



TVE-DEC13 User Manual

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- (2) This Device must accept any interference received, including interference that may cause undesired operation.

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Certification



Contact information

EMEA: <https://firesecurityproducts.com>

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Product documentation

Please consult the following web link to retrieve the electronic version of the product documentation. The manuals are available in several languages.



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Important information

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THE EQUIPMENT SHOULD ONLY BE OPERATED WITH AN APPROVED POWER ADAPTER WITH INSULATED LIVE PINS.

DO NOT CONNECT TO A RECEPTACLE CONTROLLED BY A SWITCH.

THIS UNIT INCLUDES AN ALARM VERIFICATION FEATURE THAT WILL RESULT IN A DELAY OF THE SYSTEM ALARM SIGNAL FROM THE INDICATED CIRCUITS. THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTORS) SHALL NOT EXCEED 60 SECONDS. NO OTHER SMOKE DETECTOR SHALL BE CONNECTED TO THESE CIRCUITS UNLESS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

WARNING! The equipment should only be operated with an approved power adapter with insulated live pins.

Caution: Risk of explosion if battery is replaced by an incorrect type. Dispose of batteries according to the instructions. Contact your supplier for replacement batteries.

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Intended Use

Use this product only for the purpose it was designed for; refer to the data sheet and user documentation. For the latest product information, contact your local supplier or visit us online at firesecurityproducts.com.

The system should be checked by a qualified technician at least every 3 years and the backup battery replaced as required.

Advisory messages

Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

WARNING: Warning messages advise you of hazards that could result in injury or loss of life. They tell you which actions to take or to avoid in order to prevent the injury or loss of life.

Caution: Caution messages advise you of possible equipment damage. They tell you which actions to take or to avoid in order to prevent the damage.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Introduction

The TruVision TVE-DEC13 is a H.264/H.265 IP video decoder that decodes IP video streams and shows them on the connected monitors.

Based on a powerful DSP and a stable embedded system design, the TVE-DEC13 decoder provides a high-resolution decoding function for live view from TruVision IP cameras, digital video recorders, network video recorders and encoders.

Package contents

The TruVision TVE-DEC13 IP video decoder is shipped with the following items:

- TVE-DEC13 decoder
- Power adaptor
- Power cable
- *TruVision TVE-DEC13 Quick start guide*

You can download the software and the manual from our web site. These guides are also available from our web site in several languages:

- *TruVision TVE-DEC13 User Manual*

Key features

The following key features are supported by the TVE decoder:

- Supports H.264, H.264+, H.265 and H.265+ compression
- Powerful decoding capability:
 - ◆ 1-channel video stream at 32MP resolution, or
 - ◆ 1-channel video stream at 24MP resolution, or
 - ◆ 2-channel video stream at 12MP resolution, or
 - ◆ 4-channel video stream at 8MP resolution, or
 - ◆ 5-channel video stream at 6MP resolution, or
 - ◆ 9-channel video stream at 4MP resolution, or
 - ◆ 16-channel video stream at 1080P resolution and below
- Can simultaneously decode up to a maximum of 16 video streams
- Multiple video display outputs: You can decode different cameras on HDMI, and BNC outputs
- Compatible with TruVision IP cameras, TruVision recorders and TruVision encoders
- Supports ONVIF and RTSP streams
- Can be used as video wall with a HDMI, and BNC monitors
- Integrated in TruVision Navigator (version 9.5)

First-time use

The decoder does not have an OSD display. All configuration and control is done via the webpage.

Default network settings

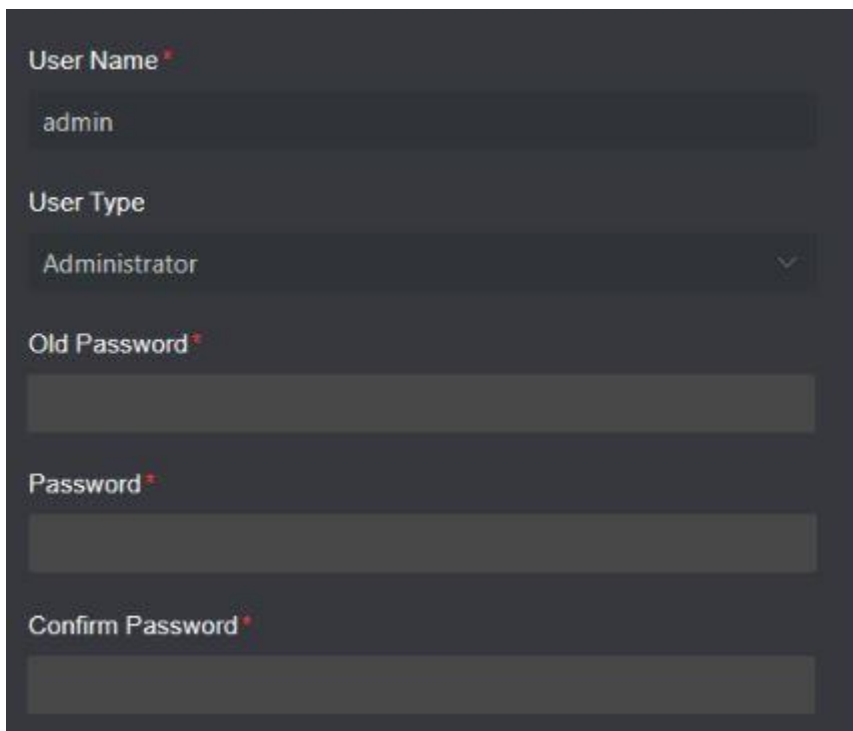
The default network settings are:

- IP address - 192.168.1.70
- Subnet mask - 255.255.255.0
- Gateway address - 192.168.1.1
- HTTP port: 80

When you first start up the unit, the Activation window appears. You must define a high security admin password before you can access the unit. There is no default password provided.

Tips on creating a strong password:

- A valid password range must be between 8 and 16 characters. You must use a combination of numbers, lower- and upper-case letters, and special characters: _ - , * & @ / \$? Space. The password must contain characters from all these groups.
- The password is case-sensitive so use a mixture of upper- and lower-case letters.
- The password cannot contain the word 'admin'.
- Do not use personal information or common words as a password



The image shows a dark-themed user activation form. It contains the following fields and options:

- User Name ***: A text input field containing the text "admin".
- User Type**: A dropdown menu with "Administrator" selected and a downward arrow.
- Old Password ***: A text input field that is currently empty.
- Password ***: A text input field that is currently empty.
- Confirm Password ***: A text input field that is currently empty.

Accessing the web browser

The on-screen display menus are available in English and 9 other languages.

To access the web browser:

1. Open the web browser and select your language.
2. Enter the IP address of the decoder (for example, <http://192.168.1.70>). Press the **Enter** key on the computer. The system displays the login window.
3. Enter the user name (default: admin) and password to log into the system. The decoder's main page appears, which by default is **Video Wall** (see Figure 3 on page 13).

Device manager network settings

Use TruVision Device Manager to find and configure the IP address and other parameters of the device. This tool automatically identifies TruVision devices that support “auto-discovery” anywhere on the network, even in different subnets.

To use the TruVision Device Manager:

1. Download the tool from our website.
2. Double-click the shortcut icon to open the tool. Click **Device Manager** to begin the discovery process. The list of TruVision devices located on your network appears.

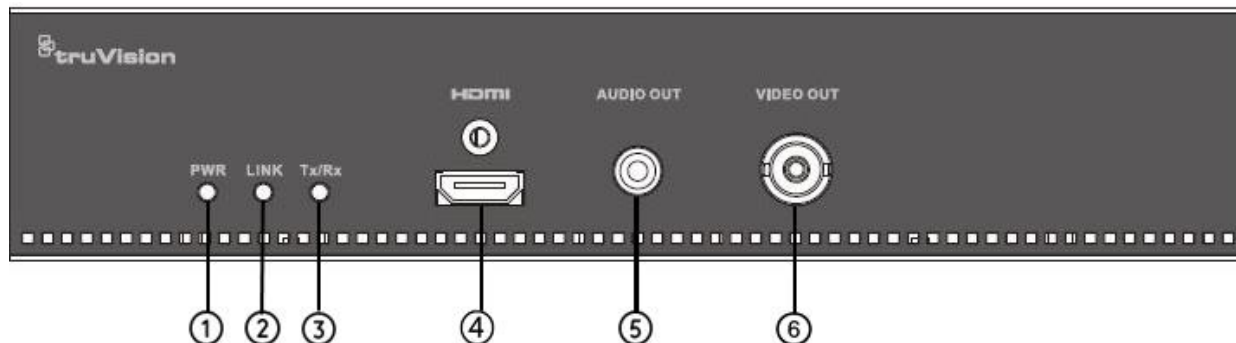
Note: The TruVision Device Manager can only detect devices that are on the same LAN. The tool cannot detect devices placed on a VLAN.

3. Change the device settings as required. Click **X** on the top right corner when completed.

Product description

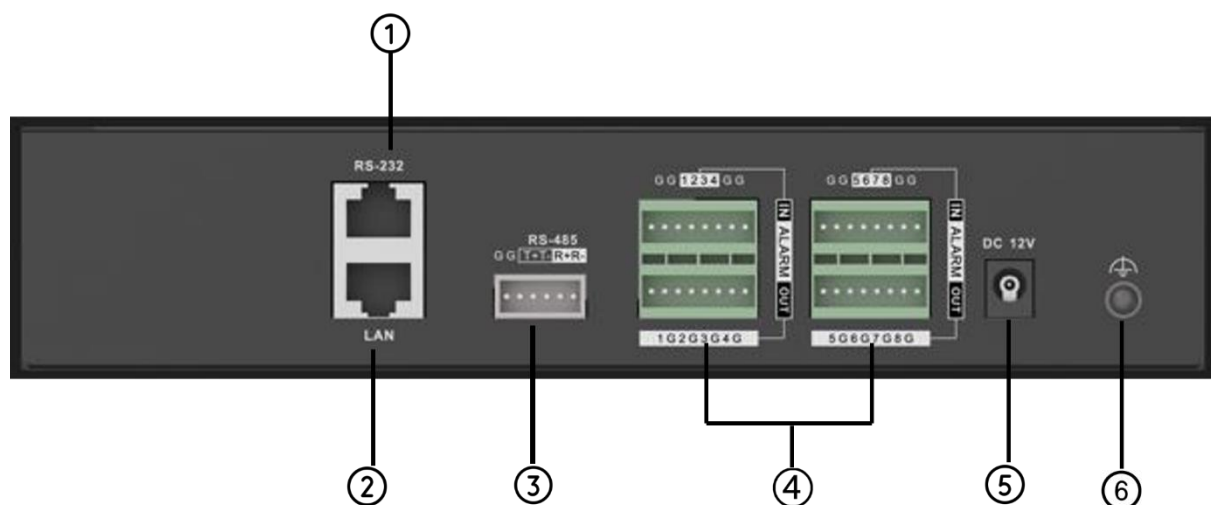
Hardware

Figure 1: Front panel



LED indicator	Description
1. Power	Power LED
2. Link	Network connection LED
3. Tx/Rx	Data transmitting/receiving status LED
4. HDMI	HDMI output
5. Audio out	RCA Audio output
6. Video out	BNC decoding output

Figure 2: Back panel

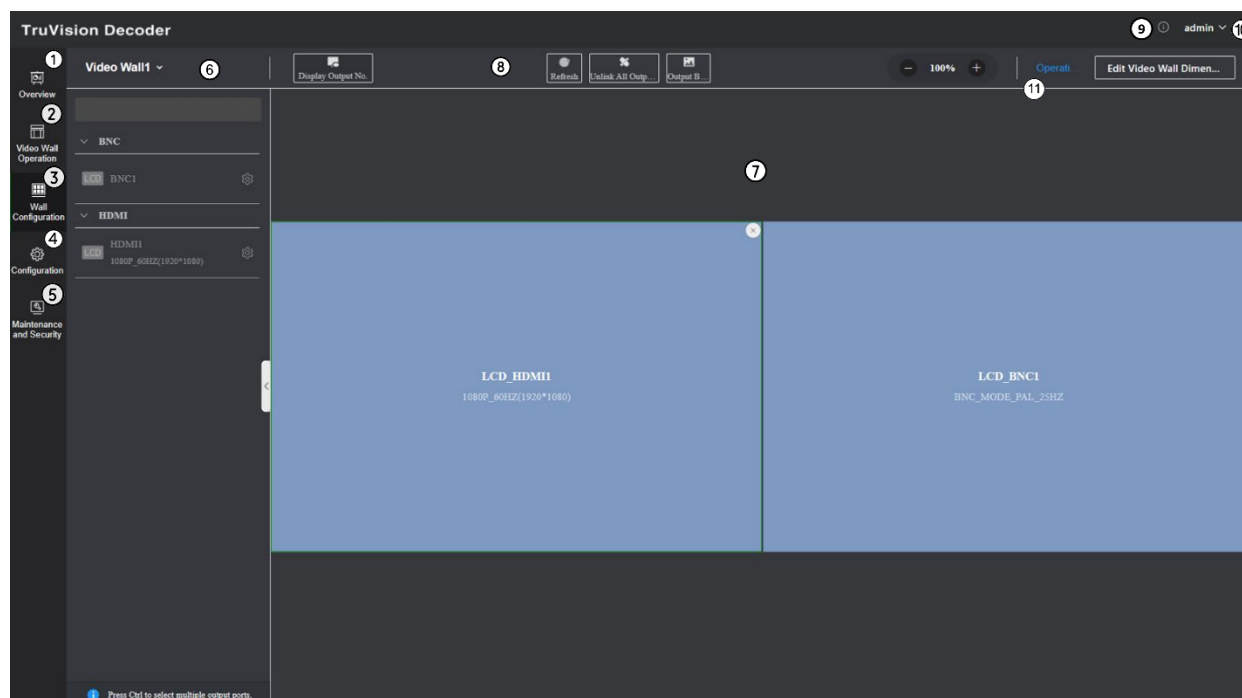


Name	Description
1. RS-232	Connect to an RS-232 device, such as a computer.
2. Ethernet	Connect the 10M/100M/1000Mbps self-adaptive UTP Ethernet port to a network.




