



Video Event Management Software
Installation/User Guide

SYSTEM INTEGRATORS AND CAMERA SYSTEM INSTALLERS PLEASE SCHEDULE TRAINING BY SENDING AN EMAIL TO support_na@artecous.com. THANK YOU!

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BE SURE TO READ THIS MANUAL BEFORE USE

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Chapter 1 – Arteco NEXT Installation

Par 1.1 System Requirements

The application can be installed on **Windows 64-bit only**. The system configuration requirements can vary depending on the nature and configuration of the cameras you want to view. Arteco recommends the use of network switches with a bandwidth greater than or equal to 1Gbps.

COMPATIBLE OS

Windows 10; Windows 8.1; Windows 8; Windows 7 Service Pack 1; Windows Server 2016; Windows Server 2012; Windows Server 2008 R2 SP1; Windows Server 2008 Service Pack 2

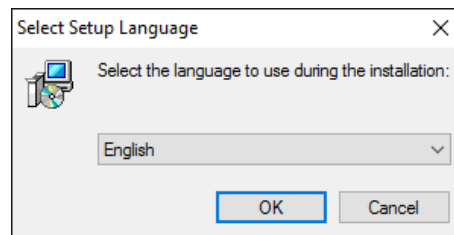
HW REQUIREMENTS

- RAM: 8GB or higher
- CPU: i3 or higher

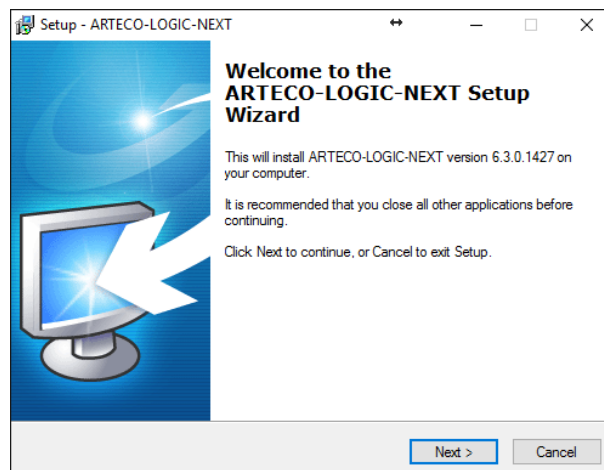
Starting from 1/1/2018, new releases of ARTECO NEXT will be able to manage VMS Server version 4.0.3 build 1041 (released on 03/20/2014) or later. Previous versions will continue to work however will no longer be supported by Arteco. This same rule also applies to the Arteco-SDK. If you have any questions or concerns about your current software version please contact Arteco Support at support@arteco-global.com and a representative will contact you as soon as possible.

Par 1.2 Setup

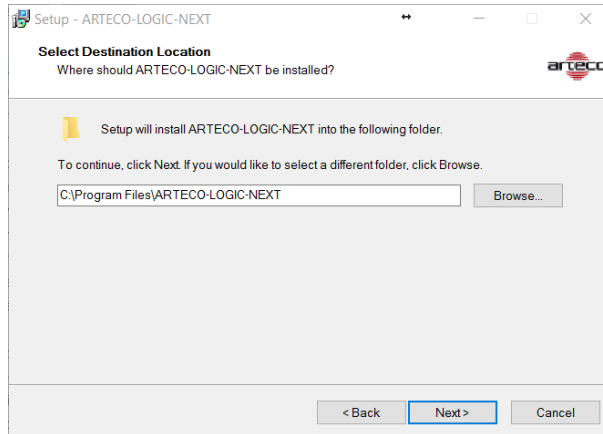
The ARTECO-NEXT application should be installed on a workstation PC running Windows, which can and should be used to control all the functions of a video surveillance system via a network connection. The installation files are available via the Arteco web client (enter the IP address of the Server from client machine into a web browser and click "I want to download ARTECO NEXT").



You can choose whether to display the Software Setup Menu in English or Italian. This manual later discusses where to set up and install English Resources.

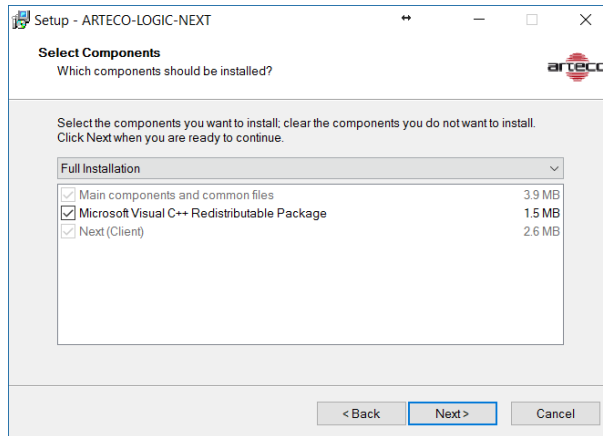


A screen is displayed which allows you to select the destination folder for the ARTECO-NEXT software. By default, this path is C:\Program Files\ARTECO-LOGIC-NEXT.



Next, you can select the components of ARTECO NEXT to install. We recommend using the default settings already selected for "Full Installation".

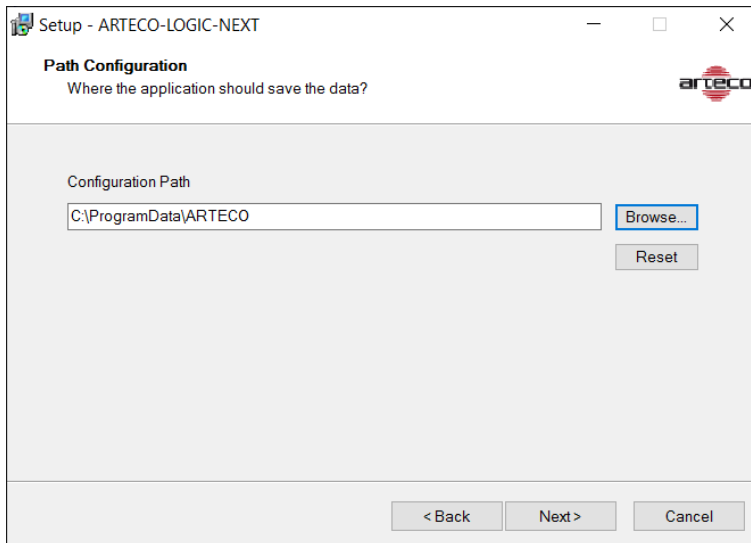
Select the option "English Language" to set English as the default language for the ARTECO-NEXT interface, as well as the units of measurement. You can still change the language later, through a special menu item in the software itself.



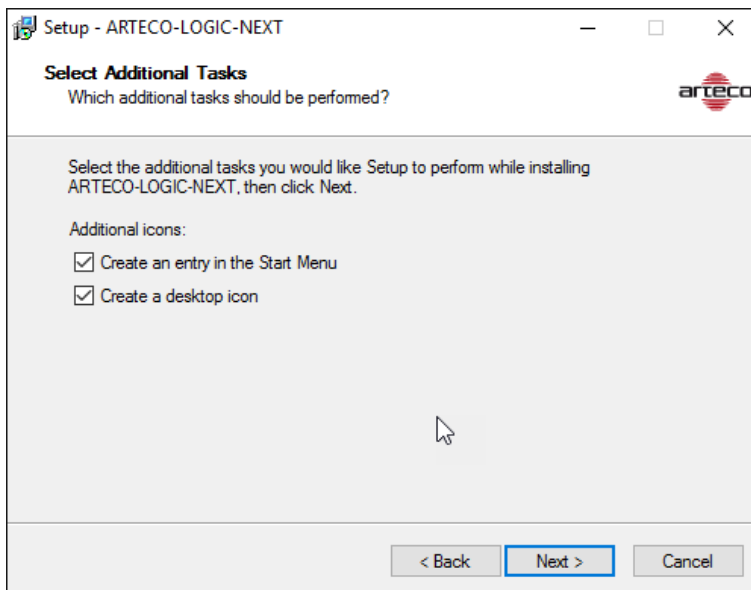
The next step is where you can select the folder that ARTECO-NEXT stores all of its settings. You can choose between 2 options.

1. By default, the software settings will be stored in the default Windows folder, shared by all users. This is C:\ProgramData\ARTECO.
2. Specify a path. You can specify a custom path where the software will save configurations. This option is recommended for expert users who need to back up the ARTECO NEXT configurations.

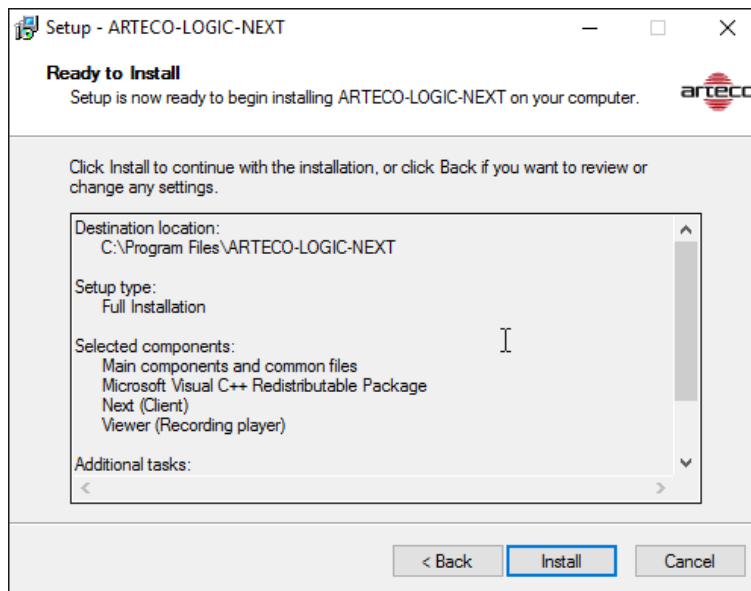
Almost ALL configurations for ARTECO--NEXT should be stored in the default path, C:\ProgramData\ARTECO, unless administrative users do not have permissions to that folder. *If you decide to choose a different configuration path, make a note of where it is for future use.*



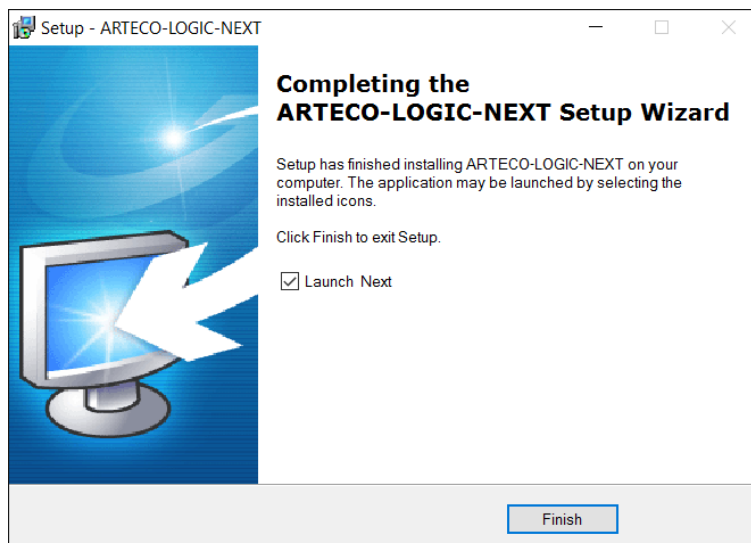
On the "Select Additional Tasks" screen you can make changes or keep the default values proposed.



All the choices made in the previous installations screens will be shown before installing.



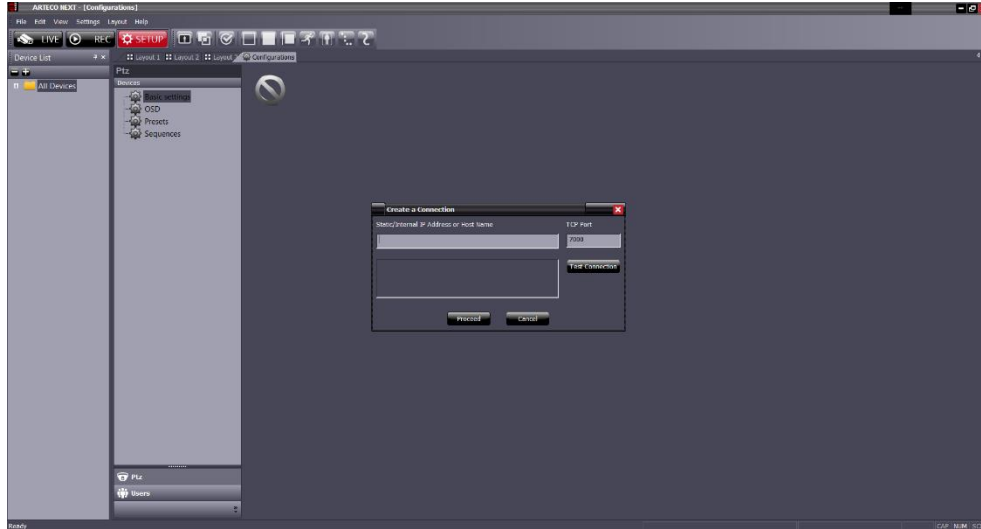
After you click "**Install**", the program will install all of the necessary components. Once the installation is complete you will see the Finish Installation screen. You have the option to launch NEXT here.



Chapter 2- FIRST RUN AND LOGIN

Par 2.1 First Run

Locate the ARTECO NEXT icon on your desktop and double-click it to launch the application. Upon first accessing the client, you will see the screen as shown below:



Par 2.2 First Login

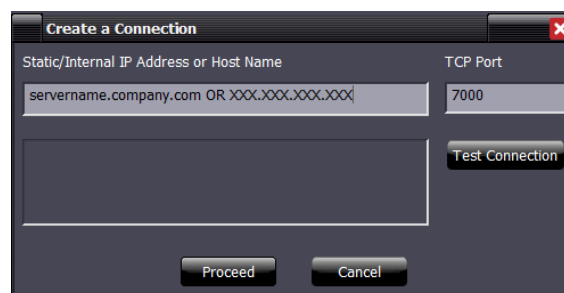
When you first start ARTECO NEXT you will need to create a connection to the Arteco Server you want to see and configure (which must be on and connected to your PC via the network).

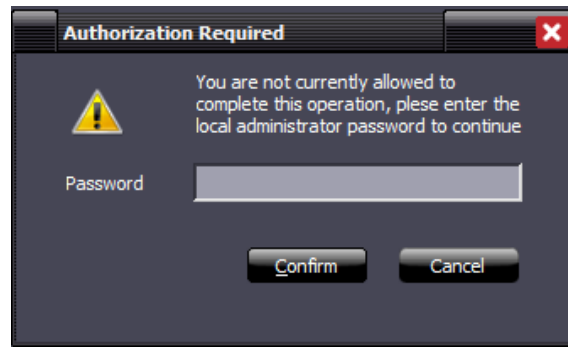
The Create a Connection window is where you type the IP address or DDNS hostname of the Server in letters or numbers and specify a port number. (Arteco Server uses port 7000 by default) If you are using a DDNS hostname to access your server from any NEXT clients outside the network, make sure to allow port 7000 through your firewall.

If you do not see this screen, enter the Configuration Environment by clicking **"SETUP"** and right click on **"All Devices"** in the Device List. Then choose from the dropdown list **"Add Server"**.

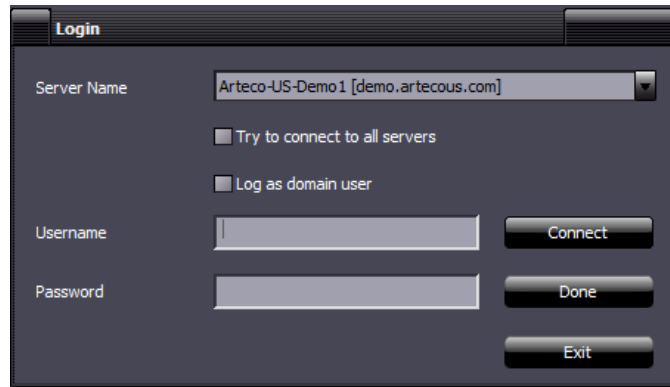
After typing an IP address or URL, click on the button **"Test Connection"** to make a preliminary verification of the network connection, which will provide the version and status of the Server.

Also, by clicking on **"Test Connection"**, NEXT will make sure the server has not already been included in the client installation you are using. If you see the message "Note: A server with the same ID ..." this means that the same system is already included in the list, for which only one of the two entries will connect.





Once you click connect, you must enter the local client password **1234** at the Authorization Required screen. (any time you see this window, type the password **1234** and click "**Confirm**").

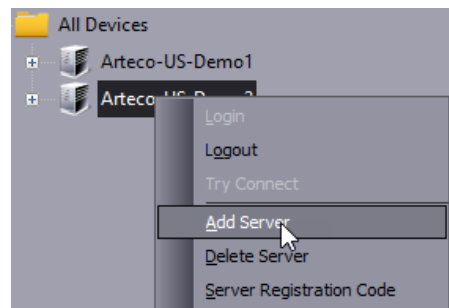


At this point, a window appears in the center of the screen, an additional form that will allow you to log-in to the system. The default login credentials for ARTECO systems is:

Username = **administrator**

Password = **1234**

If you need to add and configure any additional systems, ensure the Setup environment is selected by clicking the button below, then right click in the Device List pane **All Devices**. Select from the dropdown list: **Add Server**



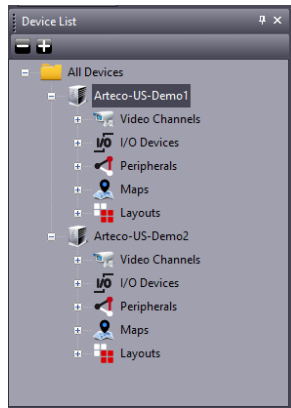
The next time you start NEXT, the login window will appear directly where you need to enter login credentials, with the ability to simultaneously connect to multiple systems in the case in which data access can be shared.

Par 2.3 Brief introduction: Interface

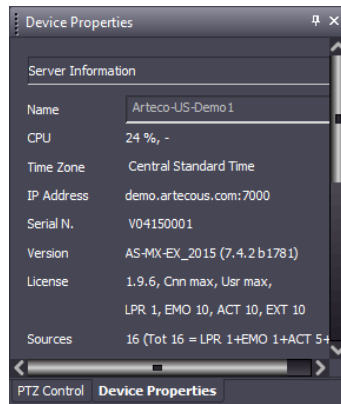
After you've gotten logged into the Server, you'll immediately notice that the interface consists of several distinct sections. Every Environment (**LIVE, REC, SETUP**) changes what panes appear by default when you switch between them. At the top, in the section that groups together the menu and the Main Console, you can access the Environments (Live, Recording and Configuration), Panes, and Toolbars, which are explained later in detail.

The "center-right" area is called the "Layouts" pane. In this area, you will see a "grid" or single view that displays either live images of video sources, recorded images or configuration parameters screens, depending on which Environment you're in.

How to compose and customize the layout of the client is explained in later chapters.



On the left, there are additional panes displaying device information. In the "Device List" pane, you will see all the registered Artecno Servers, cameras configured, I/O devices, peripherals and maps, shown below left.



The "Device Properties" pane shows all the information related to the selected device in the "Device List". Here you can preview the IP address of the camera, the status of the inputs of the I/O Devices, and much more, shown below right

The "Live Event" pane appears by default at the bottom of the screen.

In this section, the Live Event Log will appear (both for channel and system notifications)

In the dark grey bar at the very bottom you have access to standard system information, such as the currently selected server and device, and the date and time set on the server to which you are connected.

| Book... | Server Name | Device | Event Description | Event Time | Processed | Username | Acknowledgement Ti... | Status | Note |
|---------|------------------|------------------------------------------|-------------------|-------------------------|-----------|----------|-------------------------|--------|------|
| | Artecno-US-Demo1 | Arecont S105-DN Violated Area, Zone 01 | | 08:09:25 AM 12 Jul 2016 | ✓ | bland | 08:36:14 AM 12 Jul 2016 | | |
| | Artecno-US-Demo1 | Arecont S105-DN Violated Area, Zone 01 | | 08:09:51 AM 12 Jul 2016 | ✓ | bland | 08:35:52 AM 12 Jul 2016 | | |
| | Artecno-US-Demo1 | AXIS Q1602 Ca... Violated Area, Zone 01 | | 08:10:04 AM 12 Jul 2016 | ✓ | bland | 08:35:59 AM 12 Jul 2016 | | |
| | Artecno-US-Demo1 | Serby F5-IP418... Violated Area, Zone 01 | | 08:10:09 AM 12 Jul 2016 | ✓ | bland | 08:36:21 AM 12 Jul 2016 | | |

Par 2.4 Elements of the Main Console

Using the ARTECO NEXT main console, you can interact with various interface elements. The most important element is the "Environments Toolbar".

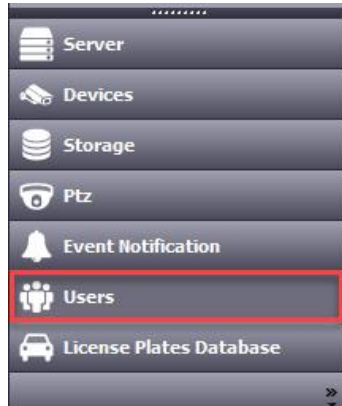


Using these buttons, the user can quickly switch between the three Environments: **Live, Recordings, and Configuration**. Seen below:

- **LIVE:** In this environment you can see Live Images, Event Notifications, Patrol Layouts, etc.
- **REC:** With the Recordings Environment you can access recordings, view the event log and export recorded video
- **SETUP:** Also called the Configuration Environment. It allows you access to all parts of the system for device configuration (subject to user permissions)

One of these buttons showing as red indicates which environment is currently active.
Let's start with the SETUP environment.

Chapter 3- User Management



The ARTECO systems allow for the insertion of 3 types of users: "**User**", "**Power User**" and "**Administrator**". The maximum number of users and concurrent connections depend on the product and/or license in possession.

The category "**User**" is reserved by default for normal users and thus allows access to view only the "Live Environment". Regarding the recordings, a "**User**" can only access recordings from the event log and will not have access to the archives in Recordings. "**Power User**", compared to the "**User**" has more complete access to the recording archives. "**Administrator**" has access to all functions and the configuration settings for the ARTECO System.

The user settings are accessible in the "Setup Environment" of ARTECO NEXT. Be sure to have the correct server selected for the users you want to manage.

To insert a new user, fill in the fields "**Last Name**", "**First Name**" and "**Username**" and choose the role (**User/PowerUser/Administrator**). The access password is also required to be entered twice for confirmation. Finally decide on which ARTECO Server to which you want to add the user. Once done, click on the "**Save**" button.

To remove a user, select the row corresponding to the user/server from the list and then click the "**Delete**" button.

In the Auditing section, for each user it is possible to select the actions that will be saved on the Server in order to perform the Auditing searches.

 A user management form with the following fields and options:

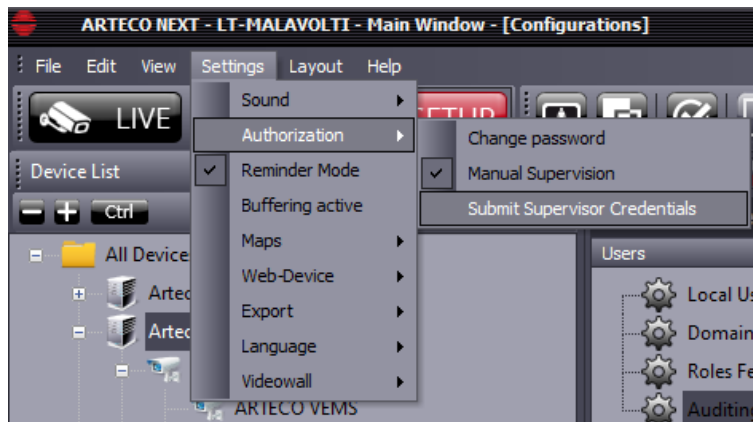
- Last Name: [Empty text box]
- First Name: vista
- Username: vista
- Rights: Administrator (dropdown menu)
- Old Password: [Empty text box]
- Password: [Empty text box]
- Confirm Password: [Empty text box]
- Server Name: [2077] Fitzcarraldo .163 Museo Galleria Ester (dropdown menu)
- Available cameras: Dahua .115; Dahua Cliente CV .5.63; Geo... (dropdown menu)
- Recordings Supervisor
- Auditing section with checkboxes:
 - Login and Logout
 - Add/Edit/Remove Users
 - Add/Remove Devices
 - Play Recordings
 - Play Events
 - Delete Recordings
 - Delete Events
- Buttons: Add, Save, Delete

NOTE: with versions 1077 and later you will also have the ability to specify which cameras each user will be allowed to access and view when logged in. This is done by clicking the dropdown list for "**Available Cameras**" and ticking the boxes associated to sources the user can see.

Par 3.1 Supervisor User / Double authentication

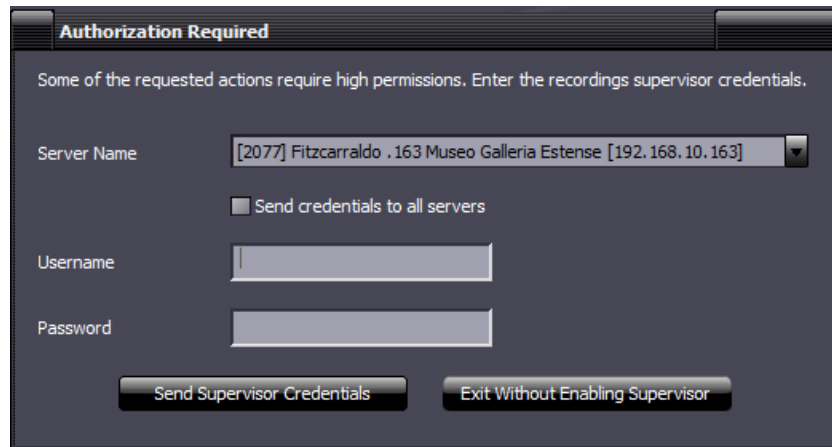
Due to the GDPR privacy regulations, it could be necessary to enable a Recordings Supervisor. Basically an authorized person that grants other Users and/or Power Users to export video recordings in Native format, after entering Supervisor credentials. The Supervisor user is defined in the user configuration section.

To enable the management of the Supervisor user, click on Settings -> Authorizations -> Enter Supervisor Credentials.



The screen below will appear. It will therefore be necessary to enter the credentials of a Supervisor user other than the one who is logging in (security layer required by GDPR privacy regulations).

When entering the Recordings environment, if the user is a "power user" or "user", he will be asked to enter credentials for a Supervisor user. This step is not mandatory, in case these will not be inserted users and power users will be able to do their jobs, but without the possibility to export video in Native format, simply by clicking on "Exit without Enabling Supervisor".

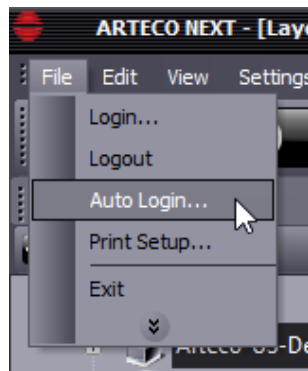


In the opposite case, it will be necessary to enter the credentials of a different Supervisor user other than the one who is accessing (security layer required by GDPR privacy regulations).

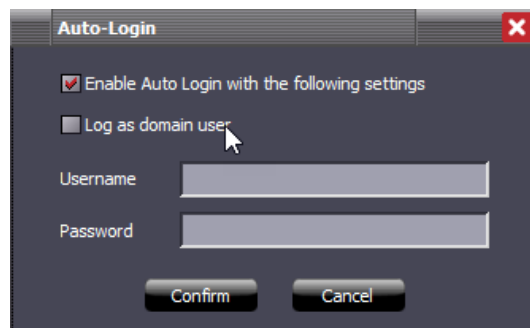
Par 3.2 Auto Login

In installations where security access is guaranteed (i.e. the PC on which ARTECO NEXT it is installed is used only by a single user with access to the ARTECO server), you can enable **Auto Login**. This function allows you to log on automatically as soon as the application is launched. In order for the auto-login to work properly the usernames and passwords of the servers on which you want to perform an automatic login must be the same.

To activate autologin from the menu, click **File > Auto Login** as shown below.



Enter the username and password that you want to automatically attempt to login to the system(s) whenever NEXT is open. To turn off this feature follow the same steps and uncheck the "**Enable Auto Login...**" checkbox.



Each time you start ARTECO NEXT, if Auto-Login is enabled, the system will attempt to log in to each server in its list with the username and password entered above. If the username or password you entered is not already configured on one or more servers in "All Devices" you will get an error but will still be able to log in manually by right clicking on the Server and clicking "Login".

CAUTION: Using Auto Login on two or more Client PCs running NEXT with the same username or password will conflict. For that reason, if you have a user that requires both Mobile and NEXT logins, create separate usernames for each.

Par 3.3 Roles features

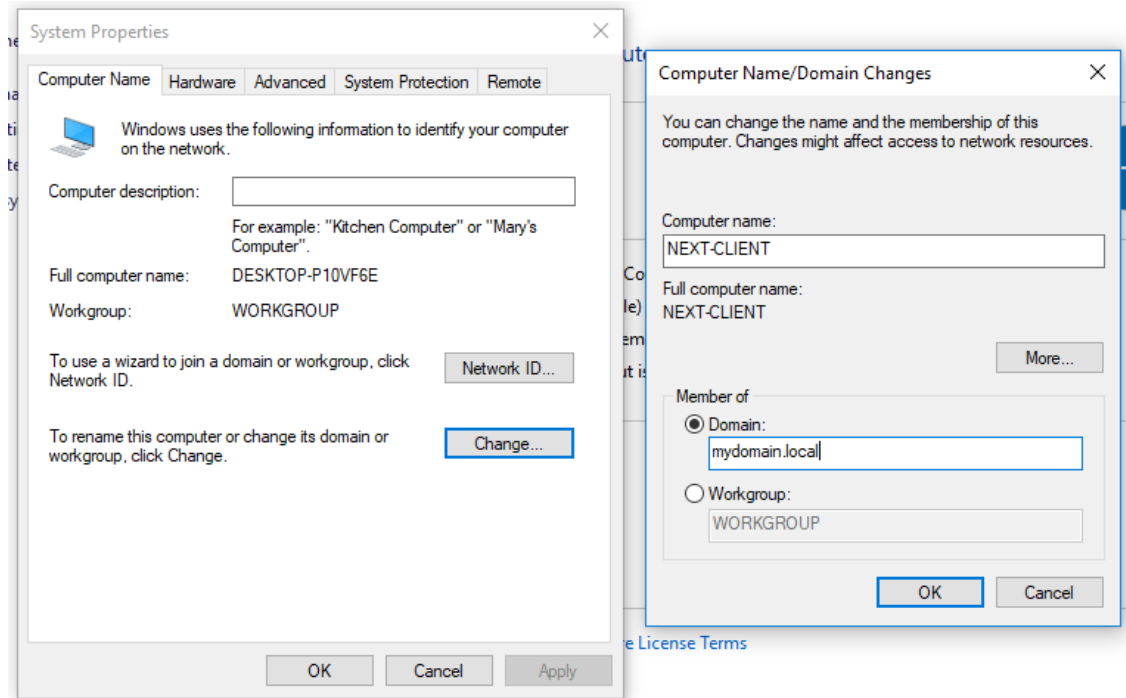
An ARTECO Administrator can now define what each user accessing that server can do for a specific user level: Admin, Power User, User.

Through "Roles Features" Administrators can assign different accessibilities to different levels so as to achieve the highest customization of user rights.

| Tasks | Administrator | Power User | User | |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------|
| Arteco-Logic | | | | |
| ReminderMask | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Reminder Configuration |
| DeviceListConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Preference Groups configuration |
| PopupConfiguration | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Pop-Up configuration |
| Rights | | | | |
| ChangePassword | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Password configuration |
| UserConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Local users configuration |
| LogoutControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ARTECO-LOGIC Next logout rights |
| ExitControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ARTECO-LOGIC Next dose and exit rights |
| ManagerConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ARTECO-MANAGER connectivity |
| Layout | | | | |
| ChannelControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Channels configuration |
| LayoutConfiguration | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Layout configuration |
| LayoutControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Full screen and New window configuration |
| PatrolConfiguration | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Layout patrol configuration |
| Contact Information | | | | |
| ServerConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Server contacts, phone number and notes configuration |
| Channels | | | | |
| ChannelConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Camera configuration |
| Dome PTZ | | | | |
| DomeControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Access to Dome PTZ camera movement |
| DomeAdvancedControl | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Access to Dome PTZ camera advanced commands |
| DomeConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dome PTZ camera configuration |
| Recordings | | | | |
| RecordingConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Device recording configuration |
| RecordingControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Recorded events viewing rights |
| BrowserRecordings | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Camera recording viewing rights |
| ExportRecordings | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | AVI File recording rights |
| Background & Plugins | | | | |
| VisionConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Background configuration |
| DetailsConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Layout details configuration |
| DetailsIgnorePZ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Privacy zones visualization rights |
| PluginConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Plugin and Privacy Zones configuration |
| PluginView | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Plugin results visualization rights |
| I/O Devices | | | | |
| IOConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I/O device connection configuration |
| IOControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Access to connected I/O devices |
| Peripherals | | | | |
| SecurityConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Peripherals configuration |
| SecurityControl | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Access to connected I/O peripherals |
| Notifications | | | | |
| EventsConfiguration | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Event enabling rights |

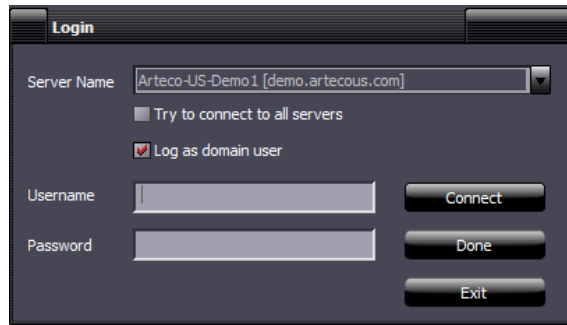
Par 3.4 Adding Domain Users

By creating a domain group and adding domain users to it, you can add a group of users to ARTECO NEXT all of which can be assigned the same rights. Ensure your server is on the domain you would like to use.



| Group | Description | Rights | Cameras |
|------------------------------------------------------------------|-----------------------------------------------------------|---------------|----------------------------------|
| <input type="checkbox"/> Access Control Assistance Operators | Members of this group can remotely query authorizati... | | |
| <input type="checkbox"/> Account Operators | Members can administer domain user and group accou... | | |
| <input type="checkbox"/> admin | arteco | | |
| <input type="checkbox"/> Administrators | Administrators have complete and unrestricted access... | | |
| <input type="checkbox"/> All Users | E-mail distribution list for all users | | |
| <input type="checkbox"/> Allowed RODC Password Replication Group | Members in this group can have their passwords repli... | | |
| <input type="checkbox"/> Arteco Orders | | | |
| <input type="checkbox"/> Backup Operators | Backup Operators can override security restrictions fo... | | |
| <input type="checkbox"/> Cert Publishers | Members of this group are permitted to publish certifi... | | |
| <input type="checkbox"/> Certificate Service DCOM Access | Members of this group are allowed to connect to Certi... | | |
| <input type="checkbox"/> Cloneable Domain Controllers | Members of this group that are domain controllers ma... | | |
| <input type="checkbox"/> Compliance Management | This role group will allow a specified user, responsib... | | |
| <input type="checkbox"/> Cryptographic Operators | Members are authorized to perform cryptographic ope... | | |
| <input type="checkbox"/> Delegated Setup | Members of this management role group have permis... | | |
| <input type="checkbox"/> Denied RODC Password Replication Group | Members in this group cannot have their passwords re... | | |
| <input type="checkbox"/> DHCP Administrators | Members who have administrative access to the DHCP... | | |
| <input checked="" type="checkbox"/> DHCP Users | Members who have view-only access to the DHCP ser... | Administrator | Sentry FS-5000 Bench Area; AR... |
| <input type="checkbox"/> Discovery Management | Members of this management role group can perform ... | User | |
| <input type="checkbox"/> Distributed COM Users | Members are allowed to launch, activate and use Distr... | PowerUser | |
| <input type="checkbox"/> DnsAdmins | DNS Administrators Group | Administrator | |
| <input type="checkbox"/> DnsUpdateProxy | DNS clients who are permitted to perform dynamic up... | | |
| <input type="checkbox"/> Domain Admins | Designated administrators of the domain | | |
| <input type="checkbox"/> Domain Computers | All workstations and servers joined to the domain | | |
| <input type="checkbox"/> Domain Controllers | All domain controllers in the domain | | |
| <input type="checkbox"/> Domain Guests | All domain guests | | |
| <input type="checkbox"/> Domain Users | All domain users | | |

Once the domain group is created, you can select the permission rights of the group along with the specific cameras that will be allowed to be viewed by the users in selected group. When you first connect ARTECO Next prompt the user to specify the password using a double entry, as shown in the interface. Click proceed and select "Login as domain user" before entering your domain credentials. Then click connect.



By adding Domain users, organizations with lots of employees/operators can quickly “import” the same users and credentials used by people to login to their Personal computers, facilitating the process.

Par 3.5 Auditing

The Arteco NEXT Auditing function allows system administrators to research and carry out information aimed at identifying certain behaviors and situations "generated" by users.

Using the "Period (server time) menu, the user can define the time frame in which to search.

In addition to predefined intervals, you can specify a custom range.

The "Actions" menu contains the list of operations performed by the system.

Use flags to select the relevant items.

Using the "Description" box it is possible to do specific searches to make an even more targeted analysis (eg camera name to see who acted on it).

Through the "User" box it is possible to indicate a specific user name, for even more precise searches.

Finally, it is possible to define for how many days the system maintains information on the actions.

Once the desired parameters have been defined, click on the "Search" button.

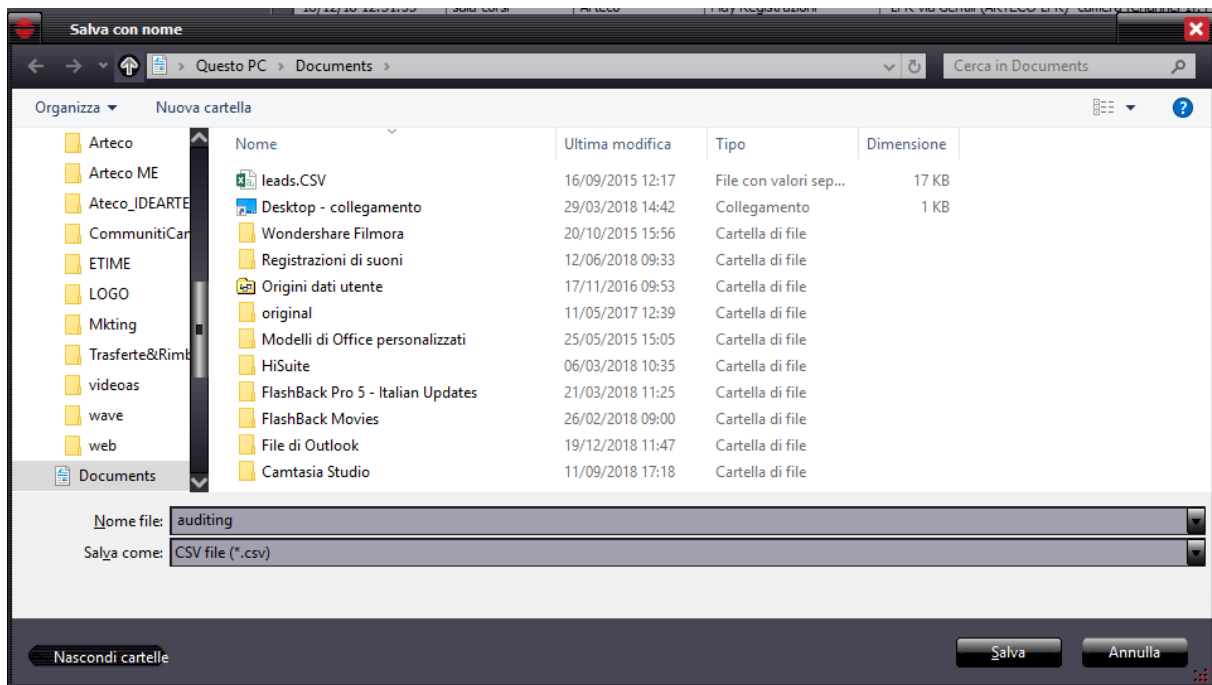
In the right part, all the corresponding actions will be shown.

You can view:

- Date and time of the action
- User
- User type (Arteco, Domain or system)
- Action
- Description

| Event Time | Username | User Type | Action | Description |
|-------------------------|------------|-----------|-----------------|---------------------------------------------------------------|
| 12:02:08 PM 18 Jul 2019 | artecosa | Arteco | Play Events | "Wisenet - Analytics" device [Id 175]: played event [37096... |
| 12:02:10 PM 18 Jul 2019 | artecosa | Arteco | Play Recordings | "Entrance Hall (Wisenet X)" camera [Channel 9]: PLAY fro... |
| 12:31:55 PM 18 Jul 2019 | artecosa | Arteco | Play Events | "Axis - Perimeter Defender" device [Id 174]: played event ... |
| 12:31:55 PM 18 Jul 2019 | artecosa | Arteco | Play Recordings | "Entrance Hall (Wisenet X)" camera [Channel 9]: STOP |
| 12:31:57 PM 18 Jul 2019 | artecosa | Arteco | Play Recordings | "Perimeter Defender (Axis)" camera [Channel 12]: PLAY fro... |
| 12:35:24 PM 18 Jul 2019 | mmalavolti | Arteco | Login/Logout | Login |
| 12:45:45 PM 18 Jul 2019 | rcimatti | Arteco | Login/Logout | Login |
| 12:48:14 PM 18 Jul 2019 | eviarani | Arteco | Login/Logout | Login |
| 12:48:43 PM 18 Jul 2019 | rcimatti | Arteco | Login/Logout | Logout |
| 12:48:56 PM 18 Jul 2019 | artecosa | Arteco | Login/Logout | Logout |
| 12:58:23 PM 18 Jul 2019 | mmalavolti | Arteco | Login/Logout | Logout |
| 12:58:48 PM 18 Jul 2019 | mmalavolti | Arteco | Login/Logout | Login |

Clicking with the right button on the screen, it will be possible to export the Log in standard format (.csv).

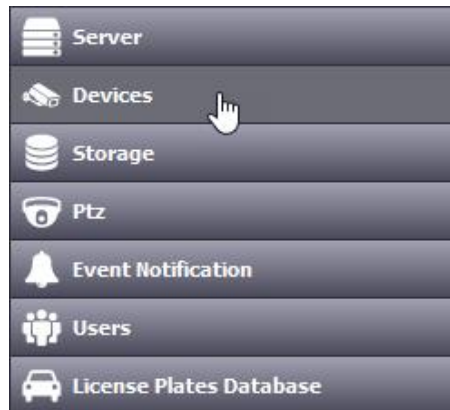


Chapter 4 Configuring Cameras

In this chapter you will see how to add and remove video sources (cameras) and how to adjust the parameters of source acquisition and transmission over a network.

For access to the configuration area, ensure the Server is selected in the Device List and switch to the "Configuration Environment" with the **SETUP** button in the Environments Toolbar, you will see the "Server" pane with various Tabs.

From this list, locate the tab "**Devices**", as shown below



ONVIF DRIVER BENEFITS

Arteco allows you to configure IP cameras using the Onvif driver. Configuring a camera as Onvif helps in these situations:

- Easy integration of Onvif compliant cameras
- Supports two-way audio (available only with Onvif channels)
- Recordings are not lost even if the camera is replaced, as the NEXT side configuration remains the same
- Support for Onvif G devices (Edge recordings)

RTSP DRIVER BENEFITS

- Easy integration of generic or semi-unknown cameras.
- Acquire and manage flows from NVR / DVR or generic video sources (eg Internet video streams)

"Negative" aspect: it is necessary to know the rtsp string, which is sometimes not provided by the manufacturer or difficult to find.

