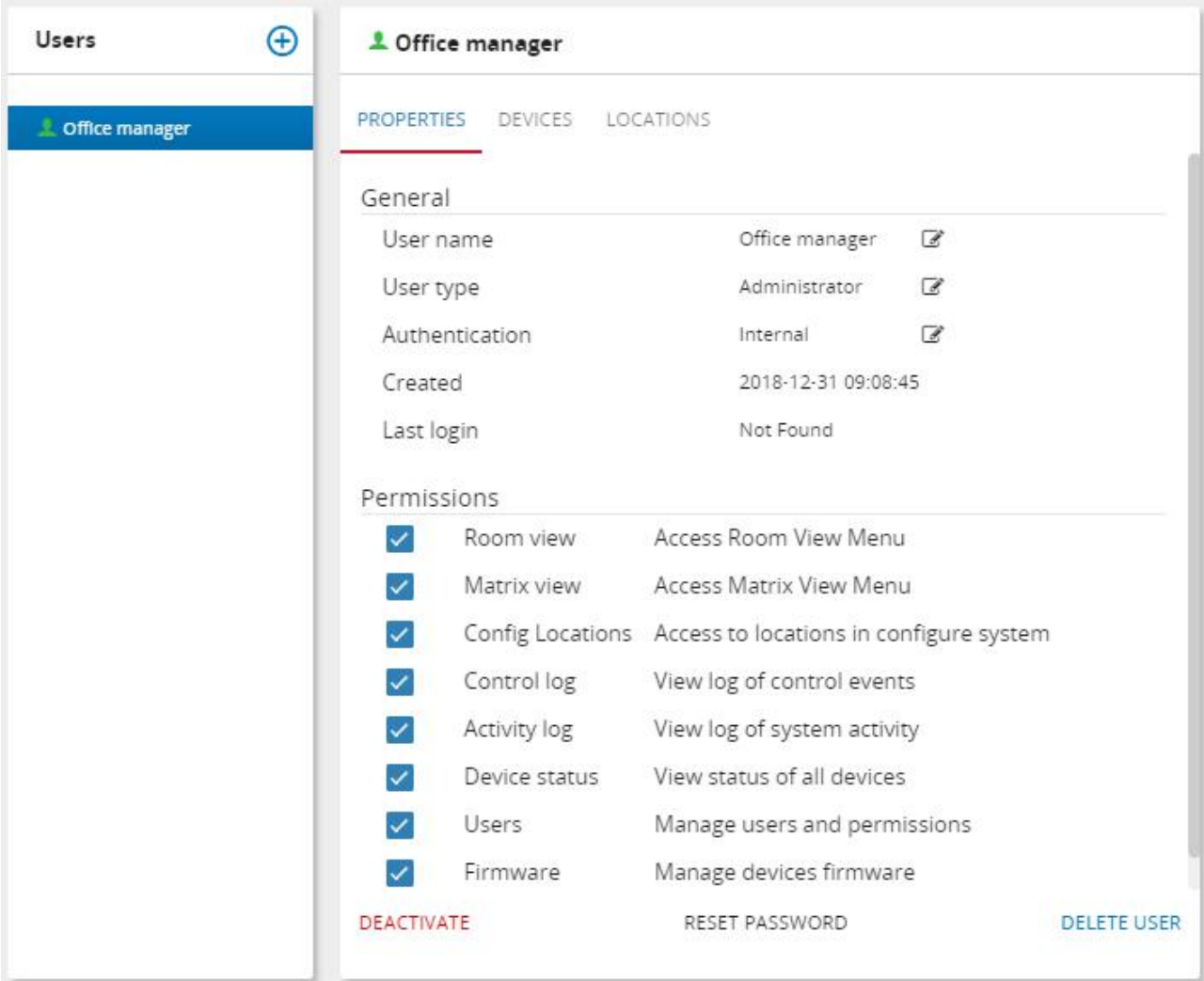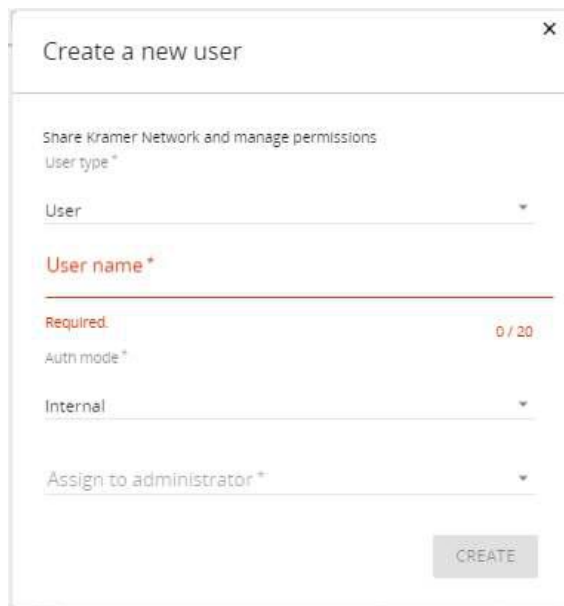
Figure 137: Adding an Administrator User

The new user properties tab appears, indicating the date the user was created and the last login.

You can:

- Click ✏️ to change the user's name, type and authentication.

- **DEACTIVATE** or **DELETE USER**.

- Click **RESET PASSWORD** to reset the user's password.

- Check ✅ to change the User's permission to access Room View and Matrix View menus, view the different logs and devices status, access the locations and manage users and permissions.

To create additional Admins and Users, click ⊕:
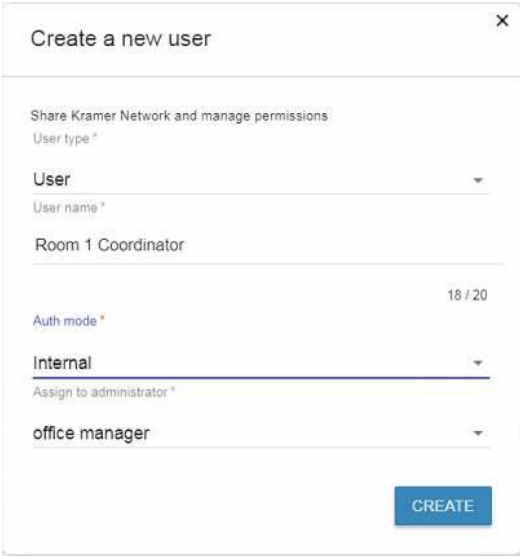
Figure 138: Creating a New User or Admin (by the Super)

You can create additional administrators and users.

To create a new user:

1. In the Administration page, select an administrator.

2. Click ⊕.

3. Type the User name and select the new user's administrator.
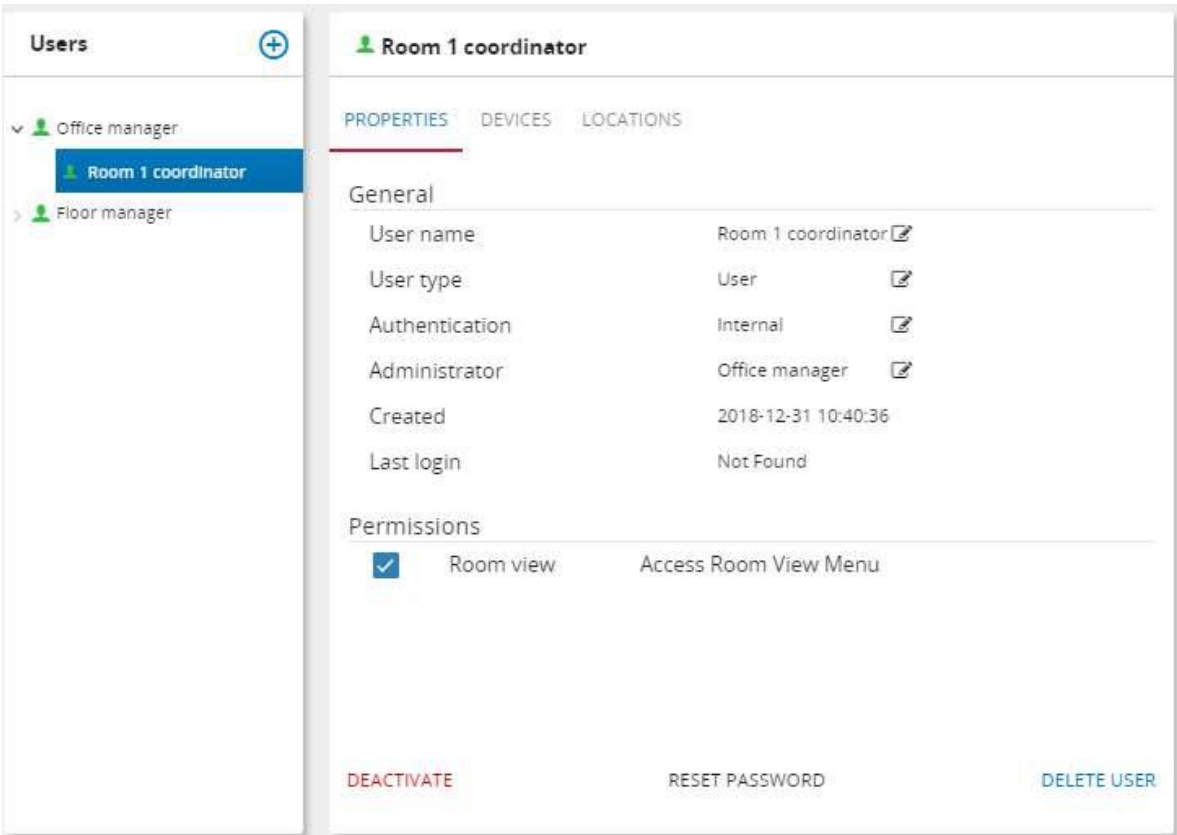
Figure 139: Creating a New User (by the Super or Admin)

4. Click **CREATE**.
   The new User is now under the administrator:

Figure 140: New User Properties

The new user properties tab appears, indicating the date the user was created and the last login.

You can:

- Click ![icon] to change the user's name, type and authentication.

- Deactivate or delete the use.

- Change the user's password.

- Change the User's permission to access Room View.

![info icon]   The Admin can create his/her own Users but cannot create other Admins.

