



Panta Rhei – AVoIP Manager User Manual

The Next-Gen Audio-Visual Ecosystem Platform

Contents

AVOIP MANAGER INTRODUCTION.....	4
AVOIP MANAGER – OVERVIEW	5
AVoIP Manager Components.....	5
Key Capabilities	5
Network Requirements for On-Premises Agent	6
AVoIP Manager – User Roles & Permissions	6
AVOIP MANAGER – CONFIGURATION GUIDE.....	7
Introduction.....	7
Service Structure.....	7
Navigation Menu Overview	7
Devices.....	7
Groups	7
Video Wall.....	7
Routing Presets	8
KVM	8
Settings	8
Events	8
AVOIP MANAGER – DEVICES	9
Overview	9
Device List Columns	9
Action Buttons	10
AVOIP MANAGER – GROUPS	11
Overview	11
Group List.....	11
Editing or Creating Group	12
Notes & Best Practices.....	12
AVOIP MANAGER – VIDEO WALL.....	13
Overview	13
Video Wall Types	13
Video Wall List	14
Video Wall Editor Layout	15
Creating and Editing a Video Wall (Regular).....	16
Creating and Editing a Video Wall (Mosaic).....	17

AVOIP MANAGER – ROUTING PRESETS	19
Overview	19
Preset Modes	20
Using the Presets Page	21
Using the Presets Page (Matrix).....	21
Using the Presets Page with Signals (matrix).....	22
Using the Presets Page (Filters)	23
AVOIP MANAGER – KVM	24
Overview	24
Functionality	24
Creating a KVM Setup	24
Activation & Switching.....	25
Notes.....	25
AVOIP MANAGER – SETTINGS	26
Overview	26
Managed Mode vs Controlled Mode	26
Excluding Devices (Managed Mode Only)	27
Saving Configuration.....	27
AVOIP MANAGER – ACCESS CONTROL	28
Overview	28
AVOIP MANAGER – EVENTS	29
Overview	29
Purpose and Use	29
Viewing and Managing Events.....	30
Retrying Failed Events.....	30
Role-Based Access	30
AVOIP MANAGER – AUTHORIZATION	31
Overview	31
AVoIP Manager – Control & Open APIs	32
Introduction	32
Accessing the Swagger UI	32
API Overview.....	33
API Usage Note	34
FCC STATEMENT	35
ISED STATEMENT	36

AVoIP Manager Introduction

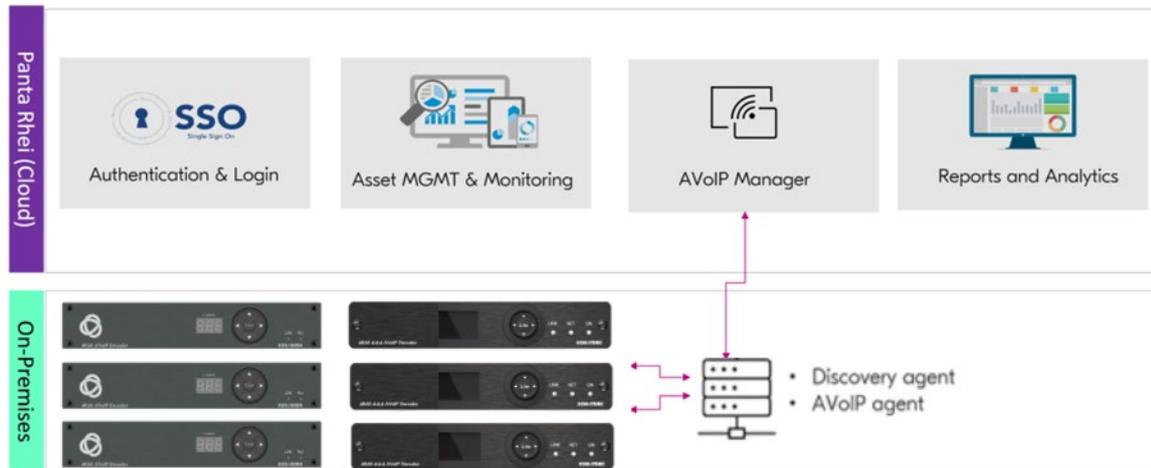
The AVoIP Manager is a cloud service from Panta Rhei designed to manage medium to large AV over IP systems. It simplifies tasks for Systems Integrators (SIs) with user-friendly wizards and editors, making it easier to set up routing scenarios, video walls, and KM/KVM configurations from a central location.

With seamless integration into Insights, Environment, and Alert services, AVoIP Manager provides clear and comprehensive system health monitoring, making it essential for IT Managers. Its integration with Kramer Control also allows end-users to access its features through a touch screen interface.

As part of Panta Rhei, it doesn't need extra hardware for AV over IP management. Currently, AVoIP Manager supports KDS-7, KDS-17, KDS-100 and ZUHD-60 devices.

AVoIP Manager – Overview

AVoIP Manager is a hybrid cloud-on-premises service within the Panta Rhei platform that provides centralized management of AV-over-IP devices across distributed environments. It enables users to configure, route, monitor, and manage Kramer devices remotely.



AVoIP Manager Components

AVoIP Manager is made up of two main components:

1. Cloud (Panta Rhei Portal)
 - Configure device settings and routing logic.
 - Push configuration and routing rules to remote sites.
 - Monitor device status and receive real-time feedback.
 - Accessible via the Panta Rhei web portal.
2. On-Premises Site Agent
 - Installed on a local server or workstation.
 - Communicates with all Kramer devices on the local network.
 - Applies configurations received from the cloud.
 - Discovers AV devices in near real-time.
 - Reports status and results (success/failure) back to the cloud.

Note: An On-Premises-only version of AVoIP Manager is also available, with similar capabilities but managed entirely via the local network.

Key Capabilities

- Remote configuration and deployment of AV-over-IP environments.
- Site agent auto-discovers Kramer devices on the network.
- Cloud-initiated configuration and control.
- Bi-directional communication between cloud and site agent.
- Continuous feedback loop ensures visibility and operational awareness.

Network Requirements for On-Premises Agent

To ensure successful communication between the **On-Premises Site Agent** and the **Panta Rhei Cloud**, the following ports must be open and accessible from the on-premises environment:

Port	Type	Function
5671	TCP	communication Data TLS/SSL
443	TCP	HTTPS



Note These ports must be allowed through any firewalls or security appliances between the on-premises site and the internet.

AVoIP Manager – User Roles & Permissions

The **AVoIP Manager** service supports **three roles** to define user access and capabilities. Roles help control who can configure, activate, or simply view AVoIP configurations.

Assigning Roles

Only users with the **Customer Admin** role can assign or modify user roles for the AVoIP Manager.

To assign a role:

1. Go to Users.
2. Find and edit the desired user.
3. Navigate to the **Services** tab.
4. In the **AVoIP Manager** dropdown, select the appropriate role.

Available Roles

Role	Description
Contributor	Full access to create, read, update, and delete configurations (CRUD).
Operator	Can activate setups but cannot make changes to configurations. Read-only for all other actions.
Reader	View-only access. Can browse configurations and statuses but cannot make changes.



Note Use roles to ensure proper access control across different team responsibilities.

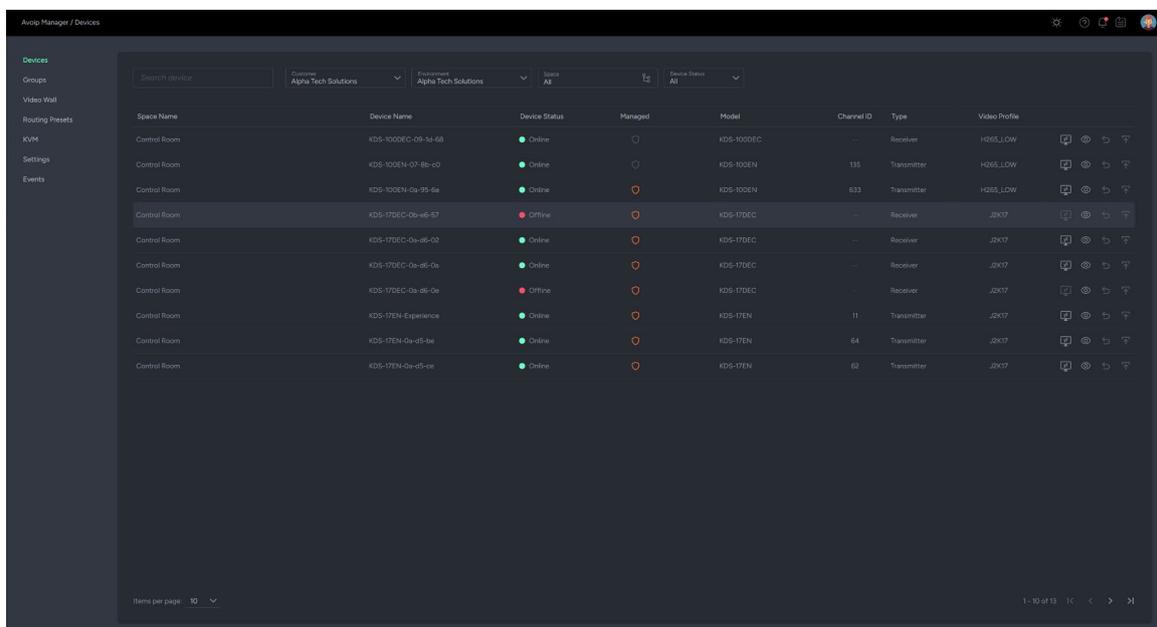
AVoIP Manager – Configuration Guide

Introduction

The AVoIP Manager is part of the Panta Rhei platform and provides a centralized interface for managing AV-over-IP environments. This service enables discovery, configuration, monitoring, and control of Kramer AVoIP devices within remote or on-premises environments. The AVoIP Manager service is accessible from the Panta Rhei portal and integrates with cloud-based and on-site agents to maintain real-time control over devices.

Service Structure

Below is a preview of the AVoIP Manager interface. The left-hand menu provides access to all the service modules.



Navigation Menu Overview

The main navigation menu includes the following modules:

Devices

Displays a list of all discovered devices, their types (Receiver/Transmitter), status (Online/Offline), video profiles, models, and channel IDs. This is the main view for device visibility and control.

Groups

Allows users to organize devices into logical groups, simplifying bulk actions and routing.