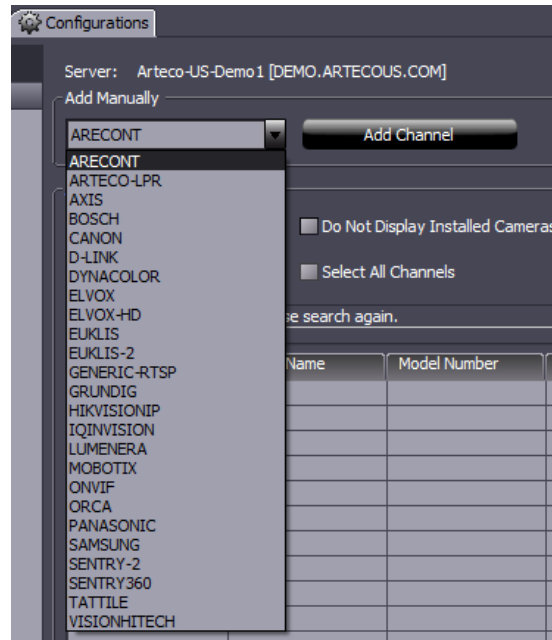
BRANDS WITH ADVANCED INTEGRATIONS

These brands allow customers to benefit from specific features.

- Axis: I / O management, edge record retrieval, incorporated VA event reception (via Open Connector and Arteco Gateway)
- Bosch: I / O management, IVA/EVA, HTTP CGI commands (external I/O)
- Dahua: retrieval of edge recordings (Onvif G), reception of incorporated VA events (via Open Connector and Arteco Gateway)
- Hikvision: recovery of edge recordings (Onvif G), reception of VA events incorporated (via Open Connector and Arteco Gateway)
- Samsung / Wisenet: I/O management, recovery of edge recordings, LPR (required Arteco application), reception of incorporated VA events (via Open Connector and Arteco Gateway)

Par 4.1 Adding Channels Manually

In order to manually add cameras, you will utilize the menu provided after clicking "**Devices**". Underneath where it says "**Add Manually**", you will see a drop-down menu that you can choose to manually add IP cameras so it is important you know the brand of the camera, its network address, and any authentication credentials (if different from the default). Once you select the type of channel to be added, click the "**Add Channel**" button.



ARTECO NEXT also allows you to specify the number of sources to use for any given channel, so long as the camera has multiple available sources. To choose how many sources to use for a camera, type or use the up and down arrows to specify a number of sources to use for the camera.

Par 4.2 Automatic Search

Automatic Search simplifies the installation of one or more IP cameras in a few steps. After clicking the "**Search Cameras**" button you will see all UPnP IP devices on the Artec Server network. This feature identifies the IP cameras on the network, even across subnets and/or devices non-compliant with the UPnP protocol. The result of the automatic search shows both cameras that are already configured (highlighted in green and can be filtered through the check-box "**Do Not Display Installed Cameras**") and new devices on the network. It is possible to add one or more cameras at the same time by selecting them in the interface. Once you have selected the IP cameras to add, click "**Add Selected Channels**". After channels are added it is still possible to go edit camera configuration, explained further later in this chapter.

Automatic Search

Search Cameras Do Not Display Installed Cameras

Add Selected Channels Select All Channels

Found 24 devices.

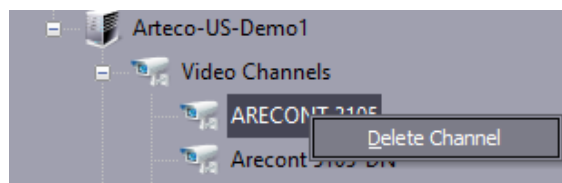
| Type | Model Name | Model Number | Serial Number | IP Address | Username | Password | Channel Name |
|--------------------------|---------------------------|--------------|---------------------------------|---------------|----------|----------|------------------|
| <input type="checkbox"/> | Mega-Pixel Netw... | IP8355EH | | 192.168.1.105 | | | |
| <input type="checkbox"/> | Mega-Pixel Netw... | FD8151V | | 192.168.1.108 | | | |
| <input type="checkbox"/> | Mega-Pixel Netw... | FD8154 | | 192.168.1.111 | | | |
| <input type="checkbox"/> | Mega-Pixel Netw... | IP8371E | | 192.168.1.116 | | | |
| <input type="checkbox"/> | NV102 | NV102 | 00D089083 | 192.168.1.125 | | | |
| <input type="checkbox"/> | AXIS Q6035 | Q6035 | 00408CF52235 | 192.168.1.106 | root | ***** | AXIS Q6035 ... |
| <input type="checkbox"/> | AXIS Q1602 | Q1602 | 00408CF850AD | 192.168.1.122 | root | ***** | AXIS Q1602 ... |
| <input type="checkbox"/> | AXIS M1054 | M1054 | 00408CBF5C2C | 192.168.1.123 | root | ***** | AXIS M1054 ... |
| <input type="checkbox"/> | AXIS M1054 | M1054 | ACCC8E133C9C | 192.168.1.127 | root | ***** | AXIS M1054 ... |
| <input type="checkbox"/> | DYNACOLOR network camera | NV102 | 00D08908D | 192.168.1.113 | Admin | **** | Dynacolor (S... |
| <input type="checkbox"/> | DYNACOLOR Onvif NV102 | NV102 | 0b6b62ea-b49a-49dc-906a-00d... | 192.168.1.113 | Admin | **** | Dynacolor (S... |
| <input type="checkbox"/> | IQINVISION Onvif IQ032S | IQ032S | 1419d68a-1dd2-11b2-a105-005... | 192.168.1.101 | admin | **** | IQInvision Co... |
| <input type="checkbox"/> | IQINVISION Onvif IQM32N | IQM32N | 1419d68a-1dd2-11b2-a105-005... | 192.168.1.124 | root | ***** | IQM32N Cam... |
| <input type="checkbox"/> | ONVIF Onvif IP8355EH | IP8355EH | 5e2049ba-cf0c-54d1-3e80-0141... | 192.168.1.105 | | | |
| <input type="checkbox"/> | ONVIF Onvif FD8151V | FD8151V | df044fad-5d40-1249-66ab-82c4... | 192.168.1.108 | | | |
| <input type="checkbox"/> | ONVIF Onvif FD8154 | FD8154 | 81a40b8e-6d4c-6b9b-42d7-558... | 192.168.1.111 | | | |
| <input type="checkbox"/> | ONVIF Onvif FE8174V | FE8174V | 71020d47-27ab-7283-a4cf-43d... | 192.168.1.115 | | | Vivotek 360 C... |
| <input type="checkbox"/> | ONVIF H.264 Mega-Pixel... | FE8174V | | 192.168.1.115 | | | Vivotek 360 C... |
| <input type="checkbox"/> | ONVIF Onvif SNO-7084R | SNO-7084R | 4b485845-3656-3247-3230-303... | 192.168.1.125 | | | |
| <input type="checkbox"/> | ONVIF Onvif NV102 | NV102 | 0b6b62ea-b49a-49dc-906a-00d... | 192.168.1.125 | | | |
| <input type="checkbox"/> | SAMSUNG SNV-L6083R | SNV-L6083R | ZBRE6V2G40008AN | 192.168.1.128 | admin | ***** | SNV-L6083R |
| <input type="checkbox"/> | SAMSUNG Onvif SNV-L6083R | SNV-L6083R | 5a425245-3656-3247-3430-303... | 192.168.1.128 | admin | ***** | SNV-L6083R |
| <input type="checkbox"/> | SENTRY-2 FS-IP4180 | FS-IP4180 | 0050C20EC | 192.168.1.117 | Admin | ***** | Sentry FS-IP... |
| <input type="checkbox"/> | SENTRY-2 Onvif FS-IP4180 | FS-IP4180 | 0b6b62ea-b49a-49dc-906a-005... | 192.168.1.117 | Admin | ***** | Sentry FS-IP... |

To get updated information on the compatibility and recommended configurations IP Camera models and video servers that are compatible, it is advisable to go to the [Arteco website](#).

Par 4.3 Removing Channels

In order to remove a video source, ensure that you are in the "Configuration Environment" and go to the **Device List** pane.

Open the menu tree on the system and under "**Video Channels**", right-click on the device and select "**Delete Channel**", as shown in below:



Please note: the removal operation will erase all settings and recordings relating to the video source. The channel will be re-activated by adding the channel but will be assigned by default to factory settings and on the default recording path.

Par 4.4 Multi selection

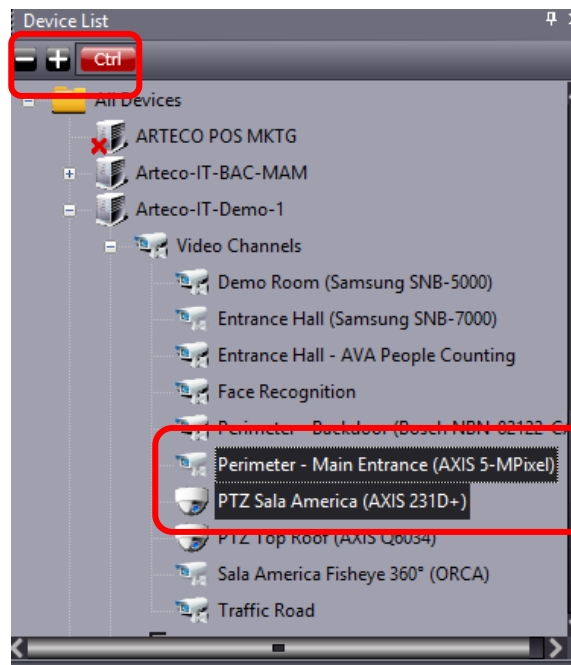
The "Multiselection" function makes it possible to configure multiple devices of the same type/brand (i.e. 2 or more Onvif cameras, 2 Artec Everywhere, or two servers with the same version, simultaneously. Multiple selection is available in two modes:

○ Simple Mode

In the Simple Mode you can select the devices by pressing and holding the CTRL key (each click on a device will add it to the selection) or SHIFT (all the devices included between the previously selected and the last selected node) and clicking the left mouse button.

○ Toggle Mode (CTRL)

The Toggle Mode (CTRL) will be activated by clicking on the inserted in the "Device List" (see image below). Each click with the left mouse button will lead to an addition of the device (or to its removal if already selected). In this mode, it is as if the CTRL key is always pressed.



There are 3 cases:

- 1) If devices of the same type are selected, the parameters can be configured. Once you have selected two or more homogeneous elements, the corresponding configuration page will be shown.
- 2) In the case of devices of the same type but belonging to different servers, with different SW versions, the configuration dialog will refer to the oldest server version among those of the selected devices and also, in case there are parameters not in common, these will not be displayed. The same situation can happen if the servers have the same software version but different licenses.
- 3) It will not be possible to select elements of different type (eg 1 camera and 1 peripheral device).

ARTECO NEXT will behave as follows:

- If the value of a certain field is the same on all selected items, it will be shown.
- If the selected configurations have different values for some attributes, the corresponding fields will show the default value. In this case, to highlight the diversity of the selected elements, the parameter will be highlighted with the italicized and underlined label (eg IP address in the next image).

- To make clear what the user has modified and what NEXT will actually modify if you press the "**Apply**" button, the relative label will be changed with characters in bold and with an asterisk as a suffix (i.e. User *).

The screenshot displays a configuration window for ARTECO NEXT. The interface is dark-themed with various input fields and dropdown menus. The following fields are visible:

- Enable Camera
- Channel License: EXT
- IP Address*: 0 . 0 . 0 . 0 (highlighted with a red box)
- User***: rootg (highlighted with a green box)
- Password***: [masked with dots] (highlighted with a green box)
- Protocol: UDP
- Source: Source 1
- Main
- Encoder*: MJPEG

Par 4.5 IP Camera Setup

As previously stated, unchecking the "**Enable Source**" and clicking "**Apply**" temporarily disables an IP video source on the server but will not erase the recordings.

In the "**IP Address**" field, enter the IP address assigned to the camera (to assign the address to the camera, connect to its default IP with an Internet Browser, read the manufacturer's instructions if necessary).

The fields "**User**" and "**Password**" are used to allow the authentication of the camera system. Depending on the camera software, ARTECO-NEXT proposes default credentials provided by the manufacturer. Updating these credentials is highly recommended in the event that there have been change to the system. The "**HTTP Port**" and/or "**RTSP Port**" fields allow you to specify the communication ports between Server and camera.

The parameter: "**Source**" has a drop down menu which allows you to choose which channel/lens to use (ex. Arecont cameras that are 180°/360° have multiple lenses).

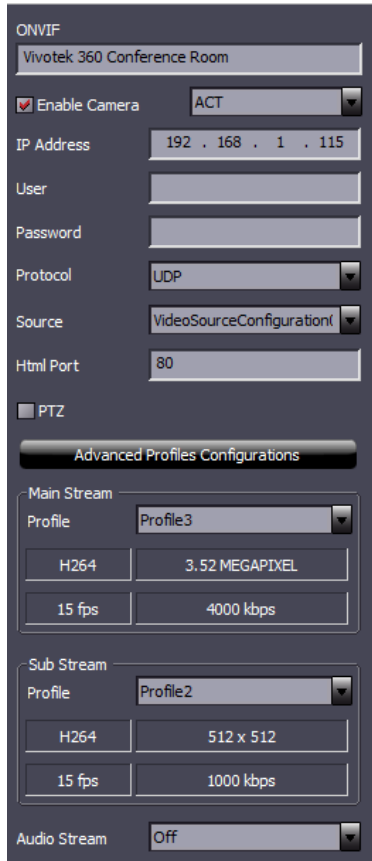
The parameter: "**Native Encoder**" has a drop down menu that allows you to choose which encoder is used to manage the device (refer to the manual of the camera).

The parameter: "**Native Res.**" (Resolution abbrev.) is taken directly from the value set on the Web client for the IP camera. To change this parameter, you must connect to the camera interface by opening Web browser and typing the camera's IP address into the search bar. It is highly recommended that you dedicate an IP camera to a single system (in this case to Arteco) so that it does not affect the operation of the camera that would otherwise need to transmit multiple video streams simultaneously to multiple systems.

"**Substream Res.**" cannot be changed. It is a parameter that indicates if the camera is able to provide a second video stream that is normally used by the ARTECO systems to perform the image analysis. The parameter "**Acquisition Fps**" allows you to limit the frame rate of image processing that the system performs on that channel (see the previous description of this topic in the section analog sources). The "**Audio Stream**" allows you to enable the use of the resource relative to the single audio channel.

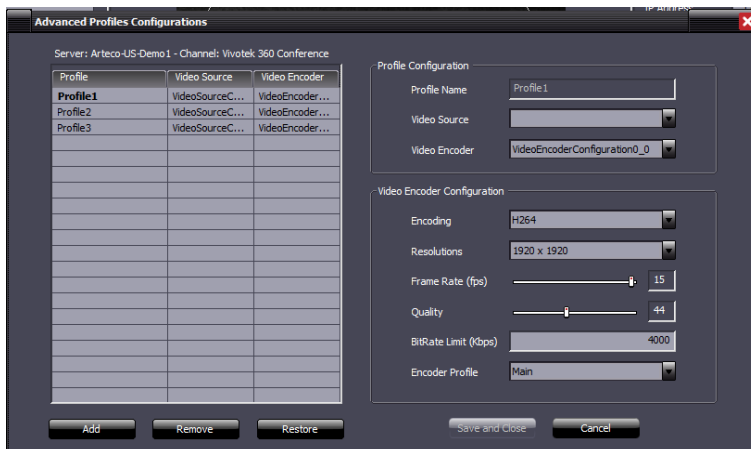
Par 4.6 ONVIF IP camera setup

In order to be compliant with almost the totality of IP cameras available, ARTECO employs ONVIF device configurations.



The screenshot shows the ONVIF configuration window for a camera named "Vivotek 360 Conference Room". It includes fields for "Enable Camera" (checked), "ACT" dropdown, "IP Address" (192.168.1.115), "User", "Password", "Protocol" (UDP), "Source" (VideoSourceConfiguration), "Html Port" (80), and a "PTZ" checkbox. Below these is a button for "Advanced Profiles Configurations". Underneath, there are sections for "Main Stream" and "Sub Stream", each with a "Profile" dropdown and fields for "H264", "Resolution", "Fps", and "Kbps". The "Main Stream" profile is set to "Profile3" with H264, 3.52 MEGAPIXEL, 15 fps, and 4000 kbps. The "Sub Stream" profile is set to "Profile2" with H264, 512 x 512, 15 fps, and 1000 kbps. An "Audio Stream" dropdown is set to "Off".

You will immediately notice the "**Advanced Profiles Configurations**" button. Clicking on it will take you to a screen that allows you to configure video streams for the ONVIF-supported camera in question.



The screenshot shows the "Advanced Profiles Configurations" dialog box. It has a title bar with "Advanced Profiles Configurations" and a close button. The main area is divided into two panes. The left pane shows a table with columns for "Profile", "Video Source", and "Video Encoder". The right pane shows "Profile Configuration" for "Profile1" with fields for "Video Source" and "Video Encoder". Below that is "Video Encoder Configuration" with fields for "Encoding" (H264), "Resolutions" (1920 x 1920), "Frame Rate (fps)" (15), "Quality" (44), "BitRate Limit (Kbps)" (4000), and "Encoder Profile" (Main). At the bottom are buttons for "Add", "Remove", "Restore", "Save and Close", and "Cancel".

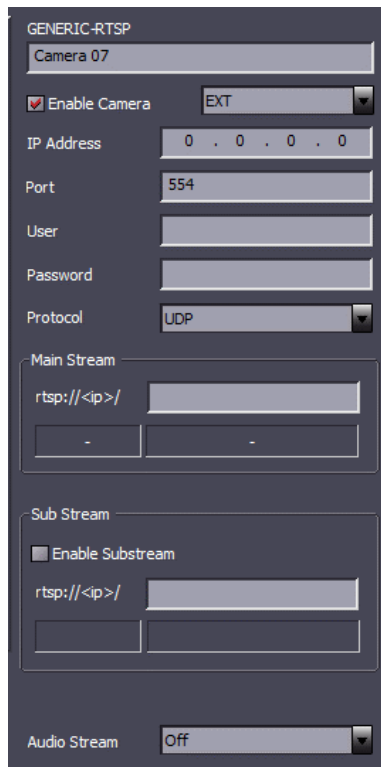
| Profile | Video Source | Video Encoder |
|----------|-----------------|-----------------|
| Profile1 | VideoSourceC... | VideoEncoder... |
| Profile2 | VideoSourceC... | VideoEncoder... |
| Profile3 | VideoSourceC... | VideoEncoder... |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Depending on the camera type and version of the ONVIF driver installed on it, you can select and configure multiple profiles, selecting for each: the encoder used, resolution, bit rate and the profile type (primary or secondary). It is highly recommended to configure the first stream at full resolution for the H.264 baseline encoder. The second stream should be set no higher than CIF resolution at 8 fps with MJPEG encoding.

Another option for setting multiple camera streams is to do so in Onvif Device Manager, a separate software for configuring Onvif devices. To obtain this software, request it with the [Arteco Support Team](#).

Par 4.7 RTSP Source Setup

Just as with Analog and IP cameras, check the "**Enable Source**" button to temporarily disable an RTSP source. This does not cause the deletion of recordings. To insert and configure an RTSP stream, you must know the relative connection strings in advance, so you should consult the camera's product manual or retrieve the information through the camera's web client in a browser. It is highly recommended to dedicate an RTSP source to a single system in order not to compromise camera functionality that would otherwise need to transmit additional video streams simultaneously to multiple systems.



The screenshot shows the 'GENERIC-RTSP' configuration window. It has a dark grey background with white text and input fields. At the top, it says 'Camera 07'. Below that is a checkbox for 'Enable Camera' which is checked, and a dropdown menu set to 'EXT'. The 'IP Address' field contains '0 . 0 . 0 . 0'. The 'Port' field contains '554'. There are empty fields for 'User' and 'Password'. The 'Protocol' dropdown is set to 'UDP'. Under 'Main Stream', there is a text input field containing 'rtsp://<ip>/'. Below that are two empty input fields. Under 'Sub Stream', there is a checkbox for 'Enable Substream' which is unchecked, and a text input field containing 'rtsp://<ip>/'. Below that are two empty input fields. At the bottom, the 'Audio Stream' dropdown is set to 'Off'.

In the "**IP Address**" field it is necessary to enter the address assigned to the camera (to assign the camera address to its default IP with an Internet browser consult the camera manual)

The "**Port**" field allows you to configure a port of the video stream transmission, usually the standard is port 554, but can vary depending on the specifications of the video source and/or as a result of configuration changes.

The "**User**" and "**Password**" fields are used to allow authentication of the system on to the camera.

The parameter: "**Main Stream**" is taken directly depending on the RTSP string used. It is the stream used by Arteco for live viewing and recording.

The "**Sub stream**" field may be enabled or not. It is a read parameter that indicates whether the camera is able to provide a second video stream that is normally used by Arteco systems to perform analytics on the images.

We recommend running the first stream at full resolution and frame rate as well as with H264 encoding type "baseline". The second stream is to set at CIF resolution (or similar), 8 FPS, using MJPEG encoding.

Par 4.8 IP Fisheye Camera Setup

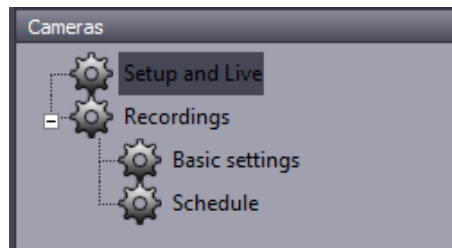
In this section you can view and define the area for dewarping (anti-deformation of the image) on fisheye cameras. Through the indicator "**Radius**" is defined as the size of the image on which you'll want to interact. "**X**" and "**Y**" will let you move the radius within the image.



Par 4.9 Live Video Source Setup

Once you have defined a list of cameras to connect to the system, it is necessary to set up the external network transmission for video analysis of the images.

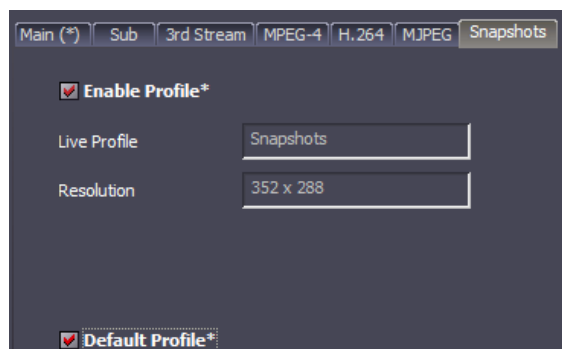
For a video source to be identified, ensure you are in the Configuration Environment and go to the "**Device list**" pane. Open the menu tree for the device, find the camera, and you will see a side pane (located by default in between the **Device List** and the camera configuration settings menu)



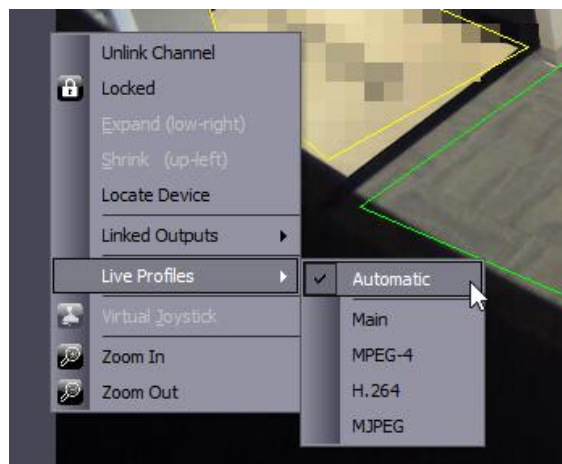
To view live images, you should know what is the "bottleneck" in terms of acceptable data/channel bandwidth between the Artec Server and the Client PC running NEXT. Also it is important not to overwork the PC on which NEXT is installed with too many channels at high resolutions/qualities. Network settings can be found at the bottom of the configuration window, for each camera. The assigned values result in a change in bandwidth allocation data and the quality and fluidity of the live image.

- **Main:** This encoder allows you to display the camera with the same resolution and framerate set as the main stream for the device. This makes it easy to relieve the server from video decoding, but does increase latency on the network depending on which compression type you choose.
- **Sub:** This encoder allows you to display the camera with the same resolution and framerate set as the secondary stream of the device. It allows you also to relieve the Server from some decoding but you must be vigilant to achieve a compromise between video quality and impact on the network.
- **3rd Stream:** This encoder is available for some camera brands, allowing you to send a stream with lower quality than the main in order to also find a compromise in quality and bandwidth.
- **MPEG-4 (Server Encoding):** has a bandwidth of about eight times less than MJPEG. The quality is a little lower than the H.264 and Motion JPEG. Sending this over the network overloads the ARTECO system, unlike the Native encoder which relieves the system of that task.
- **H.264 (Server Encoding):** ensures the best performance in terms of bandwidth but burdens the server because the video encoding system hardware is being used.
- **MJPEG (Server Encoding):** This encoder has the largest bandwidth consumption but the best image quality. Also in this case, unlike the Native encoder system, the sever can be weighed down by the processing and the dispatching of live images over the network.
- **Snapshot:** only a static image relative to the last event is sent. Available only for violated area events, alarming input and LPR.

For each configured camera, you can specify the default profile for live image transmission by using the "**Default Profile**" option, so that each client pc receives the selected stream.



Each authorized user can then modify the display profile of the device by right-clicking on the Layout image, then selecting the preferred encoder in relation to the required quality and/or the data bandwidth capacity.



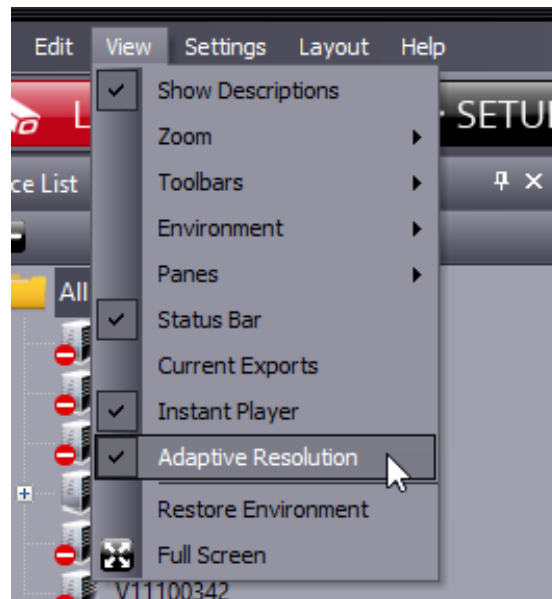
An important feature is that each client, depending on the availability of bandwidth and/or quality requirements of the images, has its own Live configuration.

This feature is very convenient in the case where remote monitoring occurs from stations located in different zones or by different types of users.

Par 4.10 Adaptive Resolution

Adaptive resolution for full screen viewing of a high-resolution video stream is available when a camera is configured to deliver a low-resolution stream (i.e. Mpeg-4 CIF).

If you double-click on the view, it will expand by occupying the entire Layout section and will be displayed in high resolution. This function can be activated via the ARTECO NEXT menu shown in the image shown below:



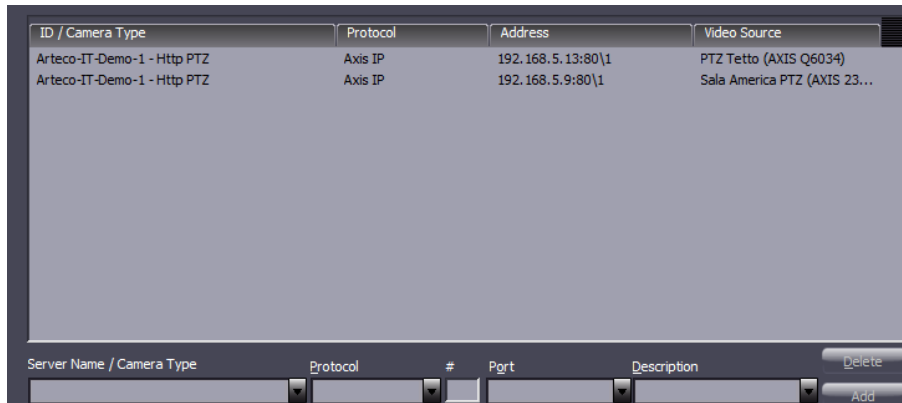
Par 4.11 Setting up PTZ cameras

For access to the configuration window of PTZ cameras, click on the **"SETUP"** button, that allows you to enter the "Configuration Environment".

Select the appropriate camera from from the "Device List" to configure, then click on the PTZ tab in the middle pane, as seen in the below image:



A window will appear to configure the PTZ Controller:



To add a new PTZ Camera, ensure the Configuration Environment is active and then enter in the following fields:

Server Name/Camera Type: Select camera model or type corresponding to the one you are using.

Protocol: Select the protocol used by the camera.

IP Address (IP Only): ONLY IF you add a IP-PTZ (Http or IP-PTZ) and it is requesting an IP address instead of "ID" and "Port"

Description: the name ARTECO previously assigned to the channel

Finally click **"Add"** to save the parameters entered into the ARTECO system.

To delete any controllers, click on one in the list above and click **"Delete"**.

Par 4.12 PTZ Controls, Virtual Joystick, Manual/Automatic Placement

After you configure the PTZ camera you can immediately begin to control it using the Virtual Joystick that automatically appears on the box if the camera is configured as PTZ.



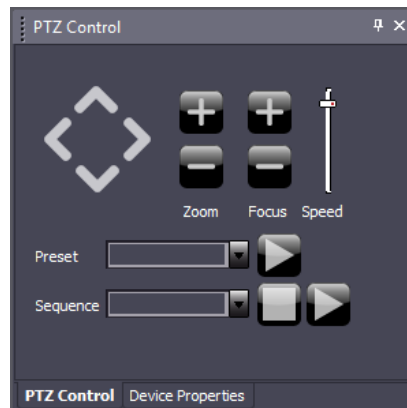
The Virtual Joystick is represented by the red cross visible in the center of the image. If you want to enable/disable this function, you can do so by clicking on the image with the right mouse button and selecting the option: "**Virtual Joystick**".

While the joystick is active, you can use the arrow keys for observing the PTZ function, or you can use the mouse, pressing the left mouse button anywhere in the image to which you want to move the camera. A red line will appear that starts from the central cross image and joins with the selected point. If the mouse is released immediately, the camera will be positioned at the point indicated. While maintaining the pressure of the mouse and the line highlighted on the screen, the camera will start to move/rotate following the path indicated by the red line. The greater the length of the line, the greater the speed.



To zoom in on an image, you simply select the same layout and if it has one, use the mouse wheel to increase or decrease camera zoom. By pushing the mouse scroll button forward, the PTZ camera will zoom in, and rotation in the opposite direction will decrease zoom.

For direction control of the PTZ there is also a specific pane called "**PTZ Control**", seen in the image below:



The "PTZ Control" pane allows for the rapid displacement of position, replicating the movement mode of the virtual joystick. Using the arrow keys you can move the camera in the desired direction.

To adjust the zoom, click on the "+" and "-", and to adjust the focus manually clear the check box and click on the related keys.

The "**Speed**" slider determines the movement speed of the PTZ camera that allows for this function.

Later we will discuss the use of the control commands "**Preset**" and "**Sequence**", as the automatic positioning assumes that you have predefined positions and sequences.

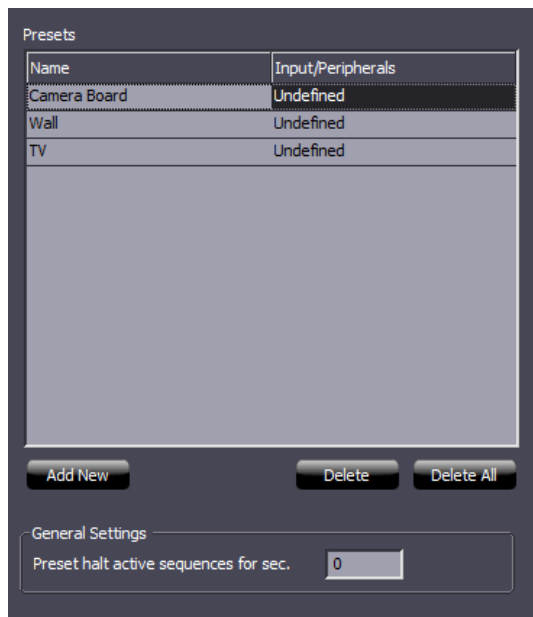
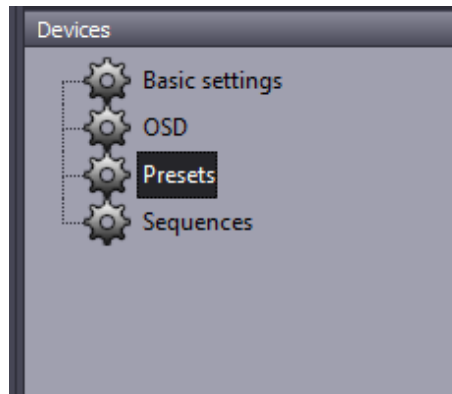
For each of these functions, you can enable the "Dome PTZ Preset" and "Dome PTZ Sequence" Toolbars respectively. With these toolbars active, you can select a preset or sequence of presets to activate and the camera will either navigate to the chosen preset position or start an endless cycle of placements as

defined in the sequence activated (you can program up to 8 sequences for one camera). Setting up these two features is explained in the next paragraphs.

Par 4.13 Storing your favorite Preset locations

On the ARTECO System you can store your favorite PTZ positions for easy access to the views. These settings relate to the 3 parameters Pan, Tilt and Zoom and call themselves "**Presets**".

To configure a preset position, go to the PTZ setup menu, as explained in the previous section, and select the appropriate item in the middle pane, as seen below:



To store a favorite location manually, click "**Add New**", then adjust the camera view/position, write the name of the preset in the form and click "**Apply**".

You can also associate a Preset to an input device (physical or virtual) in such a way as to move the camera to the pre-defined position each time the state of the Input changes (High/Low)

For example, using this method you can "simulate" a tracking Dome PTZ camera to a specific moving object across multiple presets "activated" by multiple Inputs tied to specific sensors or motion detection.

When you create a preset you can also specify a certain period of time in any sequence that it will halt for, if preset durations were already set. To do this, specify the time for which you want the sequence suspended inside the "**General Settings**" box.

Par 4.14 Storing sequences of positions

On the ARTECO System you can store sequences of preferred positions for your PTZ cameras. These stored sequences can be recalled as described in the previous paragraph. To program a sequence, click "**Create New**" as in the window shown in the below image:

Sequences

Sequence 1

Delete Delete All Create New

New Sequence Name

Sequence 1

Input Pin

Order

| Preset Positions | Time (sec.) |
|------------------|-------------|
| Home PTZ | 5 |

↑ ↓ - +

This will open a field where you can enter the name of the sequence. Click the "+" button to add up to 8 preset positions to use. For each entry you add, drop down the list and choose a preset you've already created in the "**Preset**" setup menu. Choose how long (in sec.) the camera will stay at that position before moving to the next one in the sequence.

After completing the sequence, you can change the order of the presets by clicking on the UP and DOWN arrows. You can remove a preset already inserted in the sequence by clicking on the "-" button.

A sequence, in addition to being activated manually by the Live Environment Toolbars, can be associated with an input. To do this, you must select an input from the drop-down menu "**Input Pin**". When the software receives a virtual or digital signal from this input, it causes the chosen sequence to be activated automatically.

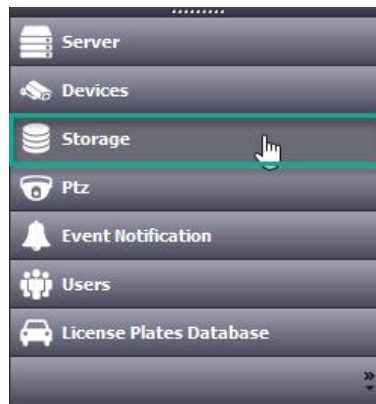
Finally click on the "**Save**" button to save all settings.

To delete any sequences from the system for the camera, choose them from the drop-down list and click "**Delete**", or "**Delete All**" if necessary.

Chapter 5– Storage

Par 5.1 Configuring Storage Paths

To access the Storage settings, ensure you are in the Configuration Environment by clicking "SETUP". You will see the Device List pane, and next to it a window with various tabs. Click on the Server you would like to configure, locate and click the "Storage" tab as seen below:



After clicking "Storage", you will see a screen that allows you to manage and view the "Disk Management" configurations for your system.

SERVER: Arteco-IT-Demo-1 - ONLINE

C:
 D:
 E:

Add Network Share

Disk Quotes

DATA (GB) 1000 DATA FAILOVER SPARE FREE

FAILOVER SPARE (GB) 700

FREE (GB) 69

TOTAL SIZE (GB) 1769

| Paths | Types | Total Size (GB) | Assigned Space (GB) | Allocated Space (GB) | Channels | Default Path |
|----------------------------------------|-------|-----------------|---------------------|----------------------|----------|--------------|
| C:\programdata\arteco-server\data\rec\ | DATA | 858 | 200 | 0 | 0 | YES |
| D:\recording\ | DATA | 1769 | 1000 | 1000 | 4 | NO |
| E:\recording\ | DATA | 1769 | 1000 | 1000 | 4 | NO |
| D:\spare\ | SPARE | 1769 | 700 | 0 | 0 | NO |
| E:\spare\ | SPARE | 1769 | 700 | 0 | 0 | NO |

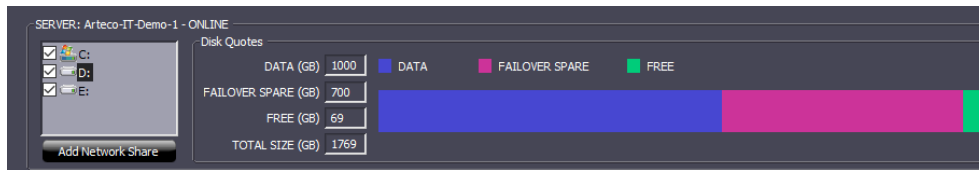
| Sources | Delete T... | Assigned Sp... | Rec. Enabled | AutoD... | AutoDelete B... | Days | Rec. O... |
|--------------------------------------------------------------|-------------|----------------|--------------|----------|-----------------|------|-----------|
| <input checked="" type="checkbox"/> Demo Room (Samsung) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input checked="" type="checkbox"/> Traffic Road | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input checked="" type="checkbox"/> Ingresso (AXIS 5-MPixel) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input checked="" type="checkbox"/> External Counting Camera | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> PTZ Tetto (AXIS Q6034) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> Sala America PTZ (AXIS 231D+) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> Atrio (Samsung SNB-7000) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> Sala America Fisheye 360° (ORCA) | AUTO | 250 | YES | YES | NO | 0 | NO |

At the top left you can see the disks that the system can use for recordings.

- Devices that Windows identifies as "Removable Storage" (ex. Pen-drives, USBs and also removable media such as Compact Flash, SD, ...) will not show up and thus cannot be used.
- A disc is considered corrupted if the system detects anomalies in the process of reading or writing data. Another method is to mark it as "**Damaged**" if the disk is having problems reading the SMART parameters.

Among the drives, you can configure the system to record on network paths, such as a NAS, by selecting it from the list or directly indicating the IP address or URL.

When you select a disk in the Drives list, you can view a bar graph showing the distribution of the space allocated for the recordings "**DATA (GB)**", free space not yet allocated "**FREE SPACE (GB)**" and allocated space for failover "**FAILOVER SPARE (GB)**" (this function is subject to the optional ARTECO system licenses).



The box provided to the left of a disk (ex. "E: \") indicates that the disk is used for recordings. The path types you can have are "**DATA**", "**AUX**" or failover "**SPARE**". When you check the box next to the disc, it automatically creates a recording path "**DATA**" on the selected disk which is given all the available free space.

| Paths | Types | Total Size (GB) | Assigned Space (GB) | Allocated Space (GB) | Channels | Default Path |
|----------------------------------------|-------|-----------------|---------------------|----------------------|----------|--------------|
| C:\programdata\arteco-server\data\rec\ | DATA | 858 | 200 | 0 | 0 | YES |
| D:\recording\ | DATA | 1769 | 1000 | 1000 | 4 | NO |
| E:\recording\ | DATA | 1769 | 1000 | 1000 | 4 | NO |
| D:\spare\ | SPARE | 1769 | 700 | 0 | 0 | NO |
| E:\spare\ | SPARE | 1769 | 700 | 0 | 0 | NO |

Buttons: Auto Balance, Add New Path, Delete Selected Path

If you do not assign a video source to the "**DATA**" path, the drive will not be used, and will not be visible in the list of paths (unless it is the default path, which cannot be removed).

To create a path for the recordings "**DATA**" "**AUX**" or failover "**SPARE**" use the button "**Add New Path**". Browsing in this window will show the folders on the remote ARTECO system. You can create new folders using the "**New Folder**" button and setting the type, if "**DATA**" or "**SPARE**".

The creation of a "**SPARE**" or "**AUX**" path is subject to licensing as this is an optional feature of the ARTECO system, meaning that for systems that do not have such an option, it will not be possible to create "**SPARE**" or "**AUX**" paths.

Once you select the desired path and press "**OK**" the path is created and ready to be configured in the "**Paths**" table.

In the "Paths" table you will see various parameters:

- "**Type**" indicates whether the path is "**DATA**", "**AUX**" or "**SPARE**"
- "**Total Size (GB)** ": Indicates total GB of disk
- "**Assigned Size (GB)**": Indicates total GB to be reserved to the path (it is the only configurable parameter through this interface)
- "**Allocated Space (GB)**": indicates how much space has been allocated for the recordings and the sum of all the space assigned to video sources, visible in the "**Video Sources**" for any given path.
- "**Channels**": indicates the number of video sources assigned to that path.
- "**Default Path**" indicates the Default path, which is the only one that cannot be removed and always remains visible in the list of paths. In this directory are written to the database files on the system and LOG files.

The button "**Delete Selected Path**" eliminates the selected path, with exception for the Default path, which can not be deleted. If you delete the video sources that are part of a path, or if you delete a recording path, the video sources that were on it are assigned to the Default path.

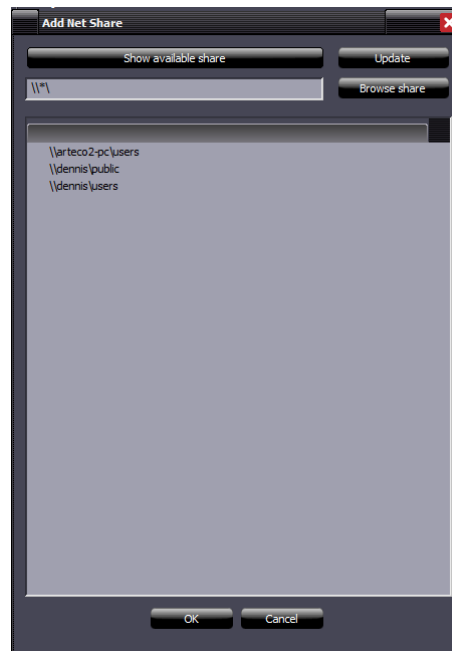
Once you have created and configured the allotted space for a path, it will be assigned to the video sources. The video sources assigned to it will use this path as the target for recording files.