Assigning Devices

To assign devices to an administrator or a user:

1. In the Administration page, select an administrator or user.

2. Click the **DEVICES** tab. The following window appears:
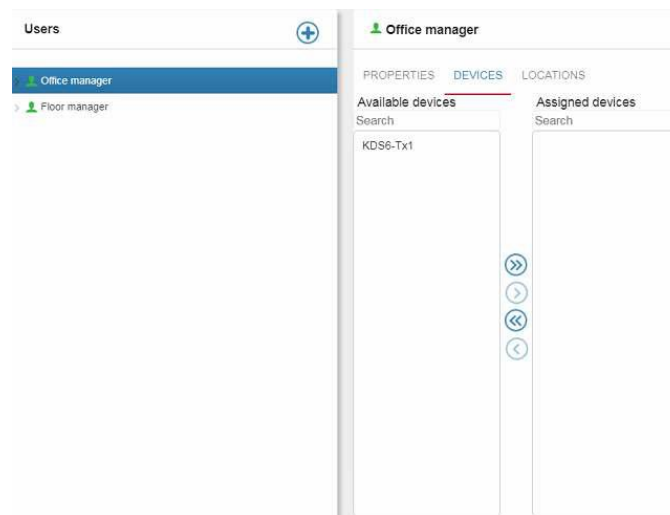
Figure 141: Assigning Devices to a User

3. Use the arrows to assign all the devices or selectable devices from the Available devices list.

Assigning Locations

To assign locations to an administrator or a user:

1. In the Administration page, select an administrator or user.

2. Click the **LOCATIONS** tab. The following window appears:
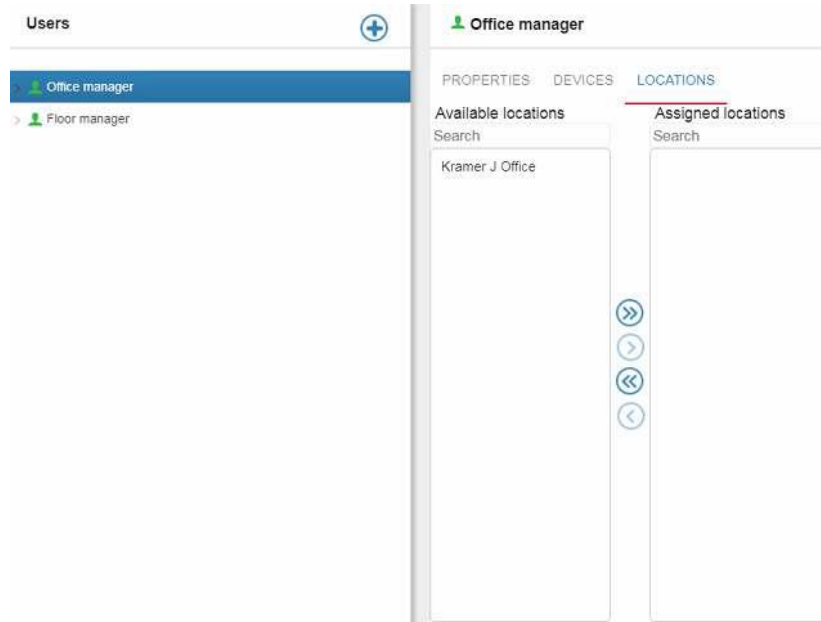
Figure 142: Assigning Locations to a User

A floor is assigned to an Administrator and a room to a User.

After the Super has assigned the floor to the administrator, the administrator has access to all the rooms on that floor and can then assign a room to his/her users.

3. Use the arrows to assign locations from the Available locations list.

Devices Management

Use DEVICES to manage **Firmware Upgrade**, **Versions** and view the **Supported devices**.

Firmware Upgrade Tab

The **Firmware upgrade** tab lists the Pro AV devices, their current firmware version, other available versions, status and Log (firmware upgrade history).
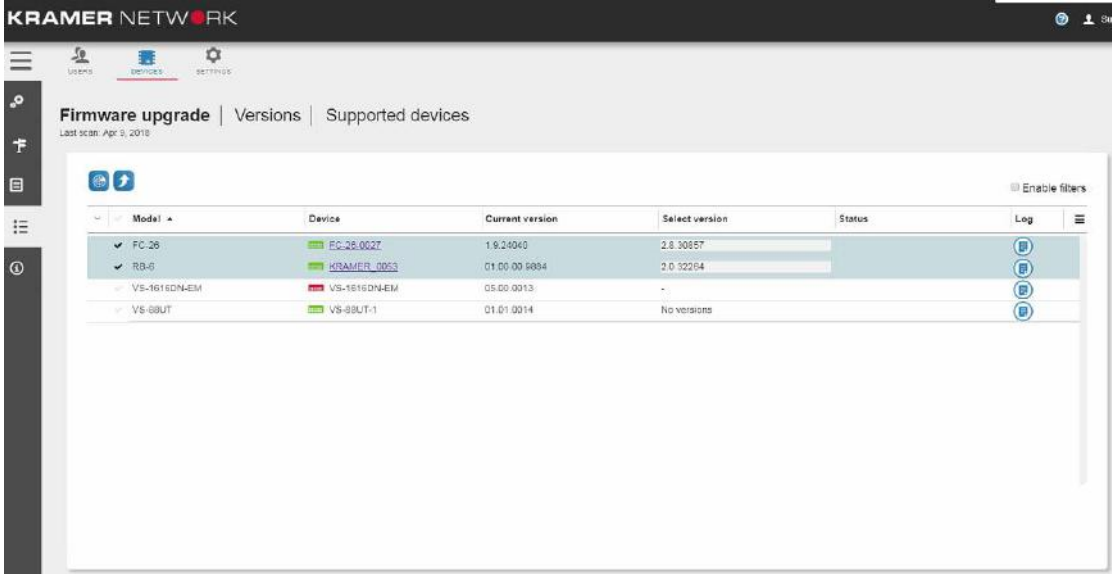
Figure 143: Device Firmware Upgrade

You can:

- Check **Enable filters** to filter out models, devices, versions and so on.
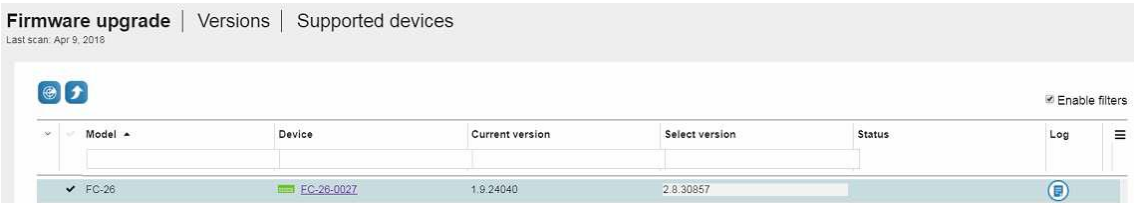
Figure 144: Enabling Filters

- Click ☰ to select the columns in the table and clear filters if **Enable filters** box is checked.
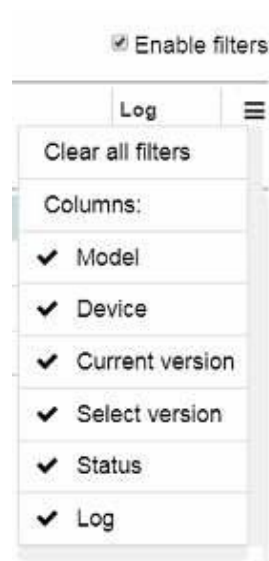
Figure 145: Device Firmware Upgrade Menu

- Click any column to change the alphabetical order of the list.

- Click the hyperlinked name of a **Device** to open its embedded web pages.

- Click 🌐 to update the table. The system scans for new devices and new firmware updates.
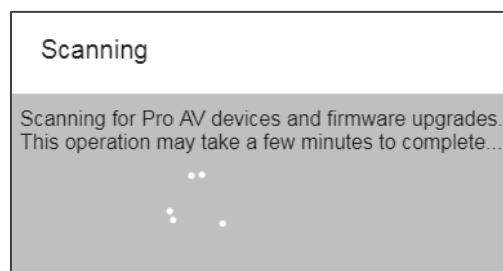
Figure 146: Scanning for Pro AV Devices Message
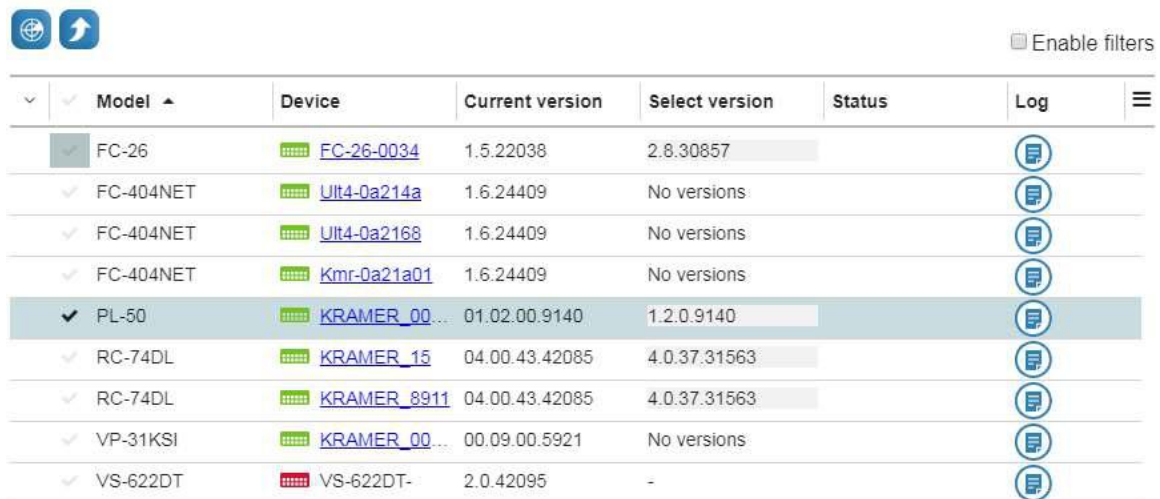
- View the current firmware version (**Current version**) of a device.

- Check for available firmware versions and select the desired one (**Select version**) and then upgrade the firmware (see Upgrading the Firmware on page 105).

- Click 📄 in the device row to check the device firmware upgrade history in the Log.

Upgrading the Firmware

To upgrade the firmware:

1. In the navigation pane click **Administration** and then select the **DEVICES** tab.

2. In **DEVICES** select **Firmware upgrade**.

3. Check the models for which you want to perform a firmware upgrade (**PL-50** in this example).
   You can upgrade the firmware of single or multiple devices simultaneously.

		Model ▲	Device	Current version	Select version	Status	Log	≡
	✓	FC-26	FC-26-0034	1.5.22038	2.8.30857			
	✓	FC-404NET	Ult4-0a214a	1.6.24409	No versions			
	✓	FC-404NET	Ult4-0a2168	1.6.24409	No versions			
	✓	FC-404NET	Kmr-0a21a01	1.6.24409	No versions			
✔		PL-50	KRAMER_00...	01.02.00.9140	1.2.0.9140			
	✓	RC-74DL	KRAMER_15	04.00.43.42085	4.0.37.31563			
	✓	RC-74DL	KRAMER_8911	04.00.43.42085	4.0.37.31563			
	✓	VP-31KSI	KRAMER_00...	00.09.00.5921	No versions			
	✓	VS-622DT	VS-622DT-	2.0.42095	-			

Figure 147: Selecting Devices for Firmware Upgrade

4. Select the new firmware version (**Select version**).

5. Click [icon].
   The following message appears:

Upgrade firmware

? The device(s) will reset upon completion of the firmware upgrade and will be briefly unresponsive during this time.
Proceed with firmware upgrade?