Video Wall

Provides controls to create and manage video walls using Kramer AVoIP devices.

Routing Presets

Enables saving and applying routing configurations as presets to quickly reconfigure environments.

KVM

KVM (Keyboard, Video, Mouse) functionality allows seamless control switching between computers and displays using Kramer AVoIP transmitters and receivers.

Settings

Service-wide configuration options including default behaviors, discovery preferences, and agent assignments.

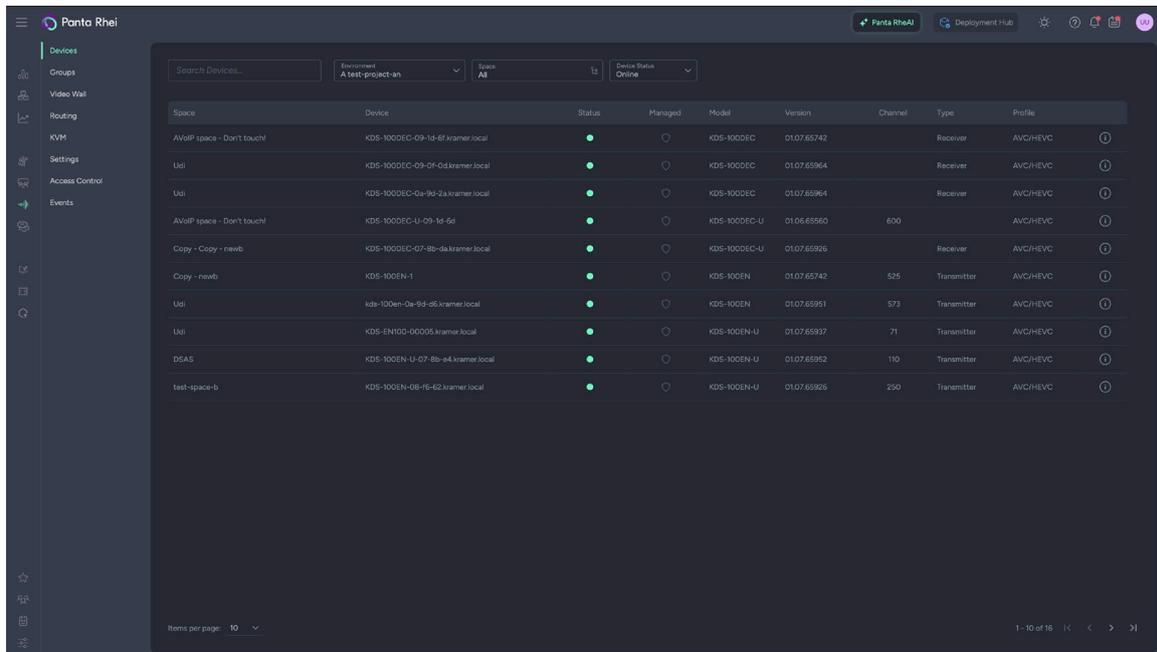
Events

A logging section showing actions, updates, and system messages for auditing and troubleshooting purposes.

AVoIP Manager – Devices

Overview

The **Devices** page is the main interface for viewing and managing Kramer AVoIP devices. It displays essential details for each discovered device, including status, type, model, and video profile.



The screenshot shows the 'Panta Rhei' interface with a sidebar on the left containing navigation options: Devices, Groups, Video Wall, Routing, KVM, Settings, Access Control, and Events. The main content area displays a table of discovered devices. At the top of the table, there are filters for Environment (A test-project-an), Status (All), and Device Status (Online). The table has columns for Space, Device, Status, Managed, Model, Version, Channel, Type, and Profile. Below the table, there is a pagination control showing 'Items per page: 10' and '1 - 10 of 15'.

Space	Device	Status	Managed	Model	Version	Channel	Type	Profile
AVoIP-space - Don't touch!	KDS-100DEC-09-1d-6f.kramer.local	●	○	KDS-100DEC	01.07.65742		Receiver	AVC/HEVC
Udi	KDS-100DEC-09-0f-0d.kramer.local	●	○	KDS-100DEC	01.07.65964		Receiver	AVC/HEVC
Udi	KDS-100DEC-0a-9d-2a.kramer.local	●	○	KDS-100DEC	01.07.65964		Receiver	AVC/HEVC
AVoIP-space - Don't touch!	KDS-100DEC-U-09-1d-5d	●	○	KDS-100DEC-U	01.06.65560	600		AVC/HEVC
Copy - Copy - newb	KDS-100DEC-07-Bb-da.kramer.local	●	○	KDS-100DEC-U	01.07.65926		Receiver	AVC/HEVC
Copy - newb	KDS-100EN-1	●	○	KDS-100EN	01.07.65742	525	Transmitter	AVC/HEVC
Udi	Kds-100en-0a-9d-85.kramer.local	●	○	KDS-100EN	01.07.65951	573	Transmitter	AVC/HEVC
Udi	KDS-EN100-10005.kramer.local	●	○	KDS-100EN-U	01.07.65937	71	Transmitter	AVC/HEVC
DSAS	KDS-100EN-U-07-Bb-e4.kramer.local	●	○	KDS-100EN-U	01.07.65952	110	Transmitter	AVC/HEVC
test-space-b	KDS-100EN-08-1e-62.kramer.local	●	○	KDS-100EN-U	01.07.65926	250	Transmitter	AVC/HEVC

Device List Columns

Each row represents a device, with the following key columns:

- **Space Name:** The logical group or room where the device is located.
- **Device Name:** Hostname or identifier of the device.
- **Device Status:** Online/Offline indicator.
- **Managed:** Whether the device is actively managed (locked).
- **Model:** Hardware model of the device.
- **Version:** Device current FW version.
- **Channel ID:** Stream ID assigned to the device.
- **Type:** Indicates whether the device is a Transmitter or Receiver.
- **Video Profile:** Active video encoding profile (e.g., H265_LOW, J2K17).

Action Buttons

Each device row includes a set of action Button (right table column)

- **Open device Web:** Launches the device's native web interface in a new browser tab.
 - Can be open via remote on local (AVoIP Standalone only support Local)
- **Action buttons:** allow quick actions such as Device reset, Factory reset, Blink device
- **Additional action option:** Depends on the devices model (KDS-7, KDS-17, KDS-100)
- **Device Info (additional Details):** Displays low-level technical details in JSON format, including discovery and metadata.

The screenshot shows a 'Device Info' window for a device with the following details:

- Name:** KDS-100EN-U-08-f6-6c
- OS Uptime:** Up 6 days, 16:48
- Model:** KDS-100EN-U
- Serial:** 11220018700006
- Channel ID:** 629
- Version:** 01.07.65978
- Type:** Transmitter
- Details:** AVC/HEVC

Below the details are several action buttons: 'Local Web Access' (with a dropdown arrow), 'Device Reset', 'Factory Reset', and 'Blink Device'. There is also a 'Profile' dropdown menu set to 'Broadcast Streaming'. Below this are three expandable sections: 'Network Stream', 'Audio Streaming', and 'Network'. The 'Additional Details' section is expanded, showing a tree view with 'Root' selected and sub-items: 'System', 'Control', 'Network', and 'Feature'. At the bottom of the panel are 'Cancel' and 'Send' buttons.

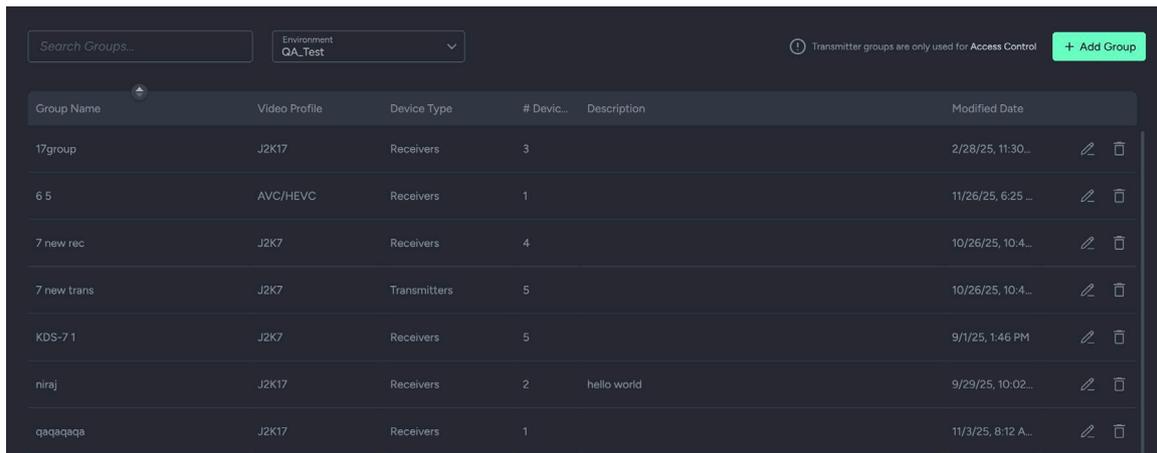
- **Send button:** Click to send the required commands if changed to the device.

AVoIP Manager – Groups

Overview

The **Groups** page in AVoIP Manager allows users to organize compatible Receiver (decoder) devices into logical groups. Grouping makes it easier to manage routing operations, especially in large environments. Groups are created by device type to ensure compatibility—for example, a KDS-100 device cannot be grouped with a KDS-17.

Group List



Group Name	Video Profile	Device Type	# Devic...	Description	Modified Date
17group	J2K17	Receivers	3		2/28/25, 11:30...
6 5	AVC/HEVC	Receivers	1		11/26/25, 6:25 ...
7 new rec	J2K7	Receivers	4		10/26/25, 10:4...
7 new trans	J2K7	Transmitters	5		10/26/25, 10:4...
KDS-7 1	J2K7	Receivers	5		9/1/25, 1:46 PM
niraj	J2K17	Receivers	2	hello world	9/29/25, 10:02...
qaaqaa	J2K17	Receivers	1		11/3/25, 8:12 A...

Each row represents a group, with the following columns:

- **Group Name:** The title of the group.
- **Video Profile:** Assigned profile (e.g., J2K17) used by all devices in the group.
- **Device type:** Receiver or Transmitter
- **# Devices:** Number of devices included in the group.
- **Description:** A short explanation of the group's purpose.
- **Modified Date:** Last modification time.
- **Edit/Delete Icons:** Use these to modify or remove the group.

