



# TruVision Navigator 9.2 User Manual

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# Chapter 1

## Introduction

TruVision® Navigator represents the latest advancement in video management. The system delivers powerful software capabilities and allows users to manage their TruVision-based video surveillance systems. TruVision Navigator can be used as a standalone application or can be deployed as a client/server architecture, making it scalable for deployment in either small- or large-scale commercial environments.

### Default credentials

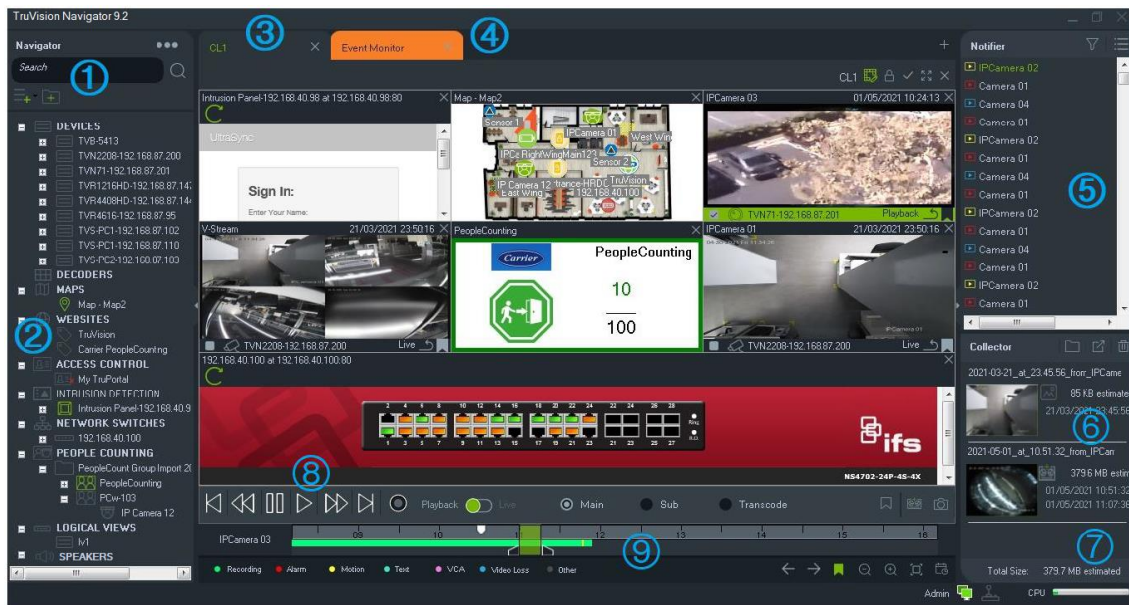
The default credentials for TruVision Navigator are:

- **User Name** – admin
- **Password** – admin

See “Initial login” on page 19 for further information.

### TruVision Navigator user interface

The Navigator user interface is comprised of main window panels and components as well as buttons that launch program functions and options (see graphic below).



- 1 **Navigator toolbar.** Contains the Navigator main menu drop-down list (includes **Settings, Device Manager, Bookmark Manager, Tasks, Recurring Tasks, Open Exported Video File, Check for Updates, User Settings, Group and Users, Audit History, Event-Actions, Help, and Logout**), the **Search** field, and the **Add Device** and **Add Folder** buttons.
- 2 **Navigator panel.** Contains recorders, cameras, decoders, maps, websites, access control panels, intrusion panels, network switches, people counting, and logical views that can be organized within folders.
- 3 **Viewer panel.** Multiple tabbed viewing panels (up to 10) can be added by clicking the **+** button. Click the **Custom View** button to select and create different video tile layouts up to 10x10.
- 4 **Event Monitor.** A detachable viewing window to view live video from cameras linked to the Notifier.
- 5 **Notifier panel.** View real time events coming from TruVision devices. Contains links to video event notifications as well as the **Details** button that launches the Event Center window. Also contains a **Filters** menu to filter event types shown in the Notifier.
- 6 **Collector panel.** Contains all relevant video segments, snapshots, and local recordings available for export. Also contains the **Show files in folder, Export All, and Delete All** buttons.
- 7 **System indicators.** Contains the CPU usage meter as well as server and keypad connectivity status. Hover over the meter to see the current CPU usage percentage.
- 8 **Playback controls.** Control video playback and recording.
- 9 **Timeline.** Provides a graphical view of recorded video over a period of time. Contains **Live** and **Sub** stream toggle controls, **Zoom In/Out, Center TimeLine, Add Bookmark to Video, Jump to the previous bookmark, Jump to the next bookmark, Bookmarks show/hide on Timeline, Go To Date, Save Video, Snapshot, PTZ Controls, and Push to Talk** buttons. Color coded video tags are displayed in the bottom left corner of the Navigator screen. See Appendix B “Device details” on page 197 for details on what types of video tagging is available for applicable devices.

The Navigator and Notifier/Collector panels are resizable by dragging the vertical left or right splitter bars. Arrow icons on the side of the panels hide or unhide the panel to provide custom layout styles. Navigator remembers custom panel layouts on logout and restores them after the next login (see “Custom view” on page 145).

## User interface languages













The following languages are supported in Navigator: Arabic, Chinese (Simplified and Traditional), Czech, Danish, Dutch, English, Finnish, French, German, Hungarian, Lithuanian, Italian, Polish, Portuguese (Brazilian and European), Russian, Slovak, Spanish, Swedish, and Turkish.

After launching the Navigator Setup.exe program, the Installer Wizard auto-detects the language setting on the computer and, if it is supported, translates the user interface to that language. If the language detected is not supported, the Installer Wizard defaults to English. The same auto-detection conditions occur when launching the Navigator client.





## Buttons and indicators

The following table describes the function of each button and indicator in the top-level view of the Navigator application.








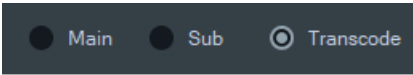





**Note:** Not all buttons and indicators listed are supported by all devices.















Button	Description
	Navigator menu drop-down list contains the following options:
	<b>Settings.</b> See “Settings” on page 23.
	<b>Device Manager.</b> See Chapter 4 “Device Manager” on page 61.
	<b>Bookmark Manager.</b> Edit and delete bookmarks or play back bookmarked video. See “Bookmark manager” on page 36.
	<b>Tasks.</b> Monitor scheduled tasks such as video exports, database backups, and database restores. See “Tasks” on page 37.
	<b>Recurring Tasks.</b> Monitors video exports created according to a recurring schedule. See “Recurring tasks” on page 37.
	<b>Open Exported Video File.</b> Browse for and launch an exported video in the Viewer.
	<b>Check for Updates</b> Downloads the latest language pack and standalone player from the cloud. Language pack requires a restart. Click <b>Restart Navigator</b> to restart the application and apply updates.
	<b>User Settings:</b> Allows the user to change password and/or change the Challenge Question. See “User Settings” on page 39.
	<b>Groups and Users.</b> Add new users and user logins, add a challenge question, assign permissions, and create groups
	<b>Audit History.</b> Set event filters and a time range for viewing user activity
	<b>Event-Actions.</b> Permits the user to cause an action on any device in the Navigator panel triggered from any number of devices reporting notifications.



Button	Description
	<b>Help.</b> Includes a Help file as well as version, copyright, and end user license agreement information. Custom Help or training links can be added to this menu for specific uses. See “Custom Help” on page 28.
	<b>Logout.</b> Log out of the Navigator program. Logging out permits another user to log in on the same machine
	<b>Add Device.</b> Add recorders and cameras to the device panel. See “Adding devices” on page 79
	<b>Add Folder.</b> Organize devices in the device panel by adding folders. See “Adding folders” on page 115.








### Viewer panel

	<b>Custom/sequence view.</b> Use custom views to define and save view templates for future use and set up camera sequencing. See “Custom view” on page 145.
	<b>Lock Current Layout.</b> Prevents changes to the current viewer panel setup.
	<b>Select all.</b> Select all tiles in the Viewer or Collector.
	<b>Toggle.</b> Toggle between normal view and maximized view.
	<b>Close All.</b> Close all tiles in the viewer.
	<b>New Viewer.</b> Add a tabbed viewing panel (10 maximum)
	<b>Live and Playback stream toggle control.</b>
	Switch between Main, Sub and Transcode streams. See “Stream” on page 157.
	<b>Add Bookmark.</b> Add a bookmark with notes to the camera timeline for quick navigation to a marked incident. See “Bookmarks” on page 141.
	<b>Save Video.</b> Send a video segment of the time range selected and highlighted in green in the timeline to the Collector for export. See “Timeline” on page 140.
	<b>Snapshot.</b> See “Snapshot” on page 151.
	<b>PTZ control.</b> Launches the PTZ window. See “PTZ control” on page 148.
	<b>Push to Talk.</b> Speak through an attached microphone into a selected recorder or camera that has speakers installed.

Button	Description
	Move to previous/Move to next bookmark on the timeline.
	Show/Hide bookmarks on the timeline. These icons only appear when a single video tile is selected.
	Zoom In/Out on the timeline. Zoom out to the date level and zoom in to the minute level.
	Center the timeline to the location of the green timeline cursor.
	Go To Date of recorded video
<b>Notifier panel</b>	
	<b>Filters.</b> Select color coded notification filters to see notifications in the Notifier based on specific criteria.
	<b>Event Center.</b> Launches the Event Center, which contains a list of notifications sent from Navigator devices.
<b>Collector panel</b>	
	<b>Show files in folder.</b> Opens the folder where the files are located in Windows Explorer.
	<b>Export.</b> See “Export video and snapshots” on page 166.
	<b>Delete All Collector Items.</b> Delete all items in the Collector.
<b>Admin</b>	
	<b>Server Online.</b> Indicates that the server is online in a client/server installation.
	<b>Server Offline.</b> Indicates that the server is offline. See Chapter 11 “Server offline mode” on page 175.
	<b>Keypad status.</b> Indicates that the keypad is connected to the client computer.
	<b>Keypad Not Connected.</b> Indicates that the keypad is not connected to the client computer.

## Playback controls

The following table describes each playback control in the Navigator application.

Button	Description
	<b>Frame Step Reverse.</b> Go to previous frame.
	<b>Rewind.</b> Rewind video.
	<b>Pause.</b> Pause video.
	<b>Play.</b> Play back video. Clicking the <b>Play</b> button multiple times increases playback speed.
	<b>Fast Forward.</b> Fast forward video.
	<b>Frame Step Forward.</b> Go to next frame.
	<b>Local Record.</b> See “Local record” on page 141.

# Chapter 2

## Installation

### Installation options

There are two installation options for TruVision Navigator. The core features and functions remain the same regardless of which of the two installation options are selected.

**Standalone Mode** – This installation option allows the client and database to reside on the same computer. No other clients on the network can connect to the database on this computer. This installation option is ideal for small, standalone systems.

**Multi-client Mode (traditional client/server)** – This installation option allows the client and server to reside on the same or separate computers. It is suitable for larger systems with many geographically dispersed users, computers, and recording devices.

Administrator rights are required to install Navigator on a computer, but the application is available to any user that successfully logs in to a Windows® account on that computer.

**Note:** You must select the client/server installation, to use the people counting feature on a web browser.

### Installation prerequisites

For each computer:

- Download the latest operating system service pack from the Microsoft Download Center.
- Check for Windows updates at <http://update.microsoft.com>.
- Download the latest video driver.
- For the minimum software and hardware requirements, see Appendix A “Minimum system requirements” on page 191.

## Installation – standalone mode

### To install a new standalone instance of TruVision Navigator:

1. Double-click the TruVision Navigator Setup.exe installer to begin the installation. Right-click the Setup.exe file and select **Run as Administrator**.
2. If necessary, click **Yes** in the User Account Control window to make changes to the computer.
3. Ensure that the RSTP port used by all recorders is open so that live video can be viewed. The default RSTP port is 554.
4. The End User License Agreement window appears. Select the **I Accept these terms and conditions** check box and then click **Next** to continue.
5. The Welcome window appears. Select **Typical** or **Advanced** (to change the default installation location), and then click **Next**.
6. *Advanced installation only:* Accept the default installation folder or click ... to select a different location and then click the **Next** button.
7. The Confirm Selections window appears. Click **Install**.
8. The WinPcap Setup Wizard appears. Click **Next** to continue.
9. The WinPcap License Agreement window appears. Click **I Agree** to continue.
10. The Installation options window appears. The **Automatically start the WinPcap driver at boot time check box** is selected by default. Click **Install** to continue.
11. Click **Finish** to continue.
12. Click **Close** to complete the installation.

## Installation – client/server mode

### To install a new client/server instance of TruVision Navigator:

1. Double-click the TruVision Navigator Setup.exe installer to begin the installation. If prompted, right-click the Setup.exe file and select **Run as Administrator**.
2. Click **Yes** to make changes to the computer.
3. The End User License Agreement window appears. Select the **I Accept these terms and conditions** check box and then click **Next** to continue.
4. The Welcome window is displayed. Select **Advanced** for a client/server installation, and then click **Next**.
5. The Installation Folder window appears. Click the **Next** button to accept the default installation folder or click ... to select a different location.
6. The Configuration window appears. Select **Client/Server Mode** and click **Next** to continue.

7. The Type of Database window appears. Select **Use internal database** (recommended option) and then click **Next**. If the organization requires use of Microsoft SQL Server and it is already installed, select **Use Microsoft SQL Server** and then click **Next**.

**Note:** Aritech will not be responsible for SQL Server errors or issues.

8. The Confirm Selections window appears. Click **Install**.
9. The WinPcap Setup Wizard appears. Click **Next** to continue.
10. The WinPcap License Agreement window appears. Click **I Agree** to continue.
11. The Installation options window appears. The **Automatically start the WinPcap driver at boot time check box** is selected by default. Click **Install** to continue.
12. Click **Finish** to continue.
13. Click **Close** to complete the installation.

**Note:** Recorders connected to the network must be reachable over the network from the Navigator server computer. If there are firewalls between the server computer and the recorder network, make sure to open the following inbound ports into the recorder network:

1. The HTTP ports used by all recorders on the network.
2. The Command ports used by all recorders on the network.

By default, recorders use 80 for HTTP and 8000 for Command traffic. If the server computers can't connect to the recorders, the following features will not work:

- Automatic Diagnostic Polling.
- Device Health Checking.

### WinPcap issues and workaround

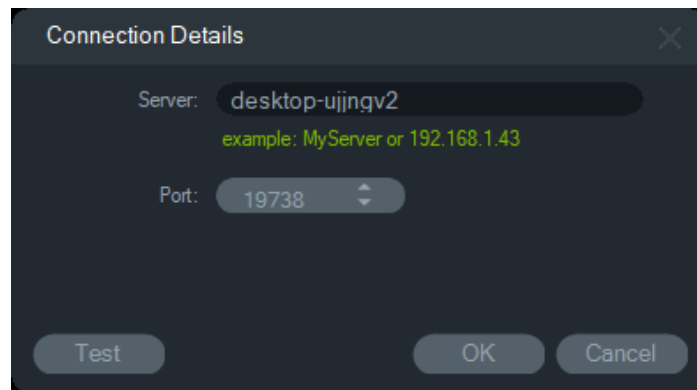
The installation of TruVision Navigator will fail, when a different version (to what the software needs) of WinPcap libraries is detected in the Windows System folders.

To fix this, follow these steps:

1. Stop the TruVision Navigator Setup.
2. Uninstall existing WinPcap and install TruVision Navigator again.
3. If the issue still occurs, continue to step 4.
4. Check if the following libraries are found in this location C:\Windows\SysWOW64  
File names: wpcap.dll and packet.dll
5. Rename these libraries.
  - Rename wpcap.dll to wpcap.dll.old
  - Rename packet.dll to packet.dll.old
6. Reboot the PC and install TruVision Navigator again.

## Connection details


Click **Connection Details** in the login screen in client/server mode to view and/or change the default server name and port number, and to test the server connection.



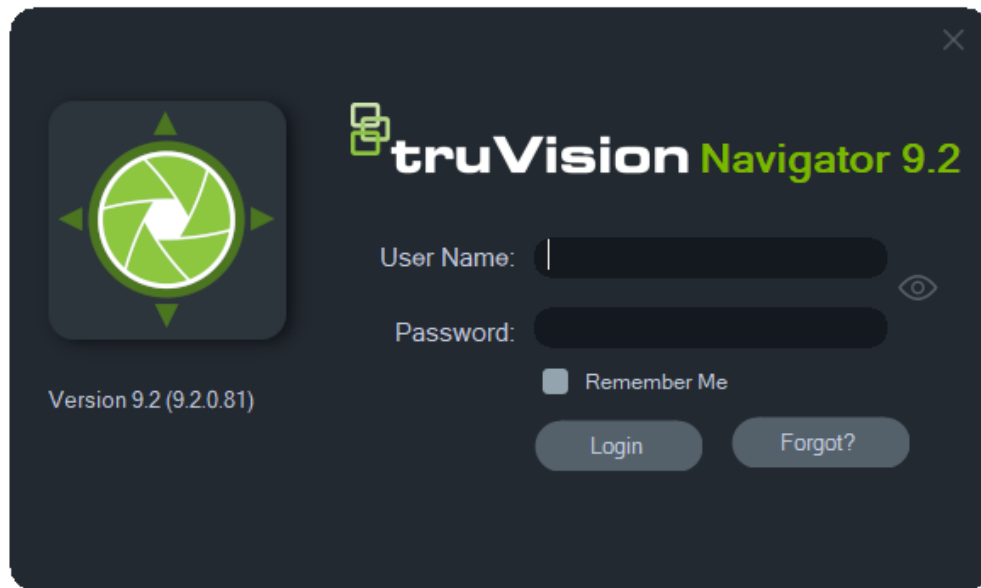
## Initial login

### To log into TruVision Navigator for the first time:

1. After successful installation, launch TruVision Navigator using one of the following methods:
  - Double-click the TruVision Navigator icon on the desktop.
  - Go to **Start > All Programs/Apps > TruVision Navigator**.
2. When TruVision Navigator launches, a login window appears. Log in as the default administrator by typing in the following default credentials:
  - **User Name** – admin
  - **Password** – admin

**Note:** The user name and password are masked by default. Click  to reveal the user name and password.

**Note:** The **Remember Me** option is used in combination with the Auto Login function. More information about this option can be found in Chapter 10 “Auto login” on page 171.



3. Click **Login**. After initial login, the Change Password window appears and prompts you to change the default password for security purposes.
4. Type the new password in the **Password** field.
5. Retype the password in the **Confirm Password** field.
6. Select a question from the **Challenge Question** drop-down list.
7. Type the answer to the challenge question in the **Challenge Answer** field.
8. Click **OK**.

If you forget the password set up during initial login, click the **Forgot?** button in the Login window to answer the challenge question, change the password, and re-enter the application without calling for assistance.

If the **Challenge Answer** cannot be obtained to recover the password, click the **Forgot?** button again and call the Carrier technical support team with the “tech support key” automatically provided in the related field. The technical support team can recover the **Challenge Answer** with this information.

### Upgrading an existing installation

**Note:** We recommend that you back up the database before upgrading.

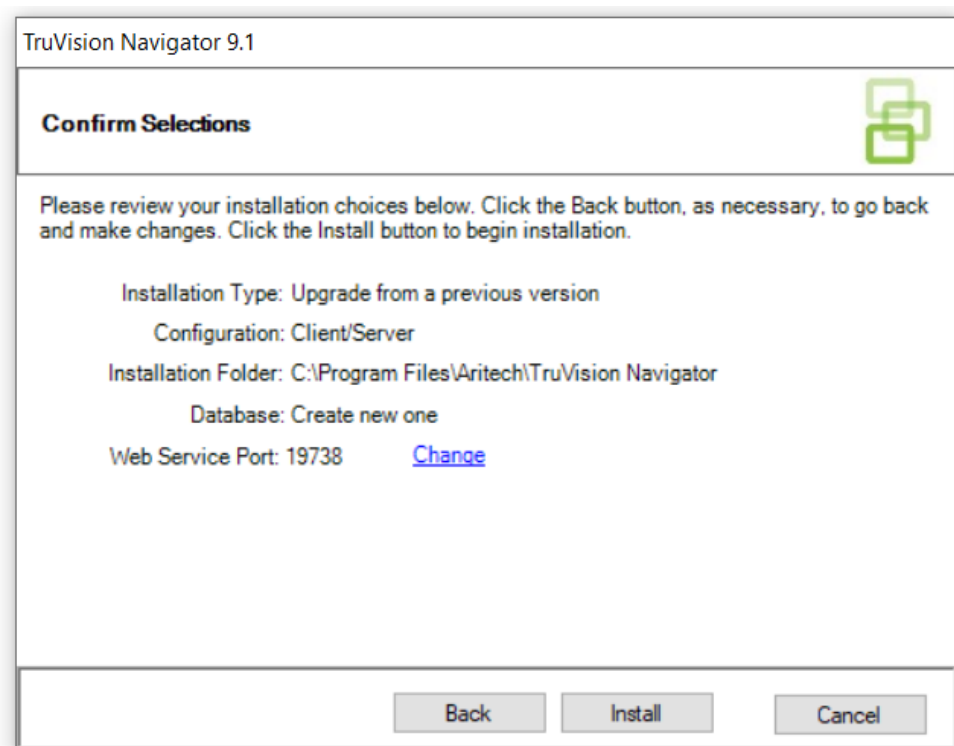
If you are upgrading from TruVision Navigator 9.x version, you can upgrade to the latest released version. If you are upgrading from an older version of TruVision Navigator (for example, 8.x) you must do a fresh installation. This means that you must uninstall the current (older) version before installing a new version.

Check the hardware requirements for the new version and update/upgrade the PC, if needed (see Appendix A “Minimum system requirements” on page 191).

If you need to retain an existing database (for version 8.x), you must contact technical support.



1. Double-click the new TruVision Navigator Setup.exe installer to begin the installation. Right-click the Setup.exe file and select **Run as Administrator**.
2. Click **Yes** to make changes to the computer.
3. The End User License Agreement window appears. Select the **I Accept these terms and conditions** check box and then click **Next** to continue.
4. The Welcome window appears. Select **Typical** (standalone installation) or **Advanced** (for a client/server installation or to change the default installation location), and then click **Next**.
5. *Advanced installation only:* The Installation Folder window appears. Click the **Next** button to accept the default installation folder or click ... to select a different location.
6. *Advanced installation only:* The Configuration window appears. Select the required configuration mode and then click **Next** to continue.
7. The Select Database window appears. Select the **Use existing database** option (recommended) and then click **Next**. If the organization requires use of Microsoft SQL Server and it is already installed, select **Use Microsoft SQL Server** and then click **Next**.
8. The Confirm Selections window appears. Click **Install**.

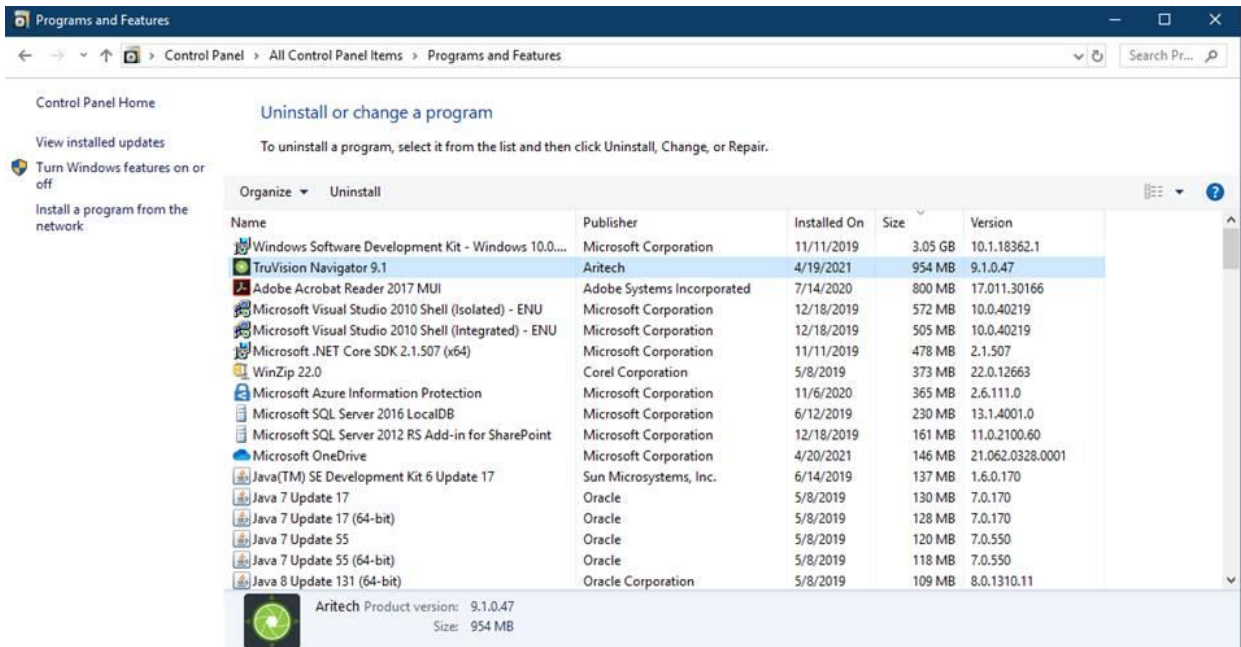


9. Click **Close** to complete the installation.

# Uninstall

## To uninstall Navigator:

1. Launch the Programs and Features application from the Windows Control Panel.
2. Navigate to TruVision Navigator and click **Uninstall**.



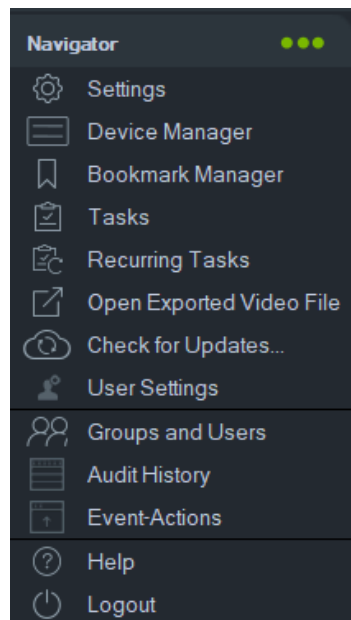
3. Click **Yes** to make changes to the computer.
4. The Uninstaller window appears. If required, select the **Also delete the TruVision Navigator database** check box before clicking **Uninstall**.
5. The Uninstalling Product window appears, followed by the Product Uninstalled window. Click **Close** and restart the computer.

**Note:** This process removes all TruVision Navigator files and logs from the computer. No registry edits are necessary to remove Navigator from the computer. The NTP service and WinPcap programs should also be uninstalled for complete removal of all files installed during Navigator installation.

# Chapter 3

## Navigator main menu

Click the button at the top of the Navigator panel to display the Navigator main menu drop-down list.



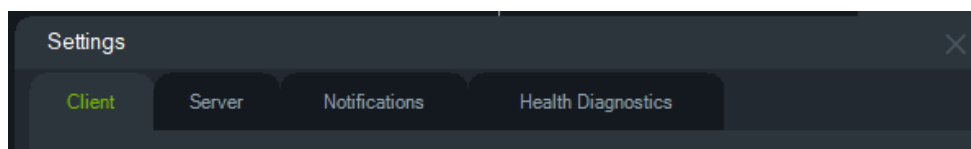
## Settings

For both the standalone and multi-client installation models, the TruVision Navigator client and server can be configured for specific features using the Settings window.

To access the Settings window, click the Navigator menu button in the Navigator title bar and then select **Settings**.

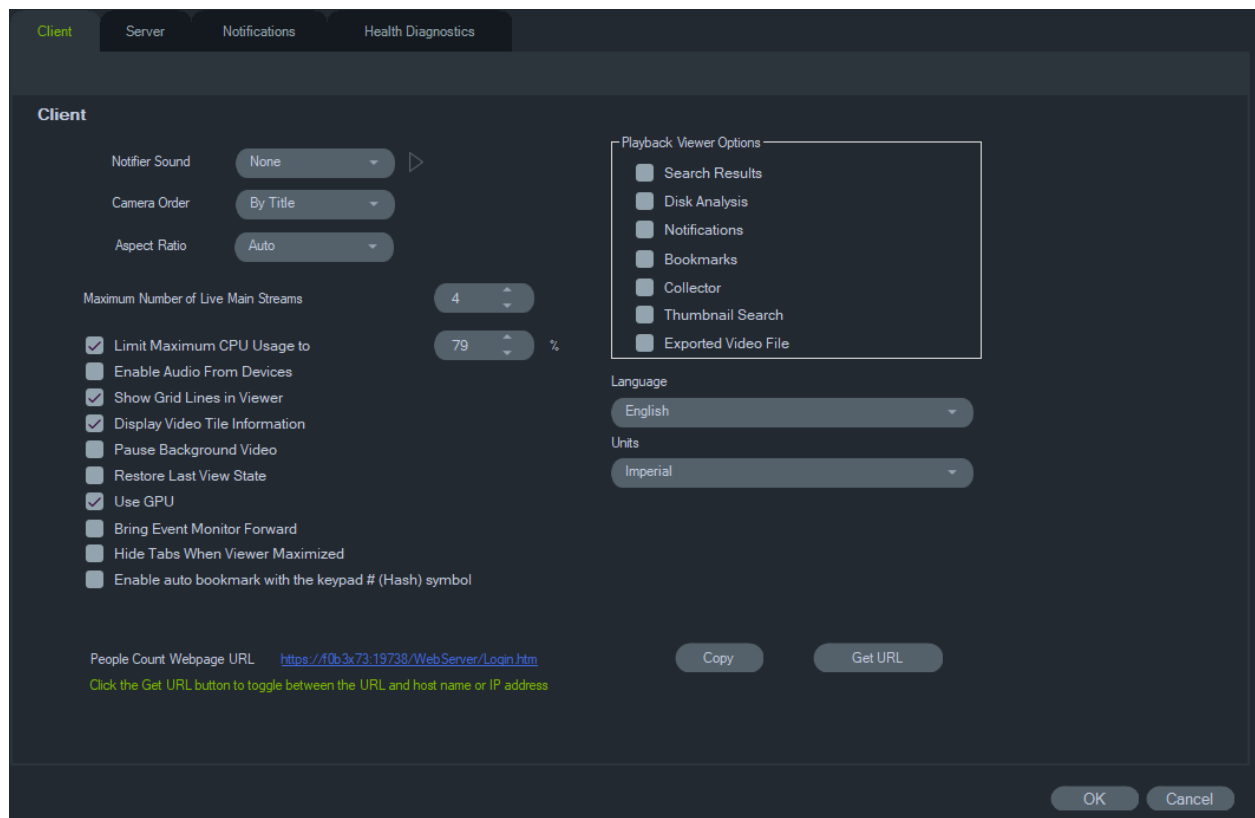
**Note:** User and/or group permissions are required to see all tabs in the Settings window. See “Permission models” on page 43 for further information.

The following configuration tabs are available in the Settings window:




- **Client** – Includes a variety of settings that apply to each client station.
- **Server** – Includes the SMTP server settings, permission settings, instant replay duration custom help link settings, and server/client URL information.
- **Notifications** – Includes the port settings necessary to receive events from each device, email notification settings, and a filter of specific notification types.
- **Health Diagnostics** – Includes a filter of diagnostics to be received, as well as email settings to receive notifications of diagnostics information. Automatic diagnostic polling can also be scheduled from this menu.

## Client

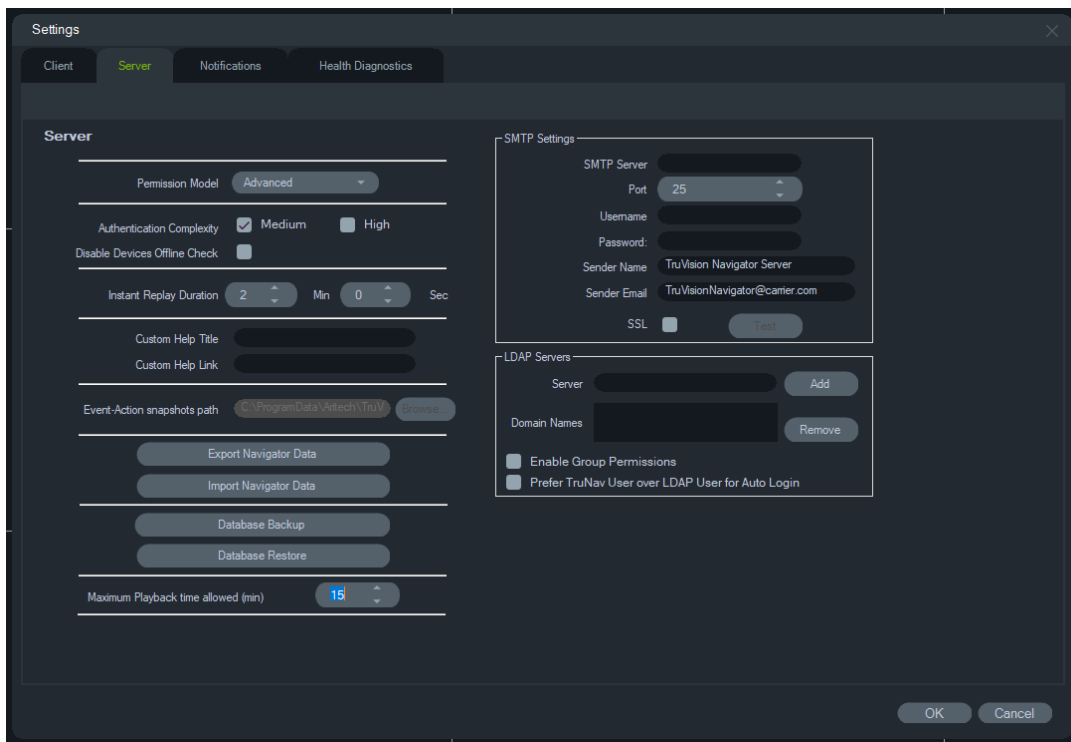


Client settings apply to each client station. These settings include:

- **Notifier Sound** – Enable the alert sound when new device notifications are received in the Notifier panel. Click the  button next to the **Notifier Sound** drop-down list to preview the selected sound.
- **Camera Order** – Arrange cameras in the Navigator panel by title or number.
- **Aspect Ratio** – Enable the aspect ratio (1:1, 4:3, 9:16, 16:9, or 21:9) for live and playback video in the Viewer.
- **Maximum Number of Live Main Streams** – Set the maximum number of live main streams. When set to 0 (zero), only substreams display.
- **Limit Maximum CPU Usage to** – Set the maximum CPU threshold to prevent the client machine CPU from reaching 100% during video rendering.

- **Enable Audio From Devices** – Turn on audio from applicable devices.
- **Show Grid Lines in Viewer** – Remove/show gridlines between video tiles in the Viewer.
- **Display Video Tile Information** – Remove/show camera title and time and date.
- **Pause Background Video** – Pause video not running in the current view in Navigator. This selection closes the video streams that are not currently being viewed. Use this setting if bandwidth usage is an issue. There will be a slight delay when switching to the background views.  
**Note:** Background video remains active for 30 seconds before pausing.
- **Restore Last View State** – Cameras, views, and tile layouts are restored to their previous state after exiting and restarting Navigator.
- **Use GPU** – Use the computer’s video card to decode video.
- **Bring Event Monitor Forward** – Displays the Event Monitor tab in the Viewer panel in front of the current view whenever an event occurs. When the application or the Event Monitor viewer is minimized, it maximizes the application when an event occurs. See “Assign to Event Monitor” on page 133 for details.
- **Hide Tabs When Viewer Maximized** – Use this option to hide the tabs when the viewer has been maximized. **Note:** When this option is selected, the switching between Viewers is disabled when the Viewer is maximized.
- **Enable auto bookmark on keypad #(Hash) symbol** – Use this option to create bookmarks via the TVK-400-USB keypad. When this feature is enabled, press the # key in the keypad to create a bookmark.
- **Language** – Select the preferred language for the user interface in this drop-down list.
- **Units** – Select **Imperial** or **Metric units** of measure.
- **People Counting Webpage URL** – The default web page URL that contains a link to the server that can display people counting information on a web browser. Click the Copy button to copy the URL. Click the Get URL button to toggle between the URL with a host name or an IP address.  
**Note:** To display the web page on a mobile device, a URL with an IP address may be needed.
- **Playback Viewer Options** – TruVision Navigator makes it possible to open recorded video from recorders in a specific viewer, called Playback Viewer. The user must enable the required options to open the recorded video in the Playback Viewer. Playback Viewer displays videos related to search results, disk analysis, notifications, bookmarks, the collector, thumbnail search, and exported video files. The instant replay video, recorded video searched via the Go To time/date, and playback shown via a selection on the time line, will be played in the current viewer.

## Server



The **Server** tab includes the following server settings:

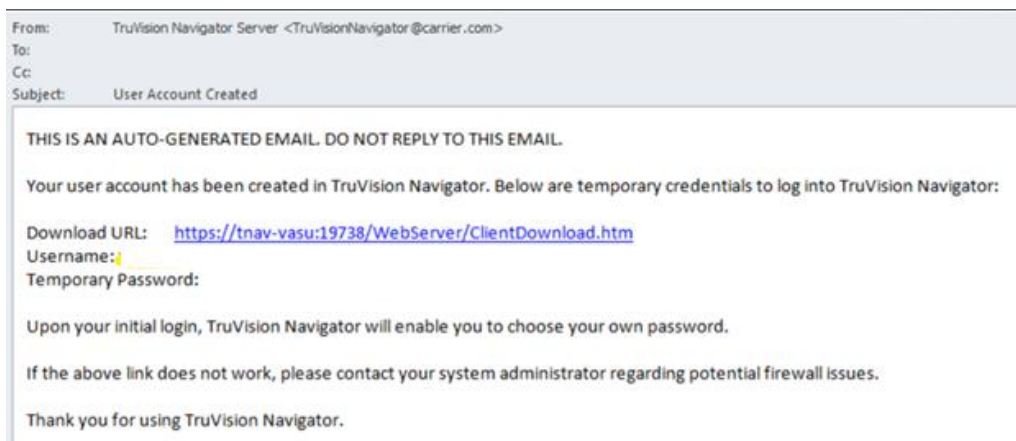
- **SMTP Setup (SMTP Server, Port, Username, Password, Sender Name, SSL, Test).**
- **Permission Model** (see Permission models on page 43).
- **Authentication Complexity**
- **Disable Devices Offline Check:** Checks if recorders are offline. If selected, no notifications will be received.
- **Instant Replay Duration**
- **Custom Help Title and Custom Help Link**
- **Database Backup and Database Restore**
- **Server URL:** Multi-client installations (client/server) only.
- **Client Download URL:** Multi-client installations (client/server) only.
- **Export Navigator Data and Import Navigator Data**
- **LDAP Servers:** Add and Remove LDAP servers. See “LDAP servers” on page 32.
- **SSL Certificate:** Permits secure communication between a client and server (client/server installations only). **Browse** for a Certificate Authority (CA) **Server Certificate** and **Key** and **Install** the certificate.
- **Event-Action snapshot path:** Allows the user to select the location where the generated snapshots will be stored for the Event-Action triggers.
- **Playback time allowed (min):** Restricts the start time of recorded video for users who have the “Watch playback by time” permission.

## SMTP setup

Simple Mail Transfer Protocol (SMTP) is a de facto standard for email transmissions across the Internet. The Navigator server can be configured to use an SMTP server to send automated email messages (with client download URL, username, and password) to users when they are created in TruVision Navigator and when their login credentials (username, password) need to be reset in the system by an administrator. If SMTP is not set up, this information must be delivered via an alternative method such as phone or personal email.

### To set up SMTP:

1. Type the **SMTP Server** IP address, the **Port**, and any **Username** and **Password** credentials required by the SMTP server.
2. The default email sender name is “TruVision Navigator Server.” If necessary, change the sender’s name.
3. The default sender’s email ID is “TruVisionNavigator@carrier.com”. If necessary, change the sender’s name and select **SSL** if required by the server.
4. Test this setup by clicking **Test** and typing a destination email address for the test message. Check the application status bar for feedback on the test. Also check the email account to ensure there is a test message from the Navigator server confirming proper setup of the SMTP server.
5. An email like the one below is sent. If not received after several minutes, check the Junk Mail folder to see if the email was classified and stored there.



## Authentication complexity

TruVision Navigator has two authentication complexity standards – Medium and High. The default authentication for a new installation is **Medium**. To change the authentication complexity, select an option from the drop-down list and click **OK**.

All new users are required to meet the new authentication complexity standard. However, existing users of the application are not prompted to change their credentials to meet the new standard once it is changed. Therefore, the administrator must reset each of the existing user accounts for the standard to take effect. This reset only affects the password for that user, not the username. To avoid resets, we recommend setting the authentication complexity before any users are created in the system.

Table 1 outlines the components of each of these standards.

**Table 1: Authentication complexity**

<b>Authentication complexity</b>	<b>Maximum login failure attempts</b>	<b>Username complexity</b>	<b>Password complexity</b>	<b>Password reuse</b>	<b>Password expiration</b>
Medium	3	At least six characters	At least eight alphanumeric characters	n/a	n/a
High	3	At least 12 characters	At least eight characters with at least: One Upper-case letter One lower-case letter One numeric One special character (~, !, @, #, \$, %, ^, &, +, =)	Cannot use the last password	User must change password every 60 days

### Instant replay duration

Navigator supports instant replay from the video tile. This feature rewinds video in a tile by a user-defined, pre-configured amount of time (30 seconds default, 99 minutes and 59 seconds maximum).

To set instant replay time, type the minutes and seconds or click the spin wheels to enter the required value in the **Instant Replay Duration** fields and click **OK**. See Appendix B “Device details” on page 197 for limitations on instant replay for each device.

### Custom Help

Custom Help access allows individual organizations to provide their own additional content to facilitate use of the software. This content is completely user-defined; Navigator simply provides a pathway for users to access it.

#### To add a custom Help link:

1. In the Server Settings screen, type the name of the Help title to share with users in the **Custom Help Title** field.
2. Type the link to the Help file in the **Custom Help Link** field.
3. Click **OK**.
4. Open the Help window by clicking the Navigator main menu button and selecting **Help**. The custom Help title appears in the Help screen.
5. Click the link to access the content.



## Database backup and restore (standalone installations only)

Navigator database backup should be backed up in a separate location by an administrator for safekeeping. If there is a problem with the computer where the TruVision Navigator database resides, the administrator can install that same version of TruVision Navigator and restore the database with the backup file. This brings the system back into operation quickly without manual re-entry of device, user, group, permission, or other system configuration data.

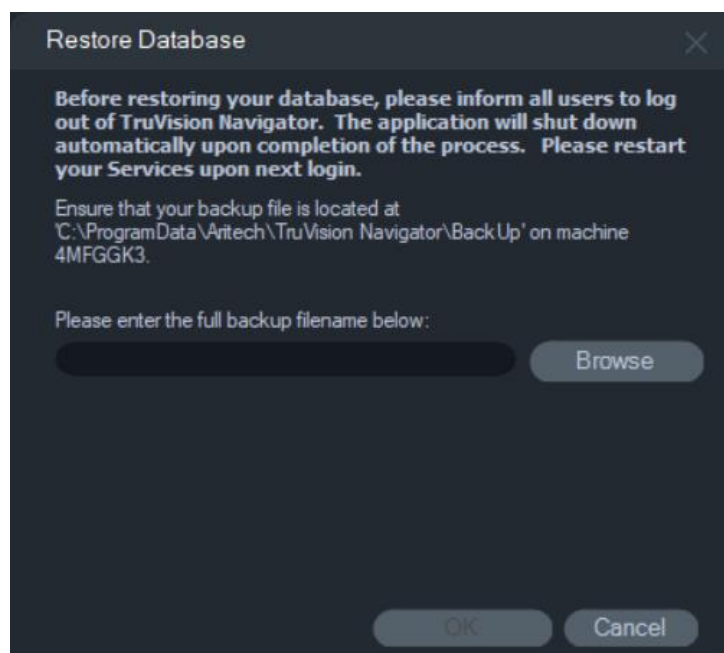
**Note:** Data backup and restore is not intended for use when upgrading to a newer version of Navigator. It will only work with the same version of Navigator used for the database backup.

### To back up the Navigator database:

1. Select the **Server** tab in the Settings window and then click the **Database Backup** button. The Backup Database window appears.
2. Type a database backup name (no file extension is necessary) and take note of the path where the database backup file will reside. The administrator should copy or move this file to a safe location.
3. Click **Schedule** to schedule the backup or click **Backup Now**. Upon initiation of the backup, refer to the Tasks window for status (see “Tasks” on page 37)
4. After successful completion, the database backup file resides at the designated location.

### To restore the Navigator database:

1. Select the **Server** tab in the Settings window and then click the **Database Restore** button. The Restore Database window appears. Ensure that a copy of the backup database file has been placed in the directory listed.



2. Type the exact name of the file in the text field provided. If restoring the database to a SQL instance that requires SQL authentication credentials, enter them here. Otherwise, use the default setting.
3. Upon initiation of the restore, refer to the Tasks window for status. After Restore Task appears in the Task window, log out of the application. Log back in and the database is restored.

## Multi-client (client/server) installations

### Client download URL

The **Client Download URL** field only appears in client/server installations.

For multi-client installations (client/server), the client download URL is the network location of the Navigator client software package. Administrators can deliver this URL to new users so they can download the client software remotely from the Navigator server. If SMTP is in use, this is done automatically for the administrator during user setup.

For standalone installations (direct database connection), this field is disabled since no other networked Navigator clients can connect to this instance of the Navigator server.

### User management and client software delivery

With multi-client (client/server) installations of Navigator, computers on the same network as the Navigator server can download the Navigator client.

Note the following:

- Remote distribution of client software is NOT available for the standalone (direct database connection) installation option.
- The person installing the client software must have administrator rights on the computer to perform the client installation.
- When a new user is added to the system, that user does not have any permissions assigned and therefore cannot log in to Navigator. User permissions must be assigned before the user can log in (see “User management” on page 40).
- After installation of the client software, all items that the user has permission to access appear in the Navigator panel.

### Fully automated client software delivery

**Note:** It is possible to add custom instructions/text to the default email text and decide if the download URL link needs to be included in the email. See “New user email content” on page 56.

Navigator can be configured to use an SMTP server to send automated email messages (with client download URL, username, and password) to new users or when an existing user’s login credentials (username and password) need to be reset in the system by an administrator (see “SMTP setup” on page 27).

To distribute the client software remotely to a new user, first configure TruVision Navigator with an SMTP server, and then add the new user and grant permission to the new user (see “User management” on page 40).

### Partially automated client software delivery

If SMTP capability is not used, there are alternate methods that can be used to deliver the client software.

#### To deliver client software remotely without access to SMTP, do the following:

1. Ensure that the **SMTP Server** field is empty in the Settings window **Server** tab.
2. Add the user (see “User management” on page 40).
3. The administrator delivers the user’s login credentials and client download URL to the user via phone or private email. Cut and paste the URL from the **Client Download URL** field in the **Server** tab in the Settings window. Remember to assign the user’s permissions or he/she will not be able to log in.
4. Copy or type the client download URL into a browser or click the link in an email.
5. *Skip this step if you have deployed an SSL certificate from a CA: Click **Go on to the web page (not recommended)**. See the *TruVision Navigator 8.0 SP2 Software Upgrade for Client Computers Addendum* for details.*
6. Follow the instructions in the Client Software Download page to download the ClientOnlySetup.exe file.
7. Run the ClientOnlySetup.exe file (the ClientOnlySetup.exe file is preconfigured to point to the server that it was obtained from) and follow the installation prompts.
8. Launch Navigator and log in with the credentials provided via phone or email.
9. Enter the required information in the Change Password window (see “Initial login” on page 19 for further information).

#### To manually install the client software on computers, do the following:

1. Download the ClientOnlySetup.exe file from the Client Installation web page and place it on a thumb drive or other media.
2. Physically deliver the .exe file to the specific computer.
3. Run the ClientOnlySetup.exe file (the ClientOnlySetup.exe file is preconfigured to point to the server that it was obtained from) and follow the installation prompts.
4. Launch Navigator and log in with the user credentials.
5. Enter the required information in the Change Password window (see “Initial login” on page 19 for further information).

### Import/export Navigator data

A Navigator address book stores the title, IP address, and credentials of recorders and cameras, as well as website pages, TruPortal panels, Aritech intrusion panels, IFS

network switches, and logical views in the Navigator panel. This data can be imported or exported into Navigator as needed to save and restore these settings.

- Click **Export Navigator Data** to save Navigator settings in the CSV file format.
- Click **Import Navigator Data** to import previously configured Navigator panel settings in the CSV file format.

## LDAP servers

The Lightweight Directory Access Protocol (LDAP) is commonly used to provide a repository for storage of user names and passwords. Adding an LDAP server to Navigator provides a way to validate users that permits them to bypass the Navigator login window.

### To add an LDAP server:

1. Type the LDAP server domain name in the Server box, and then click **Add** to test the server connection. This can be done for multiple domain names. The domain name must be reachable from the computer used to add the LDAP server.
2. Click a domain name in the Domain Names box, and then click **Remove** to remove an LDAP server.
3. Click **OK** in the Settings tab when finished to add the LDAP server(s) to Navigator.

## LDAP users

LDAP users can access Navigator with adequate permissions in a LDAP environment, with minimum configuration. This allows LDAP users to get their associated LDAP group and compare them with Navigator groups and to allow supported permission to the LDAP User.

**Enable Group Permissions:** Use this option when the **LDAP** user needs to load LDAP group permissions into the TruVision Navigator system.

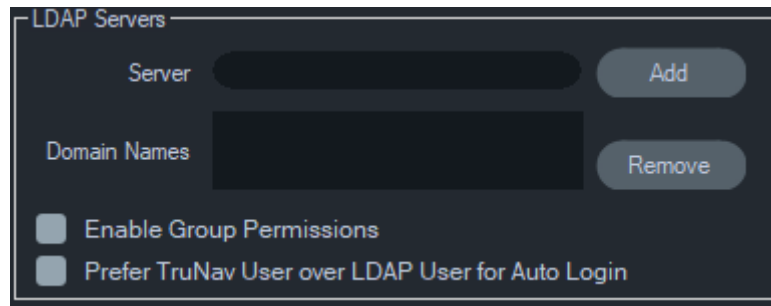
**Note:** When this option is unchecked, the association between LDAP Groups and Users is removed.

**Prefer TruNav User over LDAP User for Auto Login:** This option is needed when auto login is enabled for non-LDAP users and LDAP users also exist in the same TruNav system.

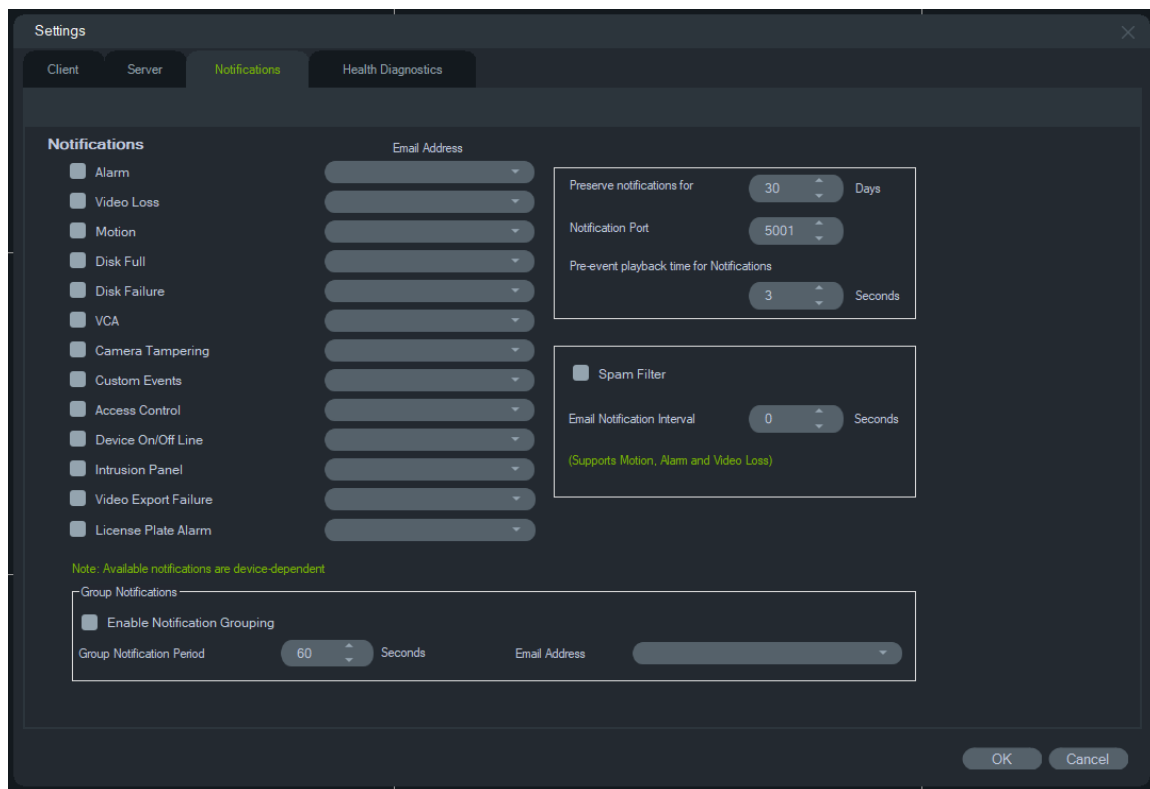
### To add LDAP server details and enable settings

1. Go to **Settings** window and click **Server** tab
2. Add server/domain information. See “LDAP servers” above.
3. As the administrator, you must enable LDAP group permissions by selecting the **Enable Group Permissions** check box.

**Note:** When any LDAP user logs into TruVision Navigator, and if **Enable Group Permission** is enabled, the software will validate the LDAP user groups with the software groups and will load the group permissions associated with the user. If **Enable Group Permission** is disabled, the LDAP user will have the LDAP user permissions that are setup in the software.



## Notifications



The Notifications tab in the Settings window includes the following server settings:

- **Notifications** – Select events for notifications by email and text (US only) to send to specific Navigator users. See “Groups and users” on page 40.
- **Preserve notification interval** – The length of time the notifications are archived.
- **Notification Port** – The port used for notification throughput.
- **Pre-event playback time for notifications** – While playing recorded video from Notifier and Event Center, recorded video is played prior to the notification time based on the time selected.

- **Email Notifications Interval** – The Email notifications interval will allow the user to define a time interval (in seconds), during which time the same type of notification (for motion, alarm, and video loss) will not generate a new email and is skipped. For example, if a user configures the threshold for 1 minute, once the motion notification email is triggered on a camera, an email will be sent, but the subsequent motion notifications emails will not be sent (for the same camera) for 1 minute.
- **Spam Filter:** Enable the Spam Filter so that there will be only one start and one stop notification for any Motion, Alarm input, and Video loss event.

**Note:** TruVision Navigator will consider the first notification it receives as the Start after the application/service has started.

- **Group Notifications** – By enabling Notifications Grouping, all email notifications received within a defined period are grouped into a single notification email. The user can set a period (in seconds), during which time notifications are grouped in one email message. During the interval no notifications will be ignored.

### Notifications and notifier

Devices can push notifications out to an IP address and port for proactive issue resolution. These notifications typically include alarm, video loss, motion, etc. See Appendix B “Device details” on page 197 for details on which notifications are supported by each device.

To receive notifications from devices in the Notifier panel, configurations are required at both the device and Navigator service level.

**Device configuration** – Each device must be set up to push its available notifications to the IP address and port of the Navigator server. See Appendix B “Device details” on page 197.

**Navigator service configuration** – The TruVision Navigator service or TruVision server settings must be configured to listen on that same port for those notifications.

**Note:** Routers and firewalls may have to be configured accordingly to allow for this traffic. Ensure that either the TCP listener port or the email listener port (SMTP) on the Settings window **Notifications** tab matches the port setup on the device itself.

Navigator provides the ability to limit the notification data in the database to keep the size down. Set the retention period in number days for this data in the **Preserve notifications for** field.

If any of these values are changed, restart the Navigator program (standalone installations) or restart the TruVision Navigator service (client/server installations) for the changes to take effect.

## Health diagnostics

The **Health Diagnostics** tab in the Settings window provides server settings:

- Select health events for email notification
- Primary and alternate email addresses
- Automated diagnostic polling

**Note:** Changes made in the **Health Diagnostics** tab won't take effect until a restart of the Navigator program (standalone installations) or the TruVision Navigator server (client/server installations).

### Email notifications

Select check boxes for any of the following notifications to receive them via email:

**Abnormal Device Health** – This notification indicates that either the hard drive is corrupted, or the device cannot encode or record video (DVRs only).

**Cameras in Alarm** – Any cameras that are in an alarm state.

**Cameras in Video Loss** – Any camera that is not transmitting video.

**Change in Recording Status** – A recording has stopped or started.

**Disk Status** – Health status of the hard drive.

**Disk Temperature Threshold** – Temperature has exceeded the set threshold.

**Device Offline** – A device is offline during polling after having previously been online.

### Email addresses

Enter valid email addresses in the **Primary email** and **Alternate email** fields. If SMTP has been set up in the system, click **Test** to send test emails.

## Automated diagnostic polling

To run automated health diagnostic polling on an interval across all of the devices in the system, the diagnostic polling service must first be configured.

### To configure the diagnostic polling service:

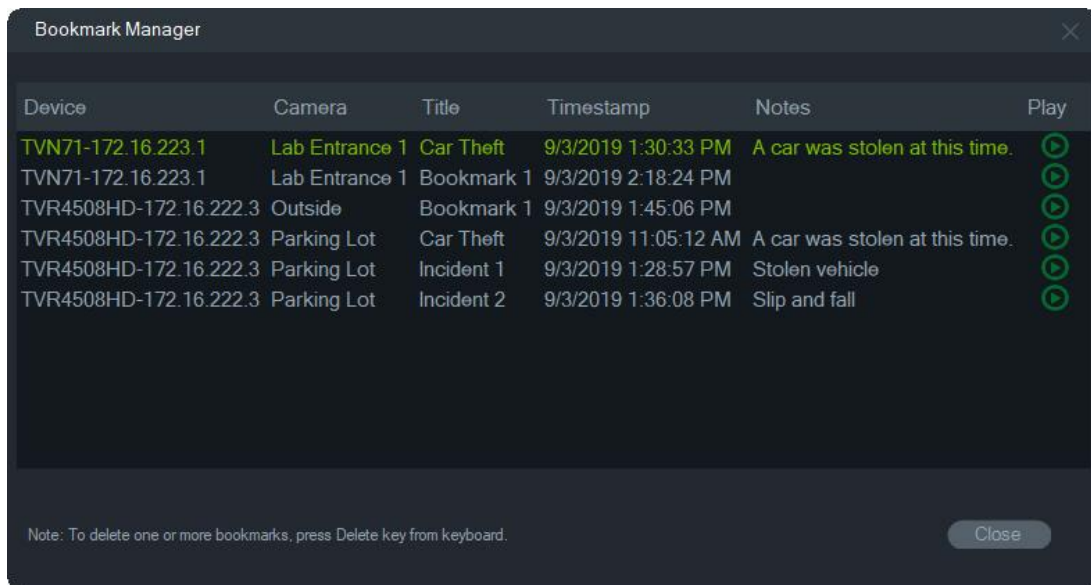
1. From the **Health Diagnostics** tab in the Settings window, type the Automated Diagnostic Polling **Start Time** and **Interval** (retention period).
2. Select **Days** or **Hours** for the length of time to keep the health diagnostic polling data in the database.
3. Restart Navigator to begin the automated polling. If any of these values are changed, restart the Navigator program (standalone installations) or restart the TruVision Navigator server (client/server installations) for the changes to take effect.

After manual snapshots or automated health diagnostic data have been captured, the data is stored in the Navigator database. The data is now searchable by users to aid in maintaining system up-time.

## Bookmark manager

The Bookmark Manager window is a central location that contains all device-level bookmarks. When bookmarks are added, edited, or deleted on the timeline, the Bookmark Manager automatically updates. Deleting the device or camera associated with one or more bookmarks removes them from the Device list in the Bookmark Manager.

See “Adding bookmarks” on page 141 for details on adding bookmarks and “Export video” on page 141 for details on exporting bookmarked video.



The following operations are available in the Bookmark Manager:

- **Edit** – Double-click a bookmark to edit the title, time, and notes.



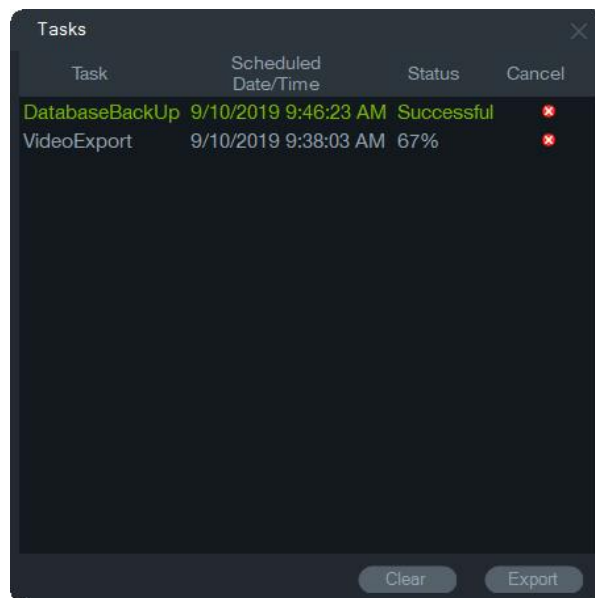
- **Delete** – Press the Delete key on the keyboard to delete the bookmark.
- **Play** – Click the bookmark’s play icon to play video associated with the bookmark in the timeline.

**Note:** Bookmarks are saved in the Navigator database, so they are available after Navigator is closed and restarted.

## Tasks

The Tasks window is a central location that monitors tasks created and scheduled in the system. These tasks include both executed and scheduled/pending video exports, database backups, and database restores. Tasks provides a real-time status of the tasks in the queue, and the reason if a task was unsuccessful.

