intelligent video solutions

ARTECO-LOGIC Next

Software for the centralized management and analysis systems for video surveillance based on IP cameras

Installation Guide

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Chapter 1- INSTALLATION OF ARTECO-LOGIC NEXT

Par 1.1 System Requirements

The application can be installed on Windows, both 32 and 64 bit. The system configuration requirements can vary depending on the nature and configuration of the cameras you want to view, please contact ARTECO support for any specifics.
Arteco recommend the use of network switches with a bandwidth equal to or greater than 1Gbps.

Par 1.2 Setup

The application software ARTECO NEXT LOGIC installed on a personal computer is used to control all the functions of video surveillance system ARTECO through a network connection.
The software ARTECO NEXT LOGIC is available on the installation CD that came with your system or Arteco on the web page hosted on the same system.

Figure 1 - Language selection

You can choose whether to display the Setup Menu of the Software in Italian or English, later in this manual it is also discuss where to set up and install English Resources.
Once the language is selected, the screen will appear **Figure 2 - Welcome Page**

Figure 2 - Welcome Page

In **Figure 3 – Select Destination Location folder,** a screen is displayed that allows you to select the destination folder for the software ARTECO-LOGIC NEXT.

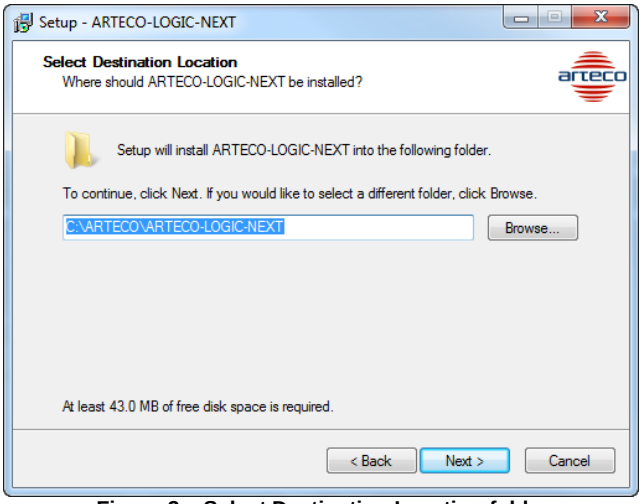


Figure 3 – Select Destination Location folder

Figure 4 - Component Selection, Shows the screen where you can select the components of ARTECO LOGIC NEXT which you want to install. We recommend using the settings already selected for "Complete Installation".
Select the option "English Language" to set English as the default language of the interface of the software, including the units of measurment. You can still change the language later, through a special item in the menu in the software itself.

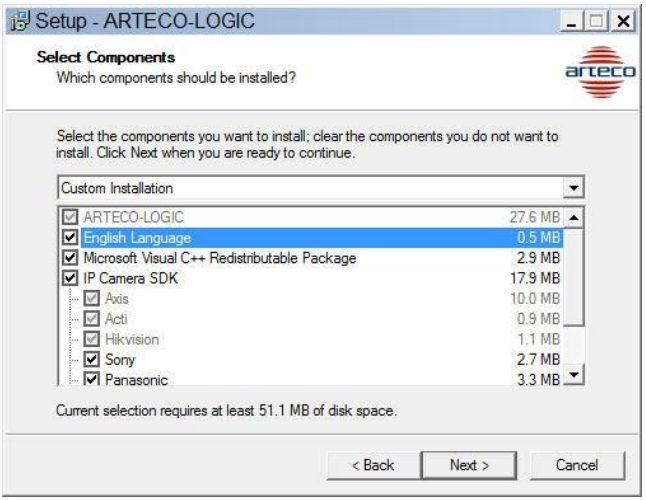


Figure 4 - Component Selection

In **Figure 5 - Select the folder configuration** screen is displayed that allows you to select the folder where the software stores all its settings.
You can choose between 2 options:

1. **In a folder for all users of the computer:** the software settings will be stored in the default folder of windows.
2. **Specifies the path.** You can specify a custom location where the software will save the configurations. This option is recommended for advanced users who need to backup the configurations of ARTECO-LOGIC Next.