AVoIP groups primarily target groups of receivers (many-to-one relationships), while also allowing users to define transmitter groups for access control *

Editing or Creating Group

Edit Group Device Type Receivers

Group name* Video profile*

Description (200 characters)

Device List Selected devices

Device search

No items

Device search

[Select all]

Kds-Dec7-08-0b-00

KDS-DEC7-001D56080D23

Wp-Dec7-09-86-37

KDS-DEC7-09-8D-9C-Test

Kds-Dec7-0a-56-Dc

5 devices selected

To create or edit a group:

1. Click **Add Group** (for new) or the pencil icon (for edit).
2. Enter the **Group Name** and select a ****Video Profile****.
3. Optionally, add a **Description**.
4. Use the dual lists to move compatible devices from the left (**Device List**) to the right (**Selected Devices**).
5. Click **Save** to apply the changes.

Notes & Best Practices

- Devices must be of the same model family to be grouped together.
- Grouping receivers simplifies routing workflows in presets and video walls.
- Always verify device compatibility before assigning to a group.

AVoIP Manager – Video Wall

Overview

The **Video Wall** page in AVoIP Manager allows users to configure and manage video walls using supported Kramer devices. Video walls are built by grouping multiple displays into structured layouts and assigning input/output devices accordingly. This feature is supported only for **KDS-17** and **KDS-7** models.

Video Wall Types

Introduction to Regular Video Walls

Regular Video Walls are structured layouts where displays are arranged in uniform rows and columns—such as 2×2, 3×3, or 4×1 grids. This is the most common format for boardrooms, control rooms, and public displays.

With Regular video walls, you can:

- Easily configure displays in symmetrical layouts
- Maintain consistent aspect ratios across screens
- Stretch or fit a single video source across the entire grid
- Define bezel correction and screen spacing for visual accuracy

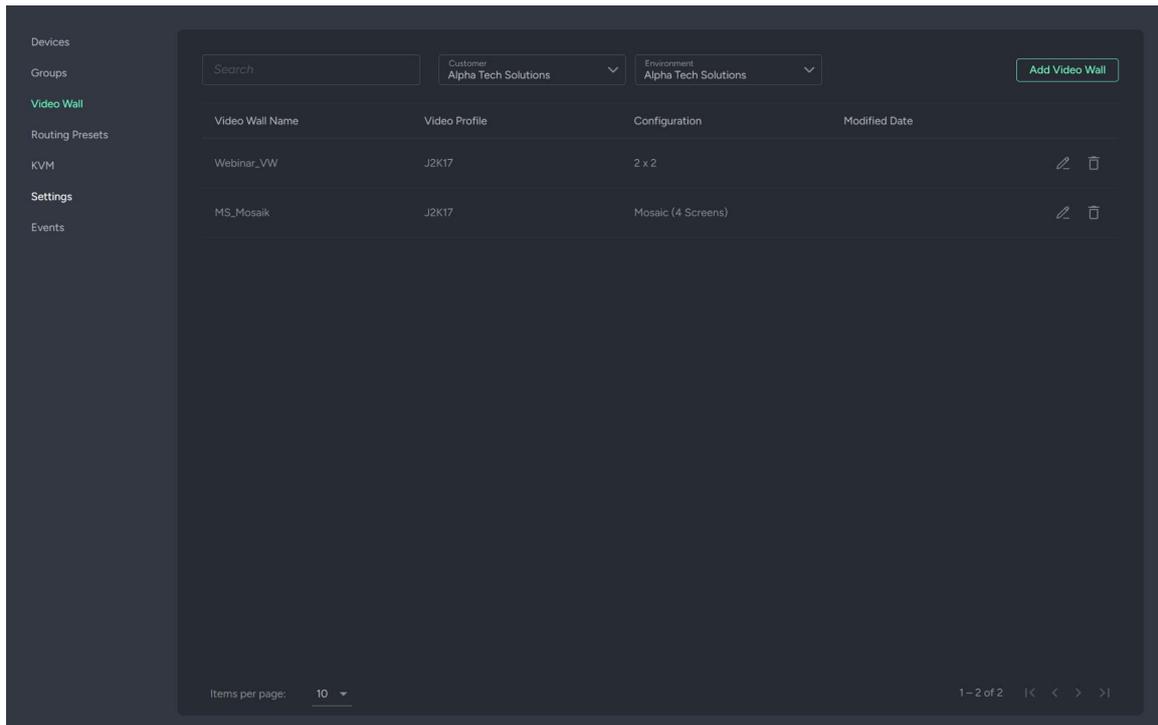
Introduction to Mosaic Video Walls

Mosaic Video Walls allow users to create flexible, non-traditional screen layouts using multiple Kramer receivers. Unlike the standard grid-based (Regular) layout, Mosaic mode supports customized arrangements—ideal for creative displays, irregular screen sizes, or mixed orientations.

With Mosaic, you can:

- Arrange screens in non-uniform rows and columns
- Overlap or position screens freely based on physical placement
- Apply bezel adjustments and screen dimensions individually
- Maintain synchronized video output across unique display arrangements

Video Wall List



The screenshot shows a web interface for managing video wall setups. On the left is a sidebar with navigation options: Devices, Groups, Video Wall (highlighted), Routing Presets, KVM, Settings, and Events. The main area features a search bar, two dropdown menus for 'Customer' and 'Environment' (both set to 'Alpha Tech Solutions'), and an 'Add Video Wall' button. Below this is a table with the following data:

Video Wall Name	Video Profile	Configuration	Modified Date
Webinar_VW	J2K17	2 x 2	
MS_Mosaik	J2K17	Mosaic (4 Screens)	

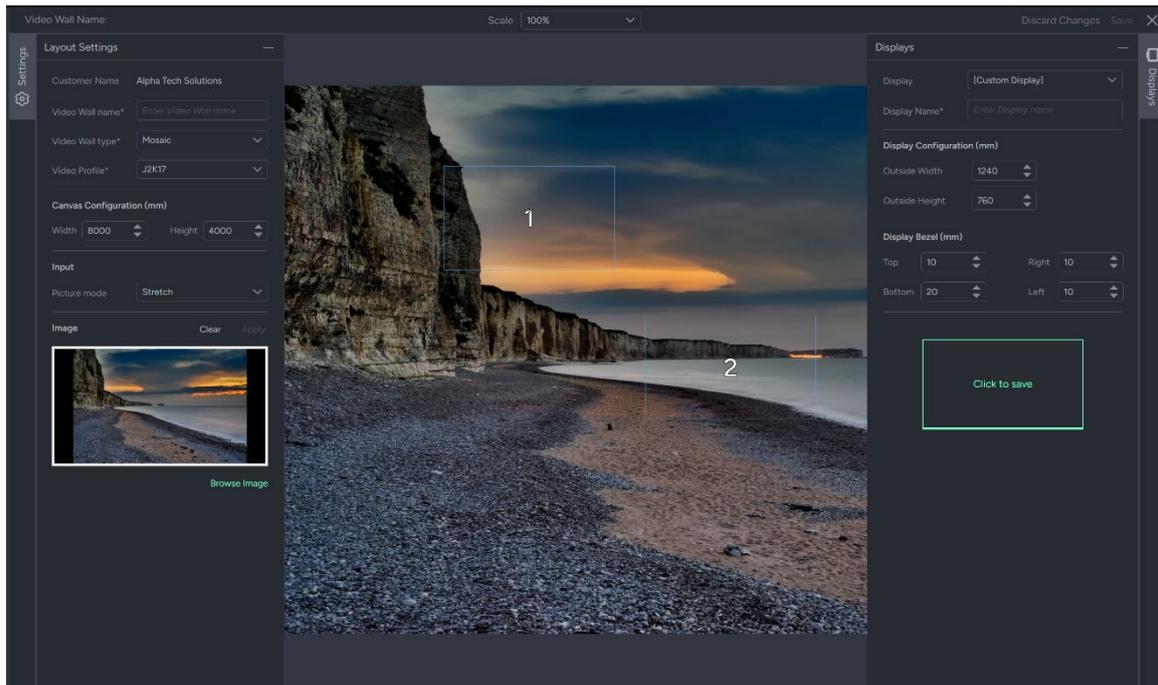
At the bottom of the table, there is a pagination control showing 'Items per page: 10' and '1 - 2 of 2' with navigation arrows.

This view displays all created video wall setups:

Video Wall Name**: User-defined label for the setup.

1. **Video Profile**: Selected video encoding format (e.g., J2K17).
2. **Configuration**: Type of layout (e.g., 2x2 grid, Mosaic).
3. **Modified Date**: Timestamp of the last update.
4. **Edit/Delete Icons**: Use these to adjust or remove a setup.
5. Click **Add Video Wall** to create a new layout.

Video Wall Editor Layout



Layout settings panel – Define video walls details and size

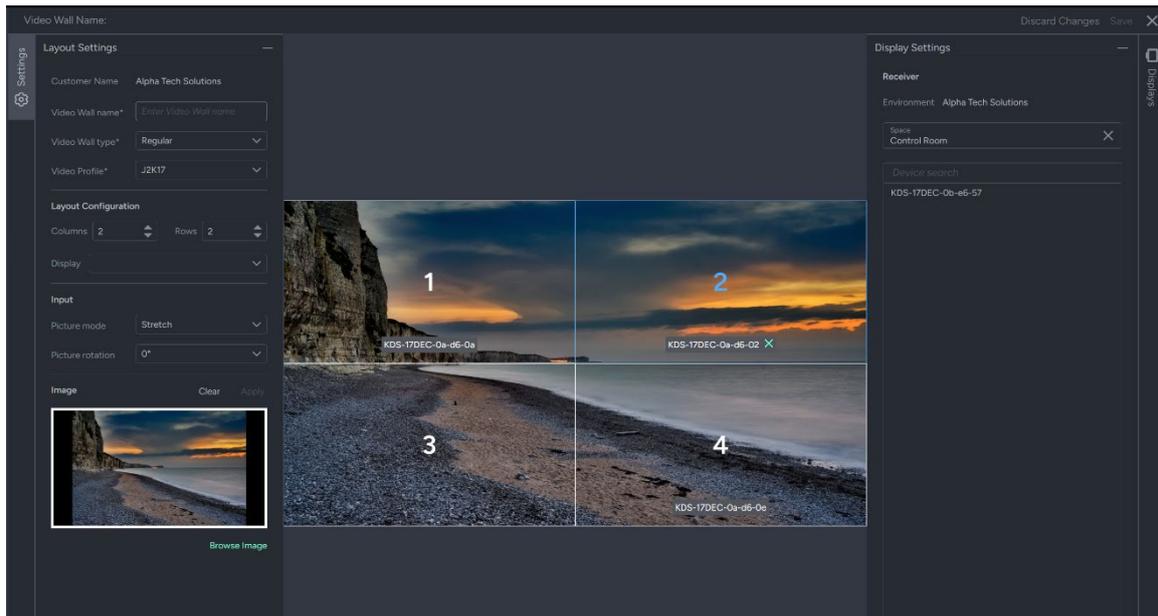
Canvas and Display Placement – The central canvas is where you arrange and position your display tiles. Each display appears as a numbered tile that can be moved, resized, and aligned.