OK   CANCEL
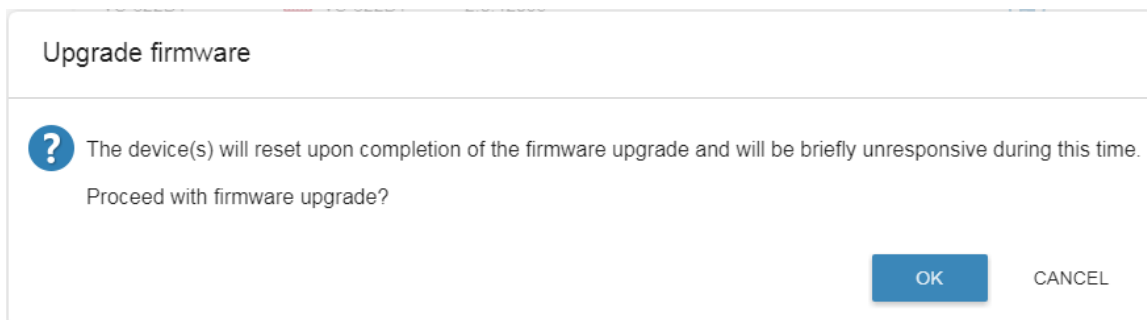
Figure 148: Firmware Upgrade Message
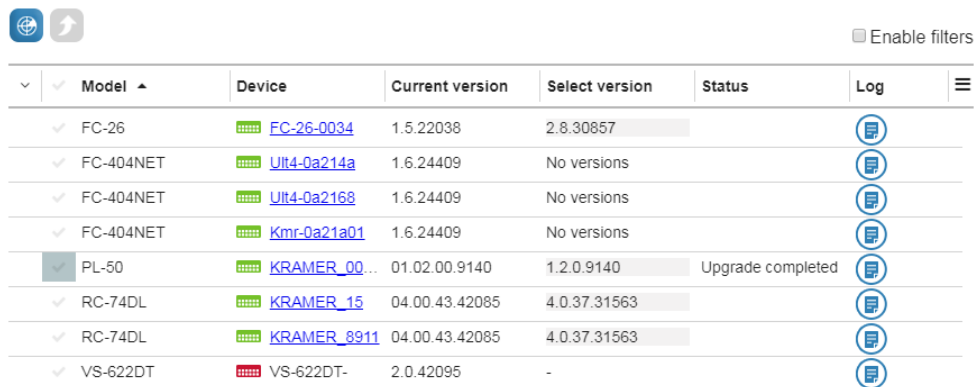
6. Click **OK**.
   Firmware upgrade process is initialized.

Figure 149: Firmware Uploaded

7. Wait for completion of the process.

Figure 150: Firmware Upgrade Complete

Some devices may need power recycling following firmware upgrade.

8. If required, click 📄 to check the history **Log**.

Figure 151: Firmware Upgrade Log

9. Click **OK** to exit the log.

Managing Firmware Versions

The Versions management tab shows the firmware versions kept for each Pro AV device model. These firmware versions enter the system either through automatic download 🔽 or by manual upload 🔼 .

If the **KRAMER NETWORK** server has access to the public Internet it automatically downloads the latest firmware for every device it discovers (from the Kramer service).

Figure 152: Versions Tab

You can:

- Click ⊕ to search for new firmware versions. The latest downloaded version for a given device model is marked as the default ◉ version for devices of that model.

- Click ⊕ to upload a new firmware file manually:
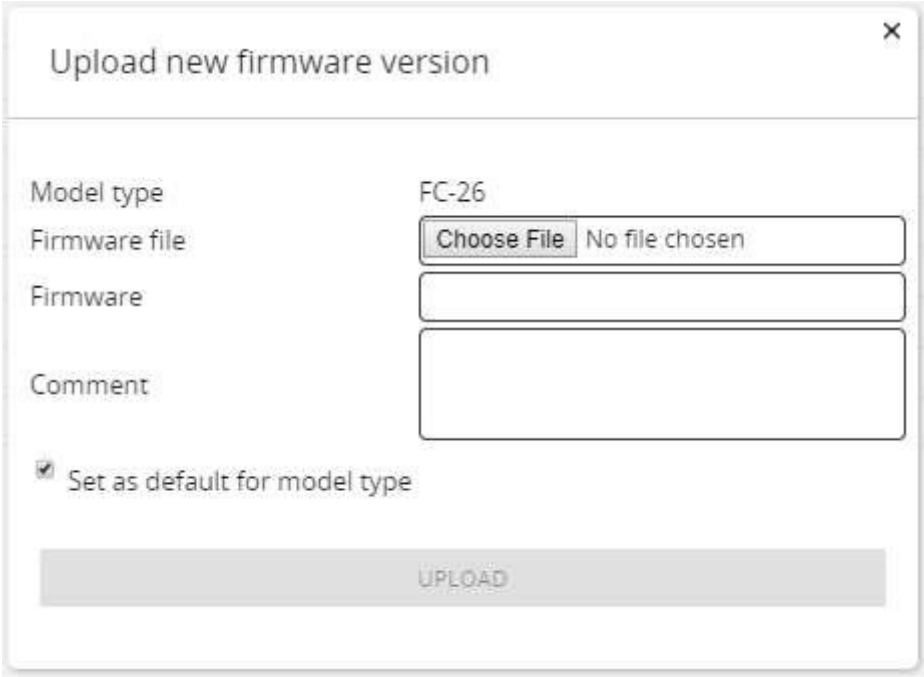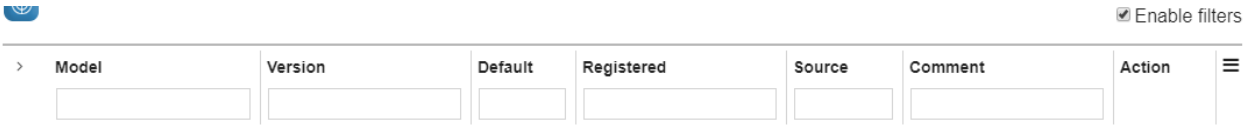
Figure 153: Uploading New Firmware Manually

- Check **Enable filters** to filter out models, devices, versions and so on.

Figure 154: Filtering Devices

- Click ☰ to select the columns in the table.

Figure 155: Versions Menu

- Type a comment under the **Comment** column.

Supported Devices List

The **Supported devices** tab lists all Kramer devices supported by **KRAMER NETWORK**.

Figure 156: Supported Devices List

Click 🔼 to upload the descriptor (issued by Kramer) to upload new devices.

Figure 157: Uploading Device Descriptors

KRAMER NETWORK only allows uploading of a list with a higher version number than the current one.

Managing Settings

The **SYSTEM CONFIGURATION** tab (in the **Administration** page) enables performing the following actions:

-
-
-
-
-
-

Defining General Settings

Use the **GENERAL** subtab to:

Select KRAMER NETWORK Language

To change KRAMER NETWORK language:

1. In the navigation pane click **Administration** and then select **SETTINGS**.

2. Select **GENERAL**.
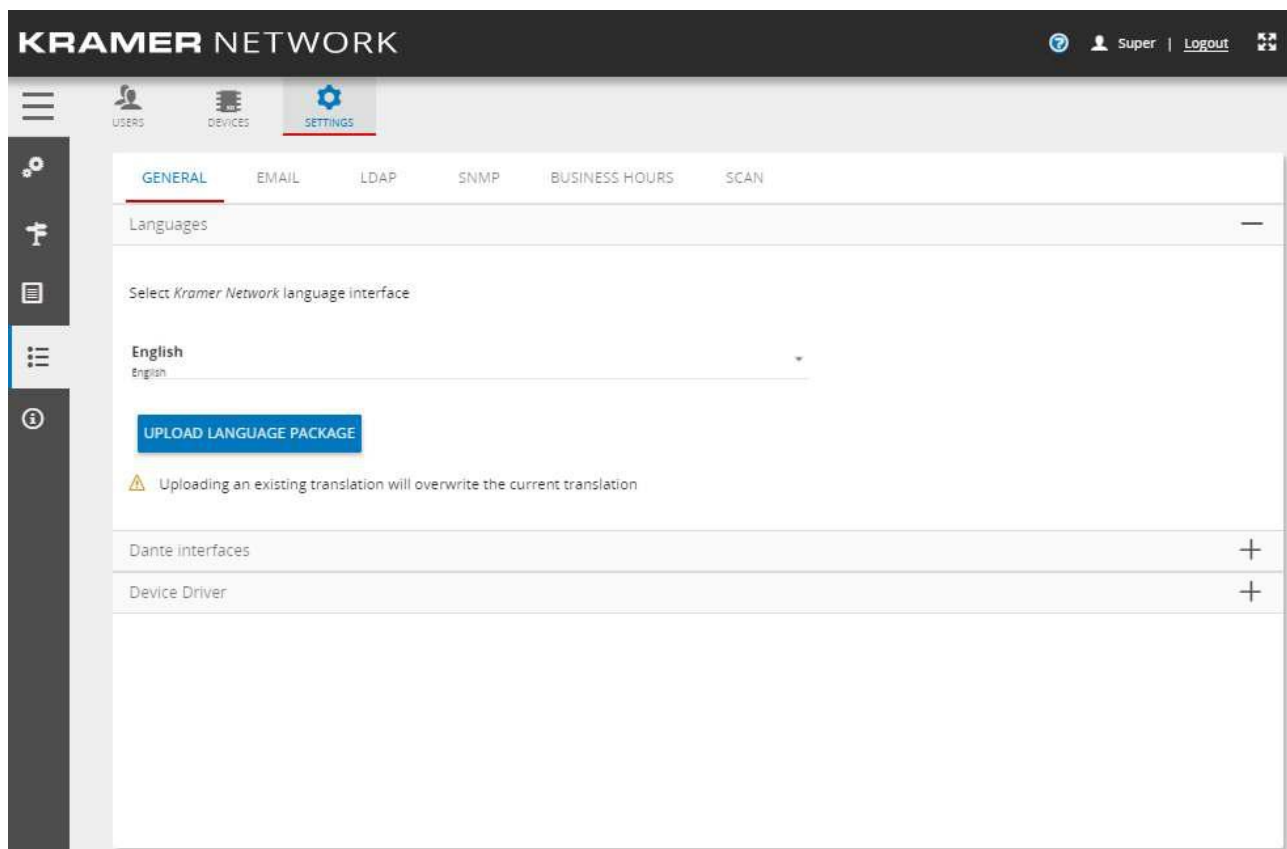
Figure 158: Uploading a Language Package

3. Open the language drop-down box and select the desired language.

Figure 159: Selecting a Language

4. Select the Language (for example, French). **KRAMER NETWORK** automatically reloads in the French version:
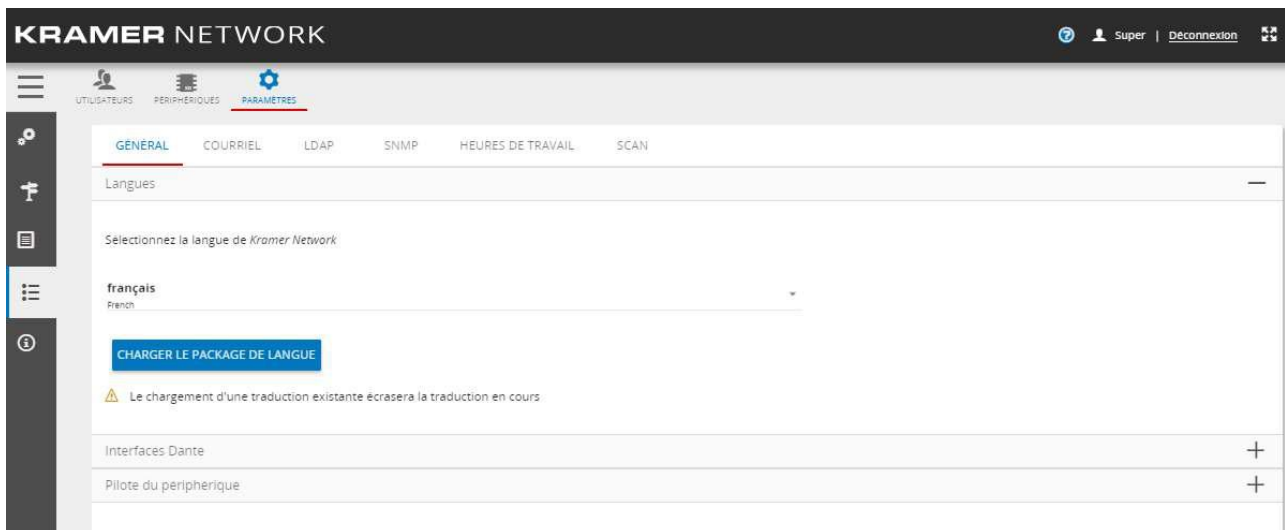
Figure 160: **KRAMER** NETWORK in French

If the desired language does not appear in the **Language** drop-down box, contact your local Kramer office to request a translation.