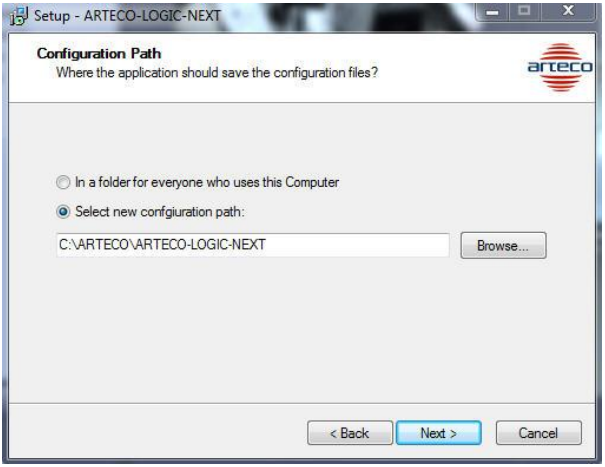


Figure 5 - Select the folder configuration

In the "Select Additional Tasks" you can make changes or keep the default values proposed. However, it is advised to leave the selected parameters "Add an exception to the Windows Firewall."

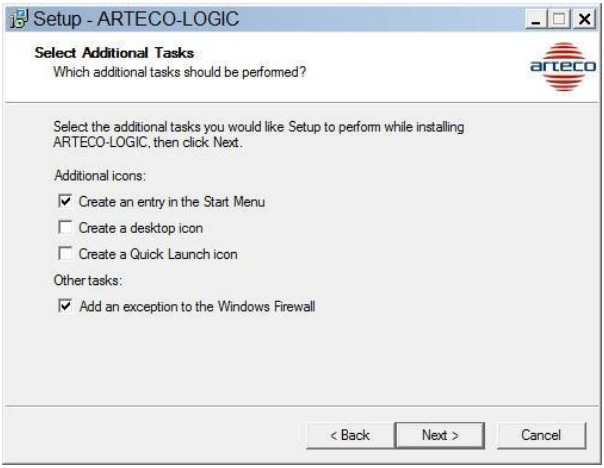


Figure 6 – Select Additional Tasks

In **Figure 7 –** Summarizes all of the choices made in the previous installation screens.

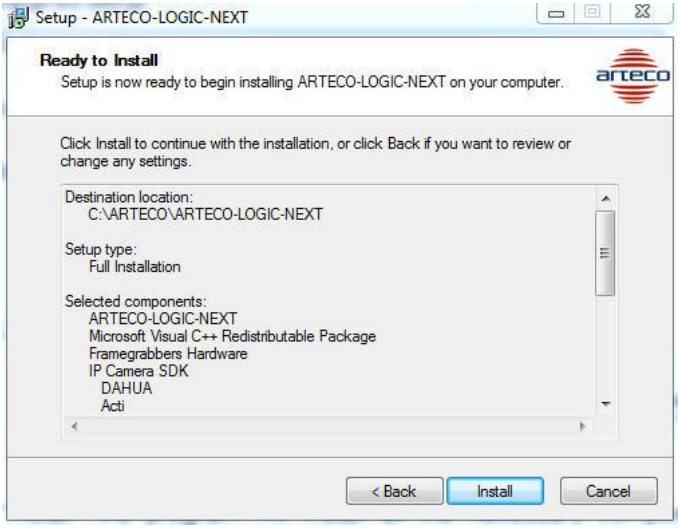


Figure 7 – Data Installation Summary

Once you select "Install" the program will install all the necessary components. Once the installation is made the user must wait for the final screen of Installation.

Chapter 2- INTERFACE INTRODUCTION

Par 2.1 First Run

Locate the ARTECO-LOGIC Next icon on your desktop, double-click on it to launch the application.On first access you will see the screen as shown in **Figure 8 - Home Screen.**

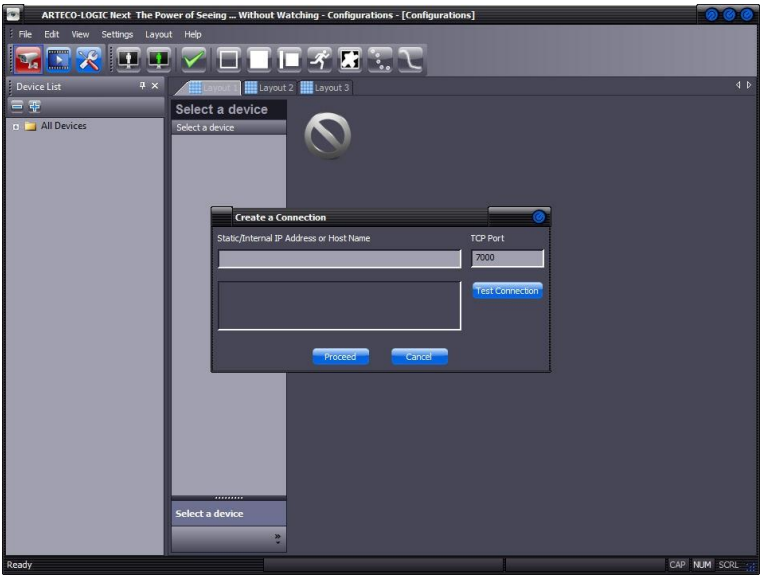


Figure 8 - Home Screen

Par 2.2 First Login

When you first start ARTECO-LOGIC Next you will need to connect the device to which you want to interface (which must be on and connected to your PC via the network).