Par 5.2 Configuring Network Paths/NAS

ARTECO is configurable to record over network attached storage. In the case of recording in this matter, a user must be configured with access to necessary permissions. Use the credentials:

- User: ARTECOSC
- Pw: Avs12345

Upon granting access for this user to the NAS, you must add the path in the Arteco System. To do this, simply click on "**Add Network Share**". In the window that opens you can then type in the path directly or choose from the available paths after clicking the "**Show Available Share**" button as seen below:



Par 5.3 Configuring Sources

On the bottom half of the Storage window you can see where previously created and new video sources are by clicking on the specific path and looking under the "**Sources**" column

| Sources | Delete T... | Assigned Sp... | Rec. Enabled | AutoD... | AutoDelete B... | Days | Rec. O... |
|--------------------------------------------------------------|-------------|----------------|--------------|----------|-----------------|------|-----------|
| <input checked="" type="checkbox"/> Demo Room (Samsung) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input checked="" type="checkbox"/> Traffic Road | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input checked="" type="checkbox"/> Ingresso (AXIS 5-MPixel) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input checked="" type="checkbox"/> External Counting Camera | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> PTZ Tetto (AXIS Q6034) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> Sala America PTZ (AXIS 231D+) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> Atrio (Samsung SNB-7000) | AUTO | 250 | YES | YES | NO | 0 | NO |
| <input type="checkbox"/> Sala America Fisheye 360° (ORCA) | AUTO | 250 | YES | YES | NO | 0 | NO |

The "Video Sources" table shows the sources assigned to a selected path. The columns of this table have the following parameters:

- A checkbox that identifies whether or not the video source assigned to the route is selected for the selected path
- "**Delete Type**": Identifies the type of deletion implemented for the video source, and can be "**SET**" or "**AUTO**"
 - "**SET**" allows you to specify the "Assigned Space" for just that channel
 - "**AUTO**": the value "Assigned Space" to the source is automatically calculated among all video sources that share the same recording path.

- **"Assigned Space (GB)"**: is the maximum space (in GB) of record that can be used by a source. Exceeding this value activates the Auto Deletion process, which eliminates the oldest recordings first.
- **"Rec. Enabled"**: this parameter is read-only and shows whether recording is enabled for a given video source. To enable/disable this value, you must configure recording as explained in **Par 6.5**.
- **"AutoDelete"**: This mechanism operates independently for each channel and continuously verifies that the portion of space allocated to your video source (Assigned Space [GB]) has not been exceeded. In the case that data for any given channel exceeds the space provided to it, autodelete removes the oldest recordings in blocks of up to 200MB to return to under the maximum limit assigned.
- **"AutoDelete by Days"**: This is an additional control parameter which is used to ensure compliance with any video retention laws or security policy rules defined by your company. This deletion method occurs after Auto Deletion.
- **"Days"**: Defines the maximum amount of days of recording will be preserved if **"AutoDelete by Days"** is active.
- **"Rec. on Event"**: Enabling this option will only store recordings for channel events that take place on the specified source. This function is not available for the **"AUX"** path.

Note: If you change the storage path for a source, it will lose all the recorded video for that source. To keep recordings when swapping out Onvif compliant cameras, use the Onvif plugin type when initially adding the channel. Then you can simply change the IP address, username and password on the camera settings page and video for that channel will be retained on the same path initially chosen. This also works for swapping similar branded cameras.

Par 5.4 Storage Failover

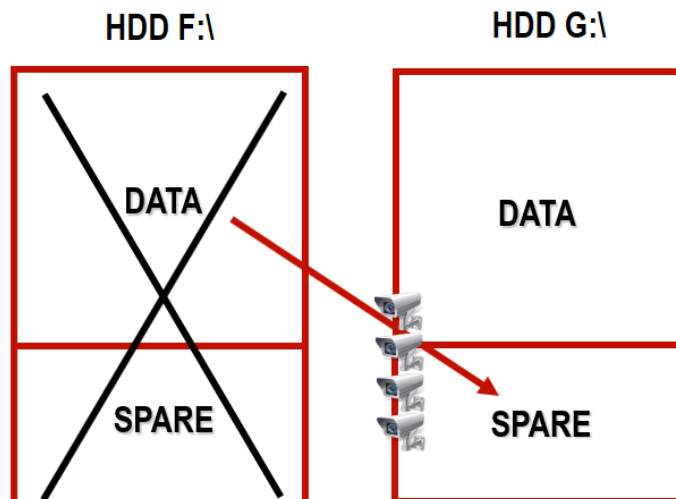
In the event when a recording drive is no longer reachable or the system detects it as corrupted and therefore no longer usable, recording to that disk will be interrupted.

The Plugin **"Storage Failover"** (available on Extreme, optional on Active) works on systems with at least 2 disks used for the Storage. Instead of stopping the recording, the recording path is moved to the other drive called **"SPARE"**

A path type **"SPARE"** must be created like any other path, however, it has the distinction of not having assigned video sources (only operational for the functionality of Failover).

In a system configured with two HDD used for storage, you can have a path **"SPARE"** for both disks in this way. So this means if one were to break, recording would be moved automatically to the undamaged **"SPARE"** disk.

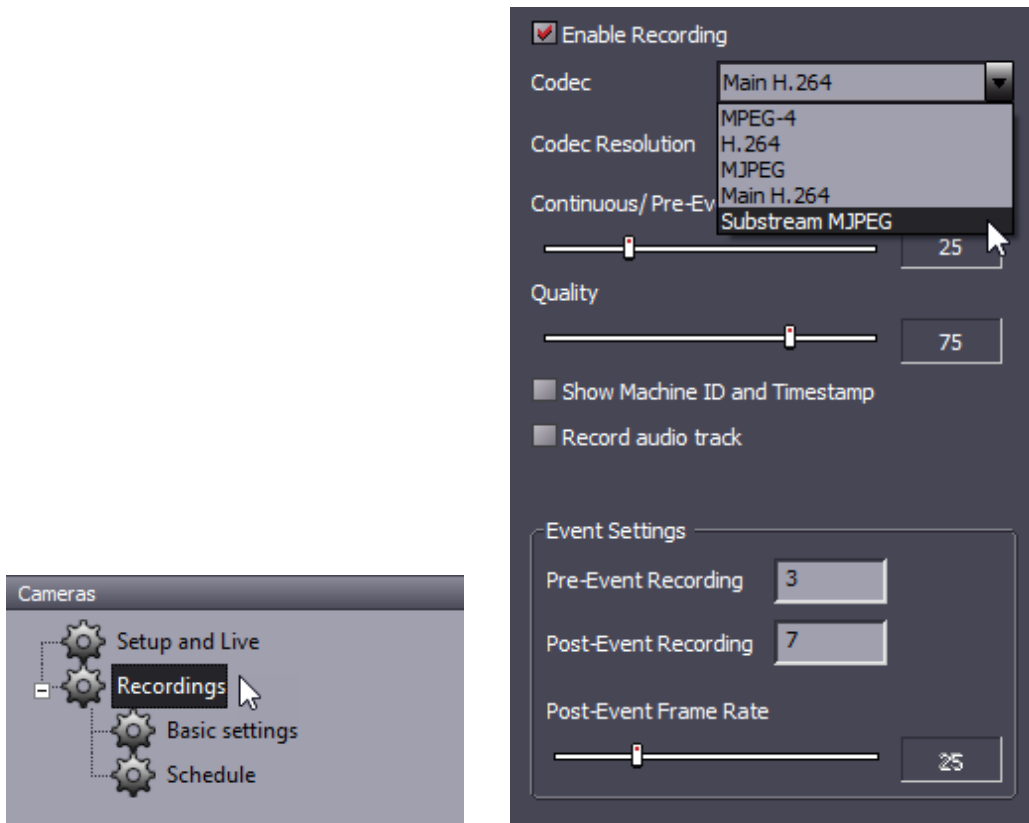
For example, say we have two disks F:\ and G:\ and both possess one **"DATA"** partition and one **"SPARE"** partition. At one point, we assume that disk F:\ is damaged: The system reacts to this by moving the video sources assigned to the **"DATA"** partition of F:\ path to the **"SPARE"** of G:\. From this moment on new recordings will be written to G:\.



Par 5.5 Device Recording Settings

Once you have the list of cameras connected to the system it is necessary to establish the settings for recorded images.

To configure a video source, ensure the Setup Environment is active and open the the "Device List" pane. Open the Menu Tree for the Server, find and click the camera, and you will see a side pane that allows you to set the parameters for recording on that source by choosing "**Recordings**" > "**Basic Settings**".



Inside the interface shown above, the following parameters appear:

- "**Enable Recording**" checkbox enables or disables recording.
- "**Codec**": this parameter defines the type of compression (encoding) to be used in the recording:
 - **Main**: For digital IP cameras, the compressed camera stream is saved directly to the disk without any decoding for the Server. As can be seen from the image, many parameters are greyed out and not editable. These settings can only be changed via the camera configuration in its respective web client.
 - **Substream**: See in image above. This is the secondary stream that normally has a lower framerate and resolution than the "Main" Stream. It is recommended when there is lower available bandwidth or for special archiving needs.
 - **MPEG-4/H.264/MJPEG**: These are lower quality streams. If you chose any of them, the Artec Server will have to decode them and then store to the disk, so you will have to take into account quality and retention needs.
 - "**Quality**" is the level of compression of the record files: the higher the image quality, the greater the space occupied in the archive.
 - "**Frame Rate**" indicates the maximum fps (frames per second) used in recording. Using MPEG4 or Motion JPEG encoder may not exceed the FPS of the original recording stream. While using the Hardware Encoder (H.264) you can set an FPS that is independent of that for Frame Rate Analysis.

- **"Show Machine ID and Timeastamp"**: this setting can only be selected on analog cameras and encoding Hardware (H264), allows you to superimpose the images recorded, the capture time, the server name, and the relative channel.
- **"Record audio track"**: Adds video recording to audio track recording if the device is compatible and configured properly
- **"Pre-Event Recording "**: Sets the duration of the advance start for viewing an event rather than at the time when the system detects it. This allows to see the action that originated the event from a few moments before it begins.
- **"Post-Event Recording "**: Indicates how many seconds recording will still be active after it has finished recording the action that initiated the event. For example, if the post-event recording is 30 and within 30 seconds of the last event another one occurs, the event registration will be extended to other 30 seconds since the last event detected by the system.
- **"Post-Event Frame Rate"**: when an event occurs, the system can increase the recording frame rate to record more detailed information. This parameter is not available for the native protocols or hardware, indicates how many frames per second should be recorded while it is actively recording an event.

Par 5.6 Auxillary Recording Path (AUX)

This feature is only available for Extreme licenses

The Auxiliary Recording path allows you to configure the Artec system for a video stream to be recorded on multiple discs simultaneously.

This feature gives the system the ability to always have recorded video stored "redundantly", also allowing you to view them even if you temporarily do not have access to the main server.

An **"AUX"** path is usually a network disk, or an external storage unit to the server itself, such as a disk installed on the remote client PC, or a remote NAS.

The recordings contained on this path are then accessible through NEXT either as an "add-on" recording or as a stand-alone recording using the "Native Player" feature that we will see later.

This allows you to always have immediate access to recordings.

The configuration of the devices associated with the path, as well as all quota properties and autocancellation is the same view as shown a few paragraphs ago.

There are many benefits to this feature, including:

- Redundancy and greater security
- Immediate availability of recordings, even when server is offline
- Optimization of hardware and network resources

Important:

1. You can configure multiple **"AUX"** paths connected to the Main Server, each of which can be configured to your liking
2. A video source can be configured to be archived simultaneously for up to two recording paths, **"DATA"** and **"AUX"**

One of the major benefits of this feature is to be able to set the quality of channel recording independently, for example by setting the high-resolution stream recording to the main archive, while instead a resolution stream and lower framerate on the auxiliary archive. In the next section, we explain how.

Par 5.7 Auxillary Path Configuration

This feature is only available for Extreme licenses

As explained briefly earlier, auxiliary systems benefit from an additional storage path, which can be used to record each device as it likes.

A menu will then appear that will allow you to set the parameters for recording.

Basic principles apply to the recording properties shown in the previous paragraph, with the exception that only the video quality section can be configured on the Auxiliary path, as shown below.

As mentioned earlier, the advantage of Auxiliary Recording is mainly to be able to freely set the resolution type that must be stored on the two paths (DATA and AUX).

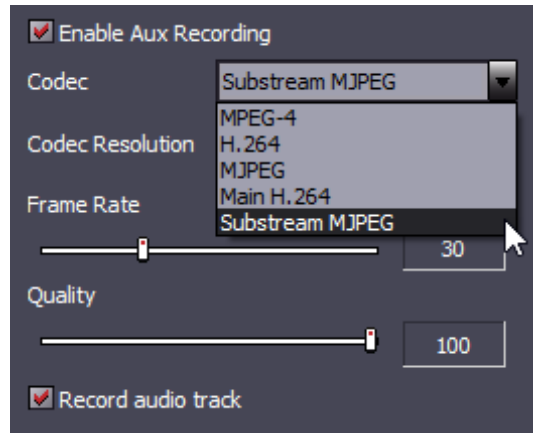


Figure 4.33 – Auxillary Recording Settings

Par 5.8 Configuring Edge Recordings

This feature is only available for Active and Extreme licenses

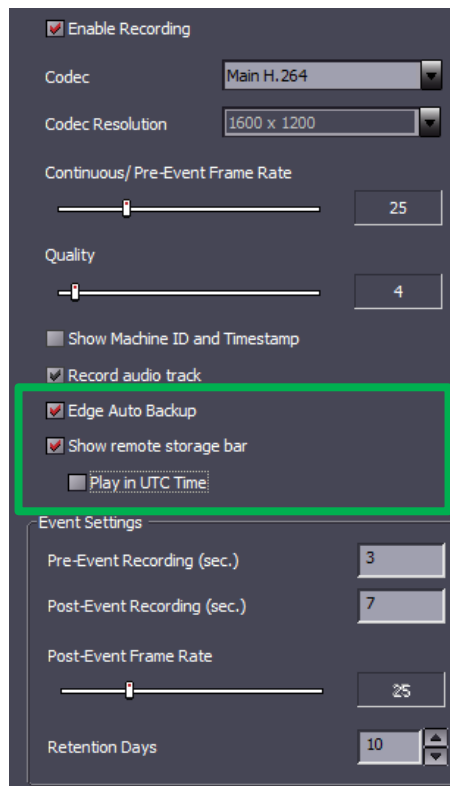
The Edge Recordings Management function of Arteco NEXT allows you to access and retrieve the videos present on the memory installed on the Onvif G compliant device afterwards.

The purpose is to fill any missed registrations that may occur due to network problems or for system maintenance reasons, or to access the video registrations present on remote storage.

Granted that edge recording must be enabled and active.

For each individual video source, in the recording settings the Arteco NEXT configuration interface provides the possibility to define various parameters:

- 1) Edge Auto Backup: select if you want to access the edge path and save it in the system archive
- 2) Show remote storage bar: select if you want to display the recordings bar in the Recordings Browser
- 3) Play in UTC Time: check this item if the device provides remote recordings in UTC time.



Enable Recording

Codec: Main H.264

Codec Resolution: 1600 x 1200

Continuous/ Pre-Event Frame Rate: 25

Quality: 4

Show Machine ID and Timestamp

Record audio track

Edge Auto Backup

Show remote storage bar

Play in UTC Time

Event Settings

Pre-Event Recording (sec.): 3

Post-Event Recording (sec.): 7

Post-Event Frame Rate: 25

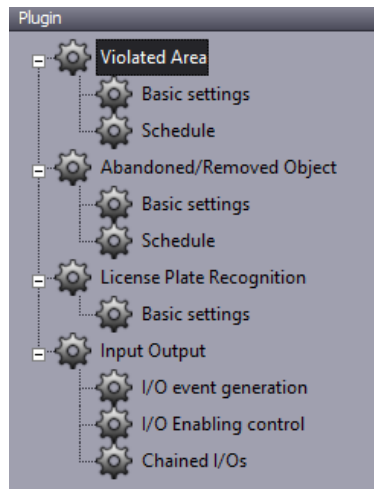
Retention Days: 10

Chapter 6- Plugins

Depending on the License type you have, the ARTECO software can perform different types of automatic analysis of the images, called "**Plugins**".

Many of these plugins interact with the system by generating internal events that may notify the user or cause the acceleration of the recording frame rate.

Click on the Setup Configuration button to activate it and choose your source, then click on the "Plugin" button in the middle pane as seen in the image right. Above the tab you clicked on you will see a plugin menu.



The plugins available are:

- Violated Area
- Abandoned/Removed Object*
- License Plate Recognition*
- Input Output*

**Only available with appropriate licensing.*

Each plugin can be associated with the video source selected in the "**Device List**".

A video source can also be configured to use all available plugins, however ARTECO recommends using the least number of plugins for each individual image to avoid conflicting conditions.

For each plugin, define the Area(s) on which to operate, and this is done in two steps:

- 1 - Save the areas you draw with the "**Zone Editor**"
- 2 - Recall these areas using the form contained in each plugin

The plugins require an adequate number of images per second to function properly. In particular, the framerate analysis must be increased when the objects of interest are moving fast.

Each configuration window contains a "**Plugin Activation**" check box which must be selected to activate the plugin. Once enabled, each plugin can operate continuously or subjected to timed activation via the "Schedule" module.

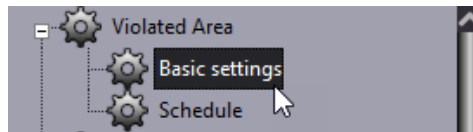
Par 6.1 Zone Editor

The Zone Editor serves to draw all the zones in which to subdivide the image in, in order to apply the various plugins, or video analytics.

This tool is activated under the “**Setup Environment**” by clicking on the source and then clicking on the “**Plugin**” button as seen below.



Under the “**Violated Area**” tree click “**Basic Settings**”.



A new configuration menu will appear on the right side of the screen.



In order from Left to Right:

- Select Zone: allows you to select a specific area
- Add Zone: allows you to add an additional area of Motion, Privacy and so on.
- Move Zone: makes it possible to move the entire zone
- Delete Zone: Deletes the selected zone.
- Add Point: Adds a "point" or vertex to a selected zone.
- Move Point: allows you to move a vertex to correct a created area.
- Delete Point: Deletes a "point" or vertex on a created area.

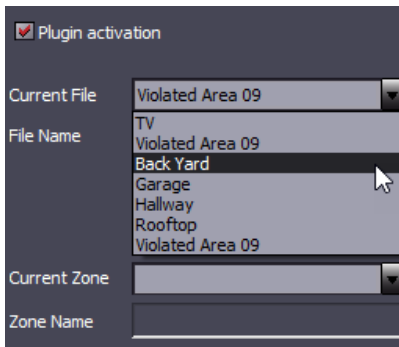
This Toolbar will "light up" just in case the selected device has been defined and implemented in any plug-in (eg, Violated Area, Privacy).

Par 6.2 Violated Area Plugin

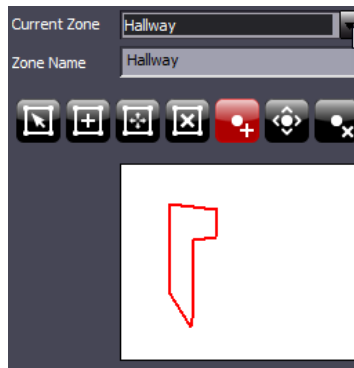
“**Violated Area**” is a video analysis algorithm that detects and distinguishes moving objects from those that are not moving (Motion Detection).

The first thing we must think about is which area we want to apply the Motion Detection. In doing so, it should be noted that some objects in the scene (eg, trees blowing in the wind, cars, light beams) may move and create side-effects or “noise”. To avoid this, it is advisable to choose areas with as few moving objects as possible.

After drawing the area that we want to analyse using the Zone editor, you will have to load it into the system.



Open the list of areas available by clicking on dropdown list for "**Current File**" and then select the area as shown. At this point, a preview of the area in a white box will appear as shown below.



With the "**Zone Editor**" you can create multiple zones for the same video source. From the "**Zone Name**" we can give each zone a name and parameters (Hallway, Garage, etc.).

In the Settings section to the right of the "**Zone Editor**" there are additional calibration tools, which we will now analyze.

"**Short Event Filter (sec.)**": This parameter is used to filter events of very short duration. All items that remain in motion for a time less than the value of this parameter will be ignored by the plugin Control Areas and will not generate events. This parameter is useful for example to ignore cars passing or birds flying into the area.

"**Area (as % of Detection Zone Area)**": Allows you to specify an area range between two values, minimum and maximum, beyond which the blob will not be processed. Note that the values of the surfaces are designed in relation to the size of the "**Zone**" that contains them. Remember that objects whose surface is lower than the value set on the filter "**Minimum Area**" will not be considered.

"**Width (pixel)**": Allows you to specify a range of widths, minimum and maximum, beyond which the blob will not be processed. Notes: The unit of measurement is the initial pixel, when the perspective correction filter is activated, the unit of measurement passes from pixels in meters/feet.

"**Height (pixel)**": Allows you to specify a range of heights between two values, minimum and maximum, beyond which the blob will not be processed. Notes: The unit of measurement is the initial pixel, when the perspective correction filter is activated, the unit of measurement passes from pixels in meters/feet.

"**Post Event Delay (sec.)**": corresponds to the idle time of the plugin after the occurrence of an event.

"**Alarm Duration (sec.)**": Indicates the length of time of an event notification (duration of beeps, the flashing around the image on the layout, etc.)

"**Authentication**": represents the number of consecutive frames which must persist in the detection of motion of the same object so that the event is generated.

"**Pixel Distribution Filter**": This tool offers 4 options:

- **None** no advanced filter will be used.
- **Foot/Bottom** the system will consider only those blobs whose pixels are below the lower horizontal portion of the area.
- **Head/Top** the system will consider only those blobs whose pixels are above the upper horizontal portion of the area.
- **Center of Gravity** the system will consider only those blobs around the center of the area


Par 6.3 Tips for Violated Area

To get good results using violated area and avoid problems due to light changes, intensity or shadows moving inside the area under control, use the "**Standard**" Background. It is also advisable to use a low "**Persistence**" Value (<50%) in the configuration of the background to ensure faster updating of the reference image.

You must remember that the size of the objects is of primary importance. **Good results are obtained when the object has an area of at least 100 pixels.**

Another trick to keep the area clear of interference is to exclude portions of the video using the "**Area Exclusion**" for any parts of the image that do not concern you. This will prevent the system from performing unnecessary processing, saving resources and allowing the user to better understand what the system is processing.

It is also possible to schedule the activation of the plugin by selecting the "**Schedule**" menu.

Do not forget to save the settings on this dialog box by pressing  .

Par 6.4 Abandoned/Remove Object Plugin

This Plugin is available only for Active and Extreme licenses.

The "**Abandoned/Removed Object**" Plugin allows the system to detect an abandoned object (Anti-terrorism Function) or removed (Anti-Theft function) in the scene after a certain time.

This algorithm works if the presence of abandoned or removed objects from the scene is recorded for quite a long time: for this reason, is good to avoid the use of the "**Iterative**" background for this plugin. Instead, we recommend using the "**Standard**" Background, since it is appropriate to insert high Persistence values (> 50%) to obtain a signal that lasts beyond the time for which the object is considered abandoned or removed. This time corresponds to the "**Short Event Filter**" after which the system will generate the event. To find out whether the "**Persistence**" is set too high, you need to activate "**Analysis Details**". If the blob will disappear after many seconds from when the object was taken/placed, it will give you a good indication on what to set this value to. If the time is longer than the time we think is right to "declare" an object removed/abandoned ("**Short Event Filter**"), then the value of Persistence is correct, otherwise it will be necessary to increase it.

The image shows a configuration window for ARTECO NEXT. It is divided into two sections: 'Basic Settings' and 'Advanced Settings'.
Basic Settings:
 - Short Event Filter (sec.): 5
 - Minimum Time Between Events (sec.): 0
 - Area Range (pixel²): Minimum 0, Maximum 200000
 - Width (pixel): Minimum 1, Maximum 3000
 - Height (pixel): Minimum 1, Maximum 3000
Advanced Settings:
 - Post-Event Delay (sec.): 3
 - Authentication: slider set to 3
 - Matching Area (%): slider set to 60
 - Occurrence (%): slider set to 70
 - Light Sensitivity: 1
Output/Peripherals:
 - Undefined (dropdown menu)

In the image above the "**Short Event Filter**" is set to 5, so it would point out to ARTECO Next that abandoned/removed objects would be detected only after 5 seconds. Adjust the "**Minimum Time Between Events**" by placing the minimum number of seconds that must elapse between one event and the next one, put 0 if you want the system to detect each event. Increase the value if you want longer intervals between successive events.

"**Area Range (pixel²)**": Allows you to specify a range of areas between two values, minimum and maximum, beyond which objects will not be considered.

"**Width (pixel)**": Allows you to specify a range of widths between two values, minimum and maximum, beyond which the blob will not be processed.

"**Height (pixel)**": Allows you to specify a range of heights between two values, minimum and maximum, beyond which the blob will not be processed.

To disable these types of filter, enter "0" in the minimum value and a very large value for the maximum.

The configuration parameters for the "**Abandoned/Removed Object**" involves the use of the **Advanced Settings** section, which become particularly useful in crowded environments or scenes with a lot of noise. All the following parameters must be met for the system to generate the "**Abandoned/Removed Object**" event. In general, it is assumed that an "**Abandoned/Removed Object**" is fixed in time, but this is not always possible and the following parameters permit a flexible calibration:

"**Authentication**" is the input filter for new objects that can be removed/abandoned. When an image is detected, this must persist for a number of frames equal to "**Authentication**" to begin verification of the following parameters.


"**Matching Area (%)**" This determines the selectivity of the first confrontation between the blob object acquired at the beginning of the event and the one found during the "**Short Event Filter**" verification time. The system must then detect a coincidental percentage of pixels.

"**Occurrence (%)**": for each frame received during the verification time of the "**Short Event Filter**" the system performs a control of parameters on the two previous ones, if they are both satisfied, it increases the value of "**Occurrence (%)**". At the end of the "**Short Event Filter**" verification time, if the percentage of images in which the parameter is set exceeds the "**Occurrence (%)**" value, then the system generates the "**Abandoned/Removed Object**" event.

"**Light Sensitivity**" determines the light sensitivity and changes between the image acquired at the beginning of the event with the ones during the verification time. If it is close to 1.000, the system tolerates a high color/light variability. A very selective value for this parameter is 0.9755

Once you have finished configuring this plugin you must activate it by checking "**Plugin Activation**" which is located at the top of the configuration window.

It is also possible to time the activation of the plugin by selecting "**Schedule**".

Do not forget to save the settings on this dialog box by pressing .

Par 6.5 License Plate Recognition Plugin

Access to the functions of this Plugin change in relation to the product and license in possession.

The "**License Plate Recognition**" plugin is designed for the reading and encoding of license plates of vehicles passing through areas where the ARTECO LPR-Cam camera is placed.

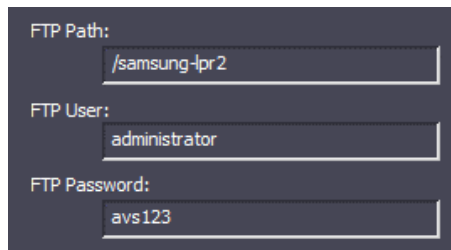
The plate recognition can be codified and incorporated in the Arteco Database, all the license plates of vehicles are discovered by integrated and certified LPR cameras with onboard OCR algorithm or on the Arteco LPR Server.

Therefore, you only need to simply enable or disable this feature. The plate detection will result in a "Plate Detected [XXXXXX]" event in the Event Log, so you can search according to strings (plate values) and check them against a database of plates, explained more in the next paragraph.

ARTECO NEXT allows for the management of LPR cameras that have the license plate recognition abilities.

Channel configuration is the same view for IP sources, but here you have to pay attention to the menu at the bottom of the screen.

The entries for **FTP Path**, **FTP** and **FTP User Password** are automatically assigned by Arteco Server and will be replicated in the associated camera configuration itself in order to receive and display the license plate recognition events (see dedicated manuals for [LPR Server](#) and [Wisenet LPR](#)).



The image shows a configuration dialog box with three text input fields. The first field is labeled "FTP Path:" and contains the text "/samsung-lpr2". The second field is labeled "FTP User:" and contains the text "administrator". The third field is labeled "FTP Password:" and contains the text "avs123".

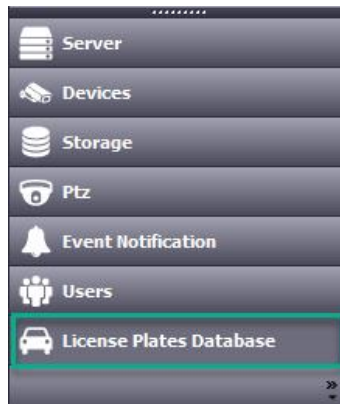
Moreover, to receive events it is necessary to enable the License Plate Recognition Plug-in from the Plug-in menu.



Par 6.6 License Plates Database

It is possible to pre-define and load a list of plates within the Artec Server Database, in order to manage automatically specific needs, such as open automatically a gate when an authorized-known vehicle's license plate is detected by the LPR system.

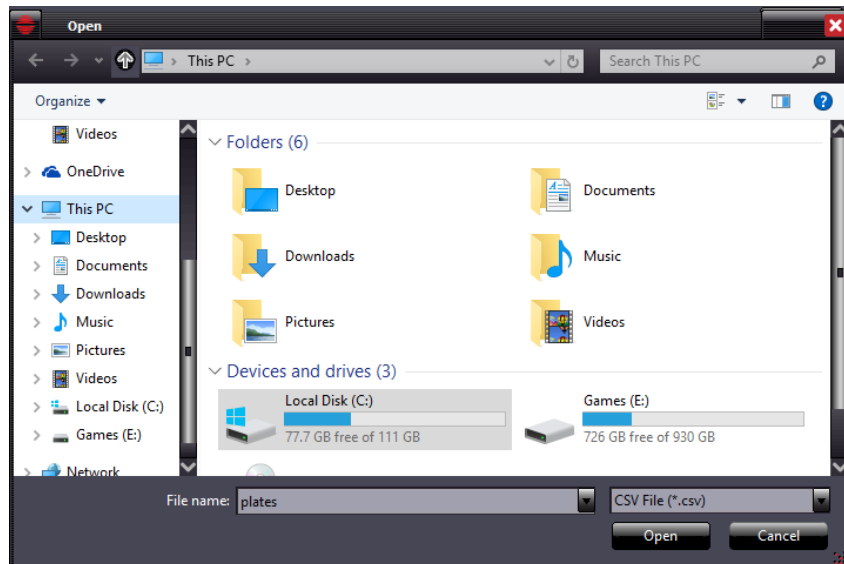
While under the "**Setup Environment**", select the LPR-enabled camera from the "**Device List**", then select the menu "**License Plates Database**" as seen below.



It will open an import/export license plates interface at the center of the screen.



Selecting the "**List Import**" button will open a File Explorer window that will allow you to locate and load the .csv file containing the list of license plates.



As well, you can export this list in order to update the content.

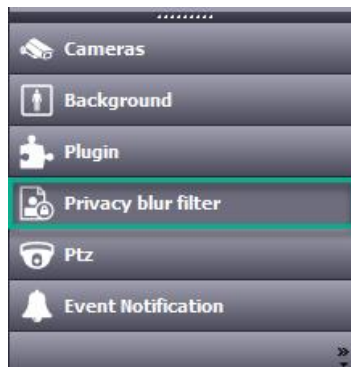
N.B. The. Csv file must contain only one column, filled exclusively with license plates' letters&numbers, one per row.

Creating a list will enable differentiated management of notifications.

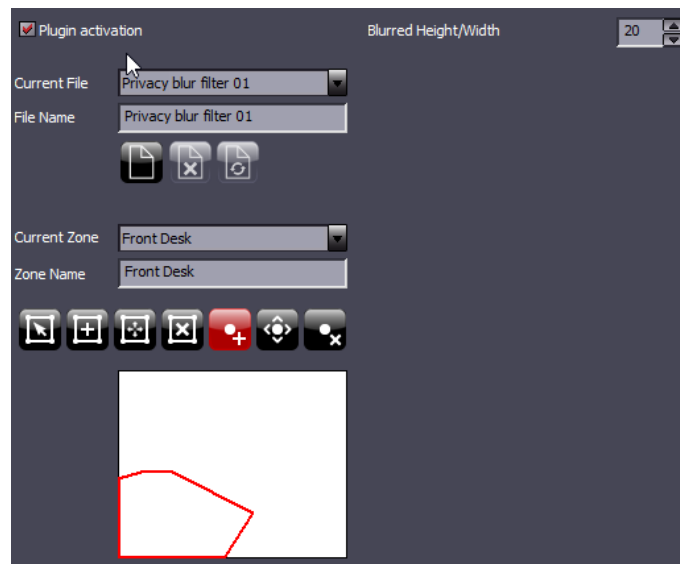
A useful feature is applicable by selecting "**Ignore the first row**". Selecting this item will ignore the first line of the document, which could include for example a title, to avoid incorrect reporting.

Par 6.7 Privacy Blur Plug-in


This plugin implements a function that makes the system compatible with the privacy rules and laws. To configure the "**Privacy blur filter**" on one or more cameras, you must enter its menu, which is in middle configuration pane.



Using the "**Zone Editor**", the user can define the regions where the filter is wanted, this will cause a blurring effect, which will greatly reduce the detail of the region.




Adjust the intensity of blurring by assigning a value between 2 and 50 to the parameter "**Blurred Height/Width**" (a typical value for this parameter is 20). The larger the value, the stronger the effect of blur and vice versa.

To enable this plugin, ensure "**Plugin activation**" is checked and click the  button. It is also possible to time the use of the areas of privacy by means of the Calendar by selecting "**Schedule**".

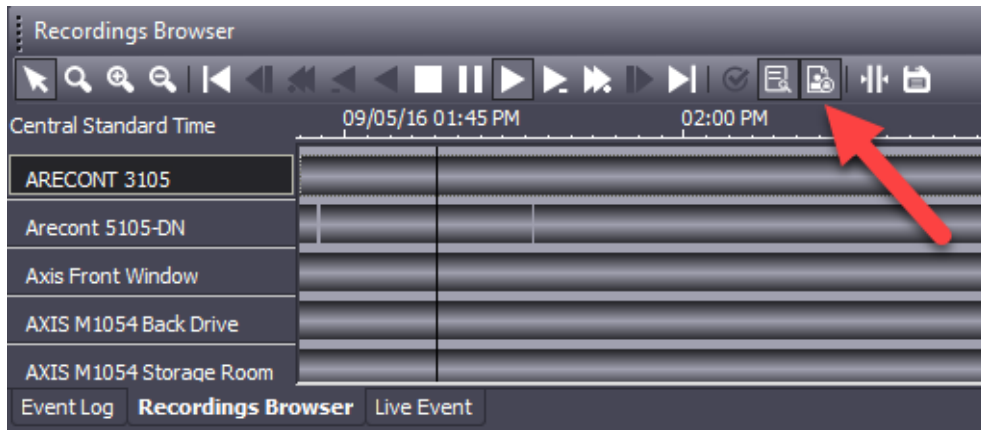


Once you have activated your Blur area, you will get the effect shown for example in the image above. Notice the area at the bottom of the image, where the entire workspace at the front desk of the Artec Office is blurred.

Only users with Administrator rights are allowed to see the image clearly if they choose to, but other users cannot disable the Privacy blur area in any way.

The administrator can in fact remove the Privacy blur filter  from the live display by the icon located on the "**Channels**" toolbar.

Also, in the recordings view only users with administrator rights will be able to choose whether or not to see hidden areas while users with basic rights will not be able to see past the Privacy blur. By clicking on the "**Enable or Disable Privacy**" button, the administrator can remove the privacy mask.



Chapter 7 Video Analysis

The basic analysis of the images consists of extracting the shapes of objects from the images which will then be examined by ARTECO via specific algorithms.










ARTECO systems allow you to make image analysis according to some criteria, hereinafter defined as "**plugin**" or vision algorithm. To perform this analysis, all plugins are based first on a separation process of objects/people/vehicles from the background of the scene ("**background**"). It is important that this process functions well because the plugins are the heart of the ARTECO active video surveillance software. In the ARTECO system, there exists four types of background that allow movement detection for the main objects of context with respect to the scene, in relation to camera's view.

The result produced by an algorithm is defined as a black background with white shapes (called "**blobs**") that represent objects of interest. Like all the commands in the ARTECO system, the choice and parameterization of the background are fully managed by the program ARTECO Next.

Par 7.1 Viewing Details

The "**Details**" toolbar has the dual function of showing information about the source of the images (view name, time, etc.) and data processing of the same. This feature is useful during the calibration of the algorithms.



-  **Processed View:** shows the image processed by analysis algorithms as movement (white blob) or as still (everything black).
-  **Mixed View:** Displays the actual image with the blobs detected by the system (the movement blobs are drawn in green).
-  **Perimeter** (pixels): brings up the value of the perimeter of the blob on the screen.
-  **Area** (pixels²): brings up the value of the area (width x height) of the blob on the screen.
-  **Dimension ratio** (perimeter/area): causes the parameter that gives account of the "roundness/elongation" of the objects; the more an object is oblong, the lower will be the form factor and vice versa.
-  **Speed** (pixels/sec): shows the value for speed.
-  **Bounding Box:** shows a box around the blob on the screen.
-  **Center of gravity:** a pointer to appear at the center of the blob.
-  **Track(s):** shows the trajectory of a moving object

***Should perspective correction be activated units respectively become: meters, square meters and m/sec or km/h. For a description of the perspective correction see Par 7.9.**

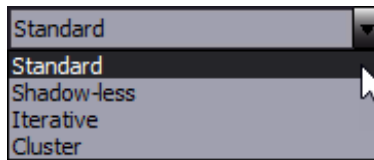
All of the above details enabled on a given video source module increases the tracking burden on the resources of the system, and these views must therefore be activated only during configuration (for example, determining the pixel area for specific objects to be read by a plugin).

Par 7.2 Various Background Types

As previously mentioned in the ARTECO system objects are detected by the difference between the current image and a reference image, the "**Background**", the scene in the absence of objects or people. When we speak of a background algorithm (or simply a background), we refer to the method of updating the reference image that contains the objects. A good update of this background reference is essential to detect objects and allow the system to process events.

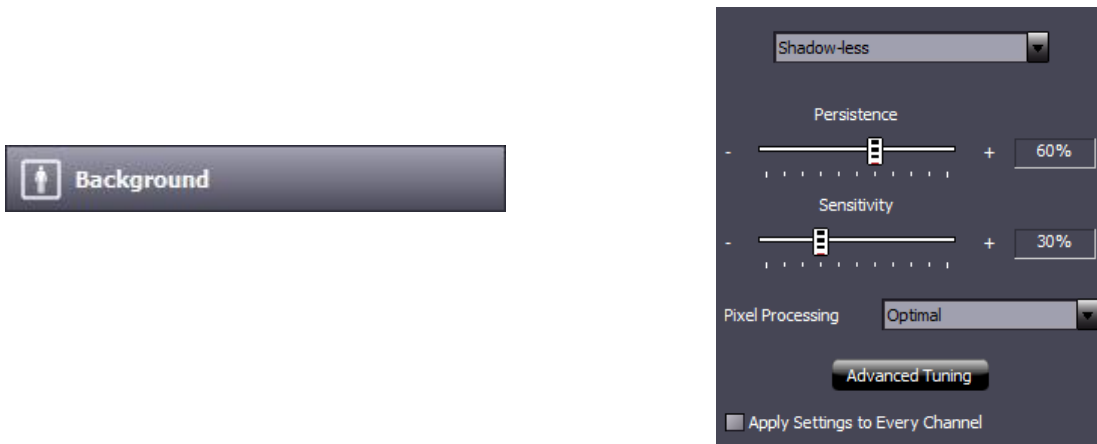
Depending on the ARTECO system or the purchased license you will have one or more types of **Background** available.

Each of these ARTECO systems background is particularly suitable for certain recording conditions. They are seen in the image below:



NOTE: Backgrounds other than Standard are only available if the product is licensed accordingly.

Background configuration is accessed through the button in the command console as seen in the image below. As you can see in this window there are the 4 possible choices on the type of background.




The "**Persistence**" setting allows you to determine how long an object that stops in the scene is detected by the system before being "absorbed" into the background.

The "**Sensitivity**" parameter allows you to adjust the threshold above which an object is "seen" by the system. Choosing a high value will allow the system to detect small objects, and viceversa.

In addition to the other background configuration settings there are also the "**Pixel Processing**" parameter (described in the following paragraph).

If you check the box for "**Apply Settings to Every Channel**", any values for persistence, sensitivity and definition will be applied to every channel on the server.

For more details on the characteristics of each of the four Background types, see the following paragraphs. For each background type it is possible to adjust the specific parameters by clicking the "**Advanced Tuning**" button. This button opens the corresponding Properties window described more in the next

paragraph. To return to the previous settings menu click on "**Basic Tuning**". Applying any of the values chosen for "**Persistence**" and "**Sensitivity**" is instantaneous. Do not forget to save all the other settings via the  button.

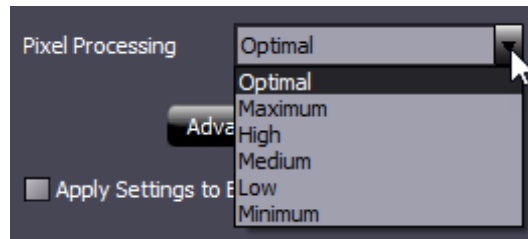
Par 7.3 Pixel Processing

"**Pixel Processing**" allows you to define the precision of image processing by the system.

The value for "**Pixel Processing**" directly affects the processing load. For this reason, you must find the best compromise between the image definition and the allowed load to on the CPU. While increasing "**Pixel Processing**" does increase the precision with which ARTECO recognizes the shapes of objects, it also leads to an increased workload for the server CPU.

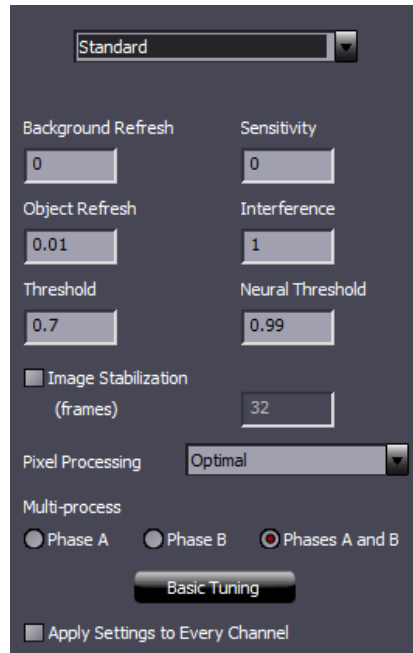
By assigning "**Pixel Processing**" to "**Maximum**", the system processes all the pixels of the image. In many cases this is unnecessary because the size of the objects of interest are likely to involve more than one pixel (objects are rarely only one pixel high and this makes detection difficult because its dimensions are comparable to those of the noise of the image, or changes in pixels often due to wind or other environmental factors). This parameter should normally be set to "**Optimal**" for best results.

The "**Optimal**" value allows the system to perform video analysis while still optimizing resources. For each image the number of pixels processed (and the actual load on the system) depends on the combination of the two parameters, "**Pixel Processing**" and the resolution of image analysis. If the size of the objects to be detected occupies a good part of the picture you can lighten the processing load of the system by lowering the resolution and/or "**Pixel Processing**".



Par 7.4 Standard Background - Advanced Tuning

The "**Standard**" Background continuously performs a comparison between a reference image and the current image by removing objects by difference. At the same time, it updates the reference image, incrementally including objects that are stationary for longer time in the picture. The differences between the two images are the sum of two stages of comparison "**Phase A**" and "**Phase B**". The first produces results on the difference of the colors and their brightness, depending on the difference of the contours and textures that are the objects.



The following parameters produce differences only on "**Phase A**". For optimal adjustment it is recommended to select only "**Phase A**".

There are two parameters that control the refresh rate for objects (pixel-image corresponding to the white blobs in "**Processed View**") and background (the entire pixel-image that overlaps the black area surrounding the white blob). Normally the refresh rate of the background must be greater than that for the objects. For example, "**Background Refresh**" = 0.01 and "**Object Refresh**" = 0.001.