- In **Mosaic mode**, displays can be freely placed anywhere within the canvas area.
- In **Regular mode**, displays follow a fixed grid layout.

Display Settings Panel – This panel allows you to create, configure, and manage custom displays—including their dimensions and bezel sizes.

It also enables selecting and assigning displays to the canvas layout, either by dragging them into position or using placement controls.

Creating and Editing a Video Wall (Regular)



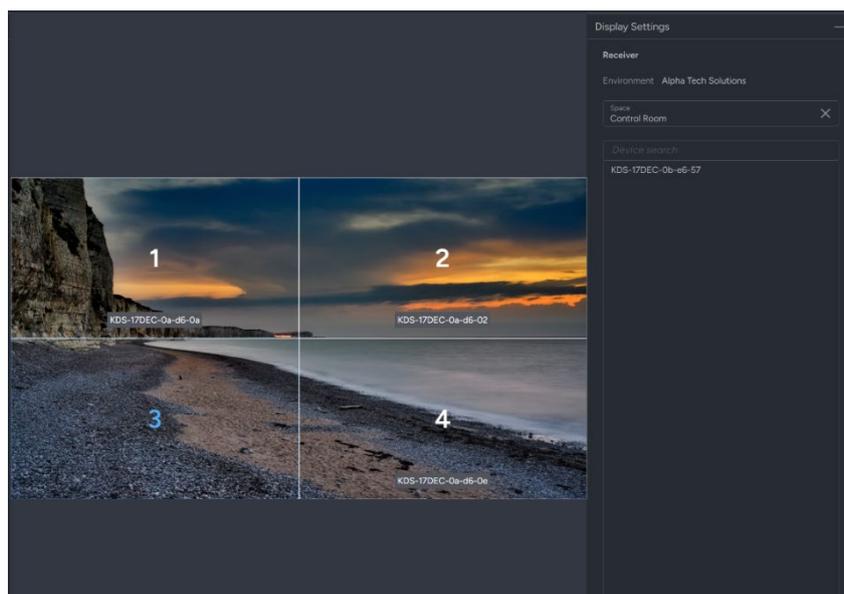
To create or edit a video wall:

Left side Panel

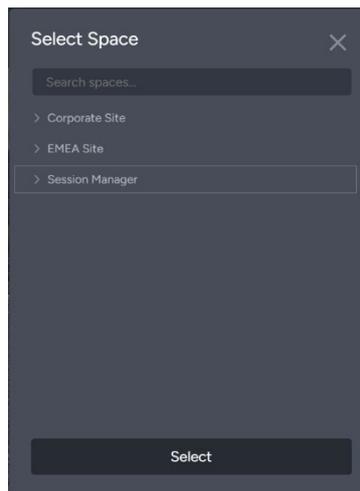
1. Set the Video Wall Name, Type (Regular or Mosaic), and Video Profile.
2. Define the Layout Configuration by choosing rows and columns.
3. Assign devices to layout positions by clicking on the display dropdown list.
4. Optionally upload an image for layout visualization.
5. Select Picture mode: **Stretch, Crop to Fill, Fit to Screen**
6. Set the required picture rotation.
7. Click Save to finalize the configuration.

Right Side Panel (Receiver Selection)

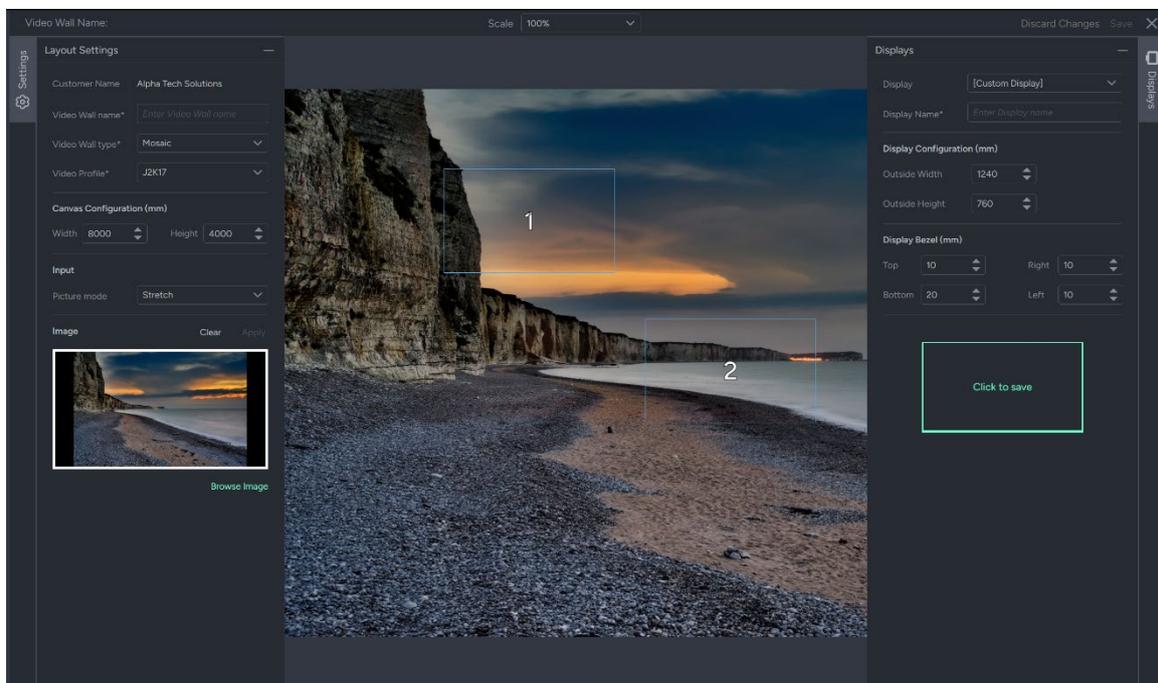
1. Click on 1 of the Video wall cells to associate Receiver.
2. Right side panel with list of Space/Receivers will appear.



3. Click on Space top select receivers.



Creating and Editing a Video Wall (Mosaic)



To create or edit a video wall:

Left side Panel

1. Similar like was done in regular Video Wall
2. Canvas Configuration notes:

Unlike Regular video walls that use defined rows and columns, **Mosaic layouts** are based on a flexible **canvas system** measured in millimeters (mm).

The **Canvas Configuration** defines the total width and height of the virtual layout space in which individual displays are placed. Each screen can then be positioned freely within this canvas to match the physical layout of your monitors.

Example:

- Width: 8000 mm
- Height: 4000 mm

This allows precise placement of each display, supports non-standard screen sizes, and enables creative video wall designs.

Right side Panel (Displays)

1. Open the Displays panel on the right side.
2. Choose the display you want to place.
3. Drag and drop the selected display onto the desired position in the canvas area.
4. Repeat the process to add more displays as needed.

Right side Panel (Receivers)

1. Click on any of the displays inside the main area, Receiver right side panel will be displayed.
2. Select the space and receiver you wish to assign.
3. Repeat the receiver assignment steps as needed.

AVoIP Manager – Routing Presets

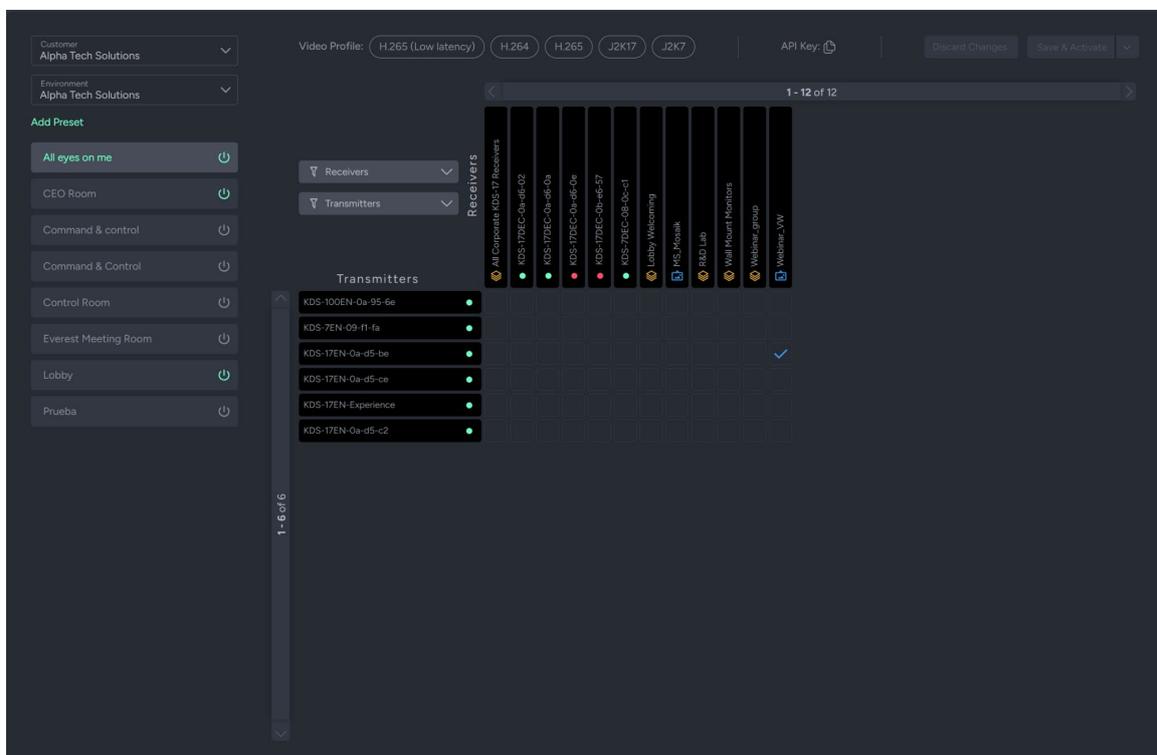
Overview

The **Presets** page is the core functionality of the AVoIP Manager. It allows customers to define and control routing between Transmitters (encoders) and Receivers (decoders), including individual receivers, receiver groups, or entire video walls. Presets simplify AV distribution by enabling users to define repeatable routing setups for each environment or room.