At the center of the screen, **Figure 9 – Create a** Connection, is where you type the IP address in letters or numbers and the number of the communication port.
It is also possible to enter a literal URL address , eg. "Nameserver.domain.com", also providing access to the servers Arteco has "published" on the Internet.
Click on the button "Test Connection" making a preliminary verification of the network connection, the result of which provides the version and status of the Server.
Also by clicking on "Test Connection", ARTECO-LOGIC Next will make sure the server has not already been included in the program you are using. If you see the message "Note: A server with the same ID ..." means that the same system is already included in the list, for which only one of the two entries would connect.

Figure 9 – Create a Connection

Figure 1 - Local Authorization Window will now appear and ask you for a password to authorize local machine, type 1234 and then Confirm.

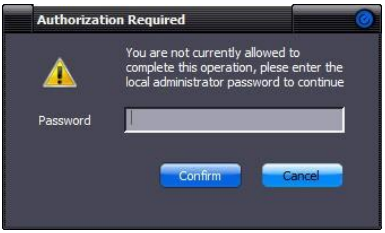


Figure 10 - Local Authorization Window

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

Username = administrator
Password = 1234

If you need to add and configure additional systems, repeat the procedure in this section, the next time you start Logic Next Arteco of the login window will appear directly where you need to enter their credentials, with the ability to simultaneously connect to multiple systems in the case in which data access can be shared. Select “Log as domain user” in order to login as a user of the domain, See **Chapter 12 - User Management.**

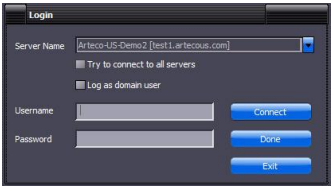


Figure 11 - Login Window

If you need to add and configure additional systems, repeat the procedure in this section.
On subsequent boots of ARTECO-LOGIC Next the login window will appear where you will need to enter your credentials.

Locate and click on the icon in the upper left which has the symbol 
Locate the menu tree "Device List" and click with the right mouse button on the item "All Devices" and then on the line "Add Server"

Figure 12- Adding Server

Par 2.3 Auto Login

In installations where security access is guaranteed (eg the PC on which ARTECO-LOGIC Next it is installed is used only by the user who has 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 in **Figure 13 Auto-Login.**

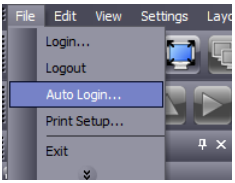


Figure 13 Auto-Login

Figure 14 Enable Auto-Login will appear, enter your user name and password that will engage automatically to log on to the system. Select the check box to turn on this feature**.** Select “Log as domain user” in order to login as a user of the domain, See **Chapter 12 - User Management.**

Figure 14 Enable Auto-Login

Each time you start Logic Arteco Next, if the automatic login enabled, the system will attempt to autologin to each server in its list. In the event that the user name or password of one or more

of the servers in the list of Arteco Logic Next does not match those entered, you will get an error, but will still be able to log in manually.To disable the Automatic Login, repeat the procedure but remove the check mark from "Enable Automatic Login ... ".

Par 2.4 Composition Interface

When you start you'll immediately notice that the interface consists of several distinct sections.
At the top, in the section that appears to groups together the menu and the Main Console, you can access the Environments (Live, Record and Configuration), Panels, and Toolbars, which are explained in detail later.
The menu has "File", "Edit", "View", "Settings", "Layout" and "Help" with which you can access the same caetgories and functions otherwise accessed with the icons on the "Main Console", see **Figure 15 - Main Console .**

Figure 15 - Main Console

The "center" is the part called Layout.
In this area, similar to a "grid" or single view, appears live images of video sources, recorded images or menus, and configuration parameters.
Explained in the next chapters, is how to compose and customize the layout.