To upload the new translation:

1. Download that file to your system.

2. Click **UPLOAD LANGUAGE PACKAGE** to upload this file to **KRAMER NETWORK**.

3. Open the Language drop-down box and select your language.

Define Dante Interfaces

To identify the network for communicating with other Dante devices, click + beside **Dante interfaces** and select Dante networks from the drop-down list.

Add a Device Driver

To add a device driver that will be controlled by Maestro room automation:

1. In the navigation pane click **Administration** and then select **SETTINGS**.

2. Select **GENERAL**.

3. Click **+** beside **Device Driver**.

Figure 161: Adding a Device Driver

4. Click **UPLOAD DEVICE DRIVER**.

5. Select the device driver and follow the instructions on-screen.

Configuring the Email System

Use the **EMAIL** subtab, to set an email address from which you receive **KRAMER NETWORK** notifications via Maestro. You can use one of the two available options:

- **sendmail** – email notifications are sent without the need to configure a specific SMTP.

- **SMTP** – emails are sent by using your company mail server.

To set the notification email via sendmail:

1. In the navigation pane click **Administration** and then select **SETTINGS>EMAIL**.

2. Open the **Mailing method** drop-down box and select the **sendmail** mailing method.
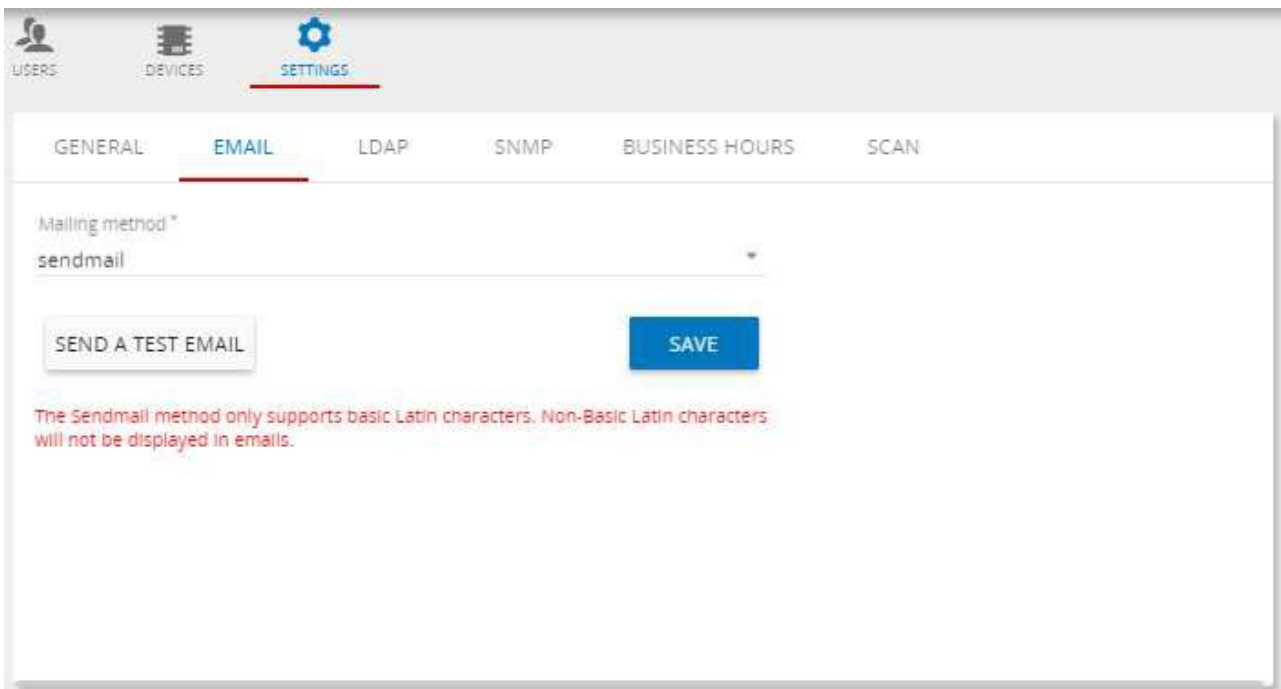
Figure 162: Sending Mail Notifications via Sendmail

3. Click **SAVE**. The following message appears:
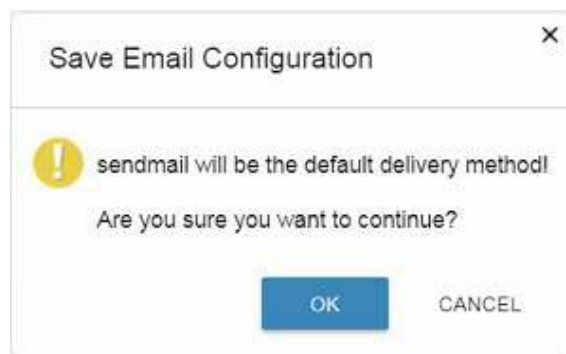
Figure 163: Saving Sendmail as the Default Configuration

4. Click **OK**.

5. Click **SEND A TEST MAIL** if required, and type your email address.
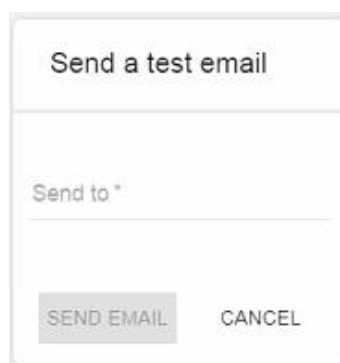
Figure 164: Sending a Test Email

Wait for the test email from: noreply@kramernetwork.com.
Any email notifications will be sent from this address.

To set the notification email via SMTP:

1. In the navigation pane click **Administration** and then select **SETTINGS>EMAIL**.

2. Open the **Mailing method** drop-down box and select the **SMTP** mailing method.

3. Fill in all the details (Server, Port and HELO Domain).

4. Select the Authentication method.

5. Add the email Username and Password.

6. Check **Use starttls** for a more secure connection using SSL/TLS.

Figure 165: Sending Mail Notifications via SMTP

7. Click **SAVE**.
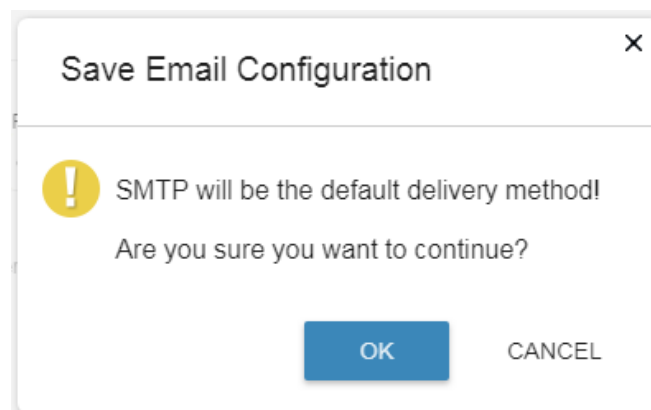
Figure 166: Saving SMTP as the Default Configuration

8. If required, click **SEND A TEST EMAIL**.

Creating LDAP Connections

Configure your LDAP authentication connection via the **LDAP** subtab so that you can add users from your LDAP without the need to manage additional users and passwords. In addition, you can associate your LDAP locations to your **KRAMER NETWORK** locations, manage and view the location's schedule.

More than one connection can be added to **KRAMER NETWORK**.
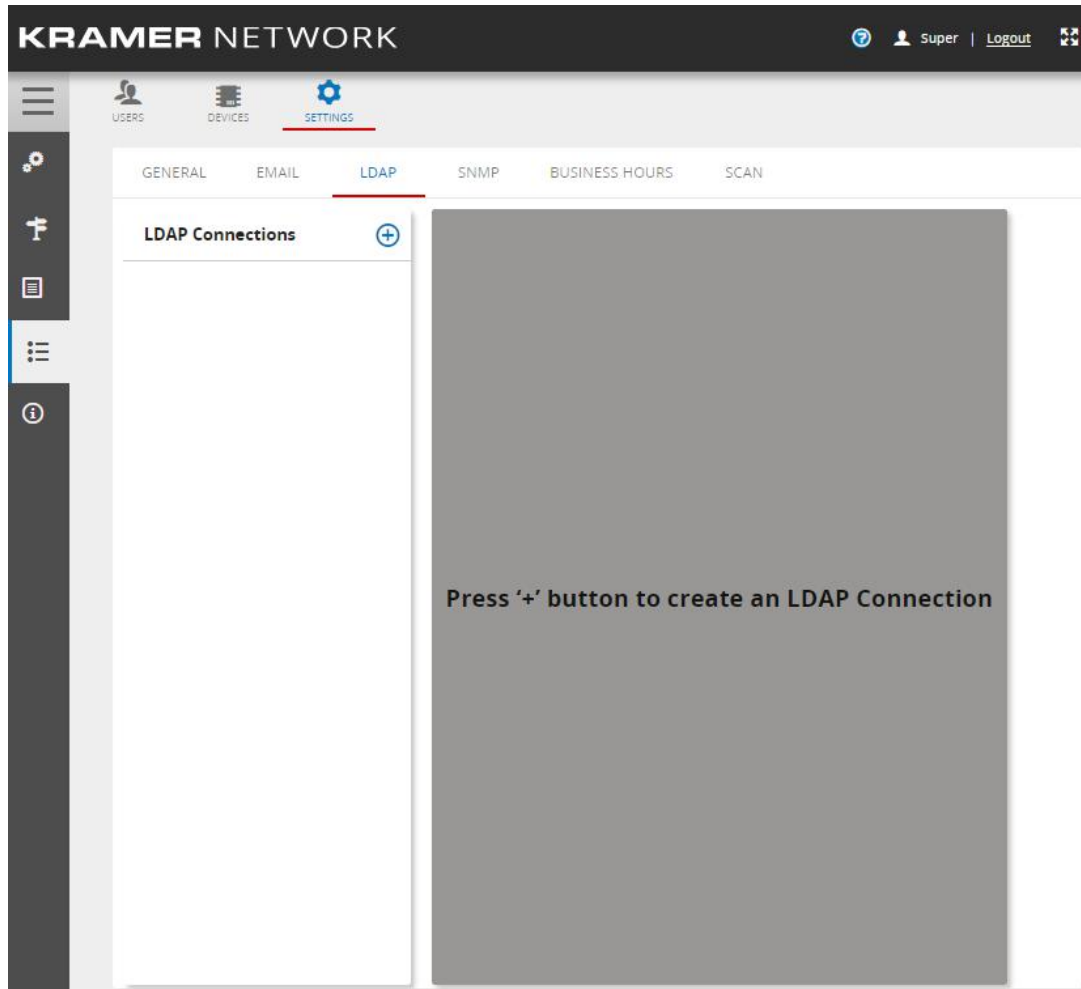
Figure 167: LDAP Connections Subtab

To select LDAP connections:

1. In the navigation pane click **Administration** and then select the **SYSTEM CONFIGURATION** tab.

2. In **SYSTEM CONFIGURATION** select **LDAP**.

3. Click ⊕.
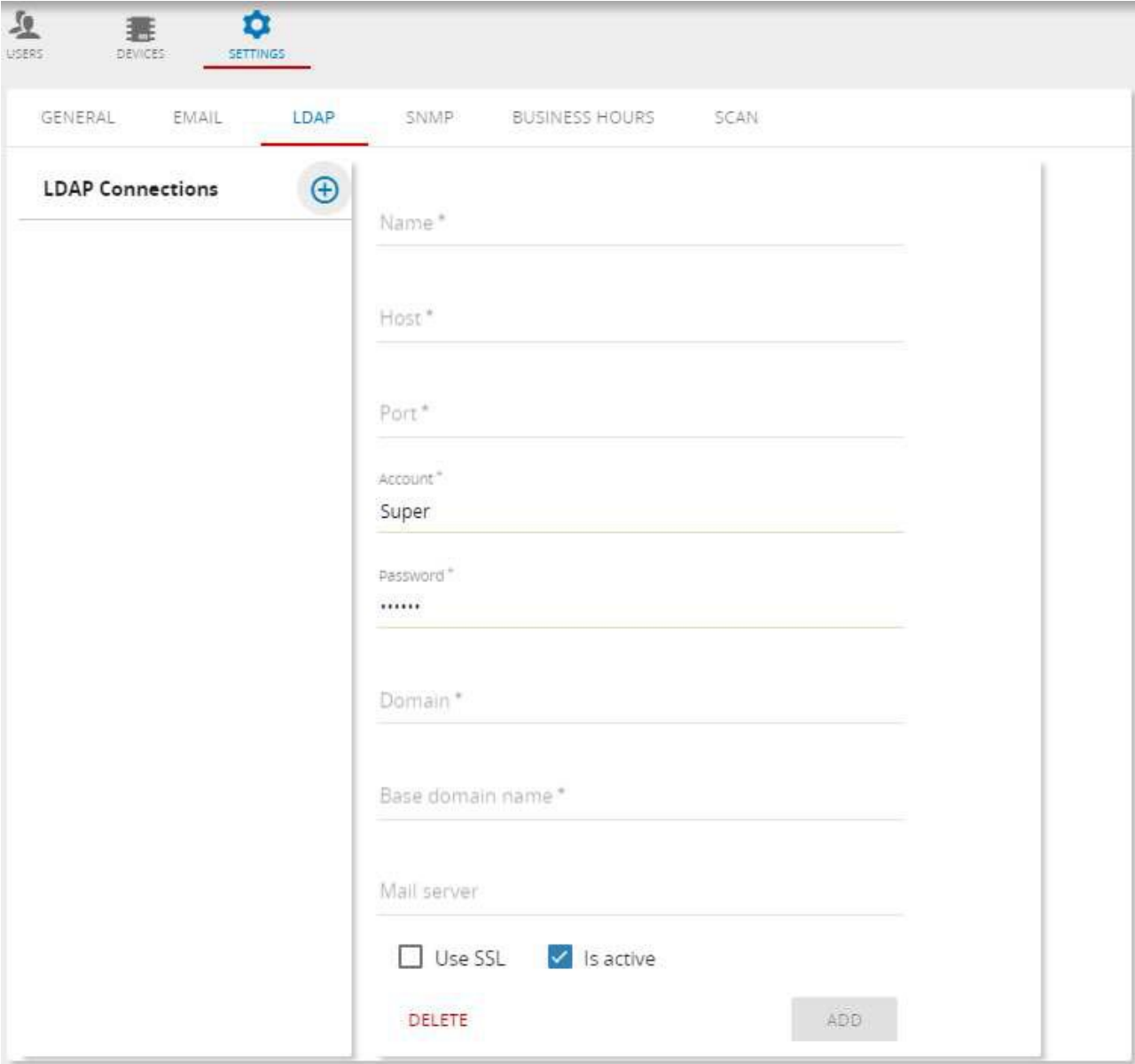
Figure 168: LDAP Connections

4. Fill in the details.

Figure 169: LDAP Connections – Adding LDAP Details

5. Click **ADD**.
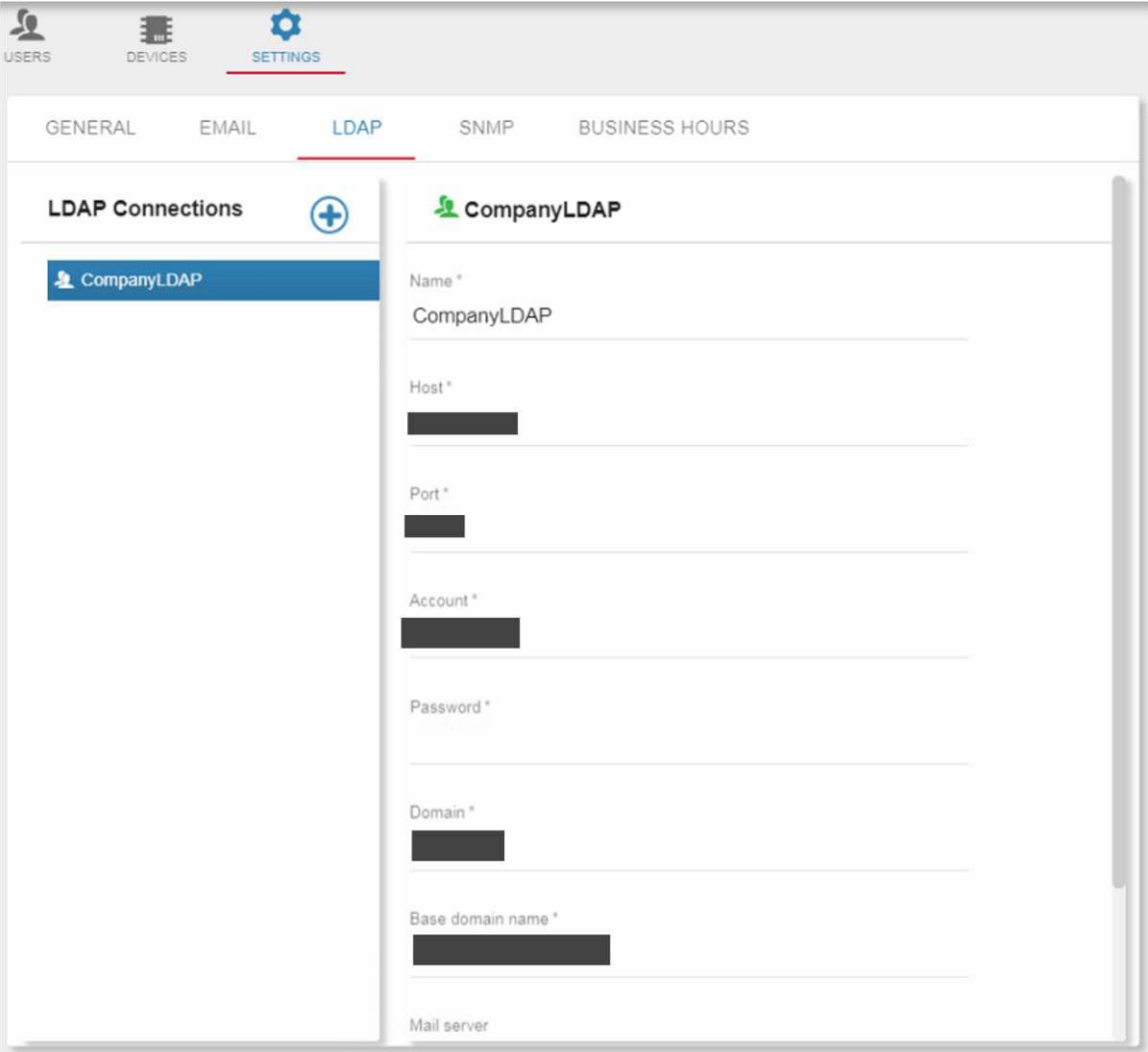
Figure 170: LDAP Connections – LDAP Added

Defining SNMP Server and Port

Configure the SNMP server. The SNMP connection allows you to create SNMP trap actions in your Room automation.

1. In the navigation pane click **Administration** and then select the **SETTINGS**.

2. Select **SNMP**:
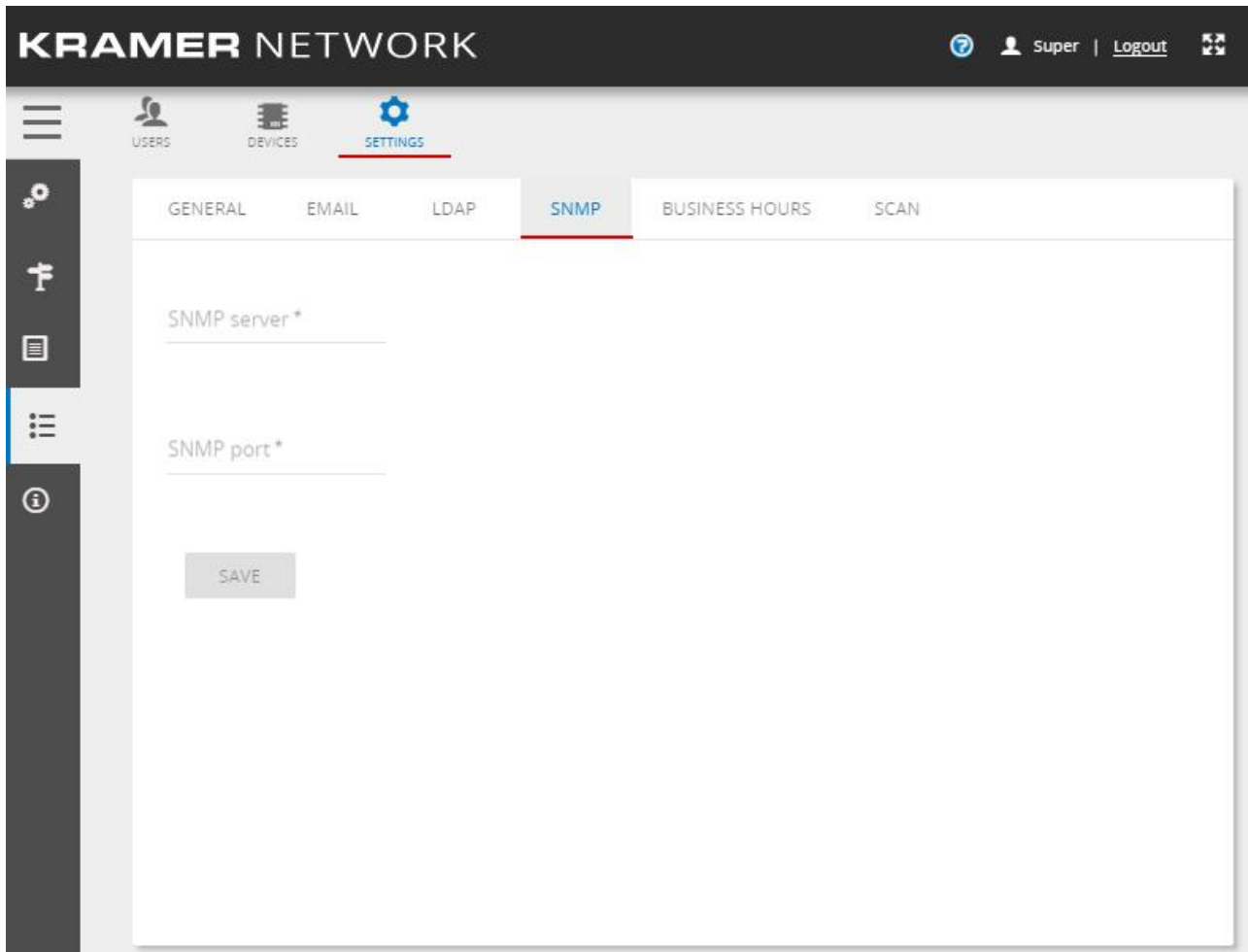
Figure 171: SNMP Settings

3. Set SNMP server and port and click **SAVE**.

Setting Business Hours

Configure your organization's business hours. Setting the business hours can assist you in your Maestro room automation.