It is allowing users to build and operate complete AV setups by combining video routes and video walls into a single, unified preset.

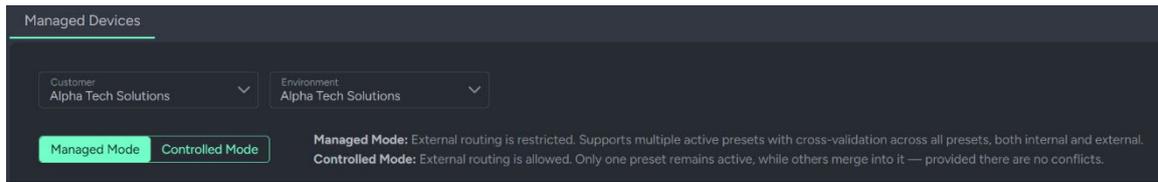
The idea behind a Routing Preset is to group multiple routes and configurations together, enabling users to activate them all at once with a single click.

For example, in a command-and-control room with a complex multi-source setup, a Routing Preset lets an operator instantly switch to an entirely different layout and set of sources—simplifying control and improving responsiveness.



Preset Modes

AVoIP Manager supports two preset modes, configurable from the AVoIP Settings page:



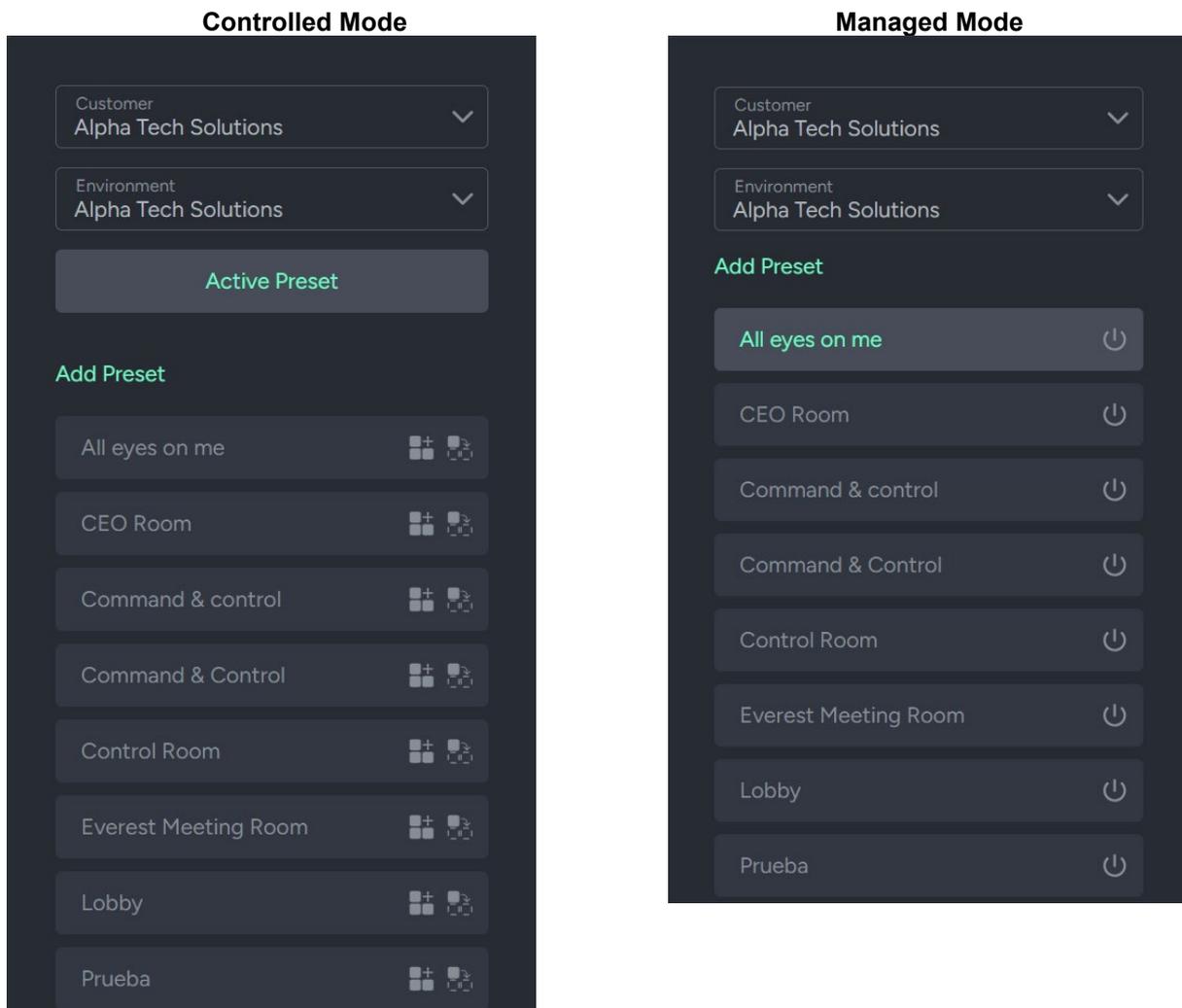
Managed Mode:

External routing is restricted. Supports multiple active presets with cross-validation across all presets, both internal and external.

- **Default** configuration.
- Ideal for high-control environments with strict signal paths.

Controlled Mode:

External routing is allowed. Only one preset remains active, while other presets can replace or merge into it — provided there are no conflicts.



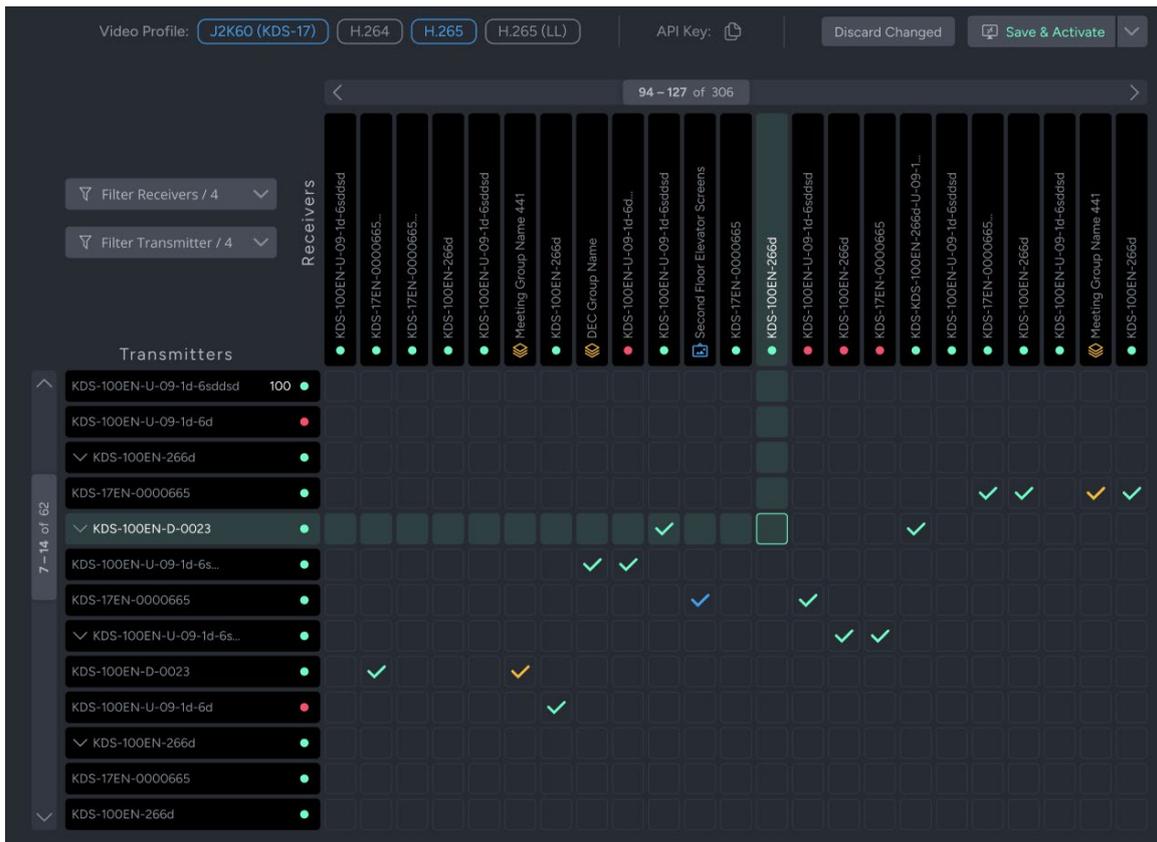
Controlled Mode – Users can either append a new preset to the currently active one or replace the active preset entirely

Managed Mode – Supports multiple active presets at the same time.