Name	Description
3. RS-485	Connect to RS-485 serial port.
4. Alarm Input/Output	Not applicable.
5. DC 12V	Connect a 12 V power supply via a PSU.
6. GND	Connect to ground.

Video wall description

Figure 3: Video Wall webpage



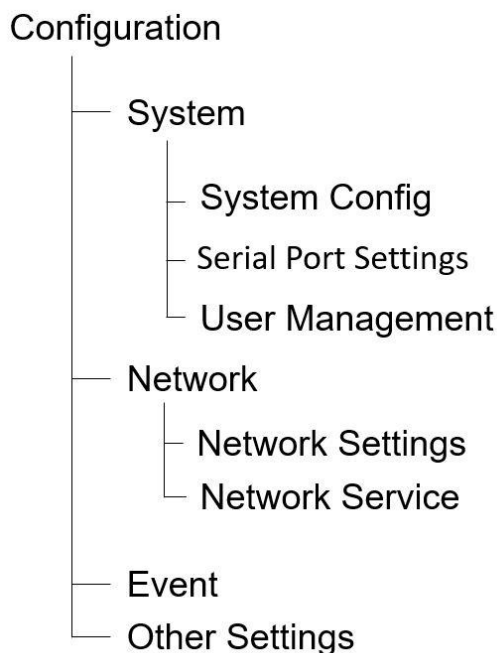
Name	Description
1 Overview	Device status information
2. Video Wall Operation	Set up how you want the video wall to appear. Lets you select which device is displayed on which monitor. Drag and drop devices from the device tree to a monitor. Note: Video images cannot be seen on the decoder webpage.
3. Wall Configuration menu	Define the monitor resolution and layout (number of rows and columns) on the wall.
4. Configuration	Configure the general settings of the decoder. See Figure 4 on page 14 for a description of its menu tree. For further information on configuring the decoder, see “System configuration” on page 15.
5. Maintenance and Security	System maintenance and security management settings. See page 27
6. Device tree	List of devices connected to the decoder.

Name	Description
7. Monitors	The decoder can be used with HDMI and BNC monitors simultaneously. Up to two monitors can be used.
8. Shortcut toolbar	 Save the selected scene.
	 Delete all windows.
	 Refresh the screen.
9. Help	Show the Open Source Software Statement
10. Active user & Log out	Shows the active user and lets you log out of the webpage
11. Operation Guide	A brief online help for the page.

Configuration menu tree

Figure 4 below shows the structure of the Configuration menu tree.

Figure 4: Configuration menu tree



System configuration

Log in and go to the Configuration menu to configure the general settings of the decoder. The System menu has three main menus:

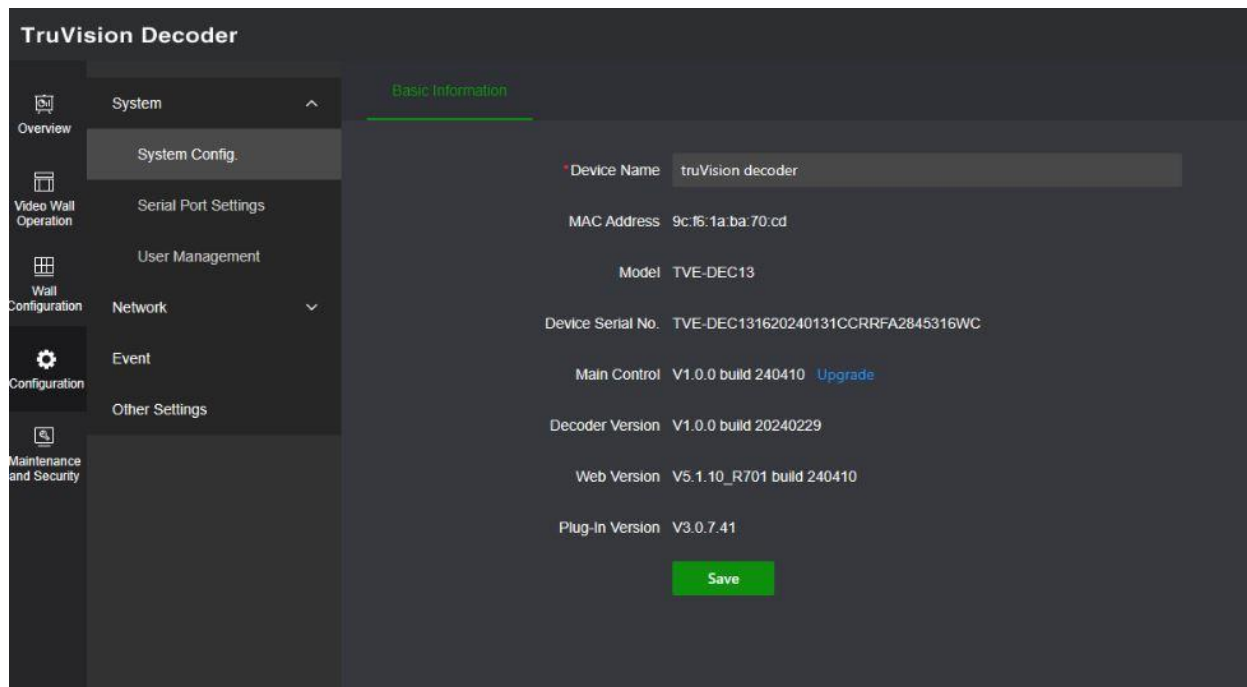
- System Config
- Serial Port Settings
- User Management

System Config

Use this menu to set and view the system Information, such as set the decoder name, and view the version of the firmware and decoder.

To set up the name of the decoder:

1. Go to **Configuration > System > System Config.**
2. **Enter** the decoder name, if desired.



3. Click the **Save** to save the changes.

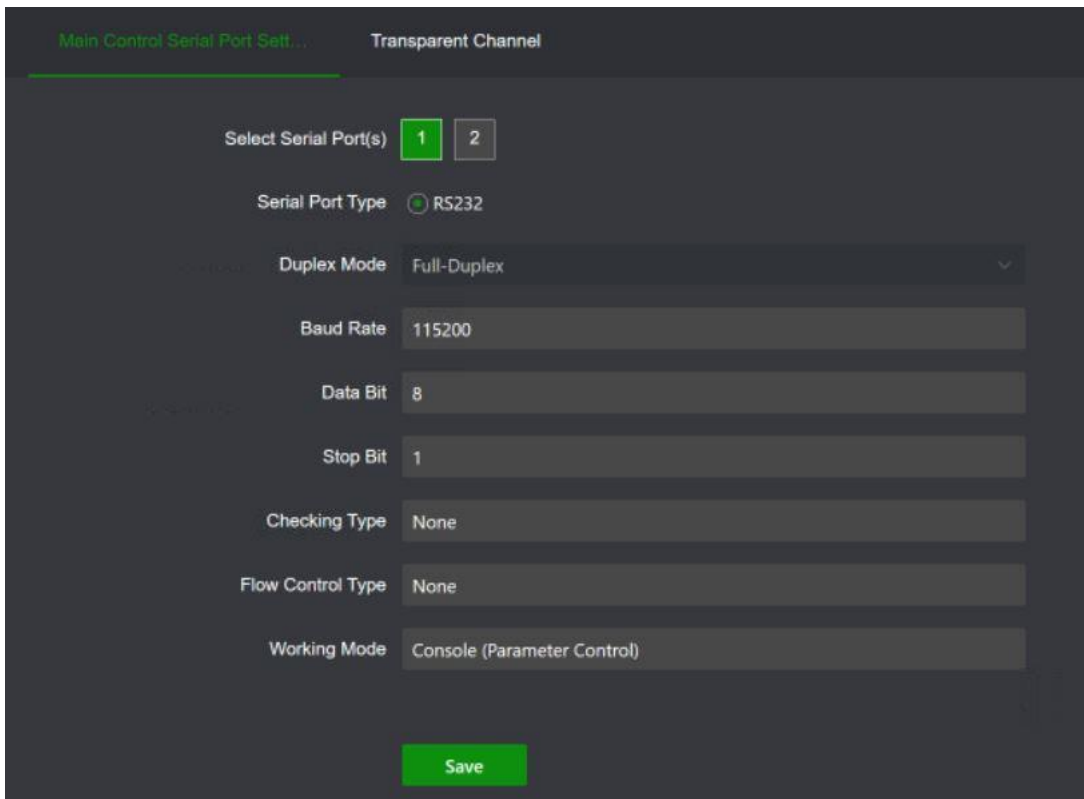
When you click **Upgrade** next to the firmware version, the webpage will show the upgrade interface in the Maintenance and Security menu. See page 27 for the details.

Serial Port Settings

You can debug or control other products by serial ports settings.

Configure RS-232 serial port

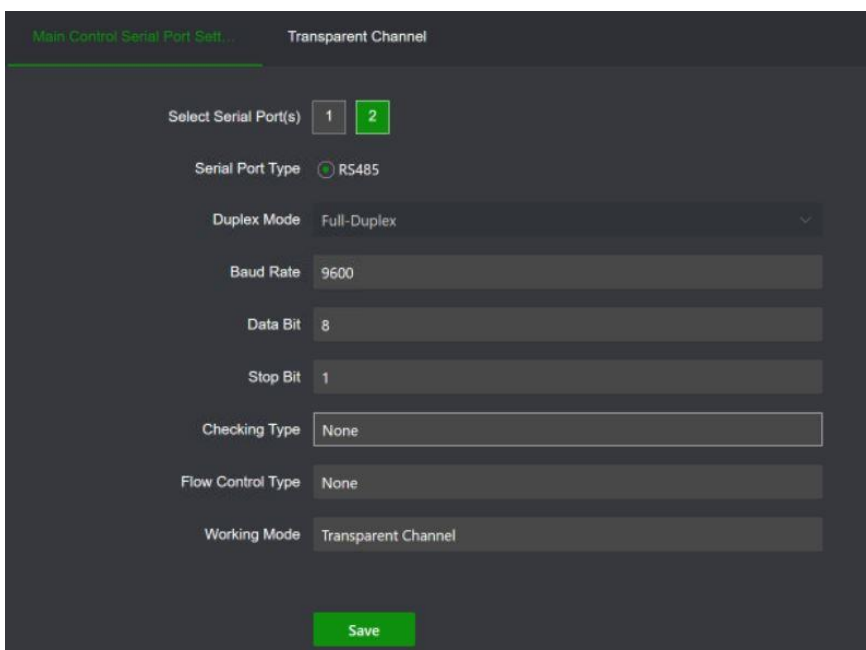
Click **Configuration > System > Serial Port Settings > Main Control Serial Port Settings** and select 1 to enter the following page and configure the serial port parameters:



The screenshot shows the 'Main Control Serial Port Settings' page for 'Transparent Channel'. The 'Select Serial Port(s)' section has two buttons, '1' and '2', with '1' highlighted in green. The 'Serial Port Type' is set to 'RS232'. The 'Duplex Mode' is 'Full-Duplex'. The 'Baud Rate' is '115200'. The 'Data Bit' is '8'. The 'Stop Bit' is '1'. The 'Checking Type' is 'None'. The 'Flow Control Type' is 'None'. The 'Working Mode' is 'Console (Parameter Control)'. A green 'Save' button is at the bottom.

Configure RS-485 serial port

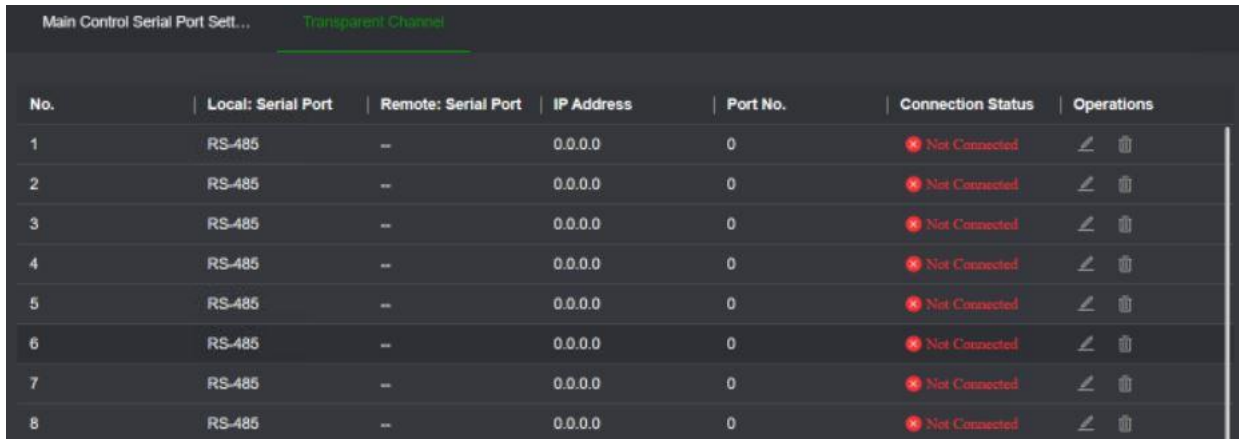
Click **Configuration > System > Serial Port Settings > Main Control Serial Port Settings** and select 2 to enter the following page and configure the serial port parameters:



The screenshot shows the 'Main Control Serial Port Settings' page for 'Transparent Channel'. The 'Select Serial Port(s)' section has two buttons, '1' and '2', with '2' highlighted in green. The 'Serial Port Type' is set to 'RS485'. The 'Duplex Mode' is 'Full-Duplex'. The 'Baud Rate' is '9600'. The 'Data Bit' is '8'. The 'Stop Bit' is '1'. The 'Checking Type' is 'None'. The 'Flow Control Type' is 'None'. The 'Working Mode' is 'Transparent Channel'. A green 'Save' button is at the bottom.