"**Standard**" Background is therefore effective when you want to detect abandoned or removed objects, as it can keep the memory of their presence/absence in the scene for a long time. On the other hand, configuring a low refresh rate in varying light conditions should be avoided because the system could be "blinded" by these changes and take a long time to resume analyzing the images. The absorption time of new objects in the background depends on the channel framerate acquisition. At the same refresh rate, if you double the framerate, it halves the time of detecting new objects. The higher the value of the two speeds (that is closest to 1), the more ARTECO will be insensitive to objects that come into the scene.

The "**Sensitivity**" is a main discriminating factor, ranking each pixel as an object (white) or background (black). A low sensitivity produces sparse blob, until it does not detect any objects whose colors are similar to those of the background. Conversely, excessive sensitivity tends to also transform objects such as shadows into visual disturbances. Note that a high sensitivity corresponds to small values for the sensitivity parameter and vice versa, the maximum sensitivity is achieved by placing "**Sensitivity**" to 0. A typical value is 2.

"**Threshold**" allows for the adjustment of sensitivity described in the previous step according to the illumination. However, the degree of illumination of a scene typically varies over time, for example during

sunsets. An automatic mechanism in the ARTECO system adjusts the sensitivity to variations of illumination. This mechanism would be limited however in the presence of dim lighting, where the camera would produce a lot more noise. Correctly setting the "Threshold" can fix the scope of this mechanism so that the sensitivity does not increase too much, allowing for better object discrimination. Increase this parameter until you can only see the blobs of the desired objects to detect. A typical value for this parameter is 0.2.

The following parameters for "**Threshold**" and "**Neutral Threshold**" create differences only for "**Phase B**". For optimal adjustment it is recommended to select only "**Phase B**" under the "**Multi-process**" options.

For "**Neutral Threshold**", in "**Phase B**" the blobs are obtained by a comparison method that is sensitive to the "plot" or "alternation of different colors" and it is not sensitive to solid colors and the brightness variations in general. It thus serves to limit the impact of variations in light and reflections on moving objects (ex. caused by artificial lighting indoors). For example, if an object is totally round and yellow and is located on a completely green background, the system will detect differences located only on the edge where there is a transition of color, and the corresponding blob will be an empty circle. Otherwise, the method of the "**Phase A**" would show a filled circle, fully detecting the difference between the colors. The comparison based only on the "**Phase B**" is critical in permanent conditions of low illumination. The comparison function of "**Phase B**" has a sensitivity called "**Neutral Threshold**". The values of this parameter are ideally are between 0.97 and 1 (the latter corresponds to the maximum sensitivity). A typical value for the "**Neutral Threshold**" is 0.985.

With the parameter "**Interference**" you can eliminate the influence of white dots as seen in "**Processed View**". Normally this "noise" is caused by previous calibrations often originated by the camera itself. This value can range from 0 (no filtering) to 13 (maximum filtering). The filter reduces the noise but introduces a kind of blur on the boundary of the blob.

Since this filter puts a burden on system resources, it is good to keep the "**Interference**" set to the lowest possible value that is sufficient to achieve the elimination of noise. A typical value for this parameter is 2. After applying this filter, it may be necessary to re-adjust the values for "**Threshold**" and "**Sensitivity**".

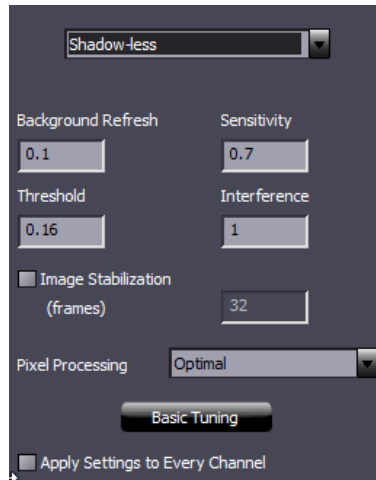
The filter "**Image Stabilization**" is also a very useful tool when detecting abandoned or removed objects. The activation of this module generates a comparison between between the blob and the "average" background image (instead of the current image). That image is obtained by summing the homologous pixels for "**Number of frames**" and dividing each sum by the "**Number of frames**" itself. In this way it triggers a sort of pre-filter which attenuates very small changes of the background and objects and instead shows what remains stationary. The parameter "**Number of frames**" can go from 2 to 256 and its typical value is 32.

To save all of the settings in this window click on the  button.

Par 7.5 Shadow-less Background (Advanced Tuning)

The shadows cast by objects in the scene are among the main causes of errors in detection of objects. This algorithm tends to remove the shadows from the background, enhancing the color differences and at the same time removing the light variations.

With the "**Shadow-less**" Background it is much easier for the system to discriminate objects and count them properly. The removal of shadows works in full automatic mode and the configuration of the background without shadows is similar to that Standard. "**Shadow-less**" requires more system CPU.



To activate this background, select "**Shadow-less**" in the combo box at the top of the menu. The parameters of this background have the same meanings as those of the "**Standard**" Background. Use the previous paragraph as a reference.

The difference between "**Standard**" and "**Shadow-less**" is the removal of the shadow effect as shown in the images below, documenting the comparison between these two types the background.



As you can see, the shape of the hand in the picture on the right is less clear, but the shadow of the hand is eliminated almost completely.

To configure the filter "**Image Stabilization**" see the previous paragraph.

To save the settings on this window click on the  button.

Par 7.6 Iterative Background (Advanced Tuning)

The "**Iterative**" Background compares the current image with two previous ones taken moments before. In this case the problem of how to keep the background is eliminated, since it is constituted by recent pictures that have already been updated. To determine which previous image must take part in comparison with the current one, simply change the parameter "**Iteration**". It determines the inter-distance between the current frame and the 2 previous images. For example, if "**Iteration**" is set to 3, the current image will be compared with the image taken 4 frames before and then with the one acquired 7 frames before.

The greatest advantage of this algorithm is that it is immune to light variations and the most popular types of video "noise". The correspondence between the object size and the actual recognized object mainly depend on the speed with which it moves: fast moving objects are detected by the system better than those that move slowly. As soon as an object stops, this disappears immediately if the comparison is between 2 images, or shortly after if the images are compared to more than 2. These features make this algorithm suitable for detecting moving objects. For these reasons it is not advisable to use it to detect abandoned or removed objects because the time available to determine if an object has been added or subtracted is severely limited.

To enable this type of background, select "**Iterative**" in the combo-box. The Interface appears similar to the previous with the exception of the parameter "**Iteration**" described below.

The parameter "**Iteration(s)**" can be adjusted to values between 1 and 16, and its effect will be to show a "trail" of moving objects that can be considered a sort of "amplification of movement". Adjust this parameter between 5 and 10 if the image is small and the moving objects are slow, or set it to around 2 - 4 if the movement and the size of objects are able to cause satisfactory blob dimensions. A typical value for this parameter is "**Iteration** = 3".

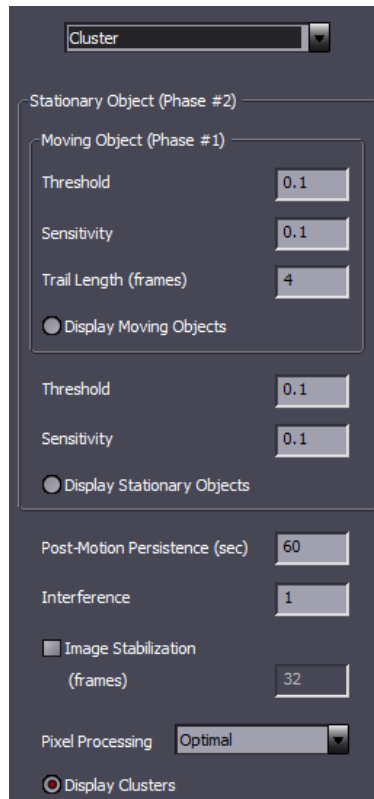


All of the other parameters for an "Iterative" Background (sensitivity, threshold, and interference), are the same as those described in the previous paragraphs.

To save the settings on this window click on the  button.

Par 7.7 Cluster Background (Advanced Tuning)

This background can be considered as a synthesis of the qualities of "Standard Background" and "Iterative Background". The "Cluster Background" has clearly defined forms when the object is moving and filters very stationary objects very well, also allowing you to keep them in sight for a configurable time before eliminating them. The main window for the configuration of this background is shown below:



For optimal adjustment of this background, perform the following tasks in the order presented. It begins by calibrating the part relating to objects in motion "**Phase #1**" (Steps 1-5), then switches to "**Phase #2**" (Steps 6-8) and then adjusts the tempo of "**Post-Motion Persistence**" for objects (steps 9.10):

Step 1) From the "**Details**" Toolbar described in Par 7.2, click on "Processed View" so you can see the black and white image differences.

Step 2) in "**Phase #1**" select the button "**Display Moving Objects**"

Step 3) "**Phase #1**", Set the "**Threshold**".

Step 4) "**Phase #1**", Set "**Sensitivity**"

Step 5) "**Phase #1**", Set "**Trail Length (frames)**"

This option in "**Phase #1**" produces its result by comparing the current image with the previous one immediately. To determine how many of the previous frames must take part in the comparison, change the parameter "**Trail Length**". This parameter can be adjusted to values between 1 and 16 and its effect will be to show a "trail" of processed pixels for moving objects. Adjust this parameter between 5 and 10 if the image is small and the moving objects are slow, or set it to around 2 - 4 if the movement and the size of objects are able to cause satisfactory blob dimensions. A typical value for this parameter is "**Trail Length**" = 3.

Step 6) In "**Phase #2**" select the button "**Display Stationary Objects.**"

Step 7) "**Phase #2**", Set "**Threshold**".

Step 8) "**Phase #2**", Set "**Sensitivity**"

Step 9) Select the button "**Display Clusters**" at the bottom of the window.

Step 10) Set "**Post Motion Persistence (sec)**":

This parameter is used to determine how many seconds should pass when a new blob enters the scene then stops and gets "absorbed". At the end of the time (seconds) set in this parameter, the stationary object will be included in the background. There is not a typical value for this parameter since it depends on its use. Although, we do recommend you set values lower than 120.

Step 11) Set "**Interference**"

Step 12) restore the live color display color by clicking again on



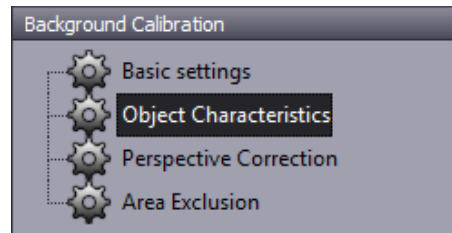
For the filter "**Image Stabilization**" configuration see the Previous paragraphs.

To save the settings for this window click

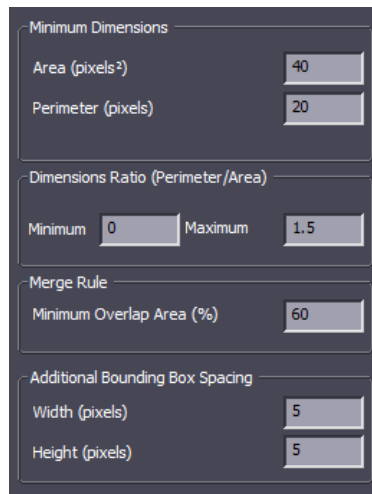
 .

Par 7.8 Selecting Object Characteristics

Locate and select the "**Object Characteristics**" option in the "**Background Calibration**" pane as seen in below image.



It opens the window for "**Object Characteristics**" which allows the removal of unwanted objects (seen while you have "**Processed Mode**" activated in the "**Details**" toolbar described in Par 7.1). These objects can be eliminated on the basis of minimum requirements on their area, perimeter, form factor and smooth rotation. Once Objects are deleted, they will be ignored by the system's algorithms. The configuration window appears as in the image below:



"**Minimum Dimensions: Area**" is the minimum surface expressed in pixels², below which the blob is not processed.

"**Minimum Dimensions: Perimeter**" is the minimum perimeter expressed in pixels, below which the blob is not taken into consideration.

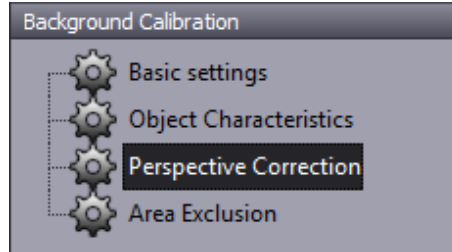
"**Dimensions Ratio**" allows you to specify a range of minimum and maximum values beyond which the blob will not be processed. The "**Dimensions Ratio**" determines the "roundness/elongation" of the objects (Dimensions Ratio = perimeter of the blob/area) Objects greater than or equal to 1 have long narrow dimension ratios, while compact and more rounded objects have dimension ratios between 0 and 0.2. A value range often used for Dimensions Ratio is 0 to 0.9.

The parameter "**Minimum Overlap Area**" allows to define the amount percentage (overlap) needed for the object to be detected, compared to the whole area.

The "**Additional Bounding Box Spacing**" fields allow you to determine how many pixels to increase the bounding box for an objects, in order to let the blobs represent more accurately the objects to which they belong.

Par 7.9 Perspective Correction

To use this feature, go to the "**Background**" Configuration Menu and then click "**Perspective Correction**".



By clicking on this icon, you'll be allowed to draw a virtual box:



The sides of the form must be orthogonal to each other and the length of the segment that goes from point 1 to point 3 must be equal to that of the segment from 5 to 7. As well, segments ranging from 1 to 7 and 3 to 5 must be the same length.

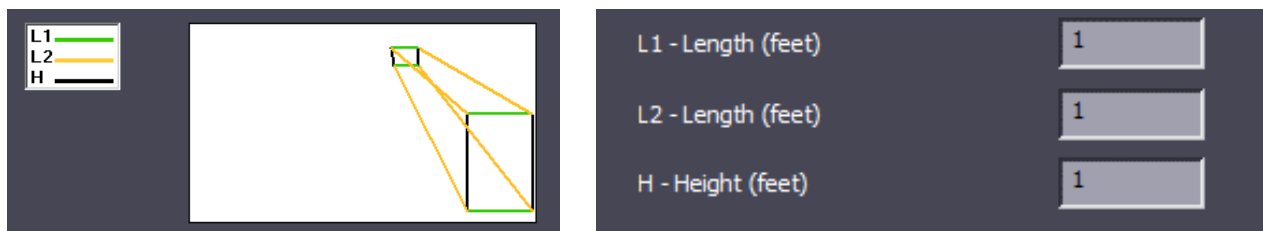
For calibration purposes, it is recommended to equate references and measure the distance of the segments ranging from point 1 to point 3 and point 3 to 5 and write them down. Then with the "Zone Editor", ARTECO Next will fill in the points in the order indicated by the GUI. Height can easily be found by using a standing person as a reference. After identifying the 8 points you need to save the volume.

To apply the settings to the perspective you need to enter data for the size of the segments drawn.

A preview of this form will be represented in the white space. In this control, you can only load volumes and areas.

With the mouse, click on the check mark that appears next to "**Plugin Activation**" and enter the values in meters of the segments previously designed with the "**Zone Editor**".

It is advisable to take the largest possible areas for perspective correction in order to minimize any errors due to inaccuracies in the drawing.



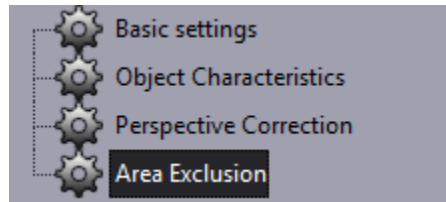
If a camera is to be moved zoom settings on it are changed, it is possible that the perspective calibration must be re-executed even when the camera was moved back to its original position. This is because a few inches difference in the position of the camera can mean substantial real distances.

Par 7.10 Area Exclusions

Area exclusions allow to define regions of non-interest, to be excluded during image processing. This relieves the ARTECO server of processing unnecessary loads as to maximize the performance of the system as a whole.

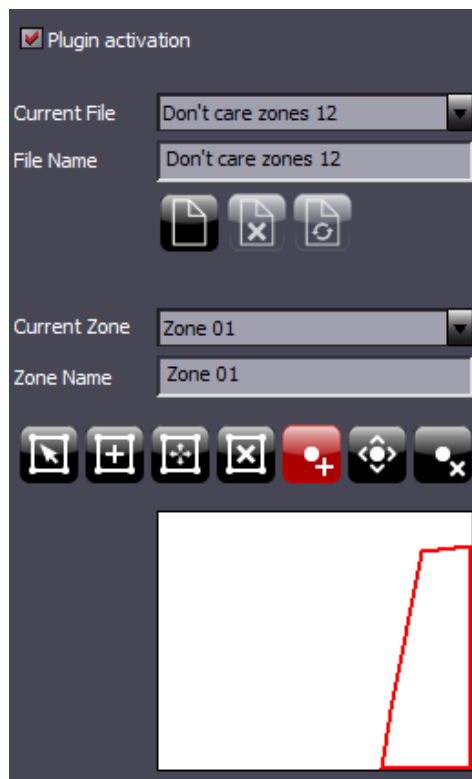
To define one of these areas you can use the "**Zone Editor**".

First select the video source (from the "**Device List**") on which you want to enable the "**Area Exclusion**". In order to configure this setting, be sure you are under the Setup Environment, click the "**Background**" Tab and then click "**Area Exclusion**" in the above menu.



You can now upload, draw or modify one or more zones to be ignored on the current image. A preview of this form will be represented in the white space.

When done, click on the check next to "**Plugin activation**" And then on the "Apply" button.



Chapter 8 Peripherals

ARTECO is able to integrate with other security systems such as alarm control panels, intrusion alarms, I/O devices and other IP applications.

Following the introduction of Peripherals, and at the same time the increasingly less frequent use of I/O devices, it was decided to eliminate the latter from recent releases.

In case of a version upgrade, some I/O devices will be automatically converted to Peripherals.

Some others, see table below, will be permanently deleted and consequently not converted.

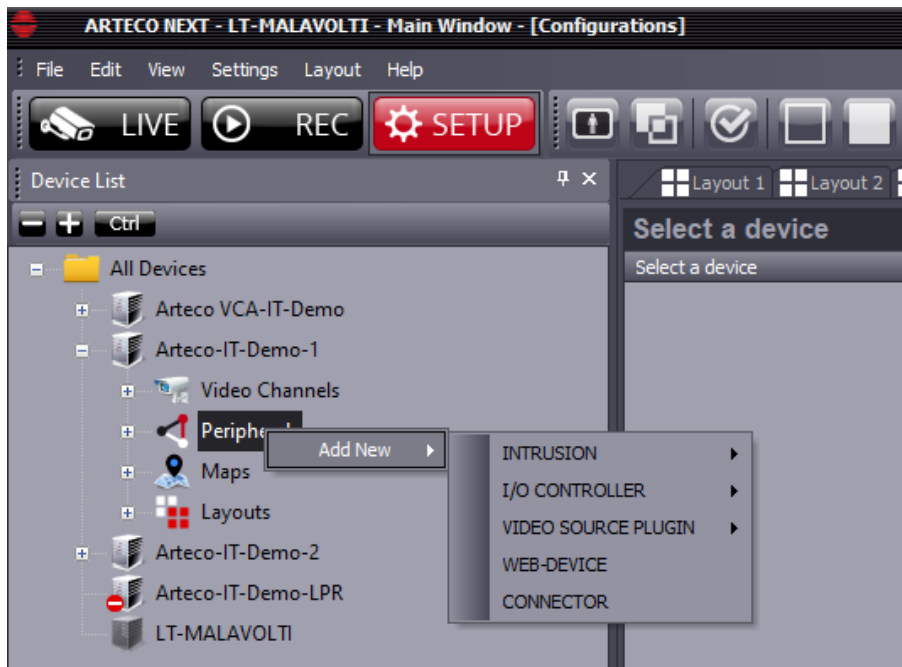
At the first installation of this version, if any I / O of the old type are present, these are automatically converted into Peripherals of the new type.

| IO DEVICE | |
|------------------------|--------------------------------------------------------------------------------------------------------------------|
| Arteco Serial | Removed |
| Axis I/O | Converted as "AXIS I/O" in peripheral devices |
| Virtual | Converted as External IO Neither the calendar nor the default state of the virtual variable will be converted * |
| Mobotix | Removed |
| Samsung | Converted as "Samsung I/O" in peripheral devices |
| Arteco Ethernet Remote | Arteco Everywhere (default states not converted) |
| CIAS I/O | Removed |
| Smart IP Controller | Arteco Everywhere (lo stato di default non viene convertito) |
| Arteco Everywhere | Arteco Everywhere (lo stato di default non viene convertito) |

Important Notes:

- 1) No Notification settings are converted when switching from a I/O to a Peripheral. In particular, the associations will be lost if the I/O were defined in the notifications of:
 - Peripherals
 - Cameras
 - Server
- 2) The I/O Default States have not been converted
- 3) The Pushpin in the Maps have not been converted
- 4) The Output Pins for all Plugins have not been converted (area violated and object abandoned / removed)
- 5) The Output Calendars have not been converted
- 6) The I/O pins associated with the PTZ presets have not been converted to Peripheral

The references that the cameras have in the Alarming/Chained/Enabling I/Os have also been converted. Exceptions are old I/O associated with video analysis plugins whose association has not been converted because implemented as described in the section "Linked I/O Plugins".



All of the different integrations and their configurations are described in the following paragraphs:

Peripheral devices except for Web devices are configurable for sending notifications such as email, sms and outputs. See the related section of this manual.

Par 8.1 "CIAS" Alarm System

INTRUSION

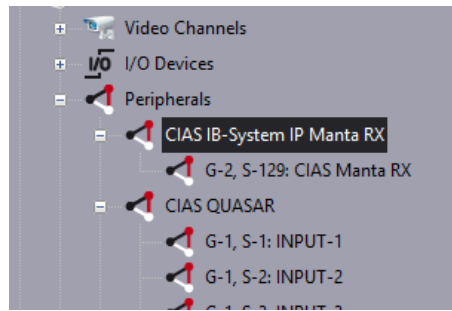
The configuration pane of a CIAS device (IBSystemIP or Quasar) allows you to set the **IP**, **port**, and group of the device in question.

These values are the same as those configured on the CIAS device, so you must know that information in advance.

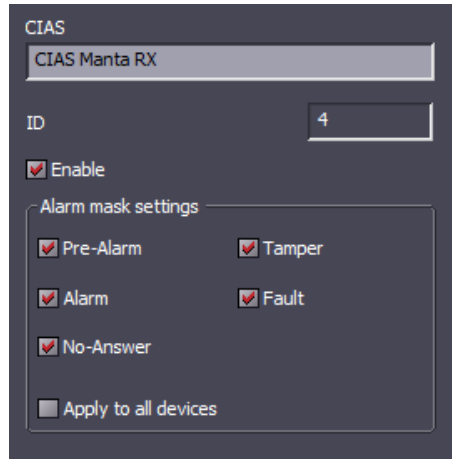
 The screenshot shows the configuration pane for a CIAS device. The fields are as follows:

| Field | Value |
|---------------|----------------------------|
| CIAS | CIAS IB-System IP Manta RX |
| ID | 3 |
| IP Address: | 192.168.10.151 |
| Port: | 2022 |
| Output Group: | 2 |

ARTECO NEXT will automatically detect devices/sensors configured on this IP address, port and group and will automatically populate in the "Device List" tree as seen below.



For each configured device, you can define which events should be received by ARTECO NEXT using the check boxes.



Par 8.2 Contact-ID

INTRUSION

The "Contact ID" protocol is used for digital communications between security alarm systems and central monitoring stations.

Integration with Contact-ID devices is based on the EAD4 card, which is a hardware module provided by Arteco and works together with the plug-in that allows Arteco NEXT to receive events. [The manual for EAD4 is available separately.](#)

The "**Contact-ID**" device's configuration pane allows you to set IP, port, account number, areas (single sensor) and zones (sets of sensors/zones) of the device in question. These values are the same as those configured on the Contact-ID device, **so you must know the data in advance.**

Important: the same Contact-ID device cannot be configured on different servers.

We recommend to enable areas "A-0" and Zones "Z-0" because they provide diagnostic events to the system (eg. Low-battery, etc.).

CONTACT-ID
Bentel Absoluta

ID: 46

IP Address: 192.168.5.36

Port: 1000

Subscriber ID: 300

Areas: A-0, A-1, A-2

Zones: Z-0, Z-1, Z-2

When selecting each area or zone it is possible to define which events will be received by Arteco NEXT.

Left Screenshot: CONTACT-ID Bentel Area 2

ID: 49

Enable

Alarm mask settings

Area/Zone: 2

Events:

Select all, [100] Medical, [101] Pendant ...

- Select all
- [100] Medical
- [101] Pendant Transmitter
- [102] Fail to report in
- [110] FIRE
- [111] SMOKE w/VERIFICATION
- [112] Combustion
- [113] WATERFLOW
- [114] Heat
- [115] Pull Station
- [116] Duct
- [117] Flame
- [118] Near Alarm
- [120] Panic Alarm
- [121] DURESS
- [122] SILENT
- [123] AUDIBLE
- [124] Duress-Access Granted
- [125] Duress-Egress Granted

Right Screenshot: CONTACT-ID Bentel Zone 0

ID: 50

Enable

Alarm mask settings

Area/Zone: 0

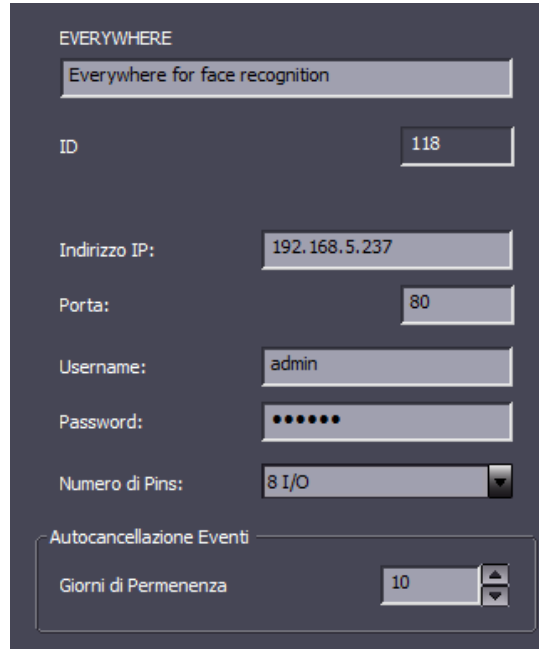
Events:

[102] Fail to report in, [110] FIRE, [113...

- Select all
- [100] Medical
- [101] Pendant Transmitter
- [102] Fail to report in
- [110] FIRE
- [111] SMOKE w/VERIFICATION
- [112] Combustion
- [113] WATERFLOW
- [114] Heat
- [115] Pull Station
- [116] Duct
- [117] Flame
- [118] Near Alarm
- [120] Panic Alarm
- [121] DURESS
- [122] SILENT
- [123] AUDIBLE
- [124] Duress-Access Granted
- [125] Duress-Egress Granted

Par 8.3 Arteco Everywhere

The configuration panel of an Arteco Everywhere device allows you to set: IP, http port, username and password and number of pins (inputs and outputs) of the Arteco I/O module.

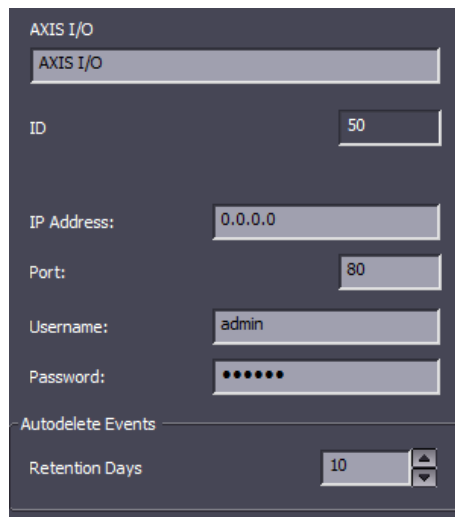


The screenshot shows the configuration panel for an Arteco Everywhere device. The title is "EVERYWHERE" and the subtitle is "Everywhere for face recognition". The fields are: ID (118), Indirizzo IP (192.168.5.237), Porta (80), Username (admin), Password (masked with dots), Numero di Pins (8 I/O), and Autocancellazione Eventi (Giorni di Permanenza: 10).

Once the data has been entered correctly, the device tree will populate accordingly, showing related inputs and outputs which can then be associated with other devices configured or monitored/controlled directly via the Arteco NEXT GUI.

Par 8.4 Axis I/O

The configuration panel allows you to set: IP, http port, username and password of the Axis I/O module.

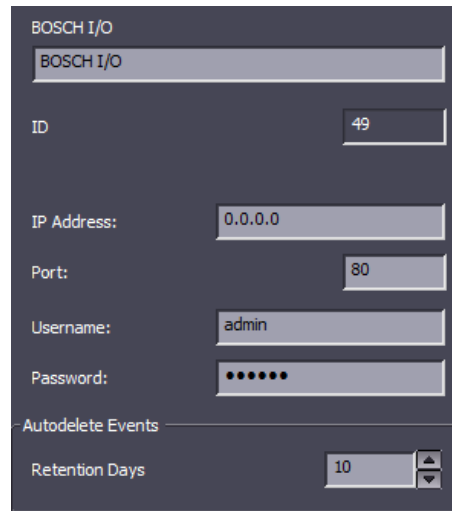


The screenshot shows the configuration panel for an Axis I/O module. The title is "AXIS I/O" and the subtitle is "AXIS I/O". The fields are: ID (50), IP Address (0.0.0.0), Port (80), Username (admin), Password (masked with dots), and Autodelete Events (Retention Days: 10).

Subsequently, it will be possible to receive and view the status changes of the inputs (and possibly associate them for example as alarming Inputs to a camera or other devices), or remotely trigger the Output.

Par 8.5 BOSCH I/O

The configuration panel allows you to set: IP, http port, username and password of the Bosch I/O module.




The screenshot shows the Bosch I/O configuration interface. It features a dark grey background with white text and input fields. At the top, it is labeled 'BOSCH I/O'. Below this, there is a text input field containing 'BOSCH I/O'. The 'ID' field is set to '49'. The 'IP Address' field is set to '0.0.0.0'. The 'Port' field is set to '80'. The 'Username' field is set to 'admin'. The 'Password' field is masked with six dots. Under the 'Autodelete Events' section, the 'Retention Days' field is set to '10' with up and down arrow buttons.

Subsequently, it will be possible to receive and view the status changes of the inputs (and possibly associate them for example as alarming Inputs to a camera or other devices), or remotely trigger the Output.

Par 8.6 Samsung I/O

The configuration panel allows you to set: IP, http port, username and password of the Samsung I/O module.



The screenshot shows the Samsung I/O configuration interface. It features a dark grey background with white text and input fields. At the top, it is labeled 'SAMSUNG I/O'. Below this, there is a text input field containing 'SAMSUNG I/O'. The 'ID' field is set to '51'. The 'IP Address' field is set to '0.0.0.0'. The 'Port' field is set to '80'. The 'Username' field is set to 'admin'. The 'Password' field is masked with six dots. Under the 'Autodelete Events' section, the 'Retention Days' field is set to '10' with up and down arrow buttons.

Subsequently, it will be possible to receive and view the status changes of the inputs (and possibly associate them for example as alarming Inputs to a camera or other devices), or remotely trigger the Output.

Par 8.7 Wisenet I/O

The configuration panel allows you to set: IP, http port, username and password of the Wisenet I/O module.



Figura 1 – Configurazione I/O WISENET

Subsequently, it will be possible to receive and view the status changes of the inputs (and possibly associate them for example as alarming Inputs to a camera or other devices), or remotely trigger the Output.

Par 8.8 Peripherals BOSCH TASK

Arteco NEXT integrates the Bosch IVA and EVA video analysis algorithms, receiving the events and allowing them to be associated with the video.

The configuration of the video analysis algorithms must be previously performed on the camera itself, through the web interface of the device.

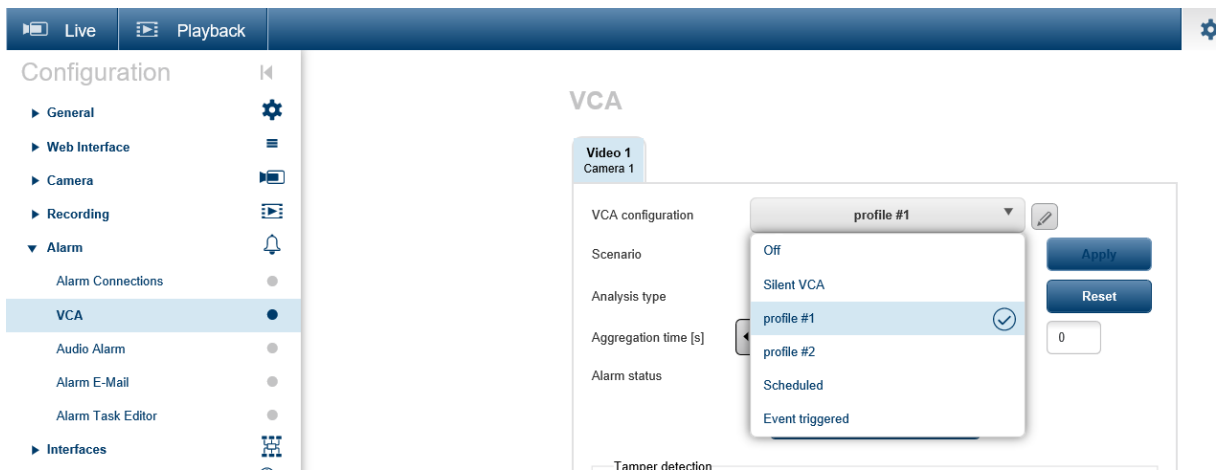
For the configuration of the Bosch algorithms, refer to the manufacturer's manuals.

Prerequisites for the camera side configuration:

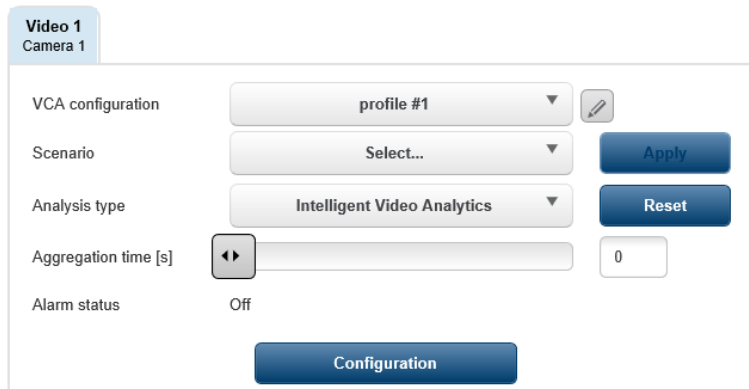
1. It is necessary to use Internet Explorer or browser that allows the installation of Active X
2. Access the camera
3. install the MPEG_ActiveX plug
2. Click on "Allow insecure cookies" when the request appears on the screen

Suggestions and steps for a correct camera configuration:

1. Access the camera
2. Enter the Configuration menu
3. From the left menu, select Alarm -> VCA
4. Select a Video profile in the relevant section in "VCA Configuration"
5. We recommend choosing "profile # 1" or "profile # 2"



1. Analysis type: choose "Intelligent Video Analytics" or "Essential Video Analytics"



2. To configure the task, click on Configuration

For the configuration of the Bosch algorithms, refer to the manufacturer's manuals.

Artec NEXT Configuration

Once the Task is configured on the camera, go to Artec NEXT and add the relevant peripheral, see image.

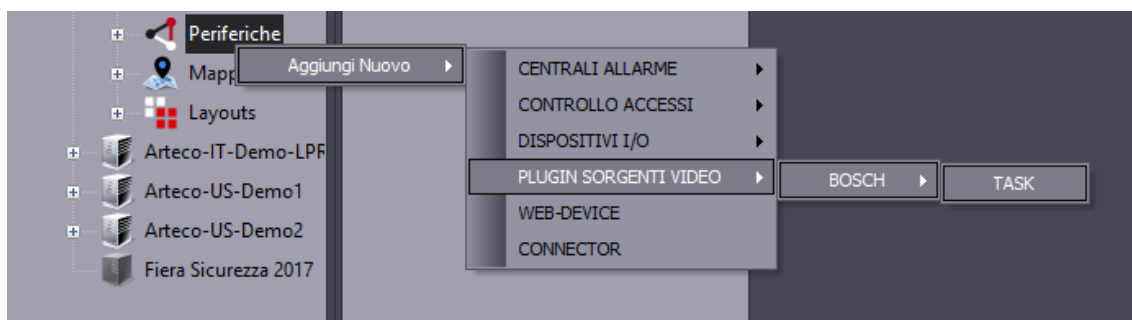


Figura 2 – Configurazione BOSCH TASK

In Artec NEXT it will be sufficient to enter the IP address, username, password and select which events to receive (Artec NEXT will automatically detect the algorithms configured in the device in question). **To "tag" the recordings with the events, it will be necessary to set the Bosch Task Device configured as "Alarming Input" on the corresponding camera. See "Alarming Inputs" functionality.**

Notes

Artec does not support Scheduled management of two different tasks (eg Object task in the "daytime" field, "Nighttime" Crossing Line). If this configuration is present on the camera, Artec will consider active (and will receive the events) only the eventual active task when the Apply button was clicked. The other task will not be managed by the VMS.

If several analysis algorithms are present on the camera in "AND" mode, Artec NEXT will not be able to receive the events. To overcome this possibility, however, it is possible to define, on the camera, the sending of a CGI command to the Artec VMS (an appropriate External I / O must be configured).

BOSCH

Bosch Task - Entering field

ID: 140

Indirizzo IP: 192.168.5.86

Porta: 80

Username: service

Password: ●●●●●●

Abilita

Bosch Task

| | |
|----------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Object in field | <input type="checkbox"/> Crossing line |
| <input type="checkbox"/> Loitering | <input type="checkbox"/> Condition change |
| <input type="checkbox"/> Following route | <input type="checkbox"/> Tampering |
| <input type="checkbox"/> Removed object | <input type="checkbox"/> Idle object |
| <input checked="" type="checkbox"/> Entering field | <input type="checkbox"/> Leaving field |
| <input type="checkbox"/> Similarity search | <input type="checkbox"/> Crowd detection |
| <input type="checkbox"/> Counter | <input type="checkbox"/> Occupancy |

Figura 3 – Configuration of BOSCH TASK

In case of subsequent addition or removal of TASK on the camera, an escalation point icon will appear on the related device in the Artec NEXT tree menu.

Par 8.9 Arteco External I/O

External I/Os allow you to send and receive CGI strings, for example for cameras with video analytics, home automation systems, or the Arteco Everywhere 2.0.

These are similar to Virtual I/Os but can be used to activate functions on other devices configured in ARTECO NEXT (eg. Launch presets, video analytics enabling etc.) via the notifications menu.

The Arteco External I/O configuration is very simple and is divided into three parts.

1. Event Configuration

On the External I/O settings pane you can give the event a name and enable the triggering of events. You can also set the time after which to restore the I/O status and if another event should be triggered via a change of state, as if the I/O were chained.

EXTERNAL I/O

ET visible alarm

ID 77

Enable Event

Reset After (sec) 10

Trigger Undefined

2. Data Input

This box indicates the commands to be configured on the device to receive the status changes or external events from other systems. You need only to copy and paste both strings on the device's web menu or other software "output" field, as ARTECO NEXT will receive them as input events automatically.

Input

Address demo1.arteco.it

Port 80

CGI high state /arteco-mobile/write.fcgi?serverId=1&pin=77&status=1

CGI low state /arteco-mobile/write.fcgi?serverId=1&pin=77&status=0

3. Data Output

In the bottom you must enter the IP address, port, credentials and the HTTP/CGI commands to trigger the desired functions on the remote device (and create an event). **You must know this information in advance, so it is recommended to read the third-party device manuals before proceeding.**

Output

Address 0.0.0.0

Port 80

Username user

Password

CGI high state example_string

CGI low state example_string

Par 8.1 Input External state

Input External state peripherals are an evolution of External I/O as they allow to receive up to 10 http strings, for example from video cameras equipped with video analysis, from intrusion detection sensors (Security Connector) or automation systems, or even from the Arteco Everywhere module itself. The interface will therefore indicate 10 different strings, to be "copied" on a remote device, so that it can send an event / change of status to the Arteco VMS. To top it off, the server's IP address, http or https communication port are summarized.

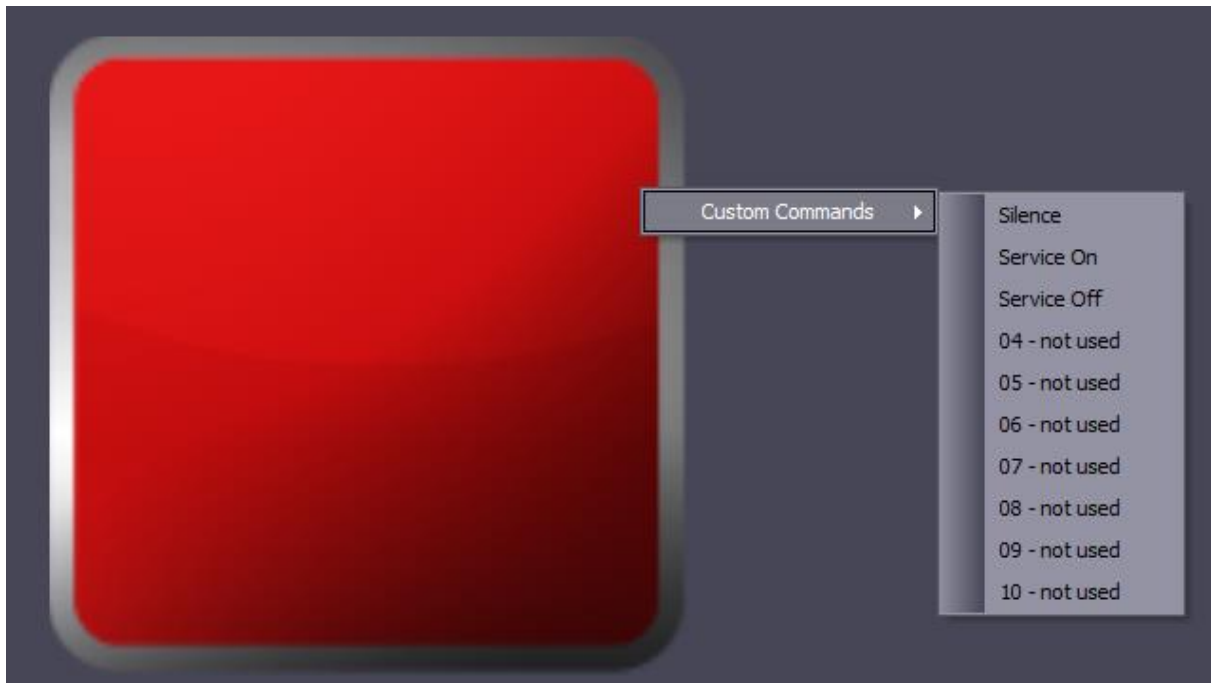
| Command | Label |
|---------------------------------------------------------------------|----------------|
| Command 0: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=0 | OFF |
| Command 1: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=1 | ON |
| Command 2: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=2 | Alarm |
| Command 3: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=3 | Maintenance |
| Command 4: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=4 | Fault |
| Command 5: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=5 | Malfunctioning |
| Command 6: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=6 | Output On |
| Command 7: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=7 | |
| Command 8: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=8 | |
| Command 9: /arteco-mobile/write.fcgi?serverId=1&pin=197&ExtStatus=9 | Undefined |

In the Custom Commands section instead it is possible to define up to 10 outgoing http strings, with the possibility of inserting username and password for any devices that require authentication, and giving a Label (description). **You must know these commands in advance, so it is recommended to read the third-party device manuals before proceeding.**

| Command (ex. http://<p><port>/...) | Username | Password |
|------------------------------------------------------------------------|----------|----------|
| 01 http://192.168.10.173:7999/?pin=196&Scope=SpecialCommand&Value=Site | 01 Admin | 01 |
| 02 http://192.168.10.173:7999/?pin=197&Scope=SpecialCommand&Value=Ser | 02 Admin | 02 |
| 03 http://192.168.10.173:7999/?pin=197&Scope=SpecialCommand&Value=Ser | 03 Admin | 03 |

Par 8.2 Custom Commands management

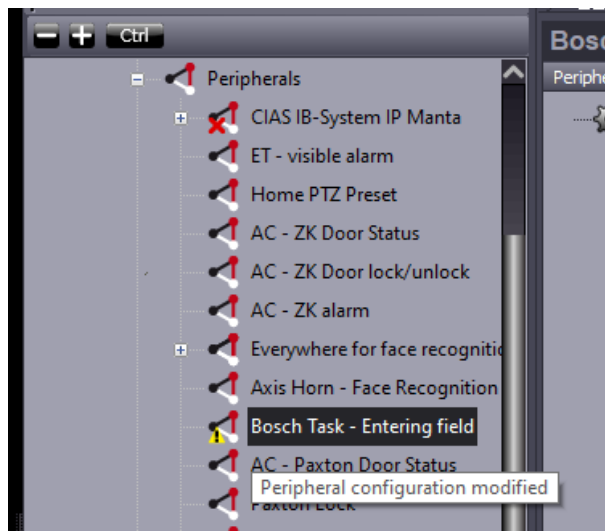
The External State Input icons show the status of each sensor and are able to change their colors in real time. In the live environment, both in visualization on the grid and in Maps mode, it will be possible to change its status through the "Custom Commands" menu **by right-clicking on the single sensor/icon.**



Par 8.1 Manual I/O controls

Output peripherals can be viewed and also manually triggered on the Layout grid, as well as on Maps. Simply click on the icon in order to change the status of the device.