Using the Presets Page

- Select a preset from the list on the left or click **Add Preset** to create a new one.
- In the matrix, match Transmitters (rows) to Receivers (columns) by clicking the intersecting square.
- Receivers may be:
 - Individual decoder devices
 - Groups of compatible decoders
 - Pre-configured video walls
- Presets only support pairing between devices of the same model type
- Video profile filters help you quickly apply the desired compression or format during mapping
- Click **Save & Activate** to apply routing.
- In **Controlled Mode**, there is only 1 active Preset, rest of the Presets can be merged in or replace the active preset:
 -  Will merge the preset into the existing Active preset – assuming no overlapping
 -  Will replace the active preset setting with the selected one
- In **Managed Mode**, multiple presets can be active
 -  activation toggle allows to activate or deactivate a preset

Using the Presets Page (Matrix)

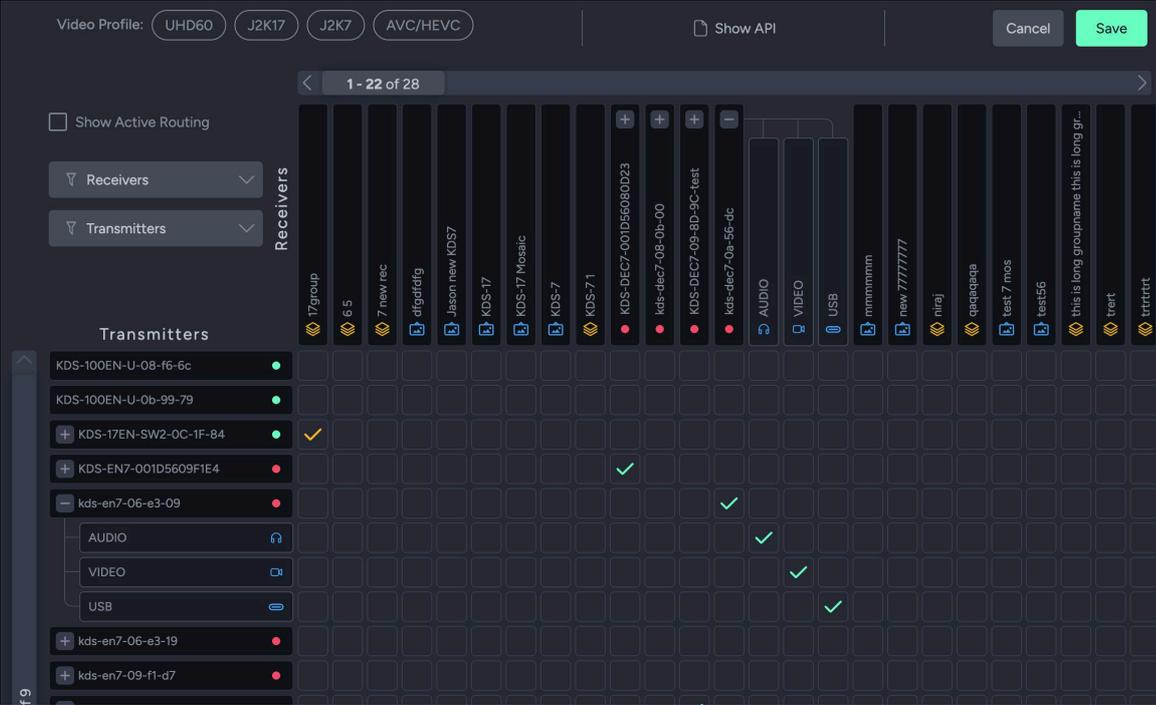


The screenshot displays the Presets Page Matrix interface. At the top, the Video Profile is set to J2K60 (KDS-17), with options for H.264, H.265, and H.265 (LL). The API Key is visible, and there are buttons for 'Discard Changed' and 'Save & Activate'. The matrix shows a grid of Transmitters (rows) and Receivers (columns). The Transmitters list includes: KDS-100EN-U-09-1d-6sddd, KDS-100EN-U-09-1d-6d, KDS-100EN-266d, KDS-17EN-0000665, KDS-100EN-D-0023, KDS-100EN-U-09-1d-6s..., KDS-17EN-0000665, KDS-100EN-U-09-1d-6s..., KDS-100EN-D-0023, KDS-100EN-U-09-1d-6d, KDS-100EN-266d, KDS-17EN-0000665, and KDS-100EN-266d. The Receivers list includes: KDS-100EN-U-09-1d-6sddd, KDS-17EN-0000665, KDS-17EN-0000665, KDS-100EN-266d, KDS-100EN-U-09-1d-6sddd, Meeting Group Name 441, KDS-100EN-266d, DEC Group Name, KDS-100EN-U-09-1d-6d, KDS-100EN-U-09-1d-6sddd, Second Floor Elevator Screens, KDS-17EN-0000665, KDS-100EN-266d, KDS-100EN-U-09-1d-6sddd, KDS-100EN-266d, KDS-17EN-0000665, KDS-KDS-100EN-266d-U-09-1..., KDS-100EN-U-09-1d-6sddd, KDS-17EN-0000665, KDS-100EN-266d, KDS-100EN-U-09-1d-6sddd, Meeting Group Name 441, and KDS-100EN-266d. The matrix shows various compatibility indicators: green checkmarks for compatible pairs, yellow checkmarks for other states, and red checkmarks for incompatible pairs. A 'Second Floor Elevator Screens' receiver is highlighted in blue.

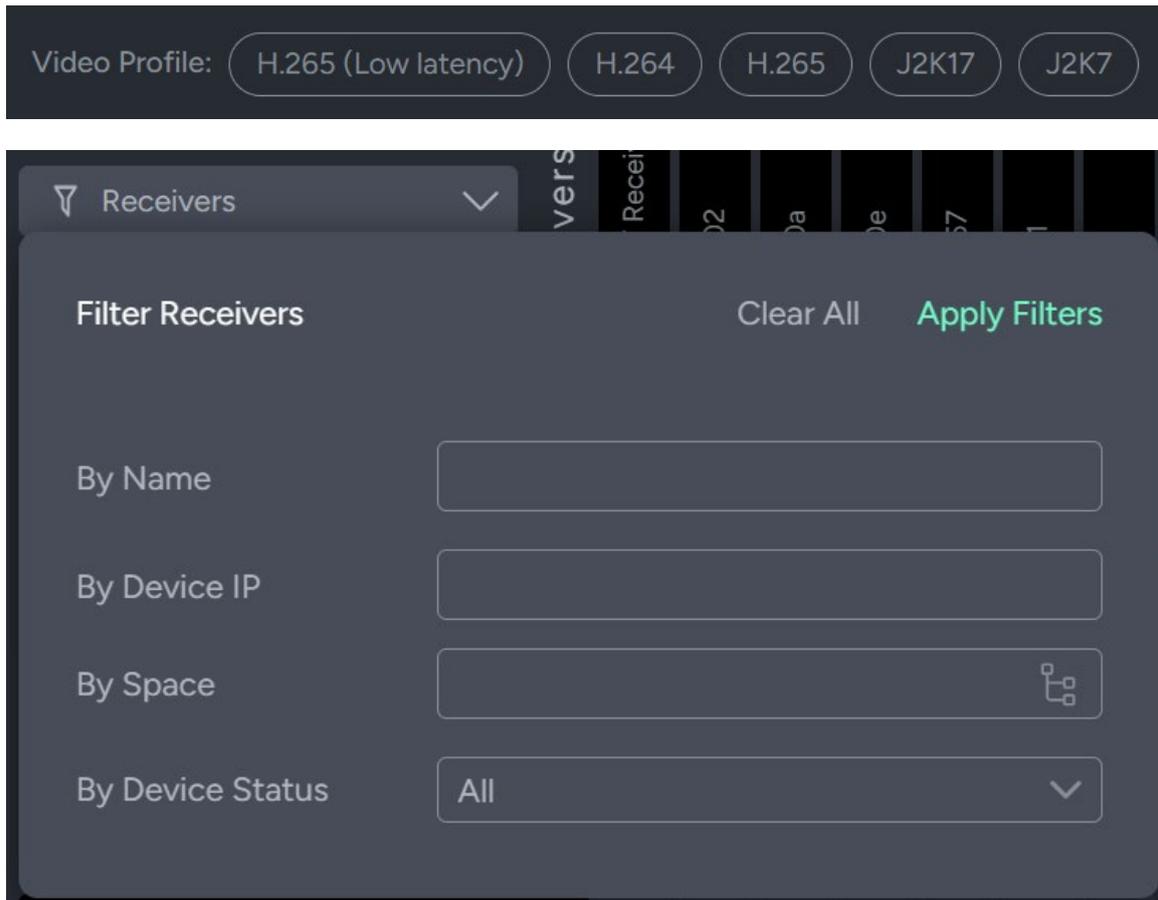
- Mouse hover and select pairs you need to route, click when ready.
 - Check will appear once clicked
 - Hover will allow selecting only eligible and matched pairs of devices
- Continue as needed, click Save or Save & activated when done

Using the Presets Page with Signals (matrix)

- AVoIP support Signal routing allowing customers to mix and route signals to different sources if required Or route part of the signals if needed
- Supported model families
 - a) KDS-7
 - b) KDS-17
 - c) UHD60



Using the Presets Page (Filters)

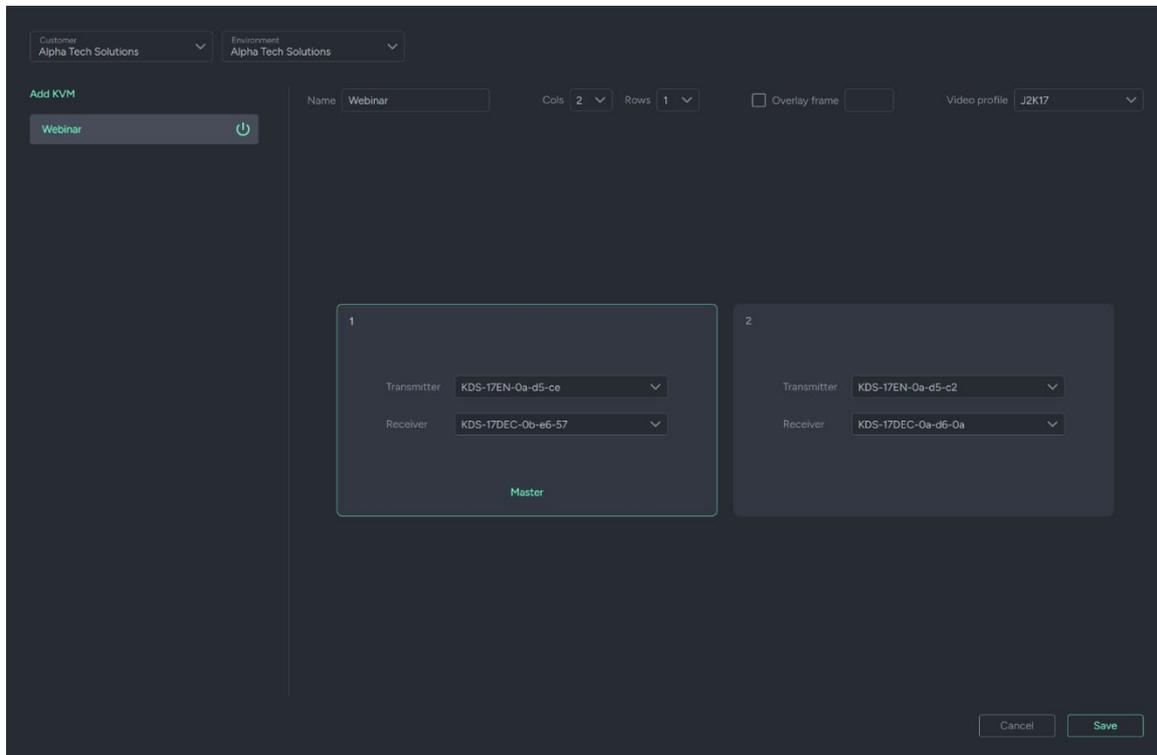


- The Presets page includes advanced filters to help quickly locate and select devices.
- Users can filter by device type and further narrow results by Space, Name, or Status as needed.