Configure the transparent channel

Click **Configuration > System > Serial Port Settings > Transparent Channel** to enter the following page.



No.	Local: Serial Port	Remote: Serial Port	IP Address	Port No.	Connection Status	Operations
1	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
2	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
3	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
4	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
5	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
6	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
7	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑
8	RS-485	--	0.0.0.0	0	Not Connected	✎ 🗑

You can edit or delete a channel via the Operations buttons.

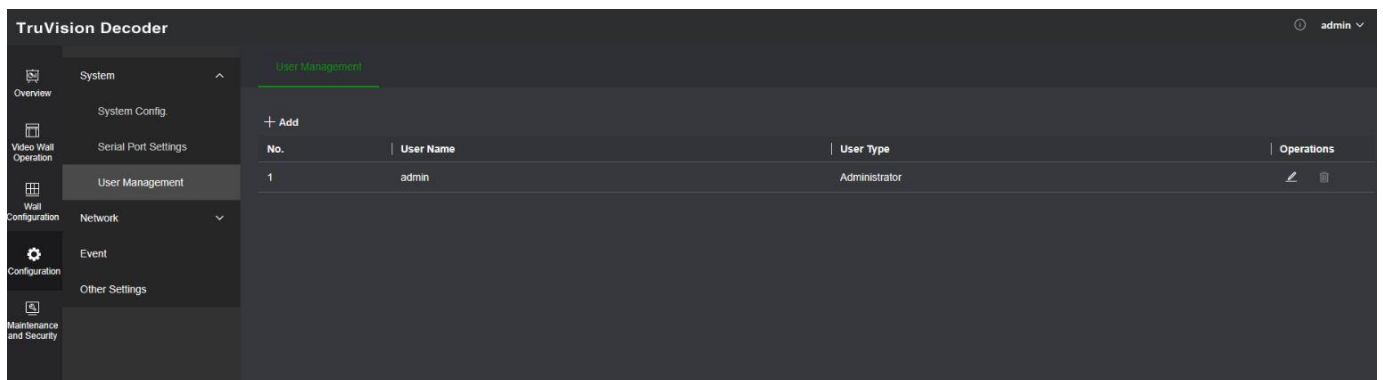
User Management

This menu allows you to create extra users and assign user access privileges. The access privileges can be customized for each user's needs.

Only an administrator can create and allocate access privileges to users.

To create a new user:

1. Go to **Configuration > System > User Management**.




2. Click the **+Add** button to add a new user.
3. Enter the user name and the Admin password and the password for the new user.
4. Assign the permissions for this user for the operations that they can do remotely. Select one or more of the following rights:
 - **Select All:** Select all the options.
 - **Remote Set Parameters:** Remotely configure parameters and import configuration.

- **Remote Upgrade/Format:** Remotely upgrade the decoder firmware.
- **Remote Shutdown/Reboot:** Remotely shutdown/reboot the recorder.


When no options are selected, the user cannot change any configuration setting, but can drag/drop streams from the tree to the monitors in the Video Wall screen.

5. Click **OK**.

To modify a user:

1. Go to **Configuration > System > User Management**.
2. Click the **modify** button  for the user that you want to modify.
3. Make the desired changes, such as changing the password user rights.
4. Click **OK**.

To delete a user:

1. Go to **Configuration > System > User Management**.
2. Select the desired user and click the **delete** button. 
3. Confirm your choice and click **OK**.

Network configuration

The Network menu allows you to manage all network related aspects of the decoder including general network settings, DDNS, NTP synchronization, email setup, UPnP settings, FTP server setup, and IP address filter.

TCP/IP settings

To configure the general network settings:

1. Go to **Configuration > Network > Network Settings>TCP/IP.**

The screenshot shows the TCP/IP configuration page. At the top, there are two tabs: 'TCP/IP' (selected) and 'DDNS'. Below the tabs, there are several configuration sections:

- NIC Type/NIC:** A dropdown menu showing '10 Mbps / 100 Mbps / 1000 Mbps Self-Adaptive'.
- DHCP:** A toggle switch that is currently turned off.
- IPv4 Address:** A text input field containing '10.198.17.35'.
- IPv4 Subnet Mask:** A text input field containing '255.0.0.0'.
- IPv4 Default Gateway:** A text input field containing '10.0.0.1'.
- DNS Server Settings:**
 - Preferred DNS Server:** A text input field containing '8.8.8.8'.
 - Alternative DNS Server:** A text input field containing '195.238.2.21'.
- Alarm host configuration:**
 - Alarm Host IP:** A text input field containing '0.0.0.0'.
 - Alarm Host Port:** A text input field containing '5001'.

At the bottom of the page, there is a green 'Save' button.

2. Enter the required settings:

Enable DHCP: DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning an IP address dynamically to a device each time it connects to a network.

Select this check box if you have a DHCP server running and want your decoder to automatically obtain an IP address and other network settings from that server. The DHCP server is typically available in your router.

Default value is Disable.

IPv4 Address: Enter the address of the decoder. This is the LAN IP address of the decoder. Default value is 192.168.1.70

IPv4 Subnet Mask: Enter the subnet mask for your network so the decoder will be recognized within the network. Default value is 255.255.255.0.

IPv4 Gateway: Enter the IP address of your network gateway so the decoder will be recognized within the network. This is typically the IP address of your router.

Consult your router user manual or contact your ISP to get the required information on your gateway. Default value is 192.168.1.1.

Preferred DNS server: Enter the preferred domain name server to use with the decoder. It must match the DNS server information of your router. Check your router's browser interface or contact your ISP for the information.

Alternate DNS server: Enter the alternate domain name server to use with the decoder.

Alarm host IP: Enter the IP address of the alarm host that will receive the alarm message (for example, the TruVision Navigator server).

Alarm Host Port: Enter the alarm host port. For TruVision Navigator, the default port is 5001.

3. Click **Save** to save the settings.

DDNS settings

DDNS servers allow you to connect to your decoder using a dynamic address. This dynamic address needs to be registered with a DNS service. The DDNS setup menu allows you to enable or disable DDNS and to configure it using ezDDNS, No-IP or DynDNS.

Note: Some service providers block the default RTSP streaming port 554 used for video streaming. So if you are not receiving video images over the internet, you may need to change it to another value.

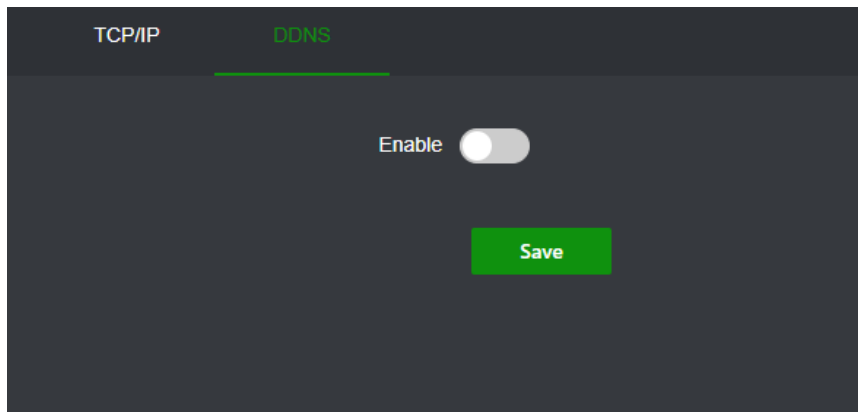
There are three ways to set up a DDNS account:

- **ezDDNS:** A free-of-charge service included with your decoder and fully managed within the decoder interface. It is exclusive to TruVision products.
- **DynDNS:** A third-party service where users need to apply for a DynDNS account on the Dyn.com website.
- **No-IP:** A third-party service where users need to apply for a no-IP account on the no-ip.com website.

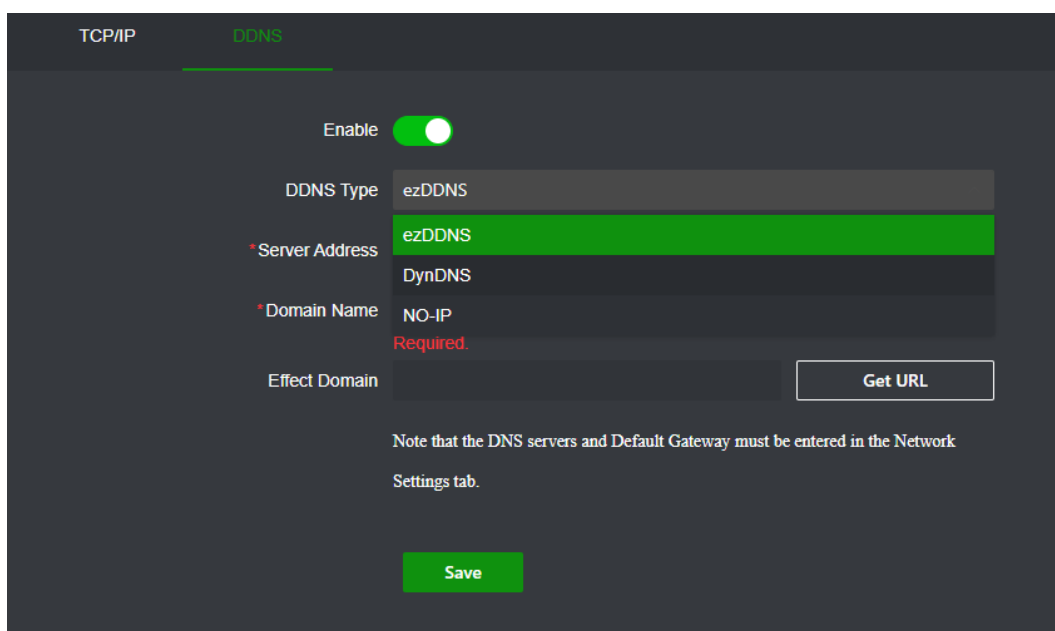
Caution: If you use the services of DynDNS or No-IP, your account user name and password for these services will be sent to them in clear text format when you set up your connection in the decoder.

To configure the DDNS settings:

1. Go to **Configuration > Network Settings > DDNS**.
2. Enable DDNS and click **Save**.



3. Select one of the DDNS types listed from the dropdown menu.



ezDDNS: Click the Get URL button. The URL address to access the unit is displayed. If no host name is specified, the DDNS will allocate one automatically.

The maximum length for the host name field is 64 characters. This limit does not include tvn-ddns.net. An example of a host name could be max64chars.tvn-ddns.net.

- or -

DynDNS: Select DynDNS and enter the server address for DynDNS. In the decoder domain name field, enter the domain name obtained from the DynDNS web site. Then enter your user name and password registered in the DynDNS network.

For example:

Server address: members.dyndns.org

Domain: mycompanydvr.dyndns.org

User name: myname

Password: mypassword

- or -

NO-IP: Enter server address (for example, dynupdate.no-ip.com). In the host name field, enter the host obtained from the NO-IP web site. Then enter the user name and password that are registered with the No-IP network.

2. Ask your ISP service provider for your DNS server address or look it up in the browser interface settings of your router.

Go to **Network** and enter the preferred and alternate DNS server addresses as well as the default gateway address.

3. Click **Save** to save the settings.

Note: Make sure that you have setup a valid DNS server address in the TCP/IP settings, before configuring DDNS.

HTTP(S) settings

Using HTTPS (Hypertext Transfer Protocol Secure) is a secure protocol that provides authenticated and encrypted communication. It ensures that there is a secure private channel between the decoder and the PC.

To enable HTTPS and set the HTTPS port

1. Go to **Configuration > Network > Network Service**.
2. Enable HTTPS.
3. Set the HTTPS port number. Default port number is 443.
4. If needed set that all HTTP attempts are redirected to HTTPS.
5. Click **Save** to save the settings.

To set the HTTP port

The default HTTP port is set to port 80.