- If a task has been added, it will be possible to select the recently configured task. Click on Apply when finished.
- If instead a task has been removed, click Apply to automatically disable the task, which will be "deselected".

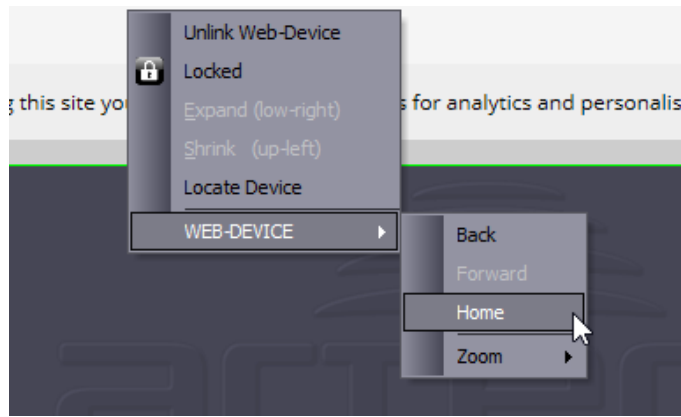
Par 8.2 Web Devices

The "**Web-Device**" configuration menu allows you to set IP Address, port, username and password for accessing the web page.

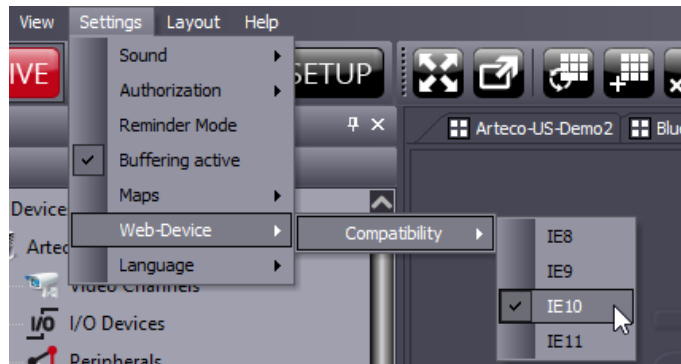
 A screenshot of a configuration window titled 'WEB-DEVICE'. It contains several input fields:

- Device Name: Arteco Global
- ID: 61
- IP Address: www.arteco-global.com
- Port: 80
- Username: (empty field)
- Password: (empty field)

After setting these parameters, you can view the related web page in a Live "**Layout**" by simply dragging the web-device you want to view or interact with into the grid space. The web like device can display most HTTP based webpages and allows you to run Active-X scripts. By simultaneously pressing "**Ctrl**" and moving the mouse wheel you can zoom in or out to get the best interface view of the Layout. This command is also available by right-clicking on the web device, along with the "**Home**", "**Back**" and "**Forward**" buttons.



From the toolbar at the top of the screen you can configure your browser compatibility as seen below.



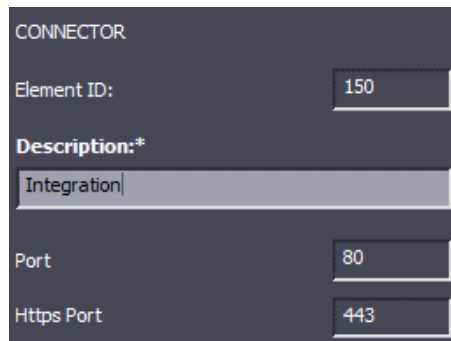
Par 8.3 Open Connector

Arteco Open Connector is an integration platform designed for third-party devices and applications. These integrations take place “upstream” thanks to an integration kit provided by Arteco to the system integrator, accompanied by appropriate manuals and documentation. The integration is usually performed via XML protocol standards, ensuring maximum flexibility and simplicity.

In this section users are allowed to:

- Enable the reception of events
- Define the integration’s layout
- Set up notifications

The “**Basic Settings**” menu for Open Connector allows you to define the device name and indicates the Element ID (used in integration) and communication port used.



CONNECTOR

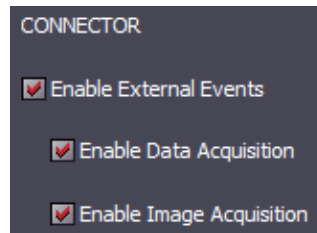
Element ID: 150

Description:*
Integration

Port: 80

Https Port: 443

The “**External Events**” menu allows the user to enable or disable events coming into NEXT, and depending on the mediums used in the integration, you can associate them to display data (i.e. Registered Employees, License Plates, Access Card info etc.) You can also receive images relative to event analytics (ex. ArtecoFR’s collection of video tracked and mesh images with name)



CONNECTOR

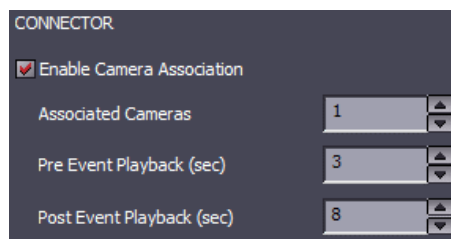
Enable External Events

Enable Data Acquisition

Enable Image Acquisition

The “**Cameras**” menu allows you to associate integrated devices with one or more camera sources. This can be useful in the case of Access Control systems to automatically display the footage from an event (i.e. Door/Gate Access, Perimeter control)

In addition to this, the user can also define secondary storage that will be displayed before and after the event.



CONNECTOR

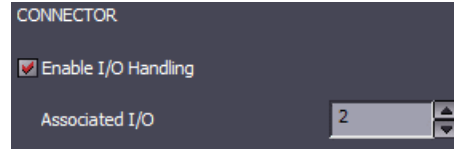
Enable Camera Association

Associated Cameras: 1

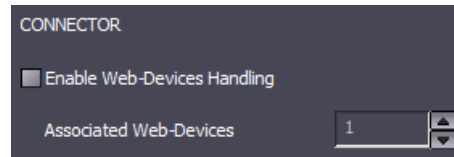
Pre Event Playback (sec): 3

Post Event Playback (sec): 8

The **"I/O"** menu allows you to associate an I/O device to the integrated device. The purpose of this option is to give users the ability to view system status (i.e. control panel) or operate devices upon event occurrence (eg. Illumination systems, evacuation or gate access).

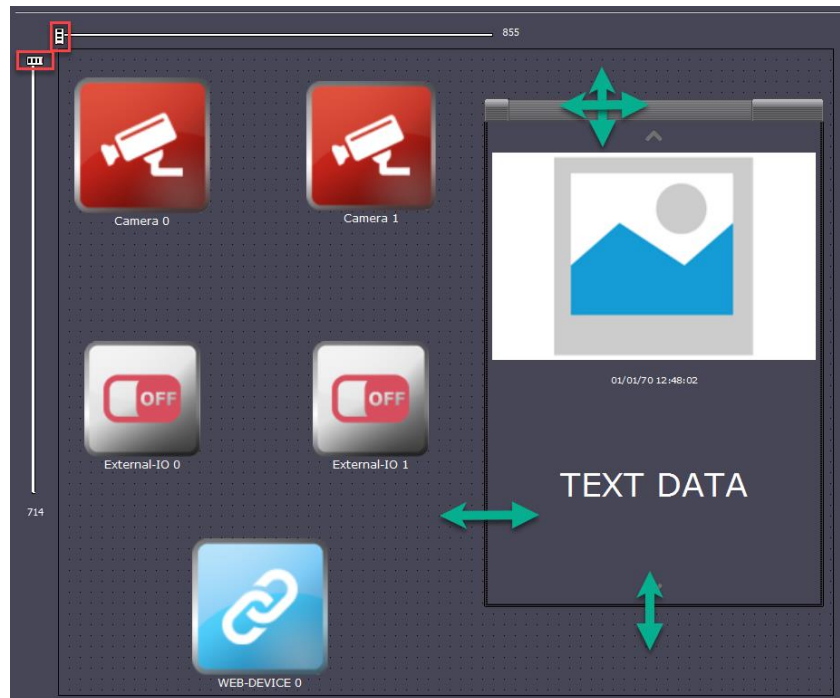


The **"Web Device"** menu allows you to connect one or more web pages to the device. This can be useful when running it with a management web interface or when connecting to the device web browser to edit or view parameters.



Par 8.4 Open Connector Layouts

Another aspect of Open Connector is the graphical layout that appears as a grid space. Via the **"Layout"** menu you can define every aspect of the presentation window and its associated devices. The configuration screen allows you to move each element that is present, change its size and customize icons and descriptions of paired devices (cameras, I/O, web devices)



- The side bars on the outside of the box allow you to change the size of the screen. To do so, simply click and hold the left mouse button on the two bars highlighted in red and move the available directions.
- The Event Data pane can be moved or resized to your liking. Move the bar at the top of the pane, hold down the left mouse button and move. To resize the menu however, position the

mouse over the boundary lines of the frame, press and hold the left mouse button and move until the window reaches the desired size

- Icons of associated devices can be edited, moved and resized, just like with the configuration environment for Maps



Par 8.5 Open Connector – Live Environment

Once you have your Open Connector device configured, you can drag it into a grid space just like any other device in the Device List. You can also do this in maps. Each icon/button is interactive in the following ways and represented in the figure below:

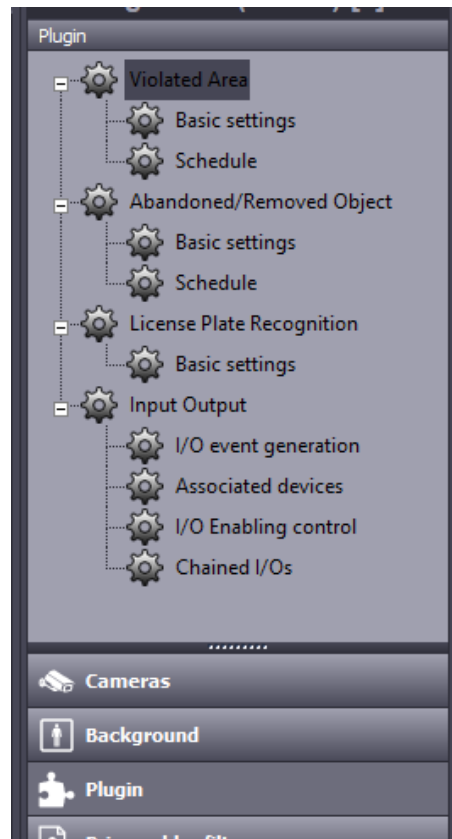
- In correspondence with the numbers 1 and 2, we find a picture from a Web device
- Number 3 represents a window for sharing the live view of a video source
- 4 shows you certain relevant data, namely the image and some descriptive text

The screenshot displays the ARTECO NEXT software interface. At the top, there are navigation icons for LIVE, REC, and SETUP. The main area is divided into several sections:

- Web Device 1:** A window showing a car's rear view with license plate DK 785JV.
- Web Device 2:** A window showing a close-up of the license plate DK 785JV.
- Web Device 3:** A window showing a top-down view of a car on a road.
- Web Device 4:** A window displaying detailed information for the vehicle, including:
 - Registration type: Station vehicle
 - Plate: DK 785JV
 - Gate: Du 180 street outbound
 - Channel: 10521115493
 - Model: Fiesta
 - Brand: Ford
 - Vehicle type: Automobile
 - Function: Connected to Videocall
 - Completion date: 31/12/2015
- Interactive Icons:** Several icons are visible, including 'Infrared picture', 'Easy Traffic Map', 'Contrast picture', 'Gate Control', and 'No LPR video detection'.
- Live Event Table:** A table at the bottom showing a list of events with columns for Server Name, Device, Event Description, Event Time, Status, Device, Acknowledgment Time, File Type, and Note.

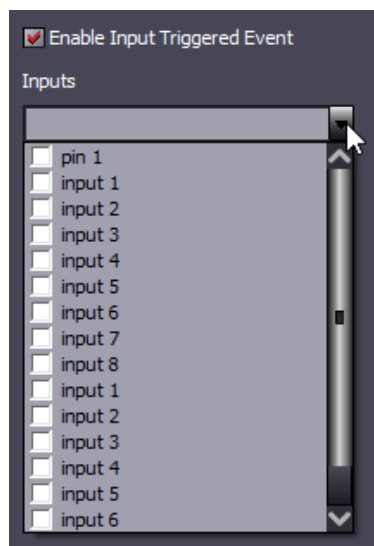
Chapter 9 Programmable I/O Functions

In the Plugin section, you can find the list of possible programmable functions for I/O and peripheral devices.



Par 9.1 "I/O event generation"

The image below shows a snapshot of the interface for configuring an "**Input**" triggered event. This function enables the generation of one or more events generated by an integrated system, when associated with a unique video source, also "marking" the recorded videos.



Par 9.2 Examples of applications

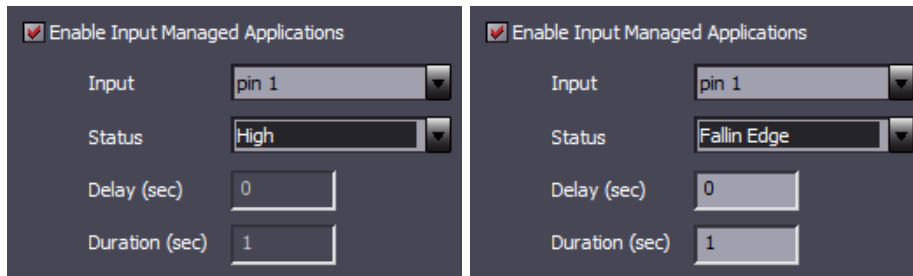
This feature is useful for connecting the system to an intrusion device, a volumetric PIR detector or an access control system, giving the possibility to add a video evidence to any event, send notifications and more.

After selecting a video source interface and the inputs are selected/linked as shown in the figure above, every change of status of that inputs will "provoke" also an event on the the video source, allowing users to be notified and marking its recording.

Par 9.3 "I/O Enabling control"

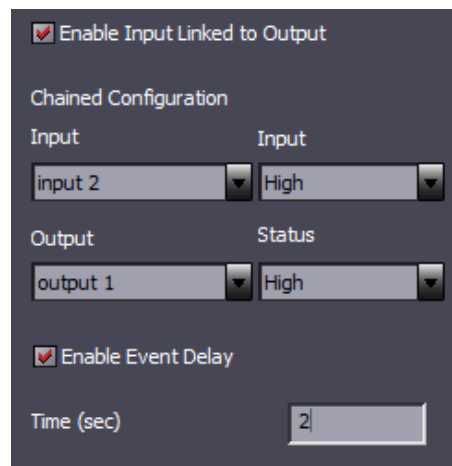
This feature allows you to activate/deactivate video analysis plugins configured on a video source (violated areas, abandoned object, ...) in accordance with the state of the selected input. This function acts as a kind of switch to turn on and off events and functionalities.

Through the combo-box "Input Selection" you can choose the input/peripheral linked to the video source. It is possible to define when the action should take place, according to the status of the input (ON or OFF), and it is also possible to delay the action after a time interval, by choosing "Falling Edge" or "Rising Edge" and then set delay and duration of the signal.



Par 9.4 Chained I/O

Through this function you can create a rule, a sort of a sub-system, between two I/O or peripheral devices. For example, it is possible to activate a siren after an intrusion system receives an event.

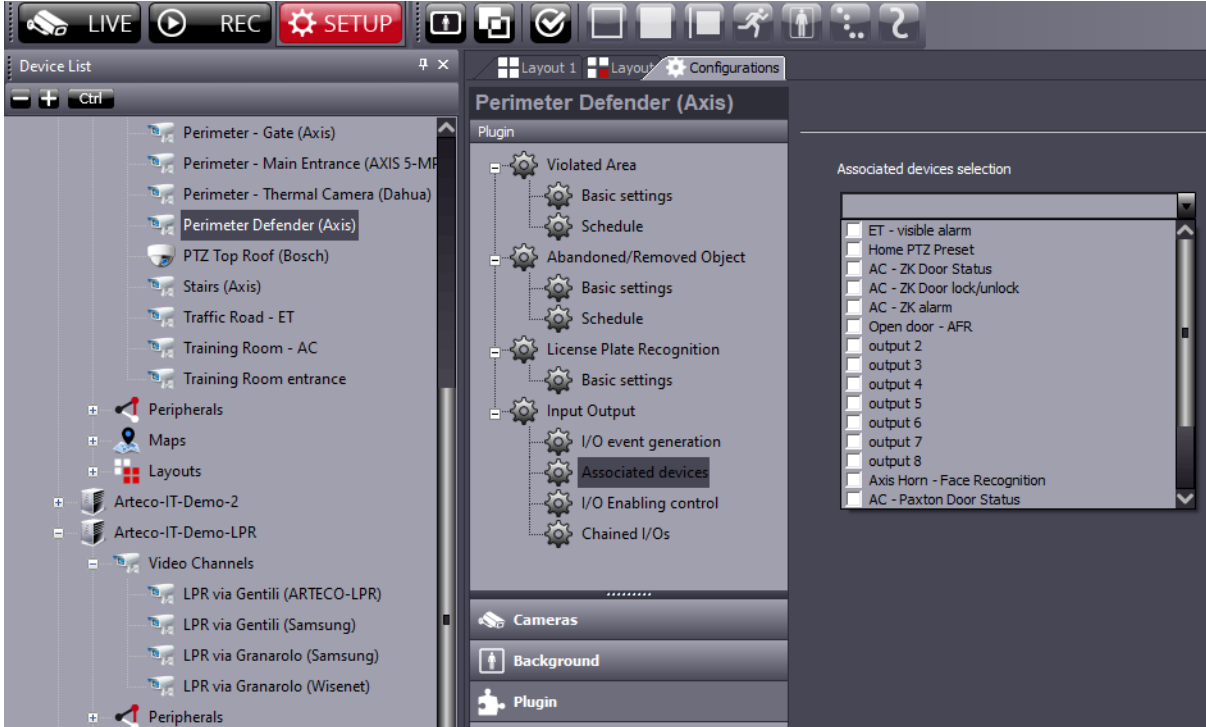


This function can be also used to inhibit the generation of false events caused by artificial lighting. By connecting a switch (manual or twilight) to an input you will get the corresponding change in the output for the lamp command. Meanwhile the system will inhibit the generation of events for the time that the lamp needs to turn on or off (think of ignition time for neon lamps). This will allow the light to turn on

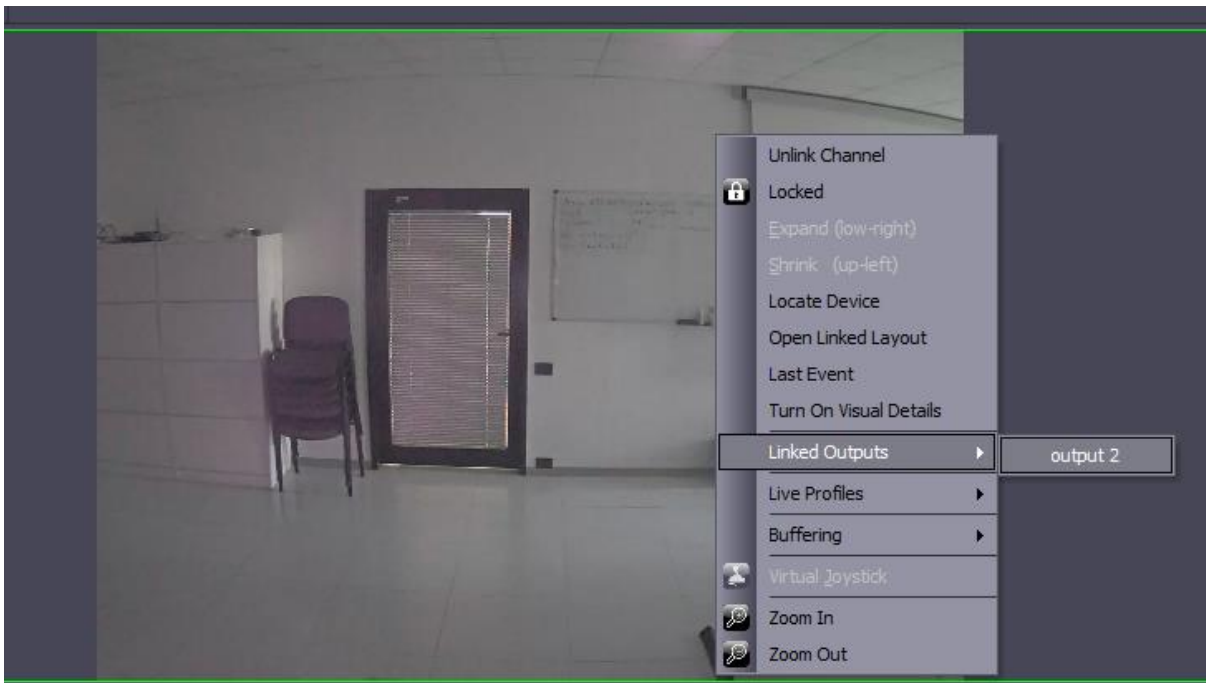
and off when the button is pressed, but will prevent the system from generating false events caused by repeated flashing of artificial light.

Par 9.5 Associated Devices

The "Associated devices" plugin allows you to associate a Peripheral (output) to a Camera.



This function allows you to perform actions directly from the Live environment, such as turning on the lights, by clicking on the camera configured in layout with the right button, then choosing the associated device.



Par 9.6 Output triggered by a Plugin

Outputs can also be triggered by Violated Area or Abandoned/Removed objects events, through a simple step available on the configuration of these Plugins.

The screenshot shows a configuration window with the following sections:

- Basic Settings**
 - Short Event Filter (sec.): 0.5
 - Area (as a % of Detection Zone Area)
 - Minimum: 0
 - Maximum: 90
 - Width (pixel)
 - Minimum: 1
 - Maximum: 3000
 - Height (pixel)
 - Minimum: 1
 - Maximum: 3000
- Advanced Settings**
 - Post-Event Delay (sec.): 0
 - Alarm Duration (sec.): 3
 - Authentication: 3 (with a slider)
 - Pixel Distribution Filter: None
- Output/Peripherals**
 - Beacon (highlighted with a red box)

This function is separately programmable for each video source and for each plugin. When the event starts, the corresponding output relay/device will be triggered.

See the Plugin chapter to find out how to configure this functionality.

This function is used for example to switch on or off another device (such as a warning light) whenever a plugin detects a particular situation.

Par 9.7 Use peripheral devices to create smart actions

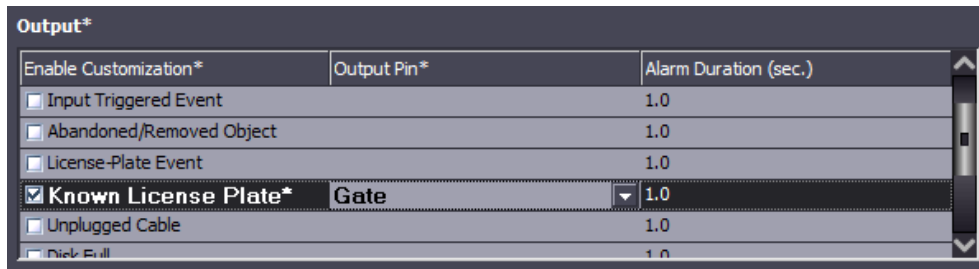
Trigger an output after an event

A smart, but very useful feature, allows to trigger an Output device after an event, from devices and servers. The easiest way to do so is via the Notification panel. Output devices include:

- 1) Artec Everywhere 2.0
- 2) Onboard camera/device outputs (Axis, Bosch, Samsung, Wisenet)
- 3) External I/O (Http/cgi)
- 4) More....

Automatically open a gate/barrier when an authorized license plate is recognized by a LPR camera

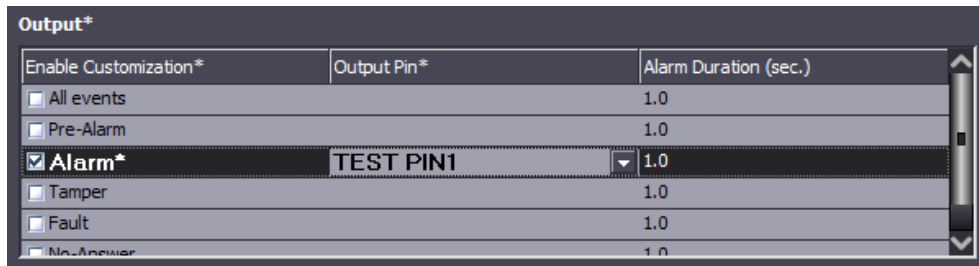
- 1) Choose the LPR camera from the Device List (video channels node)
- 2) Go to the SETUP - > Notification menu
- 3) Go to the Output section in the Event list/actions
- 4) Click on the Known License Plate event
- 5) Choose the Output connected to the gate/barrier
- 6) Click on "Apply" to save the configuration.



| Enable Customization* | Output Pin* | Alarm Duration (sec.) |
|----------------------------------------------------------|-------------|-----------------------|
| <input type="checkbox"/> Input Triggered Event | | 1.0 |
| <input type="checkbox"/> Abandoned/Removed Object | | 1.0 |
| <input type="checkbox"/> License-Plate Event | | 1.0 |
| <input checked="" type="checkbox"/> Known License Plate* | Gate | 1.0 |
| <input type="checkbox"/> Unplugged Cable | | 1.0 |
| <input type="checkbox"/> Disk Full | | 1.0 |

Move the PTZ camera to a predefined position after an event detected by a CIAS microwave barrier

- 1) Choose the CIAS device from the Device List (peripherals node)
- 2) Go to the SETUP - > Notification menu
- 3) Go to the Output section in the Event list/actions
- 4) Click on the desired event that will move the PTZ
- 5) Choose the same External I/O configured to move
- 6) to the right preset (previously configured on the PTZ)
- 7) Click on "Apply" to save the configuration.



| Enable Customization* | Output Pin* | Alarm Duration (sec.) |
|--------------------------------------------|-------------|-----------------------|
| <input type="checkbox"/> All events | | 1.0 |
| <input type="checkbox"/> Pre-Alarm | | 1.0 |
| <input checked="" type="checkbox"/> Alarm* | TEST PIN1 | 1.0 |
| <input type="checkbox"/> Tamper | | 1.0 |
| <input type="checkbox"/> Fault | | 1.0 |
| <input type="checkbox"/> No Answer | | 1.0 |

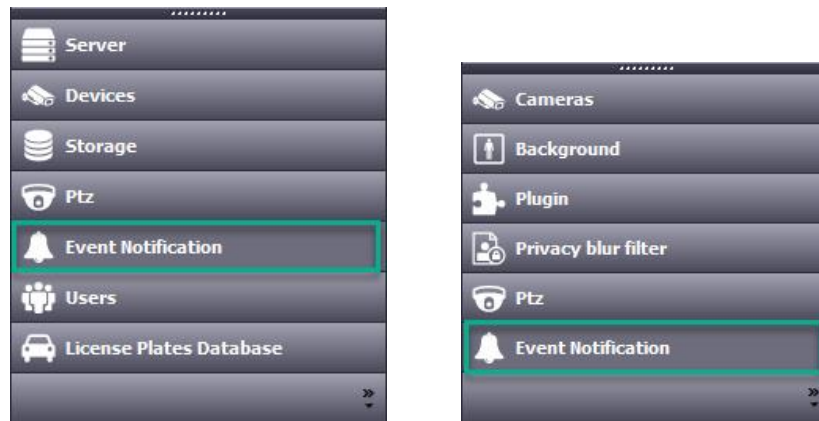
Chapter 10- Event Notification

Each event can be configured in order to notify users in multiple ways, or cause "system actions" such as changing the status of an output.

Par 10.1 Event Notification Methods

In many applications, it is important that the user is immediately informed of events within the system. The notification to the user is one of the possible "system actions" and this section describes the various methods of user notification.

The Artec system allows you to configure audio notifications, Apps (Push notifications for iOS and Android devices running the Artec Mobile App) sms, mail, control of a physical or virtual Output, and define the properties of the event in the Event Log (bookmark, status and default coloring) for every single event. While in the "**Setup Environment**", select the Server or the device, then select "**Event Notifications**".



Server Event (left) and Device Event (right) Notification

Types of event notification

Artec NEXT allows you to configure the notification of Notifications using different methodologies, in common among all devices.

Live Event Log

By selecting this method, the selected event will be notified through the Live Events panel on all connected Artec NEXT clients.

App

By selecting this method, Push Notifications relating to the selected event will be sent to devices on which the app is installed that are connected to the system and on which the receipt of Push Notifications is enabled.

e-mail

By selecting this method, emails relating to the selected event will be sent to the recipient(s) indicated. In addition to textual reporting via email, and based on the type of event, the system can send a snapshot as an attachment.

It is possible to indicate multiple recipients by separating the various email addresses with "," or ";".

Output

By selecting this methodology, when the selected event occurs, the selected Output will be automatically "triggered", be it physical (eg Output 1 Artec Everywhere) or "virtual" (eg External I/O). This type of Notification can be useful for generating post-event actions and creating concatenation logics.

The management of Output notifications can control physical outputs (eg. Bars, lights, etc.) and the pulse can be controlled for a specified time, from 0.1 to N seconds.

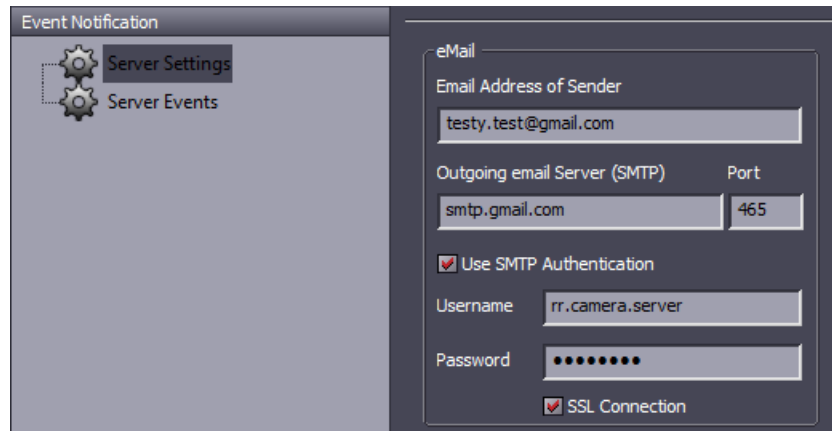
Sounds

By selecting this method, and assigning one of the sounds in the list, an acoustic sound will be played by Arteco NEXT when the event occurs.

Par 10.2 Preliminary email notification Setup

If you wish to allow the Arteco VEMS to send email and sms notification, it is mandatory to predispose the system.

Being in the SETUP environment, select the desired Server and go in its related Event Notification section, where you can set the Server settings configuration.



With regard to sending emails, you can set the sender address and the SMTP server (see the specifications of your provider).

If the provider requires it, you can enter values for SMTP authentication by allowing the use of SSL protocols.

In addition to textual signaling via email, the system sends a snapshot, regardless of any event, to one or more email addresses configured (enter addresses separated by "comma" or "semicolon").

When sending email alerts, ARTECO is configured to limit the rate of sending email to a maximum 1 message every 3 minutes. Any events triggered at a higher frequency than this will be sent after the first three minutes are up.

Par 10.3 Server Event Notification

Having chosen to notify the user of Server events, you can manage the sending of events to the Log event panel, audio notifications, Apps (push notifications), sms, emails and Output control, for each system event.

By selecting "**Server Events**" in the event notification menu, you will be allowed to select which event needs to be notified and how.

Live Event Log

| Send To Client | Bookmark | Status | Colour |
|---------------------------------------------------------|-------------------------------------|---------------|--------|
| <input checked="" type="checkbox"/> All events | <input checked="" type="checkbox"/> | | |
| <input checked="" type="checkbox"/> Software Alarm | <input type="checkbox"/> | | |
| <input checked="" type="checkbox"/> Disks State Alarm | <input checked="" type="checkbox"/> | High priority | |
| <input checked="" type="checkbox"/> Disk Full Alarm | <input type="checkbox"/> | | |
| <input checked="" type="checkbox"/> Hardware change | <input type="checkbox"/> | | |
| <input checked="" type="checkbox"/> License Key Missing | <input type="checkbox"/> | | |

Apps

| Send To Client |
|----------------------------------------------|
| <input type="checkbox"/> All events |
| <input type="checkbox"/> Software Alarm |
| <input type="checkbox"/> Disks State Alarm |
| <input type="checkbox"/> Disk Full Alarm |
| <input type="checkbox"/> Hardware change |
| <input type="checkbox"/> License Key Missing |

eMail

| Enable Customization | Recipient E-Mail |
|------------------------------------------------|---------------------|
| <input checked="" type="checkbox"/> All events | lmongardi@arteco.it |
| <input type="checkbox"/> Software Alarm | |
| <input type="checkbox"/> Disks State Alarm | |
| <input type="checkbox"/> Disk Full Alarm | |
| <input type="checkbox"/> Hardware change | |
| <input type="checkbox"/> License Key Missing | |

SMS

| Enable Customization | Send SMS messages to |
|----------------------------------------------|----------------------|
| <input type="checkbox"/> All events | |
| <input type="checkbox"/> Software Alarm | |
| <input type="checkbox"/> Disks State Alarm | |
| <input type="checkbox"/> Disk Full Alarm | |
| <input type="checkbox"/> Hardware change | |
| <input type="checkbox"/> License Key Missing | |

Output

| Enable Customization | Output Pin | Alarm Duration (sec.) |
|----------------------------------------------|------------|-----------------------|
| <input type="checkbox"/> All events | | 1.0 |
| <input type="checkbox"/> Software Alarm | | 1.0 |
| <input type="checkbox"/> Disks State Alarm | | 1.0 |
| <input type="checkbox"/> Disk Full Alarm | | 1.0 |
| <input type="checkbox"/> Hardware change | | 1.0 |
| <input type="checkbox"/> License Key Missing | | 1.0 |

Sound

| Enable Customization | Sound |
|------------------------------------------------|------------------|
| <input checked="" type="checkbox"/> All events | PC Speaker Alarm |
| <input type="checkbox"/> Software Alarm | PC Speaker Alarm |
| <input type="checkbox"/> Disks State Alarm | PC Speaker Alarm |

it is therefore possible to select and configure these types of system event

- Software Alarm
- Disks State Alarm
- Disk Full Alarm
- Hardware Change
- License Key Missing
- License Server Countdown

Par 10.4 Video channel event notification

Having chosen to Notify the events of the Video Channels, it will be possible to manage the sending of notifications to the Live Event Log audio, app, email and the control of a physical or virtual Output. For the Live Event Log it is possible to define the event properties in the Event Log (preferred, default status and color) for each individual type of event generated by the selected device.

The screenshot displays the 'Live Event Log' configuration window, which is organized into several sections:

- Live Event Log:** A table with columns 'Send To Client', 'Bookmark', 'Status', and 'Colour'. The 'Send To Client' column contains checkboxes for 'All events', 'Violated Area', 'Input Triggered Event', 'Abandoned/Removed Object', 'License-Plate Event', and 'Known License Plate'. The 'Colour' column shows an orange box for 'Violated Area' and black boxes for the others.
- Apps:** A section with a 'Send To Client' header and checkboxes for the same event types as the Live Event Log section.
- eMail:** A section with an 'Enable Customization' header and checkboxes for the same event types. A 'Recipient E-Mail' field is visible to the right.
- Output:** A section with an 'Enable Customization' header and a table with columns 'Output Pin' and 'Alarm Duration (sec.)'. The 'Alarm Duration' column shows a value of 1.0 for all event types.
- Sound:** A section with an 'Enable Customization' header and checkboxes for the same event types. A 'Sound' field is visible to the right.

- Violated Area: event generated by the Violated Area plugin or by Artec VCA* (Extreme only)
- Input triggered event: event generated by alarming input(s) configured on the camera
- Abandoned/removed object: event generated by the plugin itself (only for Active and Extreme)
- License Plate Event: event generated by LPR plug-in, for each camera read by the device
- Known License plate: event generated by LPR plug-in, if a plate present in the List is read
- Unplugged cable: event generated by the failed connection between camera and server
- Disk full: alarm generated when the storage quota established for the camera on the recording path is reached, in correspondence with a failure to self-delete.

- Recording failure: occurs when the registration of the channel on the Arteco Server is interrupted
- Camera error: generic communication error between the Arteco Server and the camera
- Failover: error that occurs when the Failover management procedure fails
- Edge: error that occurs when the "Edge" connection between the Arteco server and the device fails.

Trigger an output after an event

A clever but very useful feature allows you to trigger an output device after an event. The easiest way to do this is via the notification panel. Output devices include:

- Arteco Everywhere
- Integrated I / O on devices (Axis, Bosch, Samsung / Wisenet, Mobotix)
- External I / O (Http / cgi)
- CIAS (anti-intrusion barriers)
- And other....

Automatically open a gate / bar when an authorized plate is recognized by an LPR camera

- 1) Choose LPR camera from device list (video channel node)
- 2) Go to the SETUP menu -> Notification
- 3) Go to the Output section in the event list
- 4) Click on the "Targa in Lista" event
- 5) Choose the output connected to the gate / bar
- 6) Click on "Apply" to save the configuration.

Move the PTZ camera to a predefined position after an Area Hacked event

- 1) Choose the device on which Area Hacked is active from the Device List
- 2) Go to the SETUP menu -> Notifications
- 3) Go to the Output section in the event list
- 4) Select the desired event that will move the PTZ
- 5) Choose the same External I / O configured for the preset (previously configured on the PTZ)
- 6) Click "Apply" to save the configuration.

These are just some of the nearly infinite amounts of linked / smart actions that can be easily configured. If you look deeper, you will probably find what you are looking for.

Par 10.5 Peripheral Event Notifications

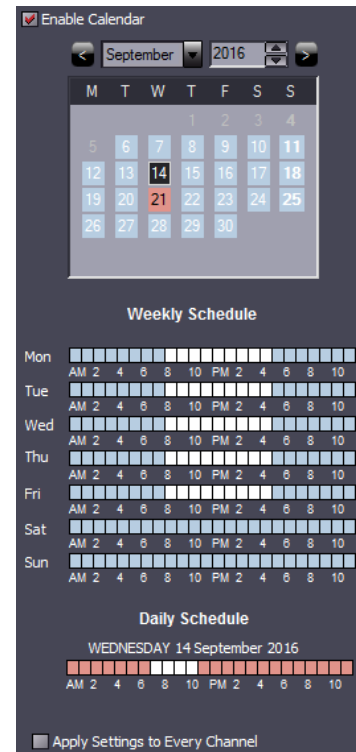
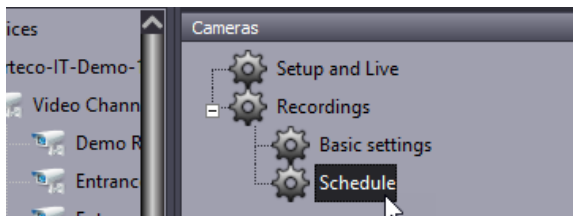
Having chosen to Notify the events of a Device, it will be possible to manage the sending of notifications to the Live Event Log audio, app, email and the control of a physical or virtual Output.

The related events will be available depending on the selected device.

Chapter 11- Scheduling

Plug-ins and continuous recording capabilities can be activated in a scheduled mode. In the configuration window of each camera there is a check box located on the "**Schedule**" configuration menu that activates the calendar. To enable it, check "**Enable Calendar**".

Scheduling allows you to limit the generation of events, or can also activate continuous recording only for the scheduled times, or set a period where the system is capable to notify operators.



The Calendar allows you to activate the functions above with an interval of 1 hour. The programming of the Calendar is based on a weekly cycle that is repeated indefinitely for every day of the year. It is also possible to program exceptions for particular days, which will have their own specific settings.

From the calendar, you can know day by day if there are programmed activations and what type they are. If there is no active function, the number of the day will be white, but if the day is highlighted in blue it means that there is at least one activation. If the day is highlighted in red, it means that there is at least a scheduled activity due to the daily schedule, the current day is highlighted with dark blue background. The days before today are written in gray.

To make a "**Weekly Schedule**" click on the squared boxes near the days and under the hours. The squares with the active function will become blue, click them again to turn them off.

"**Daily Schedule**": allows the programming of an action on a specific day and times. To do so, right-click on a specific day of the calendar, select "**Enable Daily Schedule**". To select the active hours per day, do as explained for the Weekly Schedule.

To delete all the actions of the calendar of a certain function disable the checkbox for "**Enable calendar**".

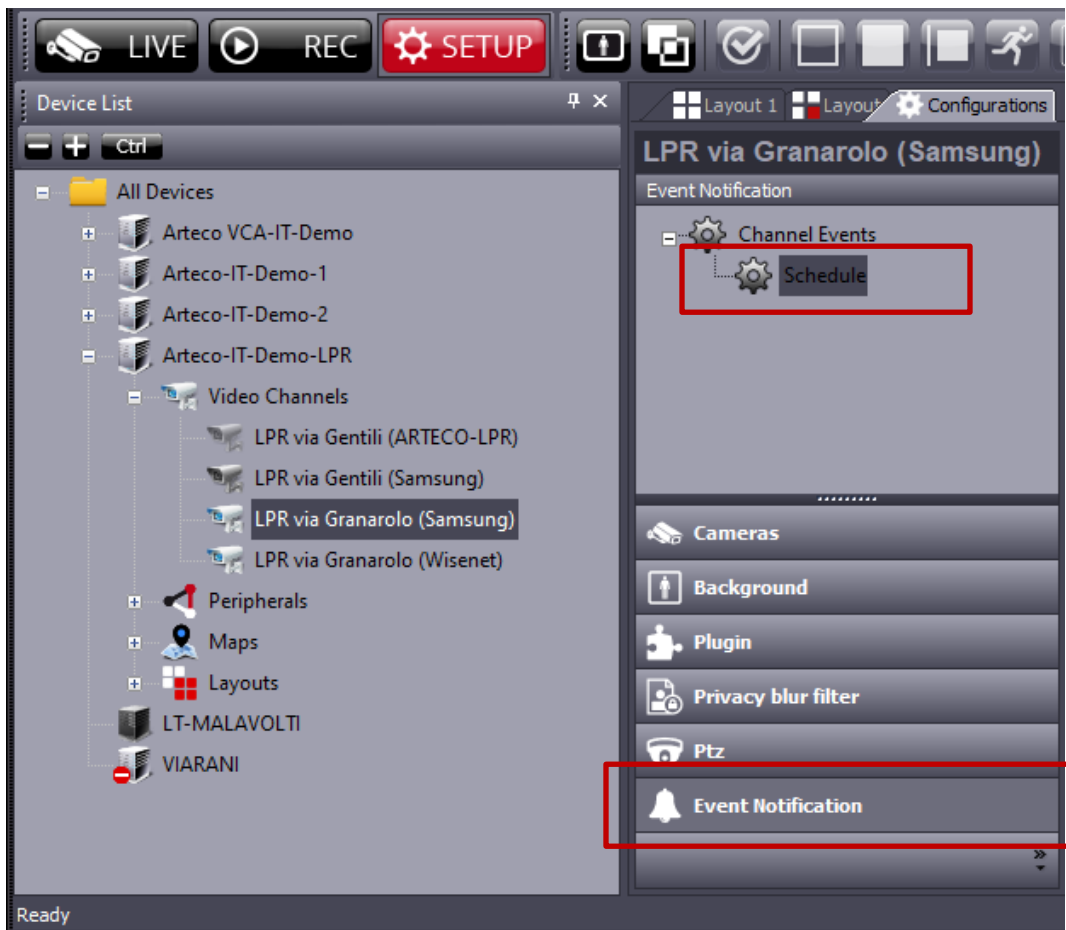
Schedule Notifications

It is possible to define a notification schedule for "Video channels" and "Peripherals" devices, in order to define when to view / receive notifications and when to "silence" them.