Click the Navigator main menu button and select **Tasks** to access the Tasks window.



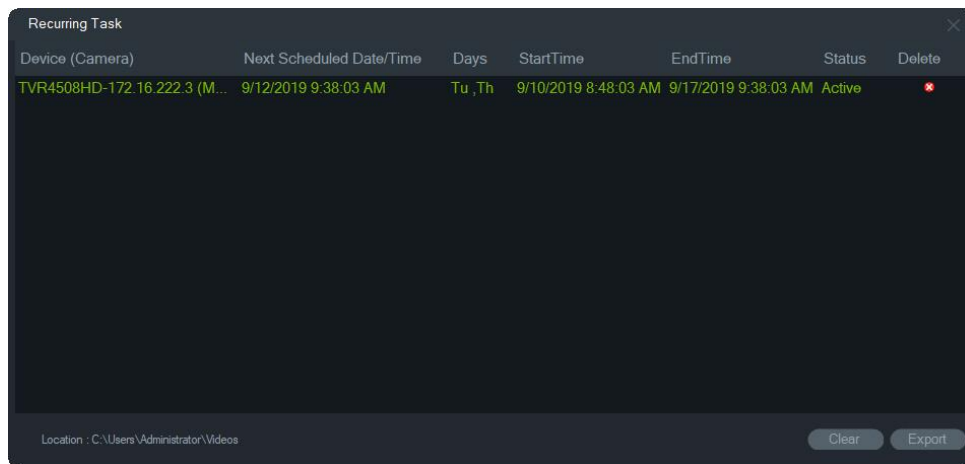
Click **Clear** to clear the list of tasks or **Export** to export the list of tasks in CSV file format.

## Recurring tasks

The Recurring Tasks window is a central location that monitors video exports created according to a recurring schedule set in the Export Video window (see “Recurring schedule” on page 126).

These tasks include both completed and scheduled/active video exports. The window provides device (camera) descriptions, scheduled date and time (including days of the week and start and end times), and the real-time status of the tasks in the queue.

Click the Navigator main menu button and select **Recurring Tasks** to access the Recurring Tasks window.



### Features of the Recurring Task window:

- Recurring tasks also appear in the Tasks window, where recurring task download success or failure is indicated.
- The download folder where the recurring task directory resides appears in the lower-left corner of the window.
- Click **Clear** to clear the list of tasks or **Export** to export the list of tasks in CSV file format.

## Open exported video file

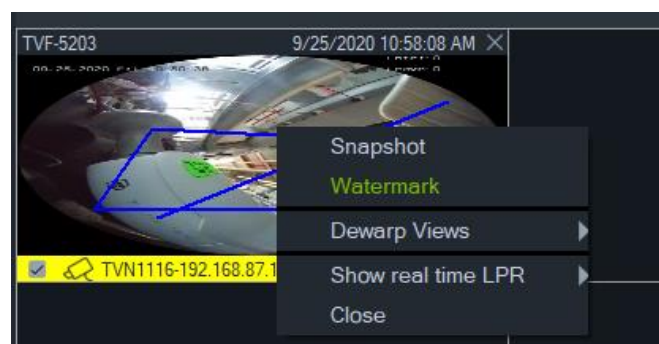
Click the Navigator main menu button and select **Open Exported Video File** to browse for and launch an exported video in the Viewer. See “Export video” on page 125 for details about video export.

## Watermark

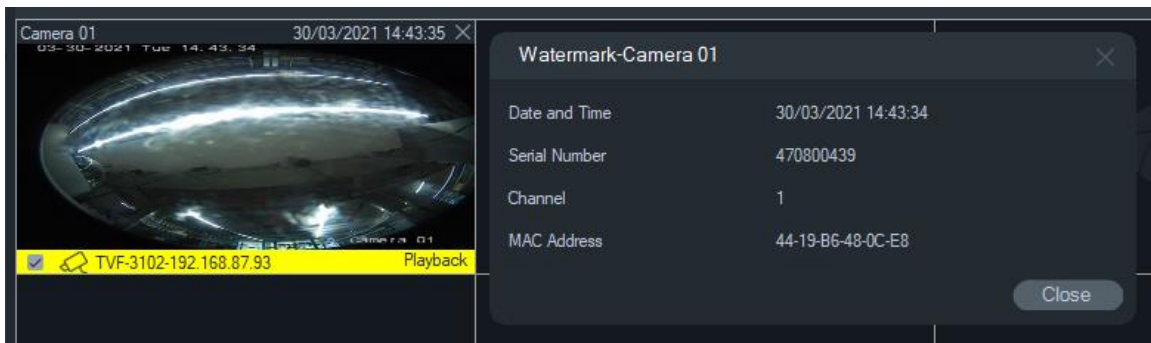
The watermark contains:

- Date/time validation
- Serial number
- MAC address of the device
- Channel number that created the video

To see the watermark of the exported video clip, right-click the video tile and select **Watermark**.



The watermark will then be displayed in a pop-up screen.



## Updates

Click the **Navigator** main menu button and select **Check for Updates** to download the latest language pack and standalone player from the cloud.

**Note:** Language packs do not install automatically and must be installed by the user by clicking **Restart Navigator**.

## User Settings

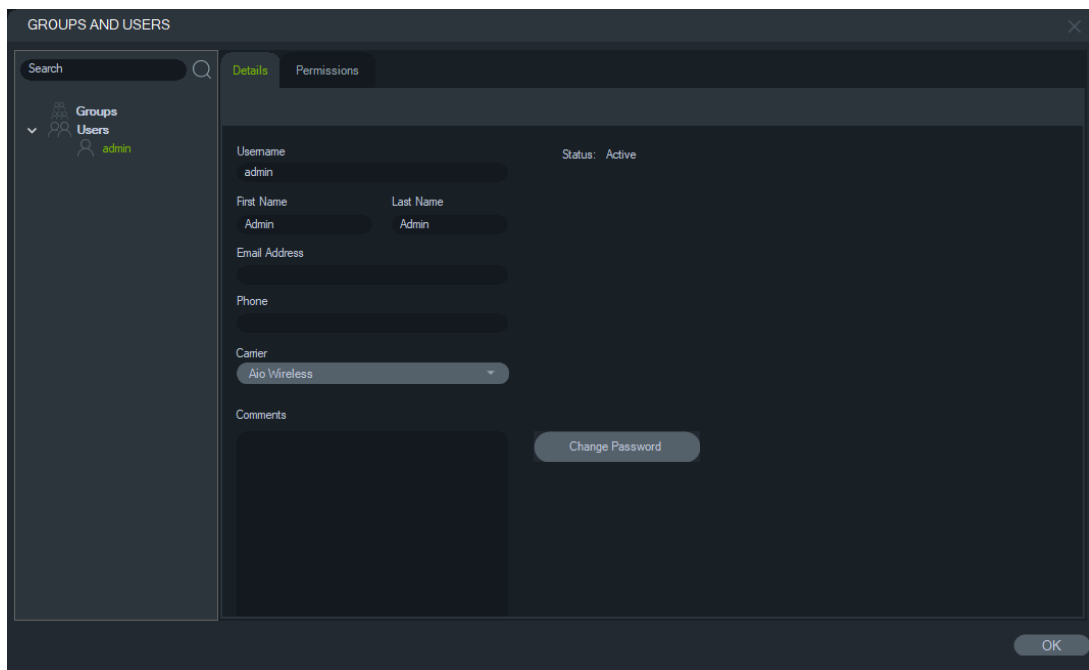
Click the **Navigator** main menu button and select **User Settings** to display a dialog where the user can change their password and their challenge question and answer.

The image shows a "User Settings" dialog box with the following fields and options:

- Password:** A text input field.
- Change Password:** A checkbox to enable password change.
- New Password:** A text input field.
- Confirm Password:** A text input field.
- User Account Challenge:** A checkbox to enable account challenge.
- Challenge Question:** A dropdown menu with the selected option "What is your mother's maiden name?".
- Challenge Answer:** A text input field.

At the bottom of the dialog, there are two buttons: "OK" and "Close".

# Groups and users



The **Group and Users** tab of the Settings window provides the following server settings:

- **Details**
- **Permissions**

## User management

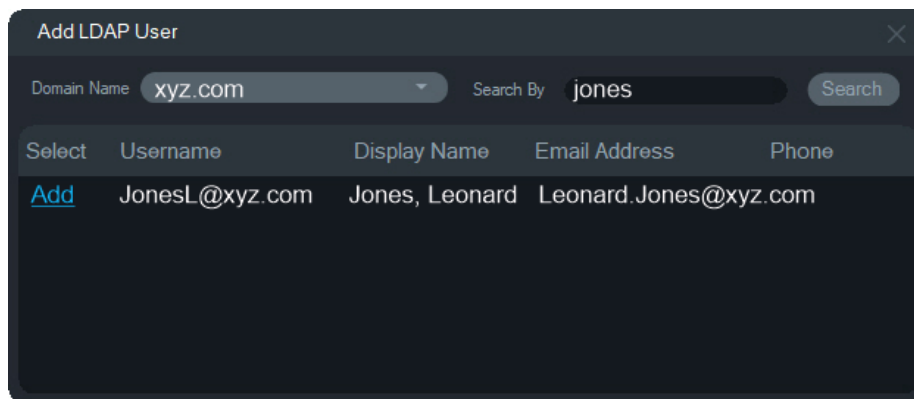
**Note:** Adding or assigning permissions to a user requires that the individual performing those functions has the “Manage user permissions” permission assigned to them in Navigator.

### To add a regular user:

1. Click the **Groups and Users** tab in the Settings window.
2. Right-click the Users node in the Navigator and select **Add User** or click the **Add User** button. The Add User window appears.
3. Type the required user information in each field. The **Username**, **Password**, and **Confirm Password** fields are disabled if SMTP is configured in the system.
4. Click **OK**. The new user is added under the Users node in the Navigator panel.
5. *To install Navigator on the new user’s client computer.* If SMTP is set up in the system, follow the instructions under “Fully automated client software delivery” on page 30. For systems without SMTP set up, follow the instructions under “Partially automated client software delivery” on page 31.

**To add an LDAP user:**

1. Click the **Groups and Users** tab in the Settings window.
2. Right-click the Users node in the Navigator and select **Add User** or click the **Add User** button. The Add User window appears.
3. Click **Add LDAP User**.
4. The Add LDAP User window appears. Select a domain name from the **Domain Name** drop-down list (see “LDAP servers” on page 32 for details).
5. Enter the user’s name in the **Search By** box and click Search. All matching data appears as shown below.

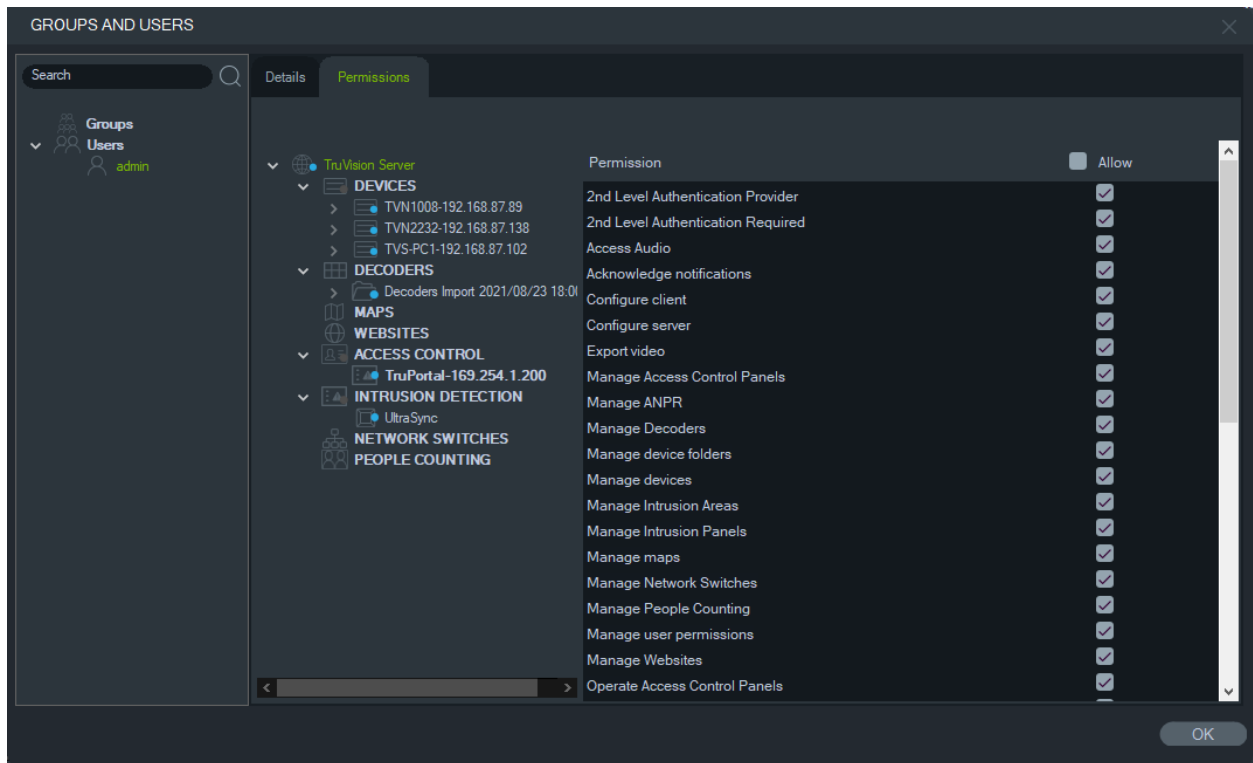


6. Click the Add link next to the user name to add an LDAP user. The Add User window reappears with the user information automatically populated.
7. Click OK to add the LDAP user. The user now appears in the Show all users list as an LDAP user.
8. If necessary, assign at least one permission to the LDAP user so that they can use Navigator (see “To assign permissions to a user” below).

**Note:** LDAP users are automatically logged in to Navigator when opening the application. An LDAP user must log out of Navigator to log in as a different user.

**To assign permissions to a user:**

1. Click the user icon in the **Groups and Users** tab and click the **Permissions** tab.
2. Highlight the TruVision Server node or any sub nodes, folders, devices, or other items in the permissions panel and allow/deny permissions for this user in the **Permissions** tab. If the Permission Model is set to **Simple** (only users), only the Allow column appears. If the Permission Model is set to **Advanced** (both users and groups), both the Allow and Deny columns appear.



3. When finished, click **OK**.

### Permission indicators

When assigning permissions, specify whether the permission is applied at the parent or child node. Granting permissions at a parent node cascades those permissions down to the child nodes. For example, granting permissions at the Navigator server level cascades down over all folders, devices, and cameras beneath it. These are indicated by a blue dot. Conversely, granting permissions at the child node does not change permissions at the parent node. In this case, the child node displays a blue dot and the parent displays a gray dot.

**Table 2: Permission indicators**

Permission Indicator	Description
Blue	A blue dot indicates express permissions granted on that node. These permissions are inherited by the children nodes underneath the parent node.
Gray	A gray dot indicates express permissions assigned to a child of the parent node, but not at the parent node itself. This serves as a quick visual cue for the administrator to find express permissions granted to a user on devices in the permission panel. If all of the gray dot nodes are expanded, the camera or device with one or more express permissions appears, indicated by a blue dot.

## Permission models

TruVision Navigator has two permission models – Simple or Advanced. The default for a new installation is the Simple model.

**Simple model** – Administrators only have the ability to create, edit, and delete users and their corresponding permissions.

**Advanced model** – Administrators have the ability to create, edit, and delete both users and groups. Groups allow the scaling of user permissions across many users. For instance, many users can be placed into a single group, and that single group can be assigned permissions against the folders and devices in the system. Without groups, the administrator would have to grant permission to each user individually.

To change the permission model to advanced, go to the Settings window, select the **Server** tab, select **Advanced** in the **Permission Model** drop-down list, and click **OK**. Groups now appear as a node in the Navigator panel. The table below outlines the actual permissions that can be granted to users or groups within Navigator, the user interface impact of that permission, and the dependencies of specific permissions.

**Table 3: Permission matrix**

Permission	User Interface Impact	Dependent Permissions
2 <sup>nd</sup> Level Authentication Provider	Enables 2-step authentication for Playback, Export video and access to System Settings	2 <sup>nd</sup> Level Authentication Required
2 <sup>nd</sup> Level Authentication Required	Enables 2-step authentication for Playback, Export video and access to System Settings	2 <sup>nd</sup> Level Authentication Provider
Access Audio	Enable/disable Audio on recorder	
Acknowledge notifications	Show/hide Acknowledge All button in Notifier dialog	
Configure client	Enable/disable Client tab in Settings	
Configure server	Enable/disable right-click options on TruVision Navigator Server node (i.e., Properties and Database Backup and Restore)	
Export video	Enable/disable Local record button in Controller	Watch live video Watch playback video
	Enable/disable Snapshot and Video buttons in the Controller	
	Show/hide Collector Panel	
	Show/hide Tasks Panel (panel may also be visible due to other permissions)	
View access control panel notifications	Enable/disable notifications from TruPortal in the Notifier	

Permission	User Interface Impact	Dependent Permissions
Manage access control panels	Enables/disables access control context menus	Operate access control panels
Manage ANPR	Show/hide ANPR context menus	
Manage decoders	Enables/disables configuration of scenes	Operate decoders
Manage device folders	Show/hide Add Folder button and context menus in Navigator	
	Show/hide Folder (folder may also be visible due to other permissions or parent/child permissions)	
	Show/hide Address Book Import context menu for Devices node	
Manage devices	Show/hide Add Device button and context menus (rename and delete) in Navigator	
	Show/hide Folder (folder may also be visible due to other permissions or parent/child permissions)	
	Show/hide Device (device may also be visible due to other permissions or parent/child permissions)	
	Show/hide Camera (camera may also be visible due to other permissions)	
	Show/hide Bulk Tasks (Firmware Upload and Configuration) context menus for Devices node	
	Enable/disable Device Properties (Connection, Details, Capabilities) dialog on device	
	Show/hide Camera Search and Configuration context menus	
	Show/hide Firmware Upload context menu for device	
	Show/hide Tasks Panel (panel may also be visible due to other permissions)	
Manage intrusion areas	Show/hide intrusion area context menus	Operate intrusion areas



Permission	User Interface Impact	Dependent Permissions
Manage intrusion panels	Show/hide intrusion detection context menus	Operate intrusion panels
Manage network switches	Show/hide network switches context menus	Operate network switches
Manage people counting	Show/hide people counting context menus	Set-up and operate people counting
Manage maps	Show/hide map context menus	View maps
Manage speaker	Add, Play Audio Relays (Sound Clips), Rename, Configure, Properties and Delete operations allowed	Operate speaker
Manage user permissions	Show/hide Users and/or Groups nodes in Navigator	
Manage website	Show/hide website context menu	View website
Operate access control panels	Show/hide door icon context menu	
Operate decoders	Enable/disable scene activation	
Operate intrusion areas	Show/hide arm/disarm selections in context menus	View intrusion panels
Operate intrusion panels	Show/hide intrusion panel context menu	View intrusion panels
Operate network switches	Show/hide network switch context menu	
Operate people counting	Show/hide people counting context menus	Operate people counting
Operate speaker	Play Audio Relays (Sound Clips)	
Pan tilt zoom	Enables/disables PTZ control in camera tile	Watch live video
	Show/hide PTZ button in timeline (PTZ settings access)	
Trigger outputs	Show/hide Trigger Outputs selection in device context menu	
View device diagnostics	Show/hide Run Health Diagnostics in Device node and specific device context menus in Navigator	
	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	

Permission	User Interface Impact	Dependent Permissions
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
View disk analysis	Show/hide Disk Analysis context menu for device	Watch live video Watch playback video
	Show/hide camera row in Disk Analysis dialog	
View intrusion areas	Show/hide intrusion areas in maps	View intrusion panels
	Show/hide intrusion areas in the Navigator panel	
View intrusion panel notifications	Show/hide intrusion panel notifications in Notifier dialog	View intrusion panels
View intrusion panels	Show/hide the intrusion detection node	
View maps	Show/hide the map node	
View notifications	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
	Enable/disable Notifier icon in application status bar	
	Show/hide Device Notification in Notifier dialog	
	Show/hide Camera Notification in Notifier dialog for permissioned device	
View websites	Shows/hides the website node	
Watch live video	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
	Show/hide Camera (camera may also be visible due to other permissions)	
	Allow/Disallow Open Video from Camera (all methods: double-click and drag-and-drop operation in Navigator)	

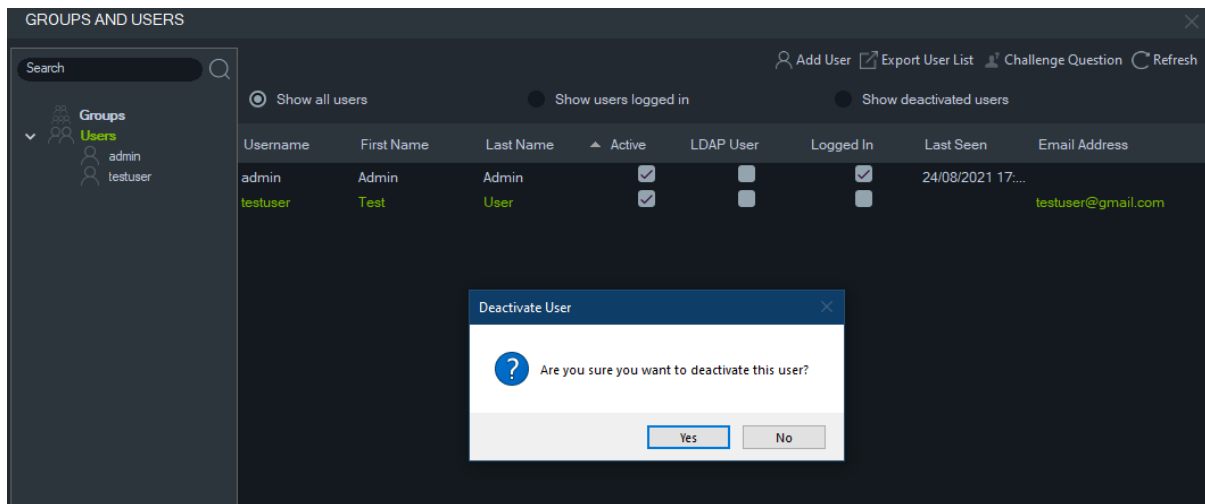
Permission	User Interface Impact	Dependent Permissions
	Show/hide PTZ and in-tile mouse controls	
Watch live video main stream	Enable/disable Main/Sub switch in playback controls	Watch live video Watch playback video
Watch playback video	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	Watch live video
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
	Show/hide Camera (camera may also be visible due to other permissions)	
	Enable/disable Controller Playback controls including Go To, Playback, Live, double-click timeline)	
	Enable/disable notifications in Notifier dialog	
Watch playback video main stream	Enable/disable Main/Sub switch in playback controls	Watch live video Watch playback video
Watch Playback by time	Allows the user to view recorded video for a defined period, starting from the live time for both main stream and substream. <b>Note:</b> Select the Server settings for Play time allowed option.	When <b>Watch playback by time</b> is selected along with <b>Watch playback permissions</b> , The <b>Watch playback by time</b> option will not be affected.

## Deactivate a user

Deactivation revokes all user rights to the system but does not delete users from the database.

### To deactivate a user:

1. Right-click the user under the Users node and select **Deactivate User**.
2. Click **Yes** when prompted with “Are you sure you want to deactivate this user?”
3. Deactivated users are removed from the Users node in the Navigator unless **Include Deactivated Users** is selected by right-clicking the Users node. The Inactive User icon is shaded gray while the Active User icon is shaded blue.
4. To view all active or deactivated database users in a list, click the Users node and select **Show all users**. The Users screen appears. All the columns in this dialog are sortable. Double-click any user row to view that user’s details dialog. **Note:** You can also deactivate a user by clicking the Active check box in this dialog.

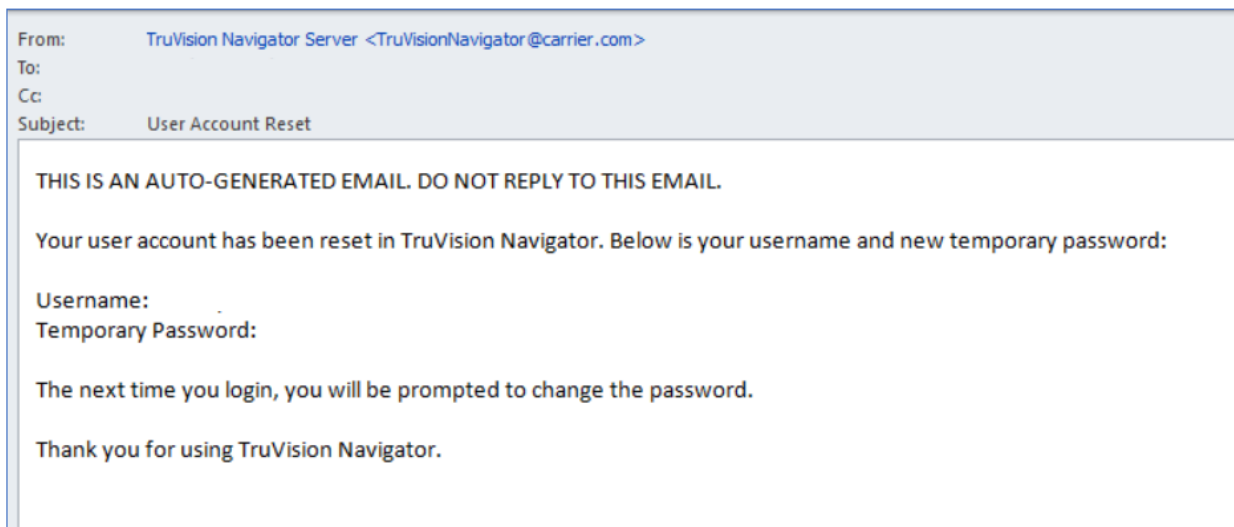


## Restore a deactivated user

### To restore a deactivated user in the system (three possible methods):

- Right-click the deactivated user under the Users node and select **Activate User**.
- Right-click the deactivated user under the Users node, select **Properties**, and click the **Reset Account** button on the **Details** tab.
- From the user list, double-click the user icon to launch the **Details** tab, and then click the **Reset Account** button.

If SMTP is in use, the user automatically receives an email with a temporary login password. The user is prompted to change this password upon initial login.



If SMTP is not in use, the administrator must provide the user with a new temporary password in the Change Password window. These temporary credentials must be delivered to the user via phone or email.

### Reset a user after lockout

If a user forgets the username or password and the challenge question, that user can be locked out of the system. If a user has been locked out for login failures, they must answer the challenge question in the User Account Challenge window.

If a user cannot remember the challenge question, the administrator must reset the account. Follow the instructions under “Initial login” on page 19.

### Force a user to log out

From the user list, double-click the user icon to launch the **Details** tab, and then click the **Force Logout** button. This logs the user out immediately. The user making the change must have the Manage Users Permissions permission granted to execute this function.

### Two-level Authentication

To increase the video data security, TruVision Navigator has a two-level authentication process to control access to data recorded by devices (playback and export video) and to control access to the Settings menu by adding an additional user authentication.

To set-up Two-level Authentication, you need to assign the necessary permissions to the users in the Groups and Users tab.

There are two levels of authentications available:

- **2nd Level authentication required**

When this permission is assigned to a TruVision Navigator user, they cannot directly access the recorded video (playback) and application settings, and export videos unless an authorized user with **2nd Level Authentication Provider** permission also enters their credentials.

- **2nd Level authentication provider**

When this permission is assigned to a TruVision Navigator user, they can permit access to playback, export video, and settings for users who have the **2nd Level Authentication Required** permission.

#### Notes:

- Users assigned the **2nd Level Authentication Required** permission must have playback, export video and settings permission to access them.
- If both permissions are enabled for a user, the user can access the allowed features without the two-level authentication.

**Limitation:**

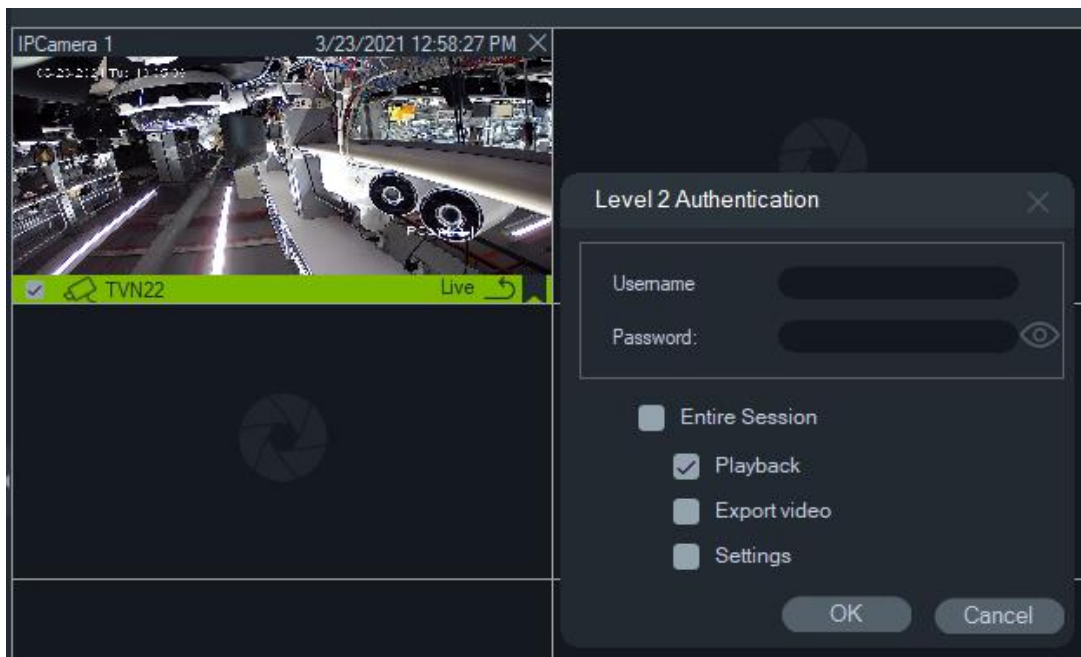
- LDAP users cannot assign **2nd Level Authentication Provider** permission to another user.

**For example:**

A user is created with the permission access playback, and/or Export Video and/or access the settings and is assigned the **2nd Level Authentication Required** permission.

If this user then tries to access any of the above-mentioned features (do playback/export or access the settings menu), the application will request a second-level authentication.

In the following scenario, when this user tries access playback, because they require second-level authentication permission, a window will pop-up requesting credentials of a user with the **2nd Level Authentication Provider** permission. By default, the playback option is selected.



Any user with **2nd level Authentication Provider** permission can enter their credentials to allow this user to access the selected feature(s).

**Entire Session:** This option is disabled by default. When selected, the user can access the selected feature until they log off.

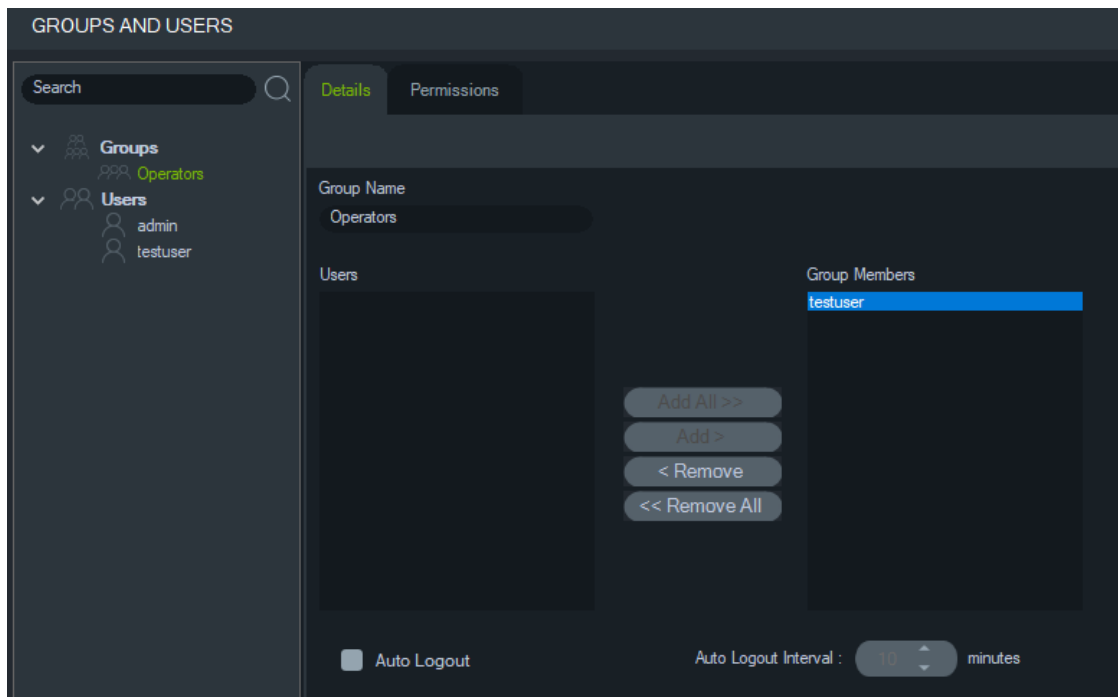
The option **Entire Session** works only for the selected features. If the user then needs to access another feature for which authorization was not provided, this pop-up window will appear again, and again a second-level authentication must be provided. When this happens, it overrides any existing selection for the entire session.

## Group management

The advanced permission model permits group management in Navigator. Groups allow the scaling of user permissions across many users. For instance, users can be placed into a single group, and that single group can be assigned permissions against folders, devices, and other items in the system. Without groups, the administrator would have to grant permission to each user against those same devices.

### To create a group:

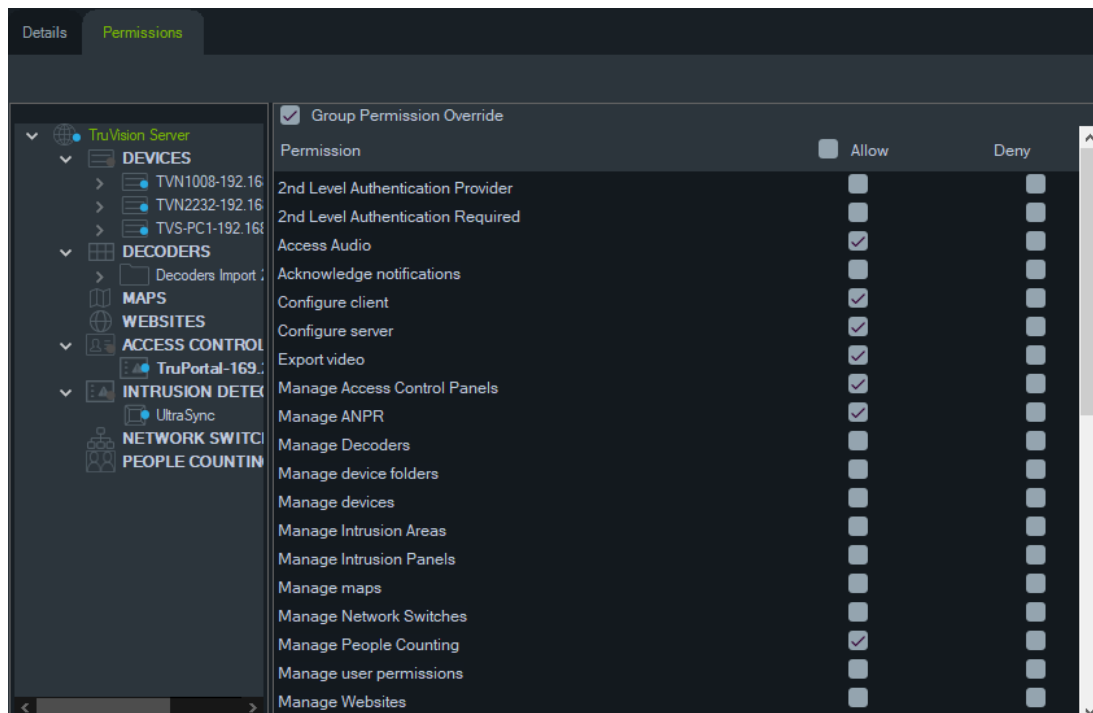
1. Click the **Server** tab in Settings and ensure that the **Permission Model** drop-down list is set to **Advanced**.
2. Click the **Add Group** button or right-click the Groups node in the **Groups and Users** tab and select **Add Group**.
3. Type a name for the group in the Add Group window and click **OK**.
4. Click the group name and then click the **Details** tab to change the group name and add users to the group.



5. When finished, click **OK**.

### To assign permissions to a group:

1. Click the group icon in the **Groups and Users** tab and then click the **Permissions** tab.
2. Highlight the TruVision Server node or any sub nodes, folders, devices, or other items in the permissions panel and allow/deny permissions for the group in the **Permissions** tab. Group permissions affect all of the specific users that are members of the group.



3. When finished, click **OK**.

### To add a user to a group:

1. Click the group icon in the **Groups and Users** tab and click the **Details** tab.
2. Select one or more users in the **Users** field and then click **Add All** or **Add** to add users to the **Group Members** field.
3. When finished, click **OK**.

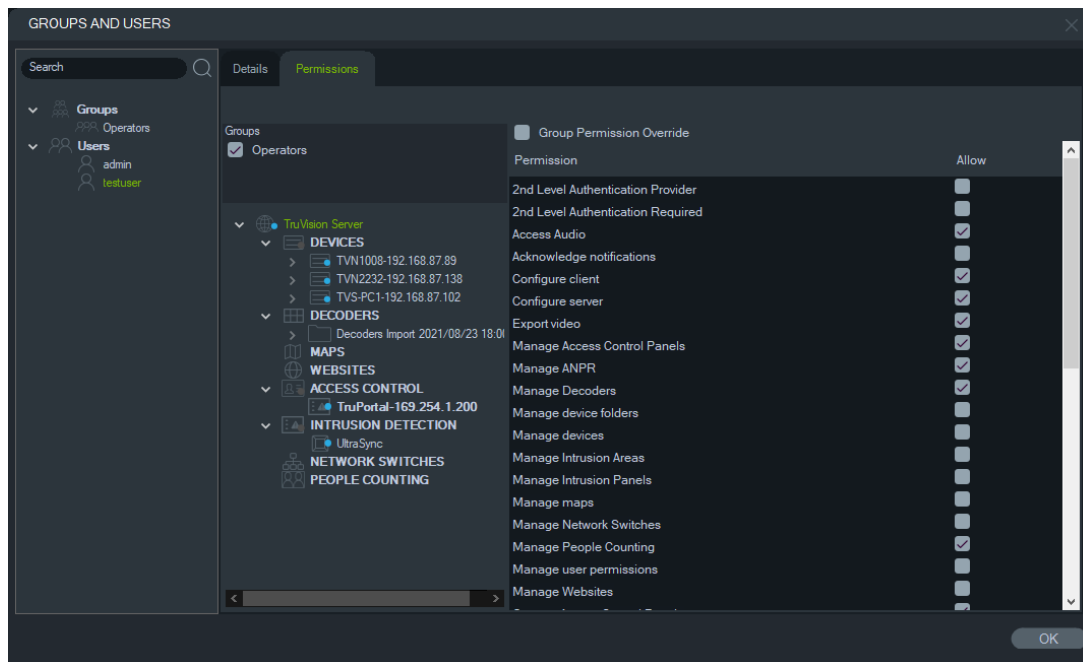
### Group permission override

Users with group permissions can have the permissions overridden by the administrator. In this way, the administrator can customize the permissions of a group member.

### To override group permissions for a user:

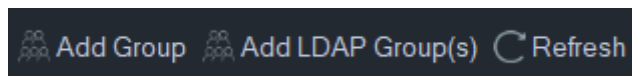
1. Click the user icon in the **Groups and Users** tab and click the **Permissions** tab.
2. If necessary, add the user to a group by selecting one or more group check boxes in the **Groups** panel.
3. Highlight the TruVision Server node or any sub nodes, folders, devices, or other items in the permissions panel and allow/deny permissions for this user in the **Permissions** tab.
4. Select the **Group Permission Override** check box and then click **OK**.



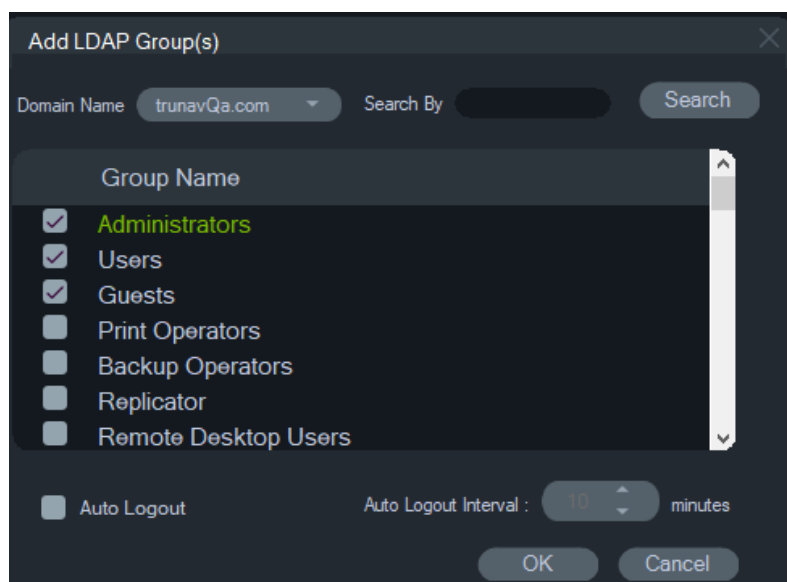


### To add an LDAP group

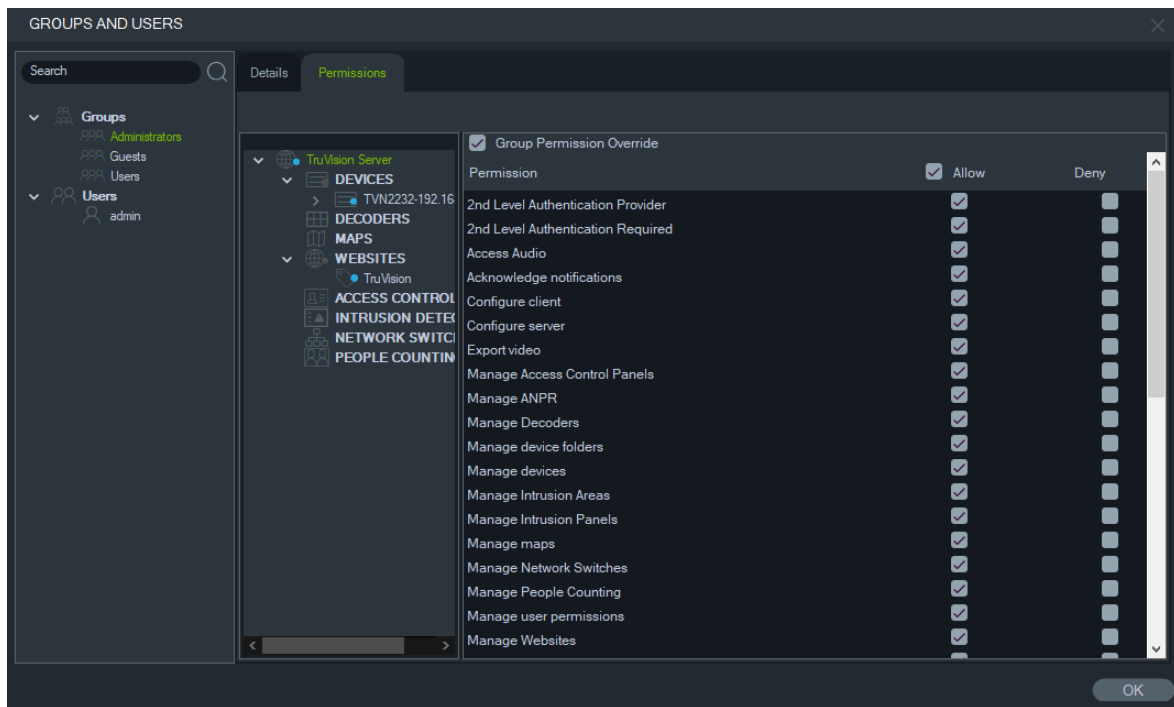
1. Click the **Groups and Users** tab in the **Settings** window.
2. Click **Add LDAP Group (s)**.



3. Select Domain Name and search with a name if needed. Select the group(s) you want to add.

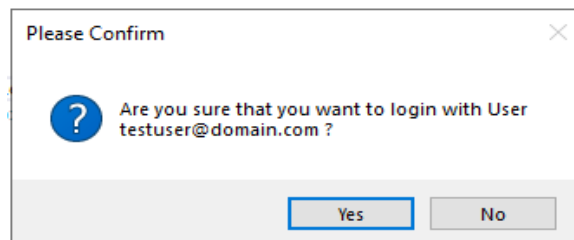


Once the administrator adds the LDAP Groups, they will be populated under Groups. See the graphic below.



4. As the administrator you must provide the required permissions to the selected LDAP Groups
5. When finished, click **OK**.

When a LDAP User logs into the application for the first time, the user will be asked to confirm the login. When the user clicks **Yes**, the application will launch depending on the group permissions associated to the LDAP User. From next time onwards, the application will be launched without asking this question.



**Note:** If the administrator adds LDAP users into Navigator, this message will not be displayed.

### Feature Behavior

- The loading of group permissions will only work if the permission model is set to **Advanced** in the Settings tab.
- If a user is a normal user (non-LDAP user), and the **Enable Group Permissions** is checked or unchecked, it will check permissions on the user/associated group level and act accordingly to the selection.
- If a user is an LDAP user and **Enable Group Permissions** is unchecked, it will check the permissions on the user/associated group level and act accordingly.
- For LDAP users with **Enable Group Permissions** checked, the application considers the user's LDAP group and corresponding Navigator group permissions.

## Search

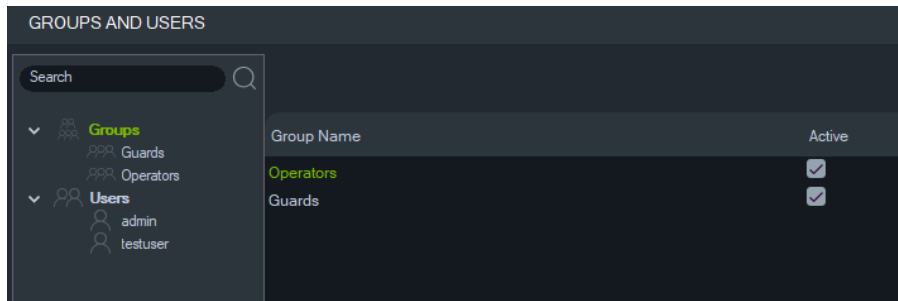
Use Search to find any user or group in the Groups and Users panel.

### To perform a Groups and Users search:

1. Type any alphanumeric string into the **Search** field at the top of the Navigator panel and press Enter. Focus goes instantly to the user or group that matches the string.
2. Press Enter again to move to the next object that matches the string until each item matching the search criteria has been found. Type a different alphanumeric string into the **Search** field to perform another search.

## Group summary

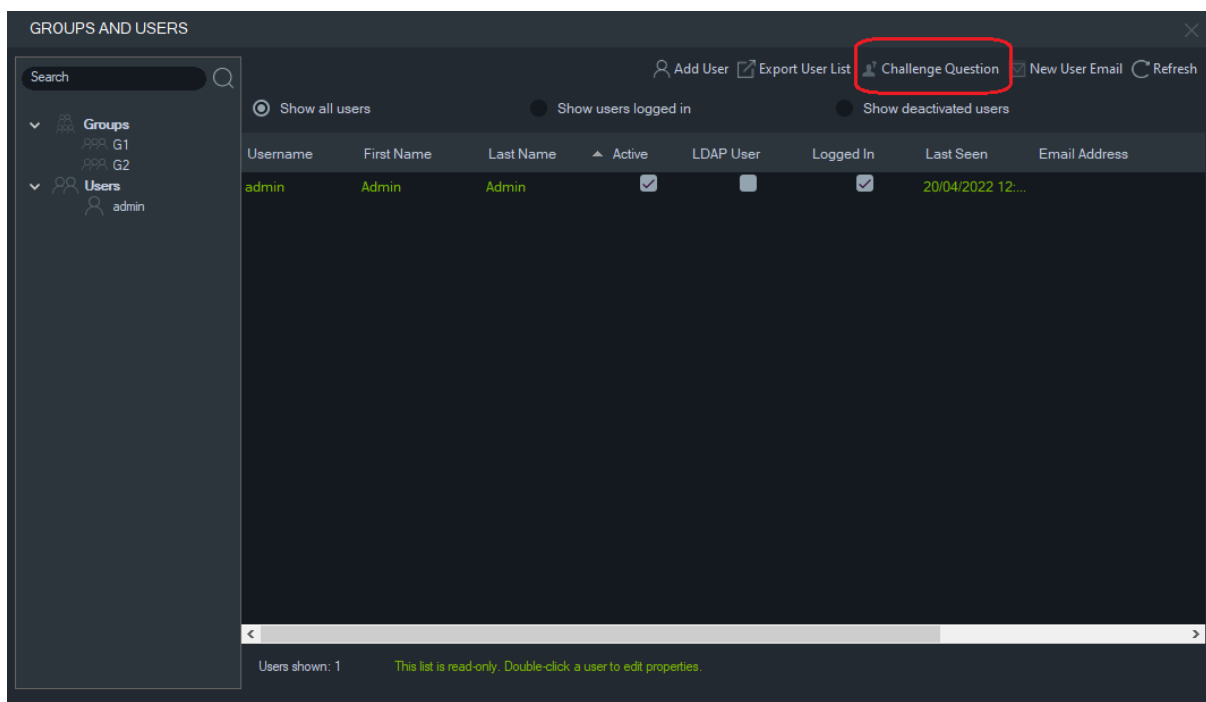
After one or more groups have been created, click the Groups node to view a list of all groups and their Active status. Click a group name to rename a group.



## Challenge Question

In the Groups and Users tab by clicking the Challenge Question button, you can add/delete/modify challenge questions.

**Note:** When the Challenge Question is in use, it cannot be deleted.

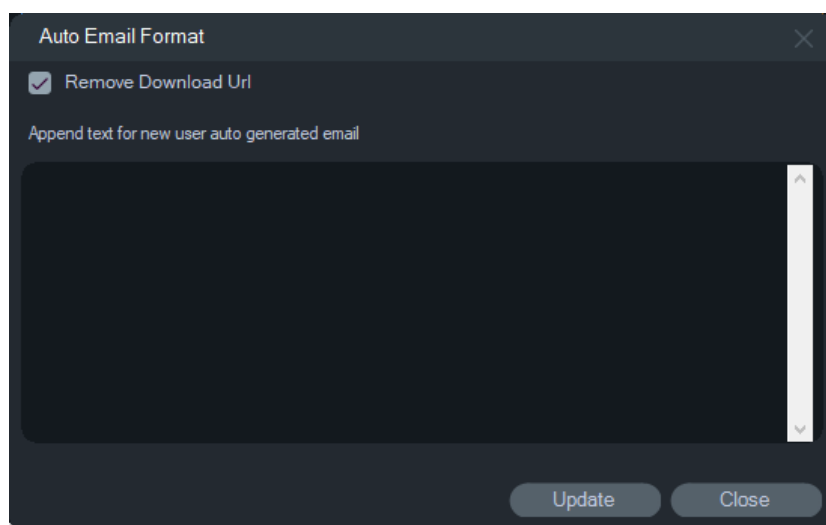
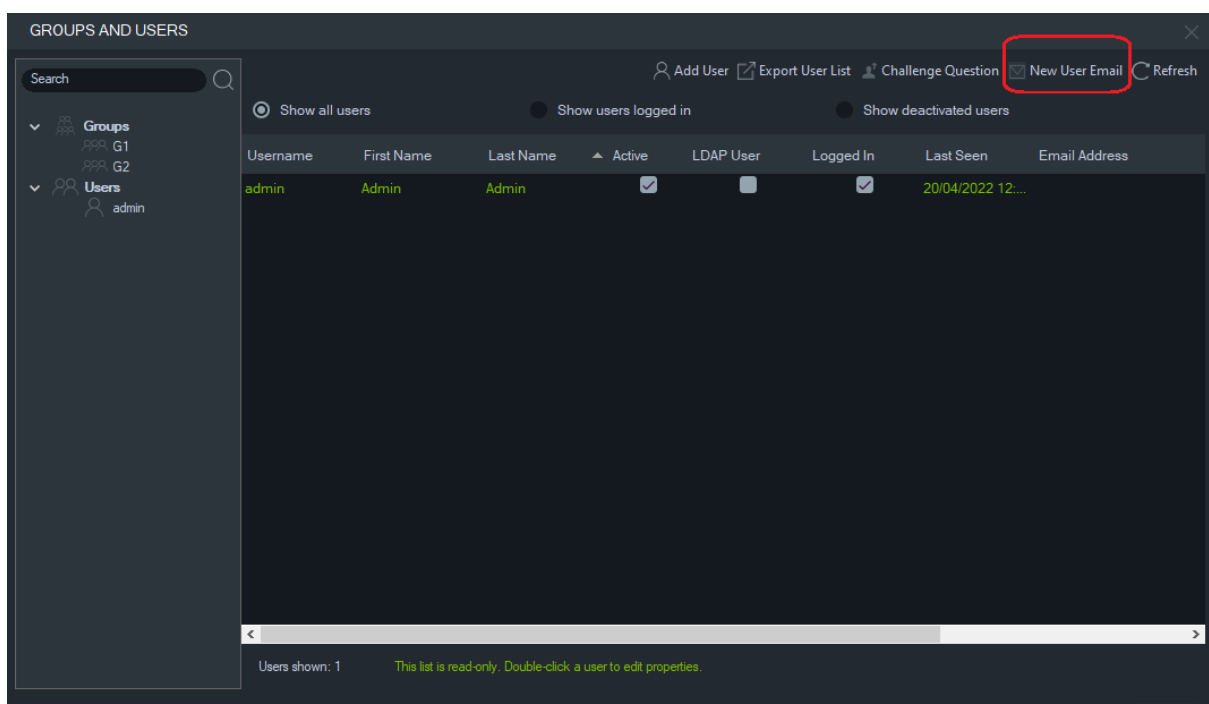


## New user email content

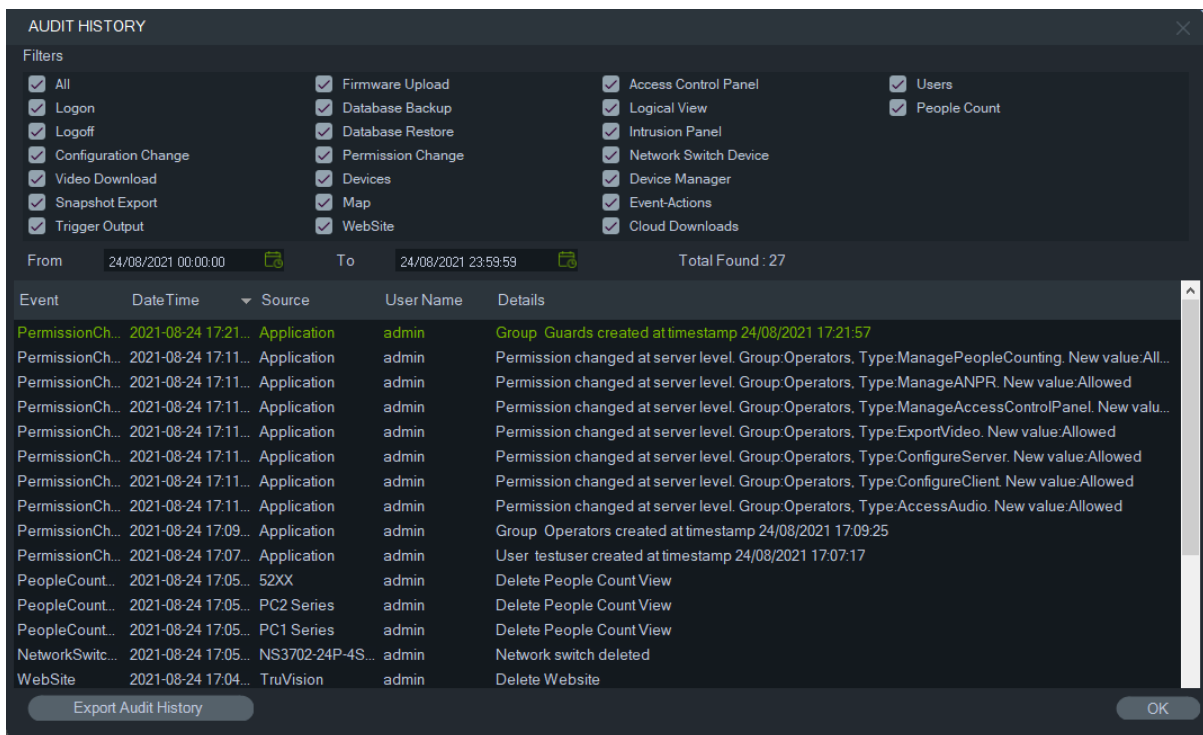
An administrator or user with permission to access **Groups & Users** can partially modify the email content before the email is sent to a new user.

To modify the email content

1. Open the **Group and Users** window in the main menu.
2. Click **New User Email** to open the Auto Email Format window.
3. Select **Remove Download URL** to not include the download location and the associated note for installing the client software.
4. Additional text can be added in the text field. The text will be appended in the email.
5. Click **Update** to save the setting and the text in the database.



# Audit History

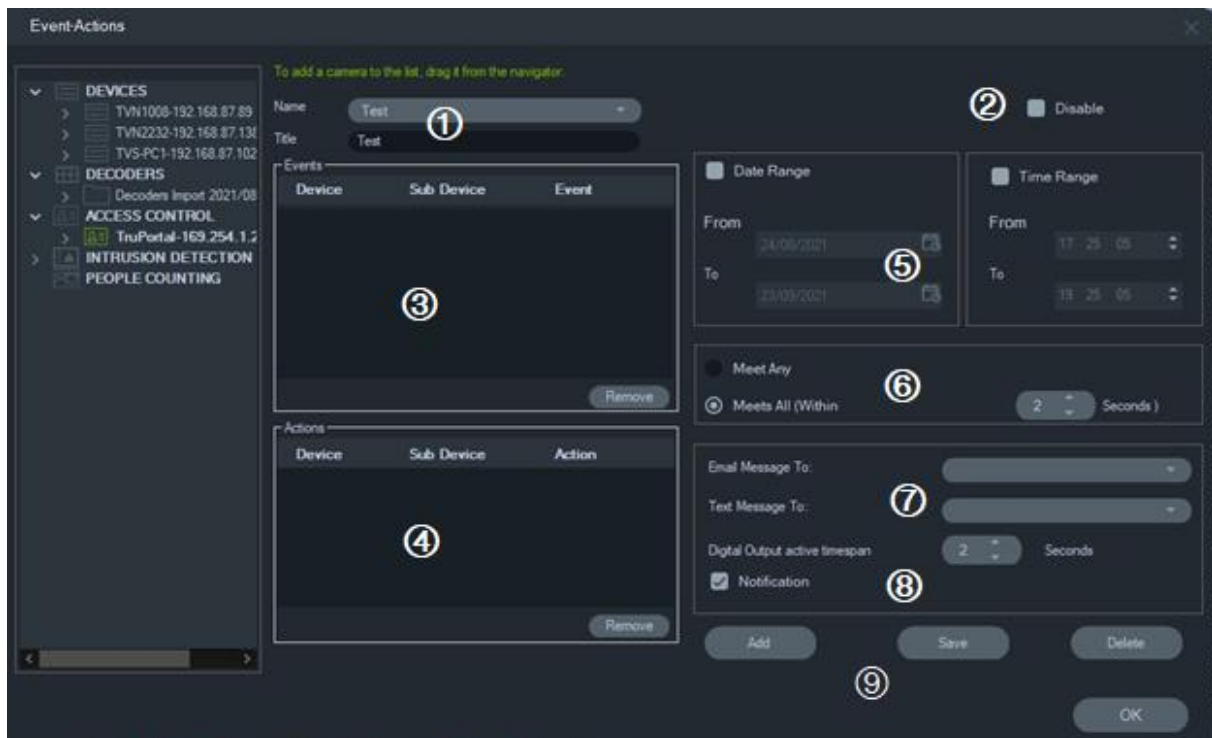


The **Audit History** tab logs all user activity which can be searched using **Filters** selections. Click **OK** when finished making selections.

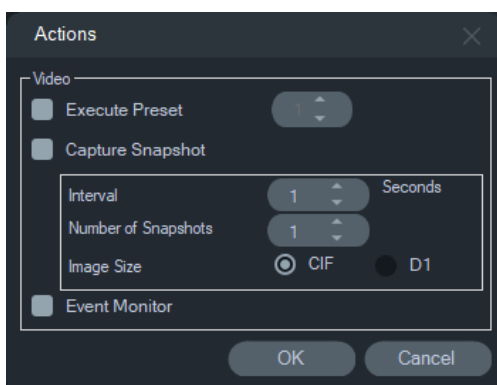
Click **Export Audit History** to save the list of configured events in the CSV file format.

## Event-actions

Event-action configuration permits the user to cause an action on any device in the Navigator panel triggered from any number of devices reporting notifications. For example, a motion event from a camera can trigger a door to momentary unlock on the access control panel. An event-action appears in the Notifier when it is triggered.