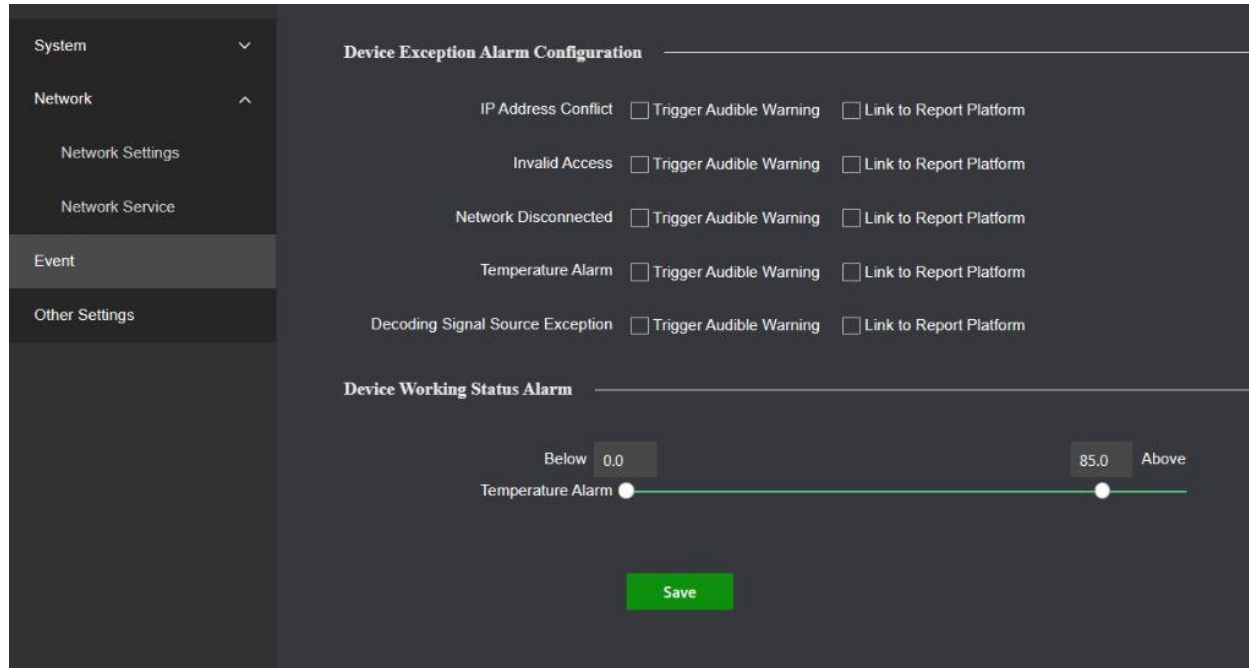
But another port number can be setup.

1. Go to **Configuration > Network > Network Service**.
2. Enter the required HTTP port.
3. Click **Save** to save the settings.

Event

Specific events of the TVE-DEC13 can trigger the internal buzzer or can be send to the reporting platform (alarm host (example: TruVision Navigator)).

The decoder can also trigger an alarm if the internal temperature goes below or above a certain temperature threshold.



Go to **Configuration > Event**.

The following system events can be setup for triggering the buzzer or can be send to a reporting platform:

- IP address conflict
- Invalid access
- Network disconnected
- Temperature alarm. The temperature threshold can be setup as well.
- Decoding signal source exception

Click **Save** to save the settings after making changes.

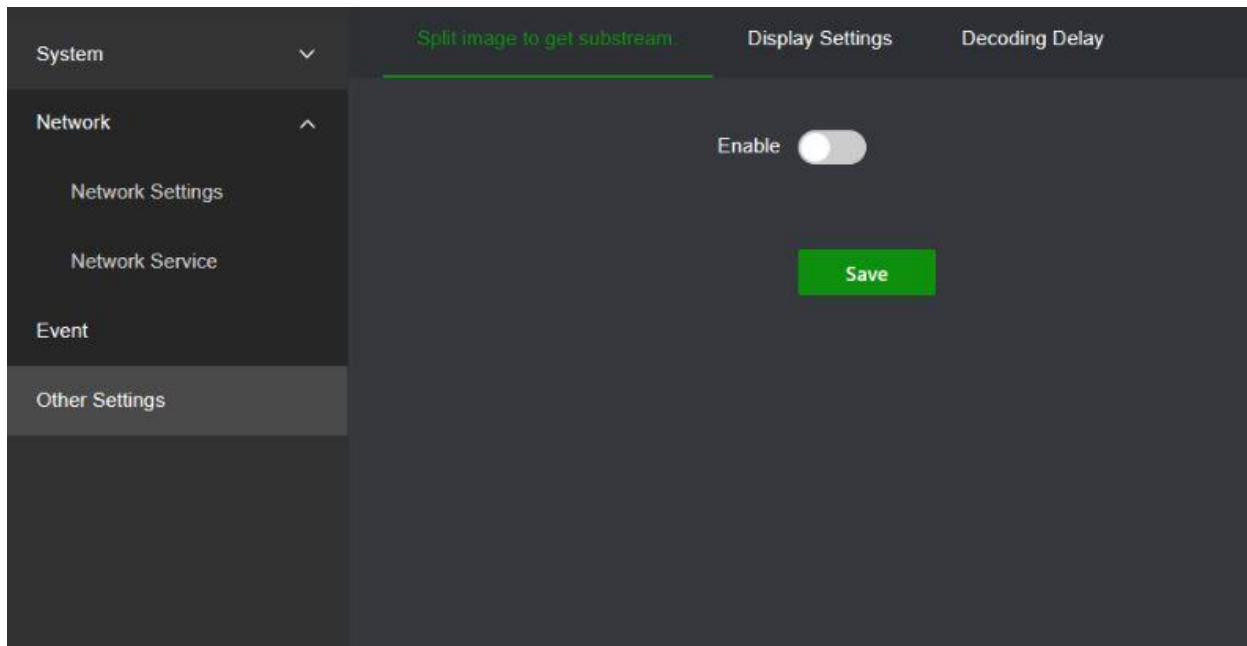
Device working status alarm

Set the maximum and minimum temperature thresholds for the normal working decoder. When the device temperature is higher than the maximum threshold or lower than the minimum threshold, an alarm will be triggered and uploaded to the alarm host.

Other Settings

Split image to get substream

It is possible to define what the split threshold will be for the screen layout, when the decoder uses substream.



To set up the split threshold:

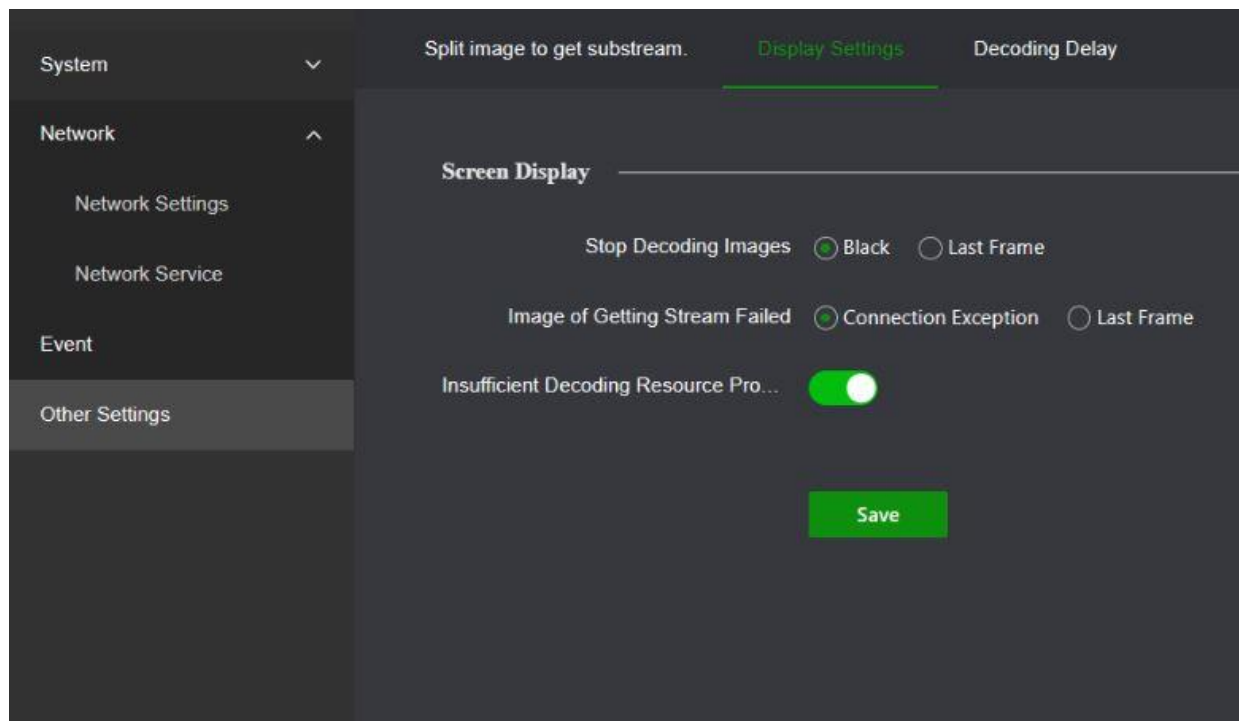
1. Go to **Configuration > Other Settings > Split image to get substream**.
2. Enable the setting.
3. Select the desired amount of video tiles in the screen layout when the video will switch to substream: 2, 4, 6, 8, 9, 12 or 16.
4. Click **Save** to save the settings.

Display Settings

Use the Display Settings menu to define what appears on the monitors when decoding stops.

To set up the display options:

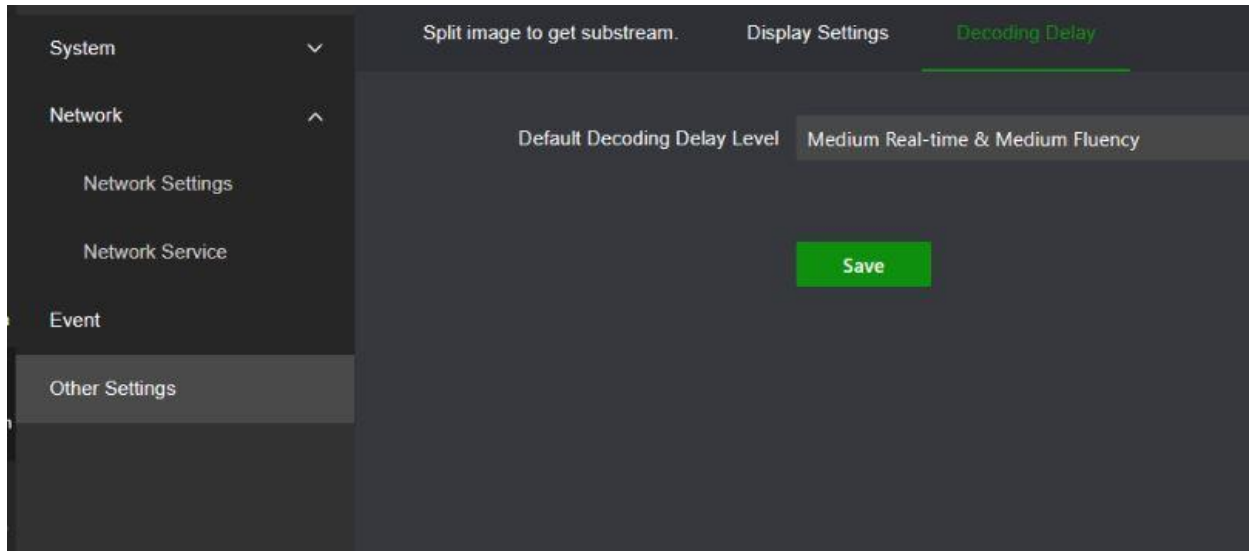
1. Go to **Configuration > Other Settings > Display Settings**.



2. Select **Black** or **Last Frame** to be displayed when decoding stops.
Black: If selected, the screen becomes black when the decoding ends.
Last Frame: If selected, the screen will show the last frame when the decoding ends.
3. Select **Connection Exception** or **Last Frame** to be displayed when streaming fails.
Connection Exception: If selected and streaming fails, the screen will show a message stating that there is an issue with the connection.
Last Frame: If selected, the screen will show the last frame when streaming fails.
4. **Insufficient Decoding Resource Prompt:** Enable the button to prompt insufficient decoding resource.
5. Click **Save** to save the settings.

Decoding Delay

The decoding delay setting defines the preference while decoding (real-time or fluency).



To set up the decoding delay:

1. Go to **Configuration > Other Settings > Decoding Delay**.
2. Select the desired setting for the decoding delay level: Good Real Time, Fair Real Time, Medium Real Time & Medium Fluency (Default), Fair Fluency or Good Fluency.
3. Click **Save** to save the settings.

Maintenance and Security

System Maintenance

Use this menu to:

- **Reboot the decoder:** The administrator can reboot the decoder.
- **Upgrade the decoder:** The administrator can update the decoder firmware via the decoder web browser. Non-admin users can also upgrade the firmware if they have upgrade permission. The decoder firmware can be updated using TruVision Navigator (version 9.5). For further information, refer to the TruVision Navigator user manual. The firmware upgrade file is labeled tvedec13.dav.
- **Backup and Restore the decoder:** The administrator can reset the decoder to the factory default settings. Network information such as IP address, subnet mask, and gateway are not restored to factory default settings.

Note: Only the administrator can restore factory default settings.

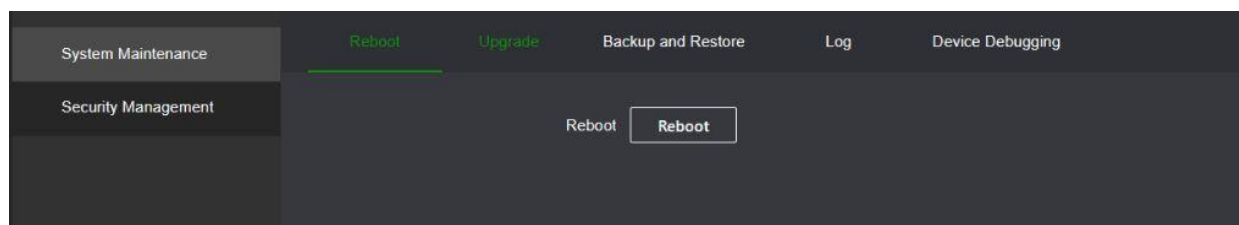
The administrator can also export (backup) the device parameters and the scene parameters. It is also possible to import the device parameters and/or scene parameters. This is useful if you want to copy the configuration settings to another device, or if you want to make a backup of the settings.