IMPORTANT: If notifications are silenced, they will still be recorded in the database and it will be possible to search for them later in the recording environment. It is therefore a matter of muting, which in any case will allow operators and administrators to search for events that had not been notified.

Note

- 1) It will not be possible to set different schedules, or to activate / deactivate calendars for a single notification (log, app, output...). Scheduling the calendar will have an impact on all the notification methodologies provided for the device.
- 2) This notification calendar is valid for every type of camera and peripheral event but not for server events.
- 3) It is possible to use the multiple selection (of devices of the same type) to configure the scheduling of notifications.

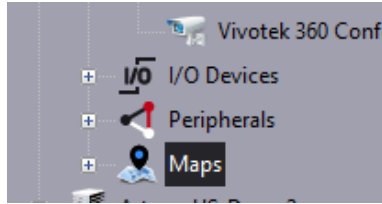


This feature uses the same calendar menu seen in the previous paragraph.

Chapter 12- Maps

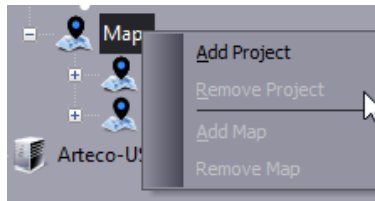
Through this function, it is possible to display any configured device on a dynamic, graphical interface. The main function of maps is to allow the user a quick localization of devices and events, grouped together on a single view, instead of the classic layout view.

To open the maps, click on **"Maps"** via the **"Device List"**.

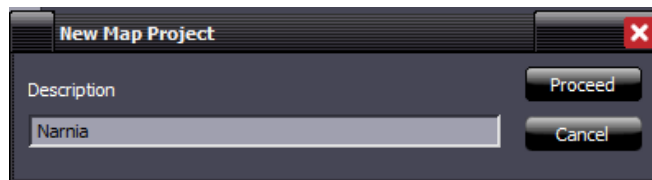


The basic element in which you can enter one or more maps is called a **"Project."**

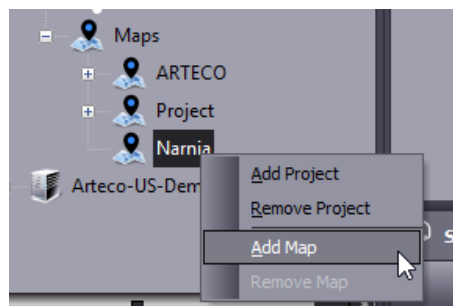
To add a "new project" right-click on the tree element **"Maps"** and a window will open that allows you to add or remove projects.



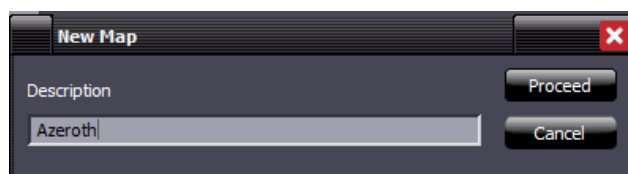
Select **"Add Project"** in order to create and enter a name for the project.



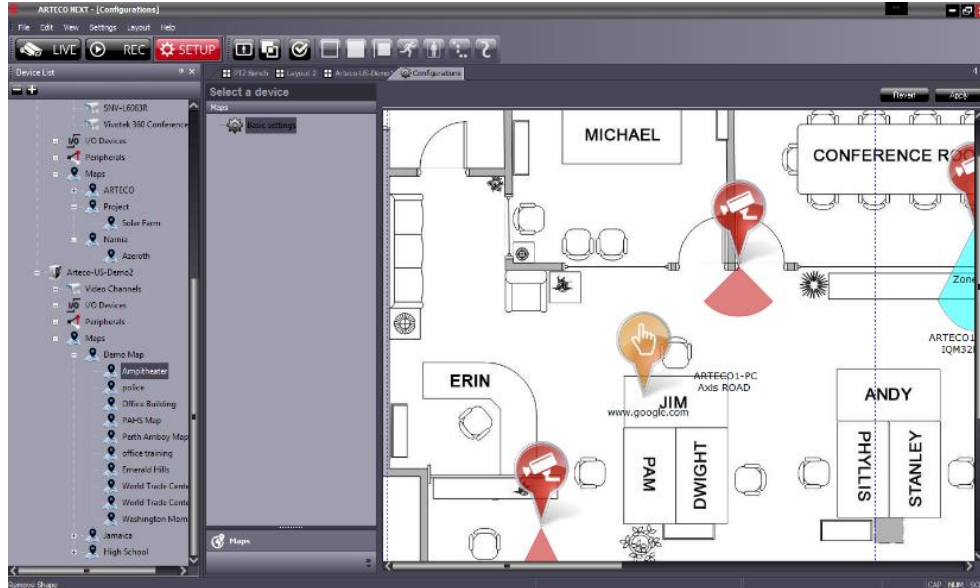
Click on the tree interface to select the project you just created. Then with the right mouse button, open the drop-down menu where you can select **"Add Map"**



Next, create a name for your new map

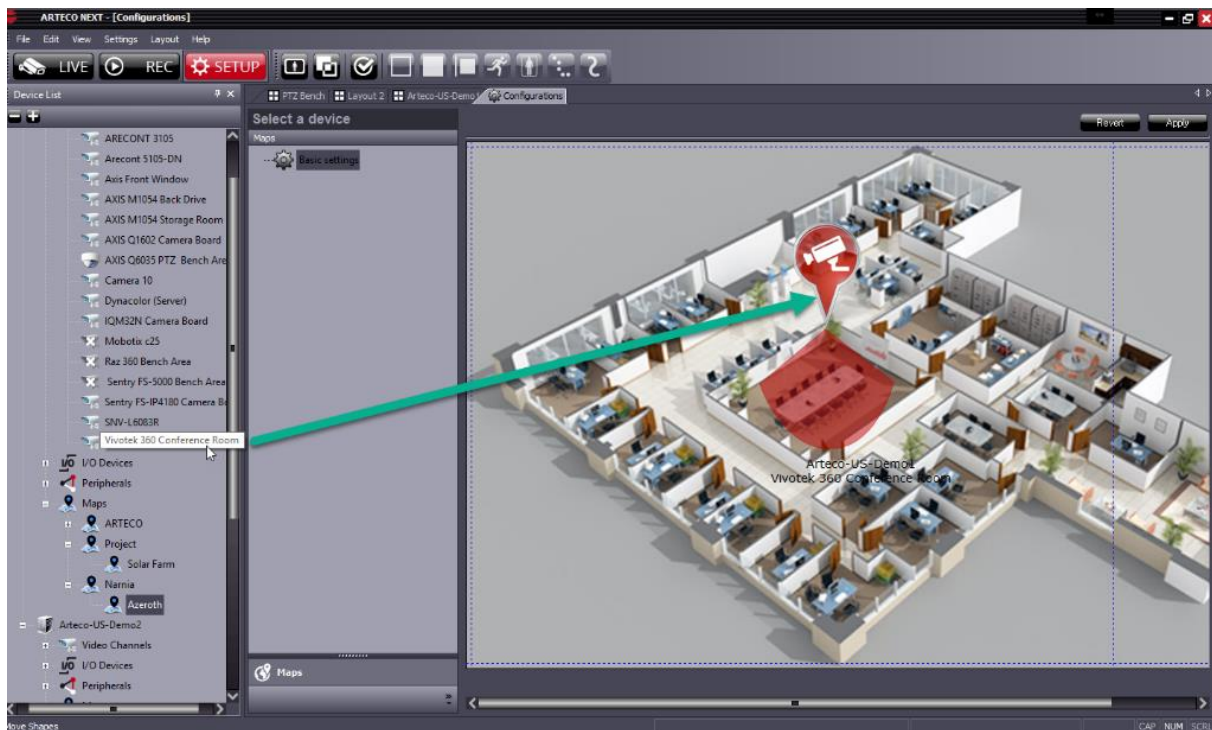


Once you have a map created, right click on the empty "sheet" background on the right and choose **"Change background"** from the dropdown menu. Choose the image you would like to display and click open. The image must be available in JPEG, BMP or GIF format.



Par 12.1 Map Configuration

You can now drag any device onto the map, in relation to the position in which they are installed, via a simple drag & drop.



There are different types of icons displayed on the screen, depending on the type of device connected, which characterize the device:



Indicates a camera (red, variable image)



Indicates a Peripheral (blue, variable image)



Indicates a link to another configured Map



Indicates a link to another configured Server

Par 12.2 Customizing Icons

The icons on the map are customizable elements that characterize a device and its operating functions. To provide you with a greater understanding and mastery of the map mode, each icon is customizable, both in terms of image and label.

By clicking on the button shown in the photo, you will see the option to change the icon representing the object.



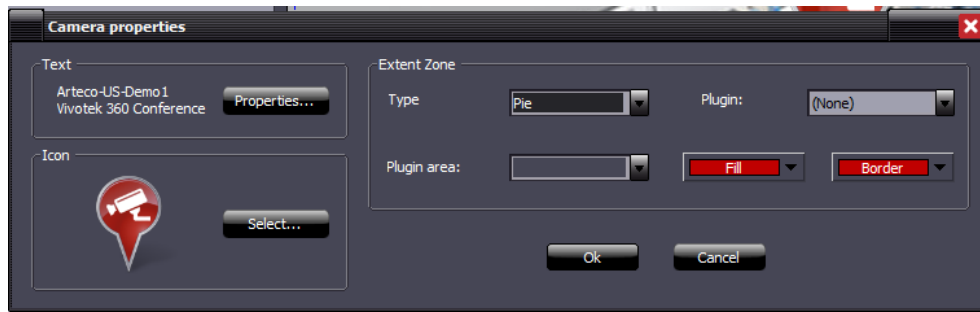
You can change the size of the icon by using the green squares around it.

Par 12.3 Device Properties

Each device is customizable by the user in several aspects, graphical and functional. By right-clicking the icon, you can delete the device or change its properties.

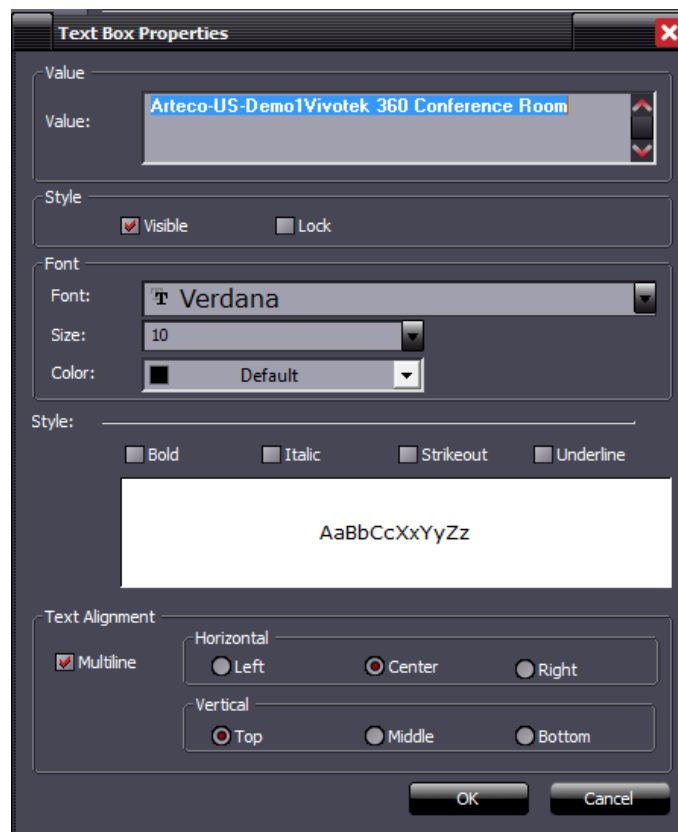


A window will appear that will allow you to set various parameters of the device, as shown.



Par 12.4 Devices Properties - Text

By clicking on the "Text" **Properties** button you can change the label that will be assigned to the device. There are many adjustable parameters, including the possibility to change the font and color of the label.

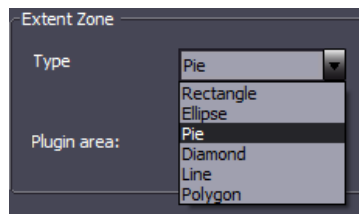


Par 12.5 Device Properties (Coverage)

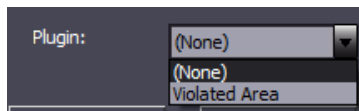
From this section, you can change the coverage areas and assign them to any plugin enabled on the device itself.

There are various sub-sections:

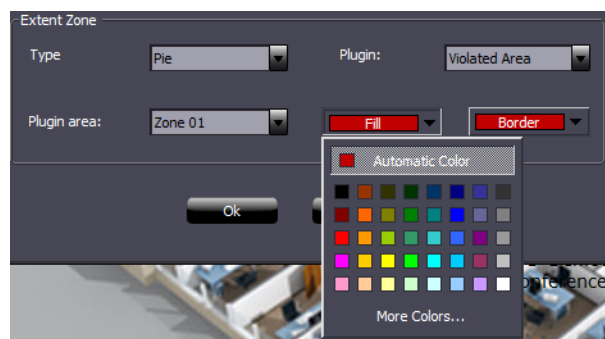
Type: By opening the drop-down menu of this sub-section, you have the ability to choose the shape of the area that the device "covers" on the map, the 6 options are: rectangle, ellipse, pie, diamond, line or polygon.



Plugin: By opening the drop-down menu of this sub-section, you have the option to choose any plugin which will trigger the event display on the map. The menu will automatically populate the plugin active on the device. For each selected plugin, it is possible to select the plugin area.



Selecting the fill and border will give you a specific color for the coverage area shown.



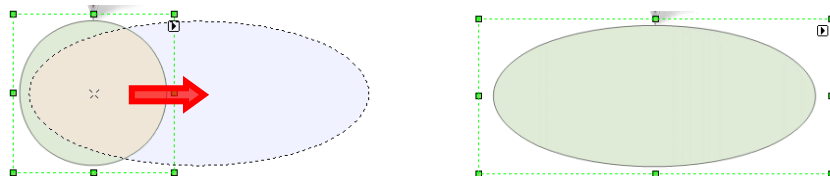
Par 12.6 Changing coverage areas

You can modify each coverage area on the map, to show an accurate representation of the position and the "scope" of the device.

Video devices, by default, appear on the map with a footprint area of a rectangular shape, as we have seen in previous sections, this can be changed.

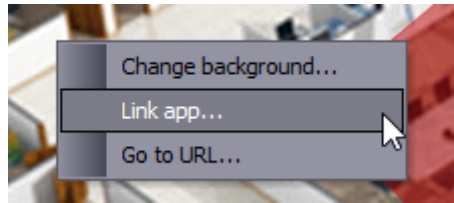
Regardless of the shape selected, the drawing mechanism of the shape is the same.

To change the shape of the object hold left click and move the mouse, starting from one of the green squares on the sides, and move until obtaining the desired appearance.



Par 12.7 Other Map Icons

Along with being able to configure and place assets on an Arteco Server Map, you can also place shortcuts that allow you to directly open web pages and applications installed on the client PC. To do this, simply right-click on an empty spot on the map and select either "**Link app**" for applications or "**Go to URL**" for links to webpages



Selecting "**Link app**" will open a File Explorer window and allow you to choose an executable file to attach as an icon

If you select "**Go to URL**", a window with a URL field will appear allowing you to specify a webpage to navigate to with the icon. The two are shown below respectively:



Indicates an Application is linked to this icon



Indicates a Web Page is linked to this icon

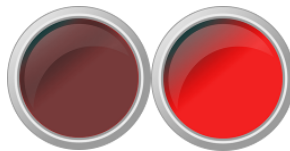
Par 12.8 Event Management on Maps

The icons on the map are "shortcuts".

Anytime an event happens on a device placed on the map, its icon will blink. To see the event it is very easy, simply double-click on the icon in order to see the event details in the event properties panel.

Par 12.9 Device Input Management

Input icons on the map are representative of a state of input for their associated devices.



The icon on the screen will change states between OFF(left) and ON(right) depending on the status of the device or the action put on it by the user.

Par 12.10 Device Output Management

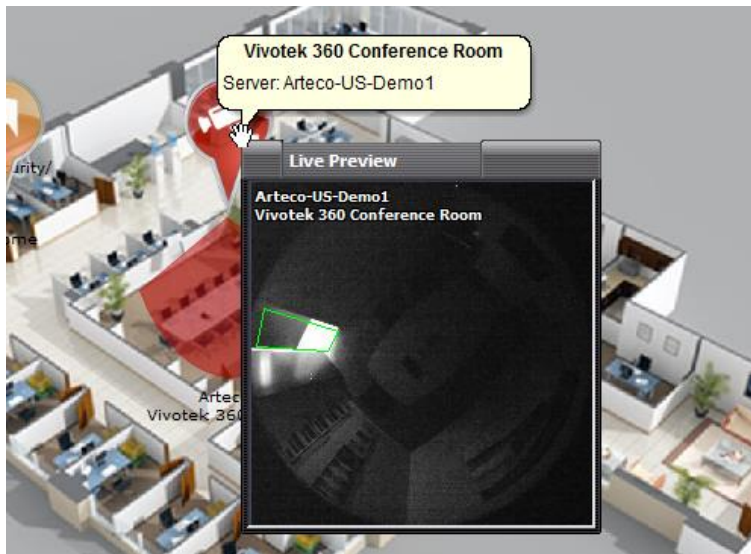
The output icons in Maps are "shortcuts" that can be used to trigger outputs on devices.



The icon on the screen will change states between OFF(left) and ON(right) depending on the status of the device or the action put on it by the user.

Par 12.11 Live Video Thumbnails

While viewing a live map you can preview video or web devices by placing the cursor over an icon attached to the desired device. A "Live Preview" window will appear with a live image of the source for this icon, as seen in the image below.



Just like in the layout environment, you can drag your cursor to the bottom of the Live Preview window to use the "**Instant Player**".

Chapter 13 Recordings Search

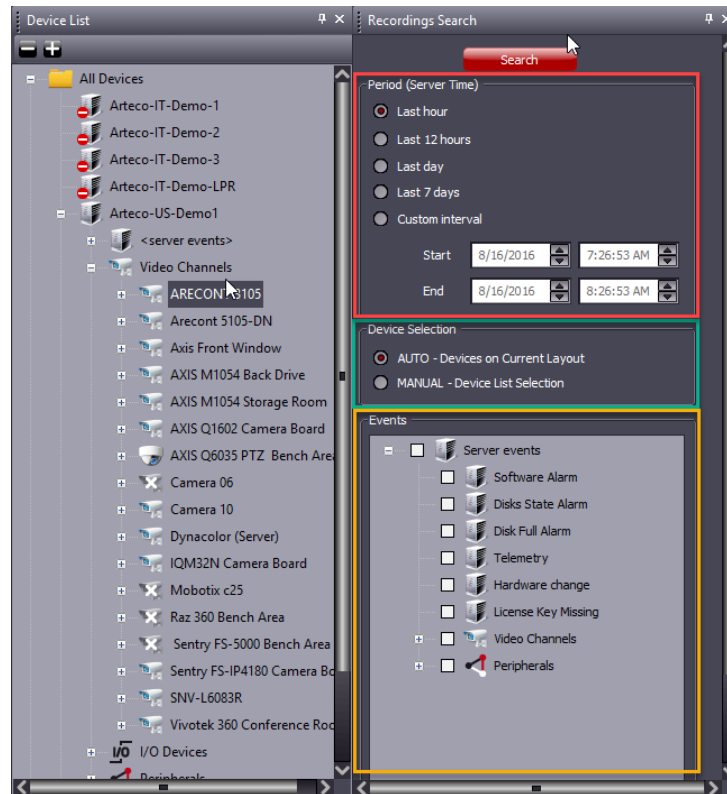
To see or review one or more records, click on the “**Recordings Environment**” button



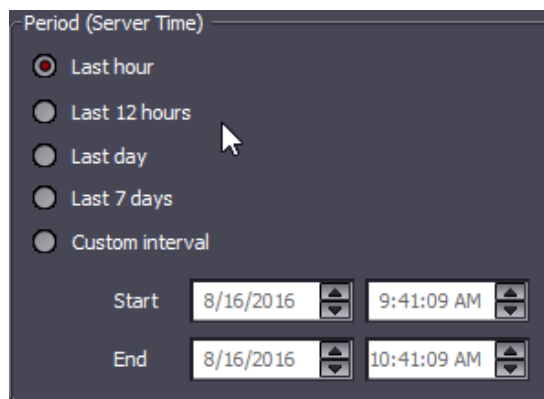
in the Environments Panel of ARTECO Next, seen right.

This will open a screen composed of elements useful in searching and reviewing recordings, by default it is on the right of the screen (but you can move it), which will allow you to perform two different search types: **Automatic** or **Manual**.

To determine the type of search to perform, select the appropriate pane in the lower part of the menu.

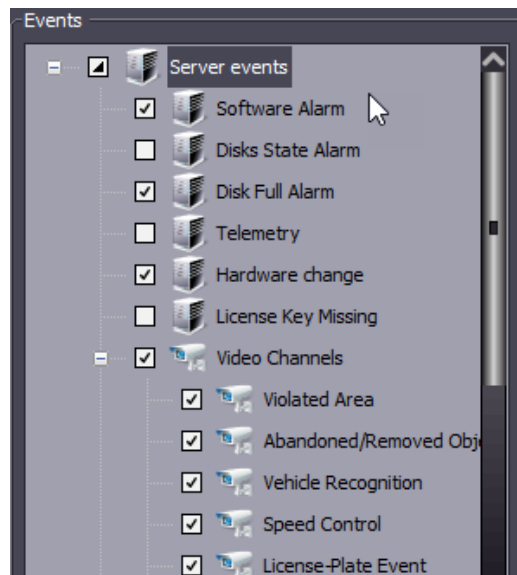


For both “**Automatic**” and “**Manual**” recordings search, you are able to specify a time parameter as a reference point on when to search for recordings and events. You have available preset time parameters such as “**Last Hour**” or “**Last 7 days**”, or you can define a custom time interval for more precision.



Alternatively, you are also able to search for recorded video based on type of event. A tree of all the available ARTECO System Events is at the bottom of the “**Recordings Search**” pane, seen in the image on the next screen. These parameters include all of the event types for the server itself, video analytics and peripheral devices. Here you can “check” the boxes for the types of events you want to see for the

devices selected. Again, you can select devices to search for manually or automatically, which is explained in the next paragraphs.



Par 13.1 Automatic Search

When using **“Automatic Search”**, you are specifying all the sources on the current layout that you see in the **“Live Environment”** and also by default in the **“Recordings Environment”** on the right. Any other sources on the server that are not in the current layout will not be searched for recordings. You can choose which layout to use for a search by selecting its tab above the layout window.

“Automatic Search” is useful for when you want to do an immediate search of what you are currently viewing in the **“Live Environment”**.

Regardless of the number of devices and to what servers they belong, the Search operation will pull video on every device on the layout.

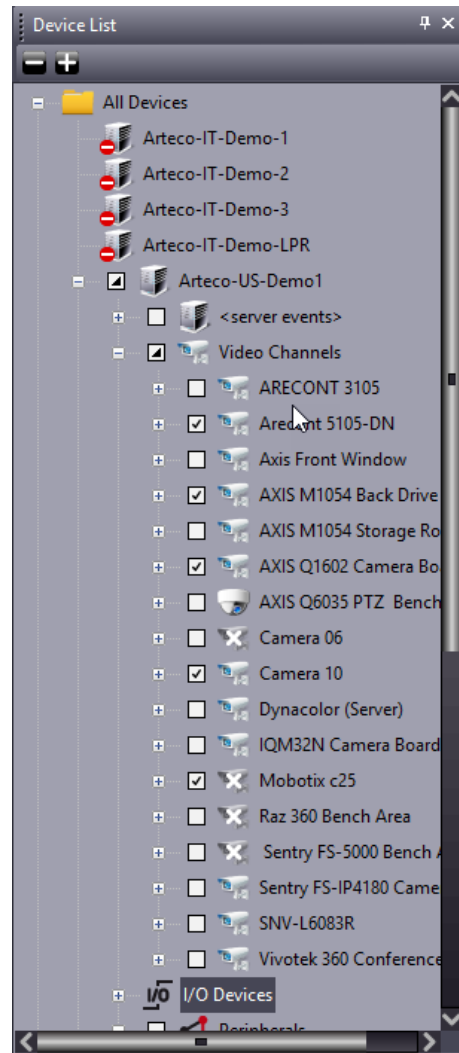
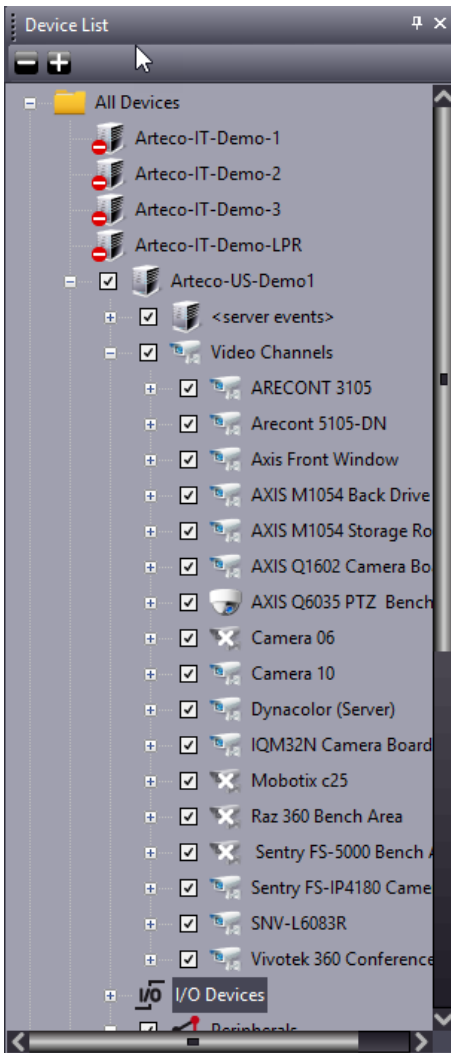
Par 13.2 Manual Search

By using **“Manual Search”** you are able to define which devices and on which servers you will search recordings for. When you click the circle next to **“MANUAL – Device List Selection”**, you will see the **“Device List”** populate check boxes next to every item in the tree. This allows you to check each device you would like to pull up recordings for.

If you simply check the box next to a Server, it will include the records for **ALL server events, channels and peripherals**. If you would like to choose only specific devices on a server, expand the tree and check each individual device to include.

Below are two examples of using Manual Search to specify devices to search.

- The first example on the left has the entire server Arteco-US-Demo1 selected, which consequently has all devices on that server selected.
- The second one has the server tree expanded with individual devices selected throughout the tree. Notice how the check box for the Server looks a little different showing that only some devices under Arteco-US-Demo1 are checked.

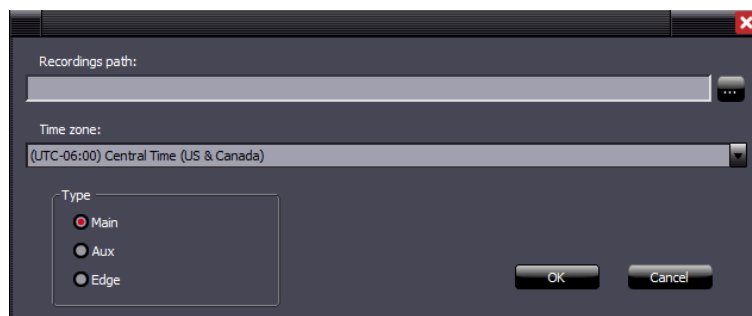


Par 13.3 Native Player

Native Player allows access to Arteco recordings without necessarily being "connected" to the reference Server. Selecting the relevant entry gives you the ability to search and browse the recordings in Native, Edge, or Auxiliary format.

The screen below will pop up, which will allow the user to select the correct path of the recordings, the correct time zone, and the type of recorded video.

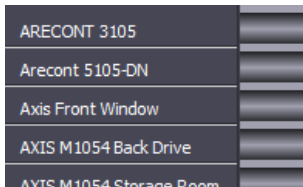
The format of the recorded video on the paths is: "X:\RECORDINGS\yyyy\mm\dd\chnumber\



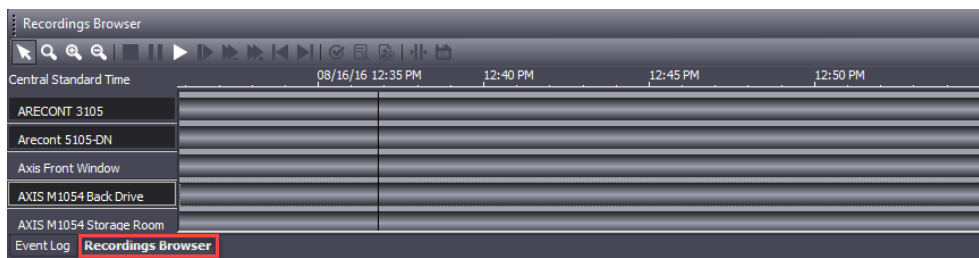
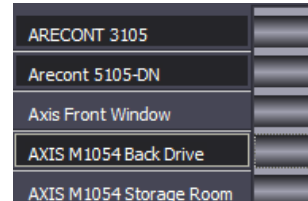
Par 13.4 Playback

After clicking the **Search** button at the top of the **Recordings Search** panel, you will see the recordings populate in the **Recordings Browser** as seen below. The vertical black bar indicates the time in which playback will start if you click the Play button. It can be moved by holding down the left mouse button and moving left or right to the desired point in time. Also by using the mouse's scroll button, you are able to "zoom" in and out for more temporal precision as you view the videos. You can also view multiple sources at one time by clicking each one to activate them. Any selected device will turn black as seen in the pictures below.

No Sources selected



Three Sources selected



The **Recordings Browser** is an advanced tool that allows you manage the exporting process for one or more channels. It is different from the **Event Log** (which we will discuss later) in that all device recordings for the specified timeframe show up and are exportable in time slices via the Player Toolbar

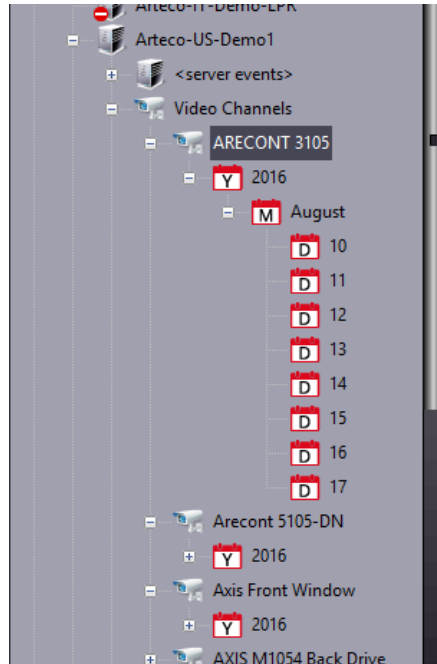


In order to see recordings of individual events, click on the tab labeled **Event Log** next to **Recordings Browser**. You will see the recordings browser pane change to the event log.

| Bookmark | Server Name | Device | Event Description | Event Time | Processed | Username | Acknowledgement Time |
|----------|-----------------|-------------------------|-------------------------------------|-------------------------|-----------|----------|-------------------------|
| | Arteco-US-Demo1 | Axis Front Window | Violated Area, Front Door Violation | 07:40:00 AM 17 Aug 2016 | ✓ | bland | 08:42:07 AM 17 Aug 2016 |
| | Arteco-US-Demo1 | Axis Front Window | Violated Area, Front Door Violation | 07:43:43 AM 17 Aug 2016 | | | |
| | Arteco-US-Demo1 | Arecont 5105-DN | Violated Area, Zone 01 | 07:44:02 AM 17 Aug 2016 | ✓ | bland | 08:41:56 AM 17 Aug 2016 |
| | Arteco-US-Demo1 | AXIS Q1602 Camera Board | Violated Area, Zone 01 | 07:44:18 AM 17 Aug 2016 | ✓ | bland | 08:41:59 AM 17 Aug 2016 |

Par 13.5 Event-based Manual Search

Another way to look at events for specific days on specific sources would be to simply expand the tree in the "Device List" and search for the device you would like to see events for, then expanding further down to Year>Month>Day and choose the day you would like to see events for.



When viewing events in the "Event Log", you can click on the various tabs to arrange your search results in ascending or descending order based on the following columnized parameters: "Bookmark", "Server Name", "Device", "Event Description", "Event Time", whether the event was "Processed" and by whom ("Username") and also the "Acknowledgement Time" of the event and its "Status". You can also see "Notes" about it.

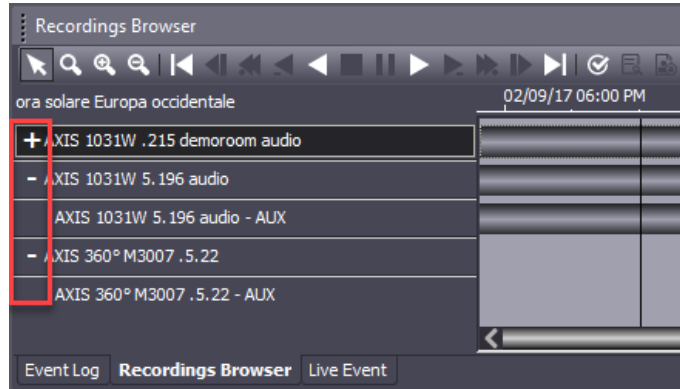
Clicking on one of the events will start playback of the recorded event.

If you switch to a layout with more than one grid space, you can drag the events in the "Event Log" into the spaces to see the Live image of the camera. By clicking on the event in the Log you see the recorded video. **The difference between live and recorded video is immediately identifiable thanks to the time-stamp.**



Par 13.6 Accessing Auxillary Recordings

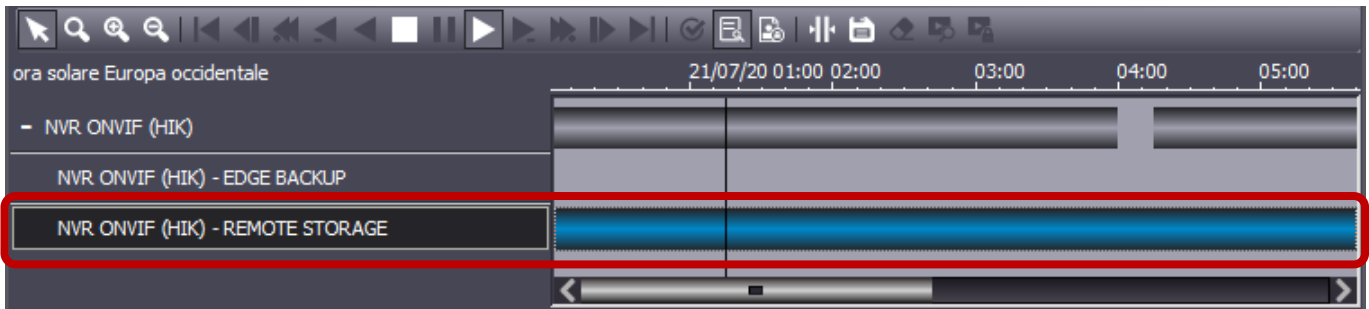
Once you've made the search you want, you'll see a "+" symbol next to the channel name box next to the **"Recordings Browser"** menu, which will show the auxiliary recording of the camera.



This will allow access to the recordings, both for single channel playback and duplication. Unlike the main path recordings, only a few player buttons will be present, as the Auxiliary path can not "mark" the events itself.


Par 13.7 Access to EDGE Recordings

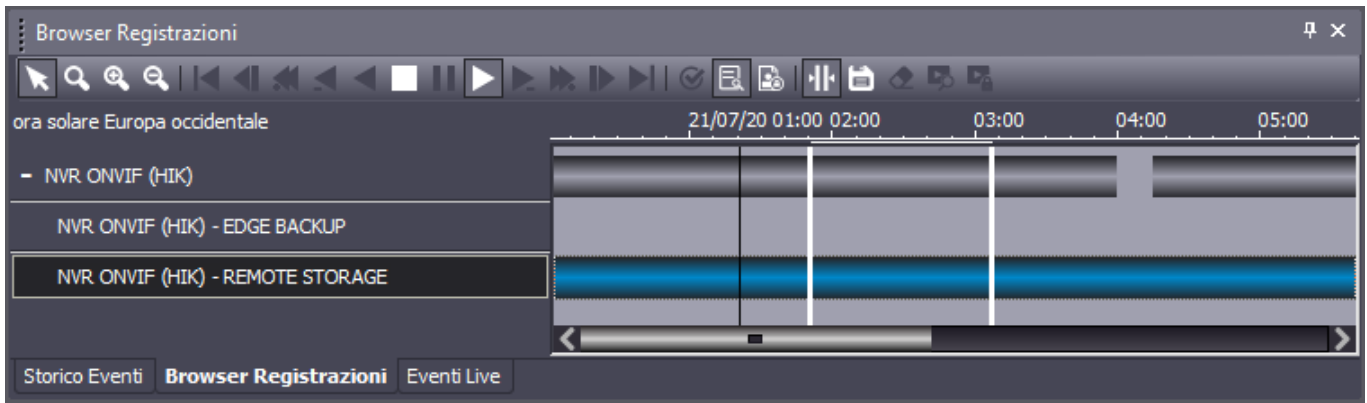
Having configured an Onvif channel and enabled the Edge Recordings it will be possible to access the remote recordings, marked as REMOTE STORAGE and highlighted by a blue band, and then "import" them into the Storage configured for the Arteco Server, marked as EDGE BACKUP.




PLEASE NOTE: Unlike the recordings on the main path, only some buttons of the player will be present, specifically Play and Stop, as the REMOTE STORAGE path does not provide all the possibilities offered by the Arteco system, given that the archive resides on a third party system.

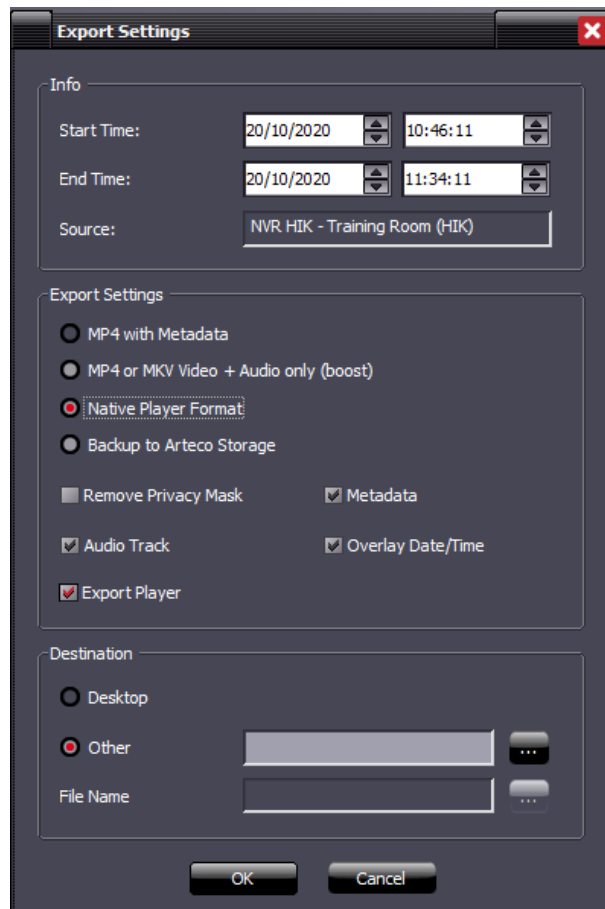
It is possible to export these recorded video, so to save them on the client station, as well as to consolidate them in the ARTECO SERVER storage archive and then make them accessible as EDGE BACKUP.

First of all, you need to define the channel and the time interval we want to export, to do this click first on the channel, then on the icon . Two vertical white bands will appear as shown below.

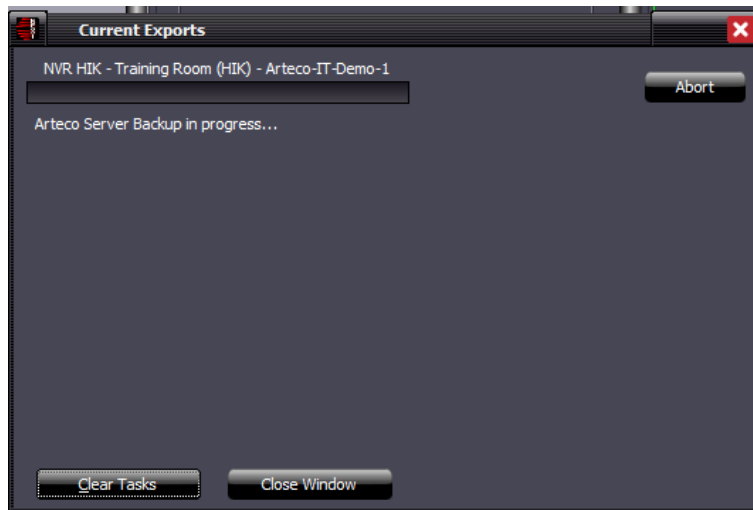


Passing near these bars, the mouse cursor changes its status, allowing you to change the portion of the video you want to export.

Once you have selected the channel and the range to export, click on the icon . A screen will appear that will allow you to consolidate and configure the export.

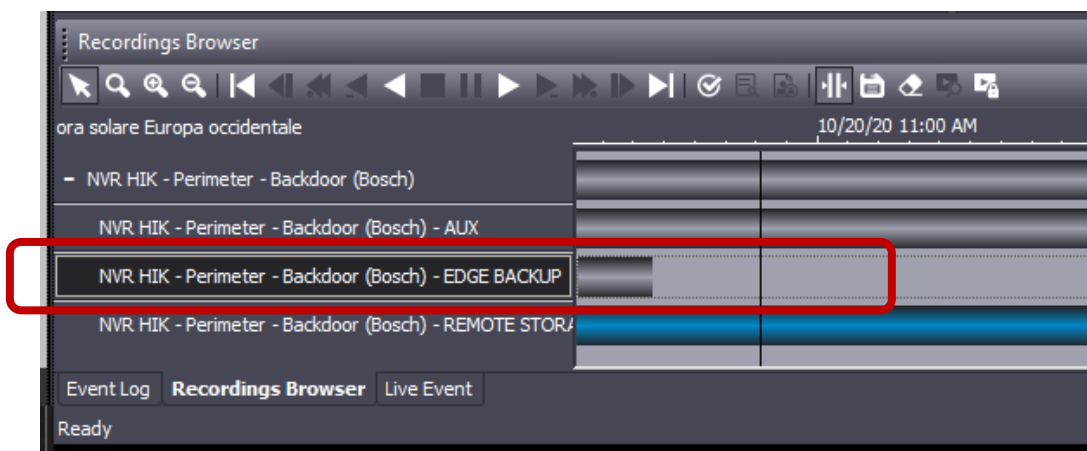


Selecting the item "Backup to Arteco Storage" will start the procedure that will allow you to "import" the recordings on the remote device to the Arteco Server archive. The import procedure may take some time to start, partly depending on the connection speed between the Remote archive and the Arteco Server, partly due to the Arteco Server's need to correctly index the records on its archive.