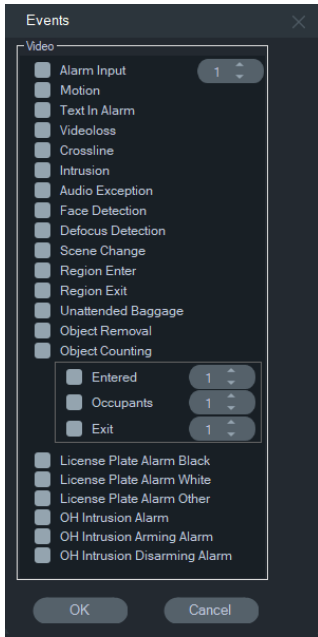


- Name and Title.** Previously configured event-actions appear in the **Name** drop-down menu. Type a title name for a new event-action in the **Title** box.
- Disable.** Disables the currently selected event-action in the **Name** drop-down menu.
- Events.** Drag a device from the event-action panel into the **Events** box. An Events window appears with a list of options (see below). Click **OK** when finished selecting event options.
- Actions.** Drag a device from the event-action panel into the Actions box. When a camera is added to the Actions table, a Video Actions window appears, with a list of options (see graphic below). Select to call up a preset of the camera (if applicable), generate multiple snapshots with configurable interval and image size, or show the camera on the Event Monitor viewer.
- Date and Time Range.** Specify a **Date Range** and **Time Range** for the event-action to send notifications. Notifications will be sent 24 x 7 if no date and time ranges are specified.
- Meet Any/Meet All.** Select **Meet Any** to trigger all event-action notifications. Select **Meet All** to trigger event-actions that occur within the duration specified in seconds.
- Notification:** Select this option to have a custom notification generated when the configured event occurs.
- Digital Output active timespan.** Enable **Digital Output active timespan** to configure time (in seconds) to deactivate the relay output after it has been activated by the Event-action.
- Add/Save/Delete.** Click **Add** to add a new event-action, click **Save** to save a new event-action, and click **Delete** to delete an existing event-action.

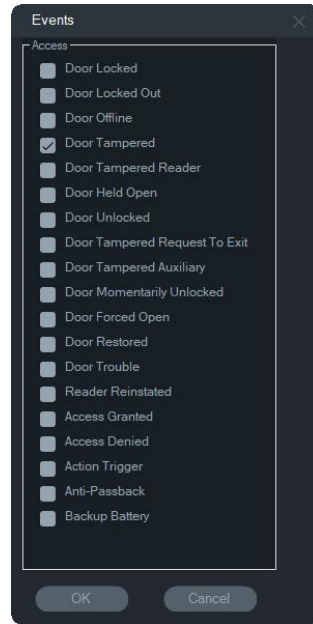


**Note:** TruVision Navigator 9.2 no longer supports Logical Events. If you are updating from an earlier version of the software that had Logical Events saved, you will be asked to migrate these Logical Events to Event Actions. See “Migration of Logical Event filtering to Event-Actions” on page 60.

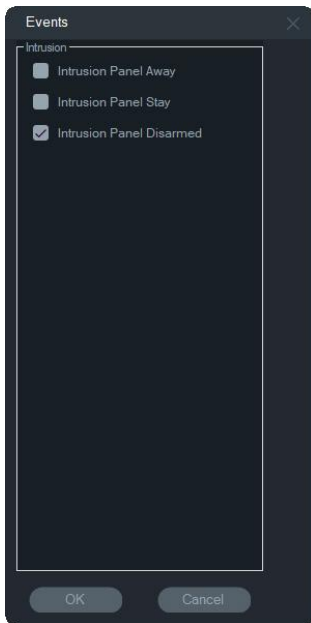
### Video events



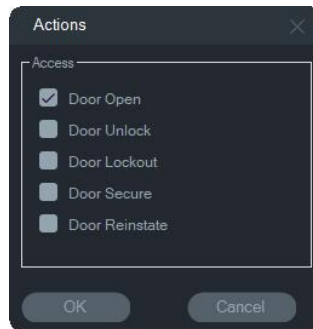
### Access events



### Intrusion events



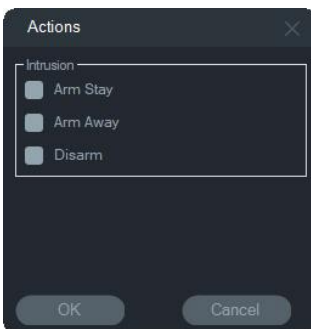
### Access actions



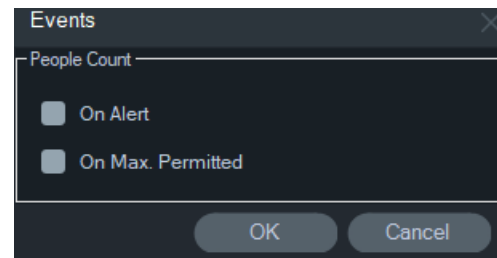
### IP speaker actions

Device	Sub Device	Action
Left Wing	Sound Clip 0	PlayAudio

### Intrusion actions



### People counting events

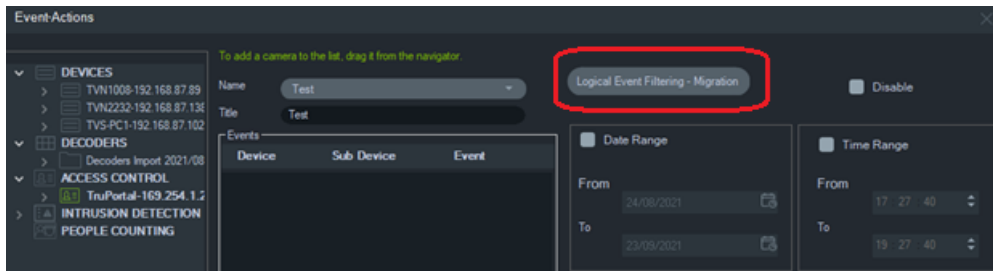


## Migration of Logical Event filtering to Event-Actions

**Note:** Logical Event Filtering feature has been removed from TruVision Navigator because the Event-Actions feature now supports the creation of custom notifications using the same method as used for logical event filtering.

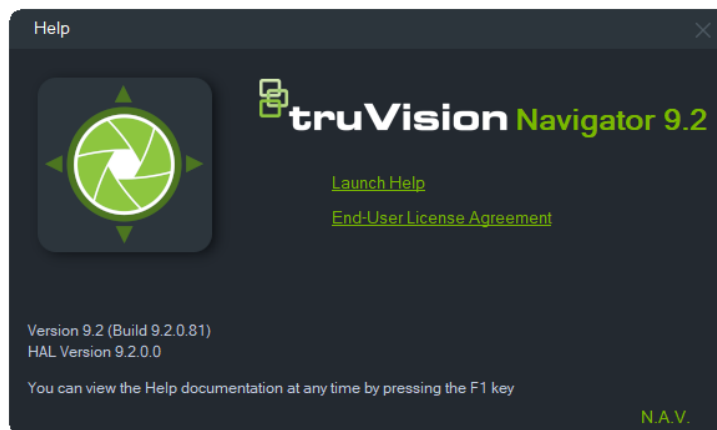
**To migrate existing Logical Event Filtering to Event-Actions:**

1. If you used Logical events in a previous release, go to the Events Actions tab
2. Click the “**Logical Event Filtering - Migration**” button to migrate Logical event records to Event-Actions.



## Help

Click the Navigator main menu button and select **Help** to access the **Help** dialog. The version number displays along with links to launch Help and view the End User License Agreement. Custom Help links also appear if they have been configured (see “Custom Help” on page 28).



## Logout

**To log out of Navigator:**

1. Click the Navigator main menu button and select **Logout** to access the **Please Confirm** dialog.
2. Click **Yes** to log out of Navigator. Logging out permits another user to log in on the same machine.



# Chapter 4

## Device Manager

The TruVision Device Manager can discover Aritech IP devices on a network such as IP cameras, DVRs, NVRs, encoders, decoders, IFS switches, TruPortal access panels, intrusion panels, and keypads.

This chapter explains how to use Device Manager to find and configure network-related settings of TruVision devices, use the New System Setup Wizard, and upgrade the firmware of individual devices or perform a bulk upgrade.

### Device Manager capabilities

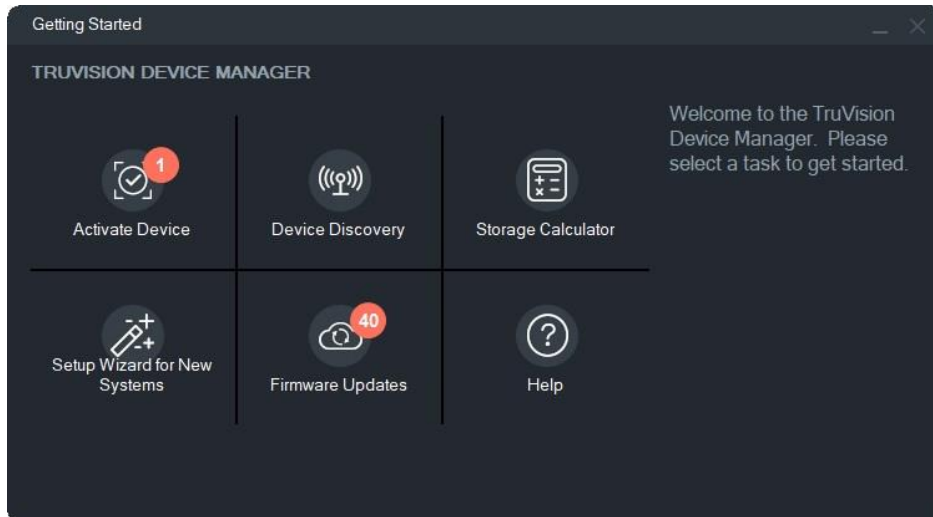
The following Device Manager features are compatible with the following Aritech device types. Go to [firesecurityproducts.com](http://firesecurityproducts.com) for information about specific model compatibility.

Device Type	Device Discovery	SNMP	Change IP Address	Change Password	Firmware Upgrade	Change Date & Time	Device Config Backup & Restore	Upload IP Camera Information	Reset Password
Recorders	YES	YES*	YES	YES	YES	YES	YES	YES	YES
Cameras	YES	YES*	YES	YES	YES	YES	YES	N/A	YES
Encoders/Decoders	YES	NO	YES	YES	YES	YES	YES	N/A	YES
IFS	YES	NO	YES	NO	NO	NO	NO	N/A	NO
TruPortal	YES	NO	YES	NO	NO	YES	NO	N/A	NO
Intrusion panels	YES	NO	NO	NO	NO	NO	NO	N/A	NO
IP speakers	YES	NO	NO	NO	NO	NO	NO	N/A	NO

\* SNMP Version 2 must be enabled.

## Getting started

To access Device Manager, click the button at the top of the Navigator panel and select **Device Manager** from the Navigator main menu drop-down list. The Getting Started window appears.



**Note:** The New System Setup Wizard is intended only for setting up devices that have not previously been connected to the network.

Click a button in the Getting Started window to perform Device Manager tasks:

- **Activate Device** – Activate one or more inactive devices as shown in the button. See “Activate an inactive device” on page 67.
- **Device Discovery** – Launch the Device Manager main window and discover devices on the local network. See “Device discovery” on page 64.
- **Storage Calculator** – Create a storage capacity requirement report. See “Storage calculator” on page 69.
- **Help** – Open the Device Manager’s user manual.
- **Firmware Updates** – Upgrade the firmware of one or more devices. See “Firmware upgrade” on page 68.
- **Setup Wizard for New Systems** – Set up new devices that have not previously been connected to the network. See “New system setup wizard” on page 65.

# Device Manager window

Model	IP Address	Subnet Mask	Gateway	DHCP	Start Time	Firmware	Physical Address	Serial Number
TVN2216	192.168.30.224	255.255.252.0	192.168.30.1		2021-12-21 13:36:48	V2.7.d, build 211027	bc-ad-28-96-f6-8b	TVN2216P1620160525CCR
TVN2216	192.168.87.216	255.255.255.0	192.168.87.1		2021-08-28 07:45:04	V2.6.a, build 200822	bc-ad-28-99-e3-c5	TVN22161620160528CCR
TVR1708	192.168.87.119	255.255.255.0	192.168.87.1		2022-10-11 14:26:11	V1.0.2, build 220909	9c-f6-1a-92-44-1e	TVR17080820220428CCWF
TVN71	192.168.87.91	255.255.255.0	192.168.87.1		2022-09-30 14:26:33	V1.4.a, build 210430	9c-f6-1a-86-31-cf	TVN71011620170904CCR
TVN71	192.168.87.201	255.255.255.0	192.168.87.1		2022-10-11 13:30:02	V1.5.a, build 220831	9c-f6-1a-86-31-97	TVN71011620170904CCR
TVR4616	192.168.87.95	255.255.255.0	192.168.87.1		2022-05-27 11:23:07	V2.2.a, build 210430	9c-f6-1a-8b-67-f2	TVR46161620190108CCWF
TVR1704	192.168.87.45	255.255.255.0	192.168.87.1		2022-10-18 13:55:20	V1.0.2, build 220909	9c-f6-1a-92-43-d8	TVR1704c0420220429CCW
TVF-3104	192.168.30.161	255.255.252.0	192.168.30.1		2022-10-20 23:41:45	V6.0 FP10 build 170725	9c-f6-1a-86-32-a2	TVF-310420170902CCWR8
TVF-3104	192.168.30.160	255.255.255.0	192.168.30.1		2022-10-20 23:18:44	V6.0 FP9 build 170314	9c-f6-1a-85-79-a7	TVF-310420170710CCWR7
TVF-3104	192.168.30.163	255.255.252.0	192.168.30.1		2022-10-20 23:44:57	V6.1 FP2 build 180126	44-19-b6-48-0c-e3	TVF-310420140627CCWR4
TVTH-S01-0002-BUL-G	192.168.87.147	255.255.255.0	192.168.87.1		2022-09-28 17:24:55	V22.1 FP5 build 220218	9c-f6-1a-91-2d-1f	TVTH-S01-0002-BUL-G202
TVW-5601	192.168.28.167	255.255.252.0	192.168.30.1		2022-10-20 22:53:29	V9.1 FP8 build 210203	9c-f6-1a-89-2e-2b	TVW-560120180530AAWR0
TVF-3104	192.168.30.165	255.255.252.0	192.168.30.1		2022-10-21 01:41:05	V6.1 FP2 build 180126	9c-f6-1a-86-32-a8	TVF-310420170902CCWR8
TVGP-M01-0402-PTZ-G	192.168.87.107	255.255.255.0	192.168.87.1		2022-10-12 11:55:26	V23.1.3 build 220308	9c-f6-1a-91-91-f5	TVGP-M01-0402-PTZ-G202
TVLP-S01-0402-BUL-G	192.168.87.48	255.255.255.0	192.168.87.1		2022-10-14 12:05:11	V25.1.3 build 220714	9c-f6-1a-92-12-8a	TVLP-S01-0402-BUL-G202
TVF-3104	192.168.30.162	255.255.252.0	192.168.30.1		2022-10-20 23:17:04	V6.1 FP2 build 180126	9c-f6-1a-86-32-a3	TVF-310420170902CCWR8
TVS-PC2	192.168.87.133	255.255.255.0	192.168.87.1		2022-09-23 16:50:08	V20.1 FP5 build 200904	9c-f6-1a-8e-f7-f0	TVS-PC220200617AAWRE
TVB-5305	192.168.87.150	255.255.255.0	192.168.87.1		2022-09-29 14:52:46	V3.1 FP6 build 171108	9c-f6-1a-85-ef-3a	TVB-530520170815BBWR8
TVF-3103	192.168.30.120	255.255.252.0	192.168.30.1		2022-07-28 12:40:12	V6.1 FP2 build 180126	c0-56-e3-99-e5-80	TVF-310320141021CCWR4
TVB-5413	192.168.87.121	255.255.255.0	192.168.87.1		2022-09-13 16:26:24	V13.1 FP7 build 210524	9c-f6-1a-8a-f1-fd	TVB-541320181115CCWR6

The Device Manager window contains the **Discovered Devices** and **Navigator** tabs along with the following buttons:

Button icon	Name	Description
	<b>Filter</b>	By typing the model, firmware version, or other options, the user can filter search results.
	<b>SNMP</b>	View SNMP configured devices and SNMP device data. See “SNMP support (Version 2c)” on page 77.
	<b>Refresh</b>	Refresh the list of discovered devices. See “Device discovery” on page 64.
	<b>Add Device</b>	Add a device manually. See “Add device” on page 64.
	<b>Export to CSV</b>	Export the list of discovered devices to the CSV file format.
	<b>Device Manager Tools</b>	Tools for Device Manager configuration. See “Device Manager tools” on page 71.

**Note:** Select the browser type from the **Default Browser** drop-down list, after double-clicking the discovered devices, open the Device’s configuration window in the selected browser. The device should support the selected browser to open the login and configuration screen after a successful login.

## Device discovery

Device Manager searches for online devices within the local network and displays network information for the devices. It automatically searches every 15 seconds for the online devices in the computer's local network and then displays the information for the found devices.

---

**IMPORTANT:** A wired network connection is required for device discovery. A device cannot be discovered or activated via a Wi-Fi network connection.

---


**Note:** Unmanaged devices do not support the discovery feature.

### Search for active devices online

After launching Device Manager, click the **Device Discovery** button in the Getting Started window. The Device Manager window appears.

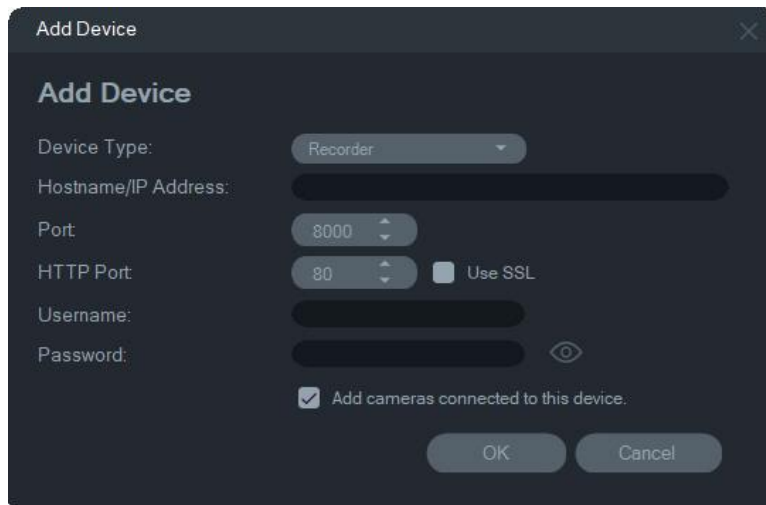
The device information that appears in the **Discovered Devices** tab (shows only the devices that have *not* been added to the Navigator panel) includes the device type, IP address, port number, gateway, firmware version, serial number, MAC address, etc. Discovery results can be filtered by clicking the **Navigator** tab (which shows only the devices that *have* been added to the Navigator panel), and/or by making a selection from the device filter drop-down list (**Camera, Recorder, TruPortal, etc.**)

**Note:**

- Click the **Refresh** button to perform a new search for online devices. When the **Refresh** button appears with a yellow dot, it indicates that new devices have been added in the background. Click  to add the newly found devices to the list.
- Click a column heading button to sort the information.

### Add device

If a TruVision IP device connected to the network does not appear in the Device Manager's list of discovered devices, add it by clicking the **Add Device** button.



Type in the appropriate device location information along with the device's user name and password. Select **Use SSL** if required by the server. Click **OK**.

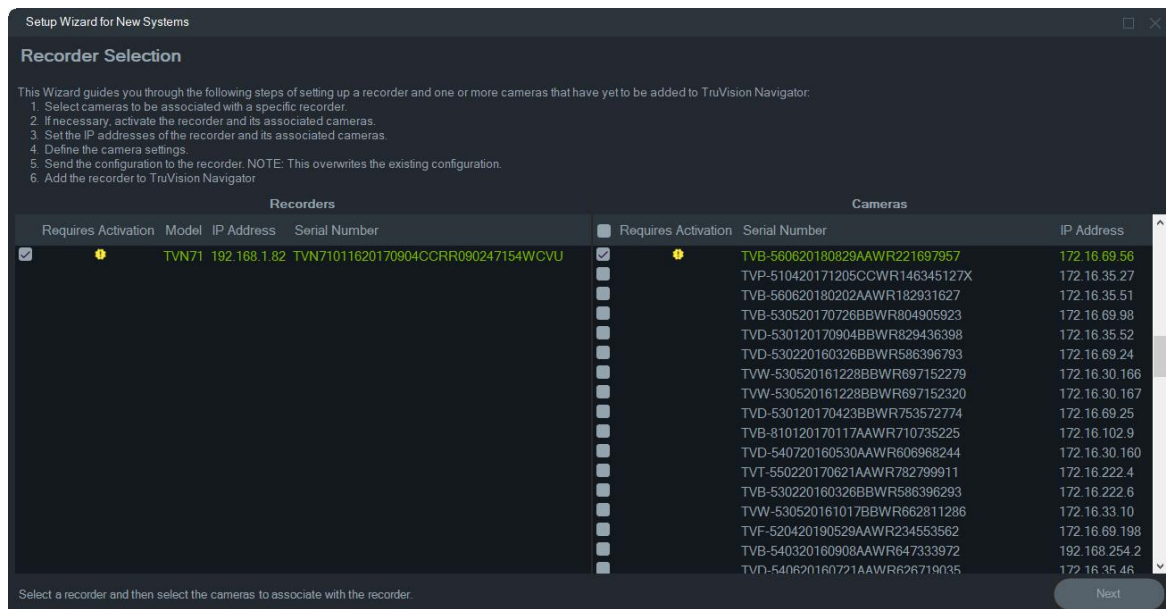
Select the **Add cameras connected to this device** check box to add cameras under a recorder in the Navigator panel. Type the user name and password for each camera or select **Use this credential for all devices** in the Credentials Required window.

## New system setup wizard

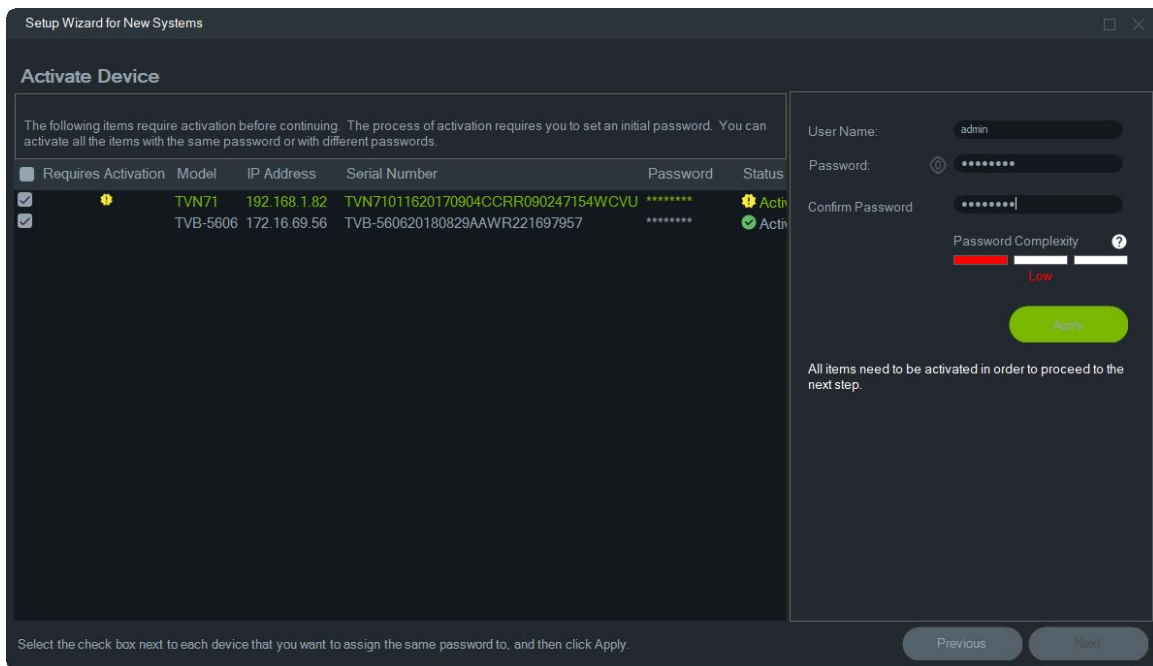
Use the New System Setup Wizard to set up new devices that have not previously been connected to the network.

### To set up devices using the Wizard:

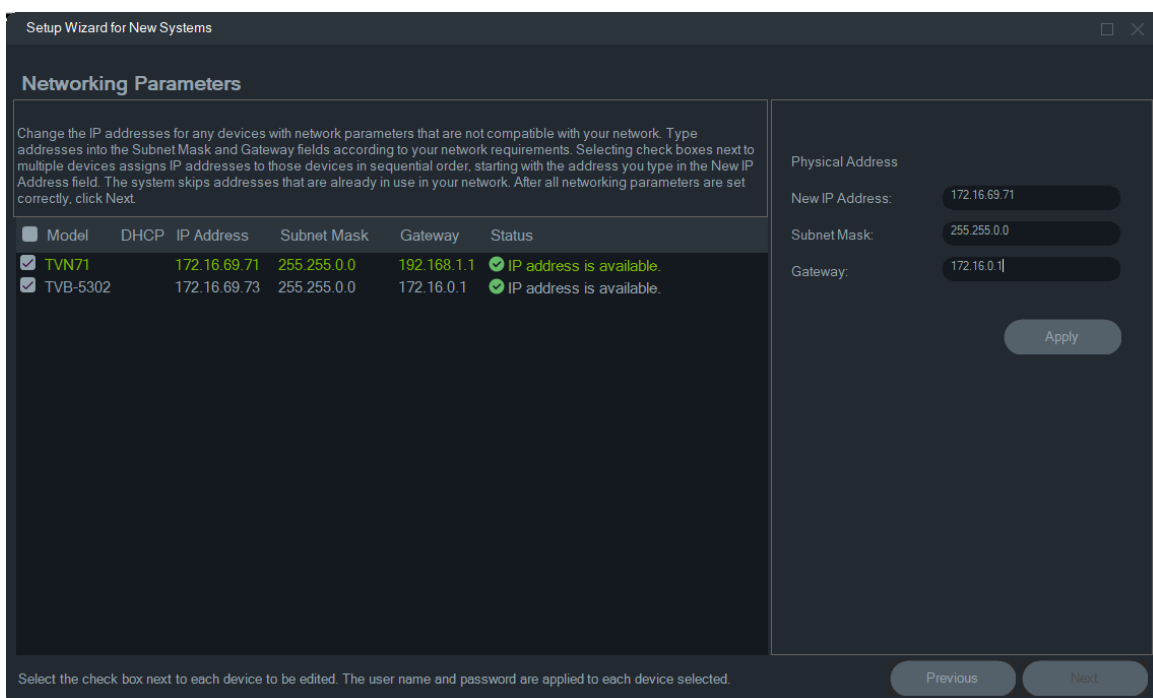
1. Click the **New System Setup Wizard** button in the Getting Started window.
2. Select a recorder and one or more cameras to set up in the Recorder Selection window.



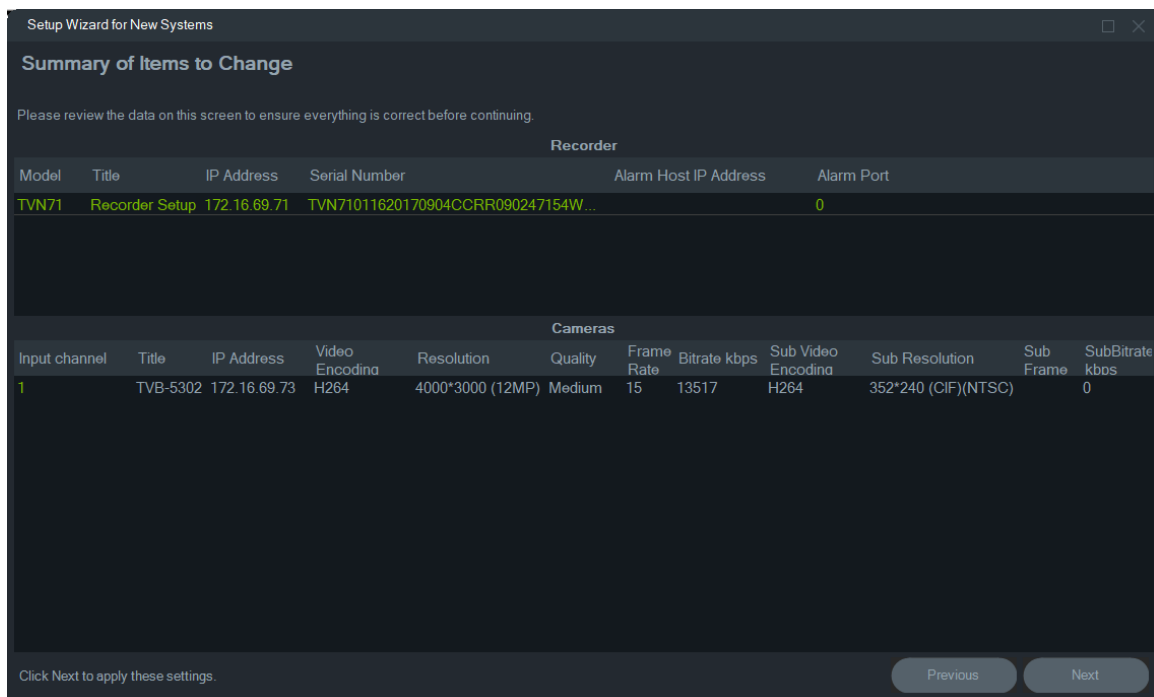
3. In the Activate Device window, select one or more devices to continue with setup. If multiple devices are selected, IP addresses are automatically assigned in sequence (in this case, all devices must have the same password). Select individual devices to assign specific IP addresses to each. Type in a new IP address, subnet, and gateway manually or click an IP address to use default settings.
4. Type 'admin' as the user name and type in a new password for the device(s). Click **Apply** to determine if the IP addresses are available. Click **Next** when finished.



- The Credentials Required window appears. Select the check box next to each device, type the user name and password, and then click **Apply**. Click **Next** when finished.
- The Networking Parameters window appears. Change the IP addresses for any devices with network parameters that are not compatible with your network by typing addresses into the Subnet Mask and Gateway fields according to your network requirements. Selecting check boxes next to multiple devices assigns IP addresses to those devices in sequential order, starting with the address you type in the **New IP Address** field. The system skips addresses that are already in use in your network. Click **Apply** after all networking parameters are set correctly.



7. Click **Yes** to confirm the IP address changes. When finished, click **Next** again and wait several seconds for the storage calculator window to appear.
8. Select resolution and frame rate. If necessary, change the camera name and add substream information. The bitrate number auto-calculates and can also be changed if required. See “Storage calculator” on page 69 for details. Click **Next**.
9. The Alarm Host Setup window appears. *Optional:* Select **Enable Alarm Host** to set the IP address of the client or server that will receive alarm notifications. The **Alarm Host IP** box is prepopulated with the IP address of the computer that the Wizard is running on. Type a different IP address in the **Alarm Host IP** box if required. If multiple NIC cards are present, the **Alarm Host IP** box has a drop-down list containing the IP address of each NIC card. Click **Next**.
10. The Summary window appears, showing the device information along with the location of the recorder configuration file. Click **Next**.



11. Click **Yes** to send the new configuration to the recorder.
12. The completion dialog appears. Click **Complete** to finish setup.

## Activate an inactive device

Newer TruVision devices appear as “Inactive” in the Device Manager window upon initial connection to the network.

---

**IMPORTANT:** A wired network connection is required to activate an inactive device. A device cannot be activated via a Wi-Fi network connection.

---



**To activate an inactive device:**

1. Click **Activate Device** in the Getting Started window. A list of inactive devices appears in the Device Activation/Change IP Address screen.
2. Follow the steps under “Change IP address” on page 71.

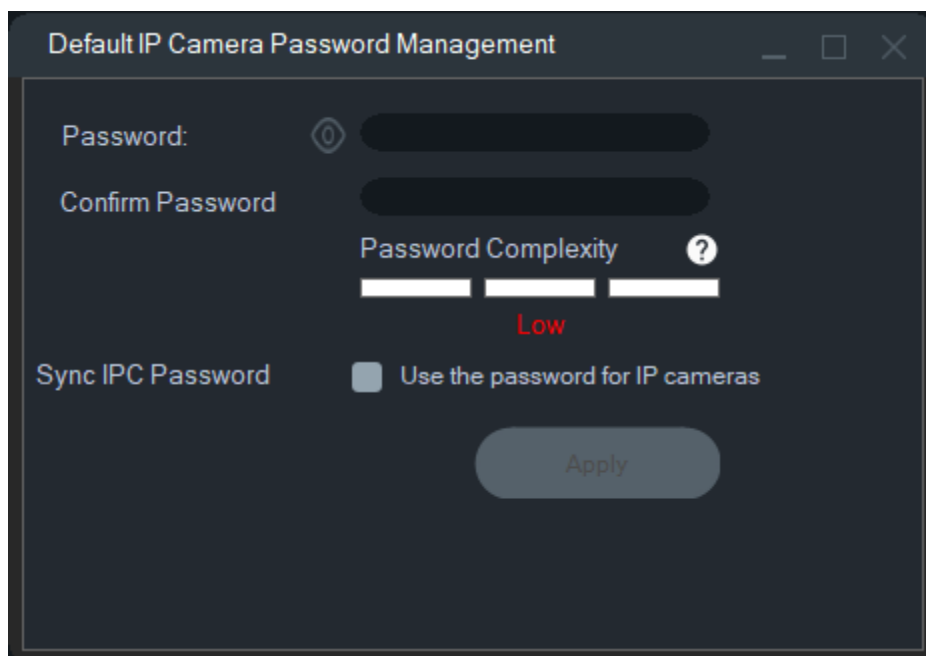
**Note:** The device is not activated until it is given a new password.

3. An activate device success message appears.

## Set camera default password

Set the default password for all cameras after activating the recorder

**Note:** This feature is only supported on TVN 12 and TVR 17 recorders.



## Firmware upgrade

Use the Firmware Upgrade window to upgrade the firmware of the selected device or devices.

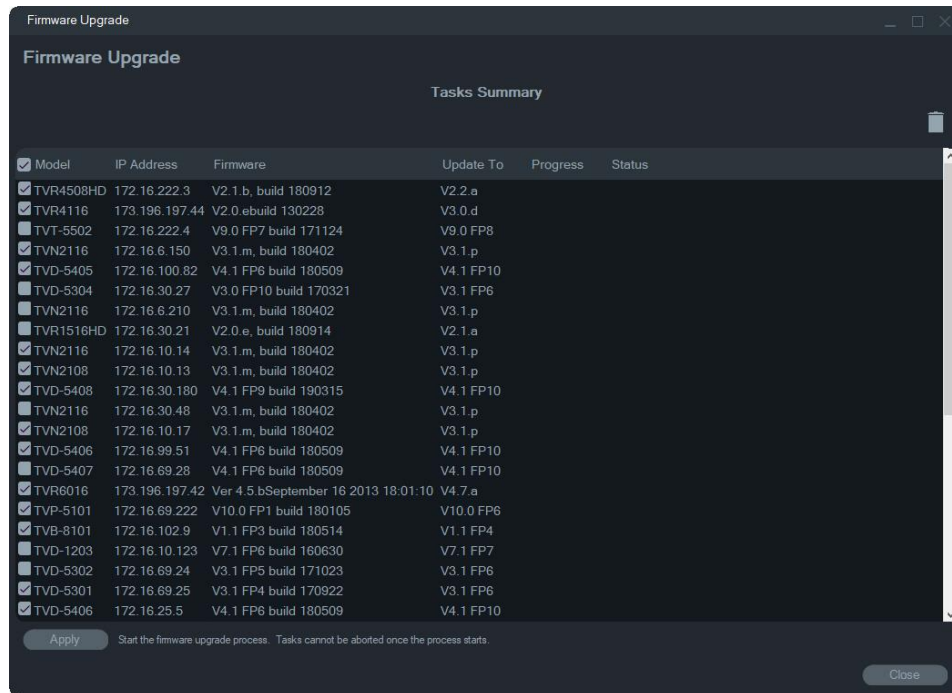
**Note:** The local computer must be connected to the internet to connect with the firmware server.

**To select devices for firmware upgrade:**

1. Click the **Firmware Updates** button in the Getting Started window. The Updates Available dialog appears.
2. Select **Download All Firmware** to download all firmware files. If this check box is not selected, only firmware files that have not already downloaded will download to the local computer. Click **OK** in the Updates Available dialog to proceed.



- The Firmware Download screen appears. Wait for the firmware files to download to the local computer.
- The Firmware Upgrade screen appears. In the Model list, click a device to select it or hold the Ctrl or Shift key to select multiple devices.



- Click **Apply**, and then click **Yes** to start the firmware upgrade process. The Credentials Required dialog box appears.
- Type the **User Name** and **Password** for the device(s) (if necessary, select **Use this credential for all devices**), and then click **OK** to begin the firmware upgrade.
- Firmware upgrade progress appears in the Firmware Upgrade window. When upgrading is complete, the updated version information of the device(s) appears in the device list.

## Storage calculator

Storage calculator is a tool that permits the creation of a storage capacity requirement report for TruVision recorders that can be printed or exported to Microsoft Excel (XLS file format).

**IMPORTANT:** Storage requirement calculations provided by the calculator are only an estimation based on medium quality video settings. More storage capacity could be needed depending on the scene complexity of images captured by the cameras.

**Note:** Storage calculator only supports the TruVision recorders listed in the **Recorder** drop-down list in the TruVision Storage Calculator window.

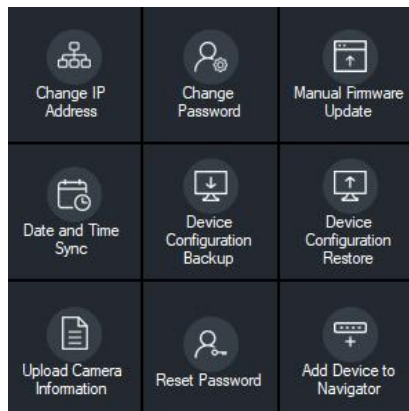
The screenshot shows the 'Storage Calculator' application window. At the top, there are fields for 'Project Name' (1), 'Recorder' (2) set to 'TVN10', and 'Channels' (3) set to '4'. Below this is a table with columns: Image, Input channel, Camera Name, IP Address, Port, Username, Password, Video Encoding, Resolution, Frame Rate, Bitrate kbps, Motion %, Quality, and a red 'X' icon. The table has four rows for Channel 1 through Channel 4. Callout 4 points to the 'Camera Name' field, callout 5 to the 'Video Encoding' dropdown, and callout 6 to the 'Include SubStream' checkbox. To the right of the table is a 'Copy Channel 1 Settings' panel with callout 7 pointing to the 'To all' checkbox and callout 8 to the 'From Channel' dropdown. Below this panel is a 'Range' dropdown with callout 9 pointing to the 'Copy' button. At the bottom of the window, there are fields for 'Total Storage per Day' (10) showing '0.000 GB', 'Days to Store' set to '30', and 'Total Storage Capacity' (11) showing '0.000 TB'. There is also a 'Total Bandwidth Usage' bar (10) showing '0 Mbps' and 'Out Of' (11) showing '20 Mbps'. At the bottom right, there are 'Print Report' (12) and 'Export To Excel' (12) buttons. A note at the bottom states: 'Note: The results are only an estimate, actual results may differ based on scene variables.'

### To generate a storage calculator report:

1. Click the **Storage Calculator** button in the Getting Started window.
3. Type a value into the **Project Name** field.
4. Select the recorder model from the **Recorder** drop-down list (2).
5. Select the number of camera channels in the **Channels** drop-down list (3).
6. Type camera names into the **Camera Name** (4) boxes as necessary and enter values for each camera in the **Main Stream** (5) and **Substream** (6) (if applicable) sections. Use the **Copy Channel 1 Settings** (7), **From Channel** (8), and **Range** (9) boxes to copy values between cameras.
7. The **Total Storage per Day** (10) and **Total Storage Capacity** (11) boxes populate with storage requirement calculations. When finished configuring the storage calculator project, click the **Print Report** or **Export to Excel** button (12) to generate a storage calculator report for future reference.

## Device Manager tools

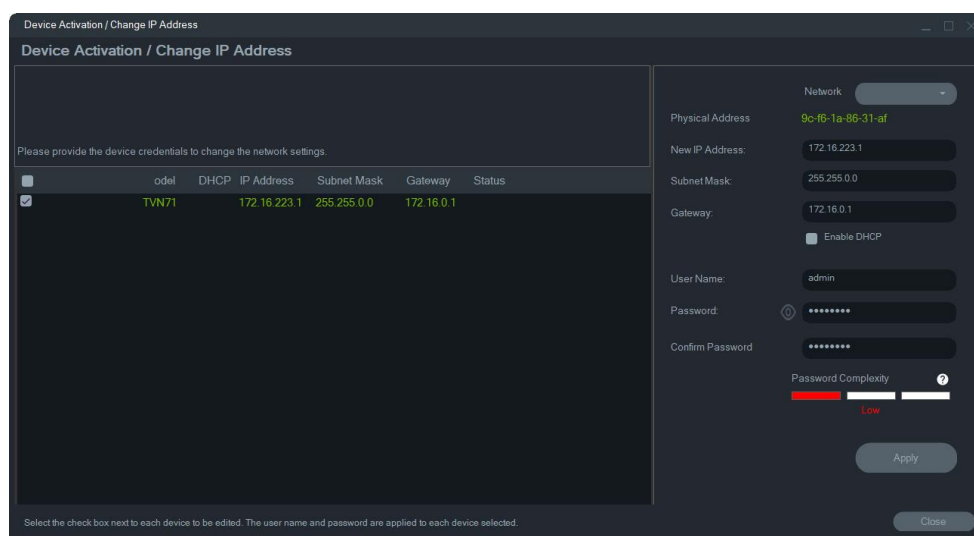
Click the **Device Manager Tools** button in the Device Manager window to access the tools.



### Change IP address

1. Click the **Change IP Address** tool button to bring up the Device Activation / Change IP Address window.
2. Select one or more devices to continue with setup. If multiple devices are selected, IP addresses are automatically assigned in sequence (in this case, all devices must have the same password). Select individual devices to assign specific IP addresses to each. If a device has one or more Network Interface Cards (NICs) to share the network load when using a number of HD cameras, an IP address can be assigned to each by selecting the corresponding number of the NIC from the **Network** drop-down list. Type in a new IP address, subnet, and gateway manually or click an IP address to use default settings.

**Note:** Credentials must be entered before assigning an IP address to a NIC card.



3. Click **Test**.
4. If the IP addresses were recognized as available, click **Apply**.
5. Click **Yes** to change the IP address for the selected devices.

## Change password

1. Select one or more devices the main Device Manager window (if multiple devices are selected, all must have the same password), click **Device Manager Tools**, and then click the **Change Password** tool button.
2. Type the correct information in the **Old Password**, **New Password**, and **Confirm Password** fields. Select the **Include cameras connected to this recorder** check box to change the password(s) for connected cameras.
3. Click **Apply**.

## Manual firmware update

Follow these instructions only if the firmware update file has already been downloaded to the local computer.

### To perform a manual firmware update:

1. Select one or more devices for firmware update in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Manual Firmware Update** tool button. The Firmware Upgrade window appears.
3. Click **Browse** to locate the firmware file, and then type in the user name and password for the highlighted device in the Device List.
4. Click **Add** to add the highlighted device to the Tasks Summary list or click **Add All** to add all the devices in the Device List to the Tasks Summary list.
5. Click **Apply**, and then click **Yes** to start the firmware upgrade process.
6. Firmware upgrade progress is displayed in the Firmware Upgrade window. When upgrading is complete, the updated version information of the device(s) is displayed in the device list.

## Date and time sync

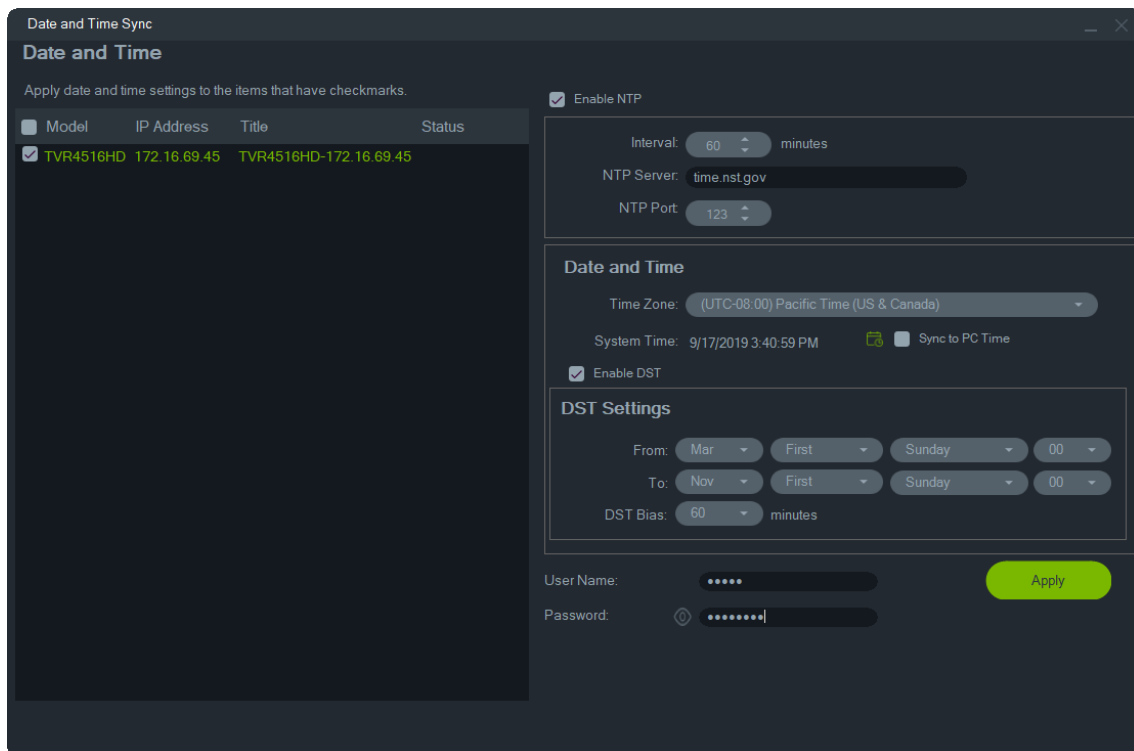
Use this tool to set the time and date across multiple devices.

Network Time Protocol (NTP) is a protocol for synchronizing the clocks of network devices such as IP cameras and computers. Connecting network devices to a dedicated NTP time server ensures that they are all synchronized.

**Note:** For a list of IFS switches that support date and time sync, see the *TruVision Navigator Compatibility with IFS Switches Addendum*.

### To perform date and time sync:

1. Select one or more devices for date and time sync in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Date and Time Sync** tool button. The Date and Time Sync window appears.



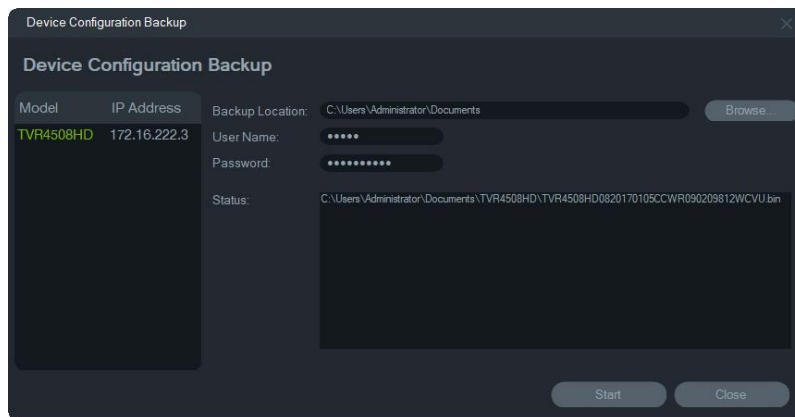
3. Select **Enable NTP** and then type in an address in the **NTP Server** field, a time interval in the **Interval** field, and an NTP Port number in the **NTP Port** field as necessary.
4. From the **Time Zone** drop-down list, select the time zone that corresponds to the device's location.  
**Note:** You can also select the **Sync to PC Time** check box to synchronize the time of the device with the time of the computer.
5. Type in the **User Name** and **Password** credentials for each device or for multiple devices, and then click **Apply** after the credentials are accepted for all the devices in the list.

## Device configuration backup and restore

Use these tools to backup and restore device configurations.

### To back up a device configuration:

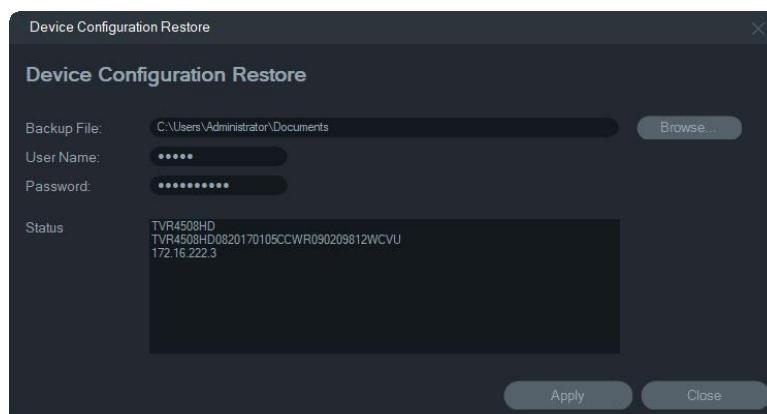
1. Select a device in the main Device Manager window, click **Device Manager Tools**, and then click the **Device Configuration Backup** tool button.
2. If required, click **Browse** to select a new backup location.
3. Enter the device's user name and password and select **Start** to begin the backup process.



4. Click **Close** when backup is complete.

#### To restore a device configuration:

1. Select a device in the main Device Manager window, click **Device Manager Tools**, and then click the **Device Configuration Restore** tool button.
2. If required, click **Browse** to select the location of the backup file.
3. Enter the device's user name and password and click **Apply**.



4. Click **Yes** to restore the device configuration.

## Upload camera information

Use this tool to restore the device configuration for IP cameras only.

**Note:** Not all cameras support this feature.

The list of recorders that can upload camera information is as follows:

- TVN 11
- TVN 12
- TVN 21
- TVN 22
- TVN 70
- TVN 71

- TVR 15HD (IP cameras only)
- TVR 45HD (IP cameras only)
- TVR 16 (IP cameras only)
- TVR 17 (IP cameras only)
- TVR 46 (IP cameras only)

#### To upload camera information:

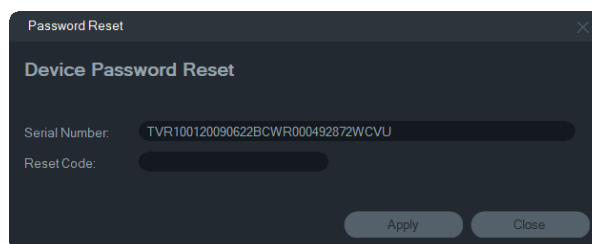
1. Select a supported recorder in the main Device Manager window, click **Device Manager Tools**, and then click the **Upload Camera Information** tool button.
2. Click **Browse** to select the location of the configuration file.
3. Type in the recorder's user name and password and click **Apply**.
4. Click **Yes** to upload the camera information.

## Reset password

If an admin (not a specific user) device password is lost, contact Technical Support to restore the password. There are two ways to restore the password. The method to be used depends on the device and its currently installed firmware.

#### To restore the default password (method 1):

1. Select the device for password reset in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Reset Password** tool button.
3. Copy the complete serial number from the **Device Serial No.** field in the Device information panel and paste it into an email to send to Technical Support. Also provide Technical Support with the date shown in Live View. For some devices (e.g., TVR60), the hour shown in Live View is also required. Technical Support will provide a security key by email.



4. Enter the security key received from Technical Support in the **Security Code** field and click **OK** to restore the default password. The default password is **1234**.

**Note:** The security key provided is related to the date (or hour in the case of TVR60) the serial number was sent to Technical Support and expires the day it was created. We recommend resetting the device password immediately after receiving the reset code.

### To set a new password using an XML file (method 2):

1. Select the device for password reset in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Reset Password** tool button.
3. Click the **Reset Password** button.

4. Click **Export Reset File** in the Reset Password window to save the XML file, and then email the file to Technical Support. Technical Support will provide a new XML file.
5. Save the XML file received from Technical Support on the computer, click **Browse**, and select the new XML password file.
6. Type a new password and then confirm it in the **New Password** and **Confirm Password** fields. Click **Apply**.

**Note:** Do not restart the device after the password recovery XML file has been exported, otherwise the steps above must be repeated. The password recovery XML file expires after 48 hours.

### Add device to Navigator


1. Select one or more devices in the main Device Manager window (if multiple devices are selected, all must have the same password), click **Device Manager Tools**, and then click the **Add Device to Navigator** tool button.
2. Type the correct information in the **User Name** and **Password** fields in the **Credentials Required** window.
3. Click **OK**. The device is added to the Navigator panel.



## SNMP support (Version 2c)

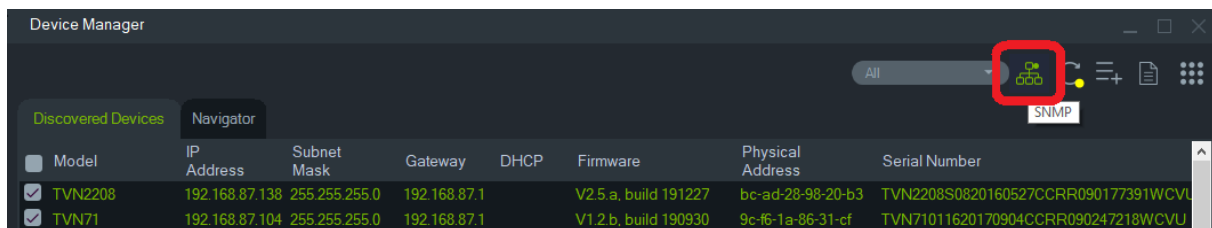
**Note:** SNMP v2c has some known vulnerabilities. Take care when enabling it on a public network. Contact your network team and follow best practices before enabling it. Never use default community strings; only use unique community strings. Make sure that all security measures have been taken at your end.

TruVision Navigator supports Simple Network Management Protocol (SNMP). It makes it possible for the user to retrieve some specific data related to the status or health of devices. This works with SNMP Version 2c (which is also supported in TruVision devices).

In Device Manager, the Discovery Devices window allows the user to select discovered devices or devices that are already added in TruVision Navigator. By clicking the SNMP icon , the user opens the SNMP dialog.

### To discover devices using the SNMP icon:

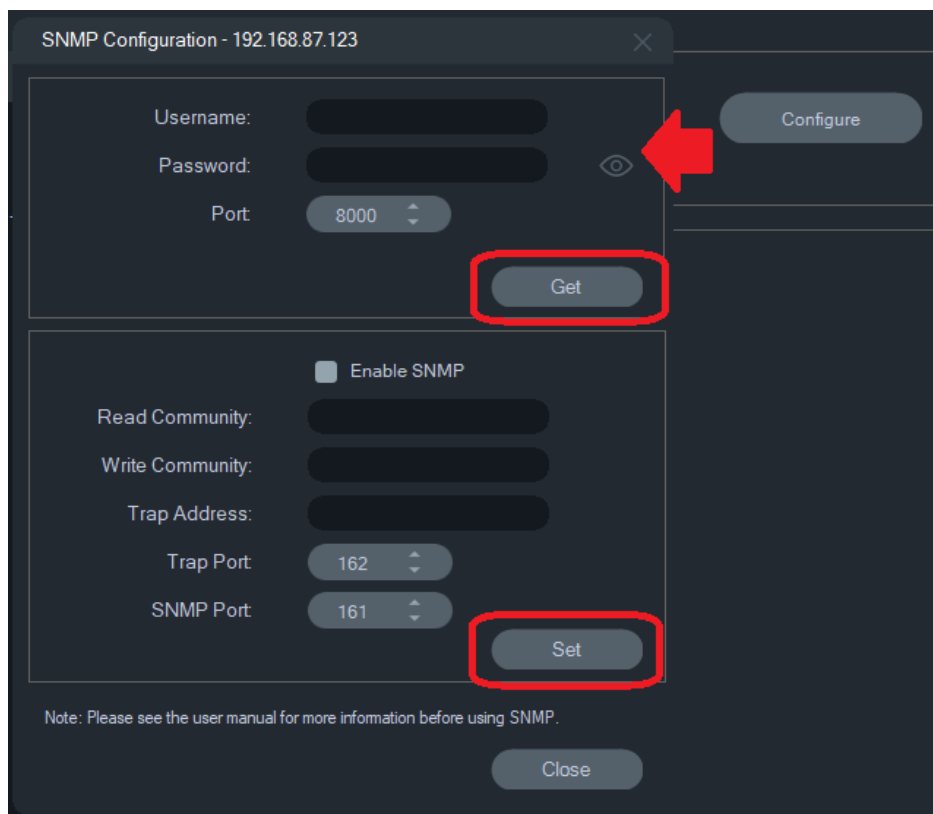
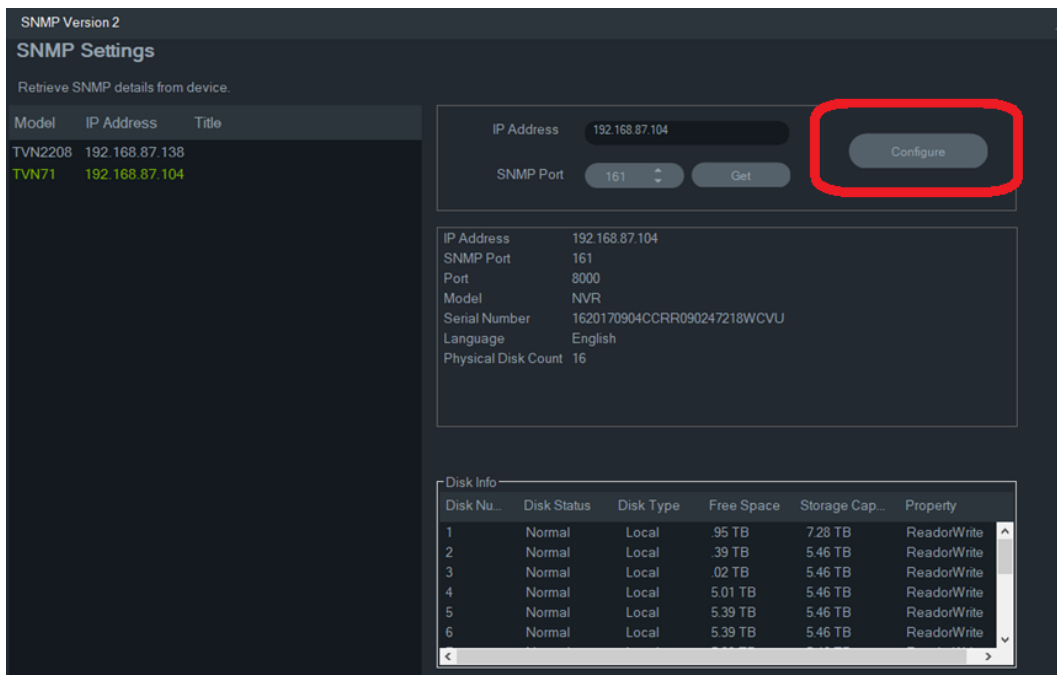
1. Select devices from Navigator tab or Discovered Devices (selection is optional).
2. Click the **SNMP** icon to populate the SNMP dialog in the SNMP Settings window.



### To retrieve SNMP data:

1. SNMP dialog shows all the recorders/cameras that were selected in the Device Manager window (see “Device Manager window” on page 63). Navigate to a specific device to get its SNMP data.
2. If the device was not selected and is not displayed, enter the device’s IP address and by clicking the **Get** button retrieve the SNMP data of the device.
3. **Configuration** button allows the user to configure the SNMP settings on the device. Select a device from the left panel or enter the device’s IP address and click the **Configure** button.

**Note:** Different SNMP data will be displayed depending on the device type (recorder or camera).



### To configure SNMP settings:

1. Enter the device credentials to configure the SNMP settings.
2. For devices already added to TruVision Navigator, the device credentials will be automatically populated.
3. For devices added or discovered manually, you must provide device credentials.
4. Click **Get** button to populate SNMP configuration settings.
5. Click **Set** button to change and save the SNMP settings on the device.

# Chapter 5

## Navigator panel

The Navigator panel is the central administration area of the application where recorders, cameras, maps, websites, access control systems, intrusion detection, network switches, and logical views are added, listed, and configured.

Items in the Navigator panel can be located quickly by typing a device name into the **Search** field at the top of the Navigator panel and pressing **Enter**.

Move the mouse pointer over a camera in the navigator panel to view the digital or analog channel number. Cameras that are ONVIF-compliant display their IP address.


**Note:** The Navigator panel is permission-based, so if a user does not have rights to perform certain actions, they will not see the options.

### Adding devices

Add single or multiple devices (such as recorders, cameras, and decoders) to the Navigator panel by choosing one of the following options:

- Add manually
- Add via discovery tool

### Adding devices manually

1. Click the **Add Devices** button  in the Navigator panel and select **Add Manually**, or right-click the **Devices** icon and then select **Add Device > Add Manually** from the drop-down list. The Add Device window appears.

2. Select the appropriate model from the **Device Type** drop-down list.

**Note:** Select **TruVision Recorder** or **TruVision Camera** from the drop-down list for any TruVision device. Using one of these drivers enables the device's browser-based configuration page. Some functions do not work as designed if either of these generic device types are selected. We recommend selecting the specific device model if possible.

3. Type a name in the **Device Title** field. Values are alphanumeric.
4. Based on the device type, a selection from the **Streaming Type** drop-down list may be required. For some devices, there is only one option for the **Streaming Type**, so it is selected by default. Streaming types are defined as follows:
  - **TCP** – TCP is a reliable stream delivery service that guarantees delivery of a data stream sent from one host to another without duplication or losing data.
  - **UDP** – The application connects to the device and asks the device to stream video back to the application on a UDP address and port. For this option, the firewall must be configured to allow the device to stream to the application on that specific port.
  - **Multicast** – This type of streaming only requires one stream and one user connection to the recording device and can be connected to many clients. This saves connections and network bandwidth. Multicast is supported in live view only.
5. Type the device's IP address or the EzDDNS URL (e.g., <http://hostname.tvr-ddns.net>) in the **Device Address** field.