To set business hours:

1. In the navigation pane click **Administration** and then select **SETTINGS**.

2. Select **BUSINESS HOURS**.
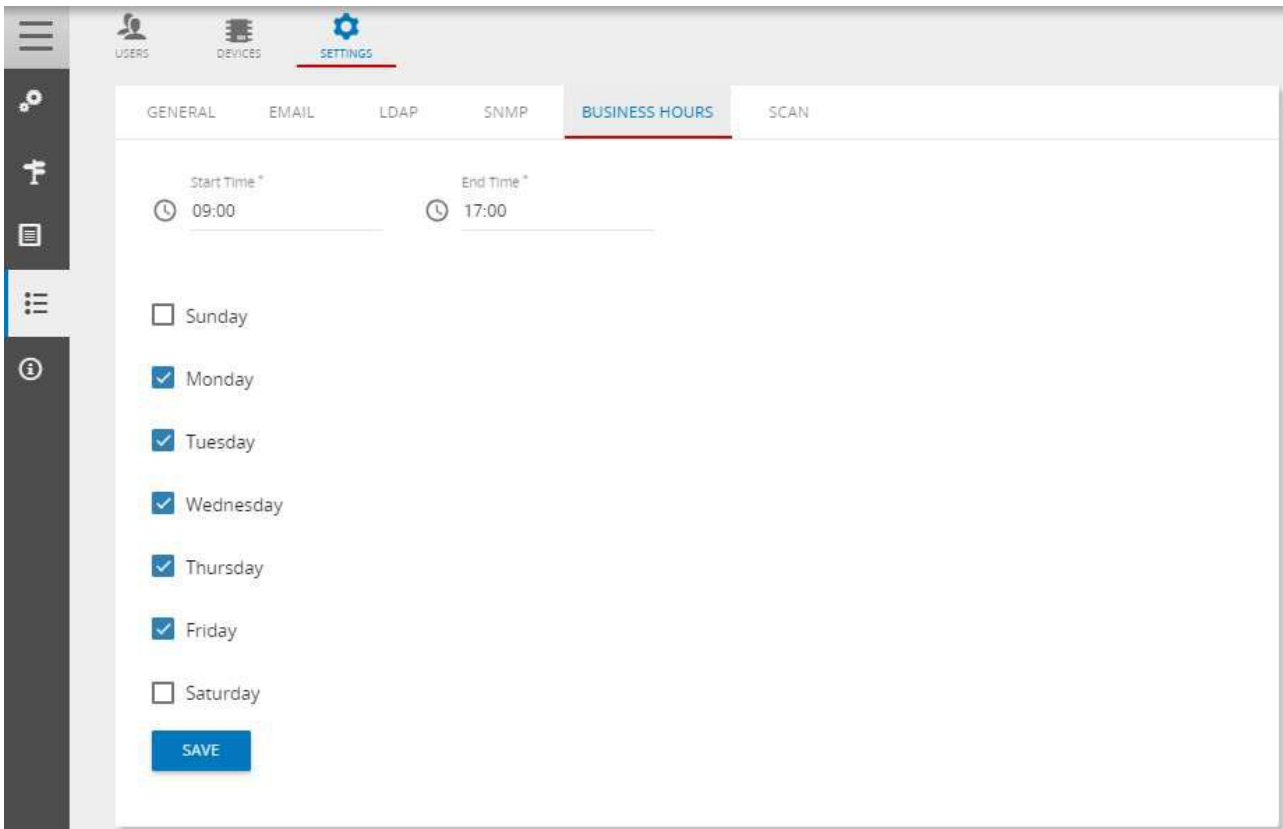
Figure 172: Business Hours Settings

3. Check the relevant business days.

4. Type the **Start Time/End Time** the working hours or click ⏰ to set working hours:
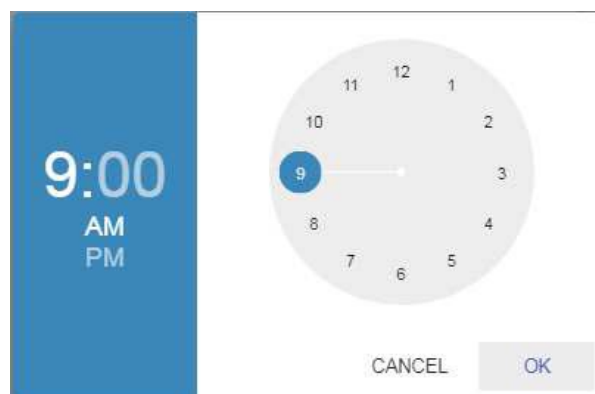
Figure 173: Setting Working Hours

5. Click **OK**.
   Business hours are updated.

Figure 174: Working Days and Hours Settings Updated

6. Click **SAVE**.

Defining the Device Scanning Method

Following installation, **KRAMER NETWORK** scans the system automatically. This default base scan includes scanning for devices that support P3K, KDS6 and Dante™ devices, as well as VIA devices.

> The base scan is read-only, cannot be changed, and is carried out after system installation, restart, when pressing the scan button or it can be scheduled via the scan scheduler.

For each scan you can define the scan segment which includes the IP address range for discovering devices, the scan methods and the probe methods:

Scan Segment	Parameter	Description
IP Address Range	First 2 digits: enter a number between 0 and 255. Last 2 digits: enter a range of numbers between 0-255.	Sets range of IP addresses to be scanned.
Scan Method	Ping, TCP Connect and/or Broadcast (the local subnet)	Defines method used to detect whether a device is active or not.
Probe Method	P3K or VIA	Checks if the detected IP address is supported by the system.

Generally, the scanning procedure includes the following steps:

- A range of IP addresses is defined, which includes the devices to be searched.

- The system attempts to connect to each IP address in the defined range, using ping or TCP connect methods.

- The system checks if the discovered devices are supported (by the recognized P3K or VIA protocols).

> A scan segment can be shared by more than one configured scan.
>
> Different IP address ranges (including overlapping addresses) can be used in different configured scan segments.

The SCAN tab enables performing the following actions:

- [Running Base Scan Operations](#) on page .

- [Scheduling a Scan](#) on page .

- [Configuring a New Scan](#) on page .

Running Base Scan Operations

To access the base scan from the SCAN tab:

1. In the navigation pane click **Administration** and then select **SETTINGS**.

2. Select **SCAN**. The Scan list appears.
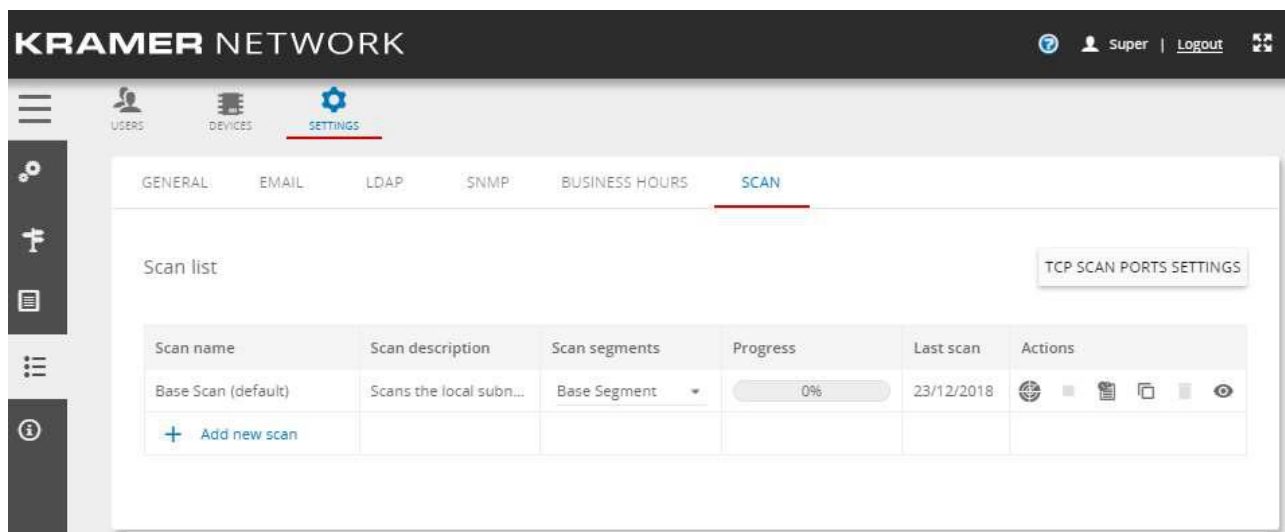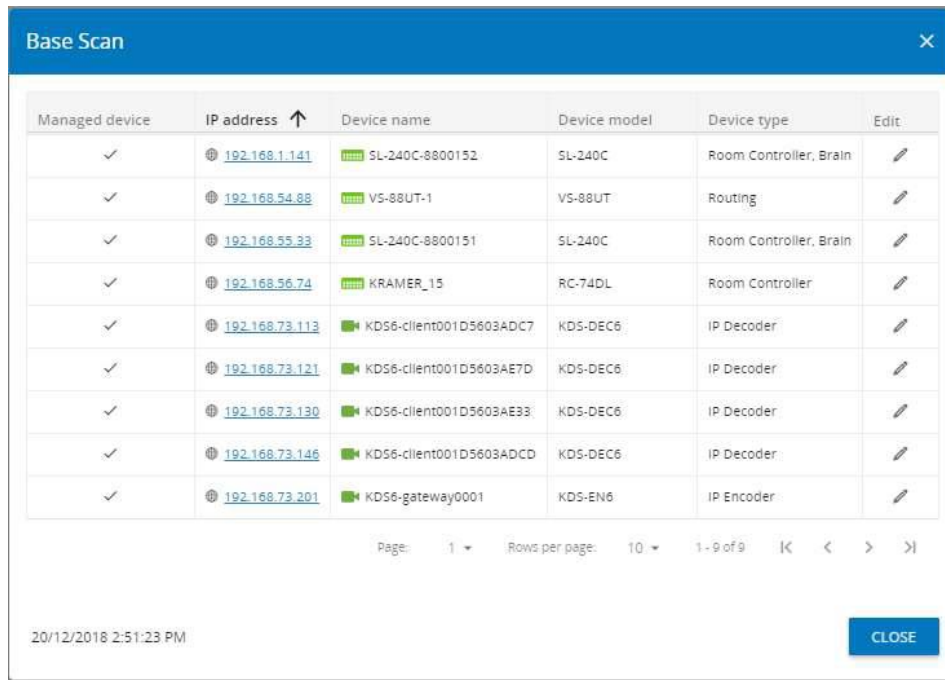
Figure 175: SETTINGS – SCAN Tab

3. You can view the scan name and description, the scan segments, the date of the latest scan and perform the following actions:

   - Click ⊕ to run a scan.

   - View the scan progress.

   - Click ■ to stop a scan.