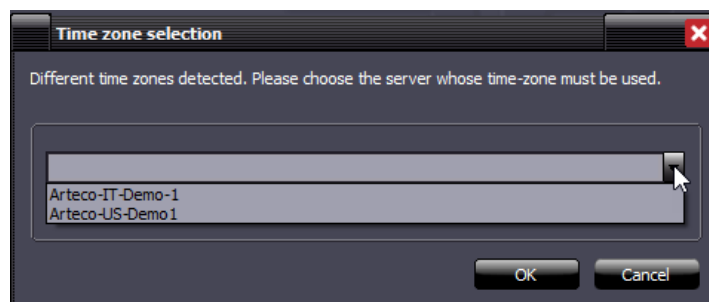
Once the export procedure is complete, it will be possible to access the consolidated recordings, called EDGE BACKUP, through the Recordings Browser.

EDGE BACKUP: access to the “consolidated” recordings is considered at the same level as those on the Arteco Storage, it will therefore be possible to view all the commands available to access the video, as well as to make new exports.



Par 13.8 Playback Recordings on Multiple Servers

You can also search for recordings across multiple servers that are in different time zones. When manually searching across multiple servers you will see the “**Time zone selection**” box pop up prompting you to choose which Server’s time zone to use as a reference, for playing back video.



Par 13.9 Smart Search

The Smart Search feature consists in being able to search and view events in a portion of recorded video, within a defined area.

The Smart Search is based on the Arteco video analysis (Violated Area and Removed/Abandoned Object and Arteco VCA), whose information is stored in the main recording stream. Smart Search can therefore be activated only for those channels in which the Arteco video analysis is active in the selected period.

The events that the Smart Search can identify are the same as those generated by the "Violated Area" and "Abandoned / Removed Object" plugin: the search result will show a subset of the events saved in the DB, based on the area drawn.

It is therefore important to use the plugin filters well in order to find the most interesting events.

Some notes regarding the configuration of the video analysis and the use of Smart Search:

- The greater the surface of the image covered by the analysis area, the greater the possibility of obtaining results with the definition of any Smart Search area.
 - If the analysis area covers the whole image I will get valid Smart results whatever the rectangle used.
 - Vice-versa, if the analysis area covers only half of the image I will get Smart results only if the Smart rectangle covers at least part of the analysis.

This second scenario is useful in case it is interesting to be able to analyze the Smart function only a portion of the image: in this case it does not make sense to perform the analysis on the whole image, indeed it is more correct to do it only on the area of interest. Think of a fence to be guarded near a motorway continuously traveled by vehicles. In this case it is useful to define a sensitive area of Motion only on the fence because this helps to reduce the number of events generated and written in the DB. It is also true that, in this way, if tomorrow I wanted to apply the Smart Search to the motorway area I would not get any result.

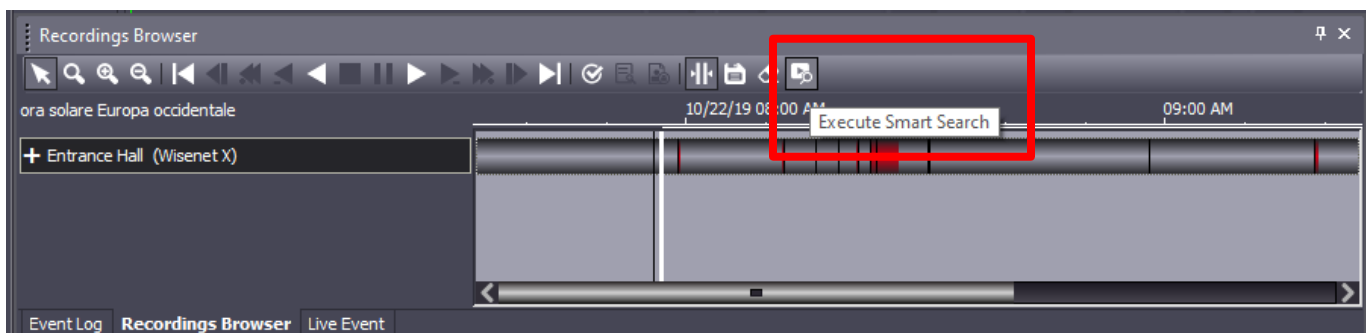
Note: it can happen that expanding the sensitive area of motion can be many events generated by the plugins. To avoid this inconvenience it is advisable to disable notifications of events generated by the plugins.

Smart Search can only be performed on one camera at a time.

It will therefore be necessary to position yourself in the REC environment and search for recordings based on the time frame required.

1. Select a camera
2. Select the time interval (using time bars, as for export)

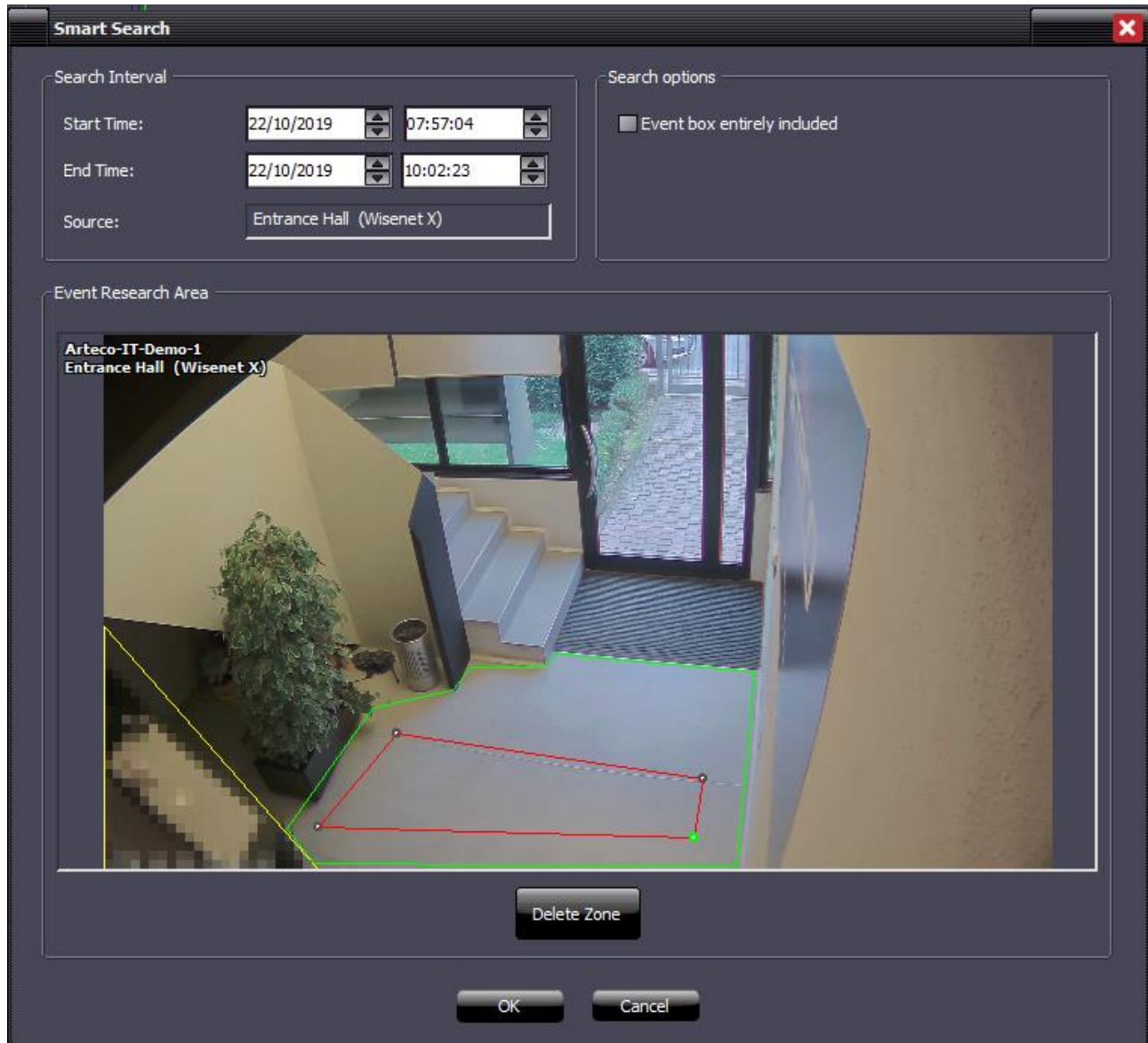
3. Click on the Smart Search button



A screen will open that will allow the user to set an area to search, as shown below.

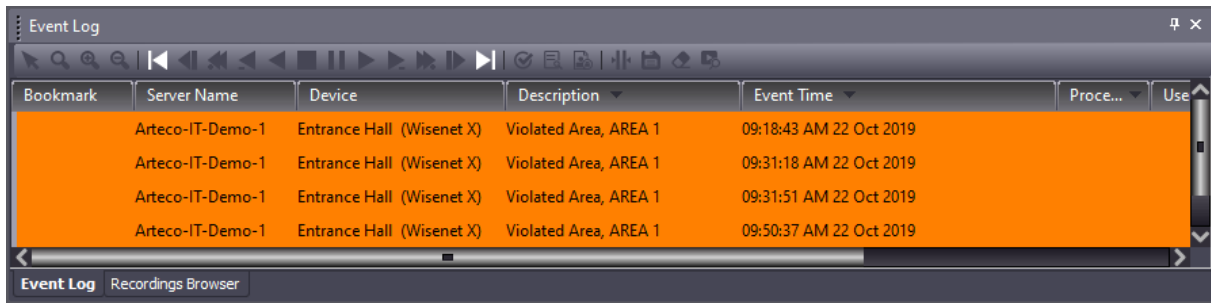
The possibilities include:

1. Enter the date and time of the start and end of the Smart Search search.
2. Draw the "Smart Search" search area inside the box. The user can then activate a "sub-area" within which the Smart Search analysis will be performed. See image, highlighted in red.
3. By means of the "Event Box entirely included" check-box, you can instead indicate that you want to search the entire analysis area configured on the channel.
4. In case of error, it is possible to delete the area drawn using the "Delete Zone" button.



Click OK once the Smart Search Area has been defined. A progress bar appears identifying the time required for the search.

The results of the research will populate the "Event Log" panel. You will need to double click on the desired event to start recording playback.



| Bookmark | Server Name | Device | Description | Event Time | Process |
|----------|------------------|---------------------------|-----------------------|-------------------------|---------|
| | Arteco-IT-Demo-1 | Entrance Hall (Wisenet X) | Violated Area, AREA 1 | 09:18:43 AM 22 Oct 2019 | |
| | Arteco-IT-Demo-1 | Entrance Hall (Wisenet X) | Violated Area, AREA 1 | 09:31:18 AM 22 Oct 2019 | |
| | Arteco-IT-Demo-1 | Entrance Hall (Wisenet X) | Violated Area, AREA 1 | 09:31:51 AM 22 Oct 2019 | |
| | Arteco-IT-Demo-1 | Entrance Hall (Wisenet X) | Violated Area, AREA 1 | 09:50:37 AM 22 Oct 2019 | |

If it does not appear in the foreground, this panel must be selected to be displayed.

Par 13.10 Forensics Search

The Forensics Search feature consists in being able to search, filter and view specific events in a portion of recorded video, within a defined area.

The Forensics Search is based on Artec VCA plug-ins, therefore available only with Artec Extreme.

Forensics Search can only be performed on one camera at a time.

It will therefore be necessary to position yourself in the REC environment and search for recordings based on the time frame required.

1. Select a camera
2. Select the time interval (using time bars, as for export)



3. Click on the Smart Search button

A screen will open that will allow the user to set an area to search, as shown below.

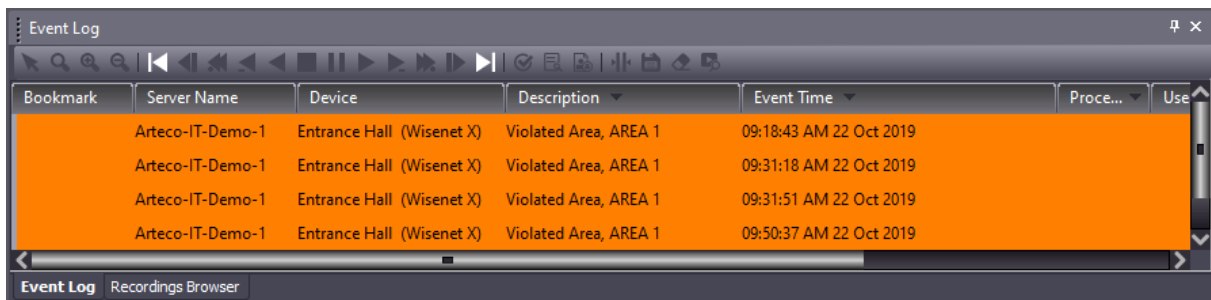
The possibilities include:

4. Enter the date and time of the start and end of the Smart Search search.
5. Draw the "Smart Search" search area inside the box. The user can then activate a "sub-area" within which the analysis will be performed.
6. By means of the "Event Box entirely included" check-box, you can instead indicate that you want to search the entire analysis area configured on the channel.
7. In case of error, it is possible to delete the area drawn using the "Delete Zone" button.
8. Check the box "Event parameters" and type the object or the characteristic you wish to find, based on the rule activated on Artec VCA for that channel. For example "person".



Click OK once the parameters have been defined. A progress bar appears identifying the time required for the search.

The results of the research will populate the "Event Log" panel. You will need to double click on the desired event to start recording playback.



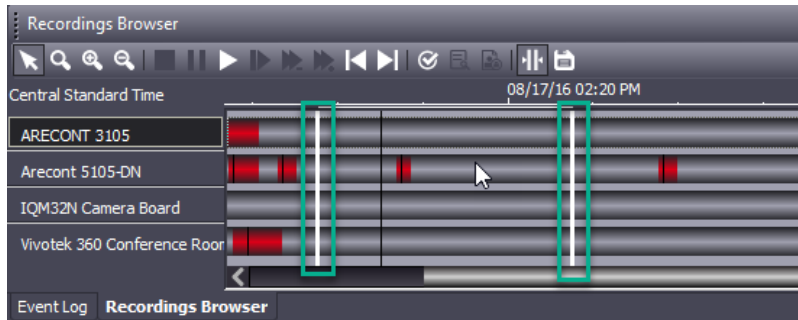
If it does not appear in the foreground, this panel must be selected to be displayed.



Par 13.11 Exporting Recordings


Through the ARTECO Next Software you can export videos and convert them into video standards that are compatible with most players.

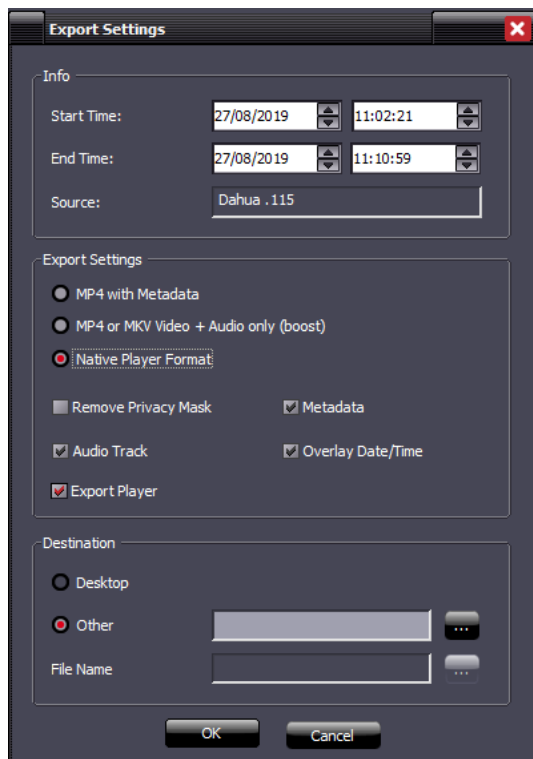
We can easily export any recording of any camera on the server to which we are connected via a LAN or via the Internet (the speed of export depends on the speed of your connection).

First, you must define the camera and the amount of time we want to export, to do this click on the channel of reference, then on the **"Select area to export"** button seen right. You will see two vertical white bands as shown in the picture below



Hovering the cursor over these bars changes its state from  to , allowing you to change the slice of the movie that we want to export. It is only possible to export one channel at a time.

Once you have selected the channel and the range that we want to export, click on the  button. A screen will appear that allows you to configure the export.



The choices to be made before the actual export are:

- 1) Confirm, or reset start/end date and time of export
- 2) Choose whether to export in:
 - **MP4 with metadata** (eg bounding box): viewable by common mediaplayers
 - **MP4 or MKV Video + Audio only (boost)**: Completes Export much faster, viewable by common mediaplayer (not watermarked). Available depending on user type.
 - **Native Player Format**: Displayed only by ARTECO NEXT / Native Player

Depending on the format chosen, it is possible to:

- ✓ Hide Privacy Areas (Available ONLY for System Administrators)
- ✓ Include Metadata
- ✓ Include Date / Time overlay
- ✓ Include audio track

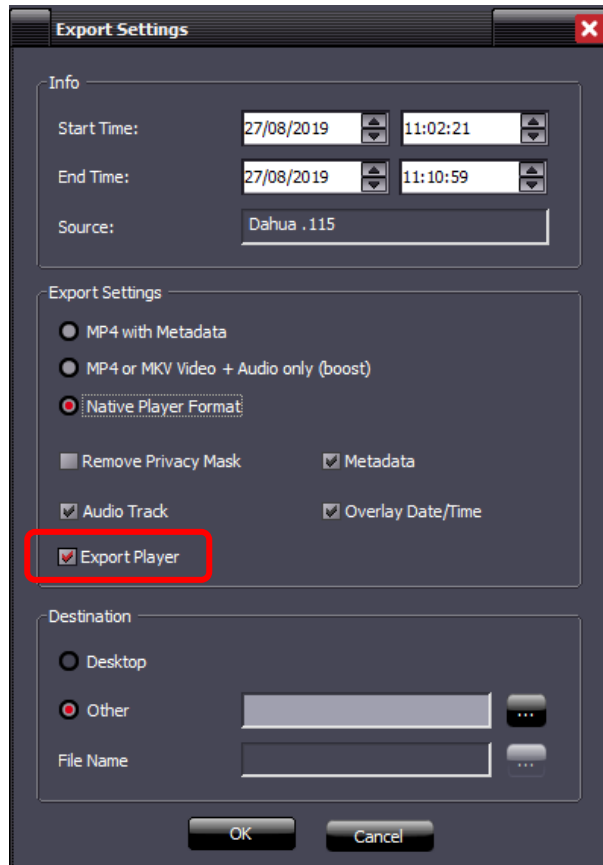
Finally, it is necessary to define the File Destination and Filename.

By selecting **"Other"** in the Destination item, a screen will appear that will allow you to choose the name and path to save the file, otherwise the file will be saved on the Desktop.

***NOTE: Do NOT export video on the server. Only export video via client machines, so as not to interfere with the default recording paths for Arteco Server.**

Par 13.12 NEXT PORTABLE

At the time of exportation, you can also decide to export NEXT Portable, to open the exported recordings in Native format.



An "Export" folder will be created, with the registrations inside and the connection to the client.

The client starts in this mode **only if opened by the link in the Export folder**, since it contains the "-external-player" parameter inside it. At startup, the NEXT Portable will prompt you directly on the Recordings page, find the automatically exported recordings and also search for them in the period from the beginning of the oldest recordings to the end of the most recent recording.

From now on, even exporting only the recordings, they will be encapsulated in two named folders \Export\recordings.

Par 13.13 Multiple export

It is possible to export multiple recorded videos from different servers or in a different time than those previously set.

To do this, simply repeat for another time slot and another device, the same procedure explained above. The "**Current Exports**" window will show the progress of the ongoing processes.

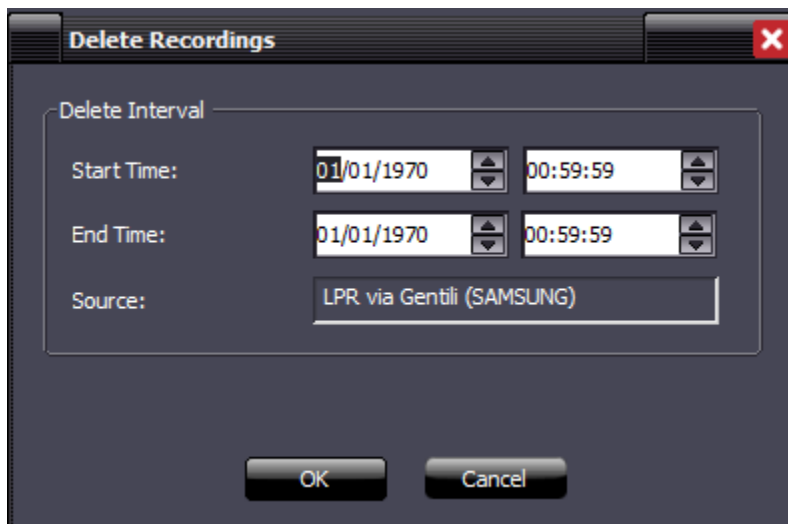


Par 13.14 Manual Recordings Delete

Using the button highlighted in the image below, the system administrator is allowed to delete a portion of recordings based on a custom time-lapse arc.



A window will appear, allowing to define the exact start and end time of the movie deletion, and the option button to confirm this action.

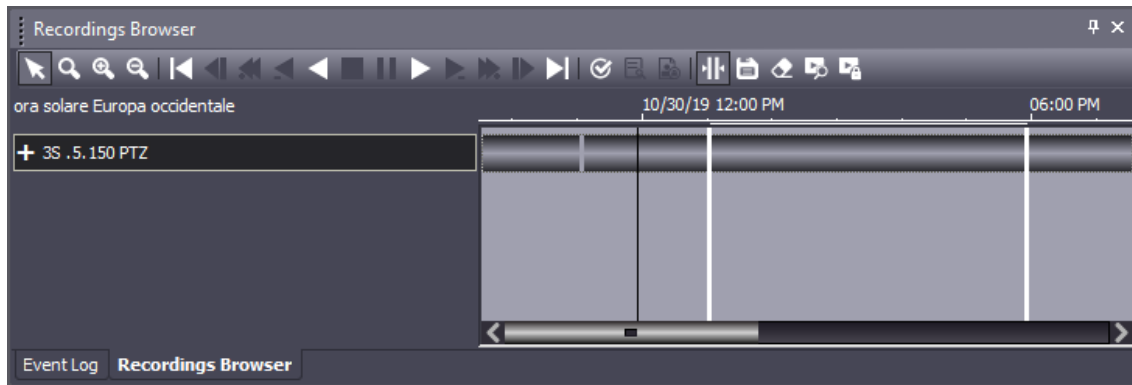



Par 13.15 Recordings protection

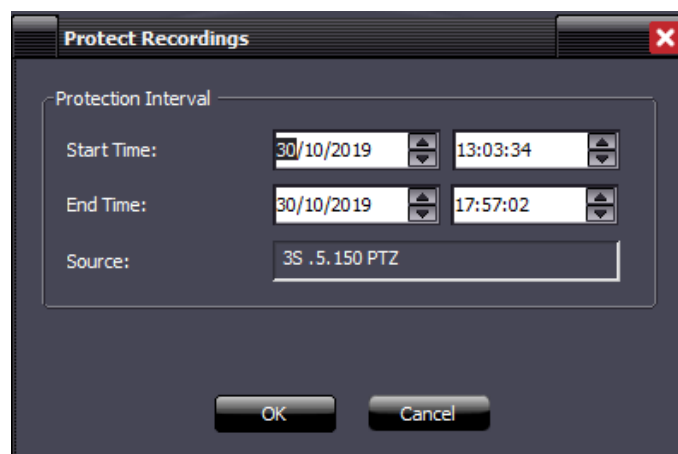
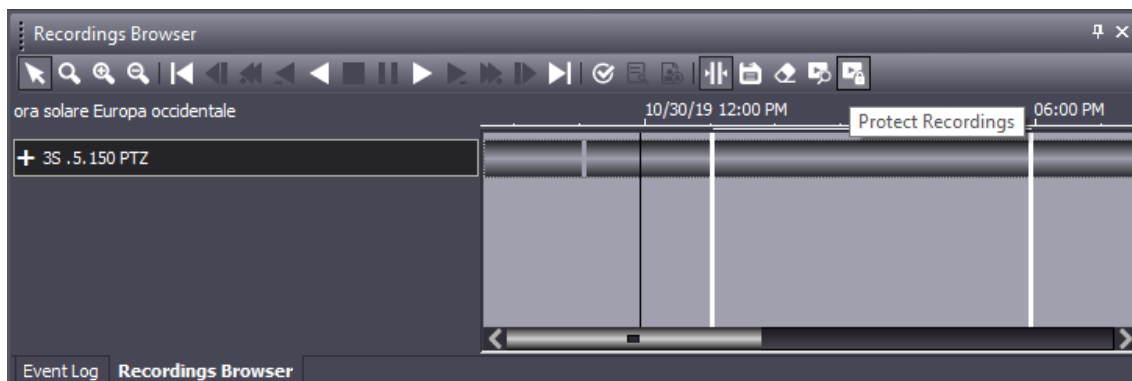
The Recordings Protection function allows you to protect parts of recordings from self-deletion. Then, any Protected recordings will be deletable only manually.

This feature is available by using a new button in the Recording Browser bar. This Button will appear only if a single camera is selected and if the user is enabled for the "Export Recording" rule (by default for administrator and power user).

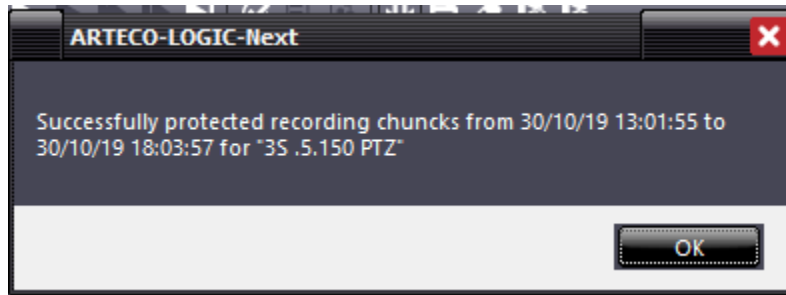
Below an example of selecting a portion of Registration:



As soon as a part of the recording will be determined, through the button  will be possible to protect the recorded video.



Once you have pressed "ok" the protection procedure will be started and this will result in a final message highlighting the initial and final instant of the protected recording.



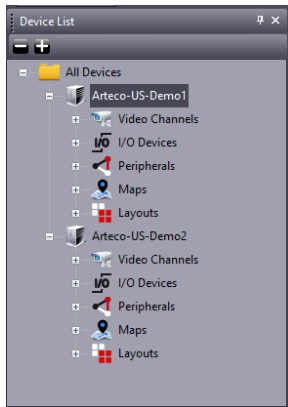
The protection of a portion of the recording will be at the level of the single ".eye" file. This means that, if you select a recording portion for protection, the actual protection will be a larger section (or at most equal), since it depends on the size of the file or files that belong to the interval selected by the user.

Following the protection operation there will be no way to highlight the protected parts. To be able to eliminate the protection it will be necessary to delete the recordings using the "delete registration" button.

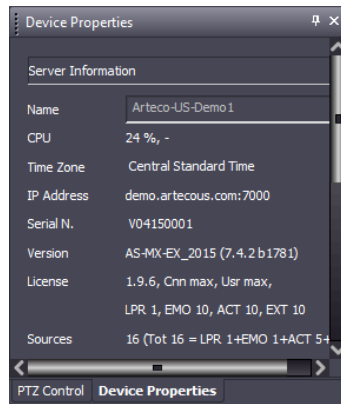
Chapter 14 User interface overview

At the top, in the section that groups together the menu and the Main Console, you can access the Environments: Live, Recording and Setup
Then, there are also Panes and Toolbars, which are explained later in detail.

The "center-right" area is called the "Layouts" pane. In this area, you will see a "grid" or single view that displays either live images of video sources, recorded images or configuration parameters screens, depending on which Environment you're in.
How to compose and customize the layout of the client is explained in later chapters.



On the left, there are additional panes displaying device information. In the "Device List" pane, you will see all the registered Arteco Servers, cameras configured, I/O devices, peripherals and maps, shown below left.



The "Device Properties" pane shows all the information related to the selected device in the "Device List". Here you can preview the IP address of the camera, the status of the inputs of the I/O Devices, and much more, shown below right

The "Live Event" pane appears by default at the bottom of the screen.
In this section, the Live Event Log will appear (both for channel and system notifications)
In the dark grey bar at the very bottom you have access to standard system information, such as the currently selected server and device, and the date and time set on the server to which you are connected.

| Server Name | Device | Event Description | Event Time | Processed | Username | Acknowledgement Ti... | Status | Note |
|-----------------|-------------------------------------------|-------------------|-------------------------|-----------|----------|-------------------------|--------|------|
| Arteco-US-Demo1 | Arecont 5105-DN Violated Area, Zone 01 | | 08:09:25 AM 12 Jul 2016 | ✓ | bland | 08:36:14 AM 12 Jul 2016 | | |
| Arteco-US-Demo1 | Arecont 5105-DN Violated Area, Zone 01 | | 08:09:51 AM 12 Jul 2016 | ✓ | bland | 08:35:52 AM 12 Jul 2016 | | |
| Arteco-US-Demo1 | AXIS Q1602 Ca... Violated Area, Zone 01 | | 08:10:04 AM 12 Jul 2016 | ✓ | bland | 08:35:59 AM 12 Jul 2016 | | |
| Arteco-US-Demo1 | Sentry FS-IP418... Violated Area, Zone 01 | | 08:10:09 AM 12 Jul 2016 | ✓ | bland | 08:36:21 AM 12 Jul 2016 | | |

Par 14.1 Elements of the Main Console

Using the ARTECO NEXT main console, you can interact with various interface elements. The most important element is the "Environments Toolbar".



Using these buttons, the user can quickly switch between the three Environments: **Live, Recordings, and Configuration**. Seen below:

- **LIVE:** In this environment you can see Live Images, Event Notifications, Patrol Layouts, etc.
- **REC:** With the Recordings Environment you can access recordings, view the event log and export recorded video
- **SETUP:** Also called the Configuration Environment. It allows you access to all parts of the system for device configuration (subject to user permissions)

Par 14.2 Toolbars

The "Toolbars" contain quick access to video, regularly used functions for selected devices, and tools to enhance functionality of ARTECO NEXT.

It also allows the user to act promptly while viewing layouts, controlling PTZ features, and viewing the details of the motion detection.

The Toolbars can be controlled only by users who have the necessary privileges.

Dome PTZ Controls: The buttons are used to activate the virtual joystick, move the lens in the directions indicated by the arrows and zoom in or zoom out (Pan, Tilt, Zoom).



Ptz Preset: via this toolbar you can instantly start, stop or recall presets saved to the PTZ camera.

Ptz Sequence: via this toolbar you can instantly start, stop or recall sequences stored on the PTZ camera.



in order from Left to Right:

- **Save Image:** Allows you to save a screenshot of the image.
- **Print Picture:** Allows you to print a screenshot of the image.
- **Lock:** Locks the selected image on the layout.
- **Zoom Controls:** Allows minimization/magnification of the image.
- **Sensitive areas:** Displays/hides the area created if plug-ins are active.
- **Bounding Box Event:** displays/hides the bounding box around the objects that enter areas under control only if they generated the event.
- **Privacy Areas:** displays/hides the areas of privacy.



Layout: tool for creating and managing Layout

In order from Left to Right:

- Switch to full-screen view
- Move the layout in a new window
- Start/stop the patrol
- Create a new layout
- Delete the current layout
- Duplicate the current layout
- Rename the selected layout



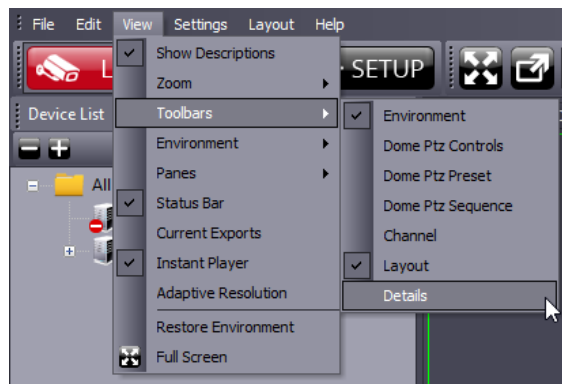
Details: a tool that enables/hides details related to image processing.

This Toolbar will "light up" just in case the selected device has been defined and implemented a plug-in (eg, Motion Detection, Privacy).

- **Processed image:** shows the image processed by analysis algorithms as movement (white blob) or still (black).
- **Mixed Picture:** Displays the actual image superimposed with the blobs detected by the system (the movement appears as a green blob)
- **Analysis Details:** enables/hides the display of the following details
- **Perimeter** (pixels): brings up the value of the perimeter of the blob on the screen.
- **Area** (pixel²) brings up the value of the area (width x height) of the blob on the screen
- **Size ratio** (perimeter/area): causes the parameter that gives account of the "roundness/elongation" of the objects; the longer an object is oblong, the lower will be the form factor and vice versa
- **Speed** (pixels/sec) shows the speed of the object
- **Bounding Box:** shows a red box around the movement blob
- **Center of gravity:** causes a pointer to appear at the center of the blob.
- **Tracks:** shows the trajectory of a moving object

In addition to the above icons, you can choose an alternative way in which panels display on the screen in ARTECO NEXT.

When right-clicking the mouse on an empty spot on the Main Console, a window will appear that allows you to choose which Toolbars to display, as seen below:

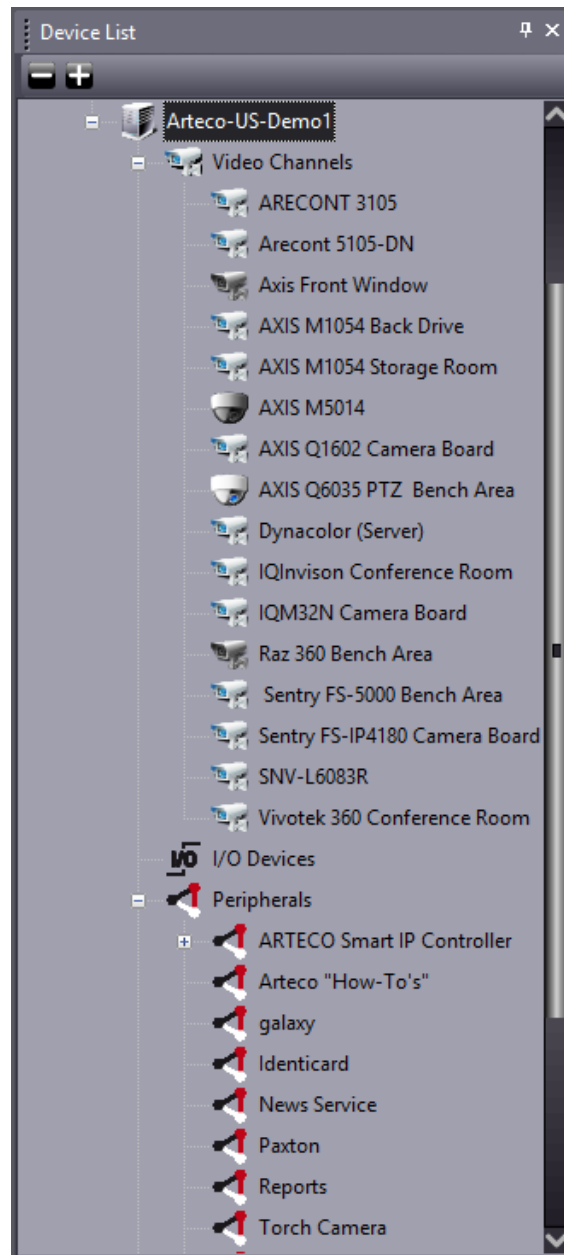


Par 14.3 Tree menu

To view a large number of items, such as devices, plug-ins, Servers and Channels, ARTECO Next uses a Tree Menu.

As you can see in the, the main group (i.e. the Server) can be expanded by clicking on the small icon with the "+" symbol. Then you will have access to all the elements that make up the group, or to a sub-group (i.e. devices), which in turn can be expanded out to the individual item requested.

To close the tree, click on the "-" symbol next to the name of the group previously opened.

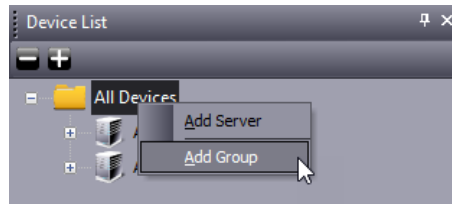


Par 14.4 Creating Groups

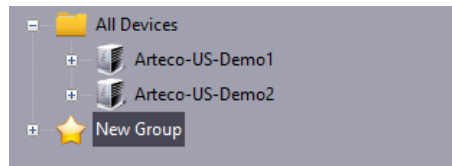
With ARTECO NEXT, you can create one or more groups of devices belonging to different systems, so you can quickly manage multiple elements.

Suppose, for example, you have constantly monitored inputs for multiple stores or companies. You can make a grouping of all the cameras placed at the entrances of the various locations.

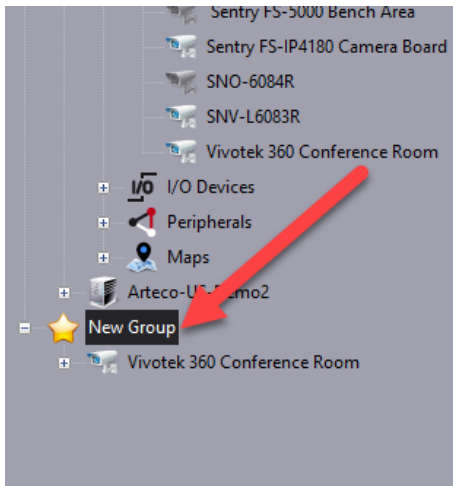
To create a group, first enable the **SETUP** Environment. Then in the "Device List" pane, click "**All Devices**" with the right mouse button, you will see a small screen will appear where you can "**Add Group**".



At this point, while still in the Devices list pane, you will see a new option, the symbol in the shape of a star.



You can assign a friendly name or delete a group by right-clicking on the group and selecting the appropriate item.



To insert elements in the group, follow these simple steps:

- 1) select any item in the Devices list.
- 2) holding down the left mouse button, drag the selected item into group desired.
- 3) release the mouse

Creating groups is very useful in the case that the operator finds himself having to monitor more centralized systems or a very large system, with specific tasks.

You can therefore create more groups for each Environment/Pane, so you always have one or more shortcuts to locate devices or the systems involved.

Par 14.5 Creating Layouts

The gridspace in a layout can be occupied by any video sources the user desires.

To view the image of a camera you would like to see, click on one from the "Device List" and drag it to the desired gridspace. If this gridspace already has a device on it, then the new one will replace the old.

NOTE: Each activation of a new camera view increases the bandwidth of the connection between the Server and the ARTECO-NEXT application and increases the CPU load of the PC on which you installed ARTECO-NEXT. An excessive number of video connections in relation to the available bandwidth and performance of the PC may cause image to appear "jerky" and may not populate properly (In this case, ARTECO server performance is not affected).

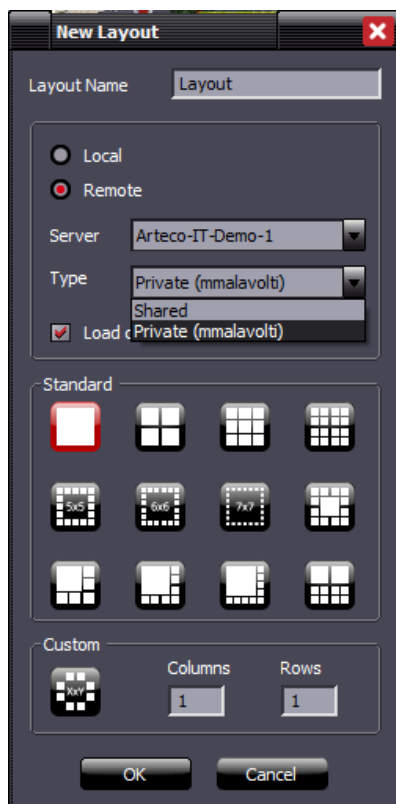
To reduce the overhead, you can disable unnecessary connections by right-clicking the gridspace image and selecting "**Unlink Channel.**" Alternatively, you can reduce the resolution or frame rate of the cameras in the gridspace to help.

When your PC is back to operating under normal conditions, handle any server alarms with the Server selected under the Setup Environment.

The layout is the large space where you can view the live images from cameras attached to the ARTECO system in a grid. Each box can hold a video source from any system to which you are connected.

Layouts can be created by using the button seen on the right.

You will see a window appear like in which will allow you to configure the view with a preset number of gridspace or define a one consisting of a variable number of rows and columns (max 10x10).



1. Name the Layout as you wish
2. Define the nature of the Layout between:
 - Local: Usable only on client PC in use
 - Remote: Shared with other workstations
3. Select the Reference Server
4. Define the typology between:
 - Shared: accessible to all users having access to the selected Server, if properly licensed (Videowall, see next section)
 - Private: accessible only by the same user who created the layout
5. Choose whether to automatically load the layout created at login, from any location
6. Define the structure of the layout in terms of gridspace and their orientation

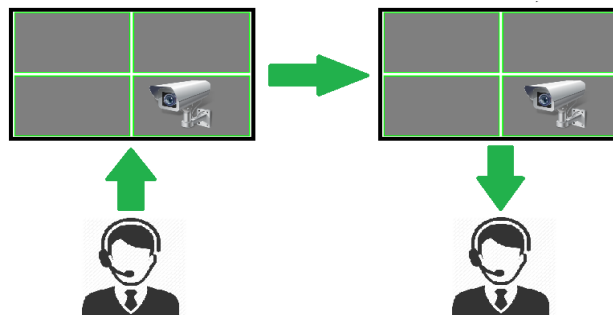
Par 14.6 Arteco Videowall – Shared Layouts

Arteco Videowall is an ARTECO NEXT feature included in Arteco Extreme and optional for Arteco eMotion and Active. This feature allows you to share layouts and effectively manage all installed systems and devices, providing a complete and targeted overview for the operators. Arteco Videowall offers the ability to share everything that is installed and configured on the licensed Server, including cameras, maps, peripherals, web pages, embedded third-party systems, and of course, to receive any event notifications.

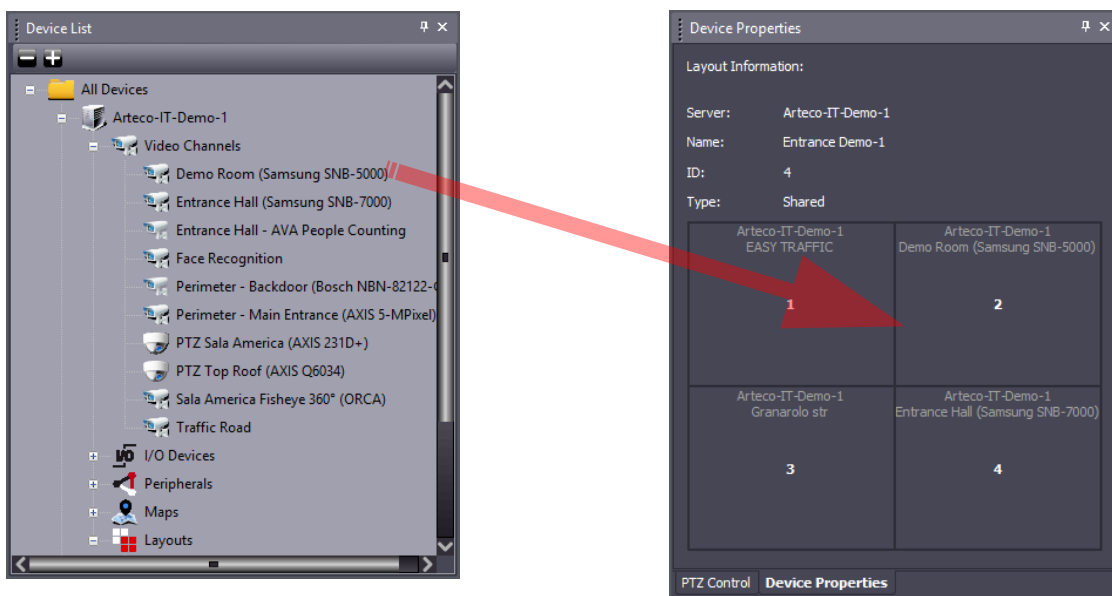
In order to take full advantage of Arteco Videowall, you must first create a shared layout. Shared layout creation is the same as described in the previous paragraph.