**Note:** A recorder can be added using a Domain Name System (DNS) name as well as a static IP address by typing the DNS name in the **Recorder Address** field.

6. The **Port** field is pre-populated with a default value based on the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.

**Note:** The port number must be added to the device address when using DynDns with a HTTP port other than port 80 (e.g., [mydvr.dyndns.org:2222](http://mydvr.dyndns.org:2222) if the HTTP port being used is 2222). When using No-IP instead of DynDNS, also add the HTTP port number.

7. Type the required values in the **Username** and **Password** fields.
8. Select the **Add Device Offline** check box to add the device to the Navigator if it is currently offline. Bring an offline device online by right-clicking the device in the Navigator panel and selecting **Connect**.
9. Click **OK**.

**Note:** After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

## Adding devices using the discovery tool

Navigator is equipped with an embedded device discovery tool that discovers devices such as recorders, cameras, and decoders in the network and permits the addition of one or more of those devices.

---

**IMPORTANT:** A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

---

1. Click the **Add Device** button in the Navigator or right-click the Devices icon, and then select **Add Device > Add via Discovery Tool** from the drop-down list.
2. The Device Discovery window displays and provides a list of available devices in the network. You can filter these results by selecting **All**, **Camera**, **Encoder**, **Decoder**, **Recorder**, **TruPortal**, **IFS**, **Intrusion**, or **Other** in the drop-down list.

Model	IP Address	Subnet Mask	Gateway	DHCP	Start Time	Firmware	Physical Address	Serial Number
TVN2232	192.168.87.138	255.255.255.0	192.168.87.1		2021-08-24 15:10:50	V2.6.c, build 201205	bc-ad-28-99-e3-c9	TVN22321620160528CCRR09C
TVN1008	192.168.87.89	255.255.255.0	192.168.87.1		2021-08-11 20:45:24	V2.1.r, build 191211	28-57-be-ad-d5-62	TVN1008S0820160129AARR09C
TVN71	192.168.87.71	255.255.255.0	192.168.87.1		2021-08-06 14:40:45	V1.4.a, build 210430	9c-f6-1a-86-31-cf	TVN71011620170904CCRR09C
TVN71	192.168.87.201	255.255.255.0	192.168.87.1		2021-05-12 12:35:05	V1.4.a, build 210430	9c-f6-1a-86-31-9f	TVN71011620170904CCRR09C
TVN70	192.168.30.74	255.255.252.0	192.168.30.1		2021-07-27 16:14:17	V1.2.j, build 170428	c0-56-e3-56-fb-1f	TVN70011620150430CCRR09C
TVN70	172.30.11.97	255.255.252.0	172.30.11.1		2021-08-10 09:07:54	V1.2.r, build 190708	c0-56-e3-31-a6-20	TVN70011620150104CCRR09C
TVN2116	192.168.30.68	255.255.252.0	192.168.30.1		2018-03-22 10:37:19	V3.1.k, build 170512	8c-e7-48-6e-0c-db	TVN21161620140607BBRR09C
TVN2116	192.168.30.69	255.255.252.0	192.168.30.1		2018-03-22 11:34:10	V3.1.k, build 170512	8c-e7-48-0b-d7-7b	TVN21161620121208BBRR09C
TVN2116	192.168.20.67	255.255.252.0	192.168.20.1		2019-04-23 12:09:33	V3.1.m, build 180402	8c-e7-48-0fb8-79	TVN21161620130109BBRR09C
TVR4616	192.168.87.95	255.255.255.0	192.168.87.1		2021-08-05 11:07:33	V2.2.a, build 210430	9c-f6-1a-8b-67-f2	TVR46161620190108CCWR09C
TVN2216	192.168.30.41	255.255.252.0	192.168.30.1		2021-07-27 12:35:32	V2.6.a, build 200822	bc-ad-28-99-e3-c5	TVN22161620160528CCRR09C
TVR1616	192.168.87.17	255.255.255.0	192.168.87.1		2021-07-09 01:18:54	V1.0.c, build 210108	9c-f6-1a-8f-4a-1b	TVR16161620200824CCWR09C
TVN1108	192.168.87.49	255.255.252.0	192.168.87.1		2021-03-17 20:56:16	V1.3.a, build 210506	9c-f6-1a-87-af-b0	TVN1108S0820171213CCRR09C
DVSRxU	192.168.40.231	255.255.255.0	0.0.0.0		2018-10-20 08:47:37	V2.31SNovember 10 2009 11:01:20	00-40-30-47-3d-51	DVSR04-EA0220090603ABWF
TVR1216HD	192.168.87.147	255.255.255.0	192.168.87.1		2021-04-07 16:16:11	V1.2.j, build 170519	c0-56-e3-10-c9-9e	TVR1216HD1620140927AAWF

Device Count: 15

**Note:** For recorders, the first two characters after the alpha model number prefix indicates model number, and the last two characters indicate channel count. For example, a TVR4616 model number indicates a 16-channel TVR46 recorder.

The second “Navigator” tab displays the devices that are added already in the application.

3. To add devices to the Navigator, select one or multiple devices from the list using the mouse and Ctrl key, and then click **Add**. The device(s) appear under the Device node in the Navigator panel.
4. Type the **Username** and **Password** and then click **OK**.
5. After the recorder or TruVision camera appears online, expand the Device icon to view all devices added to the system. Upon successful connection, the Navigator populates the respective cameras under the device.

#### To remove a camera icon from the Navigator panel:

1. Right-click the recorder icon associated with the camera and select **Properties**.
2. Click the camera to be removed and select the **Camera Not in Use** check box.
3. Click **Save**. Repeat these steps, deselect the **Camera Not in Use** check box, and then click **Save** to add the camera back to the Navigator panel.

#### To remove a recorder or decoder icon from the Navigator panel:

1. Right-click the device icon and select **Delete Device**.
2. Click **Yes**.

## Configuring discovered devices

Discovered devices can be configured either in Navigator or through the device’s internal configuration web page.

TruVision recorder browser configuration is currently available for the recorders listed below:

**Table 4: Browser configuration compatibility**

Recorder Model	Firmware version
TVN 10	2.0 and above
TVN 12	All versions
TVN 21	3.0 and above
TVN 22	1.0 and above
TVR 12HD	All versions
TVR 15HD	All versions
TVR 44HD	All versions
TVR 45HD	All versions
TVR 16	All versions
TVR 17	All versions
TVR 46	All versions

Recorder Model	Firmware version
TVN 11	All versions
TVN 70	All versions
TVN 71	All versions

### To configure a device using the device's internal configuration web page:

1. Right-click a device in the Navigator panel and select **Configure Device** or **Configure Camera**.

**Note:** If configuring a device remotely, the device HTTP port must be forwarded through the router, along with the control and RTSP ports. Without HTTP port forwarding, the browser of the device cannot be viewed.

2. If necessary, click **OK** to update the plug-ins.

**Note:** The plug-in should already be installed if the device has been connected to and previously configured through the device's internal web browser

3. Follow the instructions in the Setup-UTC Web Components window. When complete, restart Navigator.

---

**WARNING: Close all browser windows when instructed and close Navigator before continuing.**

---

4. Right-click the TruVision device and select **Configure Device**. Navigator opens the device's internal configuration web page.
5. Configure the device with the required preferences. See the device's user manual for all configuration options.

**Note:** For cameras not connected to a recorder, enter the camera's login credentials to proceed.

6. When complete, click the **Close** button to save any configuration changes and return to Navigator.

#### Notes:

- Some devices cannot be configured remotely using Navigator.
- The trusted source for camera titles is the device itself. When adding a device for the first time, Navigator does not display the device's configuration information at the time of connection. The cameras in the Navigator panel may display generic camera titles (Camera 1, Camera 2, Camera 3, etc.). Camera names are updated after performing device configuration for the first time. Afterwards, any changes to camera titles through Navigator updates both the Navigator and the device.
- For protocol configuration of analog PTZ cameras attached to an embedded NVR via an encoder, use encoder web administration rather than the embedded recorder configuration menu.

## Adding a TruVision 360° camera

Navigator supports TruVision 360° cameras (TVF-11x0x and TVF-520x). These cameras can be added to TruVision NVRs as a regular IP camera either manually or using the discovery tool.

Each TVF-110x 360° camera provides five streams to the user.

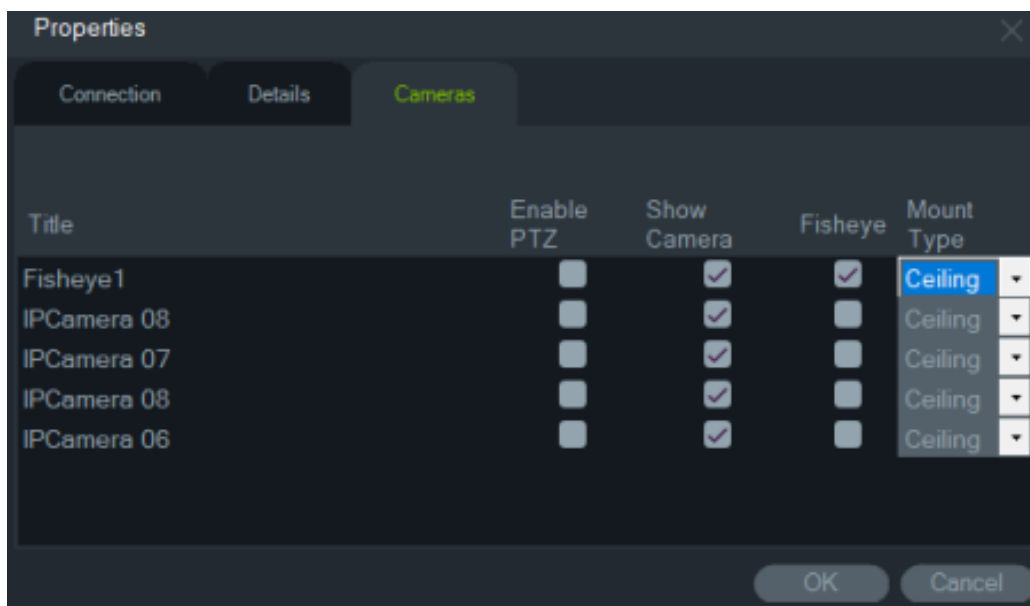
- 1 x Raw 360° image (also contains a substream)
- 1 x Two 180° bands in one video stream
- 3 x 120° streams with digital PTZ capability

When a 360° camera is added to a device, the camera appears in the Navigator panel and has its own device node with up to five channels listed under it. By default, the 360° camera is added with only the 360° mode enabled.

The TVF-520x 360° cameras support more dewarping views. See “Dewarp views” on page 151.

### To add the rest of the views:

1. Ensure that the Fisheye Mode in the camera configuration menu is set to Multi Channel Mode. See the camera’s user manual for details.
2. Right-click the camera’s device node and select **Properties**.
3. In the **Properties** menu, click the **Cameras** tab and select the **Show Camera** check boxes for the views to display.
4. Click **OK**.



For information about dewarping 360° cameras, see “Dewarp views” on page 151.



## Adding a TruVision multi-imager 360-degree IP Camera

TruVision Navigator supports TruVision multi-imager 360-degree IP cameras (TVS). These cameras can be added to TruVision NVRs as a regular IP camera either manually or using the Discovery tool. Each multi-imager IP camera provides four streams to the user.

When a multi-imager IP camera is added to a device (for example, TVN 22 below), the camera appears in the Navigator panel and has its own device node with up to four channels listed under it.



## Adding people counting IP Camera

TruVision Navigator supports TruVision people counting IP cameras (TVS-PC). These cameras can be added to TruVision NVRs as a regular IP camera either manually, see “Adding devices manually” on page 73 or using the discovery tool, see “Adding devices using the discovery tool” on page 75. Once a people counting camera is added into the Navigator, it displays with a people camera icon.

To configure people counting cameras, see “Adding people counting” on page 106.



## Adding Thermal IP Camera

TruVision Navigator supports the TruVision thermal IP cameras. These cameras can be added to TruVision NVRs as regular IP cameras either manually or using the Discovery tool. Some of the S series thermal IP cameras support an optical video stream and a thermal video stream.

When the thermal IP camera is added to a device (for example, TVN 12), the camera appears in the Navigator panel and has its own device node with the optical stream and the thermal stream listed.



## Adding a V-Stream

V-Streams combine output from all camera channels in a recorder into a single stream. V-Streams only appear if they are configured in the recorder.

To view a V-Stream, click a V-Stream icon in the Navigator panel and drag it to a video tile in the Viewer panel.

## Adding maps

Maps or floor plans can be added as PNG, JPEG, GIF, or BMP files.

### To add a map:

1. Right-click the Map icon in the Navigator panel and select **Add Map**.
2. The Open Map File window appears. Navigate to the image file for the map required and click **Open**. The map appears in the Navigator panel under Maps.
3. Double-click the map name or drag and drop to open it in a video tile. Clicking the camera icons placed on the map launches the selected camera's video. When the camera receives a notification, a color-coded box appears around the camera icon.
4. Click the left mouse button inside the video tile to move the map in any direction inside the tile.
5. Right-click the map and select **Zoom to fit** to re-center the map and have it fill the video tile.

### To rename or delete a map:

Right-click the map name in the Navigator panel and select **Rename Map** or **Delete Map**.














## Configuring maps


Camera, recorder, access control door, access control panel, intrusion panel, and intrusion sensor icons can be added to maps to represent their physical locations. Cameras can be connected to doors to enable the launching of video whenever a door is opened. Cameras can also be connected to intrusion areas and sensors and generate video that can be launched from the Notifier.

Selecting any element in a map while pressing the Alt key highlights other elements associated with the selection. Clicking the map itself while pressing the Alt key highlights all elements on a map. Pressing Ctrl while rotating the mouse wheel permits zooming in to the cursor on a map.

**Note:** The recommended map image size should be between 800×600 and 1920×1080. Smaller images will cause markers to appear overly large. Conversely, larger images will make markers appear very small.

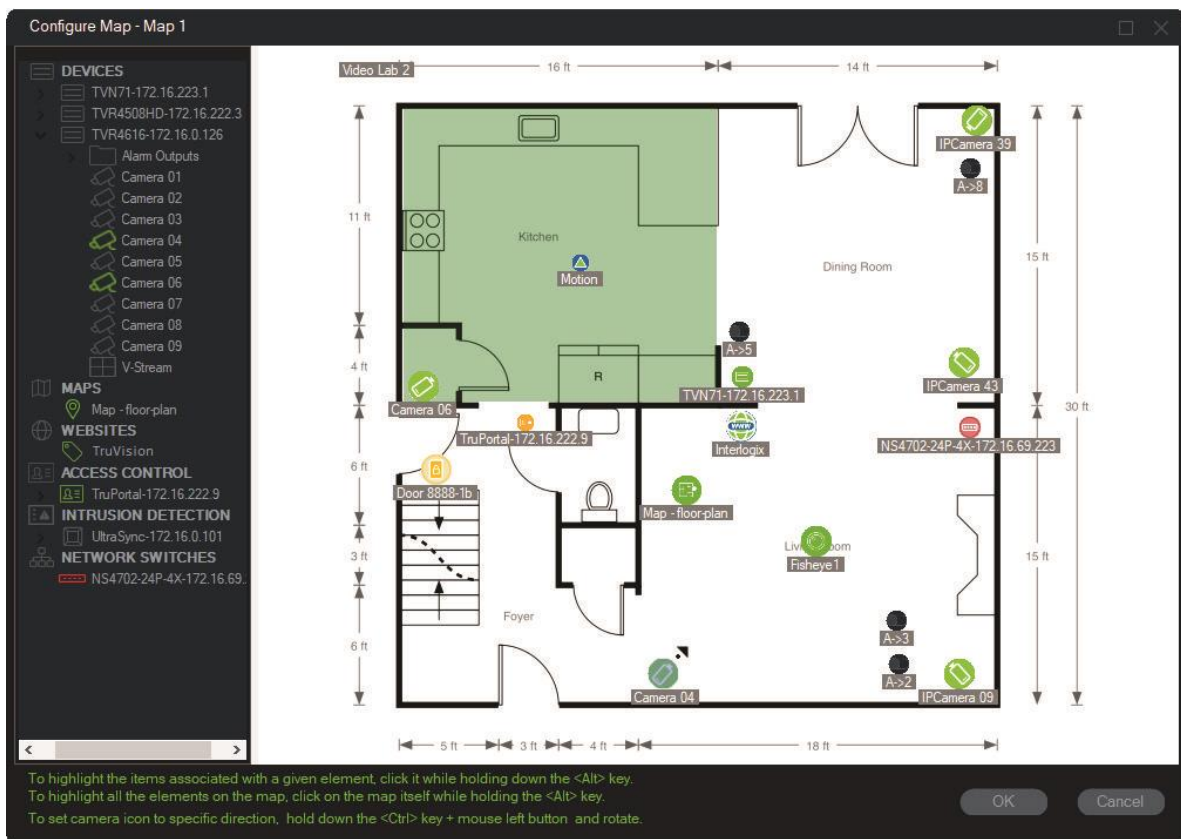
**Map icon definitions:**

Icon	Description
<b>Video icons (green)</b>	
	IP camera
	PTZ dome camera
	360° camera
	People counting camera
	Alarm output trigger on
	Alarm output trigger off
	Recorder
<b>Access control icons (gold)</b>	
	TruPortal access control panel
	Access control panel door closed and locked
	Access control panel door closed and unlocked
	Access control panel door closed in lockout state
	Access control panel door open
<b>Network switch icons (red)</b>	
	IFS network switch

Icon	Description
<b>Intrusion icons (blue)</b>	
	Intrusion control panel
	Intrusion sensor ready
	Intrusion sensor not ready
	Intrusion sensor alarm
	Intrusion sensor bypass
<b>Other icons</b>	
	Website. Double-click to launch a web site from a map.
	Submap. Double-click to launch a secondary map.
	Right-click to open <b>Play Audio Clips</b> menu.

### Adding and positioning icons:

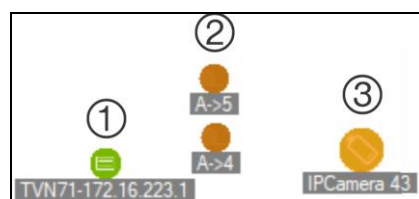
1. Right-click the map name in the Navigator panel and select **Configure Map**.
2. Click and drag a camera, recorder, alarm output, access control panel (if a TruPortal system has been added to Navigator), access control point (door icon), a website, or another map from the Navigator panel to any point on the map.



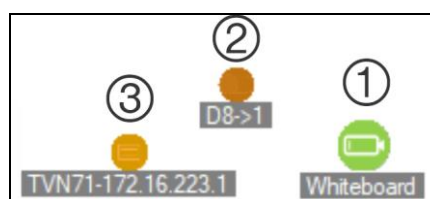
3. Right-click a camera and select **Orientation** to change the position of the camera to mimic its physical orientation.
4. To manually rotate an IP camera icon, press Ctrl and click the icon. The rotation of the camera icon follows the mouse, and the icon changes color during rotation. The cursor also changes to indicate the direction set for the camera.
5. Click **OK** to save.
6. To remove an icon, right-click it and select **Delete**.

#### Viewing associated items on a map:

1. Hold down the Alt key and click a recorder icon (1). Orange highlighting appears around all cameras (3) and alarm outputs (2) associated with the recorder.

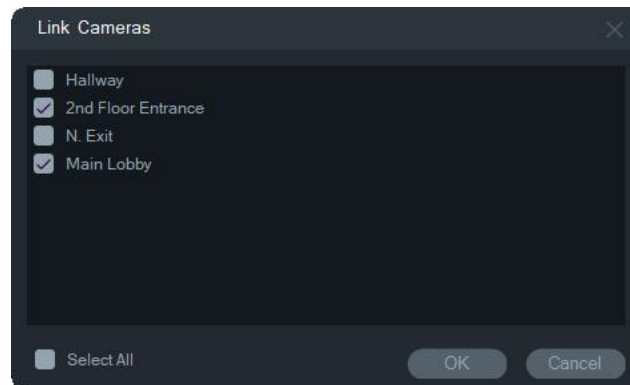


2. Hold down the Alt key and click a camera icon (1). Orange highlighting appears around all recorders (3) and alarm outputs (2) associated with the camera.

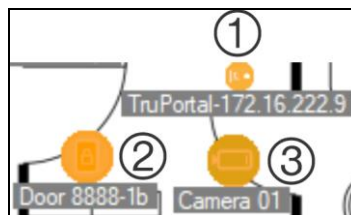


### Connecting an access control point to cameras on a map:

1. In the Configure Map window, right-click an access control point (door) and select **Link Cameras**.
2. Select all cameras on the map to link to the door (or select **Select All**), and then click **OK**.



3. To see which cameras and access control panels on the map are linked to a door, hold down the Alt key while clicking the panel icon (1) and orange highlighting appears around the door (2) and connected camera (3) icons.



4. Whenever the door is opened, notifications from linked cameras appear in the Notifier panel (see Chapter 7 “Notifier panel” on page 162). Click the camera notification in the Notifier panel to launch video recorded when the door was opened in the Viewer panel (see Chapter 6 “Viewer panel” on page 136). If a linked camera has been assigned to the Event Monitor, video from the camera displays in the Event Monitor if the door’s reader is swiped or if the door is opened. Doors can be opened from maps in the Viewer Panel by double-clicking a door icon.

### Configuring or viewing recent activity—access control panel icon:

- Right-click an access control panel icon and select **View Recent Activity** to view a list of recent events associated with the panel. Click the Microsoft Excel® icon to export the list of events to a spreadsheet.
- Right-click an access control panel icon and select **Configure** to bring up the TruPortal login page. Refer to the *TruPortal Software User Guide* or TruPortal Help for configuration instructions.

### Configuring a map for intrusion notifications:

See “Configuring a map for intrusion notifications” on page 100.

### Launching maps and websites from a map in the Viewer Panel:

In a map in the Viewer Panel that has been configured to include one or more submaps and/or websites, double-click a submap or website icon to launch it in a Viewer Panel tile.

### Operating alarm outputs:

In a map in the Viewer Panel that has been configured to include one or more recorder or camera alarm outputs, double-click a output icon to turn it on or off. A small green circle appears on the digital output icon when an output is triggered (on).

To delete a digital output from a map, right-click the icon and select **Delete**.

To see which cameras on the map are linked to an output, hold down the Alt key while clicking the output icon and orange boxes appear around the connected camera icons.

## Adding people counting cameras to a map

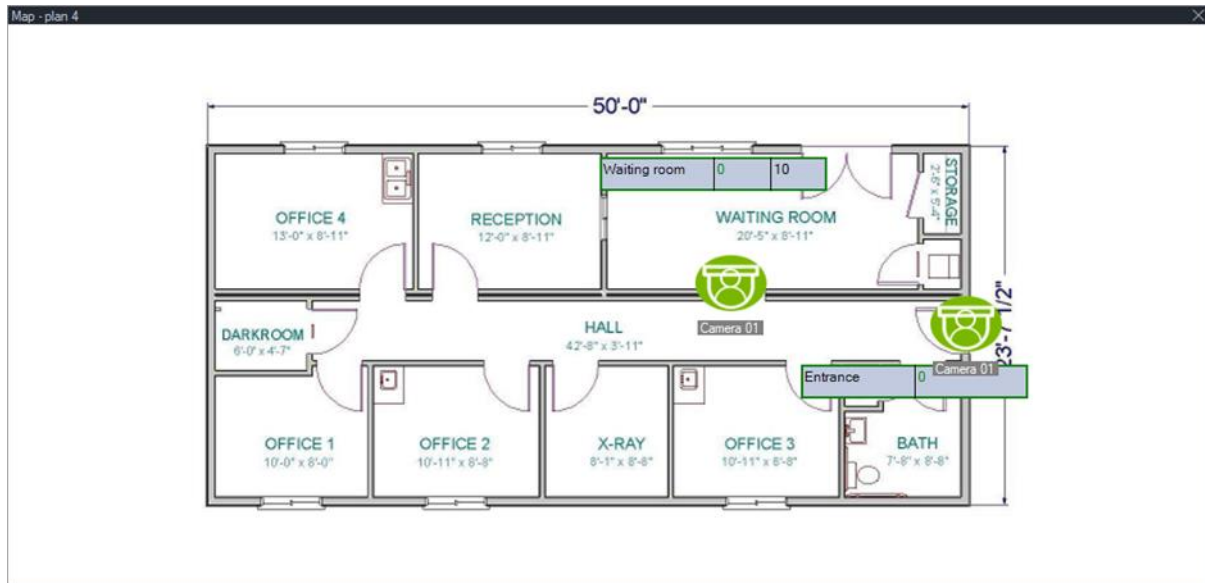
**Note:** The display size of the counting summary is related to the resolution of the map. The higher the resolution of the map, the smaller the size of the counting summary.

1. Add people counting cameras and groups to the people counting node in the Navigator tree, see “Adding people counting IP Camera” on page 85 and “Adding people counting” on page 106.
2. Add a map to Navigator, as instructed in “Adding maps” on page 86.
3. Right-click the map that was just added and select **Configure Map**. The configuration window for the map will open.
4. Drag and drop the people counting camera group on the map. A summary window with the real time counting value (and maximum permitted number of people, if setup) will be displayed on the map. You can position the summary where you need on the map. In the example below, a maximum number of people for the waiting room and maximum for the entrance is used. Only one value for the entrance is displayed (equal to the actual number of people on the site).



- You can also drag & drop the individual people counting cameras on the map, see graphic below.





## Show in map

The **Show in map** selection appears in the Navigator panel context menu for cameras, websites, access control panel doors, intrusion areas, people counting, and network switches. If a map containing any of these items is in a video tile in the viewer panel, selecting **Show in map** causes orange highlighting to appear around the item in the map.

Also, if a device in the Navigator panel is in a map, right-clicking the device and selecting **Show in map** opens the map and highlights the device.

To remove the orange highlighting from the item, click anywhere inside in the video tile containing the map.

For people counting, selecting **Show in map** opens a map that contains the selected People Count Group and displays only Cameras & People Count Group information of the selected node.

## Adding websites

Websites can be added to the Navigator panel for viewing and navigating in the Viewer panel.

### To add a website:

1. Right-click the Websites node in the Navigator panel and select **Add Website**. The Add Website window appears.
2. Type a title for the website in the **Title** field, and then type or copy/paste the website's URL into the **URL** field.
3. Double-click the website icon or drag it to a tile in the Viewer panel to view and navigate the website.

Navigate the website in the Viewer panel tile using the pointer, scroll bar, and the icons in the top menu (**Forward**, **Back**, and **Refresh**). To delete a website, right-click the website icon in the Navigator panel and select **Delete Website**.

#### To configure a website in the Navigator:

1. Right-click the website icon in the Navigator panel that requires configuration and select **Configure Website**. The Configure Website window appears.
2. Type a new title for the website in the **Title** field or type or copy/paste a new URL into the **URL** field.

## Adding TruPortal access control systems

TruPortal™ is an IP appliance-based access control system that integrates with TruVision Navigator.

After installing the TruPortal SDK, add TruPortal systems to the Navigator panel by choosing one of the following options from Access Control:

- Add manually
- Add via discovery tool

### Installing the TruPortal SDK

**Note:** The TruPortal SDK 1.1.54 or later plug-in must be installed before Navigator can communicate with the TruPortal panel.

#### To download and install the TruPortal SDK plug-in:

1. Go to <https://firesecurityproducts.com>.
2. Search for TruVision Navigator 9.2, go to the webpage and select Downloads.
3. Download the TruPortal SDK plug-in Zip file and extract the contents to a folder on the local computer.
4. Launch Internet Explorer 9 or later and type the IP address of a TruPortal panel installed in the local network into the Address bar.
5. Log into the system as a user with *Plugins > Modification* permissions.
6. Select *System Administration > Plugins*.
7. Click the **Install** button.
8. Click the **Select File** button.
9. In the Open dialog box, navigate to the folder containing the plug-in package (the file has an .LFF extension), select the file, and then click **Install**.

**Note:** Plug-in installation may take up to 10 minutes. The panel restarts after successful installation. The plug-in automatically starts after the panel restarts.

## Adding TruPortal systems manually

1. Follow the instructions under “Installing the TruPortal SDK” above.
2. Right-click the Access Control node, and then select **Add Panel > Add Manually** from the drop-down list. The Access Control Panel Properties window appears.  
**Note:** There is only one option for the **Panel Type** so it is selected by default.
3. Type a name in the **Panel Title** field. Values are alphanumeric. The default panel title is My TruPortal.
4. Type the device’s IP address in the **Panel Address** field.
5. The **Port** field is pre-populated with a default value based upon the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.
6. Type the required values in the **Username** and **Password** fields. These fields are only required if the device being added has been configured to require a username and password.
7. Select the **Enable SSL** check box if required by the server.
8. Click **OK**.

**Note:** After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

## Adding TruPortal systems using the discovery tool

Navigator is equipped with an embedded device discovery tool that discovers devices such as recorders, cameras, and encoders in the network and permits the addition of one or more of those devices.

---

**IMPORTANT:** A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

---

1. Follow the instructions under “Installing the TruPortal SDK” on page 94.
2. Right-click the Access Control node, and then select **Add Panel > Add via Discovery Tool** from the drop-down list. The Discovered Access Control Panels window appears and provides a list of available control panels in the network.
3. To add control panels to the Navigator, select one or multiple panels from the list and click **Add**. The panel(s) appear under the Access Control node in the Navigator panel.

**Note:** The discovery tool attempts to add access control panels by using their default credentials. If the credentials of a panel are previously changed from default values, the panel still gets added to the Navigator panel, but it is shown as offline. In this case, updated credentials need to be applied manually by right-clicking the panel and selecting **Properties** or **Configure**.

- Expand the Access Control node to view all panels added to the system. Upon successful connection, the Navigator populates the respective doors under each panel. To unlock a door, right-click the door icon and select **Unlock**.

Access Control configuration requires that Adobe Flash be installed on the computer performing the configuration. See the *TruPortal Software User Guide* for instructions on configuring TruPortal.

## Performing lock and unlock operations

Right-clicking the Access Control node provides the following lock/unlock operations:

- **Global Lockout** – Lock out all doors of all panels.
- **Global Reinststate** – Reinststate all doors of all panels.

Right-clicking an Access Control panel provides the following lock/unlock operations:

- **Reinststate All Doors** – Restores all doors to their normal state, unless a designated unlock input is active (see the *TruPortal Software User Guide* for details).
- **Lockout All Doors** – Locks all doors and ignores credentials, so that nobody can enter or exit. After issuing this command, reinststate all doors so that individual doors can be controlled directly.
- **Unlock All Doors** – Releases the locks on all doors, allowing free access and egress. After issuing this command, reinststate all doors so that individual doors can be controlled directly.

Right-clicking a door icon provides the following lock/unlock operations:

- **Unlock** – Releases the lock on the door, allowing free access and egress until the door state is changed by either a reader schedule or a global (“all doors”) command.
- **Reinststate** – Restores the door to default behavior based on the schedule.
- **Lockout** – Locks the door and ignores credentials so that nobody can enter or exit.
- **Secure** – Locks the door.

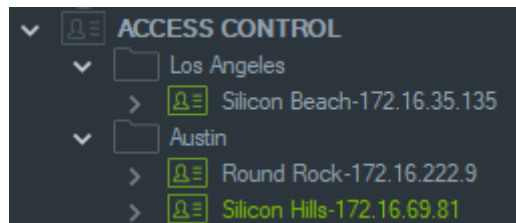
## Recent activities

Select Recent Activities in the Access Control panel context menu to view a list of time stamped events associated with each door in the panel. Click the **Export List** button to export the list of recent activities in the CSV file format.

Person	DoorId	Door	State	Event	DateTime
	0	Reader 8888-1-1	Offline	Reader in Card Only Mode	9/3/2019 2:39 PM
	0	Reader 8888-1-1	Offline	Reader in Card Only Mode	9/3/2019 2:37 PM
	0	Door 8888-2	Offline	Door Momentarily Unlocked	9/3/2019 1:44 PM
	0	Reader 8888-2-1	Offline	Reader in Card Only Mode	9/3/2019 1:44 PM
	0	Door 8888-2	Offline	Door Momentarily Unlocked	9/3/2019 1:40 PM
	0	Door 8888-1b	Offline	Door Unlocked	8/26/2019 12:01 PM
	0	Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:47 AM
	0	Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:47 AM
	0	Door 8888-1b	Offline	Door Momentarily Unlocked	8/26/2019 11:46 AM
	0	Door 8888-1b	Offline	Door Momentarily Unlocked	8/26/2019 11:40 AM
	0	Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:40 AM
	0	Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:40 AM
	0	Door 8888-1b	Offline	Door Momentarily Unlocked	8/26/2019 11:31 AM

## TruPortal multisite configuration

Under the Access Control node, a single user credential can be assigned to multiple TruPortal panels grouped into one site by using folders to separate sites. Using this logic, panels grouped under a folder belong to a single site or group of sites. See the example below:



### Notes:

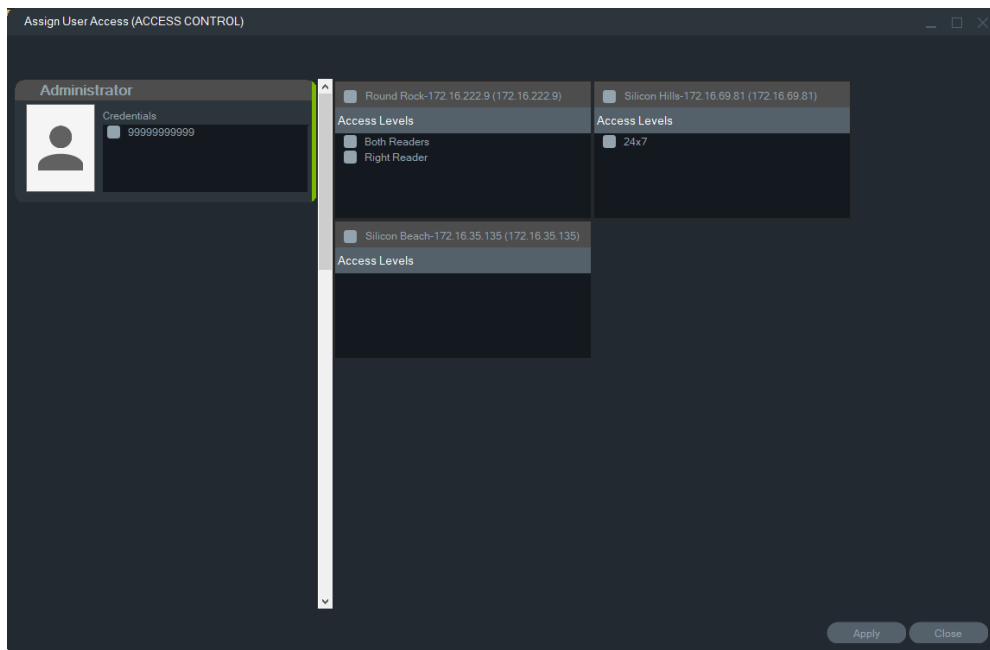
1. The panel or panels under each folder operate as a single system, and each system can accept a maximum of eight card formats simultaneously. Card format refers to the format of data containing credential ID information (standard 26-bit, for example) encoded in door/entrance access cards/badges.
2. The name of each card format must be unique within a system since the card format name is the identifier, not the format itself.
3. Card formats of the same name are considered the same card format in TruPortal.
4. We suggest renaming access control panels in Navigator with site-specific names (see example above) to make user access assignment easier.

### To assign user access levels:

**Note:** Users must be added and configured with credentials in the TruPortal web UI before assigning access levels in Navigator. We suggest that user names be as unique as possible, using a middle name or initial when applicable. See the *TruPortal Software User Guide* for instructions on configuring TruPortal.

1. Right-click an access control panel or folder and select **Assign User Access**.
2. The Assign User Access window appears. If necessary, find a user by typing their name into the Search box and click **Search**. Select the check box next to the user image. Only one user can be selected at a time.

3. Select the check box next to the credential number(s) associated with the user. Panels appear in the Assign User Access window, and those associated with the user display a green bar across the top (select **Show Assigned Permission** in the Filter drop-down list to show only these panels).



4. Select individual panels or click the **Select All Panels** button to assign access levels for the user. Click **Remove All Access Levels** to remove all access, or **Refresh** to update recently assigned access levels.
5. When finished, click **Apply**.

#### To assign an event notification:

Right-click a panel door icon and select **Assign Event Notification**. When the user accesses the door, an access control notification pop-up window appears with the user's name, associated picture, and a notification description such as "Access Granted."

## Adding intrusion detection

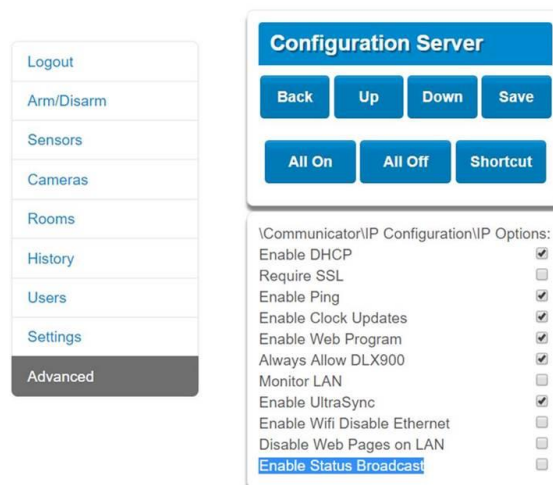
Supported Aritech intrusion panels can be added to the Navigator panel. Intrusion areas and sensors can be monitored in the Navigator panel and/or the viewer panel.

### Setup prerequisites for adding an intrusion panel to Navigator

1. The Aritech intrusion panel must run one of the following firmware versions for interoperability with Navigator:
  - UltraSync Self-Contained Hub B0403001A58P002011-33 or later
  - UltraSync Modular Hub            B0403001A56P002005-01 or later

ZeroWire B0403001A58P002010-31 or later  
 xGen B0403001A56P002005-16 or later

- The discoverable Aritech intrusion panel (see step 1 for information) must be fully set up and functioning with intrusion areas and sensors installed and/or defined prior to adding it to the Navigator panel. Go to [firesecurityproducts.com](http://firesecurityproducts.com) and download the appropriate reference manual and/or installation guide for details.
- The Aritech intrusion panel web UI must have the **Enable Status Broadcast** setting enabled to communicate effectively with Navigator. See one of the reference manuals listed above for further details.



## Adding intrusion panels manually

- Right-click the Intrusion Detection node, and then select **Add Panel > Add Manually** from the drop-down list. The Intrusion Panel Properties window appears.

**Note:** There is only one option for the **Panel Type** so it is selected by default.

- Type a name in the **Panel Title** field. Values are alphanumeric.
- Type the device's IP address in the **Panel Address** field.

**Note:** The **Port** field is pre-populated with a default value based upon the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.

- Type the required values in the **Username** and **Password** fields. These fields are specific to intrusion detection and unique to each individual, and must be assigned by the intrusion panel administrator. The user name must begin with "TruNav-."
- Select the **Enable SSL** check box if required by the server.
- Click **OK**.

**Note:** After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

## Adding intrusion panels using the discovery tool

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**IMPORTANT:** A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

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1. Right-click the Network Switches node, and then select **Add Panel > Add via Discovery Tool** from the drop-down list.
2. The Discovered Devices window displays and provides a list of available intrusion panels in the network.
3. To add intrusion panels to the Navigator panel, select one or multiple panels from the list and click **Add**.
4. Type the required values in the **Username** and **Password** fields. These fields are specific to intrusion detection and unique to each individual and must be assigned by the intrusion panel administrator. The user name must begin with "TruNav-."
5. Expand the Intrusion Detection node to view all panels added to the system. Upon successful connection, the Navigator populates the respective sensors under each switch.

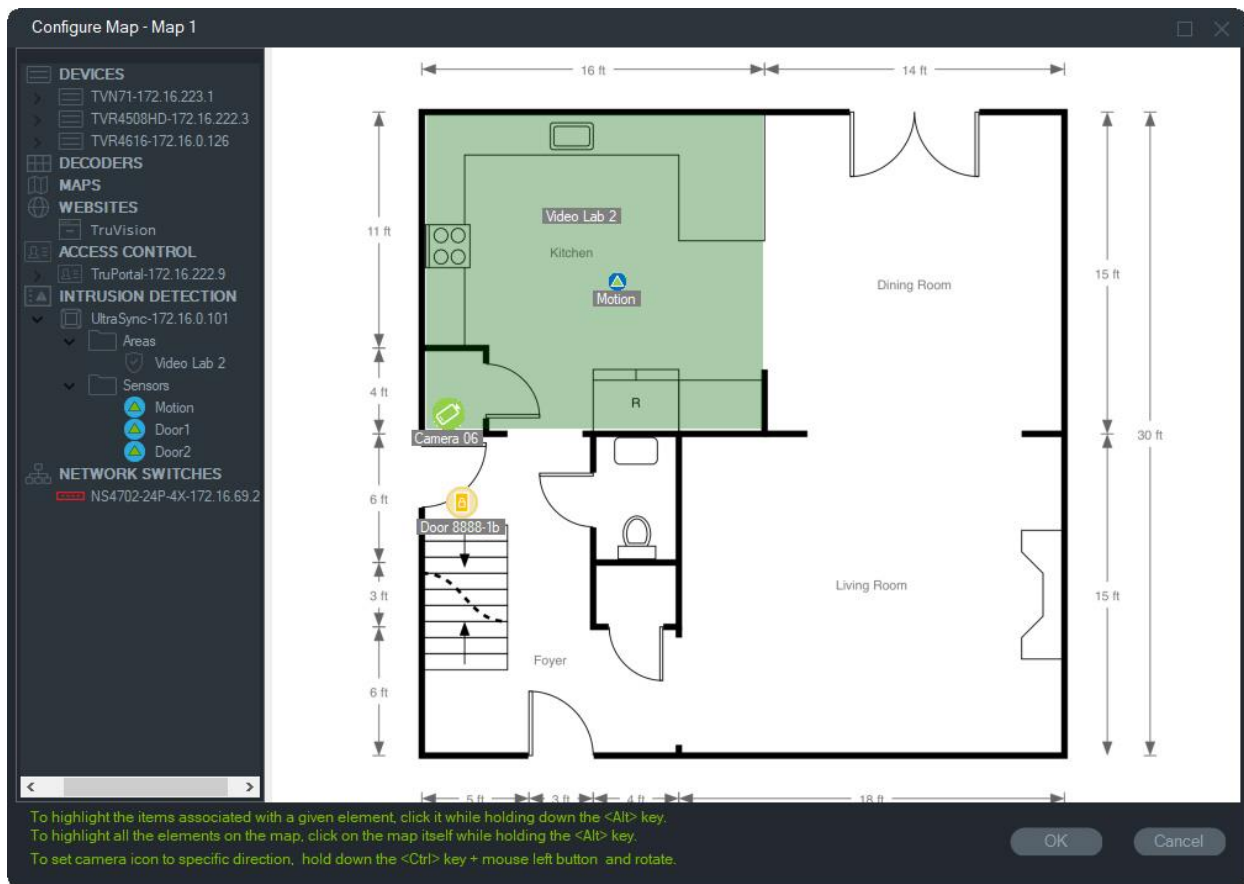
## Configuring a map for intrusion notifications

A map can be configured for intrusion notifications that will appear in the Notifier (see Chapter 7 "Notifier panel" on page 162) and the Navigator panel. Notifications from cameras linked to intrusion sensors or areas appear in the Notifier as video links.

### To add an intrusion area to a map:

1. Right-click a map in the Navigator panel and select **Configure Map**.
2. Expand the Areas folder under the intrusion panel name, and then drag and drop an intrusion area icon onto the map.
3. Resize and move the intrusion area as needed. The fill color of the intrusion area can be changed by right-clicking the area and selecting **Color**.





### To add an intrusion sensor to a map:

1. Right-click a map in the Navigator panel and select **Configure Map**.
2. Expand the Sensors folder under the intrusion panel name, and then drag and drop an intrusion sensor icon onto the map. A green icon appears on the map.
3. Move the intrusion sensor on the map as needed. Sensors should be placed within a defined intrusion area.

### To link a camera to an intrusion area or sensor:

1. In the Configure Map window, right-click an intrusion area or sensor and select **Linked Cameras**.
2. Select the cameras to link to the intrusion area or sensor (or select **Select All**) and then click **OK**.
3. To see which cameras on the map are linked to an intrusion area or sensor, hold down the Alt key while clicking the area or sensor icon and orange boxes appear around the connected camera icons.

### To configure a sensor:

Right-click a sensor icon on a map in the Viewer panel and make the following selection:




- **Bypass** – Permits arming of the panel while ignoring this sensor.

### To arm/disarm an intrusion area:

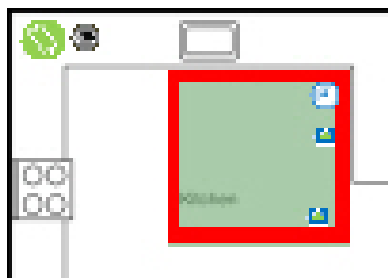
- Right-click an intrusion area in either the Navigator panel or a map in the Viewer panel and select **Arm > Away** or **Arm > Stay** to arm the area.
- Right-click an intrusion area in either the Navigator panel or a map in the Viewer panel and select **Disarm** to disarm the area.
- Right-click the Intrusion Detection node and select **Global Arm > Away** or **Global Arm > Stay**, or **Global Disarm** to apply settings to multiple intrusion areas and/or panels.

## Intrusion area status

Intrusion area icon definitions are as follows:

	Disarmed
	Armed in Stay mode. The area will be ignored by the intrusion panel.
	Armed in Away mode.

In addition to the icon changing in the Navigator panel, intrusion area status is also shown on maps in the Viewer panel. The border around the intrusion area changes according to the armed or disarmed state. For example, an intrusion area armed in the Away mode appears as follows:



## Configuring the intrusion panel

1. Right-click an intrusion panel and select **Configure Panel**. A video tile containing the intrusion panel interface appears in the Viewer panel.
2. Type in the required name and password and click **Sign In**. Go to [firesecurityproducts.com](http://firesecurityproducts.com) and download the appropriate reference manual and/or installation guide for details on using the intrusion panel web UI.

## Adding network switches

Aritech IFS® network switches can be added to the Navigator panel. Port status and statistics for each port on a network switch can be monitored in the navigator panel and/or the viewer panel.

### Adding network switches manually

1. Right-click the Network Switches node, and then select **Add Device > Add Manually** from the drop-down list. The Network Switch Properties window appears.

**Note:** There is only one option for the **Panel Type**, so it is selected by default.

2. Type a name in the **Panel Title** field. Values are alphanumeric.
3. Type the device's IP address in the **Panel Address** field.
4. The **Port** field is pre-populated with a default value based upon the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.
5. Type the required values in the **Username** and **Password** fields. These fields are only required if the device being added has been configured to require a username and password.
6. Select the **Enable SSL** check box if required by the server.
7. Click **OK**.


**Note:** After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

### Adding network switches using the discovery tool

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**IMPORTANT:** A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

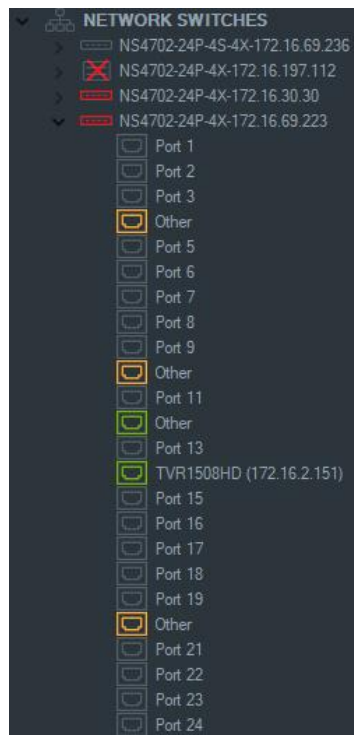
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1. Right-click the Network Switches node in the Navigator panel, and then select **Add Device > Add via Discovery Tool** from the drop-down list or click the **Add Devices** button  and then select **Add via Discovery Tool**.
2. The Discovered Devices window displays and provides a list of available network switches in the network.
3. To add network switches to the Navigator panel, select one or multiple switches from the list and click **Add**. The switch(es) appear under the Network Switches node in the Navigator panel.

**Note:** The discovery tool attempts to add network switches by using their default credentials. If the credentials of a switch are previously changed from default values, the switch still gets added to the Navigator panel, but it is shown as offline. In this case, updated credentials need to be applied manually by right-clicking the panel and selecting **Configure Device**.





- Expand the Network Switches node to view all switches added to the system. Upon successful connection, the Navigator populates the respective ports under each switch.

## Port information and display



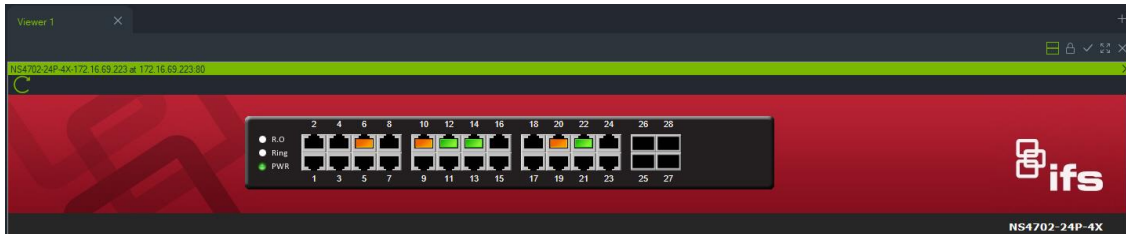
**Note:** An ONVIF-compliant camera or recorder connected to an ONVIF-compliant network switch port displays the model name and IP address in the Navigator panel. If an attached camera is in the Navigator panel, the camera name also appears here.

Network switch icon definitions are as follows:

	Switch port active with PoE.
	Switch port active.
	Switch port inactive.
	ONVIF-compliant network switch.

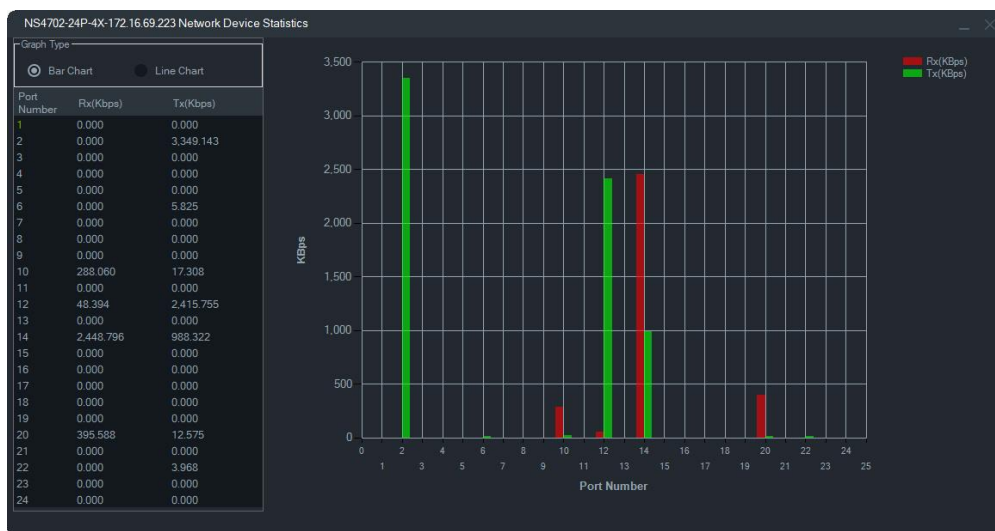
### To view a network switch front panel in the Viewer panel:

1. Click the **Custom View** button in the Viewer panel and select a one-up or stacked horizontal view (see “Custom view” on page 145 for details).
2. Right-click a network switch in the Navigator panel and select **Display Front Panel**.
3. Type the user name and password for the switch in the security window and click **OK**. The front panel of the switch appears in the Viewer panel.



### To view network switch statistics:

1. Right-click a network switch icon and select **Run Network Statistics**.
2. Select **Bar Chart** or **Line Chart** to view incoming and outgoing bandwidth per port.

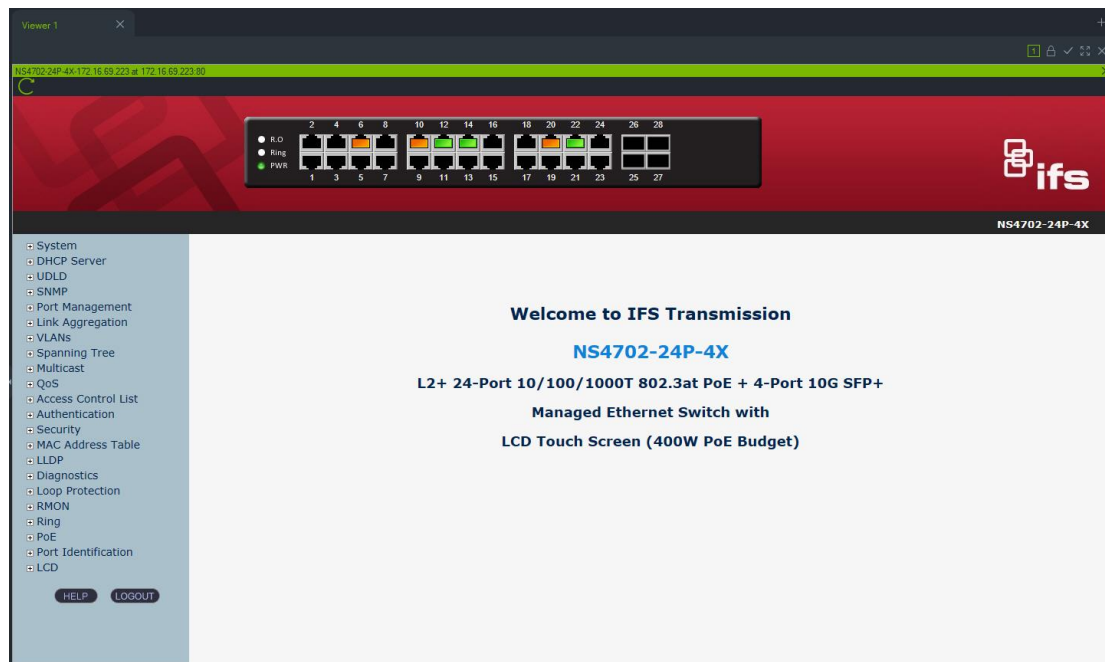


### To view port statistics:

Right-click a port icon and select **Port Statistics**. A line chart appears that shows incoming and outgoing bandwidth for the port.

## Configuring network switches

1. Right-click a network switch icon in the Navigator panel and select **Configure Device**.
2. Type in the user name and password for the switch. The main web page appears. See the user manual for the specific IFS switch model for instructions on how to use the web UI to manage and configure the switch.



**Note:** If a switch is plugged into a switch via an RJ45 connector, it must be properly configured so that it appears in the Navigator panel. Go to **Port Identification > Configuration** in the switch’s web UI and select **Switch** from the drop-down list next to the port number that the switch is connected to.

#### To power cycle a device connected to a PoE port:

Right-click a port in the Navigator panel and select **PoE Reset**. The port color will turn green and then turn orange again after 30 seconds.

#### To reboot a network switch:

Right-click a network switch icon and select **System Reboot** to power cycle the switch.

## Adding people counting

TruVision people counting cameras can be added to the Navigator panel. The people counting camera is a dual lens camera. The camera is used to monitor entrances and exits, where it can count the number of people entering and leaving the premises.

#### To add and configure people counting groups:

1. Add people counting cameras into the Navigator, either manually, see “Adding devices manually” on page 79 or using the discovery tool, see “Adding devices using the discovery tool” on page 81.
2. In the Navigator tree, go to the People Counting node.
3. Right-click the People Counting node and select **Add People Counting**. The Configure People Counting window opens.

Camera Group Name	The people counting camera group name. This will also be displayed on the web page.
Disable Group	When checked, no count information is provided on this group.
Selected Cameras	People counting cameras selected from the navigator tree.
Initial Count	The initial count value that is used to take into account employees/staff that are already on the premises of the store or shop before it opens (before the actual counting starts). This number can also be added to total count on site, as some employees may enter the site via a different entrance that may not be monitored. When this initial value is not needed, set this value to 0.
Max Permitted On Site	Maximum number of people allowed on the site. When this number is reached, the maximum number is displayed in red. Set to 0 when not required.
Alert Number	The alert number is a number that is lower than the Max. Permitted on site and acts as a warning or alert number. When this number is reached, the alert number is displayed in orange. Set to 0 when not required.
Display on Web Page	A web page can be opened when the application is used in Client/Server mode. Selecting this check box will allow the user to use the web page.
Traffic Light View	Displays the icon of a traffic light on the web page.
Traffic Sign View	Displays the icon of a traffic sign on the web page.
Show Count	When checked, displays the counting data of the group on the web page or the viewer's tile.
Show Group Name	When checked, displays the group name on the web page or the viewer's tile.

Time	Scheduled counting reset time.
Event Monitor – On Alert	When checked and the Alert Number value has been reached, real time counting results will be displayed on the event monitor.
Event Monitor – On Max Permitted	When checked and the Max Permitted value has been reached, real time counting results will be displayed on the event monitor.
Enable Notifier Sound	When checked, the buzzer sound will be used when the counting events that come via the Notifier.
Email Notification	When checked, email notification are sent to the required recipients when Max. Permitted & Alert numbers are reached.
Email	Provide email addresses of the people that will be notified. Separate emails by ';' for multiple email IDs. Any email may be used, not only TruVision Navigator users.
Header	Header Display Text for the web page.
Allowed to Enter	Text displayed on the web page when the people can still enter and the number of people is less than the set value of Max. Permitted on site. The text can be entered by the user.
Alert	Text displayed on the web page when the number of people that have enter reaches Alert Number value. The text can be entered by the user.
Max Permitted	Text displayed on the web page when the number of people that have enter reaches Max Permitted on Site value. The text can be entered by the user.
Show Custom Logo	You can display your preferred logo on the web page or tile. For best results, an image file size of less than 800 KB is recommended.
Browse Logo	You can browse for your preferred logo.
Clear	Clears logo image from the configuration.

4. You can now create a camera group with one or more people counting cameras. For example, you can use a camera group per room, per site, or per area.
5. Provide a relevant name of the camera group. This name will also be visible on the web page.
6. Drag and drop the people counting cameras from the device tree into the list.
7. Setup count values, such as Initial Count, Maximum Permitted on Site, and Alert Number. See table above for more information about these count values.
8. If needed, set other configuration settings, such as web page display, event monitor display, reset counting time, and email notifications.
9. Click **OK**.

## People Counting Reporting

The People Counting Report displays the number of people counted over a defined period.

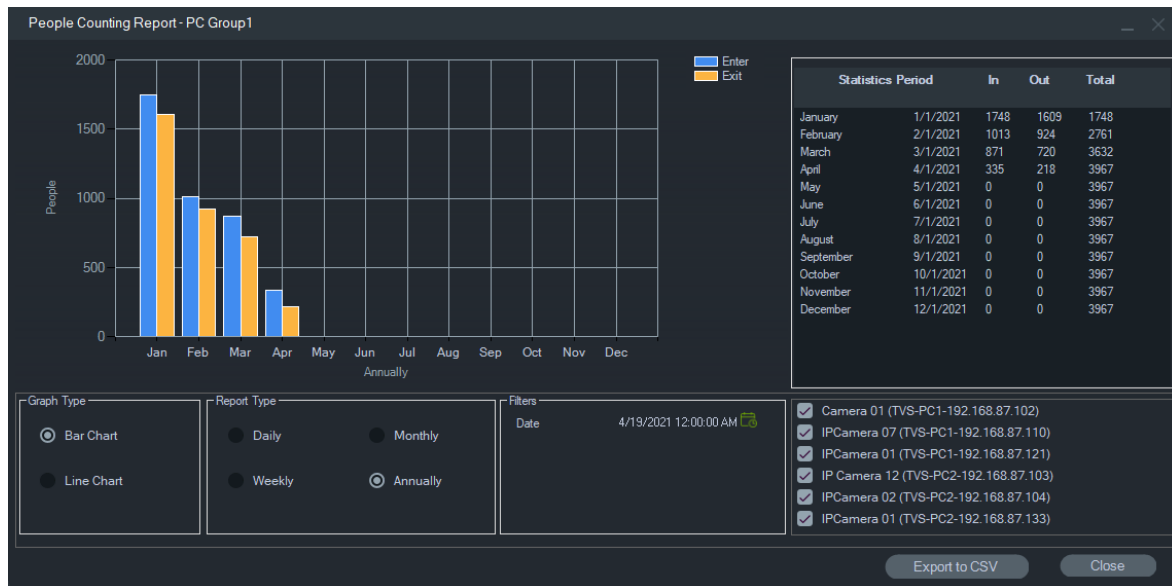
The report can be created for one or more people counting cameras in a people counting camera group or it can be created with data from different people counting camera groups.



## To create a report for one people counting camera group:

1. Right-click the name of the group in the Device tree and select **Report**.

The People Counting Report window opens.



Graph Type	Select bar chart or line chart.
Report Type	Select Daily, Weekly, Monthly or Annually.
Filters	Define the date and the time range for the report.
Camera selection	Select the cameras to be used for this report.
Statistics table	Shows the number of people that entered/exited, and the total number of visitors for the selected cameras.

You can export the data in CSV format for further processing.