AVoIP Manager – KVM

Overview

The **KVM (Keyboard, Video, Mouse)** page in AVoIP Manager allows users to configure and activate remote control setups between compatible Kramer AV devices. Supported models include **KDS-17**, **KDS-7**, and **KDS-100** (via USB connection).



Functionality

KVM setups enable flexible workstation switching and remote control. Each KVM pairing defines a route between a **transmitter (encoder)** and a **receiver (decoder)** for sharing video and peripheral inputs.

- Users can create multiple KVM configurations and activate selected ones when needed.
- Transmitters can be switched ad-hoc within an active KVM session.
- Device types cannot be mixed (e.g., KDS-17 and KDS-100 must be configured separately).

Creating a KVM Setup

To create a KVM setup:

- Click **Add KVM** on the left panel.
- Enter a **Name** and define the number of **Columns** and **Rows**.
- Select a **Video Profile** (e.g., J2K17).
- Check if Overlay is required and set its color
- For each layout cell, assign a **Transmitter** and a **Receiver**.
- Designate one of the pairs as the **Master** if applicable.
- Click **Save** to store the configuration.

Activation & Switching

- Once saved, KVM setups can be activated from the left panel.
- Active KVM sessions support real-time transmitter switching within the defined pairings.
- Changes can be made without affecting unrelated KVM setups.

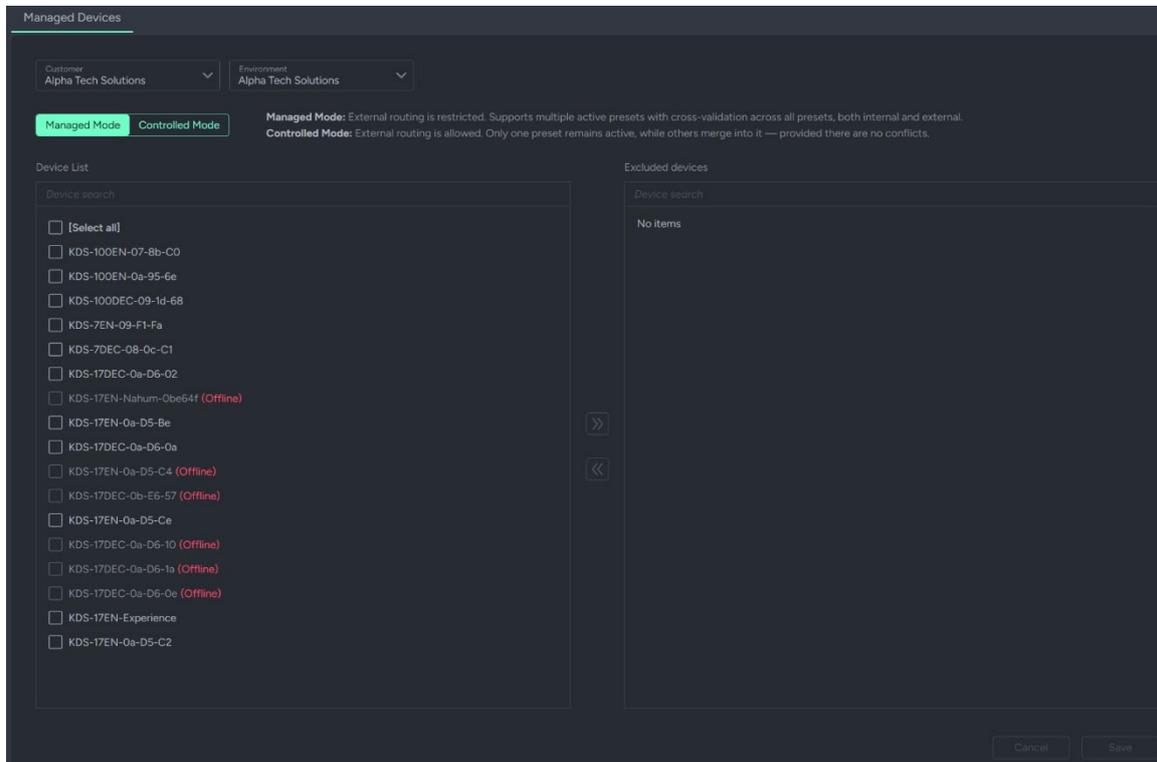
Notes

- Ensure that only compatible models are paired within the same KVM layout.
- KVM routing is separate from the general routing presets page and supports focused control environments.

AVoIP Manager – Settings

Overview

The **Settings** page in AVoIP Manager allows users to define how routing presets are managed across their devices. It offers a choice between two operation modes: **Managed Mode** and **Controlled Mode**, each tailored for different AV workflows.



Managed Mode vs Controlled Mode

Managed Mode:

- External routing is restricted.
- Allows multiple active presets at once with cross-validation to prevent routing conflicts.
- Ensures preset consistency across both internal and external sources.
- Devices are locked under the manager's control.
- Users can manually exclude devices from management to prevent them from participating in routing setups.

Controlled Mode:

- External routing is allowed.
- Only one active preset is maintained; new presets merge into the active one when no conflicts exist.
- No need to exclude devices—AVoIP Manager reads and syncs the actual device configuration periodically.
- Designed for environments where external tools or users may change routing directly.

Excluding Devices (Managed Mode Only)

In **Managed Mode**, users may exclude certain devices from being managed. These excluded devices will:

- Not be included in any active or future presets
- Operate independently of the manager
- Remain unaffected by the system's preset logic

To exclude a device, select it from the device list and move it to the **Excluded Devices** panel using the arrow buttons.

Saving Configuration

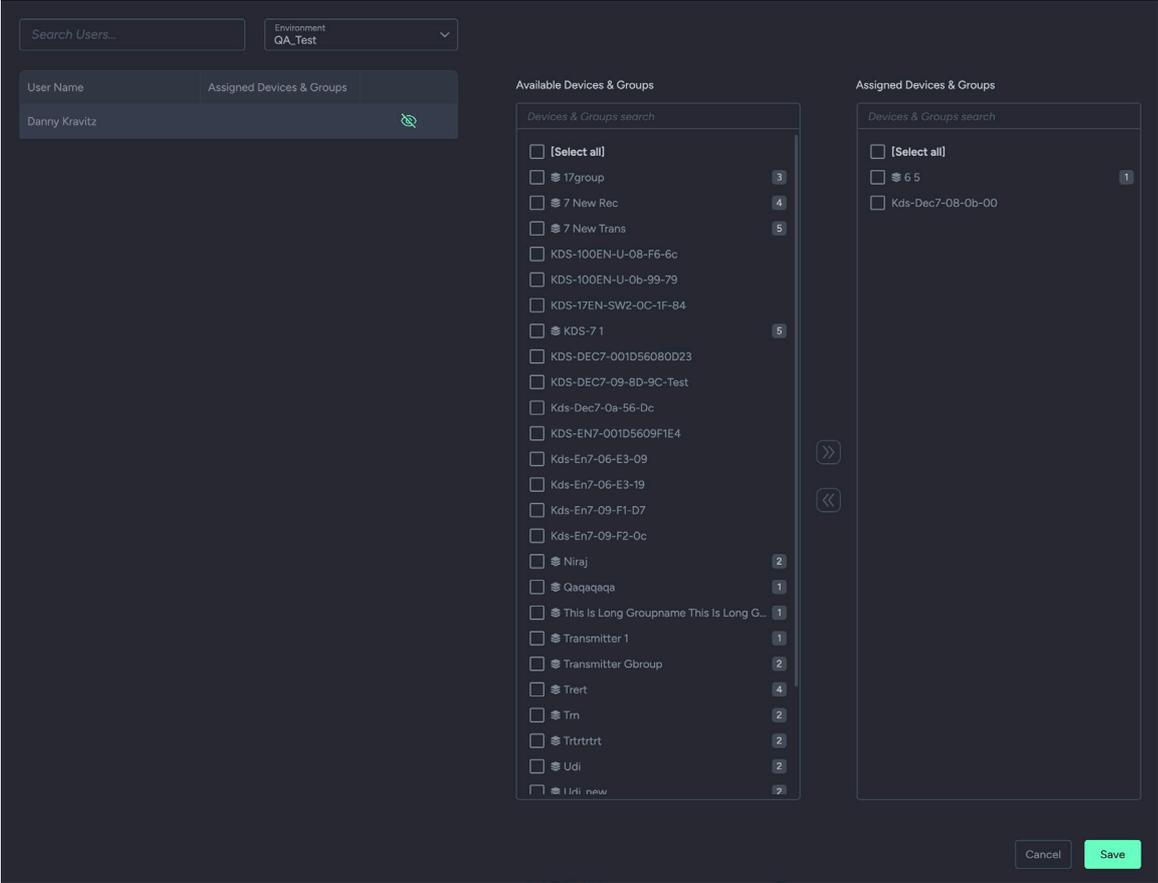
Once the desired mode and exclusion list are set, click **Save** to apply the configuration. Changes will impact how devices are managed in the Presets and KVM pages moving forward.

AVoIP Manager – Access Control

Overview

Access Control allows administrators to provision and assign specific devices to users with the Operator role, restricting their access to certain devices when required.