- **View the log information:** the decoder keeps a logfile of all the operations and exceptions.
- **Device Debugging:** the decoder provides debug possibilities for technical support personnel.

To reboot the decoder:

1. Go to **Configuration > System > Maintenance and Security**.
2. Click the **Reboot** button.
3. In the pop-up window, enter the user name and password and click **OK**.

The system reboots.



To restore parameters to default factory settings:

1. Go to **Configuration > System > Maintenance and Security > System Maintenance > Backup and Restore**.
2. **To restore all parameters, except network settings and user accounts, to default factory settings:** Click the **Partial Reset** button. Enter the username and

password, click **OK**, and then click **Yes** to confirm that you want to restore all parameters except network settings and user accounts to default.

-Or-

To restore all parameters to default factory settings: Click the **Factory Reset** button. Enter the username and password, click **OK**, and then click **Yes** to confirm that you want to restore all parameters to default.

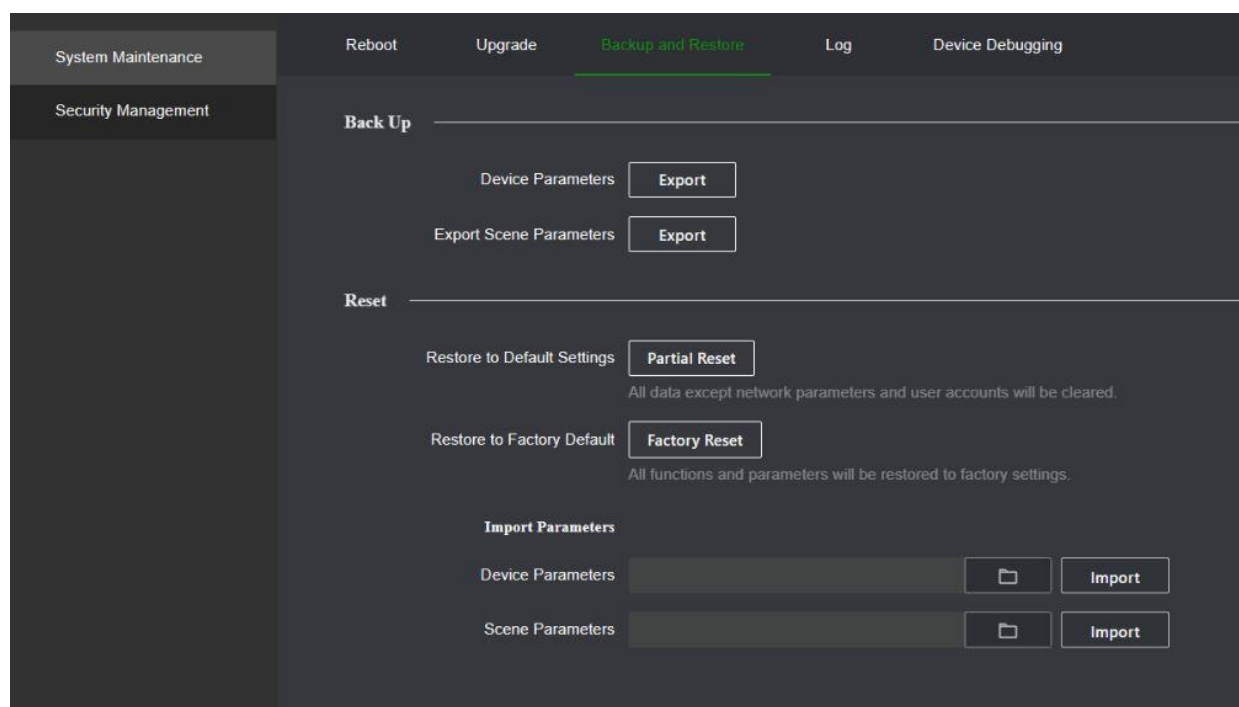
The changes appear immediately.

To import and export files to and from the decoder:

1. Go to **Configuration > System > Maintenance and Security > System Maintenance**
2. To export the decoder's parameters to the PC, click the **Export** button for Device Parameters.

To export the scene parameters, click the **Export** button for Export Scene Parameters.

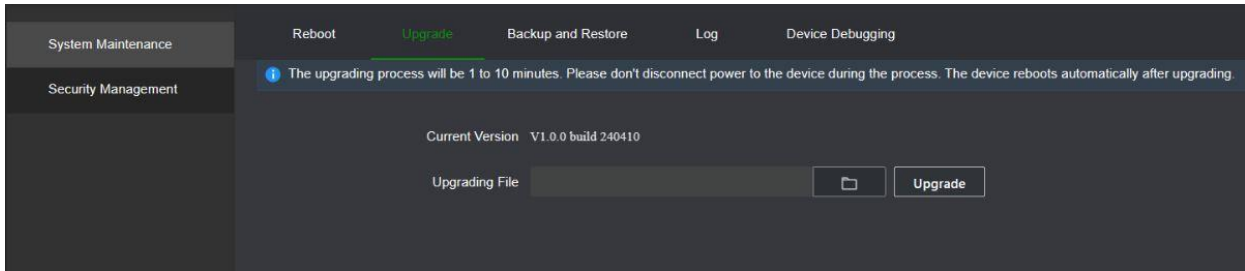
To import configuration parameters (device parameters and/or scene parameters) from the PC, enter the location of the file to select it and click **Import**.



To update the system firmware using the browser:

1. Download the latest firmware from our web site at:
EMEA: <https://firesecurityproducts.com>
Australia/New Zealand: <https://firesecurityproducts.com.au/>
2. Go to **Configuration > System > Maintenance and Security > System Maintenance > Upgrade**
3. Select the firmware file and click **Upgrade**. Click **Yes** to begin the upgrade process.

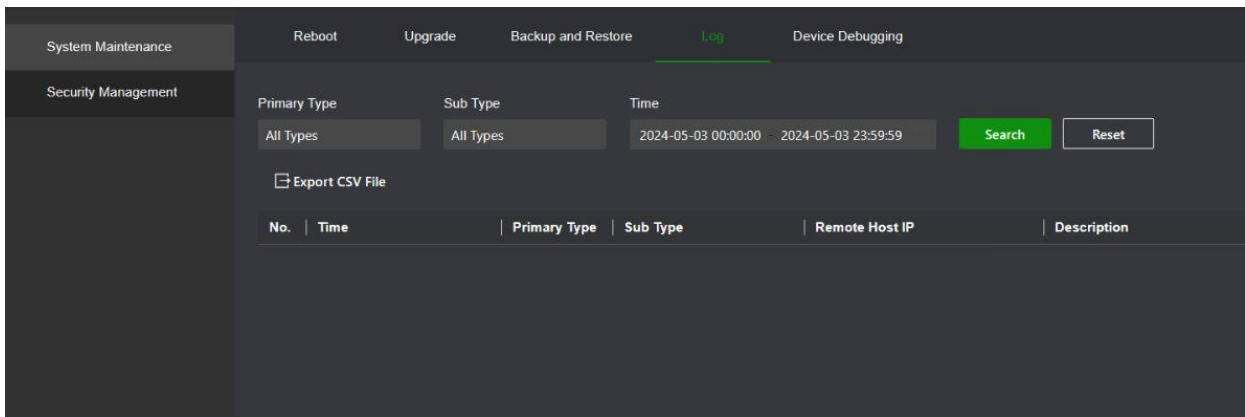
4. When the upgrade process is completed, the decoder will reboot automatically.



To view the log file:

1. Go to **Configuration > System > Maintenance and Security**.
2. Go to **System Maintenance > Log**
3. Select the type of information you want to search for
 - **Primary Type:** Exception, Operations, All types.
 - **Sub Type:** All types
4. Select a valid start and end date/time.
5. Click **Search** to display to display the log content.

You can export the search result as a CSV. file.

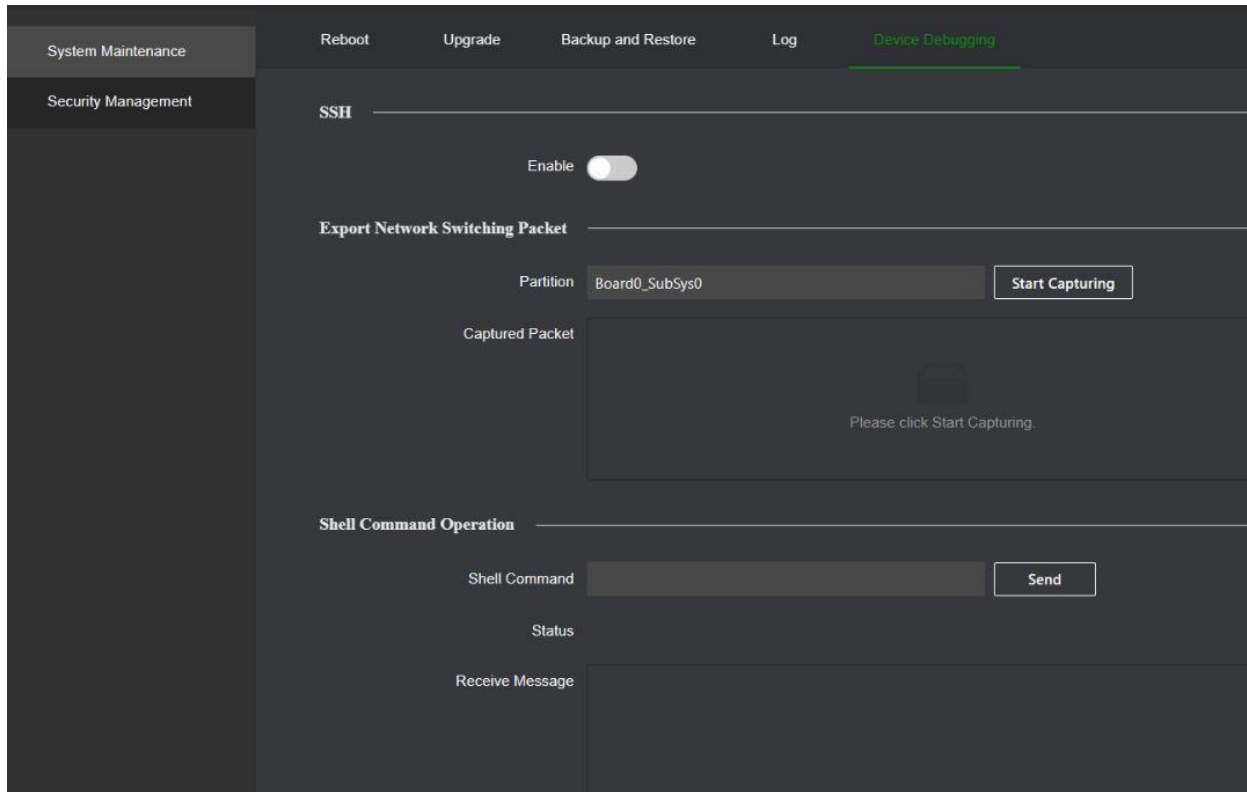


To allow debugging:

There is debugging tool inside of the decoder, that helps technical support to troubleshoot the device in case of an issue.

1. Go to **Configuration > System > Maintenance and Security**.
2. Go to **System Maintenance > Device Debugging**.
3. On request of technical support, enable SSH. SSH shall be disabled in normal conditions.

Follow the instructions from technical support in case device debugging is needed.



Security Management

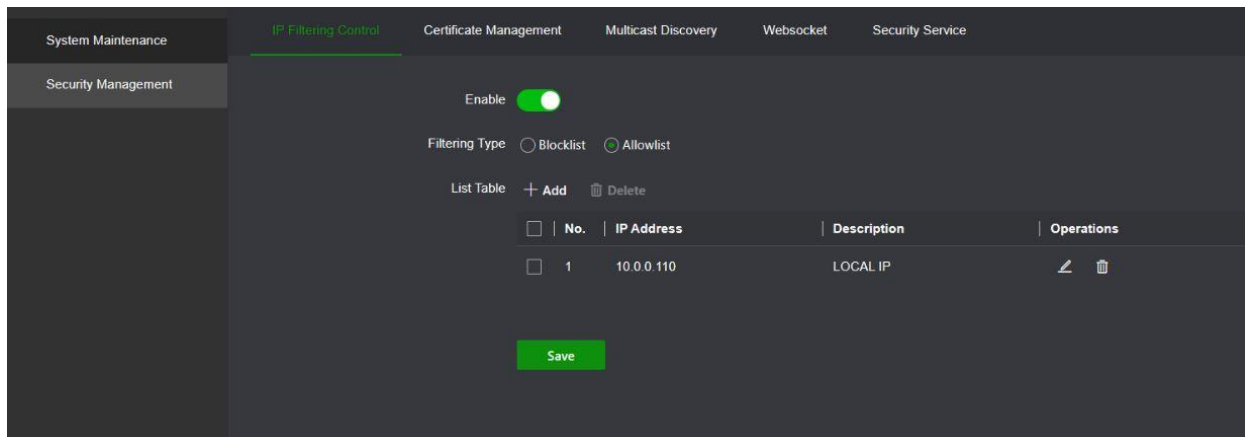
Use this menu for:

- **IP Filtering Control:** to setup the IP addresses that are allowed or blocked to access the decoder.
- **Certificate Management:** to add a HTTPS certificate and secret key
- **Multicast Discovery:** to allow the discovery by the TruVision Device Manager.
- **Websocket setup:** Enable the websocket to export the stream. This shall only be used for technical support reasons.
- **Security Service:** Enable this feature so that the webpage automatically logs out after 5 minutes of inactivity.