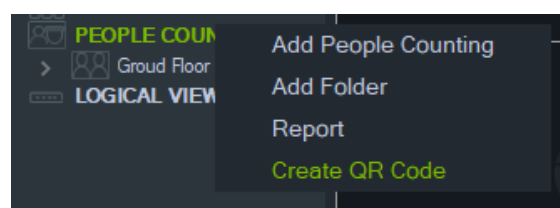
## To create a report for multiple people counting camera groups:

1. Right-click the People counting node in the device tree and select **Report**.
2. The report window displays all the possible selections. You can select one or more people counting camera groups for the report.

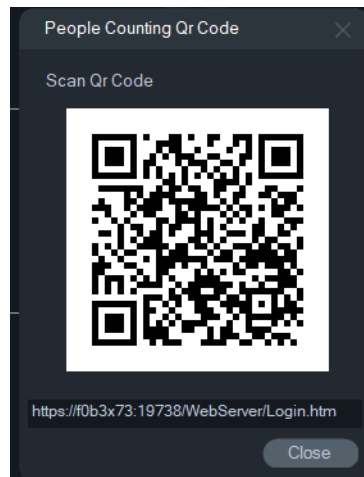
## People Counting QR Code

### To create a people counting QR code:

1. Right-click the People counting node in the device tree and select **Create QR Code**.



The QR code will be displayed.



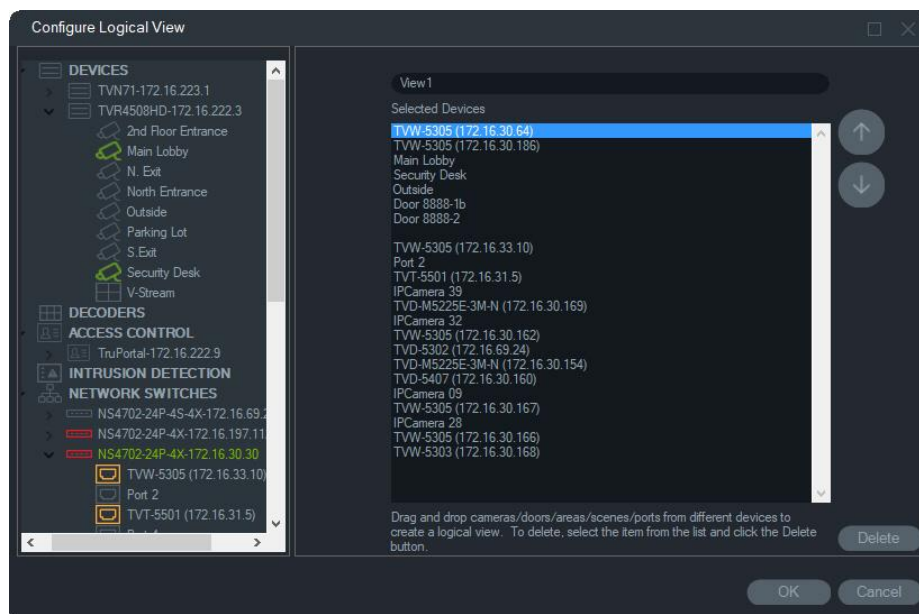
2. The user scans it with a mobile device to open the People Counting webpage.

## Adding logical views

Logical views provide the flexibility to display the physical devices in any configuration required.

### To add a logical view:

1. Right-click the Logical View node in the Navigator panel and select **Add Logical View**. The Configure Logical View window appears.
2. Type a title for the view in the **View Name** field, and then drag and drop devices from the Logical View panel into the **Selected Devices** box.



3. Use the up and down arrow buttons to move devices within the list. When finished, click **OK** to create the new logical view. To delete a logical view, right-click the logical view icon in the Navigator panel and select **Delete**.

## Adding IP speakers

TruVision Navigator supports IP speakers from Zenitel (see Appendix D “Configure Zenitel IP speakers” on page 243 for supported models). Add IP speakers to the Navigator panel by choosing one of the following options:

- Add manually
- Add via discovery tool

By adding IP speakers users can upload a wide range of announcement and warning audio clips. These clips can be played by users while they are viewing live video from cameras. This functionality allows relevant audio cues or messages to be added with conjunction with the visual feed or specific actions.

### IP speakers context menu

Right-click on any of the three available nodes: Speakers, Speaker device, and Audio relay, to bring up a context menu. The available selections in the context menu are described below.

### Adding IP speakers manually

1. Follow the instructions in Appendix D “Configure Zenitel IP speakers” on page 243.
2. Right-click the **Speakers** icon, and then select **Add Speaker > Add Manually** from the drop-down list. The Discovered Speakers window appears.
3. Type a name in the **Speaker Title** field. Values are alphanumeric.
4. Type the device’s IP address in the **Address** field.
5. The **Port** field is pre-filled with a default value based upon the type of device selected. If the device's assigned port differs from the default value, manually enter the correct port value in the **Port** field.
6. Type the required values in the **Username** and **Password** fields. These fields are only required if the device being added has been configured to require a username and password.
7. Click **OK**.
8. Upon successful connection, the TruVision Navigator populates the respective audio relays for each IP speaker. To play audio relay, see “Play sound clip” on page 112.

### Adding IP speakers using discovery tool

TruVision Navigator includes a built-in device discovery tool that automatically detects devices, such as recorders, cameras, and encoders on the network. This tool allows you to easily add one or more of these devices.

1. Follow the instructions in Appendix D “Configure Zenitel IP speakers” on page 243.

2. Right-click the **Speakers** icon and select **Add Speaker > Add via Discovery Tool** from the drop-down list. The Discovered Speakers window appears and displays a list of available IP speakers in the network.

**Note:** Discovered Speakers window only displays limited information.

3. To add IP speakers to the Navigator view tree, select one or multiple panels from the list and click **Add**. The panel(s) appear after clicking the **Speakers** icon in the **Navigator** panel.
4. A credential dialog is displayed, where you need to enter username and password (if needed) of the IP speaker. Enter the details and click the **OK** button.
5. Click the **Speakers** icon to view all IP speakers added to the system. Upon successful connection, the TruVision Navigator populates the respective audio relays for each IP speaker. To play audio relay, see “Play sound clip” below.

## Play sound clip

After adding the IP speaker manually or via discovery (using the right credentials), the IP speaker will be added to Navigator view tree and populated with audio relays. To play a sound clip:

1. Right-click the required audio relay and select **Play Sound Clip**.

## Renaming audio relay titles

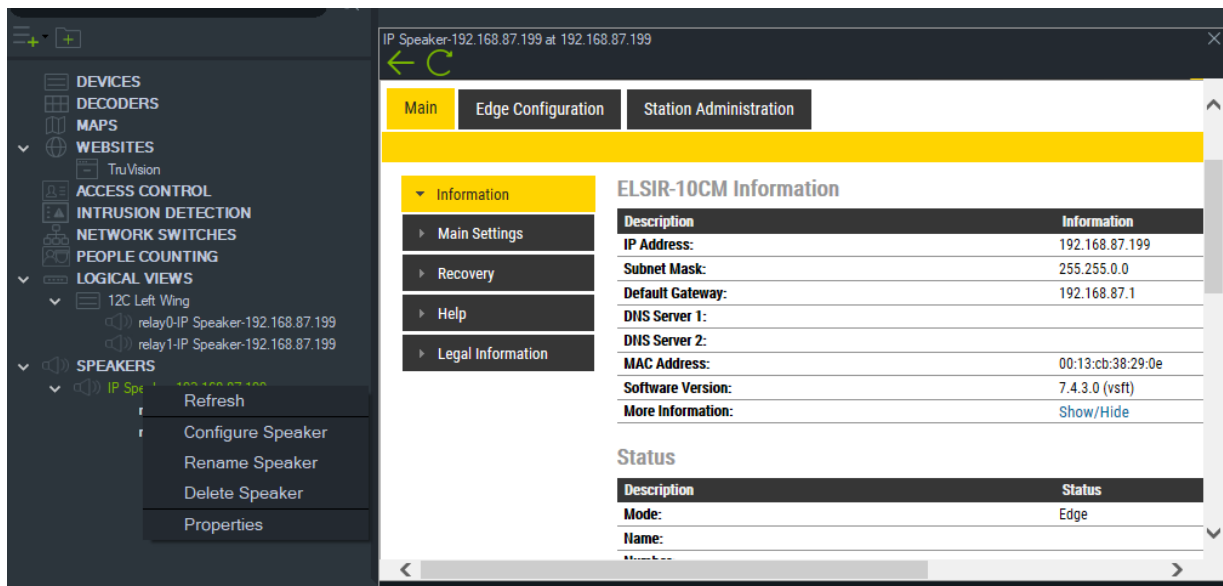
The titles for the audio relays are populated with default values from the IP speakers configuration. However, you have the option to edit these titles with the appropriate labels. Modifying the relay titles will not affect the configuration of the IP speakers' relays in any way.

1. Right-click the required audio relay populated under IP speakers.
2. Select **Rename**.
3. Change the title as required and click **OK**.

## IP speaker configuration

The TruVision Navigator makes it possible to configure an IP speaker in a web browser.

1. Right-click the IP speaker node and select **Configure Speaker**.
2. An IP speaker configuration window is opened in a web browser. After providing credentials, you can modify the configuration of the IP speaker.



## Refresh audio relays after IP speaker configuration

After adding new audio relays or deleting existing ones in a configured IP speaker (in the Navigator), a refresh is required to reload the updated audio relays.

1. Right-click the IP Speaker device node and select **Refresh**.
2. This reloads entire audio relays of the IP Speakers.

## Logical views support

To group sound clips, audio relays can be added to Logical Views, see “Adding logical views” on page 110. To add IP Speaker’s audio relays to logical groups:

1. Drag and drop IP Speaker relay(s) to the Logical Views, see “Adding logical views” on page 110.
2. Right-click an IP speaker device node and select **Play Sound Clips**.
3. You can play various sound clips added from different devices.

**Note:** To avoid confusion when multiple IP speakers have similar or identical titles for audio relays, the Logical Views display the title of an audio relay in the following format: "Relay Title – IP Speaker Title."

## Event actions support

You can add IP Speaker audio relays as an action for specific events originating from the Recorder, Camera, Intrusion/TruPortal panel, or a combination of multiple notifications. See “Event-actions” on page 57 for more details.

1. In the Event-actions window, drag and drop IP speakers audio relay(s) into the **Actions** pane.
2. Configure the required events and other settings. See “Event-actions” on page 57 for more details.

3. When a configured event is triggered, it activates the playback of an audio clip on the designated IP Speaker.

## Map control support

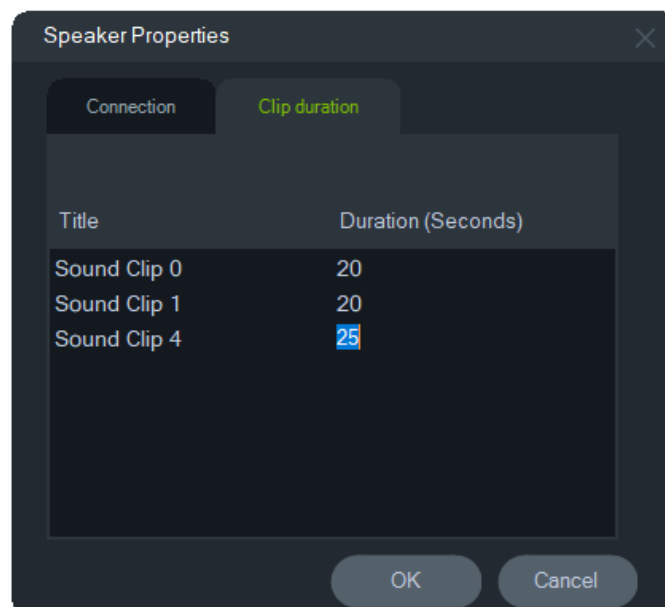
IP Speaker devices can be placed on floor maps according to their physical locations. See “Adding maps” on page 86.

1. Drag and drop IP Speaker devices on the floor map at their actual location and save the floor maps.
2. Open the floor maps on the Viewer tile, right-click IP Speaker device icon displays configured audio relays, select any audio relay triggers audio on the IP Speaker.

## IP speaker audio clips duration setting

To ensure sequential playback of audio clips when playing multiple audio clips from Logical Views and/or Event-Actions, the following configuration needs to be implemented if the Logical View/Event-Actions contain more than one audio clip from the same speaker:

1. Right-click **IP Speakers** and open **Properties**.
2. Switch to second tab – **Clip duration**.
3. Update the duration (in seconds) for each clip and click the **OK** button.



## Search

Use Search to find any recorder, camera, map, website, access control point, intrusion panel, network switch, or logical view in the Navigator panel.


### To perform a Navigator panel search:

1. Type any alphanumeric string into the **Search** field at the top of the Navigator panel and press Enter. Focus goes instantly to the object that matches the string.
2. Press Enter again to move to the next object that matches the string, and so on, until each item matching the search criteria has been found. Type a different alphanumeric string into the **Search** field to perform another search.

## Adding folders

Adding folders provides a way to organize Navigator panel items in a logical manner.

### To organize the Navigator panel:

1. Click a top-level node (Devices, Maps, Websites, Access Control, Intrusion Detection, Network Switches, or Logical Views) and click the **Add Folder** button . This creates a new folder.
2. Type a name for the new folder and press Enter.
3. To add a sub-folder within the previously created folder, right-click the parent folder and select **Add Folder**.
4. Click and drag items into folders or folders within folders. Cameras always stay attached to their respective devices.

## Devices context menu

Right-click the Devices node to bring up a context menu. Available selections are as follows:

### Add device

See “Adding devices” on page 79.

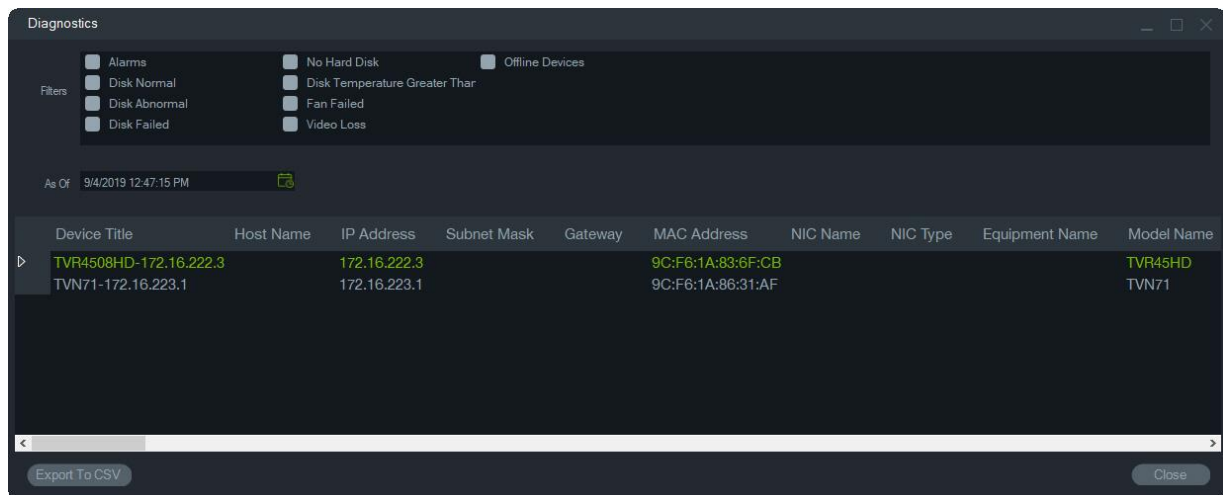
### Add folder

See “Adding folders” above.

## Health diagnostics

Right-click the Devices node and select **Health Diagnostics** to review health diagnostic data across all the devices in the system. Move the scroll bar at the bottom of the window to the right to see all health diagnostic information.

Use the filters and date parameters to pinpoint the search. Export the contents of the dialog to the CSV file format for case management, work orders, or issue resolution documentation by clicking the **Export to CSV** button.



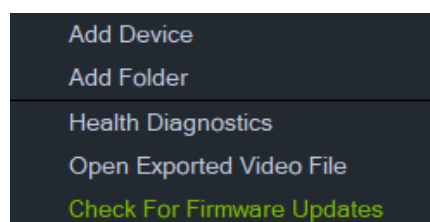
**Note:** For devices to appear in the Diagnostics window, health diagnostics must be run at the device level first. See “Automated diagnostic polling” on page 36 for information on setting automatic diagnostic polling for recorders or “Health diagnostics” on page 119 for manual, device-level generation of health diagnostics.

## Open exported video file

Right-click the Devices icon and select **Open Exported Video File** to browse for and launch an exported video in the Viewer.

## Check for firmware updates

Use the Firmware Updates window to upgrade the firmware of the devices. Right-click the Devices icon in the Device tree and select **Check for Firmware Updates** to check the TruVision Cloud server for any updated firmware of the devices added to TruVision Navigator.

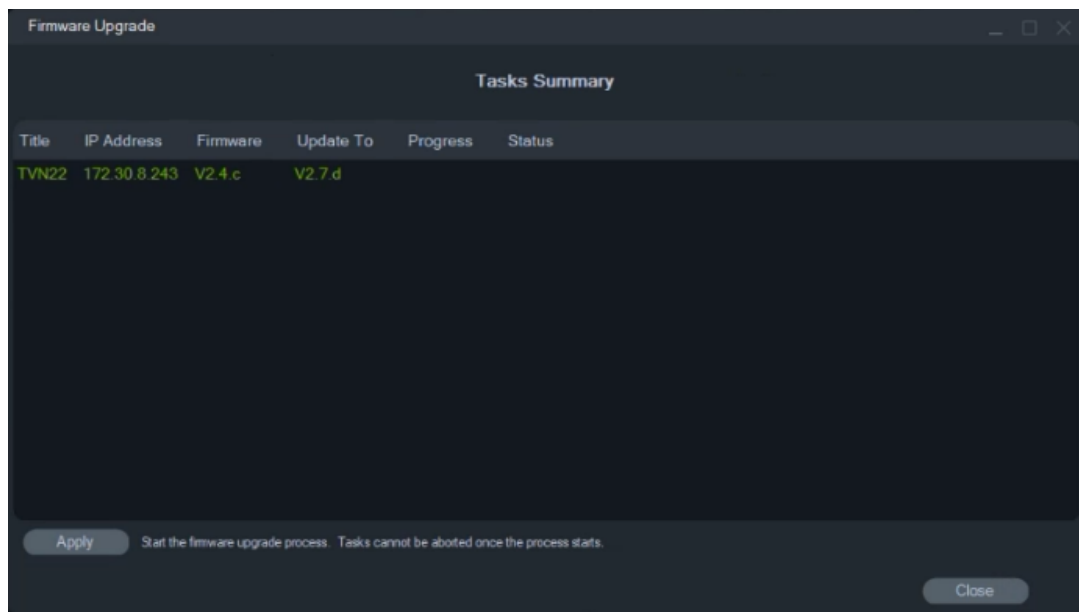


**Note:** The local computer must be connected to the internet to connect with the firmware server.



### To check devices for firmware upgrade:

1. Click the **Check For Firmware Updates** option in the context menu of Devices on the Navigator Panel. The Updates Available dialog appears.
2. If there are any updates available for the devices added in the tree node, firmware files that have not been downloaded will download to the local computer. Click **OK** in the Updates Available dialog to proceed.
3. The Firmware Download window appears. Wait for the firmware files to download to the local computer. Once the Complete message is displayed, click **OK** to proceed to the Firmware Upgrade.
4. The Firmware Upgrade screen appears. Click **Apply**, and then click **Yes** to start the firmware upgrade process. The Credentials Required dialog box appears for all the devices with credentials filled in. Verify the Username and Password for the device(s) (if necessary, select **Use this credential for all devices**), and then click **OK** to begin the firmware upgrade.
5. The firmware upgrade progress appears in the Firmware Upgrade window. When upgrading is complete, the updated version information of the device(s) appears in the device list.



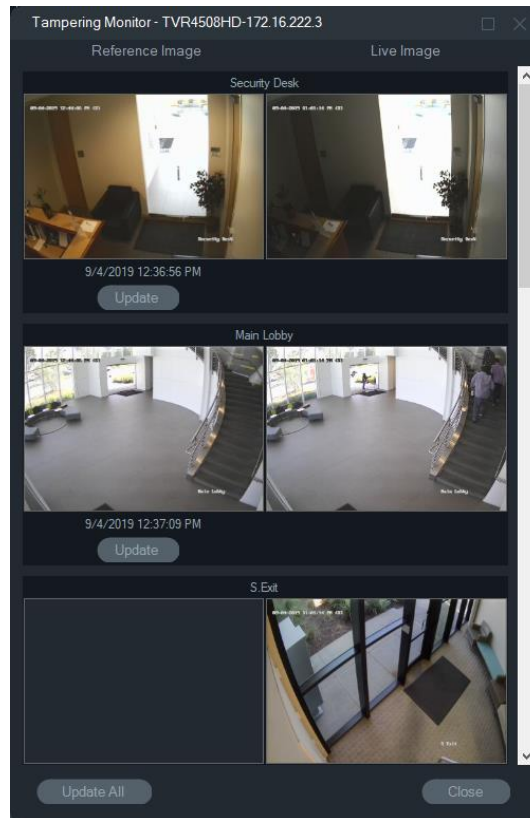
## Recorder context menu

Right-click a recorder's device icon to bring up a context menu. Available selections are as follows:

### Tampering monitor

Navigator is equipped with a tampering monitor that compares the current image with a reference image taken during the installation. The tampering monitor keeps a record of each camera by taking a reference snapshot and storing it in the database.

To open the tampering monitor, right-click a recorder and select **Tampering Monitor**. The Tampering Monitor window appears.



Reference images are listed with the date and time they were taken in the Reference Image column. For the first time applications of this feature, the reference images are empty. In this case, click **Update All** to save the reference images. Tampering activity on each camera can be monitored by comparing reference images with live images located on the right side of the window.

## Device report

Navigator permits export of health diagnostics information by generating a device report.

### To generate the device report:

1. Right-click a recorder icon in the Navigator panel.
2. Select **Device Report**. The device report displays in a new window.

**Note:** It may take up to a minute to complete the device report depending on the number of cameras recording to the device and the network connection.

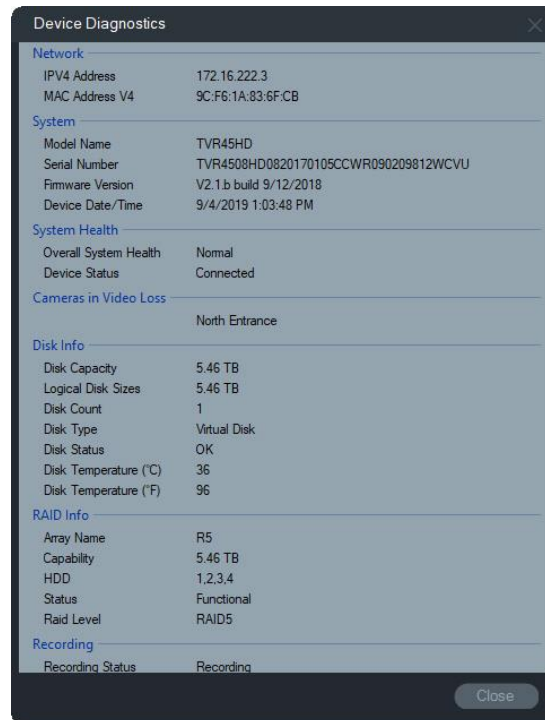
3. Click **Export to PDF** to save the report as a PDF.

As a part of the report, tampering monitor images are also provided at the bottom of the report in the Camera Check section. For more information on the tampering monitor, see "Tampering monitor" on page 117.

## Health diagnostics

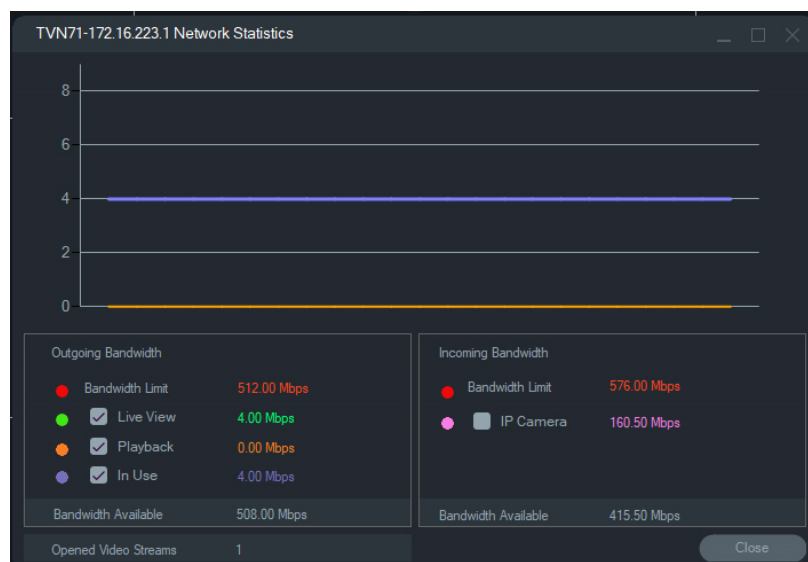
To run a manual health diagnostic snapshot on a single recorder, right-click the device in the Navigator panel and select **Health Diagnostics**.

The Device Diagnostics window appears and displays the full set of health diagnostic data for that specific device. See Appendix B “Device details” on page 197 for more details on the different health diagnostics available for each device.



## Network statistics

Right-click the device in the Navigator and select **Network Statistics** to launch the Network Statistics window. The outgoing and incoming network bandwidth limit and usage appear in a graphical format. The number of open video streams on the system at the device level also appears.



Select or deselect items under **Outgoing Bandwidth** and **Incoming Bandwidth**. Click **Close** to exit the **Network Statistics** window.

**Note:** Incoming bandwidth statistics do not appear when running network statistics on DVRs.

## Disk analysis

Disk analysis provides a timeline view of video recorded to disk on all connected cameras. Color coded video tags are defined in the bottom of the **Disk Analysis** window.

**Note:** Areas in the timeline tagged as **Other** (gray) may or may not contain recorded video. The device may have been offline or not configured to record video during the period of time indicated.

### To run disk analysis and play back video:

1. Right-click the device icon in the **Navigator** panel and select **Disk Analysis**. The disk analysis window appears.
2. Select a time range of recorded video in the **Start Time** and **End Time** fields.
3. Select cameras for disk analysis in the **Select Cameras** section and click **Search**.
4. Select check boxes to the left of each camera name as necessary. Video from all cameras selected play back simultaneously in the **Viewer** during playback.
5. If necessary, click the **Zoom In** and **Zoom Out** buttons or click the timeline and slide it to the left or right to locate a specific point in time.
6. Double-click anywhere on the disk analysis timeline to play video in the **Viewer** from that point in time.

### To export video from the Disk Analysis window:

1. If necessary, click the **Zoom In** and **Zoom Out** buttons or click the timeline and slide it to the left or right to locate a specific point in time
2. Slide the beginning and ending timeline markers to highlight a segment of time in green on the timeline bar.
3. Right-click a disk analysis track and select **Export Video** from the menu or click the **Export Video** button.

### To view video thumbnail images in the Disk Analysis window:

Hover the cursor over a point in a camera timeline with recorded video to see a thumbnail image of the video.

**Note:** Devices that support this thumbnail function are listed in the “**Get Thumbnail**” row in the device details tables (see Appendix B “**Device details**” on page 197).



## Trigger outputs

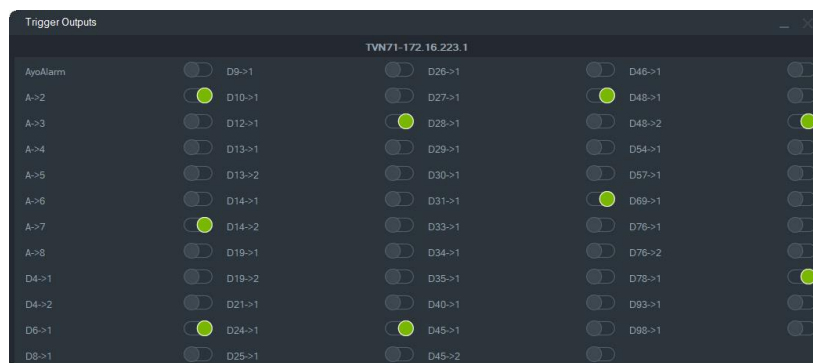
**Note:** This feature is only supported for TruVision devices. Refer to Appendix B “Device details” on page 197 to see which devices have trigger outputs.

Some TruVision recorders have alarm output ports that can connect to external devices. Alarm outputs can be configured to be triggered by an event, such as camera motion detection.

There are two types of trigger outputs: (A-> – Analog) and (D-> – Digital). Alarm type (A->) are alarms from the trigger through the back of the recorder. Alarm (D->) are the alarms triggered out of the IP camera. Only NVR/Hybrid devices have the (D->) type alarms.

### To set trigger outputs:

1. Right-click a recorder and select **Trigger Outputs**. Alarm output numbers are replaced with alarm output names when configured in the device’s configuration interface (see the device’s user manual for details).
2. Toggle the trigger output switches to the on position (green) as necessary.



**Note:** TVR 60 and TVN 20 do not support (D->) alarm type. This is a hardware limitation.

## Manage IP cameras (IP camera recorders only)

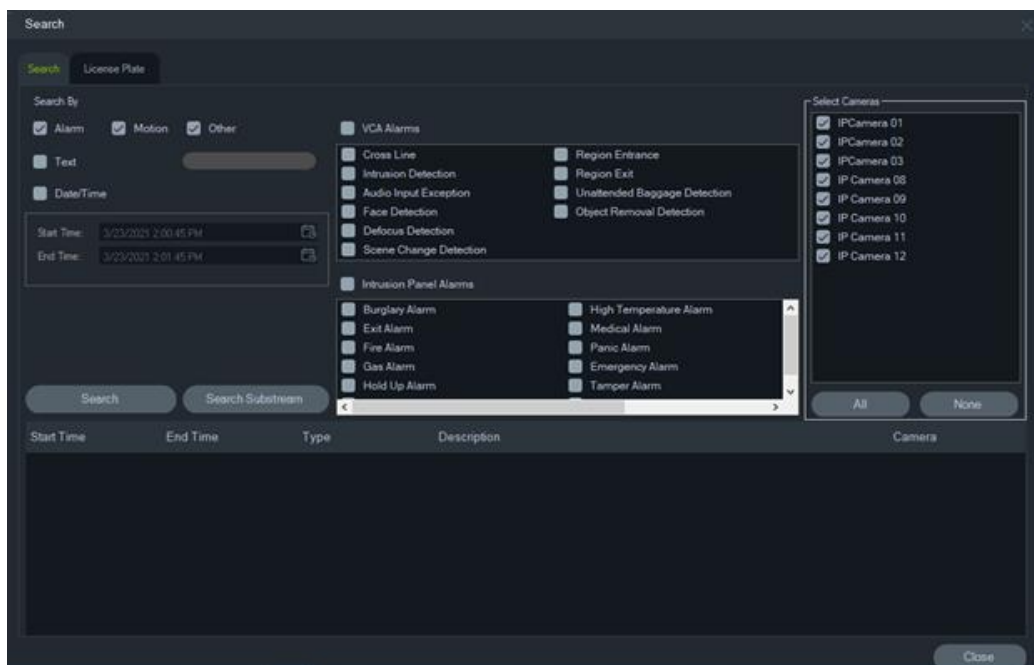
Right clicking a recorder and selecting **Manage IP Cameras** launches the IP Camera Status page in the Configuration interface. See the recorder's user manual for details about IP camera configuration.

## Search

Search multiple cameras for alarms, alarms plus events, motion and point-of-sale text-related video in the Search window. Searchable cameras must be configured for the search criteria specified.

1. Click the **Search** tab.
2. Select check boxes in the Search by and Select Cameras areas to customize a search.
3. Click the **Search** button when finished. If a camera is set to record a substream in Navigator, search criteria can only be located by clicking the **Search Substream** button.

**Note:** If performing a text search, a case-sensitive value must be typed into the **Text** field if the **Text** check box is selected. After performing a search at the recorder level using a text value, subsequent searches do not permit a **Date/Time**-only search. Close the Search window and launch another search to perform a **Date/Time**-only search at the recorder level.



### To search for video tagged with text:

1. Ensure that the device being searched for is working in conjunction with a legacy ProBridge 3 text converter or via the NPCII, a third-party converter. See “POS mode” on page 158 for further details.
2. Click the **Text** check box, type the text string in the **Text** field, and click **Search**.

Select or deselect the text overlay feature in the camera or recorder configuration settings to overlay the text on the video or place it beside the video (see the device's user manual for details). This check box is dynamic and, if selected or deselected during playback, the text switches from overlay to side-by-side and vice-versa (the switch takes a few seconds).

Different devices support varying levels of search capabilities. See Appendix B "Device details" on page 197 for further details on what types of video data are available for each device.

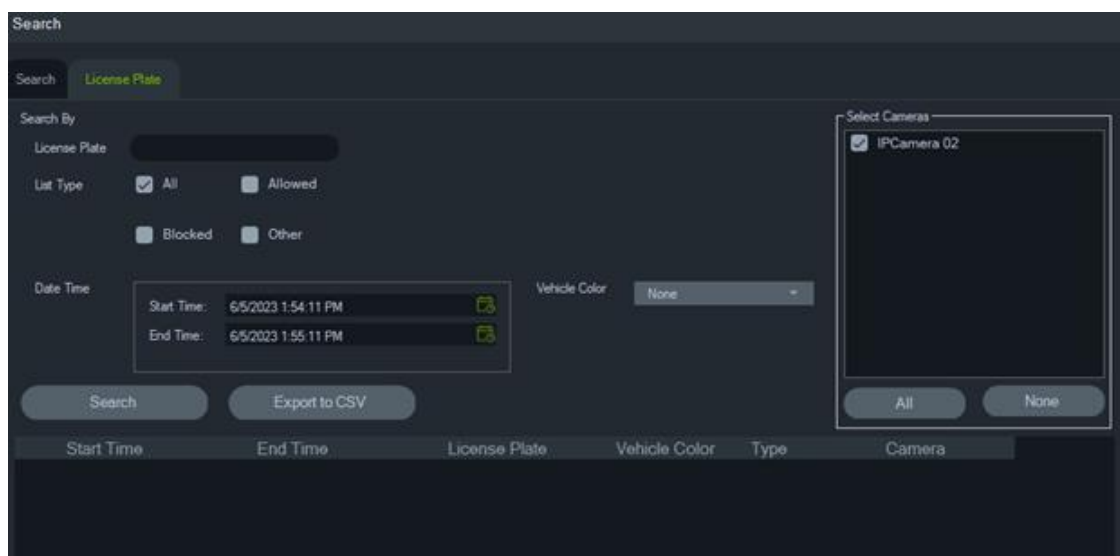
## License Plate Search

### To search for a license plate:

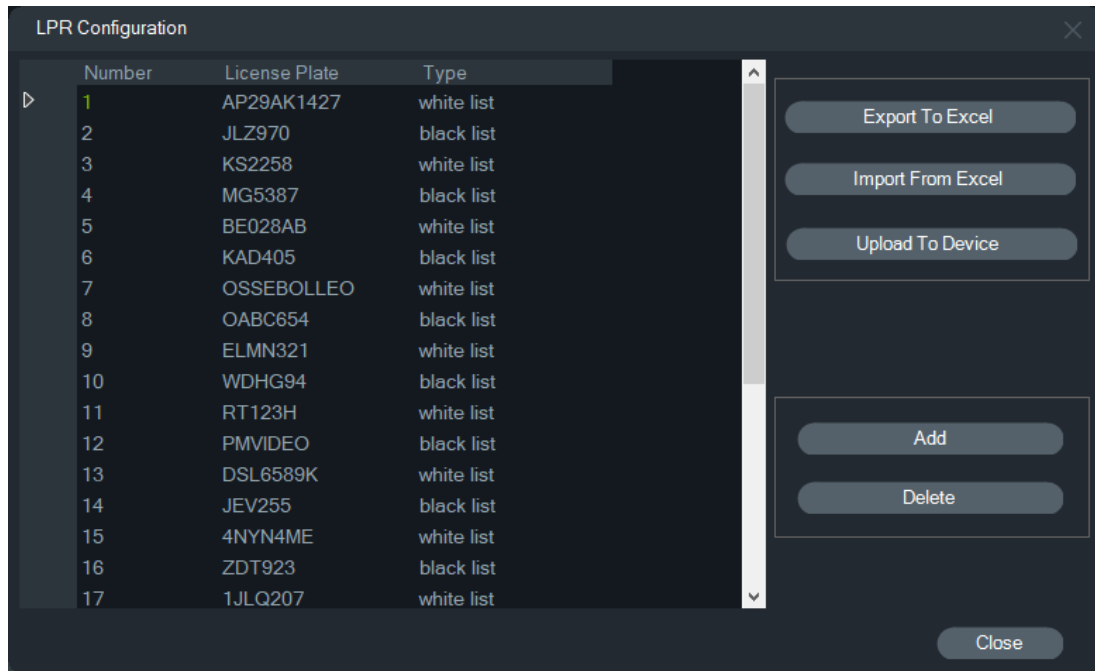
1. Click the **License Plate** tab in the Search window to search actions for ANPR cameras. You can add these cameras directly (as devices) to the software or they can be added to a recorder.
2. Set the following parameters:
  - **License Plate:** Search LPR notifications using a full/partial license plate number.
  - **List Type:** Search LPR notifications based on a list type, such as Allowed list, Blocked list and Other List as well as a combination of all list types.
  - **Vehicle color:** Search LPR notification based on the vehicle color drop-down list (white, black, red, etc.). **Note:** The vehicle color-based search feature is only enabled for supported ANPR cameras.
  - **Date Time:** Enter start and end times for an LPR notifications search. This field is mandatory.

**Note:** Select **Cameras** list is only populated with ANPR cameras added to the device.

3. After entering the relevant parameters, click the **Search** button to display the results from the recorder/camera in the grid. The results show the start and end time notifications, notification type, camera, and the vehicle license plate number.



## Managing license plate information in recorders and ANPR cameras



ANPR cameras are supported in the TVN 22 (S/P) recorder series and the TVN 71 recorder series.

Cameras capture the license plate numbers of vehicles. A list is created in a camera, when its used as standalone device, or in a recorder, when the camera is added to a recorder. Lists are used to classify the captured license plates (such as an Allowed list, Blocked list, and Other list).

### To manage list using TruVision Navigator:

1. Right-click a recorder name or an ANPR camera in the device tree.
2. Select LPR Configuration.
3. License plate data is displayed when there is already a license plate list in the recorder or camera.

**Note:** Before importing a list into the recorder/camera, it is recommended to first export the template from the recorder/camera. The list can then be updated in Excel. Once the list is ready, it needs to be uploaded again in TruVision Navigator and then uploaded to the recorder/camera.

**Note:** When the ANPR cameras are added to the recorder, the list needs to be in the recorder and not in the camera.

Export to Excel	To export the list from the recorder/camera
Import from Excel	To import the list into the software
Upload to Device	To upload the list to the recorder/camera
Add	To add an extra license plate in the list
Delete	To delete an existing license plate from the list



**To add a license plate to a list:**

1. Click **Add** to add a license plate.
2. Select LPR Configuration.
3. Enter Number, License Plate, List Type and ID.

Number	A serial number of the item.
License Plate	The vehicle license plate number.
List Type	To add an extra license plate in the list
ID	Any reference ID specific to the license plate.

4. Click OK.

You can double-click the displayed license plate to modify its information. Change the list type by double-clicking the type and then changing its information.

**Note:** After a recorder has been added, changed or deleted, do not forget to upload the list to the device.

## Export video

Export video from one or more cameras either immediately, at a specified time in the future, or on a recurring basis in the Export Video window.

### Export Now/Schedule

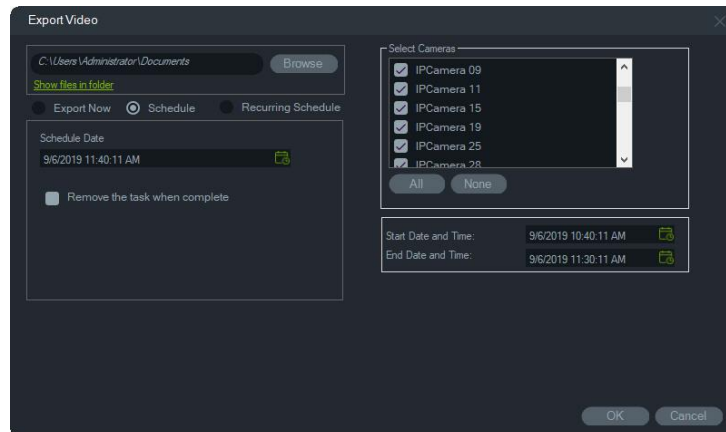
#### To export video from the recorder on a one-time basis:

1. Right-click a recorder icon in the Navigator panel and select **Export Video**.
2. Accept the default location or click **Browse** and specify a destination location for the export.

**Note:** Ensure that the destination location for the export has enough disk space capacity to store the exported video. We recommend that this location be different than the location specified for recurring schedule video downloads.

3. Select one or more cameras for video export in the **Select Cameras** list.

- To start the export process immediately, select **Export Now**. The export task is automatically added to Tasks. Move the mouse pointer over the status column in the **Tasks** window to see detailed progress of the export.
- To schedule the export process, select **Schedule** and specify a date/time to start the export process. An export task is automatically added to Tasks. To remove the record of the scheduled export from Tasks, select the **Remove this task when complete** check box.



- Click **OK**.
- When export tasks are complete, the exported video can be found at the location specified along with the TruVision Navigator Player program. See Chapter 12 “TruVision Navigator Player” on page 179.

### Recurring schedule

We recommend creating a separate folder for recurring task video exports, which are downloaded and stored in their own directory. The full download folder structure is as follows:

C:\[VideoDownloadFolder]\AutoArchive\[DeviceTitle]\Cameras\[CameraNames]

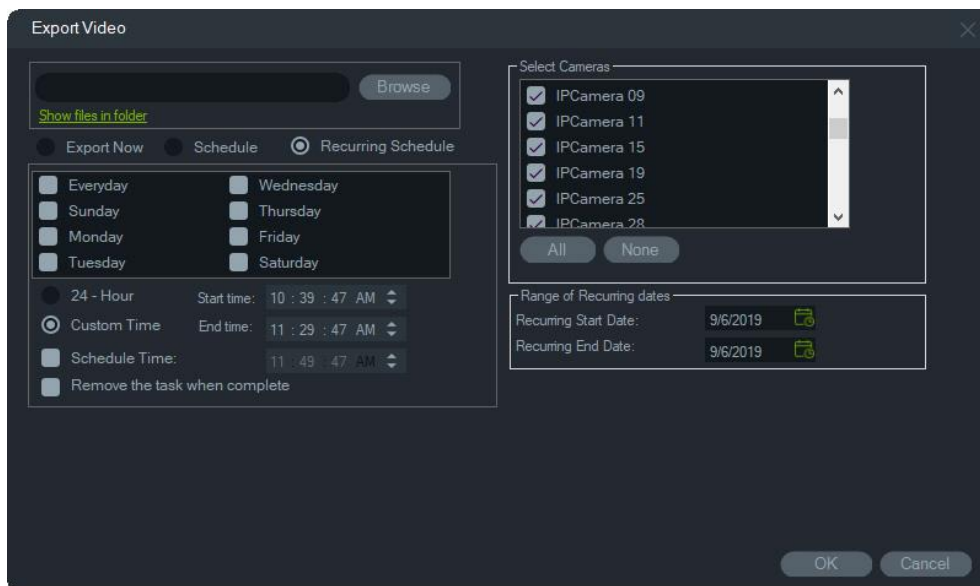
When scheduling a recurring task, an alert appears showing the estimated available storage space in the target location. Available space for video export is calculated each day before video download. If there is insufficient space in the target location, a warning alert is sent to the administrator via email if **Video Export Failure** is selected in the **Settings > Notifications** window.

### To export video from the recorder on a recurring basis:

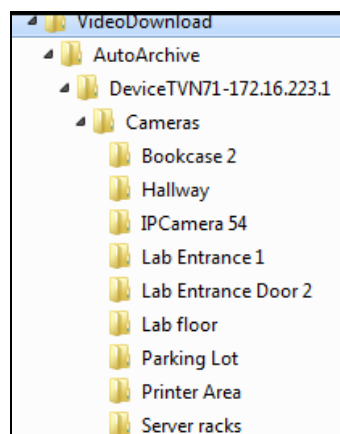
- Right-click a recorder icon in the Navigator panel and select **Export Video**.
- Click **Browse** and specify a destination folder for the export.
 

**Note:** Ensure that the destination folder for the export has enough disk space capacity to store the exported video. We recommend that this folder be used exclusively for recurring video downloads.
- To schedule the export process, select **Recurring Schedule** and select **Everyday** or individual days of the week for the recurring video export.

4. Specify a daily time range for the video export (**24 Hour** or **Custom Time**). Specify the start and end times for each day if selecting **Custom Time**.
5. To remove the record of the scheduled export from Recurring Tasks and Tasks, select the **Remove this task when complete** check box.
6. Select one or more cameras for video export in the **Select Cameras** list.
7. Select the range of recurring dates from the **Recurring Start Date** and **Recurring End Date** drop-down lists.



8. Click **OK**. An export task is automatically added to Recurring Tasks and Tasks.
9. When export tasks are complete, the exported video can be found in the directory under the download folder in the camera name folders.



## Configure device

Right-clicking a recorder icon in the Navigator panel and selecting **Configure Device** launches the recorder's configuration interface. See the recorder's user manual for details on recorder configuration.

### Upgrade firmware

Devices that support the upgrade firmware function are listed in the "Supported Devices" row in the device details tables (see "Device details" on page 197).

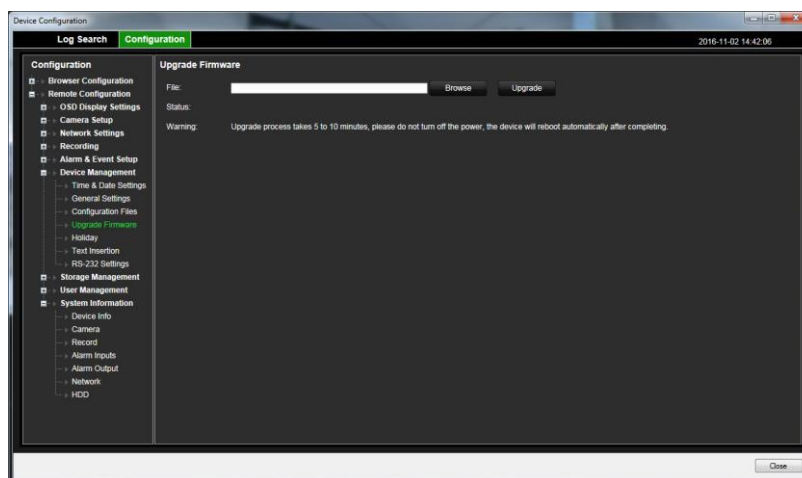
Follow the instructions below to upgrade firmware on TruVision recorders with the newer recorder configuration.

#### To upgrade firmware to device(s):

1. Right-click a recorder icon in the Navigator panel and select **Configure Device**.
2. Select **Upgrade Firmware** under Device Management.
3. Click **Browse** to find the applicable firmware file.

**Note:** Since TruVision Navigator does not do a file format check on the firmware file, ensure it is in the proper file format for that device type. In addition, the firmware file must reside on the local computer. It cannot be accessed across network paths.

4. Click the **Upgrade** button.




## Download/upload configuration

Devices that support the download/upload function are listed in the "Supported Devices" row in the device details tables (see Appendix B "Device details" on page 197).

Use the **Download Configuration** and **Upload Configuration** selections to transfer recorder configurations between individual devices.


- Right-click the recorder and select **Download Configuration** to save the recorder's configuration in CFG file format.
- Right-click the recorder and select **Upload Configuration** to upload a different recorder configuration to the selected recorder in CFG file format.

## Reboot device

1. Right-click a recorder icon in the Navigator panel and select **Reboot** to reboot it.
2. Click **Yes** to confirm reboot of the device. The recorder icon changes to  in the Navigator panel to indicate that it is offline.
3. After the device reboots, right-click its icon in the Navigator panel and select **Connect** to reconnect it.

## Restore factory defaults

Devices that support the restore factory defaults function are listed in the “Supported Devices” row in the device details tables (see Appendix B “Device details” on page 197).

1. Right-click a recorder icon and select **Restore Factory Defaults** to have the device default to factory settings (the same settings on the device when it was shipped).
2. Click **Yes** to confirm reboot of the device. The recorder icon changes to  in the Navigator panel to indicate that it is offline.
3. After the device reboots, right-click its icon in the Navigator panel and select **Connect** to reconnect it.

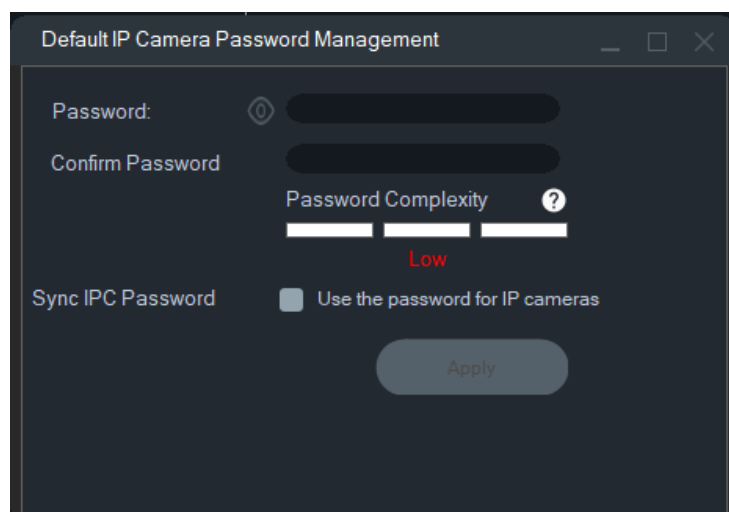
## Delete/rename device

- Right-click the recorder icon and select **Delete Device** to remove the recorder from the Navigator panel.
- Right-click the recorder icon and select **Rename Device** to change the name of the recorder in the Navigator panel.

## Default IP Camera Password Management

Set the same passwords for all the cameras connected to the recorder.

**Note:** This feature is only supported on TVN 12 and TVR 17 recorders.



## Properties

Right-click the recorder icon in the Navigator panel and select **Properties** to display the Properties window.

- The **Connection** tab shows all of the information previously entered when adding the device. Make changes as appropriate and click **OK** to save changes.

The screenshot shows the 'Properties' dialog box with the 'Connection' tab selected. The fields are as follows:

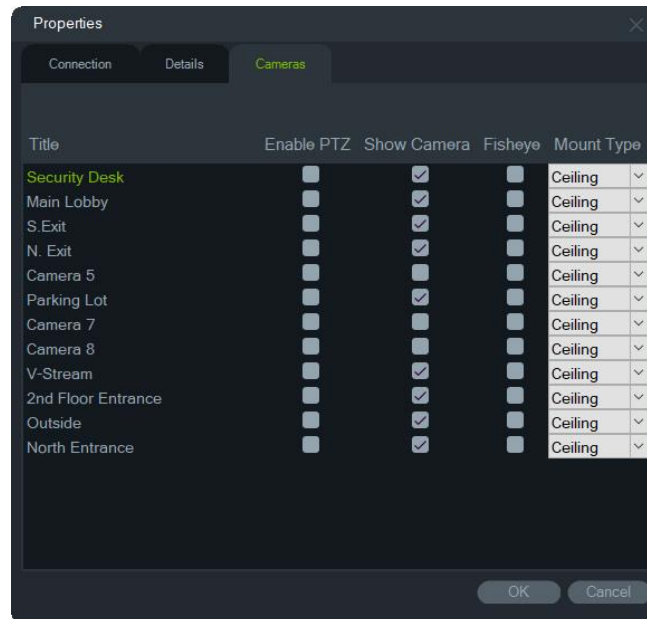
- Device Type: TVR45HD
- Device Title: TVR4508HD-172.16.222.3
- Device Address: 172.16.222.3
- Port: 9000
- Streaming Type: TCP
- Username: [Redacted]
- Password: [Redacted]
- Enable SSL:
- Test Connection button
- OK and Cancel buttons at the bottom right.

- The **Details** tab provides an area to type in contact information and notes to help facilitate management of the system. If the device was imported from an address book that contained information in this window, data appears in these fields. Type in data as appropriate and click **OK** to save changes.

The screenshot shows the 'Properties' dialog box with the 'Details' tab selected. The fields are as follows:

- Device Title: TVR4508HD-172.16.222.3
- Camera Count: 11
- Contact Info section:
  - Name: [Redacted]
  - Phone: [Redacted]
  - Street: [Redacted]
  - City: [Redacted]
  - State/Province: [Redacted]
  - Zip/PostalCode: [Redacted]
  - Region/Country: [Redacted]
- Notes: [Redacted]
- OK and Cancel buttons at the bottom right.

- Use the **Cameras** tab to hide or show cameras, enable or disable PTZ and fisheye controls, and set the mount type. When finished, click **OK** to save changes.



## Camera context menu

### Search

This function is the same as searching from a recorder, but only the camera selected can be searched (smart search excepted). See “Search” on page 122.

Selecting the **Smart Search** box includes a search for motion detection and dynamic analysis, both of which must be enabled in the TruVision recorder or camera configuration page. Certain recorders require the drawing of an area to be used for smart search in the grid that appears on the Motion Detection page. See the user manual for the specific recorder for further information.

### License Plate Search

This function is the same as License Plate Search from a recorder, but only the camera selected can be searched. See “License Plate Search” on page 123.

### Thumbnail search



The thumbnail search window displays video thumbnails from a camera over the range of time specified. The range selected can be exported directly to the Collector. It can be played by highlighting the video tile and clicking the play button, which opens the video in the main viewer.

**Note:** Devices that support the thumbnail search function are listed in the “Thumbnail Search” row in the device details tables (see Appendix B “Device details” on page 197).

**To perform a thumbnail search:**

1. Select a thumbnail layout view. Options include **9**, **16** (default), **25**, **36**, **49**, and **64**.
2. Select a start time and end time for the thumbnail search (default is 24 hours before the current time).
3. Click **Search**. The thumbnail search window video tiles populate with video thumbnails. Adjusting the search time by double-clicking a thumbnail (except the first one), double-clicking in the timeline, or sliding the beginning and ending timeline markers resets the thumbnails to the new time range specified.

**To play thumbnail search video:**

1. Click a thumbnail and then click the  button, or right-click a thumbnail and select **Play** to play video beginning at the time specified in the thumbnail.
2. Click the  button or right-click in the timeline to export video recorded between the **Start Time** and **End Time** to the Collector. Double-click the thumbnail of this video in the Collector to play it back in the viewer panel.

## Export video

This function is the same as exporting video from a recorder, but video can only be exported from the camera selected. See “Export video” on page 125.

## Configure camera


Right-click an analog camera and select **Configure Camera** to access the camera configuration menu. See the camera’s user manual for further information on camera configuration.

**Note:** Devices that support the configure camera function are listed in the “Supported Devices” row in the device details tables (see Appendix B “Device details” on page 197).

## Preset sequences

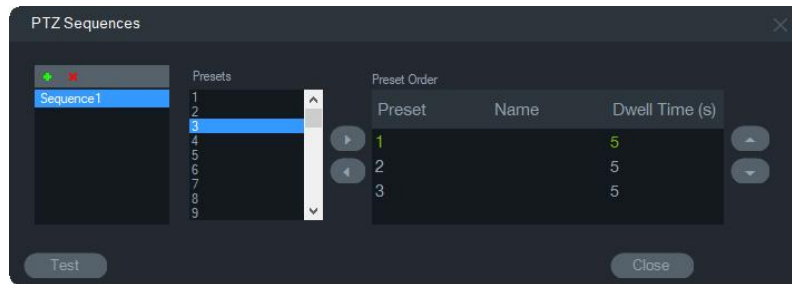
A PTZ camera’s presets can be built into a sequence based on a specific order and dwell time. These sequences can be created, managed, and tested by right-clicking the PTZ camera in the Navigator panel and selecting **Preset Sequences > Manage Sequences**.

**To create a preset PTZ sequence:**

1. Click the  button to add a sequence.
2. Type a name for the sequence or leave the default name as-is.
3. Click a preset number in the Presets list and then click the right arrow button to add the preset to the Preset Order list.



- Repeat step 3 as necessary and use the up and down arrows to change the order of presets in the Preset Order list.



#### To test a preset sequence:

- Create a preset sequence following the steps above.
- Click **Test**. The sequence deploys in a video tile in the Viewer.
- Click **Stop** to finish the test.

#### To stop or start a preset sequence:

Right-click the PTZ camera icon in the Navigator panel and select **Preset Sequences**, and then the name of the sequence to be stopped or started.

## Assign to Event Monitor

The **Event Monitor** tab in the Viewer panel plays video of events and alarms configured on individual cameras as soon as they occur. As a possible action for an event, set up "Notify Alarm Host." The alarm host is set up under Alarm Settings. This function is not supported by all cameras. See the camera's user manual for instructions on camera configuration.

For further details about the Event Monitor, see "Event Monitor" on page 139.

#### To assign a camera to the Event Monitor:

- Right-click a camera and select **Assign to Event Monitor**. An orange border surrounds the camera icon in the Navigator panel.
- Right-click a camera assigned to the Event Monitor and click the check mark next to **Assign to Event Monitor** to remove the camera from the Event Monitor.

## Decoder context menu

Decoders convert compressed IP video streams from recorders to analog video outputs such as HDMI, VGA, and BNC. Use the decoder context menu to add a scene to the decoder. **Configure Device**, **Reboot Device**, **Delete Device**, **Rename Device**, and **Properties** have the same functionality as in the recorder context menu.

## Add scene

A scene is a custom view preset that outputs to one or more monitors. Each decoder added to the Navigator panel has a default “scene01” already created. Other scenes previously configured in the decoder also appear.

### To add a scene:

1. Right-click the decoder device icon and select **Add Scene**.
2. Type a name for the scene in the **Title** box.
3. Configure the scene as described in the next section.

## Scene context menu

Use the scene context menu to activate, configure, preview, rename, refresh, and delete scenes. Scenes must be activated before they can be configured or previewed. Only one scene can be activated at a time.

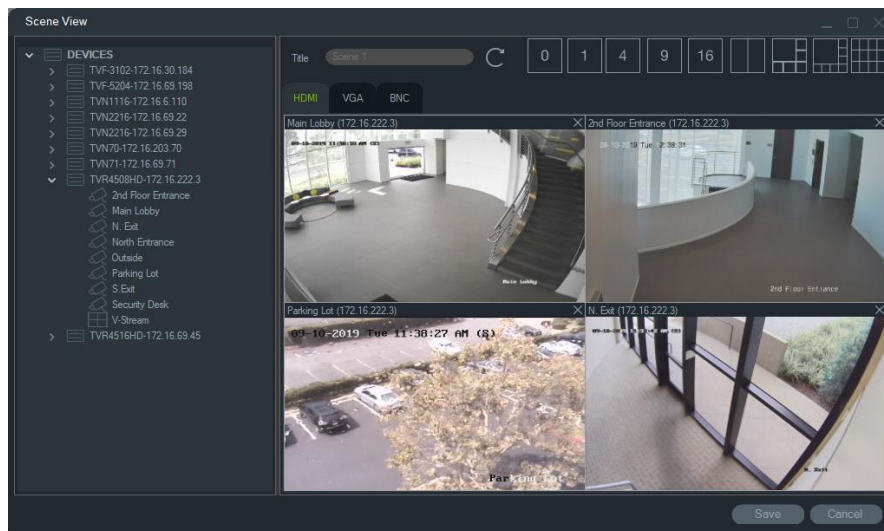
**Note:** Other users with the operate decoders permission can activate a scene and deactivate your activated scene while you are working in Navigator.

### To configure a scene:

1. Ensure that the scene is activated. If necessary, right-click the scene icon and select **Activate Scene**.
2. Right-click the activated scene and select **Configure Scene**.
3. Click the **HDMI**, **VGA**, or **BNC** tab to configure a scene for the required monitor output.
4. Click a custom view (see “Custom view” on page 145 for details about custom views).

**Note:** The **0** button selects a display of zero video tiles. If the maximum of 16 video tiles are displayed in one tab, the number of tiles in the other tabs must be set to zero.

5. Drag cameras from the Scene View panel into the custom view.



6. Click **Save**.

### To preview a scene:

1. Ensure that the scene is activated. If necessary, right-click the scene icon and select **Activate Scene**.
2. Right-click the activated scene and select **Preview Scene**.
3. Click the **HDMI**, **VGA**, or **BNC** tab to preview a scene for the required monitor output.

# Chapter 6

## Viewer panel

The Viewer panel displays both live and recorded video that can be launched from the Navigator panel, Notifier, or Collector. Maps and websites can also be loaded into the Viewer panel. With Custom Views, the Viewer panel can display one of 18 different tile layouts.

### Populating video tiles

#### To add an item to a single tile:

- Double-click a camera, map, or website in the Navigator panel to add it to the next open video tile.
- Drag a camera, map, or website from the Navigator panel to an open video tile.
- Double-click an applicable event in the Notifier or a Collector panel video or snapshot to add it to the next open video tile.
- Drag an applicable event in the Notifier or a Collector panel video or snapshot to an open video tile.

#### To add items to multiple tiles:

- Drag a recorder or logical view from the Navigator panel to an open video tile.
- Hold down Shift while clicking the right mouse button or hold down Ctrl while clicking the right mouse button to select multiple cameras, maps, or websites in the Navigator panel and drag them to an open video tile.

When adding multiple items, tiles automatically increase in number and the layout adjusts based on how many items are being added, unless the layout has been locked with the **Lock Current Layout** button.

Double-clicking in any single tile enlarges it to full screen. Double-clicking the full screen tile restores the previous tile layout.

**Note:** To ensure that a web page displays correctly in full screen mode, double-click the green bar at the top of the web page's video tile.