- Click ▤ to view the scan results.
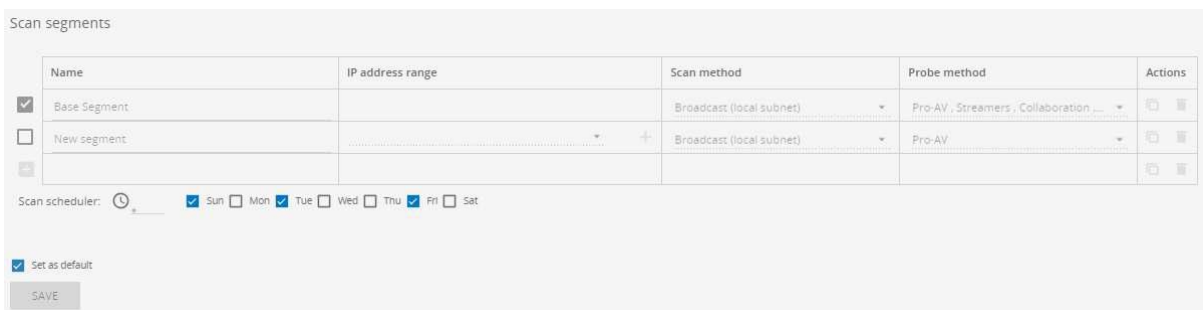
Figure 176: Base Scan Results

- Click ✏ to configure a device in the list (see [Editing Device Parameters](#) on page [22](#)).
- Click ⧉ to duplicate a scan.
- Click ▮ to delete a scan (disabled for base scan).
- Click ◉ to view scan details.

Scheduling a Scan

To set the base scan scheduler to automatically scan the subnet:

1. In the Base scan row, click ◉ to view scan details.
2. Click ✎ .
3. Enter Scan scheduler time and days and click **SAVE** to carry out scheduled scans.

Figure 177: Base Scan Scheduler

Configuring a New Scan

The following example shows how to configure a scan for two separate floors in a company building.

To configure a new scan:

1. In the navigation pane click **Administration** and then select **SETTINGS**.

2. Select **SCAN**.

3. Click **Add new scan**.

   (i) Uncheck the box next to Base Segment if you do not need to use it.

4. Enter a scan name (Company HQ Building Scan) and description (find all the devices in the building, across VLANs).

5. In Scan segments, check the segments you want to include in the scan.
   The scan in this example includes two segments, one for each floor.

6. Add the IP address range/s per segment:

   ▪ Under IP Address click +. The following window opens:

Figure 178: Add IP Address Range Window

   ▪ Enter the IP address range name (this range can be used again for other configured scans).

   ▪ Click **SAVE**.

7. Under Scan method, open the drop-down box and select one or more scan method.
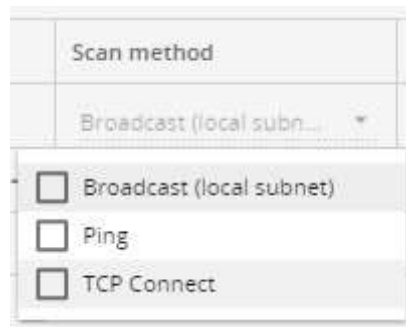
Figure 179: Selecting the Scan Method

In this example, select all the scan methods.

▪ If TCP is selected as a scan method, click **TCP SCAN PORTS SETTINGS**. The following window appears:
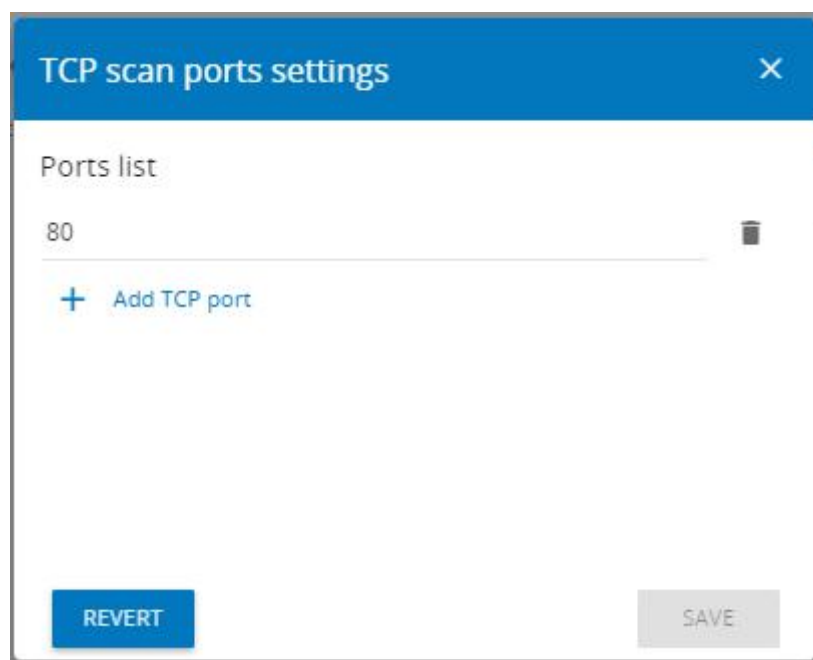
Figure 180: TCP Scan Ports Settings

▪ Add/delete the relevant TCP ports.

▪ Click **SAVE**.

8. Under Probe method, open the drop-down box and select the device types you want to scan.

9. Set the scan scheduler.
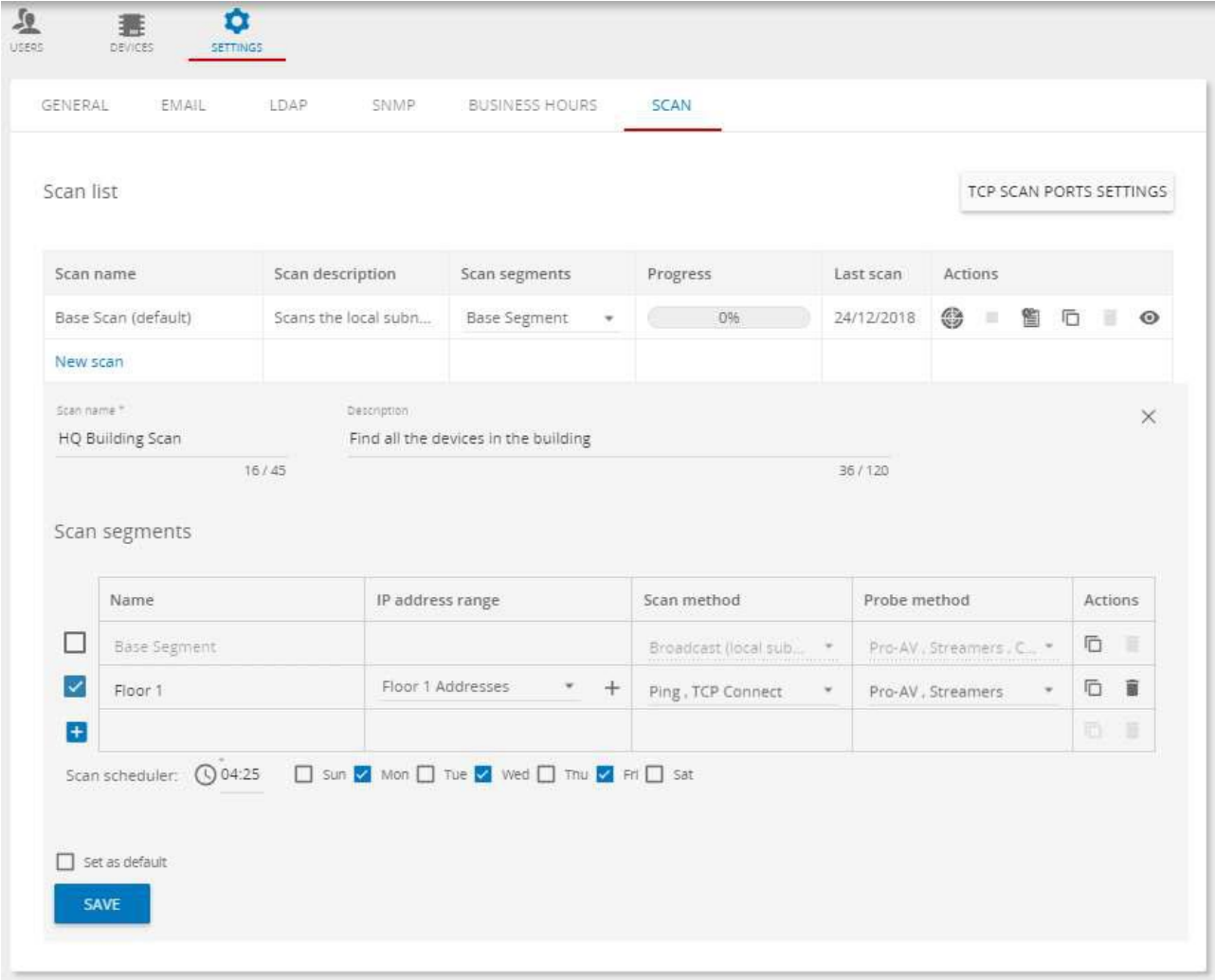
Figure 181: Setting the Scan Scheduler

10. Click **SAVE**.

> (i) You can click **SAVE** at any time during the scan configuration process.
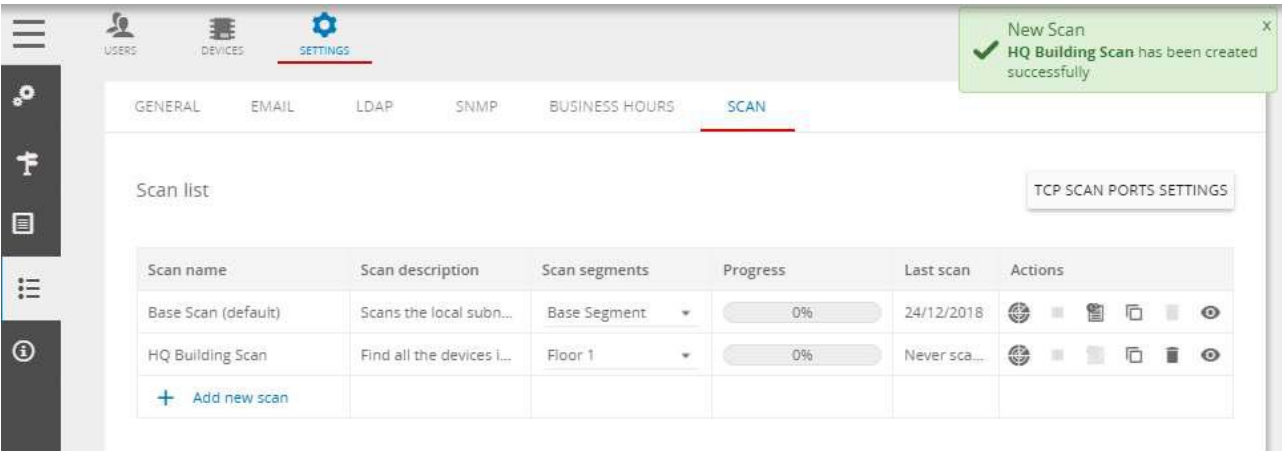
Figure 182: New Scan Saved

To scan Floor 2, create the second segment in the scan.