IP filtering control

To set up the IP filtering:

1. Go to **Maintenance & Security > Security Management > IP Filtering Control.**
2. Enable the feature.
3. Select the filtering type:
 - Blocklist: no access to the decoder for the IP addresses
 - Allowlist: access allowed to the decoder for the IP addresses
4. Click **Add** to the corresponding IP address and a description.
5. Click **Save** to save the settings.



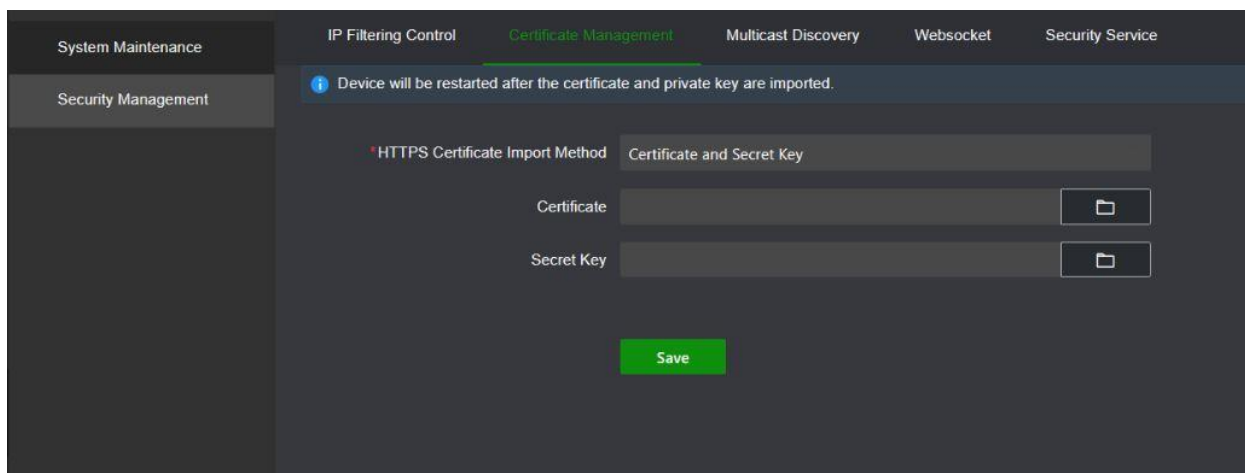
To modify/delete an entry from the list:

1. Select the desired IP address.
2. Click  to modify the entry. Click  to delete the entry.
3. Click **Save** to save the settings.

Certificate Management

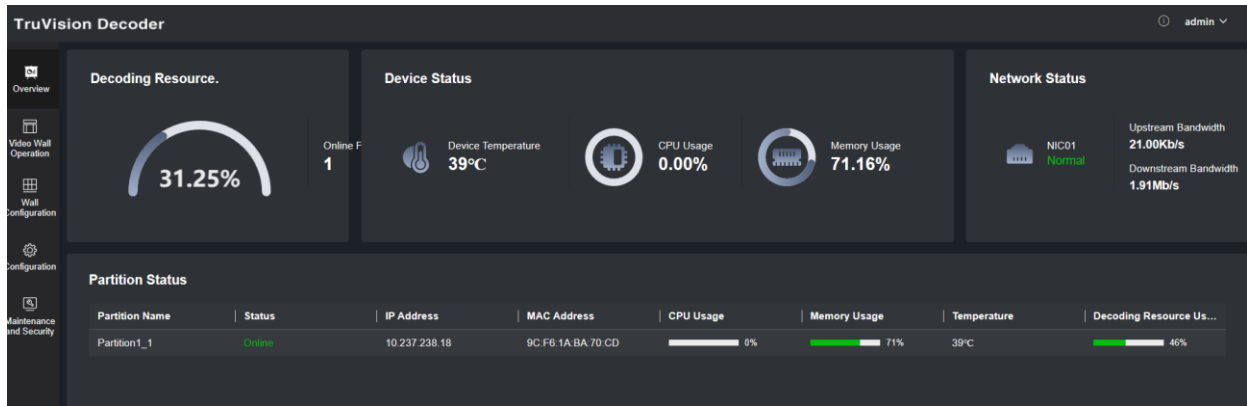
To add the HTTPS certificate:

1. Go to **Maintenance & Security > Security Management > Certificate Management**.
2. Select a certificate file or secret key file from the PC to import it.
3. Click **Save** to save the settings.



Overview

The overview page shows the overall status of the decoder.



Video Wall Configuration

The decoder can be used with HDMI and BNC monitors simultaneously, allowing you to create a video wall. A video wall allows camera images (video tiles) to be displayed on more than one monitor.

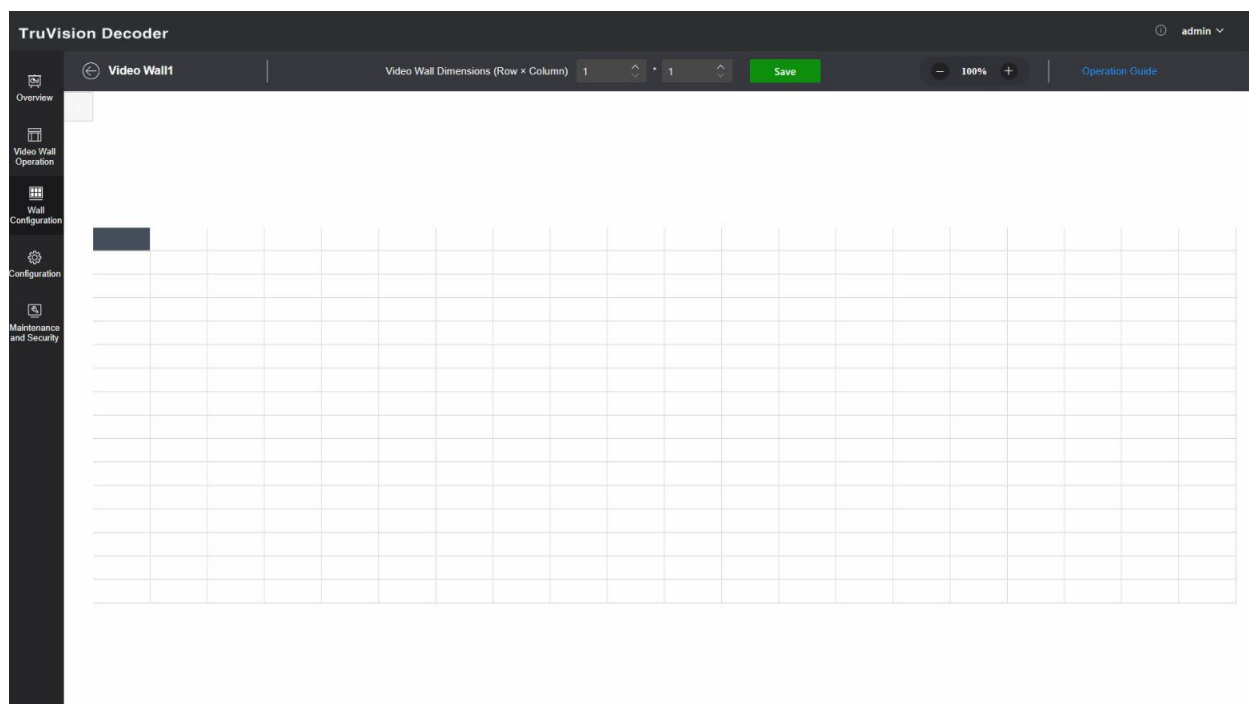
See Figure 3 on page 13 for a description of the video wall.

Video wall layout

You need to define the layout of the video wall depending on the physical setup of the two monitors.

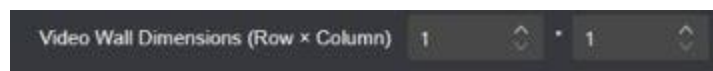
To setup the video wall layout:

1. Go to Video Wall Configuration.



2. Create the video wall dimensions.

Click **Edit Video Wall Dimensions** to setup the dimensions (row x column). Enter the number of screens, expressed in rows and columns.

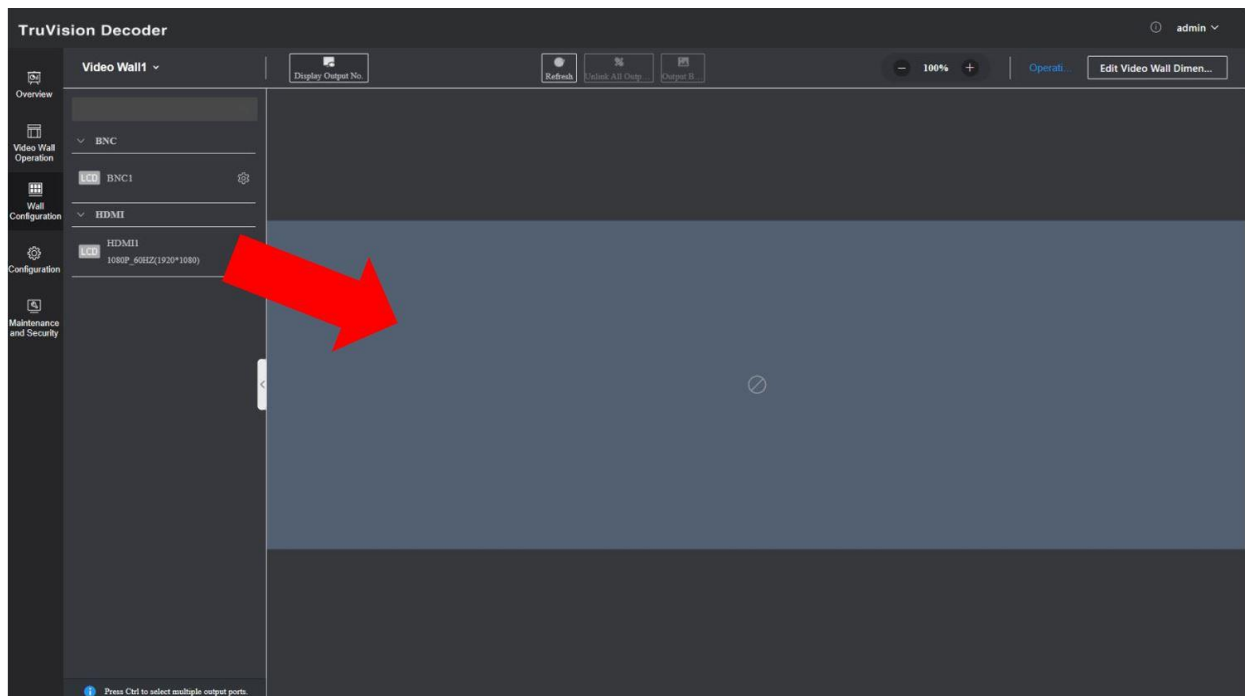


Click **Save**.

Note: with only one HDMI and one BNC output in the TVE-DEC13, the logical video wall dimensions can be set maximum to 1 row x 2 columns.

3. Assign each monitor to a position on the video wall layout.

From the tree on the left of the screen, drag and drop the selected monitor into the desired monitor position.



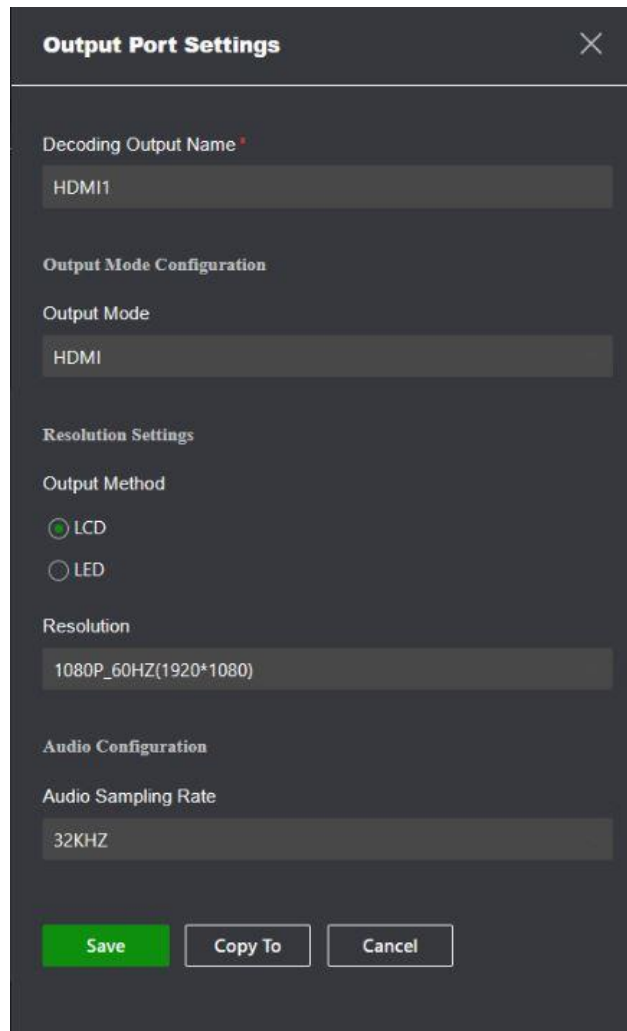
Monitor resolutions

You must define the resolution of every monitor.

Note: Output configuration mode is not used in this version of the decoder.

To setup the resolution for the HDMI monitor:

1. Go to **Video Wall Configuration**.
2. Click the edit icon for setting the monitor options.



3. Setup an output name for the monitor.
4. Setup the output mode. Select the output mode of the decoder connected to the display screen, with options for HDMI and DVI. If the decoder is connected to the display screen and uses HDMI output, the output mode can be set to HDMI.