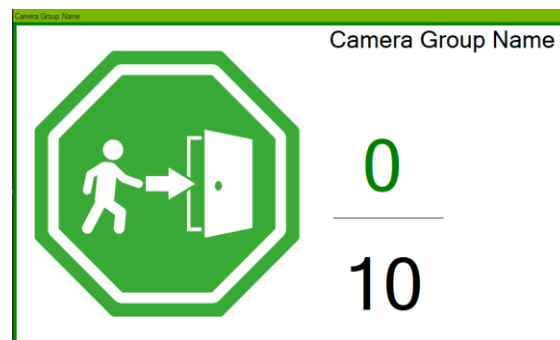
Organize/swap items in the Viewer by dragging a video tile's status bar to another video tile.

### To add real-time people counting results into a video tile:

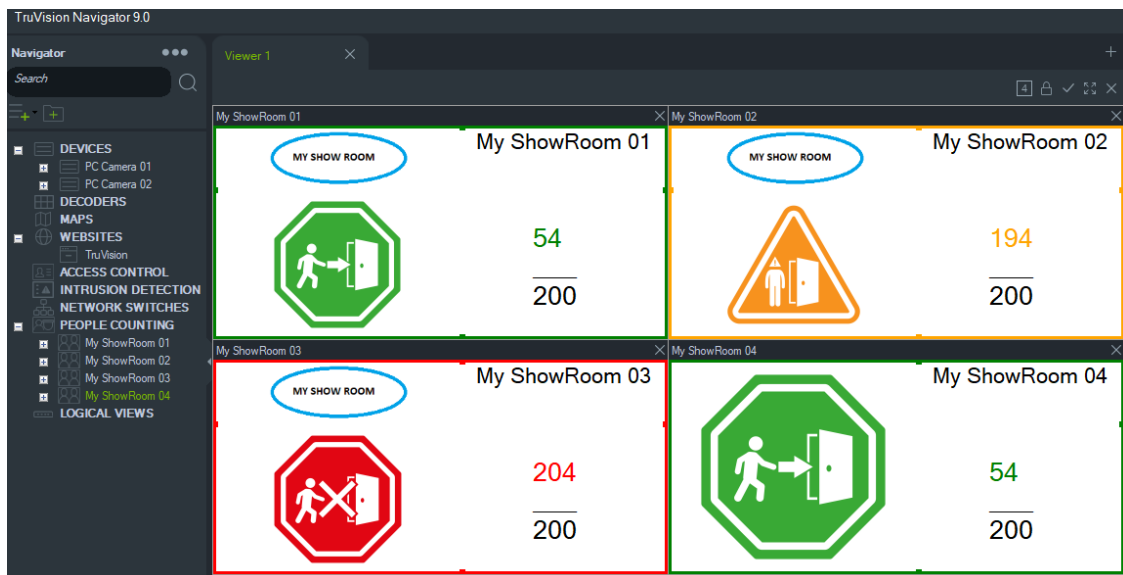
Drag and drop a people counting group from the device tree to one of the available tiles in the live viewer. The real time counting results of that camera group will be displayed.

The camera group name, the traffic sign icon and the actual counting results (and if configured the max. permitted number) will be displayed.

Below is an example of a live people counting displayed on a viewer tile in the Navigator:



Below is an example of the Navigator multi-tile view:



## Tabbed viewer panels

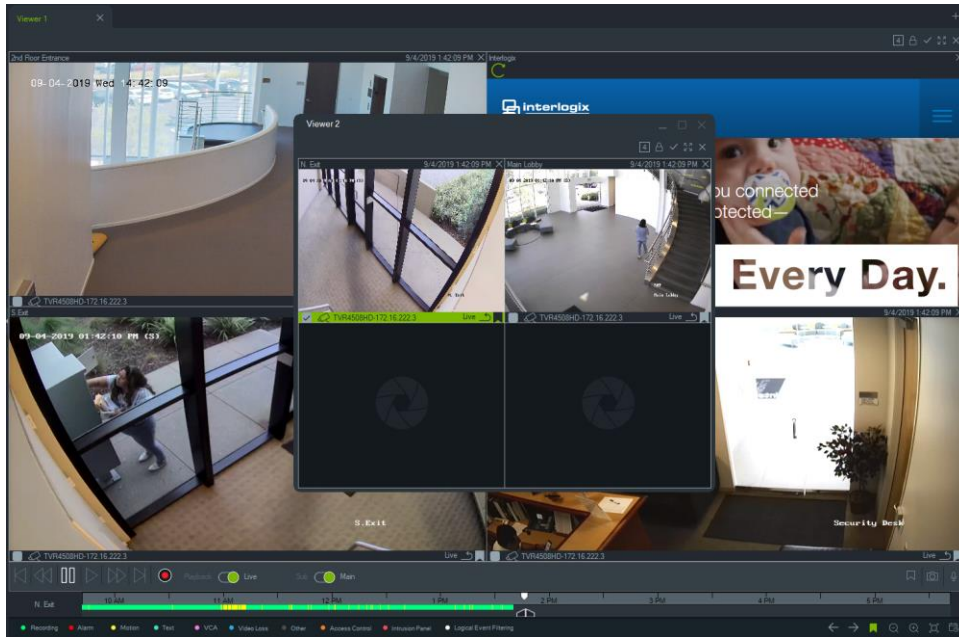
Multiple tabbed viewer panels can be added to the Viewer (up to 10). These additional viewer panels can also be detached and become free floating windows.

Videos in tabs not in the background can be paused to improve system performance. See "Client" on page 24.

**Note:** A maximum of 75 substream video tiles with H.264 compression can be added to tabbed viewer panels. Running too many videos in tabbed viewer panels may degrade system performance.

### To add a tabbed viewer panel:

1. Click the **New Viewer** button to add a new layout panel. A new viewing panel is added as a tab in the Viewer panel title bar.
2. Populate the new viewing panel as described above. Drag a viewer tab out of the Viewer title bar to turn the viewing panel into a free-floating window accessible in the Windows taskbar. Drag the free-floating panel back into the title bar to access it again as a tab.



3. Right-click a viewing panel tab to access the tab's context menu (**Delete Tab** or **Rename Tab**).

## Viewer tab button functions



**Custom/sequence view.** Use custom views to define and save multi-site view templates for future use.



**Lock Current Layout.** Prevents changes to the current viewer panel setup.



**Select all.** Select all tiles in the viewer.



**Toggle.** Toggle between normal view and maximized view.



**Close All.** Close all tiles in the viewer.



**New Viewer.** Add a tabbed viewing panel (10 maximum).

## Video tile properties

Status bars at the top and bottom of camera video tiles provide this information:

### Top bar

- Camera name
- Date and time of currently streaming video (live or playback)
- Sync status (see “Sync to this video” on page 150)
- **Close this video tile** button

### Bottom bar

- Tile selection check box (selecting the check box in multiple tiles permits the simultaneous use of timeline controls for all tiles selected)
- Camera type icon
- Recorder name
- Video stream status (Live, Playback, Recording, Closed, Live Paused, and Playback Paused)

### Bar color

- Green – Indicates that the tile is selected
- Gray – Indicates that the tile is not selected
- Yellow – Indicates that the tile is playing back a local file.

## Event Monitor

The **Event Monitor** tab in the Viewer panel plays video of events and alarms configured on recorders and individual cameras as soon as they occur. See the camera’s user manual for instructions on camera configuration.

### Event Monitor features include the following:

- The **Event Monitor** tab turns orange as soon as video begins playing in the monitor.
- If multiple events assigned to the Event Monitor occur simultaneously, additional video tiles are added automatically.
- The latest Event Monitor video is indicated by a red border around the video tile.
- After the maximum number of cameras (100) appear in the Event Monitor, the oldest video is replaced with the newest video.
- A maximum of 100 video tiles can be displayed in the Event Monitor.

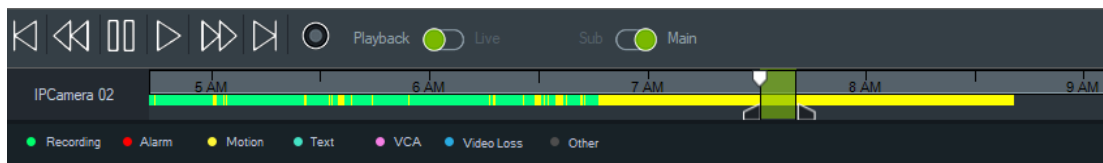
**Note:** The Event Monitor cannot play back an event that has already happened. To view the last event, drag the video from the Event Monitor into a video tile in the Viewer.

## Event Monitor tab button functions

The Event Monitor buttons have the same functions as the Viewer tab buttons. See “Viewer tab button functions” on page 138.

## Timeline

When a specific video tile is selected (indicated by a green outline around the video tile), the timeline functions affect that video tile. See “Buttons and indicators” on page 12 and “Playback controls” on page 15 for details on the function of each button and the toggle switches in the timeline area. Timeline buttons only appear when they are available to be chosen. For example, the Archive button will not appear until at least one camera is currently in Playback mode.



### To find a specific point in time in the timeline:

Search for video at specific points in time using any of the following methods:

- Click the **Zoom In** and **Zoom Out** buttons to locate a date and time in the timeline.
- Click the gray timeline bar and slide it to find a specific point in time.
- Click the **Go To Date** button to specify a date and time in the timeline.

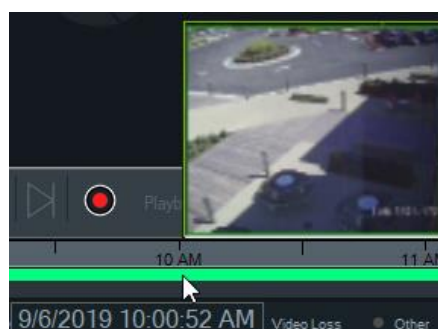
### To play back video in the timeline:

- Double-click anywhere on the timeline to automatically play back the selected video at that specific date and time.
- Click and drag the current live/playback cursor, which appears as a green seek triangle icon on the gray timeline bar, to play video from anywhere along the timeline.

### To view video thumbnail images in the timeline:

Hover the cursor over a point in the timeline with recorded video to see a thumbnail image of the video.

**Note:** Devices that support this thumbnail function are listed in the “Get Thumbnail” row in the device details tables (see Appendix B “Device details” on page 197).





## Export video

**Note:** The **Export video** permission is required to export video from the timeline.

### To export video from the timeline to the Collector:

1. Slide the beginning and ending timeline markers to highlight a segment of time in green on the timeline bar.
2. Click the **Save Video** button. A green progress bar appears under the exported video that turns blue after exporting is complete.

## Local record

Use the **Local Record** button to record live video to the client computer.

**Note:** Be sure to turn off local recording before it takes up too much storage space on the client computer's hard drive.

### To create a local record video file, do the following:


1. Select a camera video tile in the Viewer.
2. Click the **Local Record** button (to the right of the playback controls) or right-click in the tile and select **Start Local Recording** to begin recording. A thumbnail appears with a start time along with a red dot in the Collector.
3. The red **Local Record** button blinks when any camera is recording locally.
4. Click the red **Local Record** button again to stop the recording. An end time for the thumbnail automatically appears in the Collector.
5. Follow export operations as necessary to save the local recording. See "Export video and snapshots" on page 166.

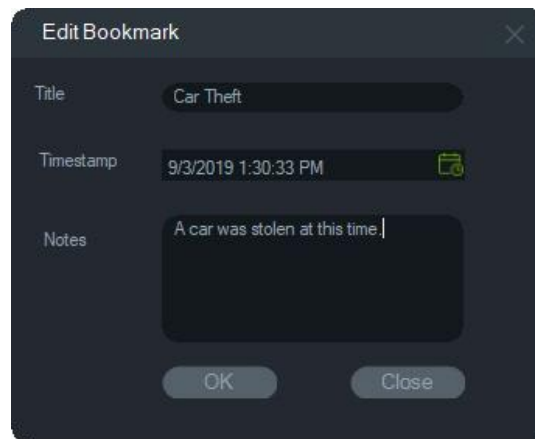
## Bookmarks

### Adding bookmarks

Add a bookmark to the timeline for quick navigation to an incident.

### To add a bookmark, do the following:

1. Select a single video tile.
2. Right-click the timeline and select **Add Bookmark** or click the Bookmark icon  in the timeline controls (clicking the icon places the bookmark at the same location as the play cursor). The Edit Bookmark window appears.





3. Type a title for the bookmark (16 characters maximum) in the **Title** field.
4. If necessary, the time stamp can be modified and text can be added into the **Notes** field (256 characters maximum).
5. Click **OK**. The bookmark icon appears in the timeline at the specified time stamp.

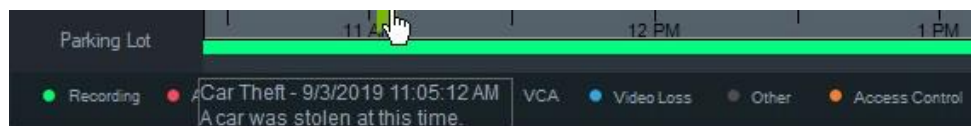
### Working with bookmarks

Right-click a bookmark in the timeline to access the bookmark context menu.

- **Edit** – Opens the Edit Bookmark window.
- **Delete** – Deletes the bookmark.
- **Play** – Opens a new tile and starts playing the video from the bookmark time stamp position.

### Viewing bookmarks

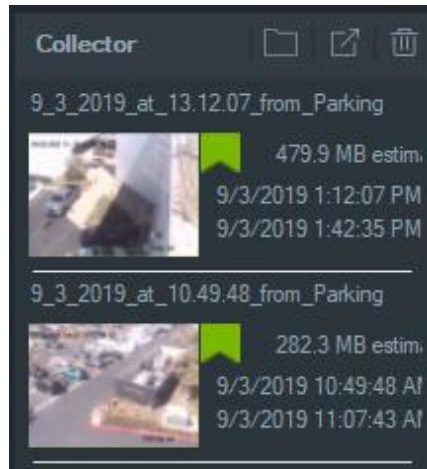
- Click the bookmark show/hide buttons   to hide or display bookmarks.
- Hover the cursor over a bookmark icon to display bookmark information, The bookmark title and time stamp appear in the first line and the notes appear in the second line.



- Only bookmarks for the selected video tile are visible on the timeline bar — no bookmarks display if multiple tiles are selected.
- It is not possible to create more than one bookmark with the same time stamp on the same camera.
- It is not possible to edit a specific bookmark when the timeline is in Zoom In mode and there are multiple bookmarks around the same time stamp.

## Bookmarks in exported video

Exported video retains bookmarks if the time stamp of the bookmarks fall within the time range of the video. Bookmarks are retained in videos in the Collector after exiting Navigator. Videos in the Collector that contain bookmarks appear as follows:



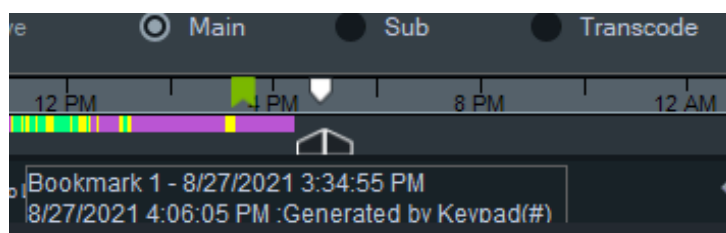
Double-clicking a Collector video with bookmarks opens a video tile. The bookmarks appear in the video playback timeline. Hover the cursor over a bookmark icon to display bookmark information during playback of exported video.

**Note:** Bookmarks cannot be edited or deleted during Collector video playback.

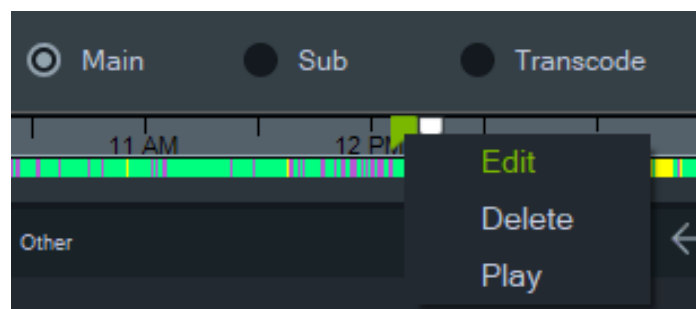
## Adding Bookmarks via the keypad (TVK-400-USB)

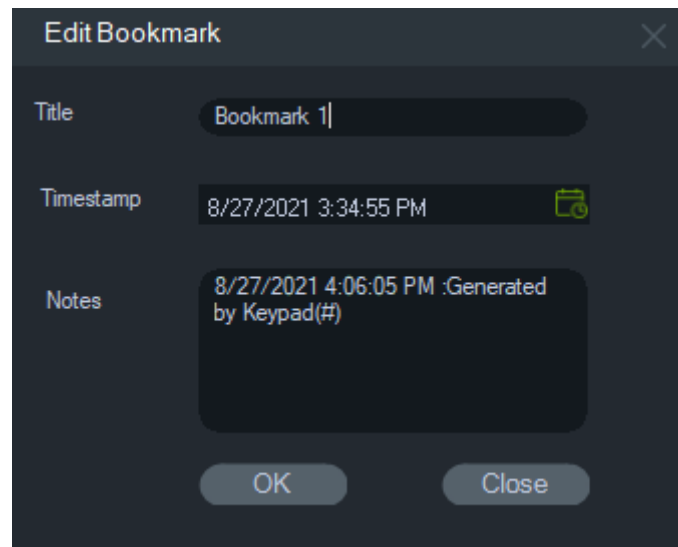
To add bookmarks via the TVK-400-USB keypad go to Client Settings and enable “Enable auto bookmark from keypad #(Hash) Symbol”. Refer to “Client” on page 24.

While viewing video (Live/Playback), the user can create bookmarks for the selected Video tile by pressing the hash (#) symbol. The bookmarks will have default title, video time and default note.



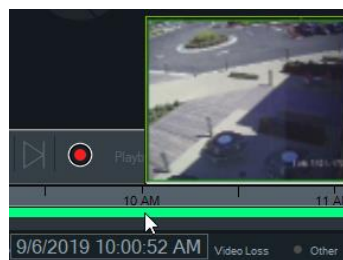
The user can edit/delete these bookmarks later when necessary.





## Thumbnails

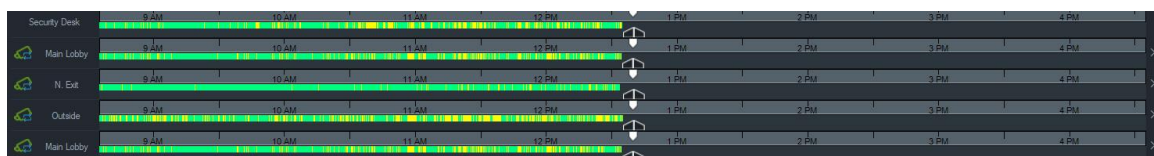
Select a video tile, and then and hover the cursor over a recording in the timeline to show thumbnails of the recording at the specified point in time. Thumbnails can also be seen on the timelines in the Disk Analysis window (see “Disk analysis” on page 120).





**Note:** This feature will only work with recorders that support this feature.

## Adding timelines

Multiple timelines can be added for up to four cameras, with the currently selected video tile timeline also appearing for a total of five visible timelines. Add a timeline for a camera by right-clicking the camera’s video tile and selecting **Add Timeline**.



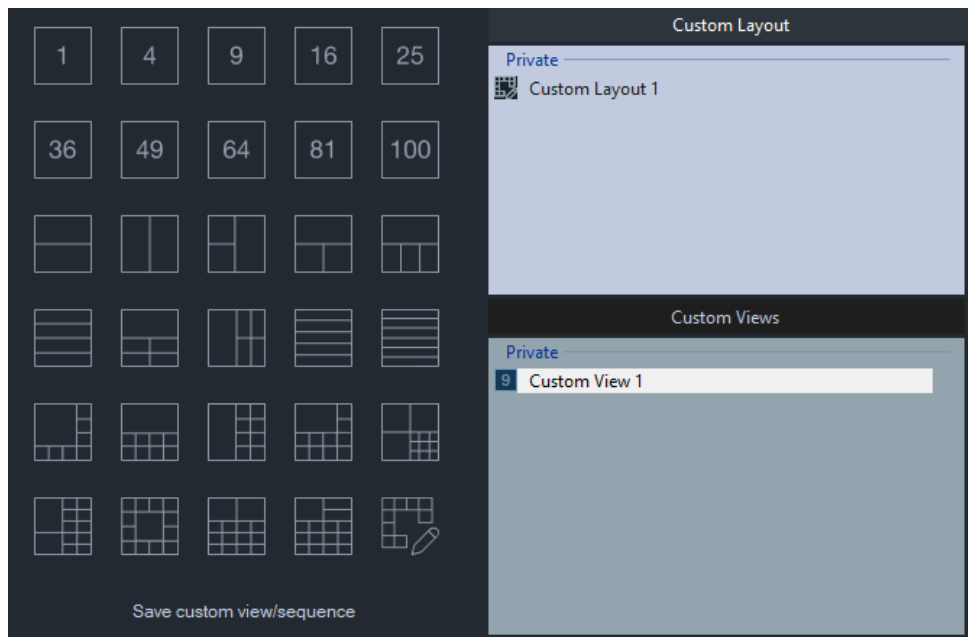
- Up to four timelines can be added for the same camera loaded into four different video tiles.
- The  icon to the left of the timeline indicates that the camera is synced.
- Delete a timeline by clicking the  icon to the right of the timeline.

## Custom view

Use custom views to define and save multi-site view templates for future use. Custom views are available by clicking the **Custom View** button in the Viewer header bar.

Several different tile layouts can be chosen when arranging the video sources. Standard tile layouts include 1×1, 2×2, 3×3, etc., up to 10×10. Other different custom tile layouts are also available for additional flexibility. Click the **Custom View** button to change the 3×3 default layout.

**Note:** A maximum of 20-30 custom views can be created. The maximum number depends on the complexity of the custom views (factors such as tile layout, number of videos in the tiles, and names of the custom views).



### To define a custom view:

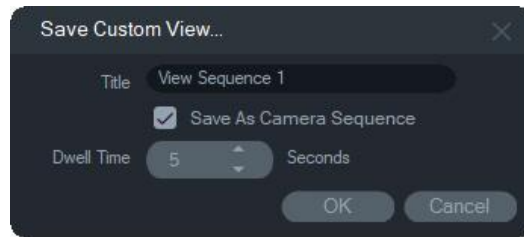
1. Load all the cameras to be included in the custom view into the Viewer.
2. Click the **Custom View** button in the Viewer panel header bar.
3. Select **Save custom view/sequence**.
4. Type a title in the **Title** field.
5. Click **OK**.
6. Close all videos.
7. Select the Custom View title in the Viewer panel header bar drop-down list.


### To define a custom view as a camera sequence:

1. Load all the cameras to be included in the custom view into the Viewer.
 

**Note:** Maps and websites are ignored in camera sequences.
2. Click the **Custom View** button in the Viewer panel header bar.
3. Select **Save custom view/sequence**.

4. Type a title in the **Title** field.
5. Create a single-screen sequence of each tile from left to right by selecting the **Save as camera sequence** check box.



6. If necessary, type a new value for dwell time in the **Dwell Time** field.
7. Click **OK**.
8. Close all videos.
9. Select the Custom View title in the Viewer panel header bar drop-down list. A custom view camera sequence is indicated by the  icon. A single video tile displays each camera in sequence in the custom sequence.

#### To edit a custom view:

1. Right-click a custom view in the Custom View/Custom Layout window and select **Edit**.
2. Type a new title in the **New Title** box and click **OK**. Make changes to the custom view such as adding or removing an object from a tile, moving an object from one tile to another, or editing the layouts of custom views if their layouts are also custom.
3. Click **Save** when finished.

#### To make a custom view public (client/server installations only):


Right-click a custom view in the Custom View/Custom Layout window and select **Make Public** to make the custom view available across the network.

**Note:** Public custom views cannot be made private, and only the user who created the custom view can delete it.

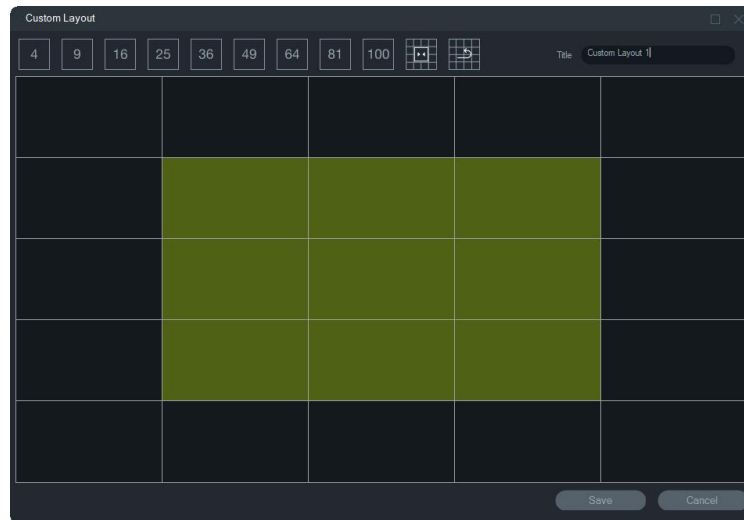
## Custom layout

In addition to the standard tile layouts provided, you can also create custom tile layouts.



#### To create a custom layout:

1. Click the **Custom View** button in the Viewer header bar, and then click the  icon. The Custom Layout window appears.
2. The Custom Layout window displays a 5x5 layout by default. This can be changed by selecting 1x1, 2x2, 3x3, etc., up to 10x10.

3. Type a title for the layout in the **Title** box and select cells to merge by clicking and dragging inside the grid.



**Note:** A merge can only be performed on tiles that form a single square or rectangle.

4. Click  to complete the merge. Note that two previously merged cells can also be merged.
5. Click a merged cell and then click  to unmerge the cell.
6. Click **Save** to save the custom layout.

#### To edit a custom layout:

1. Ensure that the custom layout to be edited is closed in the Viewer Panel, and then right-click a custom layout in the Custom View/Custom Layout window and select **Edit**.
2. Make the required changes to the custom layout and click **Save**.

#### To make a custom layout public (client/server installations only):

Right-click a custom layout in the Custom View/Custom Layout window and select **Make Public** to make the custom layout available across the network.

**Note:** Public custom layouts cannot be made private, and only the user who created the custom view can delete it.

## Digital zoom

Navigator can perform digital zoom in/out functions in the live and recorded view. To zoom in, select a tile and scroll up with the mouse wheel. Scroll down to zoom out. When in digital zoom mode, click and hold the left mouse button to navigate in the zoomed image.

**Note:** Press Ctrl before scrolling the mouse wheel to enable digital zoom on a PTZ camera.


## PTZ controls

To use PTZ controls, the camera must be identified to the recording device as a PTZ camera.


### To activate a camera for PTZ:

1. Right-click the recorder icon in the Navigator panel and select **Properties**.
2. Click the **Cameras** tab and select the **PTZ Enabled** check box next to the PTZ camera.
3. Click **OK**. The camera's icon in the Navigator panel changes from a fixed camera icon to a PTZ camera icon.

### To control a PTZ camera using the PTZ controls:

1. Drag a PTZ camera from the Navigator panel into the Viewer and select it.
2. Click the PTZ icon  on the Controller toolbar above the timeline to open the PTZ window.



- **PTZ button** – Click and hold the arrows on the PTZ button to move the camera in different directions.
- **Zoom** – Click the **-** and **+** buttons to zoom in and out inside the PTZ camera video tile.
- **Focus, Autofocus** – Click the **-** and **+** buttons to manually focus the camera, or click the  button to autofocus.
- **Iris** – Click the **-** and **+** buttons to adjust the size of the camera iris. The amount of light allowed into the camera increases as the iris opening gets larger.
- **Speed** – Set the speed to the appropriate level for the network and operations.

**Note:** PTZ control responsiveness varies depending on the frame rate, resolution, and quality of the video stream. D1/ 30FPS/Quality 9 provides the most responsive PTZ control over the network. Weigh PTZ control responsiveness against storage requirements to find the best fit. The PTZ speed setting can also be balanced with the stream configuration to find the best fit.



## Preset positions

- Go to a camera preset by clicking the **Preset Positions** tab, choosing a preset number from the drop-down list, and then clicking **Go To**.
- Create a new camera preset by using PTZ controls to find the required camera view, clicking the **Preset Positions** tab, typing a name into the **Preset Name** field (if required), and then clicking **Set**.
- Name or rename a preset by selecting the preset number from the drop-down list and typing a new name into the **Preset Name** field.

## Tours

A tour is a series of checkpoints assigned in a specific sequence with times assigned to reach each point.

- Go to a tour preset by clicking the **Tours** tab, choosing a preset number from the drop-down list, and then clicking **Go To**.
- Record a tour preset by clicking **Record** and performing a series of PTZ control actions. When finished, click **Stop**.

**Note:** The tours function is not available for all PTZ cameras. See Appendix B “Device details” on page 197 for applicable functionality.

### To control a PTZ camera using mouse commands within the video tile:

1. Drag the PTZ camera from the Navigator panel into the Viewer and select it.
2. Place the cursor in the center of the Viewing tile.
3. Left-click and hold the mouse, then drag in any direction. Note that the further from center the cursor is positioned, the faster the camera moves.
4. *Optical zoom:* Scroll up with the mouse wheel to zoom in and scroll down with the mouse wheel to zoom out.
5. *Digital zoom:* Press and hold Ctrl and scroll up with the mouse wheel to zoom in and scroll down with the mouse wheel to zoom out. Press and hold Ctrl and zoom out as far as possible to deactivate digital zoom.

**Note:** An Aritech camera with a motorized lens can also be controlled as a PTZ camera with the PTZ controls for iris and focus adjustments.

## Camera tile context menu

Right-click a video tile containing a camera to bring up a context menu. Available selections are as follows:

## Search

This function is the same as searching from a recorder, but only the camera selected can be searched. See “Search” on page 122.

## Instant replay

**Note:** It is recommended that this feature is **only used when needed**, because frequent, sequential usage might have an impact on the lifetime of the hard drive.

Right-click a video tile containing a camera and select **Instant Replay** or click the **Instant Replay** button on the video tile to go from Live to Playback by a user-defined and pre-configured period of time (30 seconds is the default setting) for quick viewing of an incident. See “Instant replay duration” on page 28 for instant replay setup instructions.

**To start instant replay in a video tile, do one of the following:**

- Click the **Instant replay** button in the lower left corner of the video tile.
- Right-click the video tile and select **Instant Replay**.
- Set the Live/Playback toggle switch in the timeline to **Playback**.

**To stop instant replay in a video tile, do one of the following:**

- Right-click the video tile and select **Live**.
- Set the Live/Playback toggle switch in the timeline to **Live**.

## Sync to this video

This selection appears in the context menu for cameras in playback mode that are connected to a recorder. Selecting **Sync to this video** plays back all videos in the Viewer (up to a maximum of nine) at the same current playback time/date of the camera being synced to. An “S” icon in the top status bar of the video tile indicates synced videos.

If a synced camera is set to record events instead of a continuous live stream, gaps in recording are indicated by a display of the last frame recorded before the gap occurs. The video resumes when it reaches the time that the next event was recorded.

**Note:** Certain cameras/conditions cannot be synced for playback:

- Local file playback and recording
- VStream
- Cameras connected as devices (using an SD card rather than a recorder)
- No permission for camera playback

## Live

Select **Live** in the context menu to return to the live stream.

## Start local recording

See “Local record” on page 141.

## Snapshot

Taking a snapshot of a selected video tile containing a camera sends a still image file to the Collector for export.

### To take and deploy a snapshot:

1. Click the **Snapshot** button above the timeline or right-click a video tile containing a camera and select **Snapshot**.
2. Right-click the snapshot in the Collector panel to **Print Preview**, **Print**, **Email**, **Rename**, or **Export** the snapshot image. See “Export video and snapshots” on page 166.

## Dewarp views

Dewarping provides an alternate view other than the fisheye image normally associated with 360° cameras. This feature only requires one fisheye view (live or playback) from the device. The Navigator dewarps multiple views from a single dewarped view.

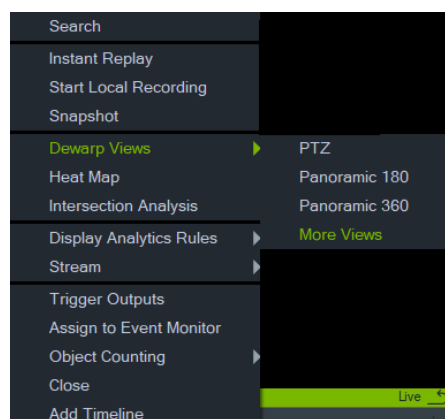
**Note:** PTZ, Panoramic 180° and Panoramic 360° view is only used for TVF-110x and third-party cameras. For TVF-510x, More Views option needs to be used.

### To enable dewarping:

1. Right-click the camera recorder and select **Properties**.
2. Select the **Fisheye** check box.
3. The **Mount Type** drop-down list is set to **Ceiling** by default. If required, select **Wall** or **Desktop**.

### To access dewarp views:

1. Right-click the camera video tile and select **Dewarp Views**.
2. Select a view from the context menu. A new video tile opens with the dewarped view type indicated in the video tile header bar.



## PTZ

A maximum of 31 PTZ views can be dewarped from a single 360° camera.

Click the left mouse button inside the PTZ video tile and drag it in any direction to change the view. A red square inside the camera tile indicates the position of the dewarped view as the four-headed arrow cursor is moved inside the PTZ video tile.



## Panoramic 180

This selection displays two 180° views inside a single video tile. Only one Panoramic 180 view can be dewarped from a single 360° camera, and then all other dewarp views become unavailable.

## Panoramic 360

This selection displays a 360° view inside a single video tile. Only one Panoramic 360 view can be dewarped from a single 360° camera, and then up to 30 additional PTZ dewarp views become available.

## Additional Dewarp Views

TruVision supports additional dewarp views for the TVF-520x 360° cameras.

### To access additional dewarp views:

1. Right-click the 360° camera in the device tree.
2. Select **Dewarp Views**.
3. Select **More Views**.

OR

1. Open the 360° camera view in a video tile.
2. Right-click and select **Dewarp Views**.
3. Select **More Views**.

A new specific dewarp viewer will open for the selected camera.

### To select a Dewarp view:

In the top-right of the Viewer go to Dewarp Views buttons to select a dewarp view supported by the specific camera mount type (which has been set up in the Properties menu, see below).

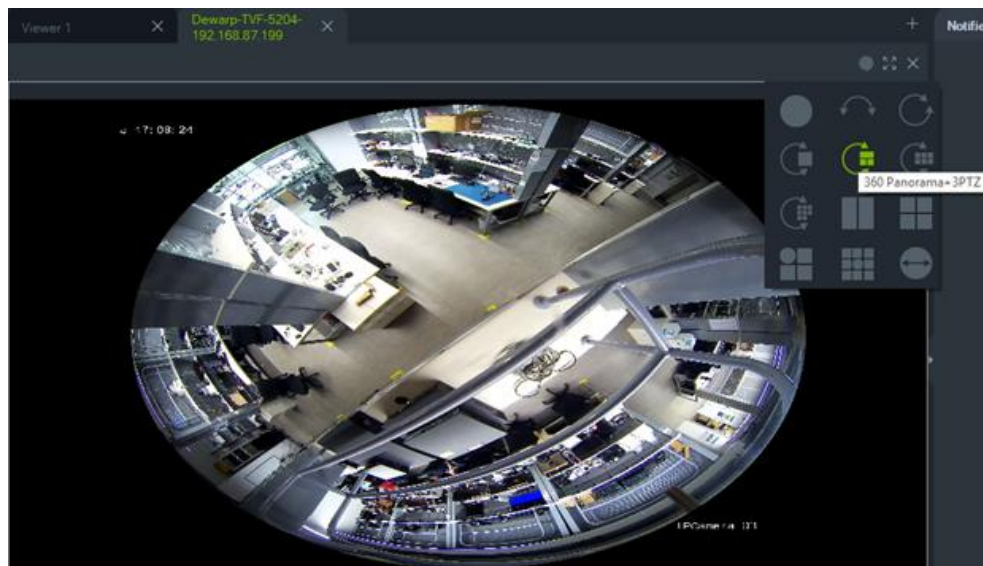
### To select a mount type:

Right-click the 360° camera in the device tree and select **Properties**. Go to the camera tab and select the mount type.

**Note:** During dewarping, you can switch between Live & Playback streams and use different Playback operations.

**Note:** When the main stream with the 360° view of the camera is closed, the corresponding dewarp viewer will also close.

**Note:** Wavy lines are observed when using TVF-510x 360° cameras for the dewarping of the sub stream. This can be avoided by using the same aspect ratio (4:3/16:9) for the main stream and the sub stream.



## Heat map

**Note:** The heat map function is only supported by TruVision 360° cameras. The 360° camera must be added by itself to the Navigator panel (so that it has its own device node) and must have a memory card installed to obtain heat map data.

A heat map is a color-coded graphical representation of the movement of objects or people through a scene. The colors correspond to the amount of traffic, and the amount of time spent stationary in the configured scene.

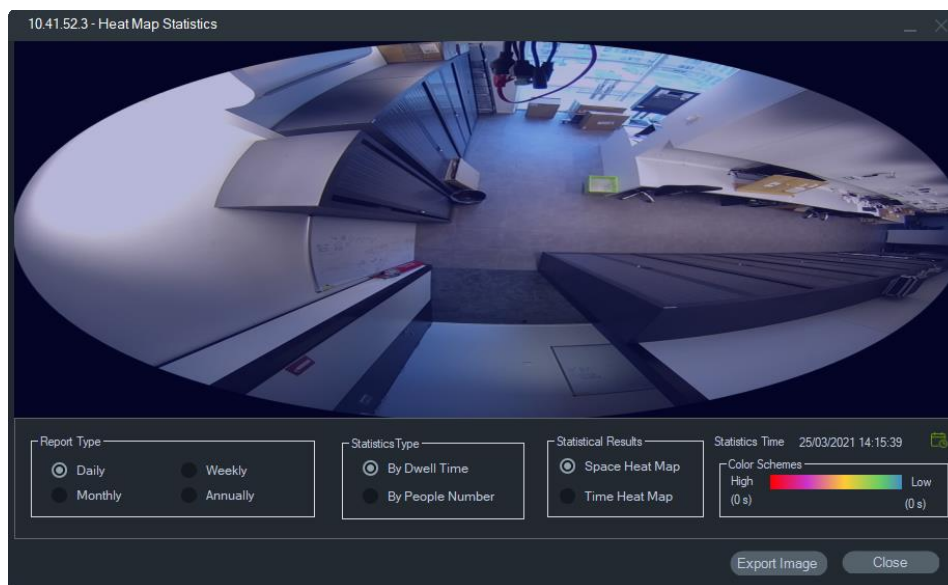
### To set up the heat map:

1. In the Navigator panel, right-click the device icon associated with a 360° camera and select **Configure Device**.
2. Type the user name and password and click **Login**.

3. Click the **Configuration** tab and then click **Heat Map**.
4. Select **Enable Heat Map**. For detailed instructions on heat mapping configuration, follow the instructions in the heat map section of the *TruVision 360° Camera Configuration Manual*.

#### To view heat map statistics:

1. After following the instructions above to set up a heat map, right-click the video tile of a 360° camera and select **Heat Map**. The heat map statistics window appears.
2. Select a Report Type (Daily, Weekly, Monthly, or Annually), and then select a date from the **Statistics Time** drop-down list.
3. With **Image Heat Map** selected under Statistical Results, click **Export Image** to save a heat map image.



4. With **Time Heat Map** selected under Statistical Results, click **Export to CSV** to save heat map statistics in Excel format.

## 360° camera - Intersection analysis support

The intersection analysis must be setup in the camera and is used to monitor the people flow in any intersection scenario or with intersecting pathways. For more details about intersection analysis, see the TVF camera configuration manual.

To set up and display the intersection analysis:

1. Setup the intersection analysis in the camera and let it run for a specific time (minimum 1 day).
2. Check the results of the intersection analysis on the web page of the camera.
3. Check if the results match with the display in TruVision Navigator.
4. Add the camera as a device to the Device Tree.
5. Drag and drop the 360° view in a video tile of the Viewer.



6. Right-click the time and select Intersection Analysis.
7. Select the appropriate report type, the flow direction, and the date.
8. Verify if the displayed result matches the result from the camera web page.

TruVision Navigator displaying the results:

192.168.87.90 - Intersection Analysis

04-22-2021 Thu 13:10:17

A In->A Out 0 Person(s) (0%)	A In->F Out 0 Person(s) (0%)
A In->B Out 0 Person(s) (0%)	A In->G Out 0 Person(s) (0%)
A In->C Out 0 Person(s) (0%)	A In->H Out 0 Person(s) (0%)
A In->D Out 0 Person(s) (0%)	A In->I Out 0 Person(s) (0%)
A In->E Out 0 Person(s) (0%)	A In->J Out 0 Person(s) (0%)

Report Type:  Daily  Weekly  Monthly  Annually

Flow In:  A  B  C  D  E  F  G  H  I  J

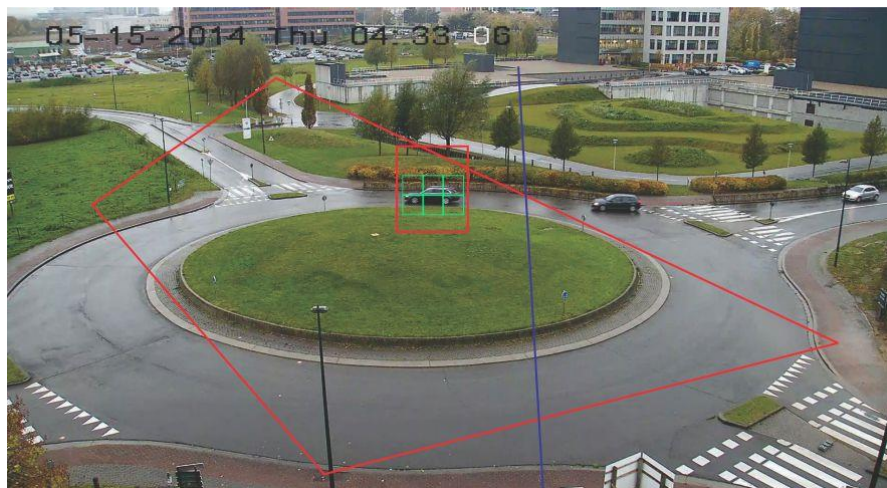
Statistics Time 4/22/2021 1:09:36 PM

Close

## Display analytics rules

**Note:** Display analytics rules (Motion, VCA, and Thermal OSD) only work with cameras that support this feature. Devices that support display analytics rules are indicated in the “Stream Overlay” row in the device details tables by the “VCA Rules” entry in Appendix B “Device details” on page 197.

Enabling analytics rules for motion and VCA provides dynamic display indicators in the video tile for each selection. Motion and VCA indicators, as well as the on-screen drawing that defines a region of interest, differ depending on the model of recorder.



## Motion

### To enable motion analytics for newer IP cameras:

1. Right-click the camera's recorder and select **Manage IP Cameras**.
2. Under Camera Setup, click Motion Detection.
3. Select the camera to display motion from the **Camera** drop-down list.
4. Select the **Enable Motion Detection** and **Enable Dynamic Analysis** for Motion check boxes.
5. If necessary, draw a new area setting in the **Area Settings** tab and select **Notify Alarm Host** in the **Actions** tab so that motion notifications display in the Notifier panel. Close the configuration window.
6. Right-click the camera's video tile and select **Display Analytics Rules > Motion** to enable or disable motion analytics. Motion analytics may appear as green rectangles in the video tile when they occur.

## VCA

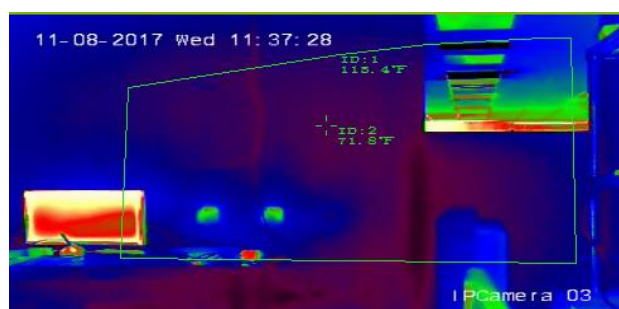
### To enable VCA analytics for newer IP cameras:

1. Right-click the camera's recorder and select Manage IP Cameras.
2. Under Camera Setup, click VCA.
3. Select the camera to display VCA analytics from the **Camera** drop-down list.
4. Select the **Enable VCA Alarm** check box.
5. If necessary, select **Notify Alarm Host** in the **Actions** tab to so that VCA notifications display in the Notifier panel. Close the configuration window.
6. Right-click the camera's video tile and select **Display Analytics Rules > VCA** to enable or disable VCA analytics. VCA analytics may appear as red rectangles in the video tile when they occur.

## Thermal OSD (thermal cameras only)

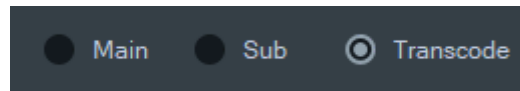
**Note:** The thermal camera must be added by itself to the Navigator panel (so that it has its own device node).

Right-click a thermal camera's video tile and select **Display Analytics Rules > Thermal OSD** to enable or disable on-screen temperature display.





## Stream



Select one of the stream type options **Main**, **Sub** or **Transcode**, or right-click the video tile and select **Stream** and then **Sub**, **Stream** and then **Main**, or **Stream** and then **Transcode**.

Use transcoding when you want to show one camera in a lower resolution than the main or substream resolution. This helps to display a view from a camera over a slow network connection.

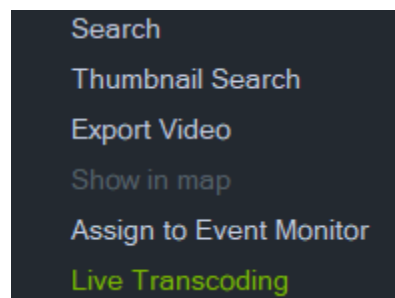
The **Main** setting provides the highest possible resolution. The **Sub** setting activates a substream for a lower resolution video that does not consume as much bandwidth.

The **Transcode** option uses the transcoded stream from the recorder. Transcoding is only supported by these recorders and in the following modes:

Recorder model	Live	Playback
TVR 45HD	Not supported	Supported
TVR 46	Not supported	Supported
TVN 22 (S/P)	Supported	Supported
TVN 71	Supported	Supported

**Note:** Transcoding can only be used for one channel at a time.

Live Transcoding uses pre-configured stream settings from the recorder, but you can change them from the Navigator Context Menu of the Camera to set the desired configuration.

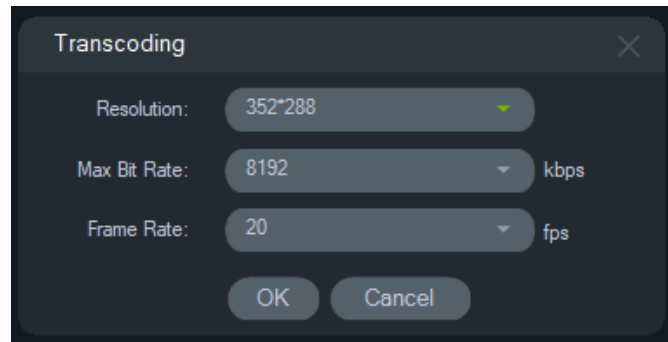


Some recorders support also transcoding during playback. The user can select the quality of the stream during playback, which is useful when there is limited bandwidth available. The transcoding parameters must be set up before switching to the transcoded stream.

1. Select **Transcode** on the timeline or tile context menu. The Configuration window below appears.



2. Change the transcode playback stream configuration as desired.
3. Use the Transcoding configuration window to set the resolution, maximum bit rate, and frame rate for the transcoded stream. See graphic below:



The following transcoding parameters can be set-up:

**Resolution:** Selections are: Auto, 4CIF, CIF, or QCIF

**Bitrate:** Selections are: 32, 48, 64, 80, 96,128, 160,192, 224, 256, 320, 384, 448, 512, 640, 768, 896, 1024, 1280,1536,1792, 2048, 3072, 4096, or 8192

**Frame rate:** Full frame rate, 22, 20, 18, 16,15, 12, 10, 8, 6, 4, 2, or 1

## POS mode

This function enables point of sale (POS) data display (from a device such as a cash register or ATM) in a video tile. The device providing the POS information must work in conjunction with a legacy ProBridge 3 text converter or via the NPCII, a third-party converter of SHL Systems ([www.shlsystems.de](http://www.shlsystems.de)).

The converter acts as a bridge between the recording device and the Point-of-Sale (POS) device (a cash register or ATM, for example). It feeds the POS text data into the recording device where it is tagged to the applicable video.

The NPCII is compatible with the following recorders:

- TVN 21 (via RS-232)
- TVN 22 (via RS-232 and IP)
- TVR 45HD (only for analog cameras; via RS-232 and IP)

### To activate POS mode:

To display POS data on top of the camera view, right-click the POS-configured camera's video tile and select **POS Mode > In Band**.

To display POS data on the side of the camera view, right-click the POS-configured camera's video tile and select **POS Mode > Out of Band**.

## Trigger outputs

This function is the same as the recorder context menu in the Navigator panel. See "Trigger outputs" on page 121.

## Assign to Event Monitor

This function is the same as the camera context menu in the Navigator panel. See “Assign to Event Monitor” on page 133.

## Show real time LPR

This function applies to TruVision Automatic Number Plate Recognition (ANPR) cameras that feature embedded Optical Character Recognition (OCR) to identify vehicle license plate information in real time.

**Note:** TruVision ANPR cameras are only available in EMEA and can only read license plates from certain countries (US not included) depending on the firmware version. See Table 5 below for details.

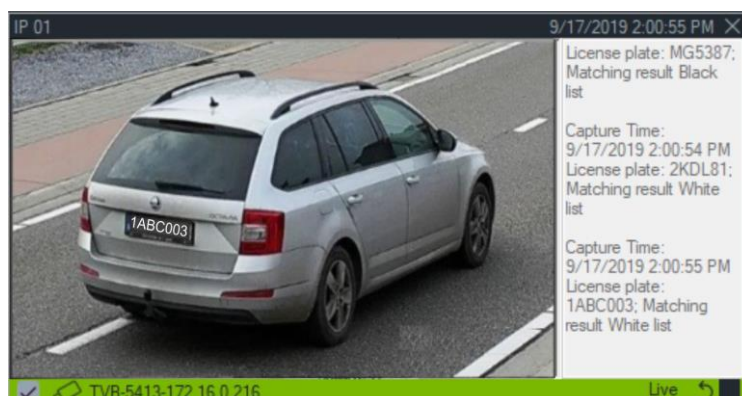
**Table 5: Supported license plate regions**

Firmware V13.x FPx (default loaded FW)	Slovakia, Italy, Spain, France, Germany, Poland, Belgium, France, Czech Republic, Netherlands, Denmark, Luxembourg, Greece, Albania, Bosnia and Herzegovina, Ireland, Malta, Sweden, Switzerland, Portugal, Macedonia, Croatia, Finland, United Kingdom, Romania, Serbia, Bulgaria, Norway, Israel, Hungary, Austria, Vatican City State, Cyprus, Iceland, Slovenia, Turkey, Montenegro
Firmware V14.x FPx	South Africa
Firmware V15.x FPx	Azerbaijan, Belarus, Kazakhstan, Lithuania, Georgia, Estonia, Latvia, Armenia, Russian Federation, Ukraine, Moldova, Belarus, Turkmenistan, Uzbekistan

**Note:** Make sure to load the proper firmware for the region where the camera is installed.

### To activate license plate result (LPR) notifications in Navigator:

1. Set up license detection in the TruVision ANPR camera web UI. See the *TruVision ANPR IP Camera Configuration Manual* for details.
2. Drag a TruVision ANPR camera from the Navigator panel to a video tile in the Viewer panel.
3. Right-click the tile and select **Show real time LPR > Show text**. LPR notification information appears on the right side of the video tile.



- To see LPR notifications in the Notifier panel, select the License Plate Recognition Notifier filter. See “Filters” on page 163 for details.
- When searching for license plate information in Navigator, a full or partial license plate can be used as a search term. The search is case-sensitive. See “Search” on page 122 for details.

## Object counting

**Note:** The object counting camera must be added by itself to the Navigator panel (so that it has its own device node) and must have a memory card installed to obtain object counting data.

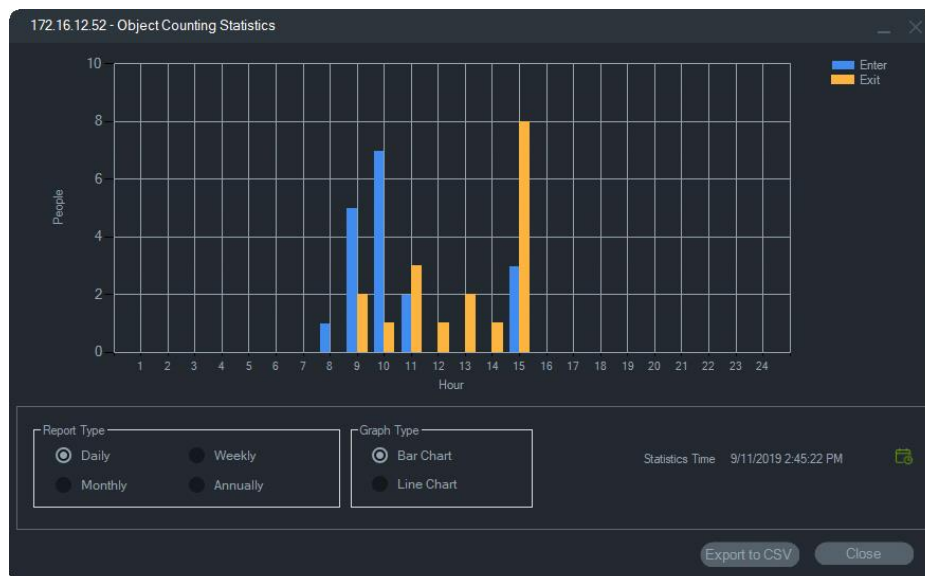
This function can be used with cameras that support object counting. Available selections are as follows:

### Statistics

Right-click an object counting camera tile and select **Object Counting > Statistics**.

View object counting statistics by Report Type (select from **Daily**, **Weekly**, **Monthly**, or **Annually**), Graph Type (select **Bar Chart** or **Line Chart**), and **Statistics Time**.

Click **Export to CSV** to export statistics data to an external file.



### Reset

Right-click an object counting camera tile and select **Object Counting > Reset**. This action resets the Enter and Exit numbers in the object counting on-screen counter to zero.

## Display counter

Right-click an object counting camera tile and select **Object Counting > Display Counter** to display the object counting on-screen counter (Enter and Leave numbers).

**Note:** This feature does not work for people counting cameras (TVS-PCx)

## Close

Closes the camera tile.

## Add timeline

Click Add time Line to add the time line of the camera to the time line bar, see “Adding timelines” on page 144.

## Map tile context menu

Right-click a map tile to bring up a context menu. Available selections are as follows:

### Zoom to fit

Focuses to the map image, eliminating any white space around the map in the Viewer tile.

### Close

Closes the map tile.

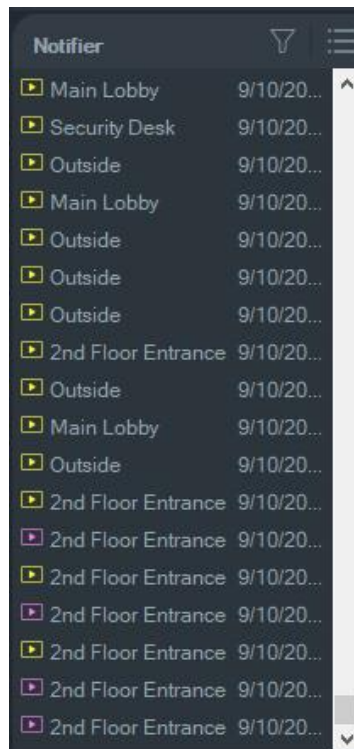
## Website tile context menu

Right-click a website tile in the Viewer to access Internet Explorer options. See Internet Explorer Help for further information on these options.

# Chapter 7

## Notifier panel

The Notifier panel is the central repository for notifications in Navigator. Devices send these notifications over the network via TCP to the IP address of the TruVision Navigator server. The firewall must be configured on the server to accept these network notifications. Refer to the recorder's or camera's user manual for information on configuring notifications so that they appear in the Notifier panel.



View video for live notifications as they are received by double-clicking the camera name link in the Notifier panel. This launches the video in the Viewer.

**Note:** Video is indicated by a video icon (with an arrow) next to the notification. If the video icon is not next to the notification, no video for the event is available.

Live notifications can be set to make an audible sound. See “Client” on page 24 for more information on this feature. After 1000 notifications occur in the Notifier panel, the oldest notifications are purged in the system.

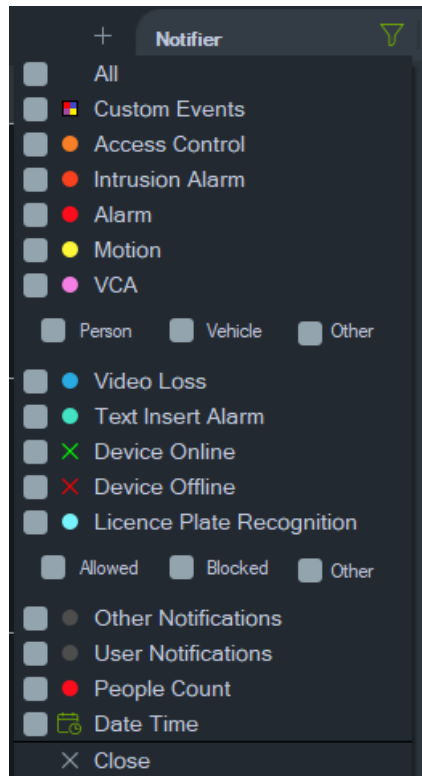
**Note:** User defined notification such as logical events & action events display in the notifier. User activity notifications such as logged in/off & Video Export notifications displays in the notifier in Client/Server mode.

## Filters

The Filters feature allows customization of the Notifier panel so that it shows only certain types of notifications.

### To set filters in the Notifier panel:

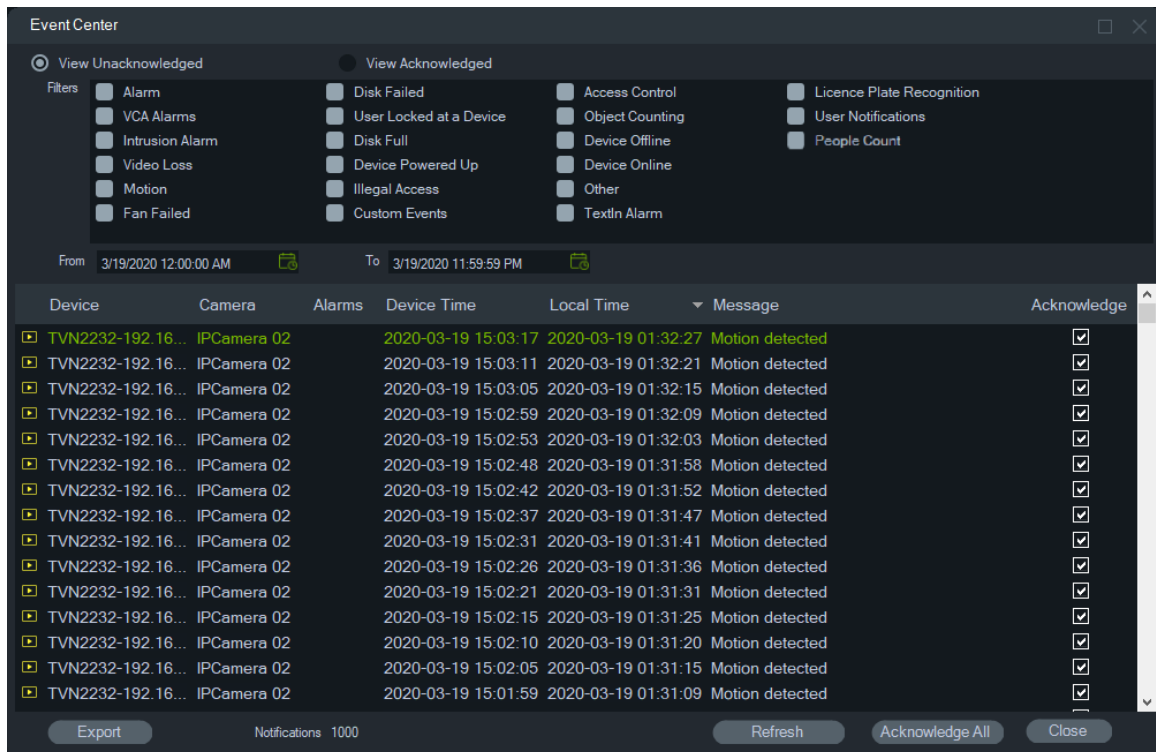
1. Click the **Filters** button in the Notifier panel.
2. Select one or more notification types to show only those types of notifications in the Notifier panel. The **Filters** button turns red when a filter is set.



3. To show the selected events occurring only during a set time period, select **Date Time**, set the date and time range, and then click **OK**.
4. Click **Close**. To remove filters, click the **Filters** button and select **All** or click the individual notification types to remove the check marks.

## Event center

The Event Center window provides a record of all events, both acknowledged and unacknowledged, over a specified time range.



### To find, view, and acknowledge events in the Event Center:

1. Click the **Event Center** button in the Notifier panel to launch the Event Center.
2. Select **View Unacknowledged** or **View Acknowledged**.
3. Set filters to see only certain event types by selecting the check box next to each event type.
4. Set a date range using the **From** and **To** drop-down lists.
5. Click the top of each column in the list of events to sort events by Device, Camera, Alarms, Device Time, Local Time, or Message.
6. Click the camera link in an event to view it in the Viewer panel.
7. Click **Acknowledge All** to acknowledge all unacknowledged events. After a live notification is acknowledged, it is considered a stored or historic notification that can be searched.
8. Click **Export** to export a list of the events displayed in the Event Center in CSV file format.