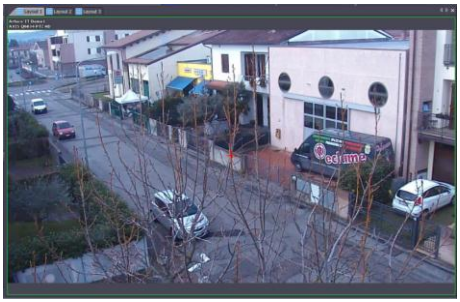
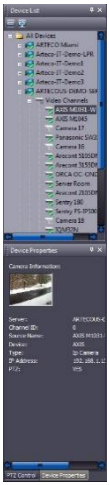


Figure 16 - Layout



On the left there are additional panels.
In the Device List panel you will see all the Registered Servers, cameras configured, the devices of the I / O, and maps. In the Properties panel, all the information related to the selected device appears, such as the preview ,the IP address of the camera, the status of the inputs of the I / O Devices, and so on.

Figure 17 - Side Panels

At the bottom of the screen appears in the Notification Zone.
In this section the Event Log will appear (both channel and system)
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.

Figure 18 – Notification Zone

Par 2.5 Elements Main Console

Using the Arteco Logic Next Main Console, you can interact with various interface elements.
The most important element, is the Toolbar Environments, represented in **Figure 19 - Environments.**

Figure 19 - Environments

Using these buttons the user has the ability to access the 3 main areas of Arteco Logic Next: Live, Recordings, and Configuration.

LIVE: With this setting you can see Live Images, Event Notifications, Patrol Layouts, etc.

REC: With this environment you can access the recordings, view the event log, and export movies.

CONFIG: With this environment you have access to all parts of the system and device configurations (user status permitting).

The red button indicates which environment is currently showing.
Each environment, as well as specific features, will show on the screen and Tab Menu Notifications specifications.
A very important feature is that each environment can be displayed in a dedicated window, thus facilitating the user management systems in its possession.
For example, you can open all 3 environments at the same time, in 3 different windows, the environment or view recordings in 2 windows at the same time to display 2 records and perform a cross-check on the images.
Par 2.13 explains how to open the environments in different windows.

Par 2.6 Toolbars

The Toolbars contain quick access to regularly used functions on the device selected, video, or to enhance functionality of ARTECO-LOGIC Next.
It also allow the user to act promptly on the layout, the PTZ, and viewing the details of the motion detection.
The Toolbars can be controlled only by people 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) **Figure 20 - Dome PTZ Controls.**

Figure 20 - Dome PTZ Controls

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

Figure 21 - Dome PTZ Preset

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

Figure 22 - Dome PTZ Sequence

Channel: the properties panel and display mode of the devices and Layout, see **Figure 23 - Channel.**
In order from Left to Right:

- Save Image: allows you to make and 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: Allow rimpicciolimenti magnification and image.
- Sensitive areas:displays / hides the area created, if an active plug-ins.
- Bounding Box Event:displays / hides the bounding box around the objects that enter areas under control only if they generated the event.
- Areas of Privacy: displays / hides the areas of privacy.

Figure 23 - Channel

Layout: tool for creating and managing Layout, see **Figure 24 - 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

Figure 24 - Layout

Details: 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).

- Image processed: shows the image processed by analysis algorithms as a movement (white blob) and as a still (everything is black).
- Mixed Picture: Displays the actual image superimposed with the blobs detected by the system (the blobs are drawn in green).
- 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) brings up the value of the speed
- Bounding Box: brings up a box around the blob on the screen.
- Center of gravity: it is a pointer to appear at the center of the blob.
- Tracks: shows the trajectory of a moving object.

Figure 25 - Details

In addition to the above icons, you can choose an alternative way in which panels display on the screen in Arteco Logic Next.
Right-clicking the mouse on an empty spot on the Main Console, a window will appear that the that allows you to choose which Toolbars to display, see **Figure 26 - Toolbar.**

Figure 26 - Toolbar

Par 2.7 Menu tree

To view a large number of items, such as devices, plug-ins, Servers and Channels, ARTECO-LOGIC Next uses a Menu Tree.
As you can see in the **Figure 27 -** Menu tree , The main group (eg. 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 (eg. devices), which in turn can be expanded up to the individual item requested.
To close the tree click on the "-" symbol next to the name of the group previously opened.

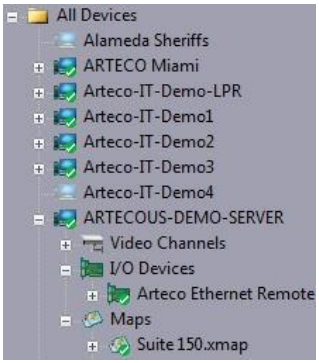


Figure 27 - Menu tree

Par 2.8 Creating Group

With Arteco Logic 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, go into Settings in the Environment, and the Panel "Devices List" select "All Devices" with the right mouse button, you will see a small screen will appear in which the "Add Group", as in **Figure 28 - Add Group.**

Figure 28 - Add Group

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

Figure 29 - Group

It is possible to assign a friendly name (or delete the group), by right clicking on the group and selecting the appropriate item.