When the monitor uses a DVI input via a HDMI converter, set it up as DVI.

5. Setup the output method as LCD or LED, depending on the monitor type.
 - For LCD: select the resolution.
 - 1024 x 768 @ 60 Hz
 - 1280 x 1024 @ 60 Hz
 - 1280 x 720 @ 60 Hz
 - 1280 x 720 @ 50 Hz
 - 1600 x 1200 @ 60 Hz
 - 1680 x 1050 @ 60 Hz
 - 1920 x 1080 @ 60 Hz
 - 1920 x 1080 @ 50 Hz

3840 x 2160 @ 30 Hz

- For LED: setup the screen width and height.
6. Audio sampling rate: select the required sample rate from the dropdown list.

To setup the resolution for the BNC monitor:

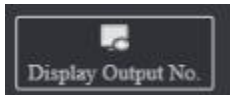
1. Go to **Wall Configuration**.
2. Click the edit icon for the BNC monitor and select the video standard (PAL/NTSC).

Other functions

Display Output Number

It is possible to identify the connected monitors.

1. Go to **Wall Configuration**.
2. Click on the **Display Output No.** button.



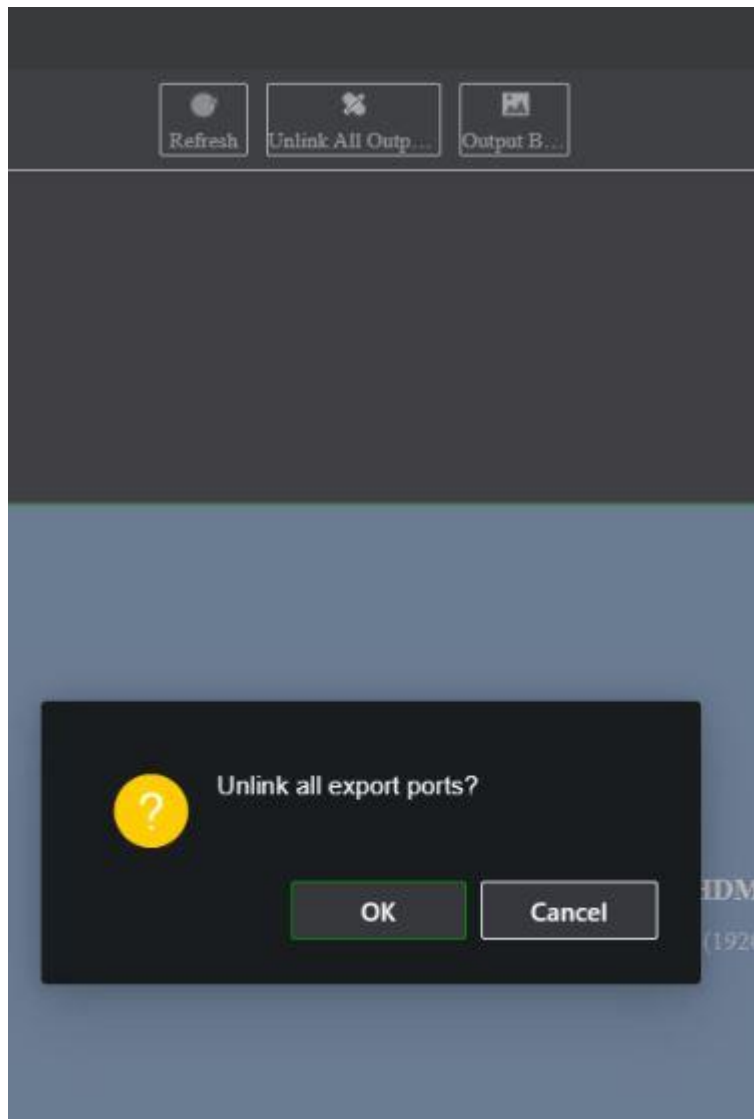
The connected monitors will show their identification number.

Unlink all output ports

It is possible to unlink the assigned monitors from the layout.

To unlink the monitors:

1. Go to **Wall Configuration**.
2. Click on the **Unlink all Outputs** button and confirm the action.



Output background

When nothing is being decoded by the decoder, the decoder will display a color on the monitor.

This color can be setup.

1. Go to **Wall Configuration**.
2. Click on the **Output Background** button.
3. Select the desired color and click **OK**.

Output Background



Basic Background

Solid Color Ba...
#4d4dd0

R	77	H	240
G	77	S	58%
B	208	L	56%
#	4D4DD0		

OK

Video Wall Operation

Once you have set up the devices/streams on the monitors (see “Video Wall” on page 33), you can then adjust where and how the video tiles appear on screen.

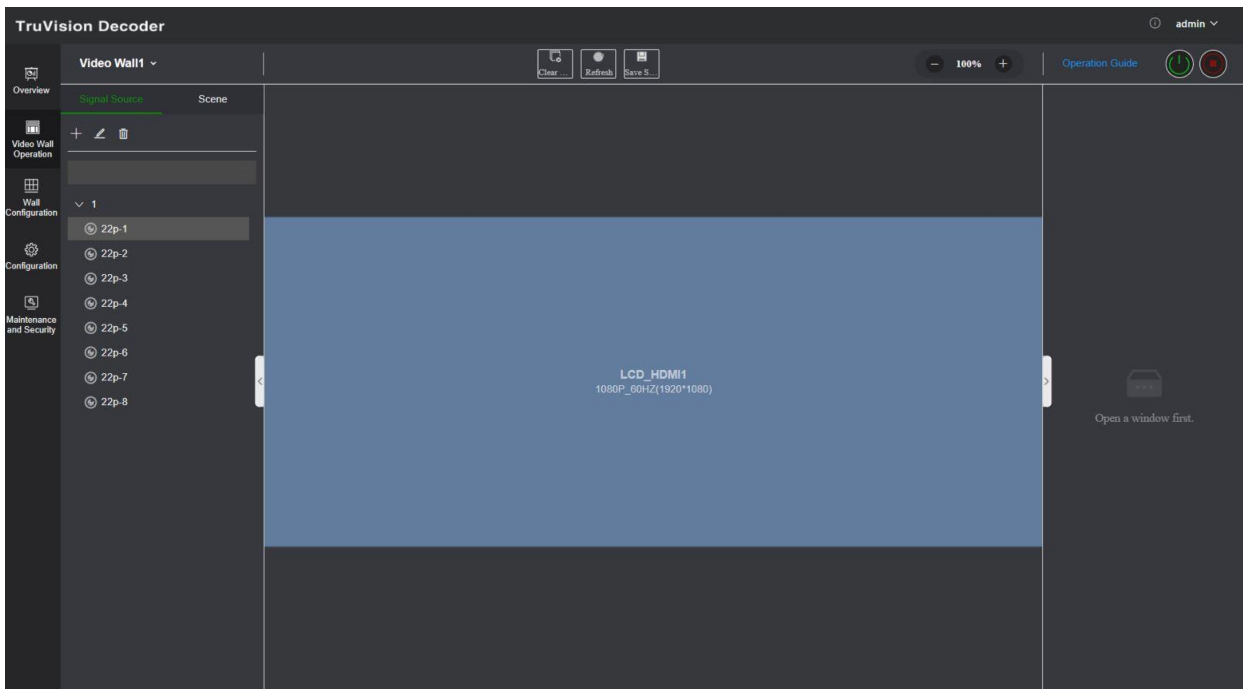
Add, modify or delete video streams

The decoder does not have a discovery tool for finding cameras, encoders, or recorders on the network. The channel information needs to be entered manually.

Note: The decoder can simultaneously decode up to a maximum 16 video streams.

To add a stream to the decoder:

1. Go to **Video Wall Operation**. (See Figure 3 on page 13 for an example of this window.)



2. Click **+** to add a TruVision IP camera, an ONVIF camera, an encoder channel, or a recorder channel.

3. Enter the information for the device:

- **Device Name:** Enter a meaningful name for the stream. The text box cannot be left empty.
- **IP Address:** Enter the IP address for the device.
- **Port Number:** Enter the command port the device (default: 8000); for ONVIF devices, enter port 80.
- **User Name:** Enter the user name to access the device.
- **Password:** Enter the password to access the device.
- **Group:** Every device needs to be assigned to an group. A group can be the logical group to which this device belongs (For example: a site name, a floor number..). To create a group Area, click the **+ Add Group** button, enter the group name.
- **Channel Type:** Select the desired channel type (Conventional Network Source or Zero Channel Network Source).

Click **More** to see more (optional) settings.

- **Number of Channels:** Enter the highest channel number of the device.

For a normal camera, the channel number will be 1.

For an encoder or recorder, enter the highest channel number of the device.

When using a hybrid recorder with both analog and IP cameras: When adding a hybrid recorder, such as TVR 15HD, TVR 16 , TVR 17, TVR 45HD or TVR 46, that has both analog and IP cameras connected, the number of channels entered in this field is not the highest channel number of the recorder. You must enter the sum of the total number of analog cameras that could be connected to the recorder and the actual number of IP cameras connected.

For example, this is the window for adding a 8-channel TVR 17 recorder with 4 analog cameras and 2 IP cameras to the decoder. The channel number to enter is 10 (8 is the maximum number of analog cameras that could be connected plus 2 IP cameras connected):

Add Signal Source ✕

IP Address DDNS RTSP

Device Name *
TVR17

IP Address *
10.132.210.86

Port No. *
8000

User Name *
admin

Password *
.....

Group *
+ Add Group 2
1

Channel Type
Conventional Network Source

Number of Channels *
10

4. The available channels window of the device appears. Select the channel numbers that you want to add to the decoder and click **OK**.

Number of Channels *

10

Select Channel (Enter Channel No. First)

Select All

Channel: 1 Channel: 2 Channel: 3 Channel: 4

Channel: 5 Channel: 6 Channel: 7 Channel: 8

Channel: 9 Channel: 10

The selected channels will then be added to the decoder and show up on the tree.

Video Wall1 ▾

Signal Source Scene

+ ✎ 🗑

1

- ⊕ 22p-1
- ⊕ 22p-3
- ⊕ 22p-5
- ⊕ 22p-6

2

- ⊕ TVR17-1
- ⊕ TVR17-2
- ⊕ TVR17-3
- ⊕ TVR17-4
- ⊕ TVR17-9
- ⊕ TVR17-10


Click **More** to see the following extra options:

- **Transfer Protocol:** Select the appropriate transmission protocol (TCP or UDP)
- **Stream Type:** Select the desired stream type (main stream, substream, or third stream (if available)) .


- **Encrypted Stream:** enable/disable stream encryption
- **Device Manufacturer:** Select TruVision or ONVIF

Click **Save** to save the settings.

To modify a channel:

1. Go to **Video Wall Operation** and select the channel in the tree that you want to modify.
2. Click . The Edit Signal Source windows appears. Change the desired information and click **OK**.

To delete a TruVision IP camera, ONVIF camera, or encoder/recorder channel:

1. Go to **Video Wall Operation** and select the channel in the tree that you want to delete. Make sure it is not being decoded.
2. Click . Confirm that you want to delete the stream and click **OK**.

To add a RTSP stream:

1. Go to **Video Wall Operation**.
2. Click **+Add** .
3. Select **RTSP** and enter the information for the stream
 - **Device Name:** use a meaningful name for the stream
 - **RTSP:** enter the valid RTSP URL stream for the device, including the username and password
 - **Encrypted stream:** enable/disable the stream encryption
 - **Group:** select a group name or create a new group name (see above)

Check the documentation of the device for the correct RTSP URL.

Set up scenes

A Scene is a custom view of the decoder. This feature allows you to store predefined layouts with streams so that it is easy to call them up when needed. The output type is not stored when storing a scene.

By default, Scene 1 is always available and cannot be deleted. When first using the decoder, Scene 1 is empty. There are no streams yet assigned to it.

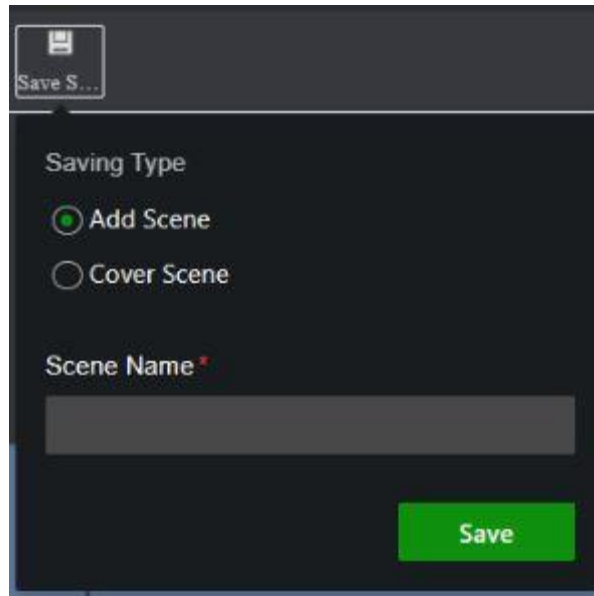
You can configure up to a maximum of sixty-four scenes.

Example:

Streams have been assigned to the monitors (in this example a multiview layout on the left monitor and two full-screen recorder streams on the other monitors).