### People counting events

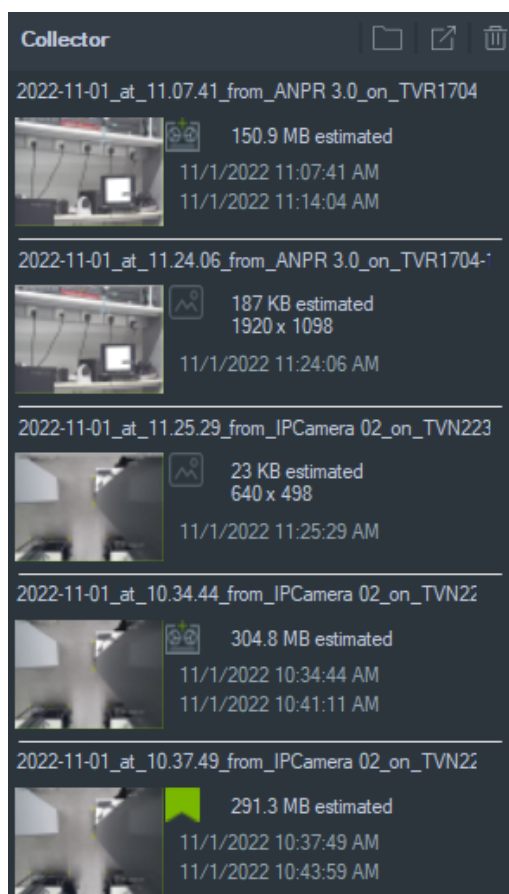
The Notifier will show only the Alert number event (as PeopleCountWarning) and the Max. Permitted event (As PeopleCountReached). The individual counting events for the people counting cameras appear only in the Event center.



# Chapter 8

## Collector panel

The Collector panel contains video and snapshots from the timeline (see “Timeline” on page 140), the camera context menu in the Navigator panel (see “Export video” on page 132), and the camera tile context menu in the Viewer panel (see “Local record” on page 141).



To view a video clip in the Collector, double-click the video’s thumbnail to launch it in the Viewer. Double-click a snapshot to play video from the camera that provided the snapshot at the point in time the snapshot was taken.

To delete items from the Collector, right-click an individual item’s thumbnail and select **Delete** or click the **Delete All** button at the top of the Collector panel.

## Export video and snapshots

Export all collected video and snapshots in the Collector panel to a specific location either on demand or via a schedule.

### To export video or snapshots from the Collector:

1. Click the **Export All** button at the top of the Collector panel to export all videos and snapshots, or right-click an item in the Collector panel and select **Export** to export it individually.
2. Click **Browse** and specify a destination location for export. Click the Show files in folder link to view the current contents of the folder (you can also click the **Show files in folder** button in the Collector toolbar to view folder contents).

**Note:** Make sure there is enough disk space at the destination location for the export. Use the file size estimate in the Collector as a guideline.

3. To start the export process immediately, click the **Export Now** button. The export task is automatically added to Tasks (see “Tasks” on page 37). A progress bar appears below each video thumbnail to indicate export progress. Exports in progress appear as green and turn to blue after export is complete.
4. To schedule the export process, click the **Schedule** button and specify a date/time to start the export process. An export task is automatically added to Tasks.
 

**Note:** The Local Scheduling Service must be running to execute these export tasks. Refer to the Services window for status and actions on all services.
5. When export tasks are complete, exported video and snapshots can be found at the location specified along with the TruVision Navigator Player program. See Chapter 12 “TruVision Navigator Player” on page 179.

## Collector context menu

Right-click a snapshot to make any of the following selections from the context menu:

- **Print Preview**
- **Print**
- **Email**
- **Rename** (also available in the Collector video context menu)
- **Export** (also available in the Collector video context menu)

# Chapter 9

## People counting web page

The people counting results can be displayed on a web page. The results can be displayed live onsite (store, workplace) on an information monitor before an entrance or cash desk. Having results displayed on a web page makes it easier to show the counting results on a monitor onsite, without the need for installing specific software. A web browser is enough. This can be achieved by using a PC with a browser, via a Smart TV with build-in browser or via a small media player (like Google Chromecast v3 or Amazon Firestick).

### Supported web browsers

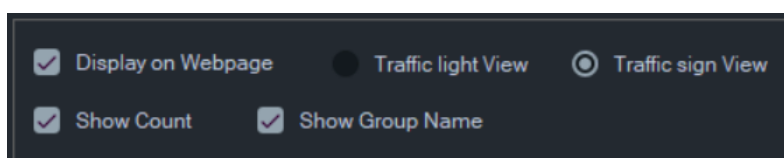
The webpage of the people counting camera can be opened with Internet Explorer (with ActiveX plugins, as usual) but also without plugins with Google Chrome, Mozilla Firefox and Apple Safari.

Supported versions:

- Internet Explorer (V.11), with plugin
- Google Chrome (as of version 45), without plugin
- Mozilla Firefox (as of version 52), without plugin
- Apple Safari (as of version 10), without plugin

### To configure a people counting web page:

1. Add people counting cameras into the Navigator, either manually, see “Adding devices manually” on page 79 or using the discovery tool, see “Adding devices using the discovery tool” on page 81.
2. In the Navigator tree, go to the People Counting node.
3. Right-click the People Counting node and select **Add People Counting**. The Configure People Counting window opens. See “Adding people counting IP Camera” on page 85.
4. Go to the web page configuration section (see graphic below) and define what the people counting web page will display.



The available display options are:

Web page content	Display on web page	Traffic Light View	Traffic Sign View	Show Count	Show Group Name
Count numbers, traffic light & status icon, and group name will be displayed	x	x		x	x
Traffic light & status icon and group name will be displayed.	x	x			x
Traffic light & status icon will be displayed.	x	x			
Traffic sign, count numbers, and group name will be displayed.	x		x	x	x
Traffic sign and group name will be displayed.	x		x		x
Traffic sign will be displayed.	x		x		

View examples:

Traffic light & status icon view



Traffic sign view



5. Click OK.

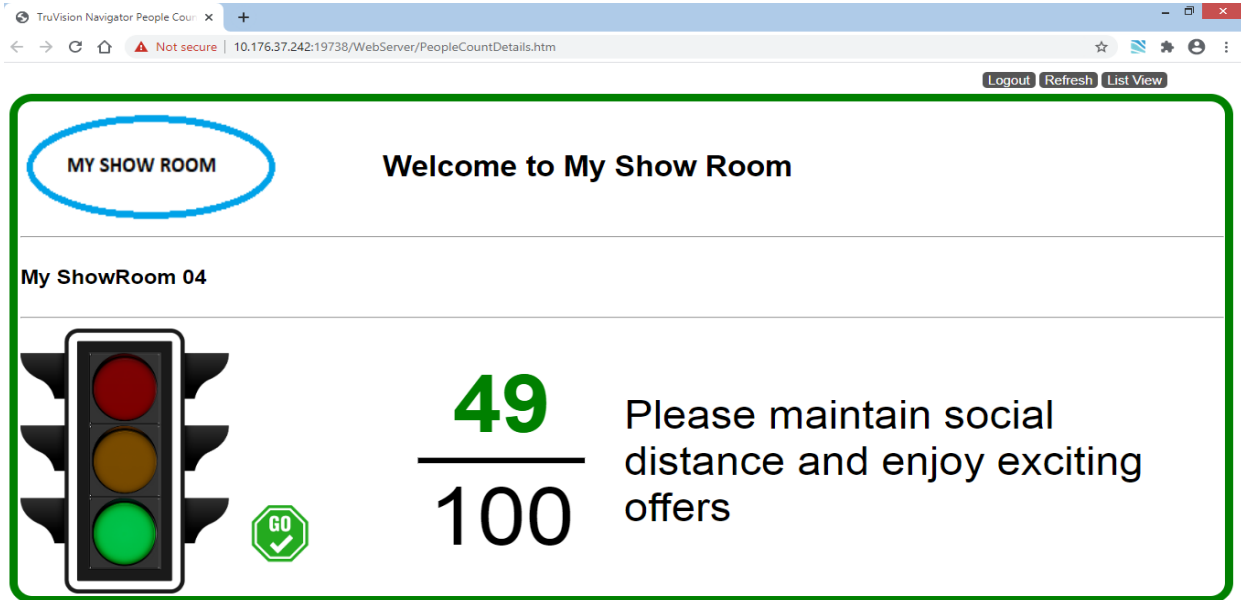
### To display people counting web page:

1. Open a web browser.
2. Open the Client settings page in the Navigator (see "Client" on page 24) and copy the URL. You can also click the hyperlink on the Client settings page in the Navigator (see "Client" on page 24) to open a web page on the browser of the TruVision Navigator PC.
3. Login using a valid TruVision Navigator username and password (you must have permission rights for people counting display). **Note:** The web page uses HTTPS with a self-signed certificate, so a warning message on a web browser will be displayed. You should ignore this warning message.
4. Select the camera groups that you need to see on the web page (the results of 4 camera groups can be displayed). When there is only one group, the web page with the counting results will be displayed after a successful login.

5. Based on the web page configuration for the camera group, you will see the status graphics, real-time counting result, and related on-screen messages. For examples of how a web page may be displayed, see graphics below.

### Some examples of web displays

Traffic light view (status Go) – people may enter the premises:



TruVision Navigator People Counting

Logout Refresh List View

MY SHOW ROOM

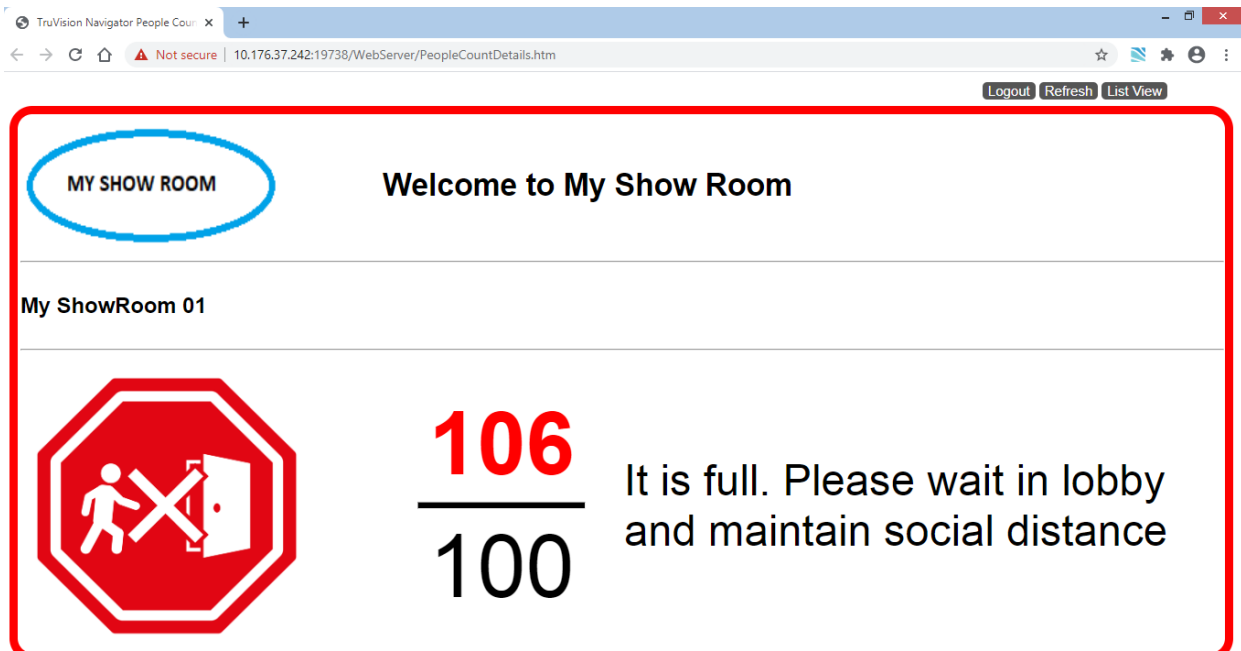
Welcome to My Show Room

My ShowRoom 04

49  
100

Please maintain social distance and enjoy exciting offers

Traffic sign view (status Stop) – people may NOT enter the premises:



TruVision Navigator People Counting

Logout Refresh List View

MY SHOW ROOM

Welcome to My Show Room

My ShowRoom 01

106  
100

It is full. Please wait in lobby and maintain social distance


### Two camera count and status (Stop and Alarm):

TruVision Navigator People Count | 10.176.37.242:19738/WebServer/PeopleCountDetails.htm

Logout Refresh List View


**MY SHOW ROOM** Welcome to My Show Room

My ShowRoom 01

 **106**  
100 It is full. Please wait in lobby and maintain social distance

**MY SHOW ROOM** Welcome to My Show Room

My ShowRoom 03

 **91**  
100 It is almost full, Please maintain social distance and enjoy exciting offers


### Four camera count and status (Stop, Alarm, Alarm, Go):

TruVision Navigator People Count | 10.176.37.242:19738/WebServer/PeopleCountDetails.htm

Logout Refresh List View


**MY SHOW ROOM** Welcome to My Show Room

My ShowRoom 01

 **106**  
100 It is full. Please wait in lobby and maintain social distance


**MY SHOW ROOM** Welcome to My Show Room

My ShowRoom 02

 **89**  
100 It is almost full, Please maintain social distance and enjoy exciting offers


**MY SHOW ROOM** Welcome to My Show Room

My ShowRoom 03

 **91**  
100 It is almost full, Please maintain social distance and enjoy exciting offers

**MY SHOW ROOM** Welcome to My Show Room

My ShowRoom 04

 **157**  
200 Please maintain social distance and enjoy exciting offers

# Chapter 10

## Auto login/Automatic Logout

The Auto Login feature allows the application to store user credentials. TruVision Navigator will only store one set of user credentials per system.

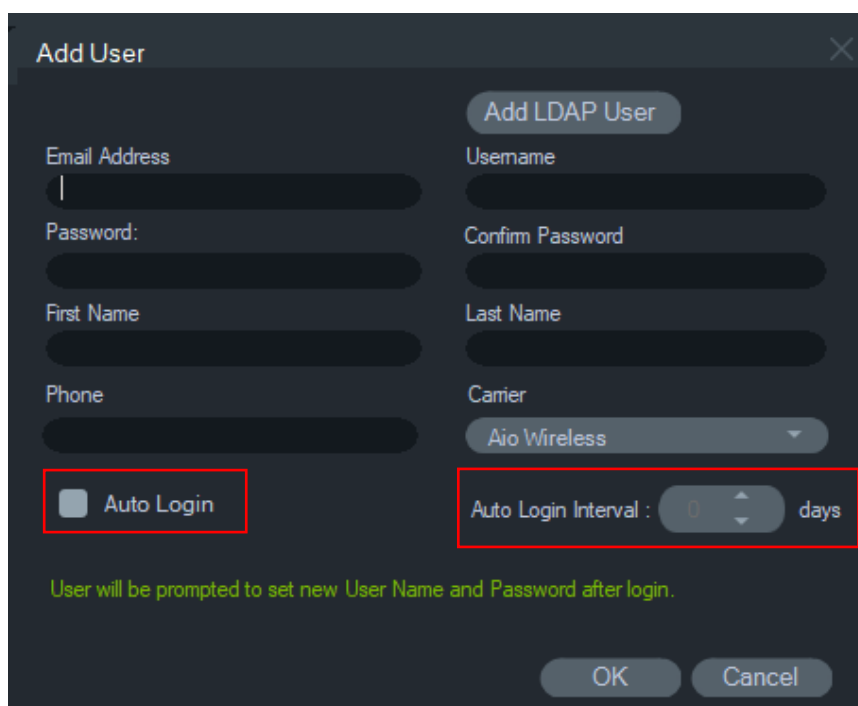
The Auto Login feature can be enabled when a new user is created or when a user is edited.

**Note:** LDAP users do not require the Auto Login feature.

### Add User

**Note:** By default, Auto Login is disabled for new users.

To enable Auto Login, select the **Auto Login** check box. You can also specify the number of days you will have access the application without providing credentials (default interval is 14 days). After 14 days you must log in again. When the interval is set to 0 days, the Auto Login function will never expire.



**Add User**

Auto Login

Auto Login Interval : 0 days

User will be prompted to set new User Name and Password after login.

OK Cancel

## Edit user

The administrator can edit the Auto Login details on the Users details page, as shown in the graphic below.

The screenshot shows a user details form with the following fields: Username (testuser), Status (Active), First Name (Test), Last Name (User), and Email Address. Two red boxes highlight the 'Auto Login' checkbox and the 'Auto Login Interval' spinner control, which is set to 0 days.

## Remember Me option

You must select the **Remember Me** option to be able to log in directly from the next login until the interval time specified by the administrator.

The screenshot shows the TruVision Navigator 9.1 login screen. It includes a logo, version information (Version 9.1 SP3 (9.1.3.16)), and login fields for User Name and Password. The 'Remember Me' checkbox is checked, and there are 'Login' and 'Forgot?' buttons.

## Settings

TruVision Navigator allows LDAP users to log in without credentials and TruVision Navigator users to use auto login for non-LDAP users. If the Auto Login option is enabled on the application and if the application has LDAP users, by default the application allows LDAP login.

Administrators can change the preference for TruVision Navigator users by selecting **Prefer TruNav user over LDAP User for Auto Login** check box in the server settings.

The screenshot shows the LDAP Servers settings page. It includes a 'Server' input field with an 'Add' button, a 'Domain Names' input field with a 'Remove' button, and two checkboxes: 'Enable Group Permissions' (unchecked) and 'Prefer TruNav User over LDAP User for Auto Login' (checked).



## Feature behavior

- Users can clear their stored credentials by using the **Logout** option of TruVision Navigator. This will clear the auto login credentials for the user and redirects the user to the Login screen.
- When a password is changed or an account is reset, the user can no longer automatically log in. The empty login screen will reappear at the next login.
- The **Remember Me** option does not work for administrators.
- Changes made by the administrator to the auto login settings for a specific user will be applied when the user next logs in.
- When auto login is enabled, the default value of the time interval is 14 days. The minimum value is 0 days. If the time interval is set to 0, the user will always be able to automatically log in.

## Automatic Logout

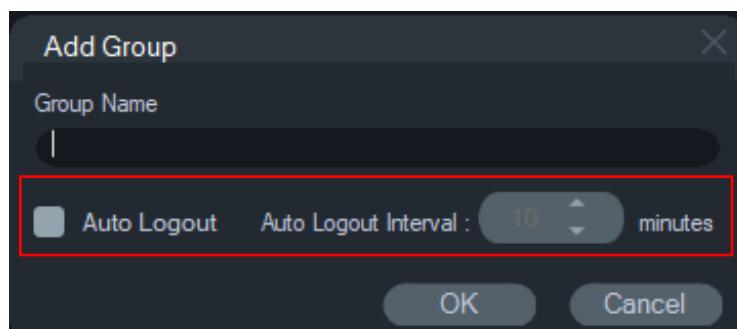
This option will close the application when a user is inactive for a predetermined period. This feature is supported at group level.

When adding a Group or LDAP Group, the administrator or the user has the option to enable the Auto Logout feature for the group.

When the administrator or the user enables this feature, inactivity interval needs to be specified. This time interval specifies the maximum idle time for the Group. When there is no user activity on the machine by the end of this interval, the application will log out and display the login screen again. The timer will reset as soon as there is mouse/keypad activity detected by the machine.

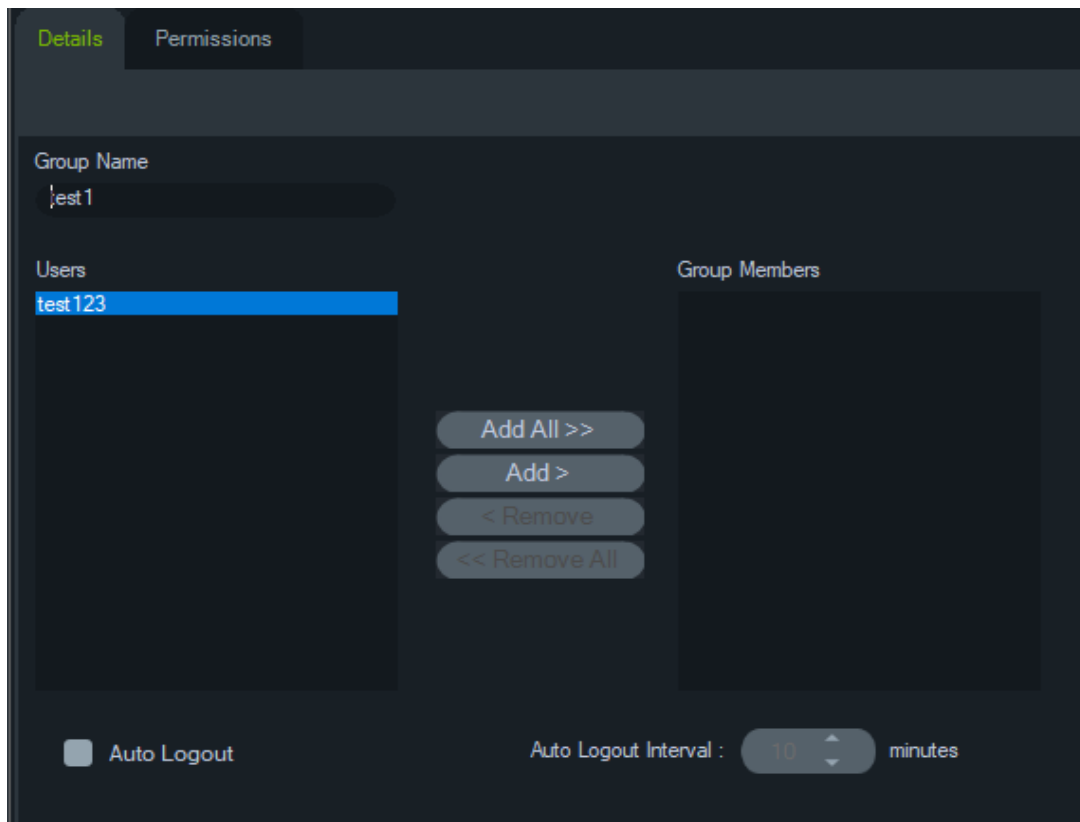
## Add Group

When creating a Group, enable the Auto Logout option and time interval.



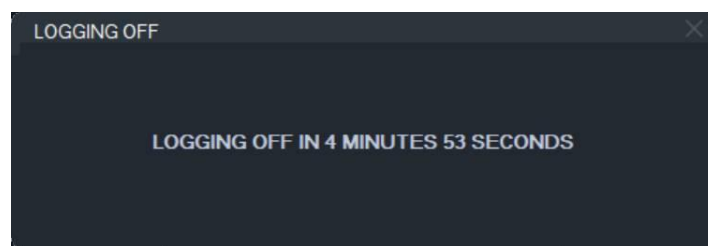
## Edit Group

The administrator can edit the Auto Logout option.



## Feature behavior

- Users will see a warning message five minutes before the automatic logout so they can prevent logout, if needed.
- If a user does any activity with the mouse or keypad, the Auto Logout timer will be reset.



- The Auto Logout function is not available to the Admin user.
- Any modifications to the Auto Logout or change to the time interval will only be applied from the next login.
- The Auto Logout feature also works for LDAP users.
- When enabled, the default value for the auto logout interval is 60 minutes. The minimum value is 10 minutes.

# Chapter 11

## Server offline mode

The Navigator client can still operate in a client/server configuration when the server is offline. However, some configuration options are not available in server offline mode.

A dialog appears when starting Navigator with the server offline. It states: “While you’re offline, you’ll be able to access video normally. Changes to the system configuration will be disallowed.”

Server offline mode is indicated by the  icon next to Admin in the Navigator screen. The Notifier is empty, and notifications do not appear when in server offline mode.

**Note:** The Navigator client can take up to five minutes to recognize the Navigator server after the TruVision Navigator service is started.

### Available options, server online and server offline mode:

Function	Online	Offline Mode
Navigator main menu	Settings Device Manager Bookmark Manager Tasks Recurring Tasks Open Exported Video File Check For Updates User Settings Help Logout	Settings Bookmark Manager Recurring Tasks Storage Calculator Open Exported Video File Check For Updates Help Logout
Settings window	Client tab Server tab Notifications tab Health Diagnostics tab Groups and Users tab Audit History tab Event Actions tab	Client tab
Add Folder menu	Enabled	Disabled
Add Devices menu	Enabled	Disabled

<b>Function</b>	<b>Online</b>	<b>Offline Mode</b>
Devices menu	Add Device Add Folder Health Diagnostics Open Exported Video File	Open Exported Video File
Device folder menu	Add Device Add Folder Delete Folder Rename Folder	Disabled
Device offline menu	Connect Delete Device Rename Device Properties	Connect Properties
Device online menu	Run Tampering Monitor Run Device Report Run Health Diagnostics Run Network Statistics Run Disk Analysis Trigger Outputs Manage IP Cameras Search Export Video Configure Device Reboot Device Delete Device Rename Device Properties	Run Health Diagnostics Run Disk Analysis Trigger Outputs Search Export Video Reboot Device Properties
Export Video window	Export Now Schedule	Export Now
Properties window	Enabled	Device or camera detail are visible but cannot be changed.
Camera menu (camera icon)	Search Export Video Assign to Event Monitor	Search Export Video
Camera menu (device icon)	Run Tampering Monitor Run Device Report Run Health Diagnostics Trigger Outputs Search Configure Device Reboot Device Delete Device Rename Device Properties	Run Health Diagnostics Trigger Outputs Search Reboot Device Properties

<b>Function</b>	<b>Online</b>	<b>Offline Mode</b>
Multi selection menu, devices	Delete Devices	Disabled
Multi selection menu, folders (devices, maps, websites, access control)	Delete Folders	Disabled
Maps main menu	Add Map Add Folder	Disabled
Maps folder menu	Add Map Add Folder Delete Folder Rename Folder	Disabled
Map menu	Configure Map Rename Map Delete Map	Disabled
Multi selection menu, maps	Delete Maps	Disabled
Websites main menu	Add Website Add Folder	Disabled
Website menu	Configure Website Delete Website	Disabled
Website folder menu	Add Website Add Folder Delete Folder Rename Folder	Disabled
Multi selection menu, websites	Delete Websites	Disabled
Access Control main menu	Add Panel Add Folder Global Lockout Global Reinstate	Global Lockout Global Reinstate
Access Control panel menu	Configure Panel Recent Activities Delete Panel Rename Panel Reinstate All Doors Lockout All Doors Unlock All Doors Properties	Reinstate All Doors Lockout All Doors Unlock All Doors Properties
Access Control panel menu	Enabled	Enabled
Multi selection menu, access control panels	Delete Panels	Disabled
Intrusion Detection main menu	Add Panel Add Folder Global Arm Global Disarm	Disabled

<b>Function</b>	<b>Online</b>	<b>Offline Mode</b>
Intrusion Detection panel menu	Configure Panel Delete Panel Rename Panel Arm All Disarm All Properties	Disabled
Network Switches main menu	Add Device Add Folder	Disabled
Network Switch menu	Configure Device Delete Device Rename Device Display Front Panel Run Network Statistics System Reboot Refresh Properties	Run Network Statistics System Reboot Refresh
People Counting main menu	Add People Counting Add Folder Report	Disabled
People Counting menu	Edit Delete Show in Map Reset Counter Report	Disabled
Logical View main menu	Add Logical view Add Folder	Disabled
Logical View folder menu	Add Folder Add Logical View Rename Folder Delete Folder	Disabled
Logical View menu	Edit Delete	Disabled

# Chapter 12

## TruVision Navigator Player

The TruVision Navigator Player is a standalone player that can be used to replay any video clip exported using TruVision Navigator (proprietary file formats include .wvf, .mpc, .asf, .mp4, and .drv). This player should be copied to media along with video clips for authorities. It launches from the media itself and does not require installation to a computer.

### To play video with the TruVision Navigator Player:

1. After exporting video clip(s) from the Collector to the user-defined location, launch the TruVision Navigator player by double-clicking the TruVision Navigator Player icon in the file folder where the video clips are located.

**IMPORTANT:** The player.bin file must be in the same directory as the TruVision Navigator Player.exe file for the TruVision Navigator Player to work.

2. The player automatically sweeps the directory and loads the associated video clips in the Video File Selector panel from that directory. Double-click a camera icon in the Video File Selector panel to populate the next video tile. The default view is 9-up with a maximum of 16-up. Other custom views are available.



The features of the TruVision Navigator Player are as follows:

### Toolbar, viewer, and panels

- **Open** – Browse for a specific video clip in another directory and load it into the Video File Selector panel.
- **Preserve Aspect Ratio** – Click **View > Preserve Aspect Ratio** to see the video in its original aspect ratio (not resized to fit the video tile).
- **Dewarp View** – To open dewarped view of the selected video tile, right-click the tile and select **Dewarp View** to access the different view options. See “Dewarp views” on page 151 for details.
- **Custom View** – A total of 12 different video tile viewing configurations are available. Default view is 9-up.
- **Maximize Screen** – Launches a full screen view.
- **Audio** – Listen to audio (if present) for only the selected video tile by right-clicking the tile and selecting **Enable Audio**. If all video tiles are selected, no audio will play.
- **Watermark** – To view the watermark of the selected video tile, right-click the tile and select **Watermark**. It opens the window with the watermark meta data of the selected video tile.
- **Video File Selector Panel** – Contains a detailed list of video clips available for playback. Double-click a camera icon in this panel to populate the next video tile.
- **Select All** – Select this check box to select all video tiles. After all video tiles are selected, playback controls affect all video tiles and not just a single one. However, each clip begins at its own start time and ends at its own end time. This holds true for the snapshot capability as well.
- **Bookmarks Panel** – Double-click a bookmark in the Bookmarks panel to jump to the bookmark during a selected video’s playback. Right-click a bookmark in the Bookmarks panel to view bookmark details.
- **Time/Date Stamp** – Each video has a time/date stamp on it for evidentiary purposes.
- Double-click any video tile to go to full screen or use the maximize button in the tool bar.
- Double-click any video tile to return to the normal state.
- When in full screen mode, right-click to hide/show the playback controls. Only the video tiles display.



## Timeline functions

- **Timeline** – Jump ahead or back in time for a single selected video tile. Click the **Zoom In Timeline**, **Zoom Out Timeline**, **Center the Play Cursor**, **Scroll Left**, **Scroll Right**, and **Go To** buttons to manage timeline playback.
- **Playback Controls** – FFWD, RWD, Play, Pause, Frame Reverse, Frame Advance, and Loop.
- **Sync All** – Click this icon to start all video clips at the same time.

**Note:** As the video clips are played, there may be time gaps due to the different video settings on each clip source (e.g., different frame per second (fps) settings). This function ensures that the initiation of playback for all tiles happens at the same time to keep the time gaps between the clips at a minimum.

- **Snapshot** – Take a snapshot of the highlighted video tile(s) by clicking the **Export Snapshot** button. Select the cameras to take snapshots from, and then click **Snapshot**.
- **Local File Information** – View details about the selected video clip including the device type and address, camera name, start and end times, and file location.

# Chapter 13

## Using a compatible keypad

Compatible keypads provide an alternate method of navigating the TruVision Navigator user interface. A high level of usability and control can be achieved by connecting keypads and using them with the Navigator client.

Compatible keypads are:

- Aritech TVK-400USB

### Connecting the keypad

The keypad must be connected to the client machine's USB port *before* launching the Navigator client. The keypad driver is installed automatically the first time the keypad is connected.

A successful connection of the keypad is indicated by the keypad icon appearing in the bottom right of the Navigator screen.

### Calibrating the keypad

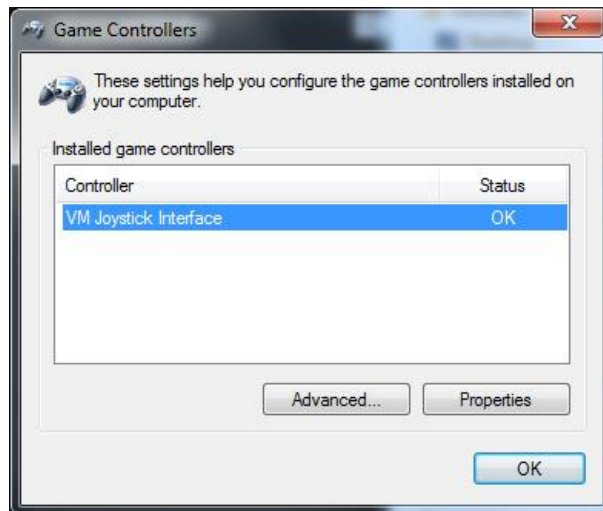
We recommend calibrating the keypad to avoid erratic PTZ movements.

**To calibrate the keypad:**

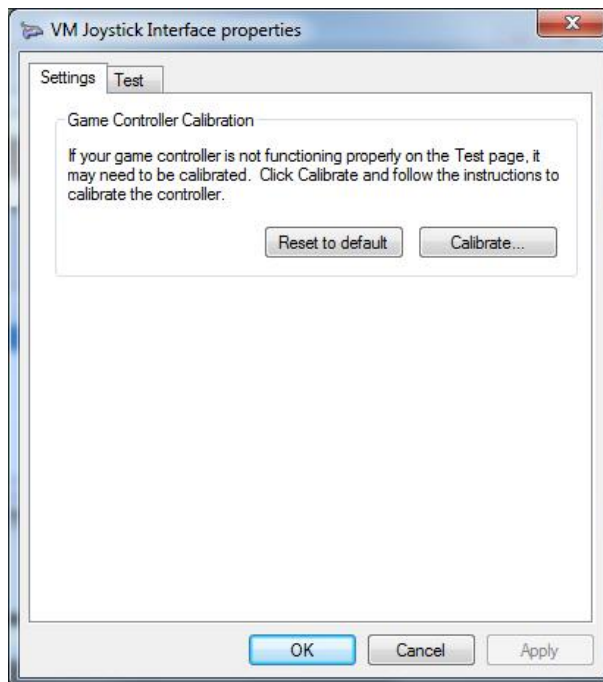
Follow the instructions above for connecting the keypad.

1. Go to **Control Panel > Devices and Printers**.
2. Right-click the VM Desktop icon and select **Game controller settings**.

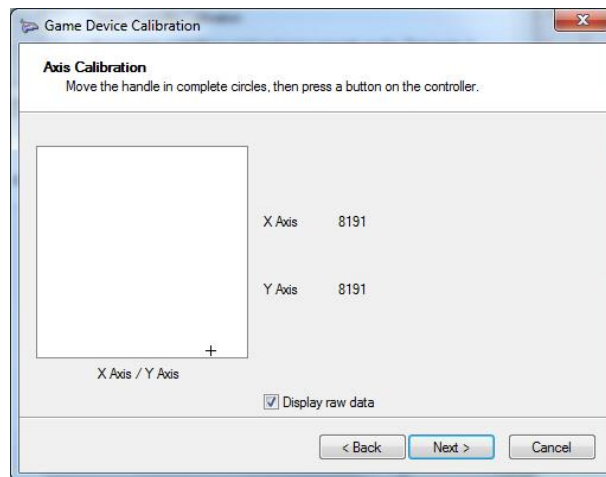
3. The Game Controllers window appears. Click **Properties**.



4. Click the **Settings** tab, and then click **Calibrate**.

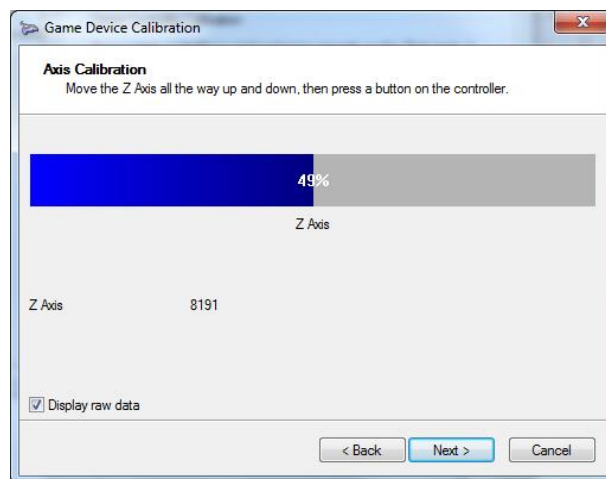


5. The Device Calibration Wizard appears. Click **Next**.
6. The Find Center Point window appears. Leave the keypad handle centered, press a button on the keypad, and then click **Next**.
7. The Axis Calibration window appears. Move the keypad handle in complete circles, press a button on the keypad, and then click **Next**.

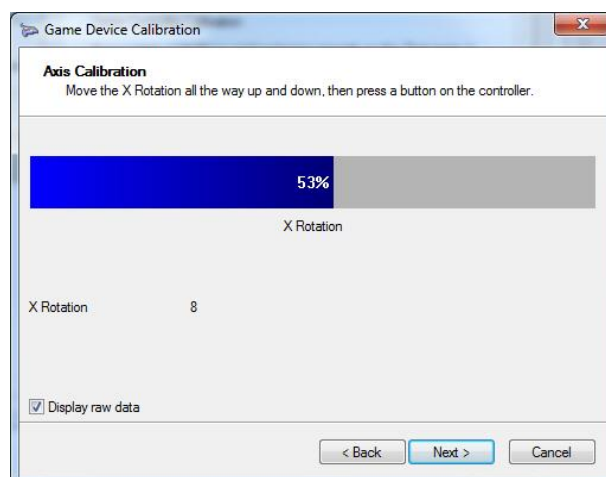


**Note:** Select **Display Raw Data** to see a numerical value for the current position of the keypad.

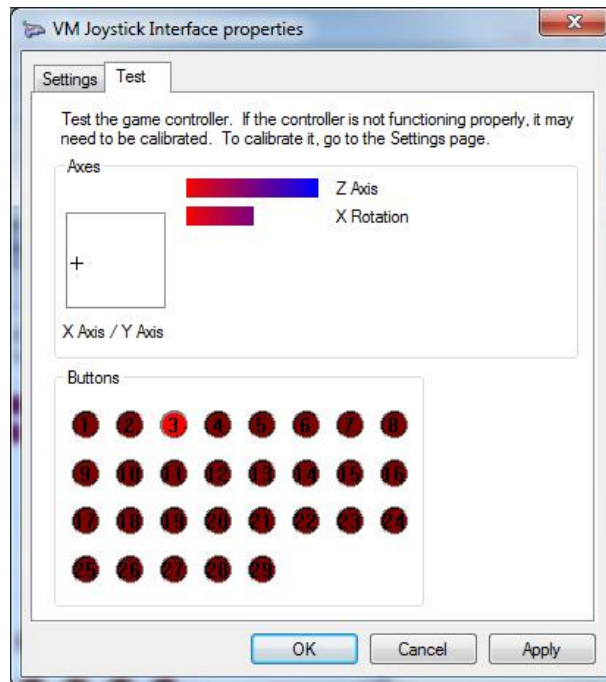
8. The Verify Center Point window appears. Leave the keypad handle centered, press a button on the keypad, and then click **Next**.
9. The Z Axis Calibration window appears. Twist the PTZ knob on top of the keypad handle, press a button on the keypad, and then click **Next**.



10. The X Axis Calibration window appears. Move the keypad handle all the way up and down, press a button on the keypad, and then click **Next**.



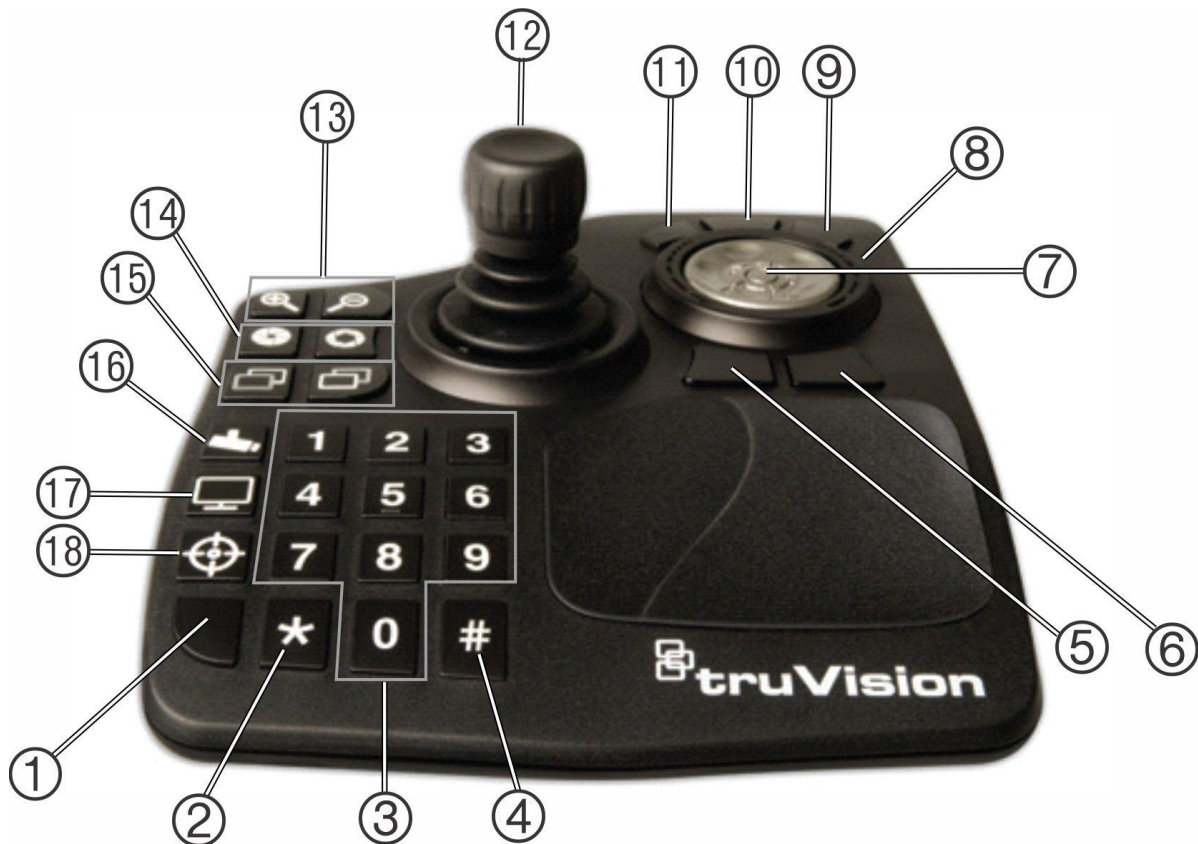
11. Click **Finish** to save the calibration settings.
12. Click the **Test** tab in the VM Joystick Interface properties window.



13. Test the keypad by moving it and observing onscreen behavior. The Axes indicators should indicate a value of 50% after moving the keypad or PTZ knob as far as possible one way or the other.
14. Press buttons on the keypad to test their functionality. Pressing a button should illuminate one of the circled numbers in the Buttons section.
15. Click **Apply**, and then click **OK** when finished.

# Keypad functions

## TVK400USB keypad



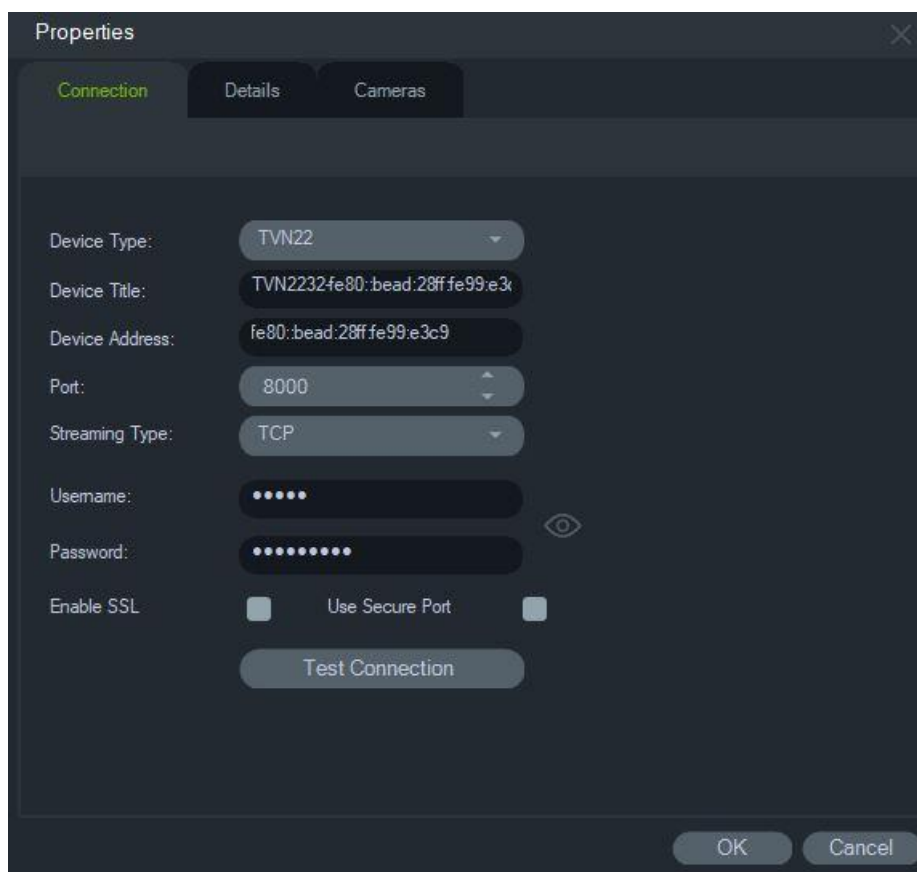
1. Enter. Enters PTZ camera presets.
2. Sub/Main stream switching.
3. Number keys for selecting presets.
4. Snapshot/Bookmark
5. Go to playback.
6. Switch to live.
7. Scroll. Scrolls between video tiles in multi-up view and scrolls the timeline in one-up view.
8. Wheel. Rotate right to fast forward and rotate left to rewind.
9. Fast forward
10. Pause/resume
11. Rewind
12. Keypad. PTZ: Rotate knob to zoom in/out, keypad moves the camera. Non PTZ: Rotate knob to zoom in/out, keypad pans inside the zoom in view.
13. Zoom. Live: Zooms the camera in/out. Playback: Zooms in/out on the timeline.
14. Iris open/close
15. Focus near/far
16. Set preset. Press this button, a preset number, and Enter to enter a new PTZ preset.
17. Toggle between one-up and multi-up views.
18. Local record

# Chapter 14

## Additional features

### IPv6 support (recorders and cameras)

TruVision Navigator, provides support for IPv6 enabled recorders and cameras, see the following instructions to add manually and via discovery.



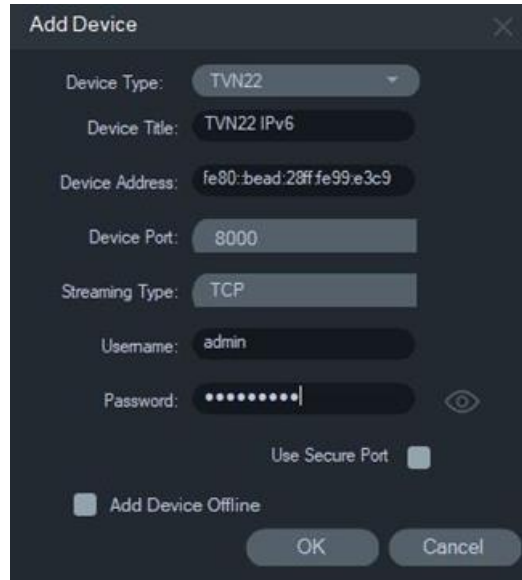
The screenshot shows a 'Properties' dialog box with three tabs: 'Connection' (selected), 'Details', and 'Cameras'. The 'Connection' tab contains the following fields and controls:

- Device Type: TVN22 (dropdown menu)
- Device Title: TVN2232fe80:bead:28ff fe99:e3c9 (text field)
- Device Address: fe80:bead:28ff fe99:e3c9 (text field)
- Port: 8000 (spin box)
- Streaming Type: TCP (dropdown menu)
- Username: [masked with 5 dots] (text field)
- Password: [masked with 8 dots] (text field) with an eye icon for visibility toggle
- Enable SSL:  (checkbox)
- Use Secure Port:  (checkbox)
- Test Connection (button)

At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

## Add device manually

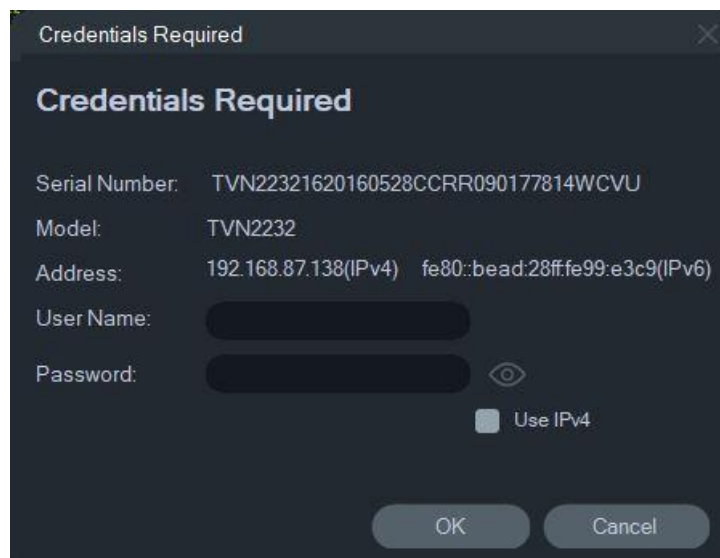
To manually add a device in TruVision Navigator, follow the procedure in “Adding devices manually” on page 79. Enter the device IPv6 address in the Device Address field, along with the required credentials and other information.



## Add device via discovery

To add a device by using discovery tool in TruVision Navigator, follow the procedure in “Adding devices using the discovery tool” on page 81. Select the discovered device using its IPv6 address and provide required credential information.

If a device is configured with both IPv4 and IPv6 addresses, the credentials dialog will display options for both IPv6 and IPv4. The user will need to decide which IP address to use by selecting or unselecting the Use IPv4 option.





## Communication with an enhanced service port

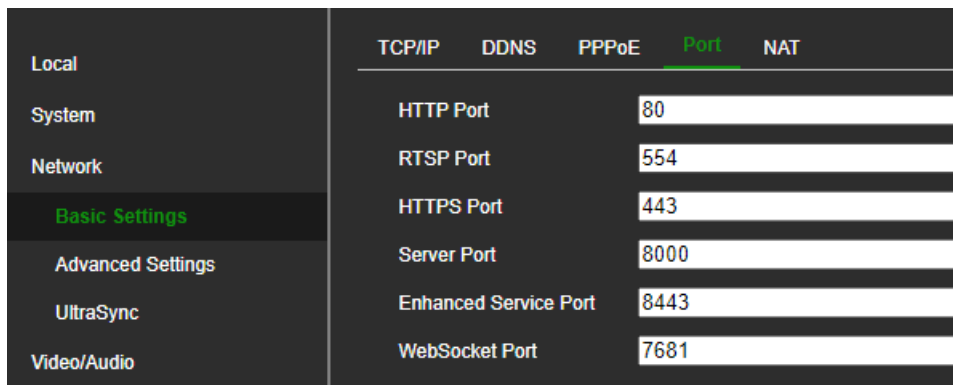
TruVision Navigator supports communication with recorders and cameras using an additional service port.

**Note:** This feature is supported by latest recorders and cameras (released post 2022).

When adding a device via the discovery tool, the secured port is not added or displayed automatically. However, you can manually add the device or add it via discovery and then modify its details from the properties menu to enable secure communication with the device.

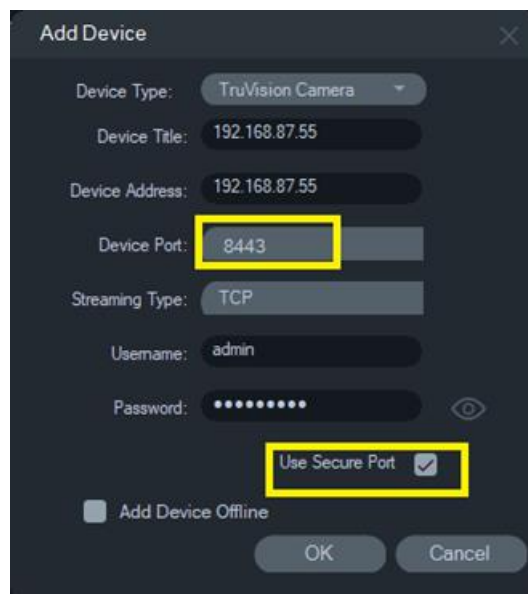
### Identify enhanced service port on a recorder or camera

Log into the Recorder/Camera webpage and in the Network Settings check for Enhanced Service Port settings. By default, this port is set to 8443.



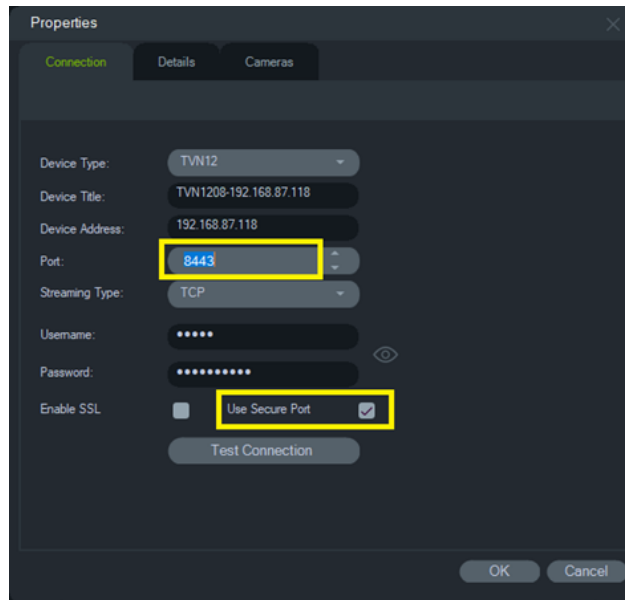
### Adding device manually

When manually adding a device (see “Adding devices manually” on page 79), enter the enhanced service port and select the **Use Secure Port** option to enable communication over enhanced service port.



## Modifying service port

If a device is added via discovery or manually using the default port, you can open the **Properties** window by right-clicking on the device. In the Properties window, enter the desired "Enhanced Service Port" value in the **Device Port** field. Additionally, make sure to select the **Use Secure Port** option to enable communication over the enhanced service port.



# Appendix A

## Minimum system requirements

### Software requirements

The following operating systems and other software components are prerequisites for client and server installation:

**Note:** 32-bit operating systems are not compatible with TruVision Navigator 8.0+.

**Table 6: Client software requirements**

Component	Version	Notes
Operating System	Microsoft Windows 10 64-bit	
	Microsoft Windows 11 64-bit	
	Microsoft Windows Server 2012 R2 64-bit	
	Microsoft Windows Server 2016	
	Microsoft Windows Server 2019	
Other	Microsoft .NET Framework 4.6.1	Packaged with the installation

**Table 7: Server software requirements**

Component	Version	Notes
Operating System	Microsoft Windows 10 64-bit	
	Microsoft Windows 11 64-bit	
	Microsoft Windows Server 2012 R2 64-bit	
	Microsoft Windows Server 2016	
	Microsoft Windows Server 2019	
Database	SQL Server 2012/2014/2016/2019 (use updated versions)	Go to <a href="http://www.microsoft.com">www.microsoft.com</a> for details on version compatibility with the operating systems listed above.

Component	Version	Notes
Other	Microsoft .NET Framework 4.6.1	Packaged with the installation
Other	Microsoft Visual C++ 2010 x64 Redistributable 10.0.40219	Packaged with the installation
Other	WinPCAP 4.1.3	Packaged with the installation

## Server/client hardware guidelines

The following specifications are only meant to serve as a guideline as Navigator system performance varies according to the robustness of the machine.

**Table 8: Server hardware specifications**

Component	Recommended	Notes
CPU	3rd Gen Intel® Core i5-3470 Processor (6 MB, 3.2 GHz)	CPU power is directly related to the performance of the application when running and rendering video. The better the CPU, the more responsive the application will be.
Memory	16 GB RAM	RAM is related to the number of different applications that can run simultaneously as well as the number of different operations that TruVision Navigator can perform at once. The higher the RAM, the better the performance of the application.
Hard Drive	500 GB – 7200 RPM, SATA 3.0 Gb/s, 16 MB Cache	Optional - TruVision Navigator requires approximately 800 MB of storage to install. To store exported video from the devices on the local machine, an increase storage size may be required.
Graphics Card	Nvidia® GeForce GTX 1060	Video Card capability is directly related to the video rendering performance within TruVision Navigator. The better the video card, the better the video rendering performance.
Resolution	1920 x 1080	
Network	Integrated PCIE 10/100/1000	The network interface card can be a performance bottle neck depending upon the throughput of the card. If the card's throughput is less than the amount of data streaming to the machine, performance issues may occur.

## Supported recording devices

Table 9 shows the supported recording devices.

**Table 9: Supported recording devices**

TruVision NVR 10 (TVN 10/10S/10C/10CS)
TruVision NVR 21 (TVN 21)
TruVision TVN 22
TruVision TVR 12HD
TruVision TVR 15HD
TruVision TVR 44HD
TruVision TVR 45HD
TruVision TVR 16
TruVision TVR 17
TruVision TVR 46
TruVision NVR 71 (TVN 71)
TruVision NVR 70 (TVN 70)
TruVision NVR 11 (TVN 11)
TruVision NVR 12 (TVN 12)
TruVision NVR 20 (TVN 20)*
TruVision NVR 50 (TVN 50)*
TruVision DVR 10 (TVR 10)*
TruVision DVR 11/11C (TVR 11/11C)*
TruVision DVR 12/12C (TVR12/12C)*
TruVision DVR 40 (TVR 40)*
TruVision DVR 41 (TVR 41)*
TruVision DVR 42 (TVR 42)*
TruVision DVR 60 (TVR 60)*
DVSR-xU*

\* These models are in End-of-Life status and not actively supported.

**Note:** The latest firmware can be downloaded via the cloud connection.

## Discoverable devices

**IMPORTANT:** A wired network connection is required for device discovery. Do not use a Wi-Fi network connection to discover devices.

**Note:** Unmanaged devices do not support the discovery feature.

## Intrusion panels

Table 10 below shows the discoverable intrusion panels and related firmware versions.

**Table 10: Discoverable intrusion panels**

Devices	Supported Firmware
UltraSync Self-Contained Hub	B0403001A58P002011-33 or later
UltraSync Modular Hub	B0403001A56P002005-01 or later
ZeroWire	B0403001A58P002010-31 or later
xGen	B0403001A56P002005-16 or later

## Transmission products

Table 11 below shows the discoverable transmission products and related firmware versions.

**Table 11: Discoverable transmission products**

Devices	Supported Firmware
ES2402-16P-2C	1.5b150623
ES2402-24P-2C	1.5b170503
ES2402-8P-2C	1.5b150623
GE-DSSG-244-POE	1.5b131203
NS3500-28T-4S	1.5v140718
NS3500-24T-4C	1.5b180308
NS3502-8P-2S	1.5b131120
NS3503-16P-4C	1.5b160906
NS3550-24T/4S	1.0b120719
NS3550-2T-8S	1.5b131120
NS3552-8P-2S	1.5b160215
NS3552-8P-2S-V2	1.5b180920
NS3553-4P-1T-2S	1.5b180130
NS3601-24P/4S	1.5b121207
NS3702-24P-4S	1.5b140618
NS3702-24P-4S-V2	1.5b180706

Devices	Supported Firmware
NS4702-24P-4S-4X	1.5180129
NS4702-24P-4X	1.5b180129
NS4750-24S-4T-4X	1.5b140710
NS4802-24P-4S-2X	1.5b150713
POC2502-16CXP-2T-2S	1.5b160906
POC2502-8CXP-2T-2S	1.5b150717

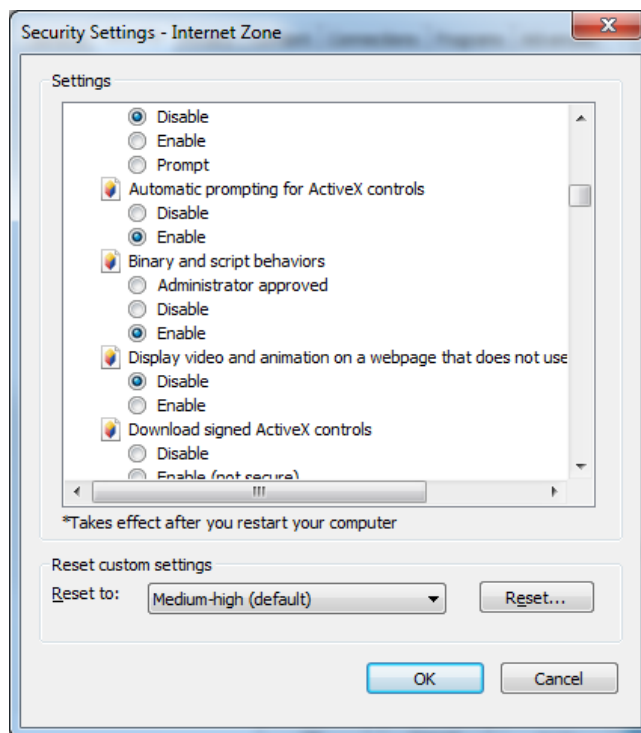
**Note:** See the *TruVision Navigator Compatibility with IFS Switches Addendum* for further information about supported features.