1. In the HQ Building Scan line, click 👁 to view the scan.
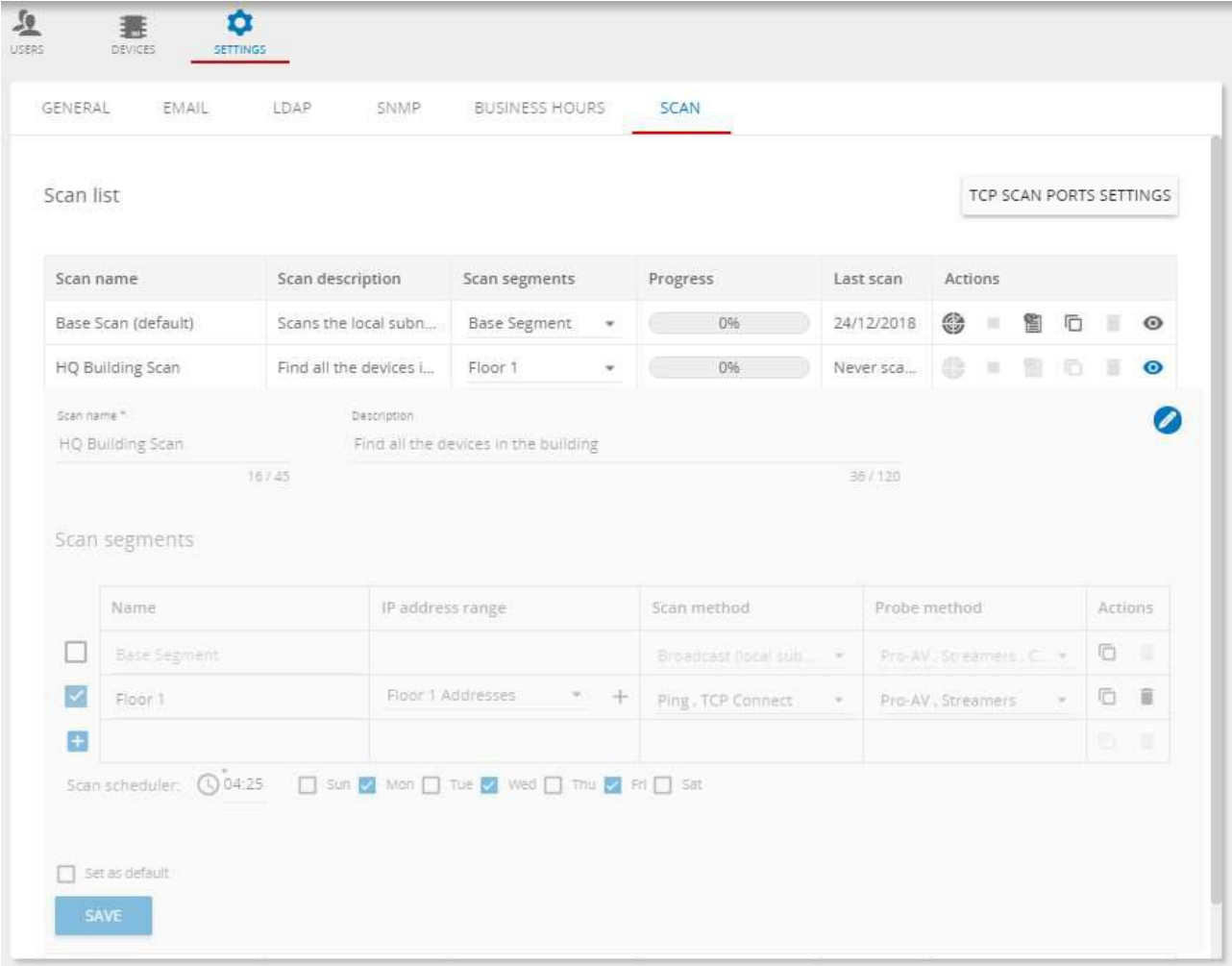
Figure 183: [Figure Caption]

2. Click ✏ to edit the HQ Building Scan.

3. Click ➕ to add the second scan segment (for floor 2).

4. Add the IP addresses for floor 2 (in this example, 2 IP-address ranges are created for scanning the devices for this floor).

5. Open the IP address range drop-down box and check the relevant IP-address ranges for floor 2.
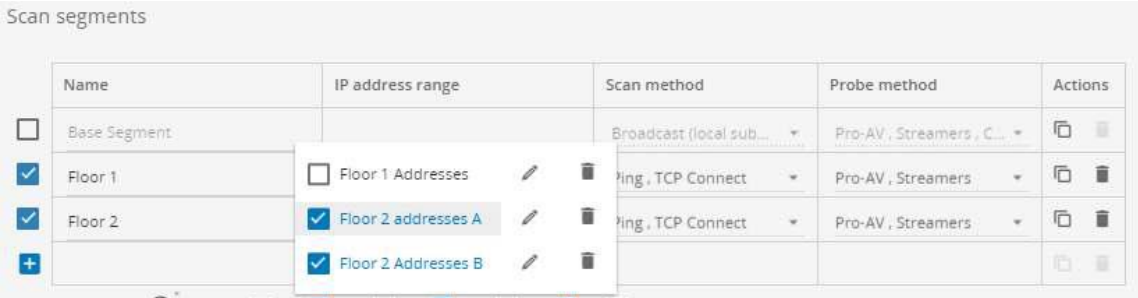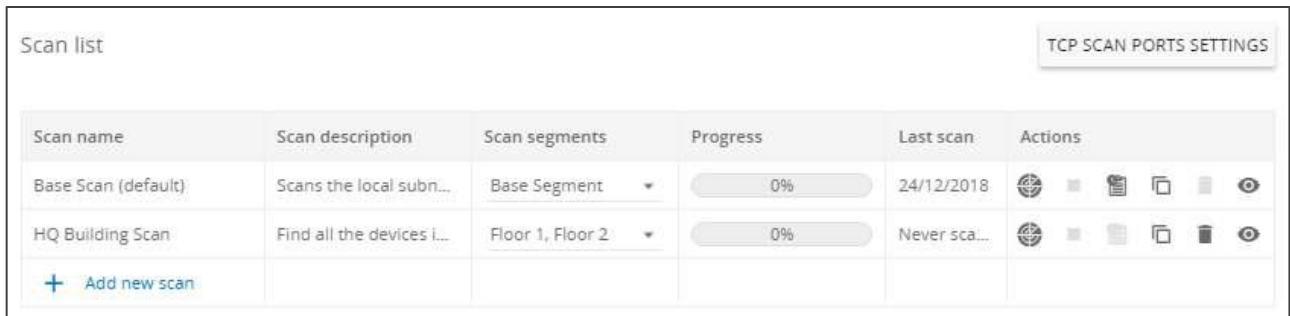
Figure 184: Selecting the IP-Addresses
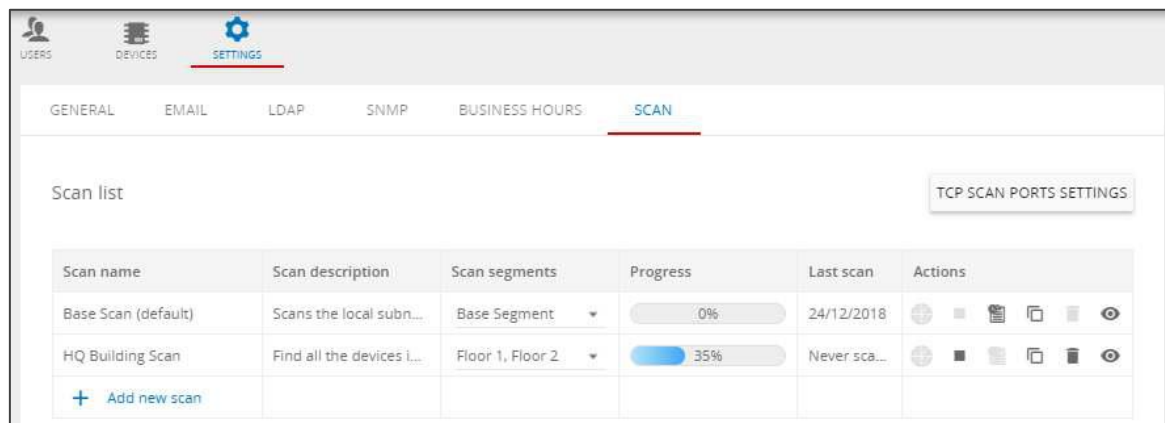
6. Set the scan, probe methods and scan schedule and then click **SAVE**. HQ Building Scan includes 2 scan segments.

7. If required, check the box next to Set as default.

8. Click **SAVE**.

Figure 185: HQ Building Scan Example Complete

You can now ⊕ to activate this scan (apart from the scheduled scans).

Figure 186: Scanning HQ Building Scan

Once scan is complete view the scan results list.

You can also view edit and define other scanning methods via **Administration** > **SETTINGS** > **SCAN**.

About Page

The About page displays the web page, server and software versions, as well as Kramer Electronics Ltd details:
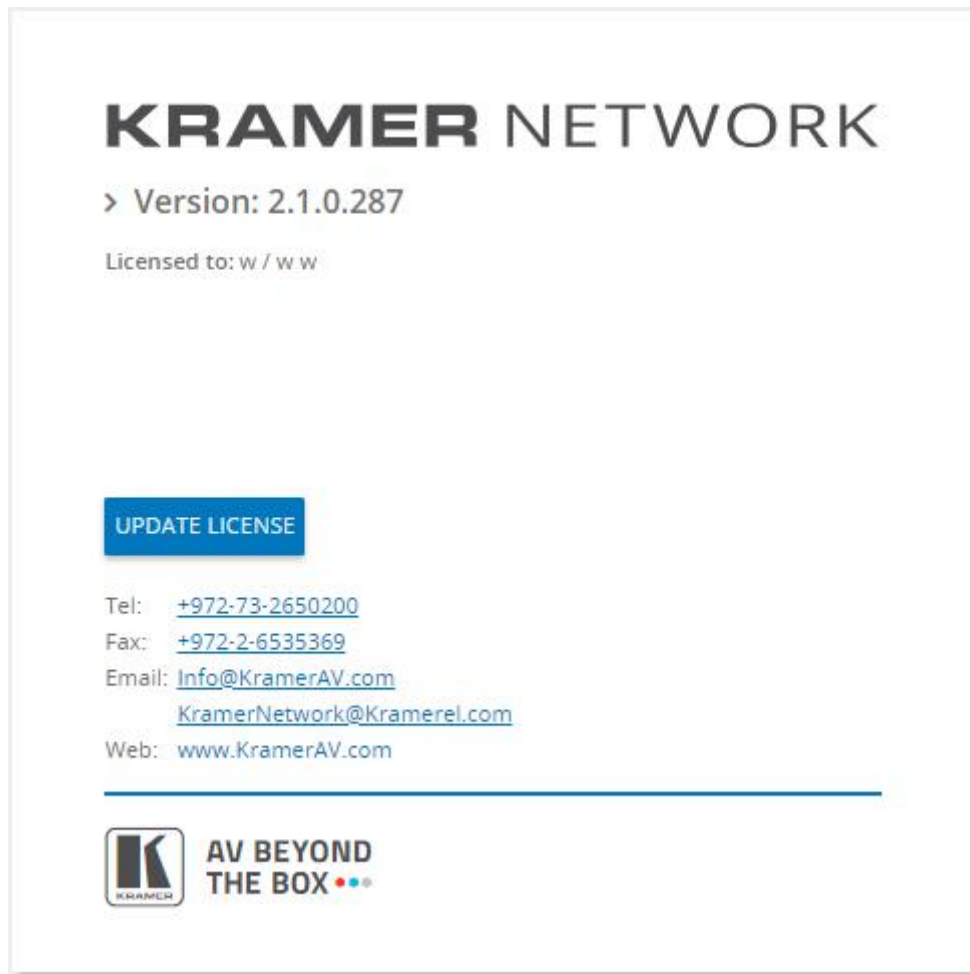
Figure 187: The About Page

Click **Update License** to access the registration screen (see Registration on page 7).

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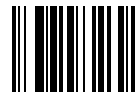
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KRAMER

CE ♲ 22 PAP

⚠ **SAFETY WARNING**
Disconnect the unit from the power supply before opening and servicing

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