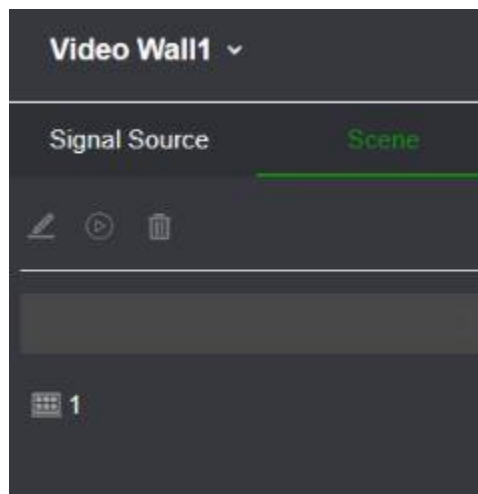
To save a scene:

1. Go to **Video Wall**.
2. To save this layout as a scene, click the **Save** button.






3. Enter the name of the scene to be saved and click **OK**.

The layout with streams is then saved as a scene:



To play, rename, or delete a scene:

1. Go to **Video Wall**.
2. To play a predefined scene, click the  play button for the desired scene.
3. To rename a predefined scene, click the  rename button for the desired scene and enter the new name.
4. To delete a predefined scene, click the  delete button for the desired scene.

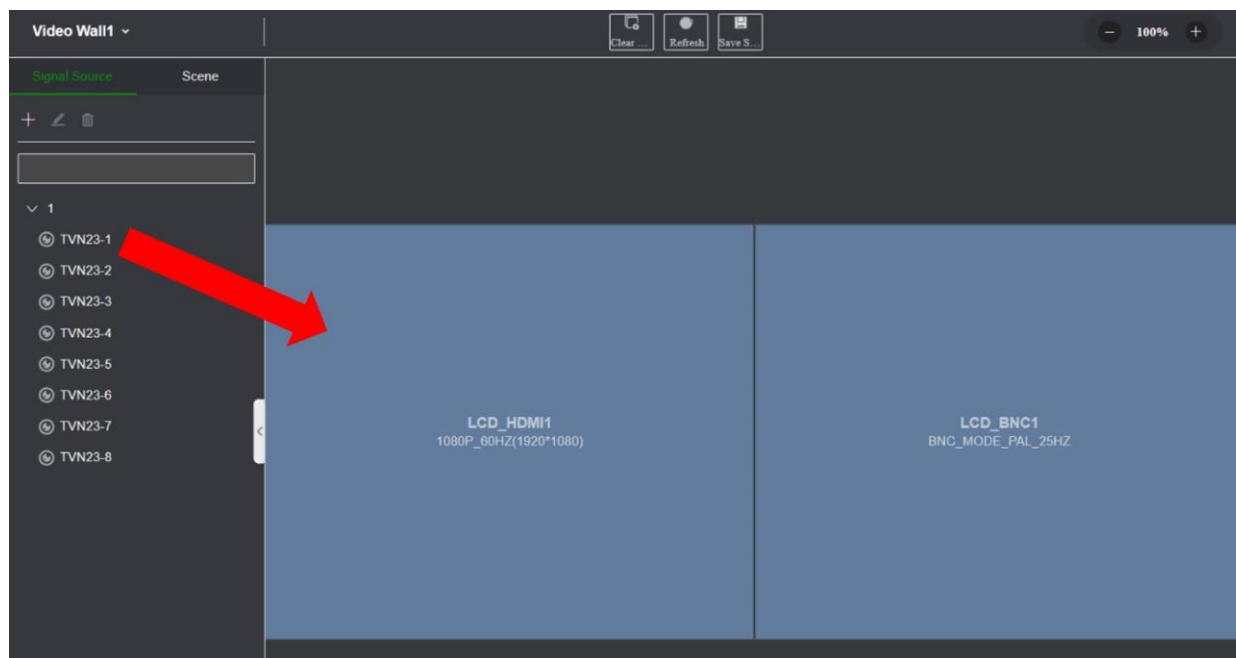
Add device streams in the monitors

You can easily add device streams to the monitors.

To add device streams to the monitors:

1. Go to **Video Wall Operation**.

2. Drag and drop a device from the tree on to the desired monitor. By default, the stream will be displayed in full screen mode.



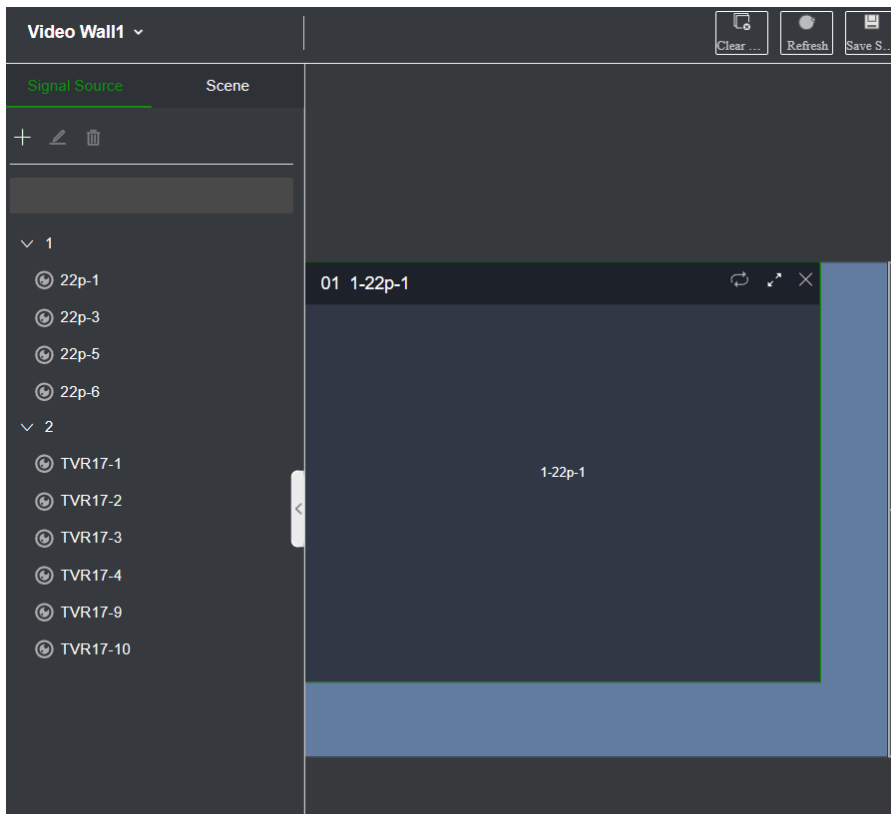
Note: Video images cannot be seen on the decoder window. Only the name of the stream will appear.


3. Adjust the size of the stream tile as required. See the next section for instructions.

Adjust the size of a stream tile

When you click on a stream, the selected video tile is framed by a green rectangle. You can change the size of the rectangle by pressing the left mouse button in the corner of the rectangle and then dragging the mouse until the tile is the desired size (see Figure 5 on page 48).

Figure 5: Resizing a video tile



Click on the two little arrows  at the right corner of the tile to reset the size.

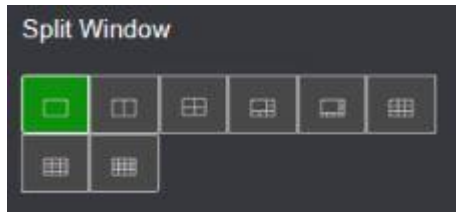
Select a predefined layout

There are some predefined layouts available that you can select for each monitor. The following layouts are available:

- Full screen
- 1x2
- 2x2
- 1+5
- 1+7
- 3x3
- 3x4
- 4x4

To select a predefined layout:

1. Go to **Video Wall Operation**.
2. Add a stream to a monitor. By default, the stream will be displayed in full screen mode.
3. Select the stream so that you see the green rectangle.
4. On the right side of the webpage, you see the details of the stream. In the Edit Window section, you can select the desired layout.

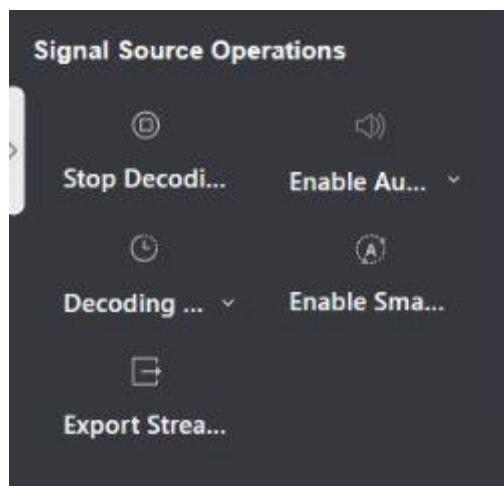


5. Once the desired layout is selected, you can assign streams to each video tile in the layout.

Signal Source Operations

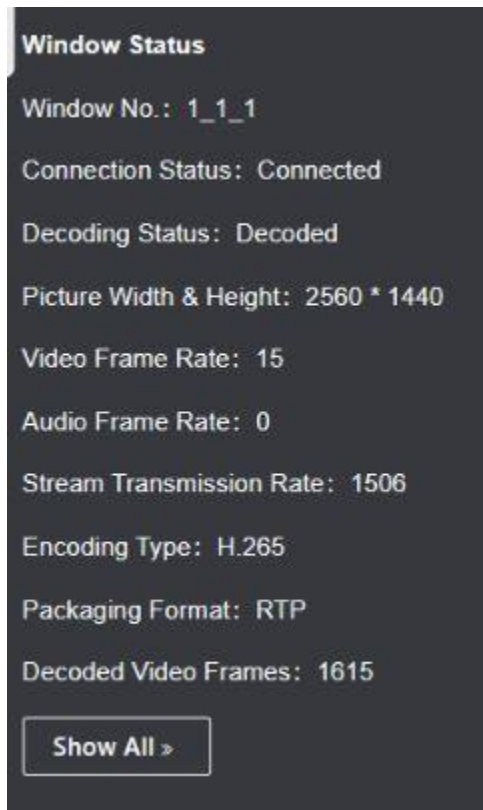
Click on a stream tile to show the available information for that tile on the right-side of the webpage in the Signal Source Operations. The list of options displayed will depend on the device selected. The options available are:

- **Stop decoding:** Start/stop decoding.
- **Enable Audio:** Turn on/off audio for the stream
- **Decoding delay:** Use this function to prioritize the quality or the fluency of the stream. Select one of the options from the drop-down list:
- **Enable Smart Information:** with this function you can show the VCA information for an IP camera in the stream.
- **Export Stream:** This is for technical support purposes only and is only visible when the Websocket function is enabled. It allows to export the video stream (for troubleshooting by technical support).



View windows status

Click on a stream tile to show the status of the stream on the right side of the webpage in the Windows Status section.




Select **Show All** to open a new webpage with the status for each decoding channel.

#	Window No.	Connection Status	Decoding Status	Picture Width & H...	Video Frame Rate	Audio Frame Rate	Stream Transmiss...	Encoding Type	Packaging Format	Decoded Video Fr...
1	1_1_1	Connected	Decoded	2560 * 1440	14	0	1614	H.265	RTP	5724
2	1_1_2	Not Connected	Not Decoded	0 * 0	0	0	0	UNKNOWN	UNKNOWN	0
3	1_1_3	Connected	Decoded	2560 * 1440	15	0	770	H.265	RTP	5677
4	1_1_4	Connected	Decoded	2688 * 1520	25	0	2666	H.265	RTP	9476
5	1_1_5	Connected	Decoded	2688 * 1520	24	0	1301	H.265	RTP	9526
6	1_1_6	Connected	Decoded	320 * 240	25	0	247	H.265	RTP	9525
7	1_1_7	Not Connected	Not Decoded	0 * 0	0	0	0	UNKNOWN	UNKNOWN	0
8	1_1_8	Not Connected	Not Decoded	0 * 0	0	0	0	UNKNOWN	UNKNOWN	0
9	1_1_9	Not Connected	/	0 * 0	0	0	/	/	/	/
10	1_1_10	Not Connected	/	0 * 0	0	0	/	/	/	/
11	1_1_11	Not Connected	/	0 * 0	0	0	/	/	/	/
12	1_1_12	Not Connected	/	0 * 0	0	0	/	/	/	/
13	1_1_13	Not Connected	/	0 * 0	0	0	/	/	/	/
14	1_1_14	Not Connected	/	0 * 0	0	0	/	/	/	/
15	1_1_15	Not Connected	/	0 * 0	0	0	/	/	/	/
16	1_1_16	Not Connected	/	0 * 0	0	0	/	/	/	/

Set up a sequence of streams in a tile

You can set up a sequence of streams on the monitor.

To set up a sequence:

1. Go to **Video Wall Operation**.
2. Select a tile in the monitor (green rectangle will be seen around the tile).
3. Hover your mouse at the bottom of the tile and click the auto switch icon .
4. A pop-up window will open, and you can setup the channel group and dwell time.



5. The sequence will start of all cameras of the selected group(s).
6. The sequence icon will be green to show that the sequence is running on the monitor.

It is a known limitation that the actual status of the sequence will not be displayed in the webpage.

Appendix: Supported devices

Cameras

Series 2	P Series cameras
Series 3	Full Color cameras
Series 4	360° cameras (TVF and TVPA)
Series 5 (fixed and PTZ)	Multi imager camera (TVS)
Series 6	Thermal camera (TVB-57xx and TVTH series)
M Series cameras	ANPR cameras (TVB and TVLP)
	IP PTZ (M and P series)

Encoders

TVE-110	TVE-120
TVE-410	TVE-420
TVE-810	TVE-820
TVE-1610	TVE-1620

Recorders

TVR 15HD series	TVN 11 series
TVR 16 series	TVN 12 series
TVR 17 series	TVN 22 series
TVR 44HD series	TVN 23 series
TVR 45HD series	TVN 71 series
TVR 46 series	