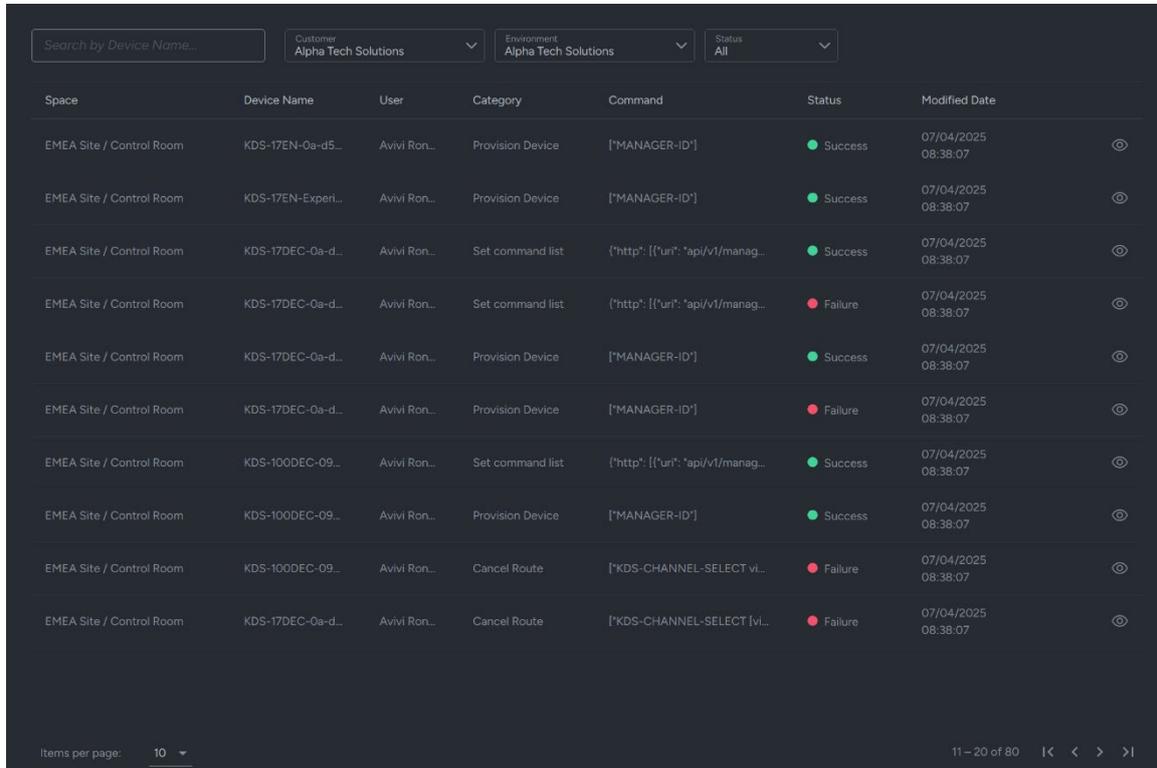
- List of users will display users with role Operator
- Admin/Contributor will be able to assign by selecting the Eye icon per user
 - Assign specific devices each user should need to view and operate
 - Both Devices (single) and groups supported.



AVoIP Manager – Events

Overview

The **Events** page in AVoIP Manager provides a full command log of all interactions between the AVoIP service and managed devices. It tracks the status of routing operations, KVM setups, provisioning actions, and other commands executed within the system.



Space	Device Name	User	Category	Command	Status	Modified Date
EMEA Site / Control Room	KDS-17EN-0a-d5...	Avivi Ron...	Provision Device	['MANAGER-ID']	Success	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-17EN-Experi...	Avivi Ron...	Provision Device	['MANAGER-ID']	Success	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-17DEC-0a-d...	Avivi Ron...	Set command list	{'http': [{'uri': 'api/v1/manag...	Success	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-17DEC-0a-d...	Avivi Ron...	Set command list	{'http': [{'uri': 'api/v1/manag...	Failure	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-17DEC-0a-d...	Avivi Ron...	Provision Device	['MANAGER-ID']	Success	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-17DEC-0a-d...	Avivi Ron...	Provision Device	['MANAGER-ID']	Failure	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-100DEC-09...	Avivi Ron...	Set command list	{'http': [{'uri': 'api/v1/manag...	Success	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-100DEC-09...	Avivi Ron...	Provision Device	['MANAGER-ID']	Success	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-100DEC-09...	Avivi Ron...	Cancel Route	['KDS-CHANNEL-SELECT vi...	Failure	07/04/2025 08:38:07
EMEA Site / Control Room	KDS-17DEC-0a-d...	Avivi Ron...	Cancel Route	['KDS-CHANNEL-SELECT [vi...	Failure	07/04/2025 08:38:07

Purpose and Use

- Records every command sent by the service to a device, including its status (Success or Failure).
- Helps administrators monitor and audit all configuration changes.
- Supports troubleshooting and debugging by allowing users to drill into individual event logs.
- Clearly identifies the user, device, category, command, and timestamp of each event.

Viewing and Managing Events

Click the eye icon on any event row to open detailed event information. The detailed view includes the original command, timestamp, user who triggered the action, and the system's response.

Event Info

Customer	Alpha Tech Solutions	Status	● Failure
Environment	Alpha Tech Solutions	User	Avivi Ronen
Space	EMEA Site / Control Room	Category	Provision Device
Device Name	KDS-17DEC-0a-d6-0a	Date	07/04/2025 08:38:07
Setup Action	PROVISION		

Command

```
[*MANAGER-ID*]
```

Response

```
Failed to establish WebSocket connection to '172.17.140.224'
```

Close
Retry

Retrying Failed Events

If a command fails—for example, due to a network or connection issue—the system will log the error message. Users can click **Retry** to resend the failed command without reconfiguring it manually.

Role-Based Access

Admin users can view the entire command history for their organization, allowing better insight into:

- Who initiated actions
- What was attempted
- When and how it was executed
- Whether it succeeded or failed

AVoIP Manager – Authorization

Overview

AVoIP Manager includes a role-based access model that defines the level of control each user has within the system. This ensures proper access segregation between those who configure the service and those who operate it.

Available Roles:

1. Contributor

- Full access to **create**, **edit**, and **delete** presets, KVMs, video walls, and other configurations.
- Suitable for technical users and administrators responsible for system setup and maintenance.

2. Operator

- Can **activate** presets and KVMs, including retrying failed commands.
- Cannot **edit** or **delete** configurations.
- Intended for daily operators who execute predefined routing and KVM actions, without modifying the setup.

3. Reader

- **View-only** access.
- Cannot modify or activate anything in the system.
- Ideal for users who need to monitor system status or review configurations without making changes.

AVoIP Manager – Control & Open APIs

Introduction

The AVoIP Manager provides an Open API that enables remote control of devices within an environment. Through this API, users can route video streams, activate presets, control KVM, and manage group assignments using simple HTTP POST requests. This document guides users on how to access and use the Control API, using the Swagger UI integrated within the Preset section.

Accessing the Swagger UI

To explore the API:

1. Navigate to the Preset page in the AVoIP Manager.
2. On the Upper middle, Click the Show API text button.

This will open the API reference interface shown below:

Video Routing Control API 1.0.0 OAS 3.0

API for managing video routing, presets, KVM, and group assignments in an environment.

Authorization Requirements:

- All endpoints require user subscription to AVoIP service
- POST endpoints require **contributor** role
- GET endpoints only require AVoIP service subscription

Routing Video and signal routing operations ^

- POST** `/api/control-remove-signal-routing` Remove signal routes from multiple transmitters to a receiver
- POST** `/api/control-remove-route` Remove a route from a transmitter to a receiver/group/video wall
- POST** `/api/control-add-signal-routing` Add signal routes from multiple transmitters to a receiver
- POST** `/api/control-add-route` Add a route from a transmitter to a receiver/group/video wall

Presets Preset activation and deactivation ^

- POST** `/avsm-mgr/api/control-activate-preset` Activate or deactivate a preset

KVM KVM switch management ^

- POST** `/avsm-mgr/api/control-activate-kvm` Activate or deactivate a KVM switch

Query Query operations for retrieving routing information ^

- GET** `/avsm-mgr/api/control-get-receiver-transmitters/environment/{environmentId}/preset/{preset-name}/receiver/{receiver-name}`
Get transmitters for a receiver route
- GET** `/avsm-mgr/api/control-get-group-transmitters/environment/{environmentId}/preset/{preset-name}/group/{group-name}`
Get transmitters for a group route
- GET** `/avsm-mgr/api/control-get-videwall-transmitters/environment/{environmentId}/preset/{preset-name}/videowall/{videowall-name}`
Get transmitters for a video wall route

API Overview

1. Video Routing

- /api/control-add-route
- /api/control-remove-route
- /api/control-add-signal-routing
- /api/control-remove-signal-routing

2. Preset Control

- /avsm-mgr/api/control-activate-preset

3. KVM Control

- /avsm-mgr/api/control-activate-kvm

4. Query

- /avsm-mgr/api/control-get-receiver-transmitters/environment/{environmentId}/preset/{preset-name}/receiver/{receiver-name}
- /avsm-mgr/api/control-get-group-transmitters/environment/{environmentId}/preset/{preset-name}/group/{group-name}
- /avsm-mgr/api/control-get-videowall-transmitters/environment/{environmentId}/preset/{preset-name}/videowall/{videowall-name}

Usage Examples

- Route a Receiver to a Transmitter

```
{
  "preset-name": "Main Preset",
  "transmitter-name": "KDS-17EN",
  "receiver-name": "KDS-17DEC",
  "environmentId": "550e8400-e29b-41d4-a716-446655440000"
}
```

- Activate a Preset

```
POST /avsm-mgr/api/control-activate-preset
Content-Type: application/json
```

```
{
  "presetName": "Morning Setup",
  "environmentId": "env-789",
  "activate": true
}
```

- Activate KVM

```
POST /avsm-mgr/api/control-activate-kvm
Content-Type: application/json
```

```
{
  "environmentId": "env-789",
  "activate": true
}
```

API Usage Note

- The on-premise version of AVoIP Manager does not require authentication.
- The cloud version of AVoIP Manager **requires OAuth2 authentication.**

Kramer Control drivers are already available in the driver application.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

ISED Statement

English: This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada.

L'exploitation est soumise aux deux conditions suivantes :

- (1) Cet appareil ne doit pas provoquer d'interférences.
- (2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 6.3 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 6.3 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition aux rayonnements du Canada établies pour un environnement non contrôlé.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.



P/N: 2900-301844



Rev: 1



SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing

For the latest information on our products and a list of Kramer distributors, visit our website where updates to this user manual may be found.

We welcome your questions, comments, and feedback.

All brand names, product names, and trademarks are the property of their respective owners.