## Internet Explorer plug-in requirements

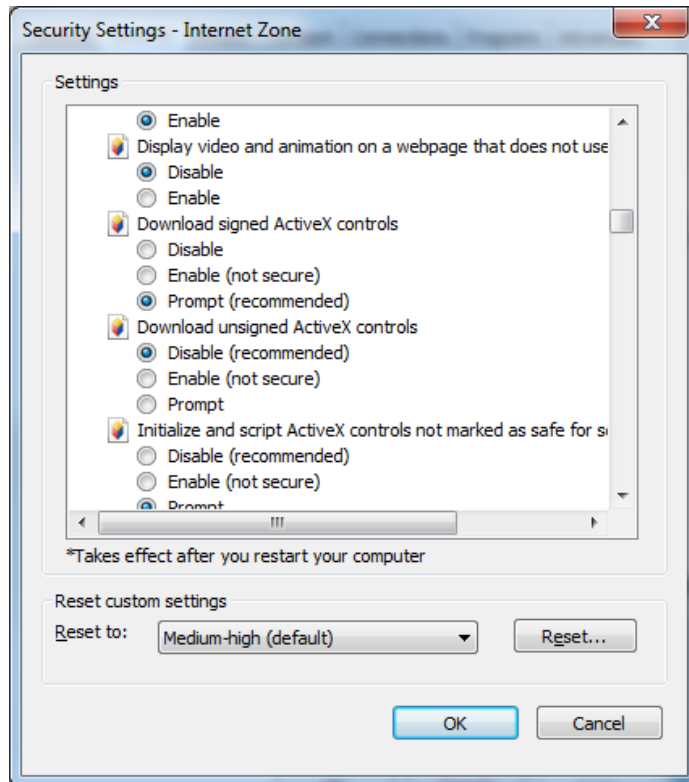
The following ActiveX control settings are prerequisites for Navigator installation.

### To enable the settings:

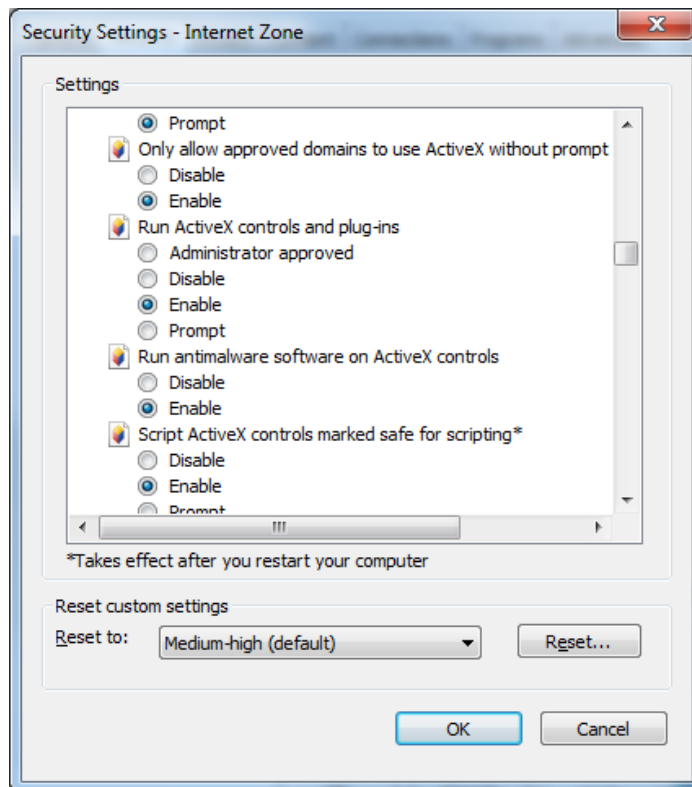
1. Open Internet Explorer.
2. Click the **Tools** menu, and then click **Internet Options**.
3. On the **Security** tab, click the **Custom level** button.
4. Scroll down and select the **Enable** radio button under **Automatic prompting of ActiveX controls**.



5. Select the **Prompt (recommended)** radio button under **Download signed ActiveX controls**.



6. Select the **Enable** radio button under **Run ActiveX controls and plug-ins**.





# Appendix B

## Device details

### Summary

This appendix contains important compatible device information.

### TruVision Camera

Feature	Support	Notes
Supported Device(s)	TVB, TVC, TVD, TVE, TVF, TVGP, TVP, TVS, TVTH, TVW, UVP, RS, TVGP, TVLP, TVTH, TVPA (TruVision Open Standard Cameras)	
H.265 Support	Depends on model (Series 4 or later)	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 80 (editable) RTSP = 554 (editable)	
Default Username / Password	N/A	Activation required
Default IP Address	192.168.1.70	
Network Discovery	Supported	
Compression	H.264, H.265, H.265+	
Connection Types	TCP, UDP	
Streaming Limits	Depends on the actual device capabilities.	
Stream Overlay	VCA Rules, Motion Rules, Camera Name, Date and Time	

Feature	Support	Notes
High / Low Bandwidth	No	
Dual Streaming	Yes	Depends on the actual device capabilities.
Stream Nomenclature	The Main stream is referred to as: TruVision Navigator = Main stream  The Substream is referred to as: TruVision Navigator = Substream	
Third, Fourth, and Fifth Streams	Depends on the actual device capabilities.	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Video jumps back four seconds after resuming playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the <b>Live</b> button in the Controller. No other playback controls will work until the <b>Live</b> button is selected.
Digital Zoom	Live and Playback*	*For models that support SD cards.
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes*	*For models that support SD cards.
Disk Analysis	No	
Time Line Disk Analysis	Yes	
Video Export	Yes*	*For models that support SD cards.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes*	*For TVP and UVP models
Focus, Iris, Zoom	Yes*	*For TVP and UVP models
Presets	Yes*	*For TVP and UVP models
Tours	Yes*	*For TVP and UVP models
Camera Search	Alarm Event Motion VCA	
Smart Search	No	
Point-of-Sale Text	No	
Motion	Yes	
Audio	Yes	
Bi-directional Audio	Yes	
Notifications	No	

<b>Feature</b>	<b>Support</b>	<b>Notes</b>
Health Diagnostics	Yes	
Firmware Upload	Yes	Via browser page.
Bulk Firmware Upload	No	
Device Configuration	Yes	Via browser page.
Bulk Configuration	No	
Remote Reboot	Yes	
Device log support	Yes	Via browser page.
Trigger Outputs	Yes	
Fisheye Dewarp	Yes	
Sync Playback	Yes	
Get Thumbnail	No	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	Yes	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	No	
Backup & Restore System Config	Yes	
Dual NIC	No	
DDNS	Yes	
Mobile App	Yes (TVRMobile)	
RTSP Live	Yes	
RTSP Playback	Yes	
Thumbnail Search	No	

# TruVision TVN 12 / TVN 71 / TVN 70 / TVN 21 / TVN 22 / TVR12 HD / TVR 44HD / TVR 45HD / TVR 16 / TVR 17/ TVR 46 / TVR 15HD

Feature	Support	Notes
H.264 Support	Yes (TVN 12)	
H.265 Support	Yes (TVN 12, TVN 71, TVN 22, TVR15HD & TVR 45HD (for IP cameras only), TVR 46, TVR 16, TVR 17) No (TVN 70, TVR 44HD, TVR 15HD, TVR 12HD, TVN 21)	
H.265+ Support	Yes (TVN 12)	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 80 (editable) Notifications = 5001 (editable) RTSP = 554 (editable)	
Default Username / Password	N/A	Activation required
Default IP address	192.168.1.82	
Network Discovery	Supported	
Connection Types	TCP, UDP	
Streaming Limits	256 Live streams and 128 Playback streams (TVN 71) 128 Live or Playback streams	
Stream Overlay	VCA Rules, Motion Rules, Camera Name, Date and Time	
POS Text	TVN 21 (via RS-232) TVN 22 (via RS-232 and IP) TVR 45HD (only for analog cameras; via RS-232 and IP)	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	The Main stream is referred to as: TruVision Navigator = Main stream The Substream is referred to as: TruVision Navigator = Substream	

Feature	Support	Notes
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame reverse and rewind speeds directly depend on the actual device capabilities. Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will automatically switch to live view.
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes	There is a two-to-five-minute video buffer in the device. While video is in the buffer, it cannot be viewed. After the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, <b>Server</b> tab. As a result, this time should be set to an increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded VCA Text (except TVR 45HD, TVR 15HD)	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device. Video Loss is only supported for Analog Channels for TVR 44HD, TVR 12HD, TVR 45HD, TVR 15HD.
Time Line Disk Analysis	Yes	
Video Export	Yes	
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	
Tours	Yes	Dependent on camera and device.
Camera Search	Alarm Event Motion Text VCA	
Smart Search	Yes	
Point-of-Sale Text	Yes	
Motion	Yes	

Feature	Support	Notes
Audio	Yes	
Bi-directional Audio	Yes	
Notifications	Alarm Video Loss (TVR 12HD, 15HD, TVR 16, TVR 17, TVR 44HD, TVR 45HD, TVR 46,) Motion VCA Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. For each notification type on the <b>Notification</b> tab, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	Via browser page.
Bulk Firmware Upload	No	
Device Configuration	Yes	Via browser page.

<b>Feature</b>	<b>Support</b>	<b>Notes</b>
Bulk Configuration	No	
Remote Reboot	Yes	
IP Camera Support	Yes (TruVision) ONVIF	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	Yes	
Sync Playback	Yes	
Get Thumbnail	Yes (TVN 12, TVN 71, TVN 22, TVR 15HD, TVR 16, TVR 17, TVR 45HD, TVR 46)	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	Yes	Newer NVRs
HTTPS	Yes	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	Yes	
Backup & Restore System Config	Yes	
Dual NIC	Yes	Depends on model
DDNS	Yes	
Mobile App	Yes (TVRMobile)	
RTSP Live	Yes	
RTSP Playback	Yes	
Thumbnail Search	Yes (TVN 12, TVN 71, TVN 22, TVR 15HD, TVR 16, TVR 17, TVR 45HD, TVR 46,)	

# TruVision TVN 11

Feature	Support	Notes
Supported Firmware Versions	1.0e	
H.265 Support	Yes	
Default Ports	Video = 554 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) RTSP = 554 (editable)	
Default Username / Password	N/A	Activation required
Default IP address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264, H.265	
Connection Types	TCP, UDP	
Streaming Limits	128 Live streams or Playback streams	
Stream Overlay	VCA Rules Motion Rules Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	



Feature	Support	Notes
Stream Nomenclature	<p>The Main stream is referred to as:  On-Screen-Display = Time Lapse  Web Browser = Time Lapse  TruVision Navigator = Main stream</p> <p>The Sub stream is referred to as:  On-Screen-Display = Alarm  Web Browser = Alarm  TruVision Navigator = Sub stream</p> <p>The Event stream is referred to as:  On-Screen-Display = N/A  Web Browser = Event  TruVision Navigator = Event</p> <p>The Schedule stream is referred to as:  On-Screen-Display = Schedule  Web Browser = Schedule  TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame reverse and rewind speeds not supported. Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will automatically switch to live view.
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes	
Disk Analysis	Alarm Motion Recorded VCA Text	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	

Feature	Support	Notes
Tours	Yes	Dependent on camera and device.
Camera Search	Alarm Event Motion Text VCA	
Smart Search	Yes	
Point-of-Sale Text	No	
Motion	Yes	
Audio	Yes	
Bi-directional Audio	Yes	
Notifications	Alarm Motion VCA Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. For each notification type on the <b>Notification</b> tab, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>

<b>Feature</b>	<b>Support</b>	<b>Notes</b>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	Via browser page.
Bulk Firmware Upload	No	
Device Configuration	Yes	Via browser page.
Bulk Configuration	No	
Remote Reboot	Yes	
IP Camera Support	Yes (TruVision) Onvif	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	Yes	
Sync Playback	Yes	
Get Thumbnail	Yes	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	Yes	
HTTPS	Yes	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	Yes	

Feature	Support	Notes
Backup & Restore System Config	Yes	
Dual NIC	Yes	
DDNS	Yes	
Mobile App	Yes (TVRMobile)	
RTSP Live	Yes	
RTSP Playback	Yes	
Thumbnail Search	Yes	

## TruVision TVN 10/20/50 (NVR)

Feature	Support	Notes
Supported Firmware Versions	2.1n (TVN 10, 10S, 10CS) 3.2a (TVN 20) 2.2i (TVN 50)	
Support H.265	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234 or no default Activation required (TVN 10)	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	TVN 10: 64 Live or Playback streams including those used by the web page. TVN 20: 48 Live or Playback streams simultaneously with a maximum of six streams per channel. TVN 50: 128 Live or Playback streams including those used by the web page.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.

Feature	Support	Notes
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (2x,4x,8x,16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x) Rewind (1x, 2x 4x)	<p>Frame Reverse and Rewind Speeds are not supported in TVN 10 and TVN 20.</p> <p>Video jumps back four seconds after resume playback from Fast Forward and Frame Advance.</p> <p>When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will automatically switch to Live view.</p>
Digital Zoom	Live & Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two-to-five-minute video buffer in the device. While video is in the buffer, it cannot be viewed. After the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, <b>Server</b> tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded Untagged (TVN 10/TVN 20 only)	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45 to 90 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion	
Smart Search	Yes (TVN 50 only)	
Point-of-Sale Text	Yes (TVN 50 only)	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To setup the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To setup the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. On the Notification tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	Yes	
Device Log Support	Yes	

Feature	Support	Notes
Trigger Outputs	Yes (TVN 10 / TVN50 only)	
Fisheye Dewarp	Yes (TVN 10 / TVN50 only)	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	Yes (TVN 10 only)	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

## TruVision TVR 10 (DVR)

Feature	Support	Notes
Supported Firmware Versions	2.7	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at the time of installation.
Default IP address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	24 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.



Feature	Support	Notes
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	The Main stream is referred to as:  On-Screen-Display = Time Lapse Web Browser = Main stream TruVision Navigator = Main stream  The Substream is referred to as: On-Screen-Display = N/A Web Browser = Substream TruVision Navigator = Substream	Event Stream is not supported on the device.
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x 16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame reverse and rewind speeds are not supported.  Video jumps back four seconds after resuming playback from Fast Forward and Frame Advance.  When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the <b>Live</b> button in the Controller. No other playback controls will work until the <b>Live</b> button is selected.
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, <b>Server</b> tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded	Video Loss is not supported in disk analysis.  Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.

Feature	Support	Notes
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris Control	Yes	
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion	
Smart Search	No	
Point-of-Sale Text	No	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There is one audio input per device. That input can be mapped to any camera on the device simply by enabling audio on that camera. Access the setting by going to the device configuration and enabling the audio option for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio plays.
Bi-directional Audio	No	
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. For each notification type on the <b>Notifications</b> tab, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p>

<b>Feature</b>	<b>Support</b>	<b>Notes</b>
Health	IP Address	
Diagnosics	MAC Address	
	Model Name	
	Serial Number	
	Firmware Version	
	Device Date/Time	
	Total Device Health	
	HDD Status	
	HDD Capacity	
	Cameras in Video Loss	
	Cameras in Alarm	
	Current Client Connections	
	Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	
Device log support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Sync Playback	No	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	Yes	

Feature	Support	Notes
Backup & Restore System Config	Yes	
Dual NIC	No	
DDNS	No	
Mobile App	Yes	
RTSP Live	No	
RTSP Playback	No	
Thumbnail Search	No	

## TruVision TVR 11 / TVR 12 (DVR)

Feature	Support	Notes
Firmware Versions	3.1.b (TVR 11/11C) 1.2.d (TVR 12/12C)	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	64 Live or Playback streams including those used by the web page.	
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	

Feature	Support	Notes
Dual Streaming	Main streams and substreams are available on live view mode only.	
Stream Nomenclature	<p>The Main stream is referred to as:  On-Screen-Display = Time Lapse  Web Browser = Time Lapse  TruVision Navigator = Main stream</p> <p>The Substream is referred to as:  On-Screen-Display = Alarm  Web Browser = Alarm  TruVision Navigator = Substream</p> <p>The Event stream is referred to as:  On-Screen-Display = N/A  Web Browser = Event  TruVision Navigator = Event</p> <p>The Schedule stream is referred to as:  On-Screen-Display = Schedule  Web Browser = Schedule  TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x) Rewind (1x, 2x, 4x) - Eight videos simultaneously	<p>Video jumps back four seconds after resuming playback from Fast Forward and Frame Advance.</p> <p>When fast forwarding video and it catches up to present time (or live video), the video automatically switches to live view.</p>
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes	<p>There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration on the TruVision Navigator Server Properties tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.</p>

<b>Feature</b>	<b>Support</b>	<b>Notes</b>
Disk Analysis	Alarm Motion Recorded	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion Text	
Smart Search	Yes	
POS Text	Yes	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are four audio inputs per device. That input can be mapped to any camera on the device simply by enabling audio on that camera. Access the setting by going to the device configuration and enabling the audio option for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio plays.
Bi-directional Audio	Yes	

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. On the <b>Notifications</b> tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor service for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	

Feature	Support	Notes
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Thumbnail Search	No	

## TruVision TVR 40 (DVR)

Feature	Support	Notes
Supported Firmware Versions	3.2.d	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	Administrator / 3477	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	



Feature	Support	Notes
Connection Types	TCP UDP	
Streaming Limits	24 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Schedule Web Browser = Main stream TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = N/A Web Browser = Substream TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = Event Web Browser = Event TruVision Navigator = Event</p> <p>The Time Lapse stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Time Lapse</p>	<p>The Substream, Event, and Time Lapse streams are derivative configurations of the Main stream. Typically, the Main stream is recorded on a schedule, the Event stream is recorded on Event, the Time Lapse stream is recorded continuously, and the Substream can be viewed Live.</p>
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x 16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	<p>Frame Reverse and Rewind Speeds are not supported.</p> <p>Video jumps back four seconds after resume playback from Fast Forward and Frame Advance.</p> <p>When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the <b>Live</b> button in the Controller. No other playback controls will work until the <b>Live</b> button is selected.</p>
Digital Zoom	Live and playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five-minute video buffer in the device. While video is in the buffer, it cannot be viewed. After the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration on the TruVision Navigator Settings window, <b>Server</b> tab. As a result, this time should be set to an increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded Untagged	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45 to 90 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion Text	
Smart Search	No	
Point-of-Sale Text	Yes	Overlay on video only. To display POS data on top of the camera view, right-click the POS-configured camera's video tile and select <b>POS Mode &gt; In Band</b> .
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.

Feature	Support	Notes
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the <b>Notifications</b> tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. On the <b>Notification</b> tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor service for TruVision Navigator to process the notifications.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	

Feature	Support	Notes
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

## TruVision TVR 41 / TVR42 (DVR)

Feature	Support	Notes
Supported Firmware Versions	3.0c (TVR 41) 1.2d (TVR 42)	
Support H.265	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at time of installation.

Feature	Support	Notes
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	64 Live or Playback streams simultaneously including those used by the web alarm.	
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x) Rewind (1x, 2x, 4x) -8 simultaneously	Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the <b>Live</b> button in the Controller. No other playback controls will work until the <b>Live</b> button is selected.
Digital Zoom	Live & Playback	
Snapshot	Yes	

Feature	Support	Notes
Local Record	Yes	
Instant Replay	Yes	
Disk Analysis	Alarm Motion Recorded Untagged	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion Text	
Smart Search	Yes	Browser only
Point-of-Sale Text	Yes	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are four audio inputs per device. That input can be mapped to any camera on the device simply by enabling audio on that camera. Access the setting by going to the device configuration, and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. On the <b>Notification</b> tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor service for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	

Feature	Support	Notes
IP Camera Support	N/A	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

## TruVision TVR 60 (Hybrid DVR)

Feature	Support	Notes
Supported Firmware Versions	4.7a	
Support H.265	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	



Feature	Support	Notes
Streaming Limits	48 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x,16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame Reverse, Rewind, and Playback Speeds are not supported. Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will remain paused until the user clicks the <b>Live</b> button in the Controller. No other playback controls will work until the <b>Live</b> button is selected.
Digital Zoom	Live & Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, <b>Server</b> tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded Untagged	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45 to 90 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion	
Smart Search	No	
Point-of-Sale Text	No	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To setup the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notification tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To setup the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. On the Notification tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	Yes	
Device Log Support	Yes	

Feature	Support	Notes
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

## DVSRxU

Feature	Support	Notes
Supported Firmware Versions	2.31s	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	Administrator / 3477	We recommend changing this default password at time of installation.
Default IP address	192.168.1.10	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	24 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.

Feature	Support	Notes
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Schedule Web Browser = Main stream TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = N/A Web Browser = Substream TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = Event Web Browser = Event TruVision Navigator = Event</p> <p>The Time Lapse stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Time Lapse</p>	<p>The Substream, Event, and Time Lapse streams are derivative configurations of the Main stream. Typically, the Main stream is recorded on a schedule, the Event stream is recorded on Event, the Time Lapse stream is recorded continuously, and the Substream can be viewed Live.</p>
Playback Controls	Play Pause Frame Advance Fast Forward (2x, 4x)	<p>Frame reverse, rewind, and playback speeds are not supported.</p> <p>Video jumps back four seconds after resume playback from Fast Forward and Frame Advance.</p> <p>When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will remain paused until the user clicks the <b>Live</b> button in the Controller. No other playback controls will work until the <b>Live</b> button is selected.</p>
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, <b>Server</b> tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45-90 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera)
Camera Search	Alarm Event Motion Text	
Smart Search	No	
Point-of-Sale Text	Yes	Overlay on video only. To display POS data on top of the camera view, right-click the POS-configured camera's video tile and select <b>POS Mode &gt; In Band</b> .
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.

Feature	Support	Notes
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click the device in the Navigator and select <b>Configure Device</b>. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, <b>Notifications</b> tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click the device in the Navigator and select <b>Configure Device</b>. For each notification type on the <b>Notification</b> tab, ensure that "notify me" is selected. Repeat for each notification type and click <b>Save</b>. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	

Feature	Support	Notes
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	No	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	No	

## Capabilities (Properties dialog)

Right-click a first-generation recorder in the Navigator panel and select **Properties** to display the Properties window.

The **Capabilities** tab contains a read-only list that indicates which video, camera, and device controls as well which connection types are supported.



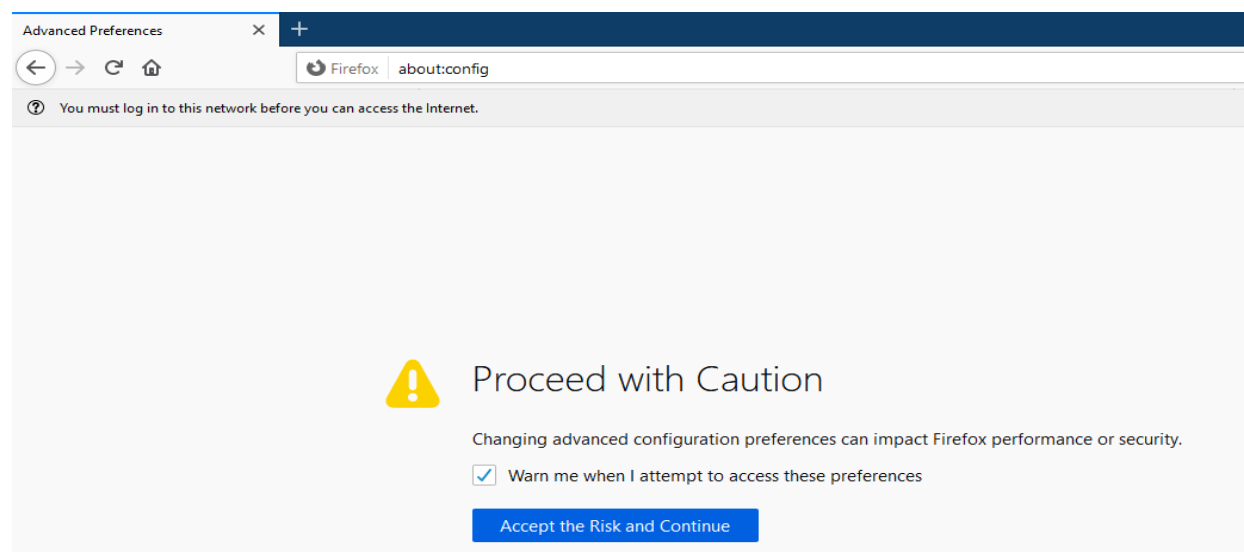
# Appendix C

## Web browser settings for self-signed certificates

### Mozilla Firefox

See also: <https://support.mozilla.org/en-US/questions/1232718>

1. Open a new tab in the Firefox web browser. Type “about:config” (without quote marks) into the address bar and press enter on the keyboard.
2. Click the **Accept the Risk and Continue** button (see graphic below).



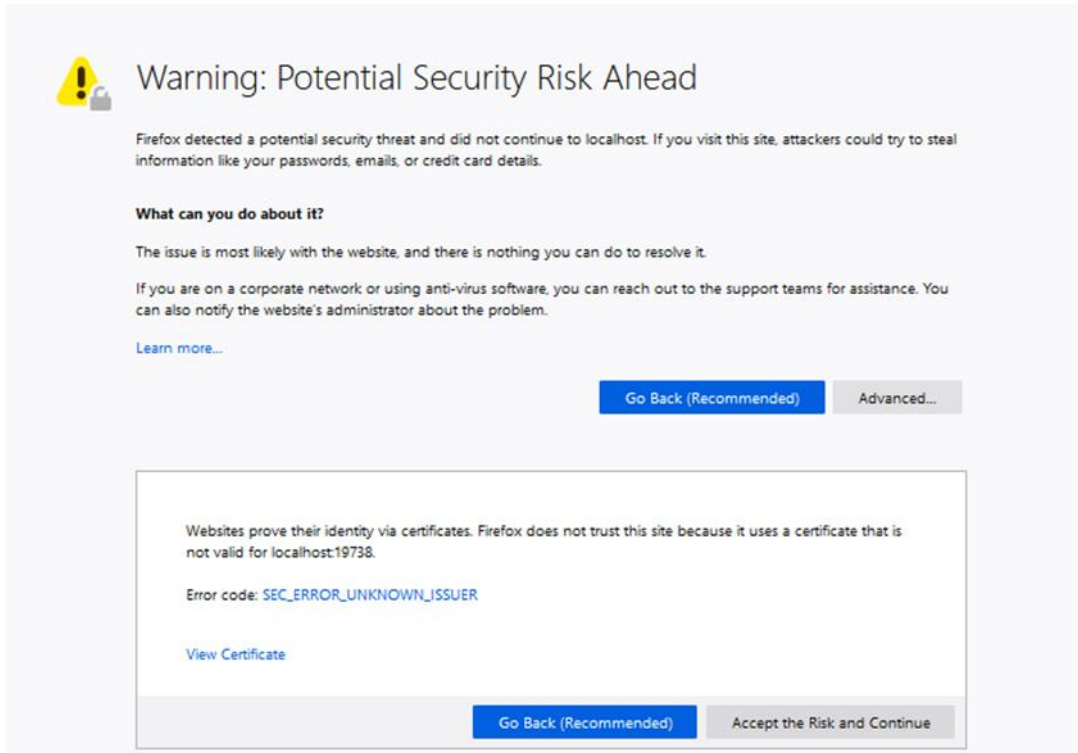
3. In the web browser search bar type “security.enterprise\_roots.enabled” (without quote marks) and press enter on the keyboard (see graphic below).



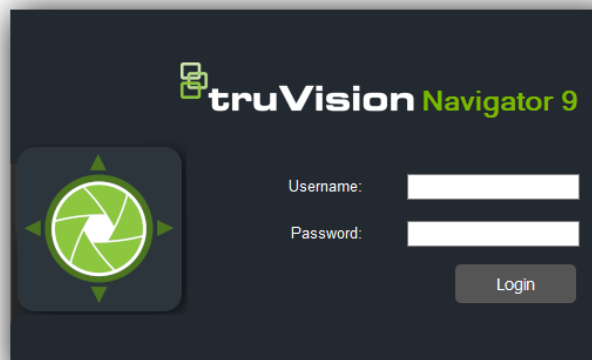
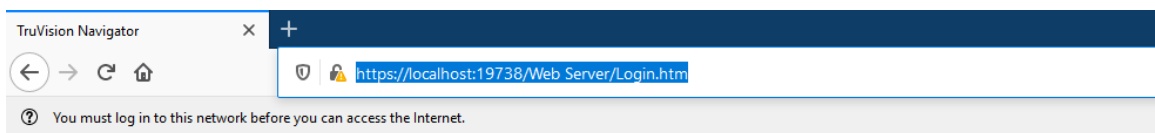
4. Double-click **True** and it will change to False (see graphic below). Make sure that “security.enterprise\_roots.enabled” is set to False.



5. Open a new tab and paste the web page URL in the address bar. Click **Advanced**. You will get a warning (see graphic below).

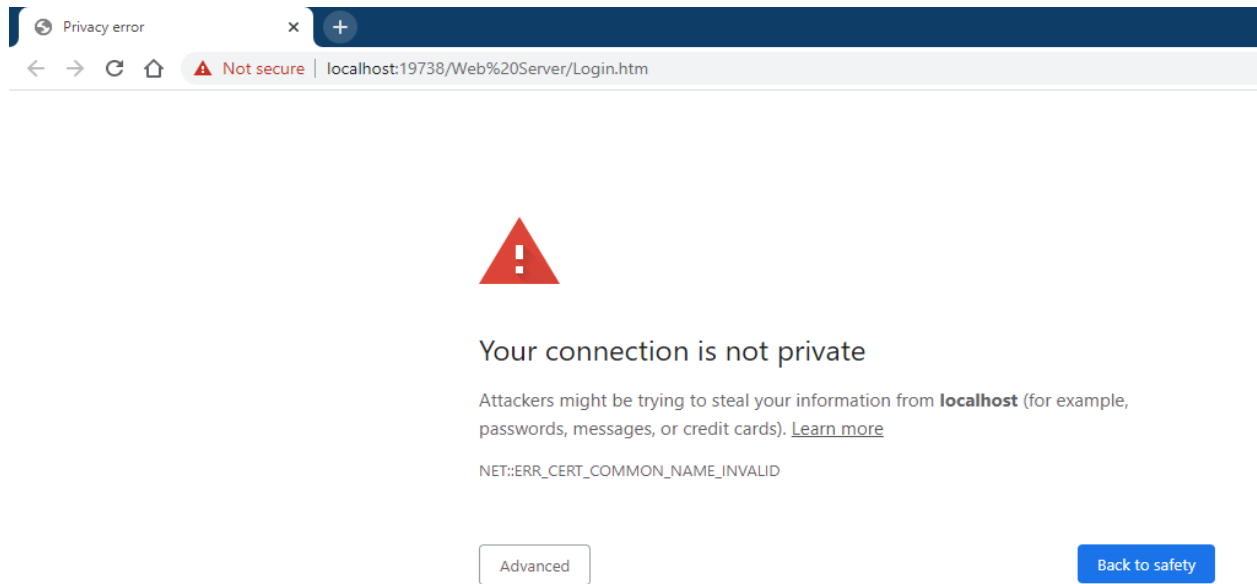


6. Click **Accept the Risk and Continue**. The TruVision Navigator login screen will be displayed (see graphic below).

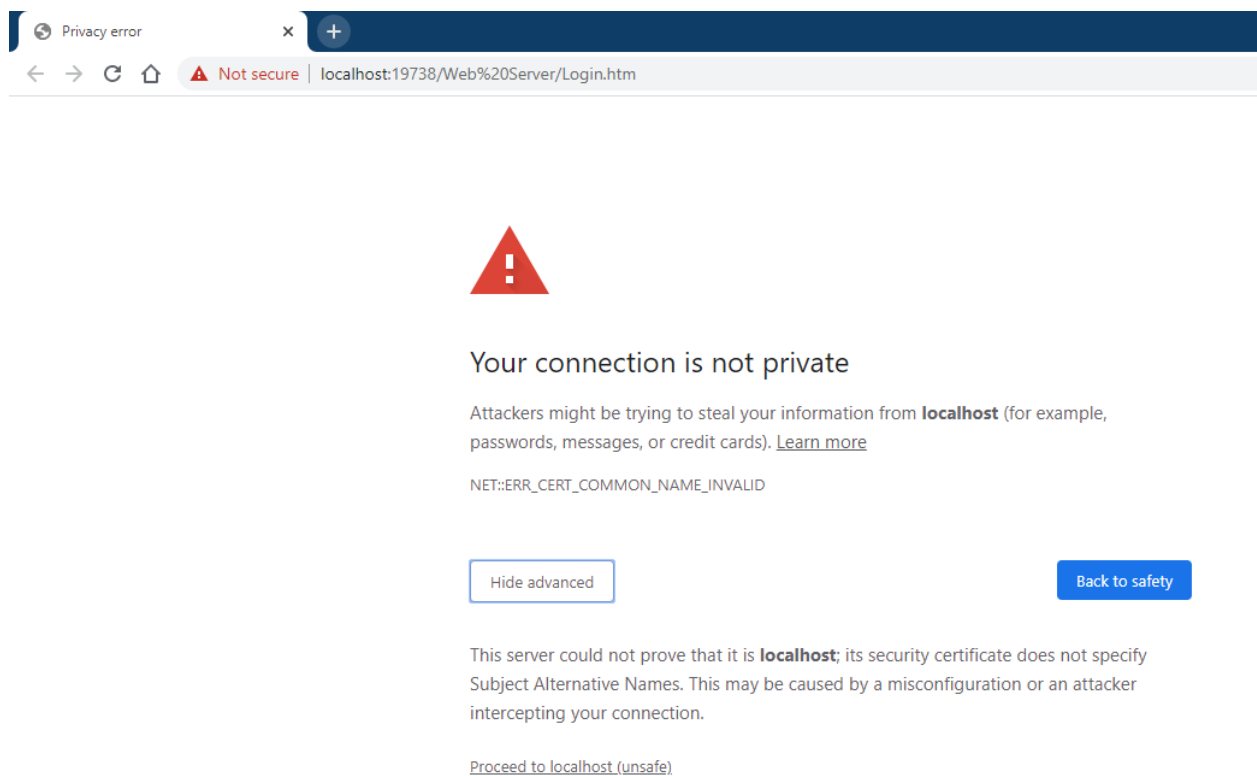


# Google Chrome

1. Open a new tab in the Chrome web browser and paste the web page URL in the address bar. A warning will be displayed (see graphic below).



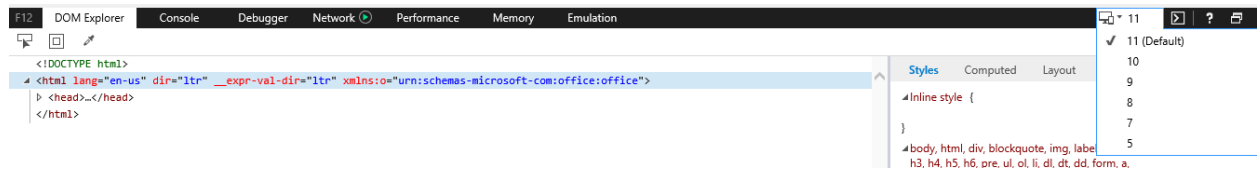
2. Click **Advanced**. A warning will be displayed (see graphic below). Click **Proceed to 'Name of the webpage'**.



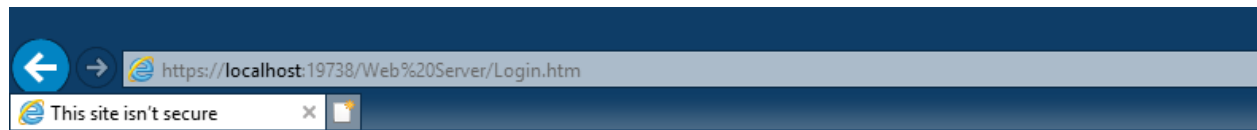
3. TruVision Navigator login screen will be displayed.

# Internet Explorer

1. Internet Explorer should be set to IE 11, click F12 and set the version (see graphic below).



2. Open a new tab and paste the webpage URL in the address bar. A warning will be displayed (see graphic below).

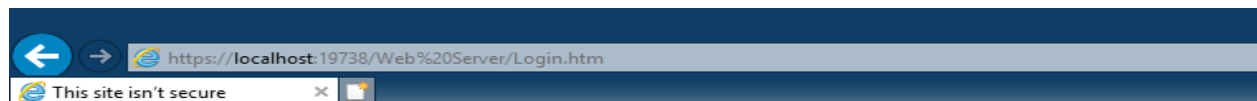


## This site is not secure

This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately.

- [Close this tab](#)
- [More information](#)

3. Click **More information**. A warning will be displayed (see graphic below). Click **Go on to the webpage**.



## This site is not secure

This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately.

- [Close this tab](#)
- [More information](#)

**The hostname in the website's security certificate differs from the website you are trying to visit.**

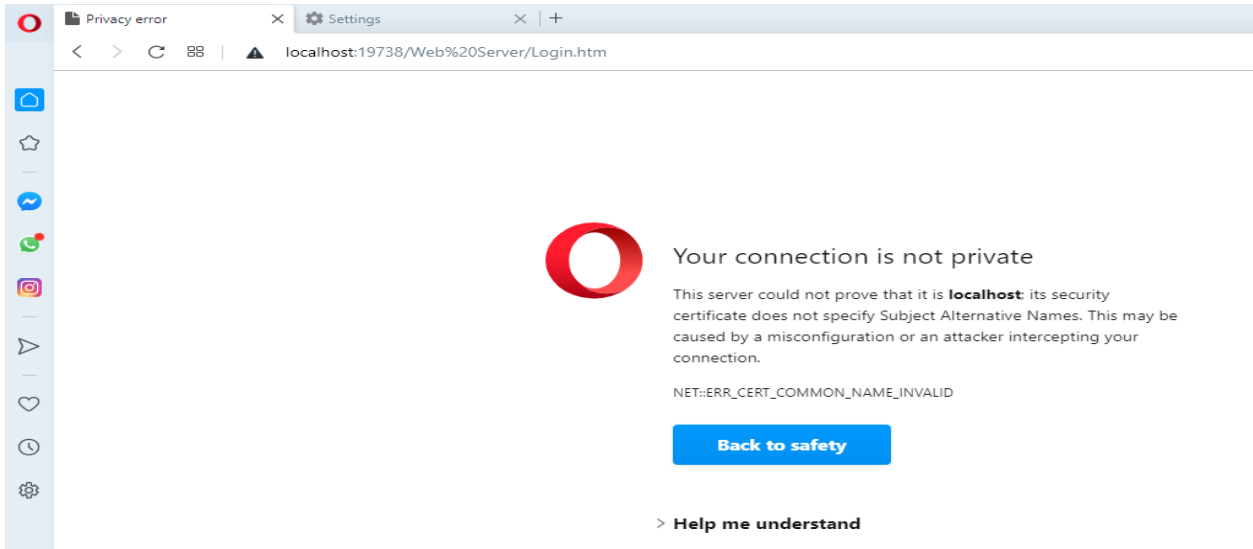
Error Code: DLG\_FLAGS\_SEC\_CERT\_CN\_INVALID

- [Go on to the webpage \(not recommended\)](#)

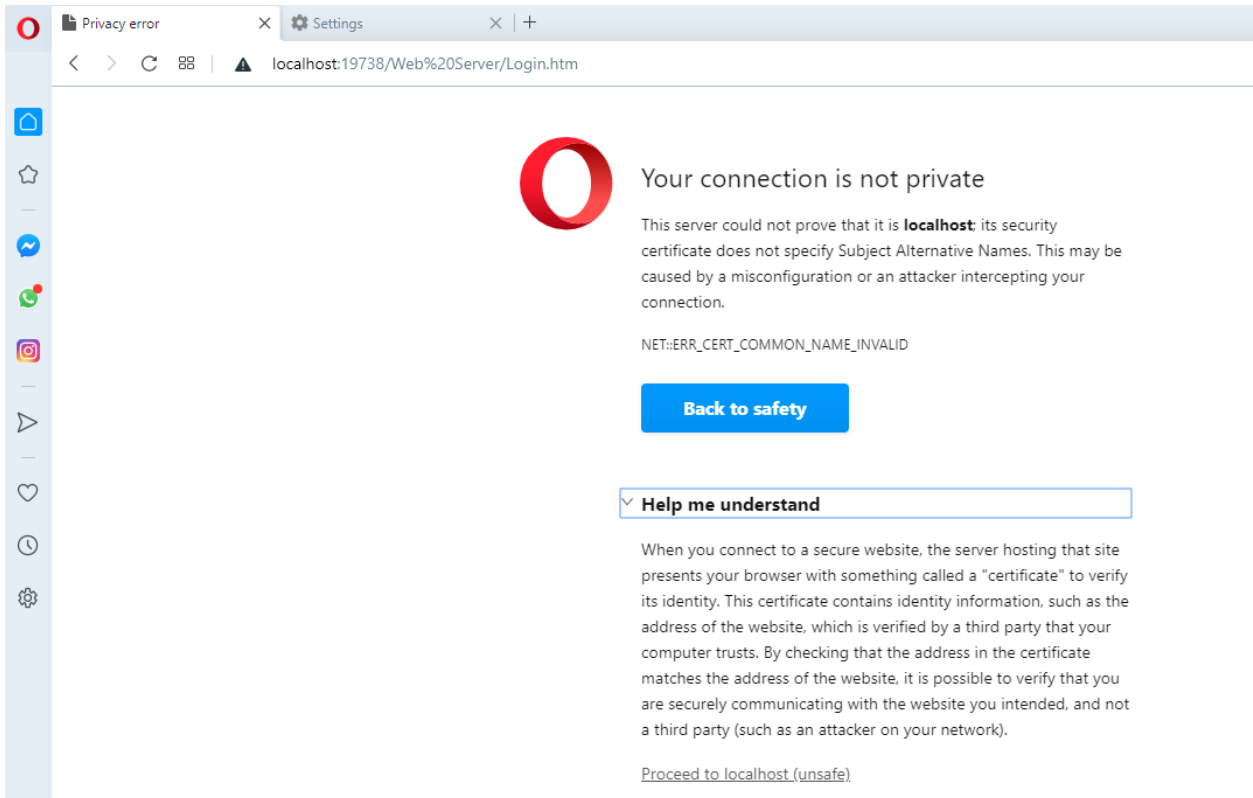
4. TruVision Navigator login screen will be displayed.

# Opera

1. Open new tab and paste the web page URL in the address bar. A warning will be displayed (see graphic below).



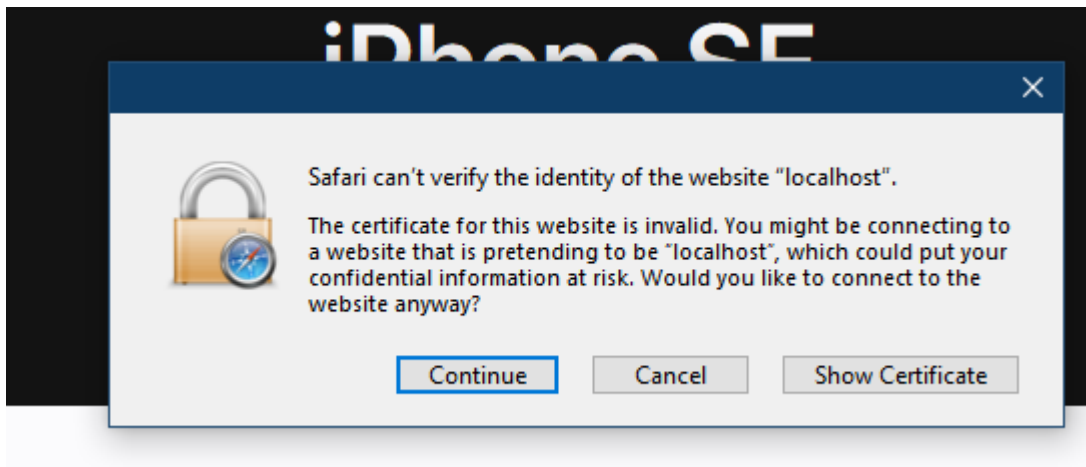
2. Click **Help me understand**. A warning will be displayed (see graphic below). Click **Proceed to 'Name of the webpage'**.



3. TruVision Navigator login screen will be displayed.

## Apple Safari

1. Open new tab and paste the web page URL in the address bar. A warning will be displayed (see graphic below).



2. Click **Continue**. TruVision Navigator login screen will be displayed.

# Appendix D

## Configure Zenitel IP speakers

### Introduction

Users can upload a wide range of announcement and warning audio clips. These clips can be played by users while they are viewing live video from cameras. This functionality allows relevant audio cues or messages to be added with conjunction with the visual feed or specific actions.

This appendix describes how to configure Zenitel IP speakers, so they can be used with TruVision Navigator.

The following Zenitel IP speakers can be used:

SKU	Description
STENTO-1023300011	IP Ceiling Speaker w/Mic (ELSIR-10CM)
STENTO-1023301311	IP Horn Speaker w/Mic (ELSII-10HM)
STENTO-1023301321	IP Long Horn Speaker w/Mic (ELSII-10LHM)
STENTO-1023302330	IP Cabinet Speaker w/Mic (ELSII-10WM)
STENTO-1023302340	IP Projector Speaker w/Mic (ELSII-10PM)

**Note:** The speakers integrate into TruVision Navigator via the ONVIF protocol.

Supported features in TruVision Navigator:

- Discovery of the speakers on the network
- Add the speakers to a specific speaker group
- Play manually sound clips that are stored in the internal memory of the speaker
- Use the speakers as Actions in the Event-Actions feature
- Show the speakers on a map

**Note:** To configure IP speakers please follow the procedures below.

## IP Speaker initial setup

The Zenitel IP speakers are equipped with an embedded web interface that makes it possible to manage the speakers through a standard web browser login.

To access the IP speaker, your PC and the device must be connected to a PoE switch using network cables:

1. Connect the PC to a port on the network switch.
2. Connect the IP speaker to a PoE port on the network switch.
3. When the IP speaker is connected to the network, the IP address of the device is automatically assigned in one of two ways:
  - An IP address is automatically obtained from a DHCP server if a DHCP server is present on the network.
  - If no DHCP server exists, a random IP address (in the range 169.254.x.x) will be assigned.
4. To determine the IP address of the Zenitel speaker:
  - Connect a button to input 1 of the speaker's module.
  - During start-up (connecting a PoE cable) press the button.
  - You will hear the speaker's IP address.
5. Open a web browser and add the speaker's IP address.
6. Log in with the following credentials:
  - Username: admin
  - Password: alphaadmin

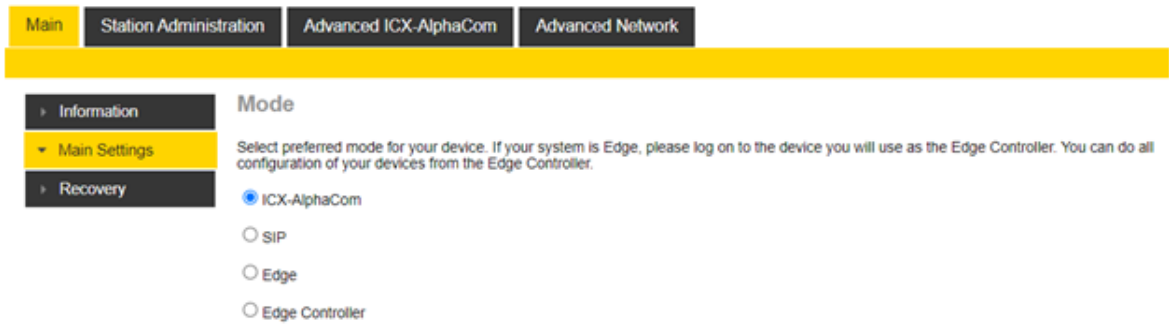
## Configure working mode

By default, the IP speaker will have four working modes. To configure the I/O settings of the IP speaker, the working mode ICX-AlphaCom must be selected.

**To set the correct working mode:**

1. Login to the web page of the IP speaker.
2. Go to the **Main Tab** and click **Main Settings**.
3. In the **Main Settings**, you will find all the available modes.
4. Choose **ICX-AlphaCom** mode from the list.
5. Click the **Save** button to save the changes.





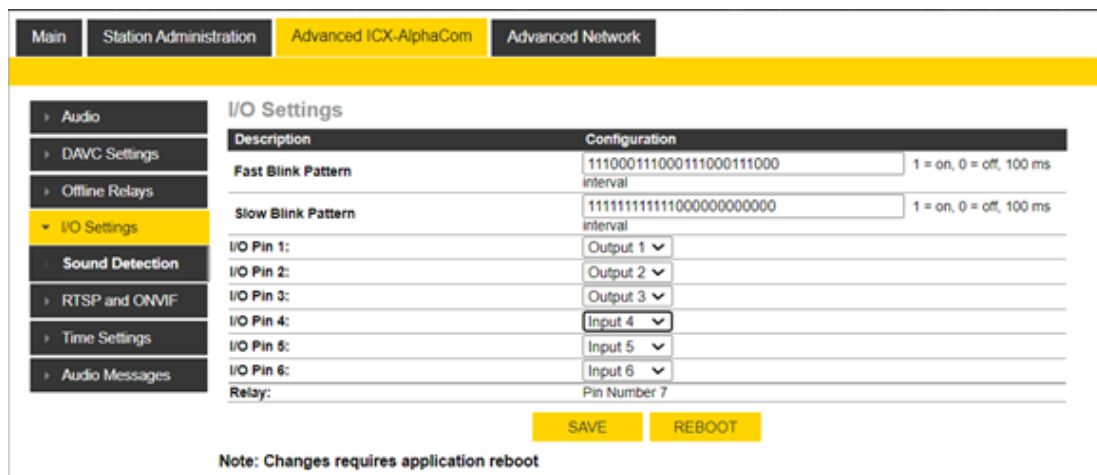
Then you need to configure the I/O settings. You need to change the I/O pins to act as outputs.

## Configure I/O settings

To configure the I/O settings:

1. Go to the **Advanced ICX-AlphaCom** Tab.
2. Click **I/O Settings**.
3. In the I/O Settings, change the configuration of the I/O pins to act as outputs.
4. After making the desired changes, click the **Save** button.
5. Click **Reboot** to reboot the IP speaker.

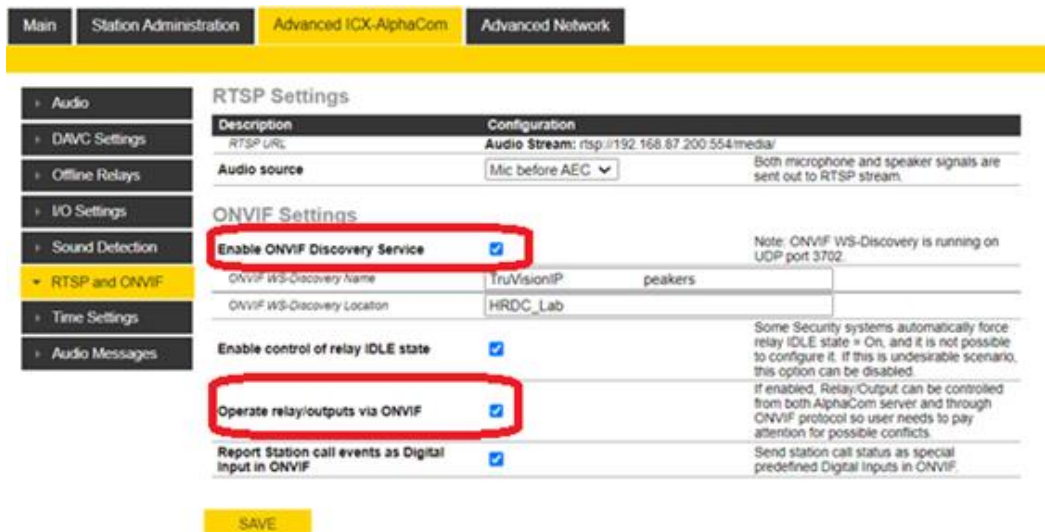
**Note:** These changes require speaker reboot for the settings to take effect.



Then you need to make sure that the IP speaker can be discovered as ONVIF device.

To enable the function to operate the relays/outputs via ONVIF:

1. Go to the **RTSP and ONVIF** menu.
2. Check the box **ONVIF Discovery Service**.
3. Check the box **Operate relay/outputs via ONVIF**.
4. Click **Save** to save the changes.



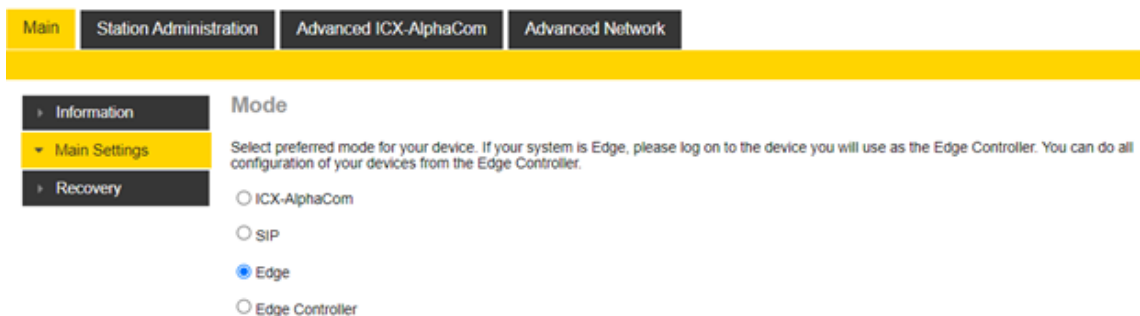
## Configure Edge mode

**Note:** Before the relays can be configured, you must set the working mode to Edge.

**To set the Edge mode:**

1. Login to the web page of the IP speaker.
2. Navigate to **Main Settings** under the Main Tab.
3. Select the **Edge** mode.
4. Click **Save**.
5. After saving, click **Apply**.

The system will reboot to apply the new configuration.



## Configure relays/outputs

Before configuring the relays, ensure that you have uploaded the audio clips.

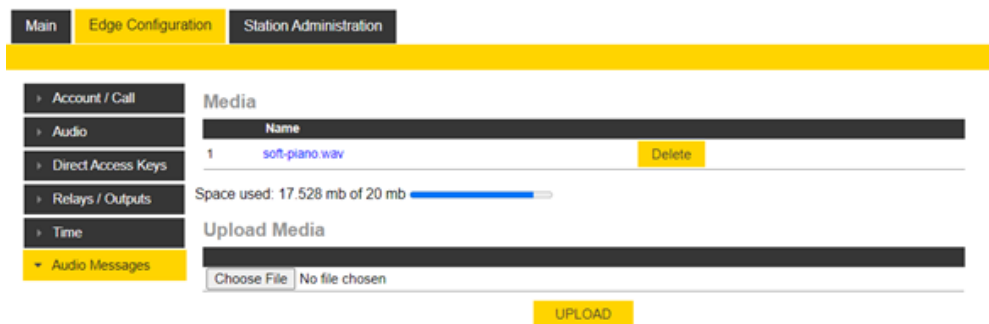
**To upload audio clips:**

1. Go to the **Edge Configuration** tab.
2. Click **Audio Messages**.

3. Under the **Upload Media** section, click **Choose File** to select the audio file from your computer.
4. Once you have selected the file, click **Upload** to initiate the upload process.
5. After the upload is complete, you will be able to see the audio file listed under the Media section. If there were any issues with the upload, an error message will be displayed, indicating the reason for the failure.

**Note:**

- Audio message must be in the following format: WAV file, PCM 16-bit, 16000 sample rate and single channel (Mono).
- A maximum allowed file size to upload audio files is 20 MB.

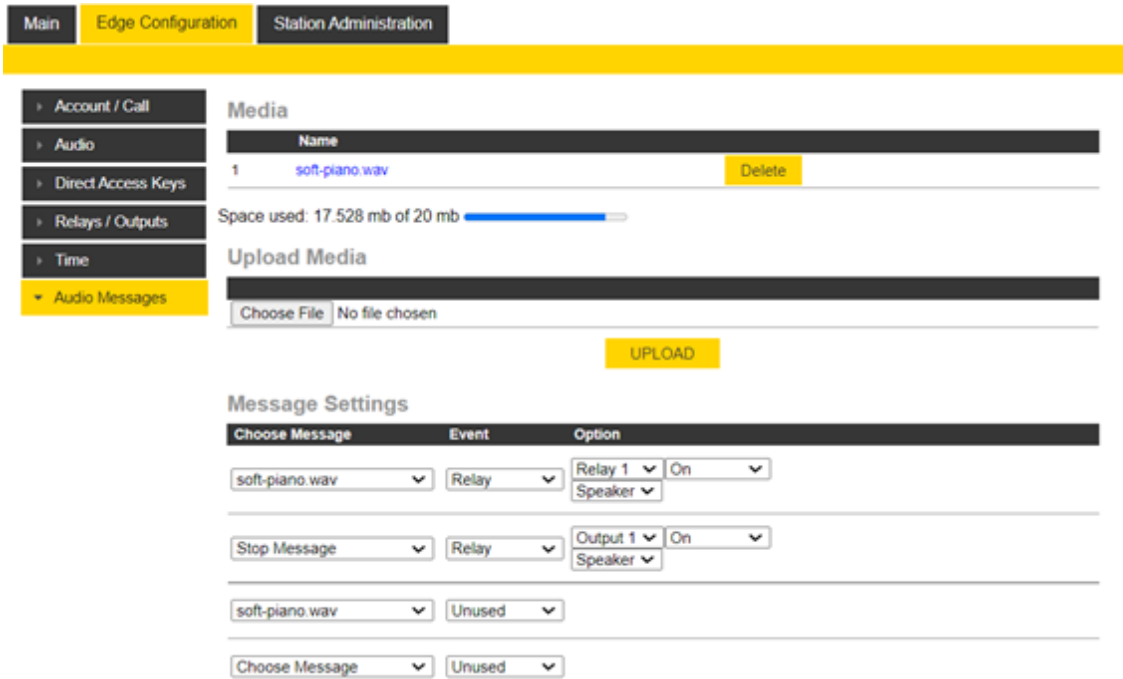


Once audio messages are uploaded, you can assign them to a relay.

**To assign an audio clip to a relay:**

1. Under **Audio Messages**, go the **Message Settings** section.
2. Choose an audio message from the drop-down menu and select **Relay as Event**.
3. Select Relay 1 for the relay of the speaker. When more messages need to be assigned, select Output 1 to 6 as needed and assign the appropriate sound clip.
4. Click **Save**.

The speaker is now ready to be added in TruVision Navigator. For more information see “Adding IP speakers” on page 111.



**Notes:**

- Each relay/output should be configured with only one audio message. If multiple audio messages are configured for the same relay, the system will play the first audio clip in the list when the relay is activated.
- When selecting the event as relay, the option drop-down will display only the available outputs configured for the I/O pins in the ICX-AlphaCom mode. This ensures that the user can select from the list of outputs specifically configured for the ICX-AlphaCom mode.

# Glossary

Term	Definition
360° camera	360°cameras produce an ultra-wide field of view image.
Access control	Physical restriction to access or entry. Requiring a security badge to open a door is an example of access control.
Address book	A file containing the title, IP address, and credentials of recorders and cameras in the Navigator panel. This data can be imported or exported into Navigator as needed to save and restore these settings.
Bookmark	Denotes a date and time on the timeline that can be returned to quickly. Bookmarks contain editable information for describing an event. See also “timeline” and “bookmark manager.”
Bookmark manager	The Bookmark Manager window is a central location that contains all device-level bookmarks. See also “bookmark.”
Dewarping	Fisheye cameras produce an ultra-wide field of view image which looks round and distorted. To make the image usable, the image needs to be flattened out (dewarped).
Digital output	Alarm output icons for recorders and cameras that appear in the Configure Map window, can be dragged onto maps, and triggered on or off.
DVR	Digital Video Recorder. A type of security footage recorder connected to analog or coaxial cameras.
Dwell time	A user-selectable amount of time that a PTZ camera remains at a preset before the camera moves to the next preset position.
Intrusion area	Icons that appear under the intrusion detection node in the Navigator panel that indicate if an intrusion area defined in an intrusion panel is disarmed, armed in stay mode, or armed in away mode.
Intrusion sensor	Intrusion sensors indicate the opened/closed state of a door or window. For motion sensors, they appear as “opened” when motion is being sensed.
IP camera	A digital video camera that connects directly to the network with its own IP address and has the ability to transmit images using a standard communications protocols such as TCP/IP.

Custom Notifications	Custom Notifications/Events provides a way to create customized, interdependent notifications from cameras connected to recorders as well as doors connected to TruPortal access control systems.
LPR	License plate recognition. A camera function that permits automatic reading of license plates of passing vehicles.
Main stream	The video or audio stream that has priority. See also "substream".
NTP	Network Time Protocol. This synchronizes the time and date of a device with an NTP server.
NVR	Network Video Recorder. A type of security footage recorder connected to IP cameras.
Object counting	Refers to the number of people or objects detected passing either direction across a virtual line drawn by the user in the camera configuration UI.
POS	"Point-of-sale" as in a POS terminal. Examples: electronic cash register or an ATM.
Preset	A preconfigured action for a dome camera that will run automatically after a defined dwell time.
ProBridge	The ProBridge is a text translation device that captures an ATM's transaction data and translates it to a format that can be interpreted by a DVR.
PTZ	Pan/Tilt/Zoom. A feature on cameras that can pan, tilt, and zoom via computer control. PTZ allows for a larger viewing area for a camera by allowing it to rotate in different directions.
Server offline mode	Mode of operation in which the Navigator client can still operate in a client/server configuration when the server is offline. Some configuration options are not available in server offline mode.
Sequence	A series of camera streams that are programmed to switch, rotating one after another, in an individual video tile.
SMTP	Simple Mail Transfer Protocol. A standard for e-mail transmission across the network.
Substream	A secondary video stream that is set at a lower quality setting to reduce the amount of bandwidth needed. See also "main stream".
Timeline	A graphical view of video over an interval of time that allows users to navigate through recorded videos.
Trigger alarm output	A method used to notify when an alarm or event has occurred. An external alarm output is triggered when an event occurs.
Tour	A series of checkpoints assigned in a specific sequence with times assigned to reach each point.
VCA	Video Content Analytics. The intelligent analysis of video to detect events of interest.
V-Stream	When available bandwidth is limited, V-stream encoding allows you to remotely view several channels in real time over the web browser.

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