Sharing is very simple, and you can do it in two different modes.

- 1) Select the device and drag it to any of the shared layout gridspace. Automatically, this device will be displayed on all connected workstations.

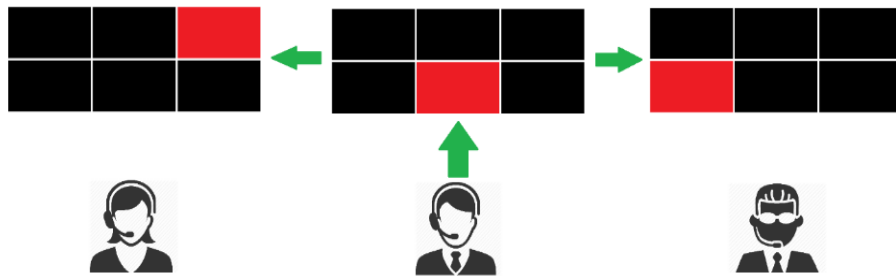


- 2) Using the Virtual Matrix, which is an interactive "layout grid" represented in the "Device Properties" pane, the user will have a preview of the shared layout and can configure and share the elements by simply selecting the device and dragging it into any of the Virtual Matrix "boxes".



- 3) After the double click of a view on the Videowall, the device will be displayed in full screen on all active Shared Layouts.

The methodology of this feature allows an administrative user to take a passive role by configuring and enabling device views only on a shared layout. This layout will not necessarily appear on video at the local PC, but only on shared remote PCs, thus optimizing hardware and network resources.



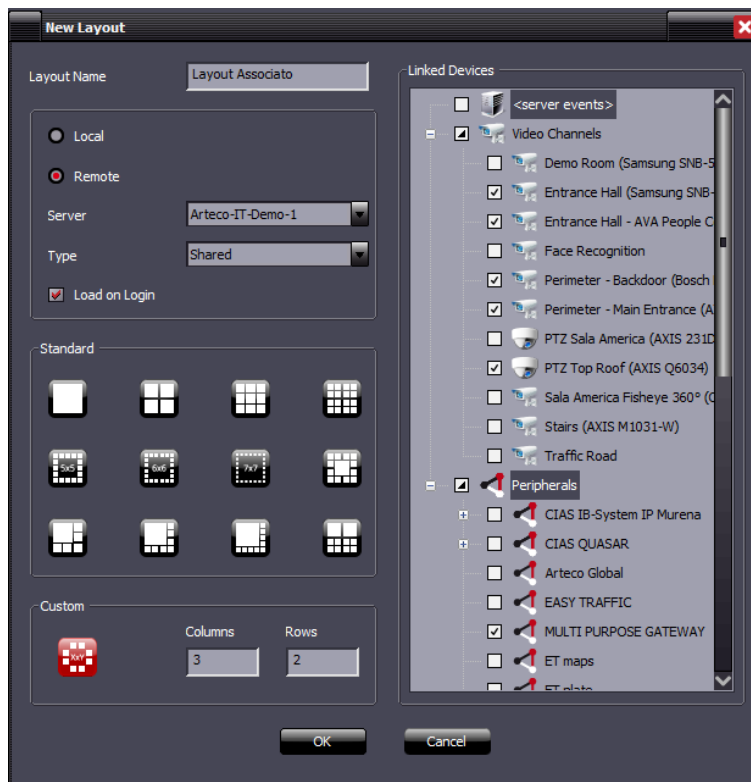
Par 14.7 Artec Videowall – Linked Layout

To allow a user to quickly understand an event in all its details, a single image couldn't be enough, but specific context information is needed.

The function of the Linked Layout responds precisely to this need and allows to define a dedicated layout, relative to one or more devices, for example a layout containing the systems installed on the perimeter of a building.

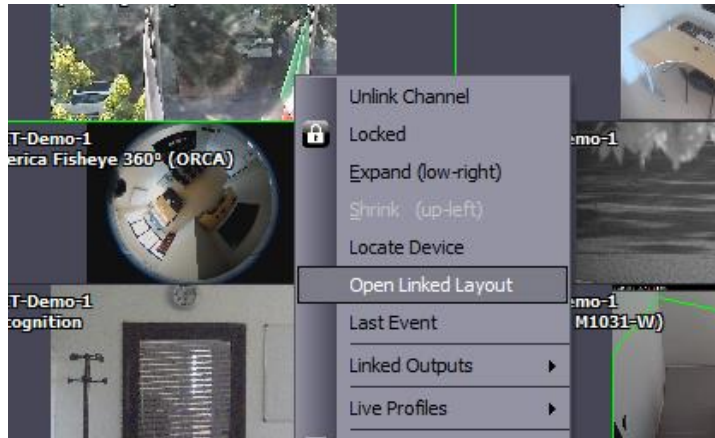
This layout will contain all the information related to the event. The user can associate a layout with a device (camera, peripheral, server) using the dialog for creating a layout, by directly checking the devices on the tree to which you want to associate a specific layout.

When a layout with associated devices is selected on the main tree, they are listed in the layout properties pane.

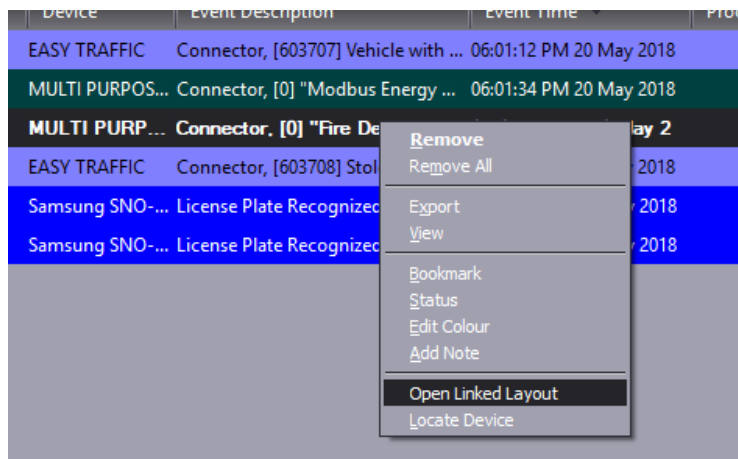


The linked layout can then be pulled up in various ways:

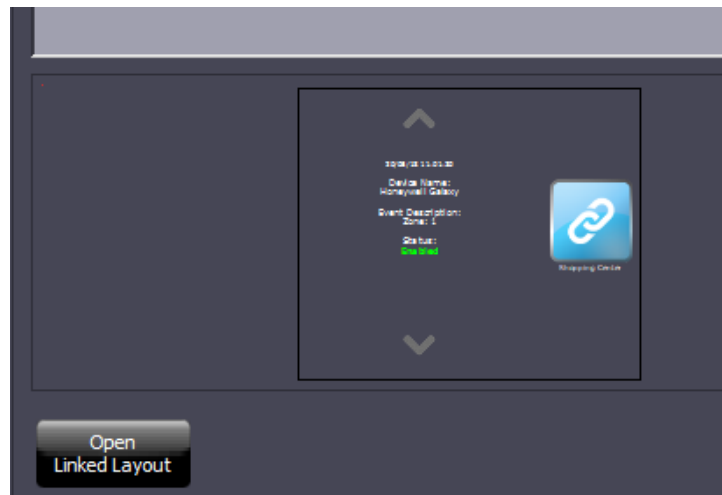
- from the dropdown menu of the device itself



- from the dropdown menu of an event log entry



- from an event pane button and from views that display live cameras.



After pulling up the linked layout, ARTECO NEXT will automatically open the layout in the live environment, thus facilitating the operator to understand the dynamics of the event or the scene. For example, once the linked layout has been opened, moving to the "REC" environment, through the automatic search it will be possible to immediately analyze the event including all the devices of this layout.

Par 14.8 Arteco Videowall - Layout to front

With this feature, a user logged into a client "A" is allowed to bring a layout to the foreground in another shared remote client "B", on one specific windows. This feature is available via the "Device Properties" panel.

The client will be selected using a combo-box containing the list of client stations registered on the server. You will be able to send the request to one client at a time. Then, it will be possible to populate a specific window of that client station.

The screenshot shows the 'Device Properties' window with the following layout information:

- Server: Arteco-IT-Demo-1 [demo1.arteco.it:
- Name:
- ID: 138
- Type:
- Linked Devices: Perimeter - Main Entrance (AXIS 5-MPixel)

Below the linked devices, there is a grid of six windows:

| | | |
|--------------------------------------------|------------------------------------------|------------------------------------------|
| Arteco-IT-Demo-1 2N Intercom - Rin... | Arteco-IT-Demo-1 Arteco Global | Arteco-IT-Demo-1 Perimeter - Therm... |
| 1 | 2 | 3 |
| Arteco-IT-Demo-1 Perimeter - Gate (...) | Arteco-IT-Demo-1 Perimeter - Backd... | Arteco-IT-Demo-1 Entrance Hall (Wi... |
| 4 | 5 | 6 |

At the bottom of the window, there are three controls:

- 1) Client station selection (yellow box)
- 2) window selection (blue box)
- 3) Confirm (green box)

To facilitate the selection operations, clients will be offered the possibility of acquiring a name thus assuming the actual role of the stations. If the administrator does not assign the name to the client and the windows / layouts, the PC will have the Windows name of the host PC and "MAIN WINDOW" for the main window and "WINDOW 1", "WINDOW 2", ... "WINDOW # "for secondary windows.

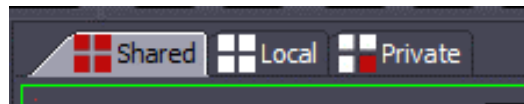
An important aspect not to be underestimated concerns the sending of this command to windows in which the active environment is SETUP or REC: NEXT will prevent the movement of a layout on a window in which one of these environments is active.

A final aspect regards the interaction of this command with the PATROL and POPUP settings: no specific limitations will be introduced, even if the combination of Popup or Patrol with the video wall must be avoided if possible.

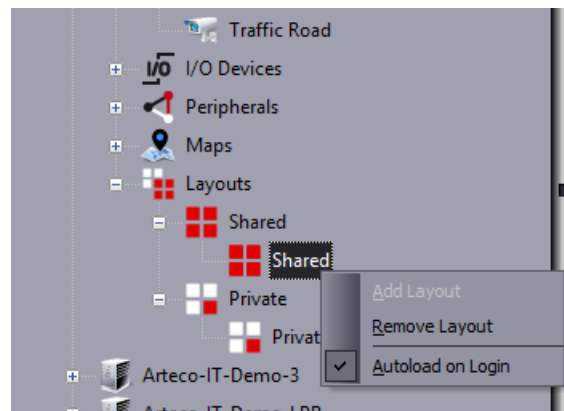
If the "Device Properties" panel is not visible, it can be opened using the View -> Panels -> Device Properties command in the main menu. To simplify these operations, this command can now be reached by right-clicking on a device and, in the specific case, on the shared Layout.

Par 14.9 Advanced Layout Management

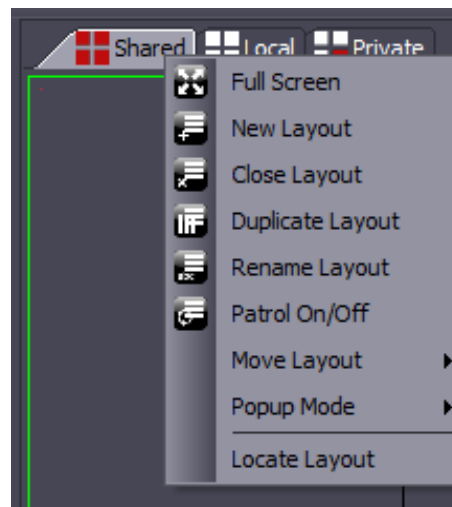
When you create a new Layout, the corresponding TAB is also added, whose icon also indicates the typology (shared, private, local).



Additionally, when using remote layouts, whether they are shared or private, the Layout branch will appear in the "Device List" and allow the user to add/remove layouts and enable or disable the layouts from loading automatically when NEXT starts.



Each Tab can be renamed, duplicated (any sources will also be duplicated), placed in a new window, or deleted. Manage these features using the Layout panel, or by right-clicking with the mouse button on the Tab of interest.



Moving one or more layouts to a new window is useful. For example, in a control room where you have a client with multiple CPUs, you can view many different camera images at once. This will allow a single client the ability to manage multiple monitors with different layouts on each.

Par 14.10 Full Screen Mode

The "**Full Screen Mode**" button (seen right) enlarges the interface of ARTECO-NEXT to Fullscreen.

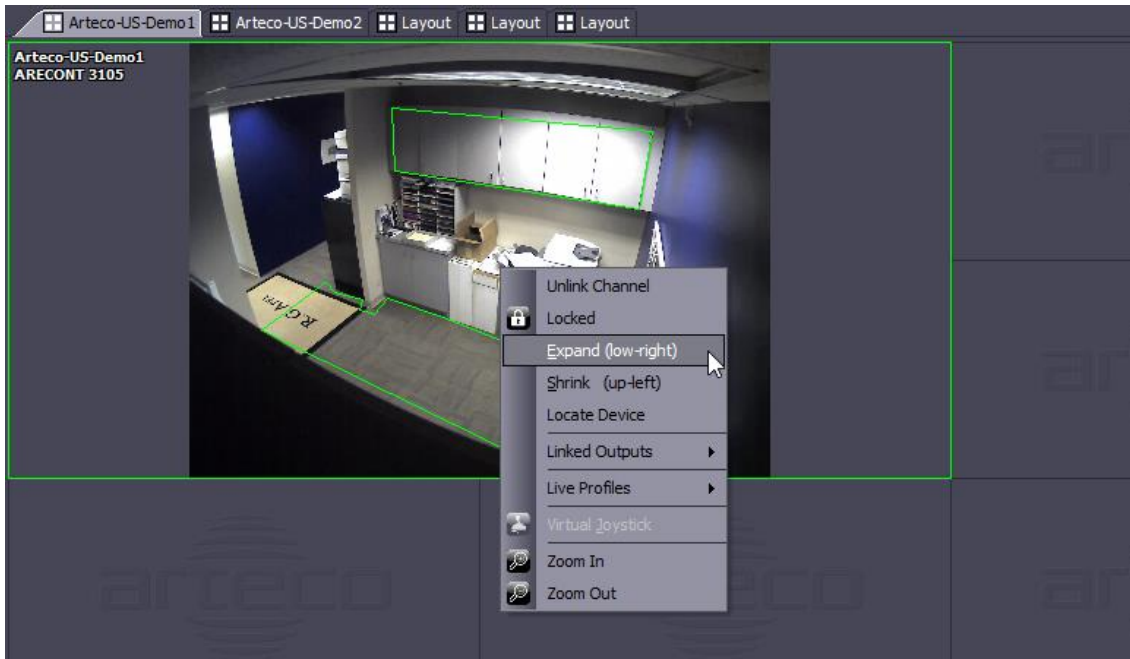


This mode suppresses the display of the Command Bar and excess toolbars, also hiding the Windows Taskbar for other Applications.

Par 14.11 Colored frames of video sources

Around each image you may see a thin colored rectangle. If the color is green, then that image is "checked" and the operations performed and the parameters shown correspond to that view. To select a source, click once on the image. If the rectangle is red-flashing, it means that an event has occurred on that sources and it is currently alarming.

Once created, you can change a layout to have various structures. To expand a box, right click on the box and, if possible, click "**Expand (low-right)**" as seen in the image below. This command will expand the box down and to the right, if space permits.



Each window can be resized by holding the left mouse button down over the edge of the layout and changing the size then releasing the mouse button.

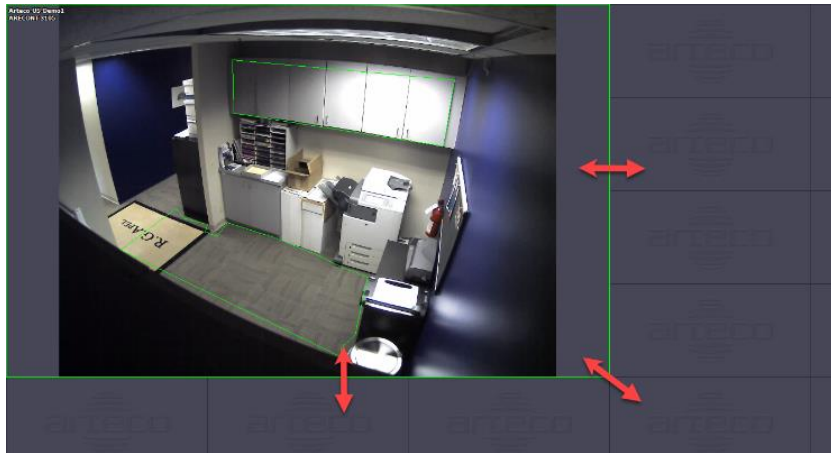


Figure 2.27 - Resizing Grid Spaces

This feature is useful because it provides the user with more freedom and allows for specific and custom layouts, that are the best fit for the job.

Par 14.12 Quick Recall - Layouts

To allow for even better Layout management, ARTECO NEXT offers the ability to use key combinations or keypad and joystick programming. Below are the key combinations:

Next Layout: Ctrl + Shift + F6

Previous Layout: Ctrl + F6

Calling Individual Layouts:

Layout 1: Alt + L + 1

Layout 2: Alt + L + 2

Layout 3: Alt + L + 3...

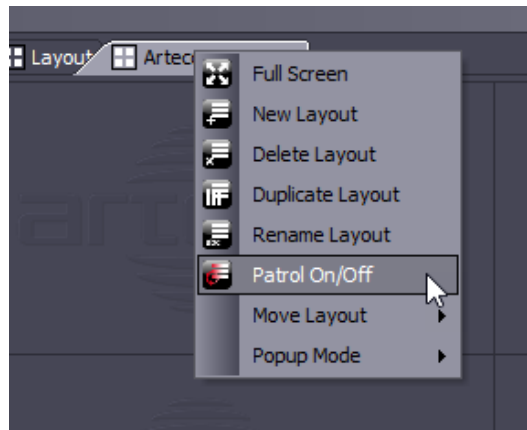
These shortcuts can be associated with keyboards and joysticks available on the market, provided they have windows drivers.

It is possible for the operator to directly enter shortcuts, or alternatively use a simple conversion program, such as "Keysticks" <http://keysticks.net/site/download.aspx>

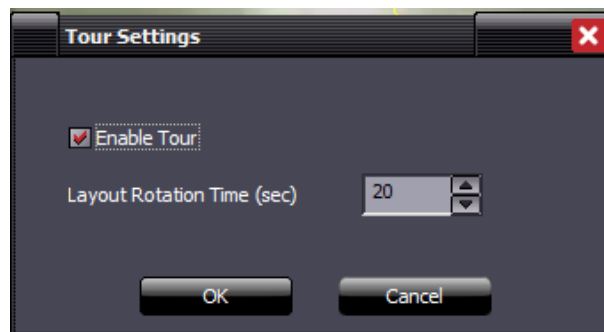
To better know how the Layout are sorted refer to the Next menu in the image below.

Par 14.13 Patrol

Patrol on/off allows for an adjustable time between alternating layouts. The patrol mode is configurable and can be activated by the button seen on the right, or by right clicking on a tab, as in below:

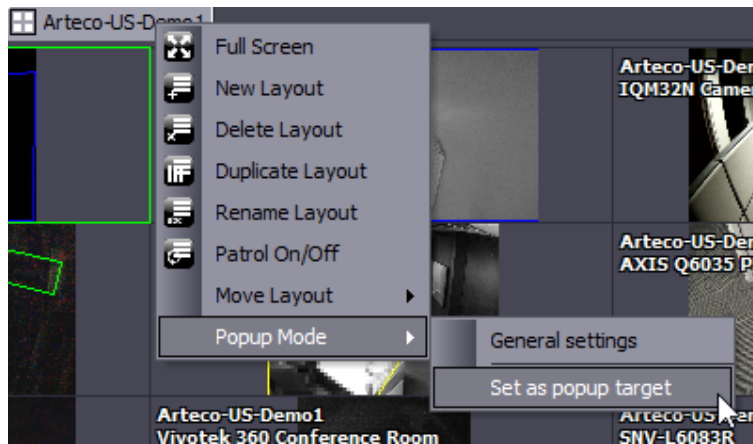


In the following screen, users are allowed to enable/disable the functionality and to decide the layout rotation time interval, in seconds.



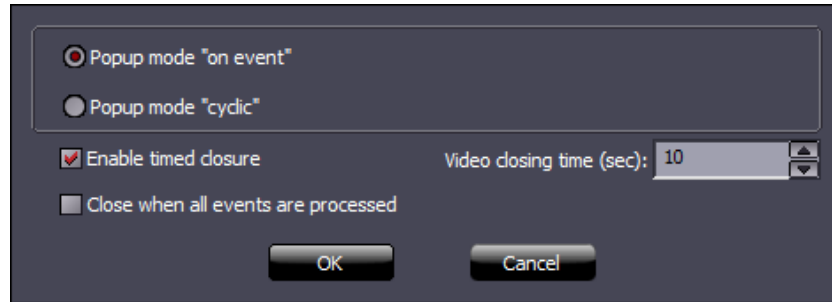
Par 14.14 Popup Mode

By right-clicking on the Layout Tab, it is possible to set the Artec NEXT window to activate the Popup mode, which consists on the automatic display of live images from cameras that generate events.



Click on "Set as popup target" to enable or disable the feature.

To configure the Popup mode, click on "**General Settings**" to choose the desired mode.





There are two types of Popup: "**On Event**" and "**Cyclic**":

"On Event": if the event is activated, the camera corresponding to the event will flash in the current layout if it is present. If it is not present, the new channel will take the first available position on the board. If there are no vacant positions, the new channel will take the place of the channel that has been on the board for the longest time.

"Cyclic" while similar to the first, if there are no more vacant positions, the new channel takes the place of the first section of the layout and so on. This will always cycle the views on the layout.

The user is given the option to close popups in 2 ways:

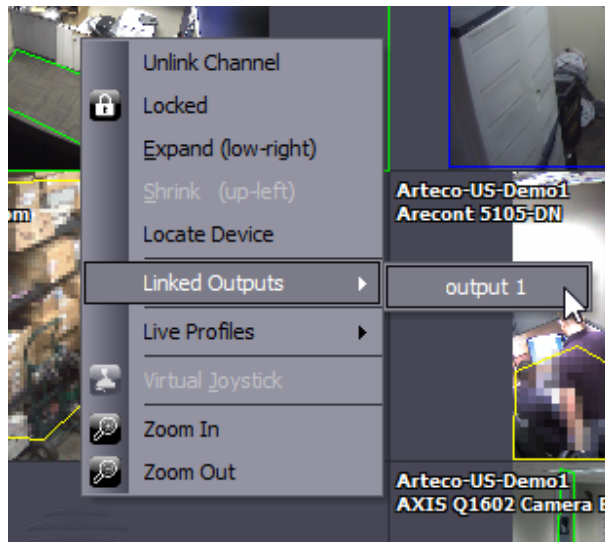
1. Enable timed closure (configured in seconds)
2. Close when all events are processed (or when the user views the event)

To prevent the Popup mechanism from disconnecting specific cameras it is important to "lock" the video source on the board. To lock a source, you have to select  "**Lock**" by right clicking on the grid square you desire to lock and selecting "**Locked**". If you  select "**Show Descriptions**" under "**View**" in the main menu bar, when locked a padlock will appear superimposed on the grid (see Lock image right).

NOTE: The Popup Mode feature is ideal for Client PCs that lack the sufficient processing power to view multiple Live video streams at once. Ensure you have set up the proper Event Notifications for any devices you wish to have appear via Popup Mode and use it to show only the Live Video you NEED to see. This way, you are not wasting hardware resources on constantly viewing video with nothing happening in the scene.

Par 14.15 Quick Recall - Peripheral

You can activate an output associated with a video source in several ways. Right clicking on the grid with the connected source will show a dropdown list. By selecting "**Linked Outputs**" you can view the output associated with the currently selected camera and as a result you can change the status (ON/OFF).



Par 14.16 Digital Zoom

With ARTECO-NEXT you can magnify an image digitally, both when viewing Live, and during recording playback.

To zoom in, select the image of interest and turn the mouse-wheel forward, each rotation leads to an increase in zoom. Each rotation in the opposite direction will cause the reduction of zoom until the image returns to its actual size.

Once you have enlarged the image, you will see a symbol of a hand, indicating that you can move within the view by holding down the left mouse button and moving the mouse.

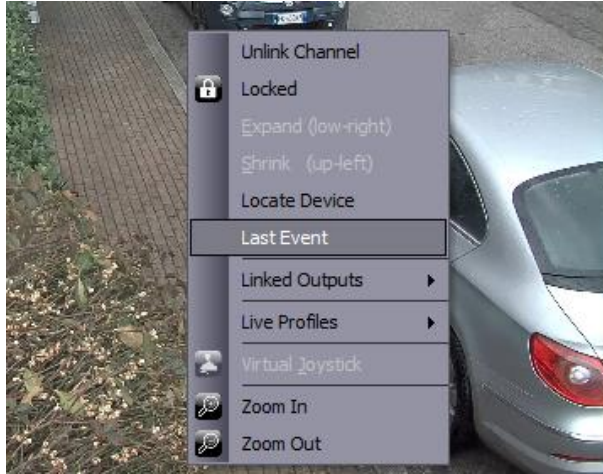


There is an alternative way to increase and decrease the zoom for images using ARTECO-NEXT via the "**View**" menu: Click the arrow next to Zoom to show the Zoom in and Zoom out options. You can also access the zoom feature by clicking the Channel toolbar, or by using the drop-down menu next to the icons in which you can select the following zoom modes: 100%, 150%, 200%, 300%, and 400% magnification than the standard size of the images.

The magnification for the image created is stored only for the view chosen in that specific box.

Par 14.17 Last Event Quick Recall

Using the right-click shortcut on the layout box, you can recall the “**Last Event**” associated with the camera: this function will open the event properties panel and show the last event of the camera.



Par 14.18 Instant Player and Audio management

The “Instant Player” feature allows the user to perform various operations on the selected device in the gridspace. This is done by means of some "shortcuts" that will allow to manage recently recorded video, enable viewing details (e.g. privacy blur filter), or establish an audio connection from the client to the device. Simply hover the mouse pointer to the bottom of the pane to see the “Instant Player” in a simplified browser overlay.



To listen the Audio Input associated with a video source, right click on the camera and select “**Audio from here**”.



Chapter 15 Interface Customization

One of the key features of ARTECO-NEXT is the possibility to move each element of the interface to a position of your liking so that you can arrange and associate the most suitable information that is useful to your job.

Par 15.1 Moving interface elements

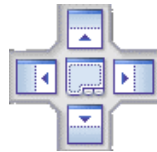
One example of how you can move the interface elements is on the Environments Toolbar, where you'll notice on the left side a "strip" of vertical dots.

Hovering over the dots with the mouse will change the arrow to a cross. By holding left mouse button, you can move the pane or toolbar anywhere on the screen, simply release the button to place the item where you want.



To facilitate customization and viewing by the user, there is also a semi-automatic mode. Every pane in ARTECO-NEXT has the ability to be "snapped" into another position on the screen.

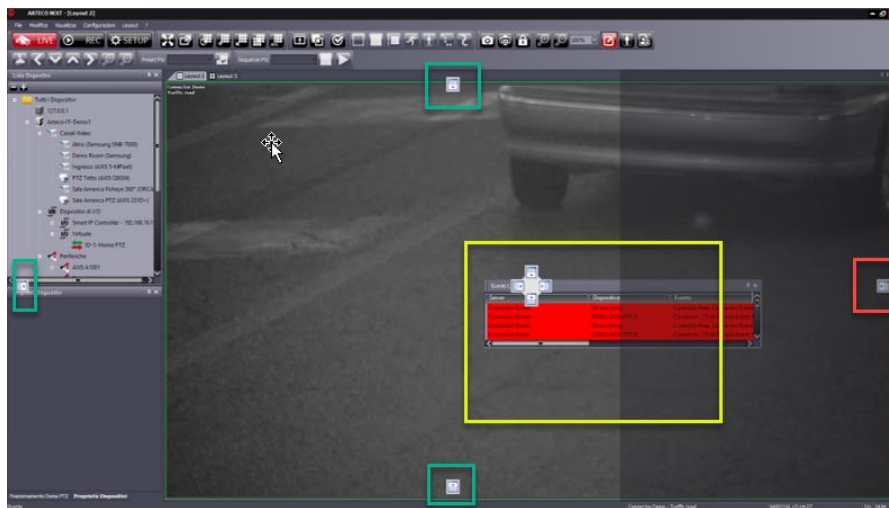
Moving a pane towards one of the ends of the cross allow you to arrange the selected pane where you prefer.



This magnetized cross indicates that the selected pane is "attached" at one end of the cross (arrow indicators) or may create a "Tab Menu" (to label menu), as shown in the center of the cross.

While still holding down the left mouse button, position the cursor on one of the cross directions. You will notice a "shadow" that will indicate where it will be positioned.

It is also important to note that the individual directional arrows appear at the borders of the interface, as shown in green (non-selected areas) and red (selected area), to facilitate the user in locating the panel.



An interesting element of this function is that each pane can also be positioned outside of the window, or on another connected monitor, always remaining active.

Par 15.2 Auto Hide Tab Menu

Each Tab also has the option to be hidden, using "**Auto-hide**".

This feature is useful if you do not want to constantly display the information contained in the pane, but open and use them when necessary. With a simple click of the mouse you can give extra space to the remaining elements of the interface.

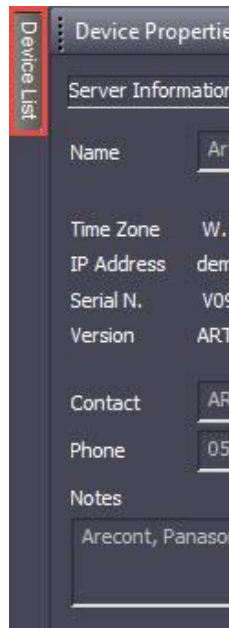
By default, each Tab displayed with Auto Hide is set to Off, which is permanent until changed. You can recognize this with a symbol of a "pin" facing downwards.



To enable "**Auto Hide**", click the pushpin to turn it to the left and the Tab will be automatically hidden.



To view the hidden menu, you simply need to position the cursor of the mouse on the tabbed label of the pane and click with the left mouse button. Optionally you can hover the cursor over the tabbed label and after 1 second the pane will appear on the screen displaying the information. Moving the cursor away will return the pane to being "hidden".



Moving the mouse cursor over the label or clicking on another point or interface element, the Tab Menu again and will be automatically hidden.

To disable the Auto-Hide, simply click the pushpin again to bring her back in an upright position, so as to permanently display the panel.

Chapter 16– Event Log

All internal system events that are generated can be matched with “actions”. The list of these events can be displayed while watching live images from a camera or while searching for recording playback. The log window by default is displayed underneath the layout under the “**Live Environment**”, as seen in **Figure 10.1 – Live Event Log**.

| Bookmark | Server Name | Device | Event Description | Event Time | Processed | Username | Acknowledgement Time | Status | Note |
|----------|-----------------|-----------------------------|------------------------|-------------------------|-----------|----------|-------------------------|-----------------|------|
| | Arteco-US-Demo1 | Arecont 5105-DN | Unplugged Cable | 03:46:05 PM 05 Sep 2016 | ✓ | bland | 04:26:01 PM 05 Sep 2016 | ✓ Closed | |
| ★ | Arteco-US-Demo1 | Arecont 5105-DN | Violated Area, Zone 01 | 03:46:13 PM 05 Sep 2016 | ✓ | bland | 04:26:20 PM 05 Sep 2016 | ? Not assigne | |
| | Arteco-US-Demo1 | AXIS M1054 Back Drive | Violated Area, Zone 01 | 03:46:26 PM 05 Sep 2016 | | | | | |
| | Arteco-US-Demo1 | AXIS M1054 Back Drive | Violated Area, Zone 01 | 03:47:56 PM 05 Sep 2016 | | | | | |
| ★ | Arteco-US-Demo1 | Vivotek 360 Conference Room | Violated Area, Zone 01 | 03:47:57 PM 05 Sep 2016 | ✓ | bland | 04:26:24 PM 05 Sep 2016 | ! High priority | |
| | Arteco-US-Demo1 | AXIS M1054 Back Drive | Violated Area, Zone 01 | 03:55:05 PM 05 Sep 2016 | | | | | |
| | Arteco-US-Demo1 | Vivotek 360 Conference Room | Violated Area, Zone 01 | 03:55:05 PM 05 Sep 2016 | | | | | |

Bookmark: indicates using the star icon if the event is among “**Favorites**”.

Server: indicates the name of the Arteco Server on which the event happened.

Device: the name of the video source or relevant event device.

Event Description: contains the description of the event that took place.

Event Time: indicates the time of the event

Processed: indicates whether the event was looked at or “processed” by a user

Username: indicates which user acknowledged or “processed” the event.

Acknowledgement Time: indicates when the event was viewed or “processed”

Status: shows the status of the event (see options described in the next paragraphs)

Note: shows any notes the user has included. Notes will remain in the database and will be viewable by all users. Other users may add additional notes to the event.

Placing the cursor over the Log area will temporarily suspend new events coming into the Log for 10 seconds, allowing easier identification of the desired event to process.

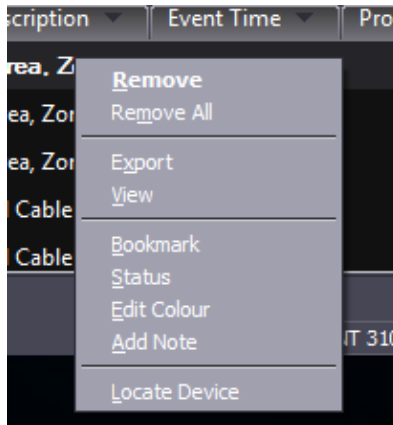
You can sort events based also on the available fields. To force sorting any column click on its header to display an arrow going up or down. In the example below you can see that events are sorted in descending order of “**Server**” name and increasing order for “**Event Description**”.

| Server Name ▲ | Device | Event Description ▼ |
|---------------|--------|---------------------|
|---------------|--------|---------------------|

Par 16.1 Interactive Event Log

The “**Event Log**” window is a convenient method for accessing images in the Live and Recording environments. Clicking and dragging a Log entry line will allow you to start viewing Live video from the source the event took place on. You can also double click on a Log entry to see the “**Event Properties**” window, which has both the recorded event and the live view in the bottom half of this pane. This feature is explained more in the next paragraph.

By right clicking on a Log entry there are various options to choose from



Remove: removes the single Event Log entry

Remove All: removes all of the Event Log entries

Export: allows the exportation of CSV event log content

View: allows you to view the event in the recording environment

Bookmark: lets you mark an event as a Favorite

Status: opens the Event Properties window to allow you to edit the event’s status

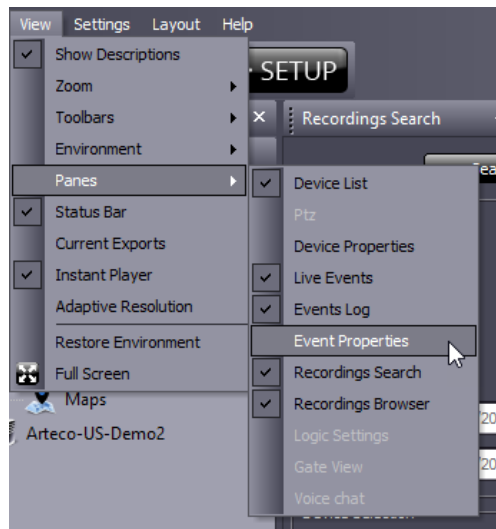
Edit Colour: defines a custom color for the event

Add Note: opens the Event Properties window to allow you to add or edit notes

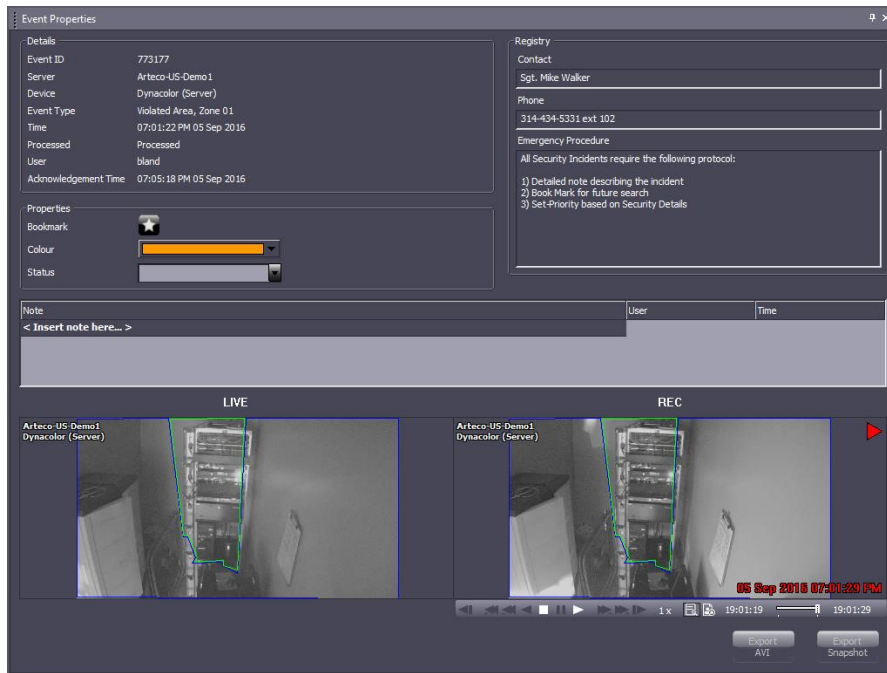
Locate Device: allows you to locate the event’s source in the “**Device List**”

Par 16.2 Event Properties

Thanks to the “Event Properties” window, users have the ability to define multiple aspects for each event that has occurred in the Arteco System. This window is available by right clicking on the Event Log and selecting one of the items in the previous paragraph, or you can enable the window from View > Panes > Event Properties as seen in the Figure below.

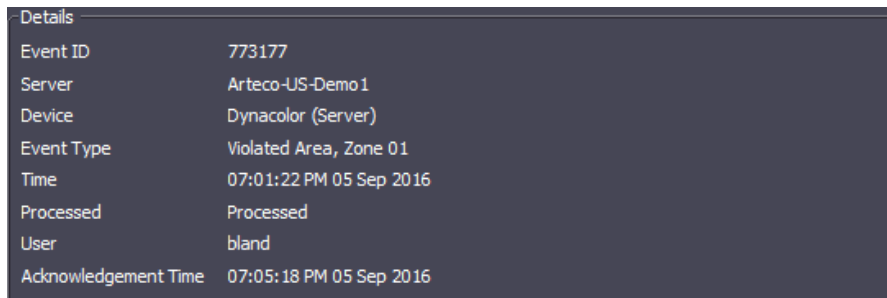


By showing the “Event Properties” window you can define various parameters related to the selected event, in order to differentiate it from other events in the Log.

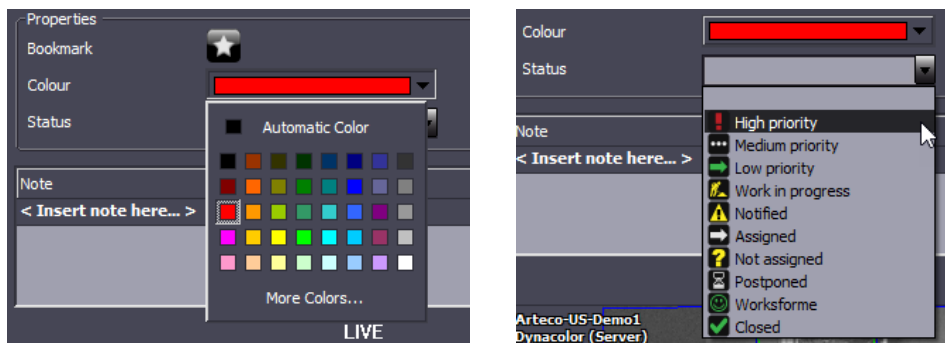


The “Event Properties” window consists of several different sections:

- 1) **Details:** This section lists the same information about the event that appear in the Event Log, with the addition of voice Event ID.



- 2) **Properties:** the user can mark the event as a favorite, change the colour of the Log row for a selected event and change its status. All of this information will be saved and displayed in the “Event Log” for all clients connected to the same server.



- 3) **Registry:** This page contains all of the information about emergency procedures and any contacts to call in case of one. (This information is entered via the Server Properties menu)

Registry

Contact

Sgt. Mike Walker

Phone

314-434-5331 ext 102

Emergency Procedure

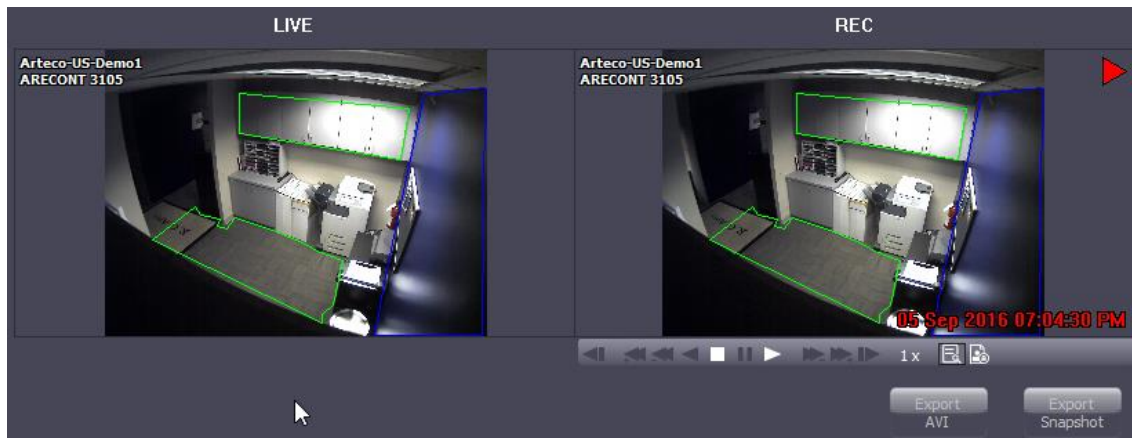
All Security Incidents require the following protocol:

- 1) Detailed note describing the incident
- 2) Book Mark for future search
- 3) Set-Priority based on Security Details

- 4) **Notes:** This area allows users to enter notes about the event. It will save all entered notes in chronological order along with user credentials.

| Note | User | Time |
|--------------------------------------|-------|-----------------|
| < Insert note here... > | | |
| Note example: This was a false alarm | bland | 07:29:58 PM ... |

- 5) **Live and Rec:** If there are video events, here you will be able to see both the recording of the Event on the left as well as the live view of the camera on the right simultaneously. You can also export directly from this window by clicking on the recording and clicking "**Export AVI**", or save a snapshot by clicking on "**Export Snapshot**".



Chapter 17 Contacts

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TO SCHEDULE TRAINING VISIT <https://www.arteco-global.com/en/support-area/arteco-academy/>

Notes