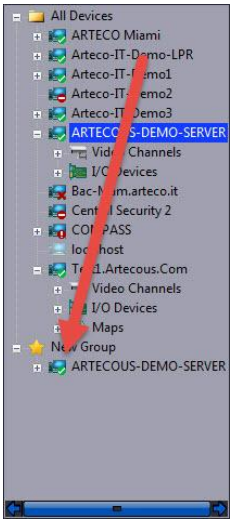


Figure 2 - Drag & Drop item

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. (see **Figure 2 - Drag & Drop item**)

3) release the mouse

The possibility of creating groups is very useful in case 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 / panel, so you always have one or more shortcuts to locate devices or systems involved.

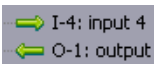
Par 2.9 Menu Tree Symbols

Various parts of the ARTECO-LOGIC Next menu use the Menu Tree to represent the various families of elements.
Each group, each type of element, is graphically and instantly recognizable, so we're going to explain some graphic elements that characterize most of the menu.

If the element has a superimposed green check it means that the user has access to this element.

If you see a thumbnail of the monitor with a superimposed no access symbol it means that the user has not logged in to the system,

If no symbol appears superimposed, it means that a single element is configured, but not connected or is disabled, therefore not usable.



Inputs and outputs of the I / O modules are represented by arrows. They will point to the right if they are Inputs, to the left for Outputs, and they will point both directions for those with both functions.

Par 2.10 Creating the Layout

The grid squares in a layout can be occupied by video sources the user desires.

To view a device you would like to see click on the  , Select a camera from the Devices panel and then drag it to the desired grid square. If this box already had a device being viewed, then the new one will replace the old one.
NOTE: Each activation of a new view increases the bandwidth of the connection between the Server and the ARTECO-LOGIC Next application and increases the CPU load of the PC on which you installed ARTECO-LOGIC Next. The activation of an excessive number of video connections in relation to the available bandwidth and performance of the PC on which you work, causes a display of "jerky" images (ARTECO server performance is not affected).
To reduce the overhead, you can disable unnecessary connections by right-clicking the image of the board and selecting "Unlink Channel." Alternatively, you can reduce the resolution or frame rate of the received images.
When your PC is back to operating under normal conditions, clear all posts made by the alerts.

Par 2.11Full Screen Mode

The "Full Screen Mode"  enlarges the interface of ARTECO LOGIC NEXT to Fullscreen. This mode suppresses the display of the Command Bar and excess toolbars. also hiding the Windows Title Bar of the Applications.

Par 2.12 Colored frames of video sources

Around each image may appear 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 the source recently.

Par 2.13 Using the Layout Tab of the scenarios

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

The layout can be created by using the button  .
You will see a screen like **Figure 30 - Create Layout** which will allow you to configure the view with a preset number of grids, or define a grid consisting of a variable number of rows and columns (max 10x10).

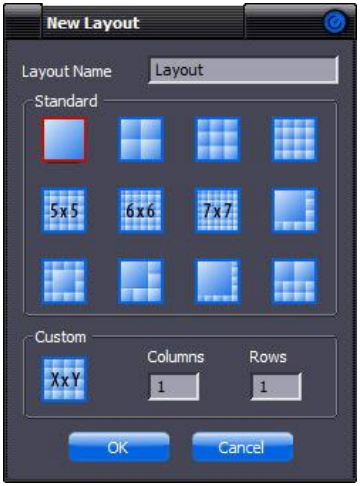


Figure 30 - Create Layout

Once created you can change the layout to form various structures. To expand a box, create a layout of a desired amount of blocks, or use an existing, Then right click on the box and, if possible, click on "Expand (bottom-right)" as in **Figure 31 - Expand**. This command will expand the box in the direction of the lower right corner.

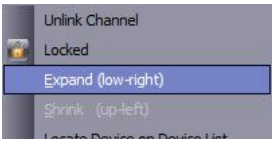


Figure 31 - Expand

When you create a new layout is also added to the corresponding Tab.

Each Tab can be renamed, duplicated (if there are any sources will be also duplicated), sent to a new window or deleted, using the Layout panel, or by clicking with the right mouse button on the Tab of interest as in **Figure 32 - Layout Manager.**

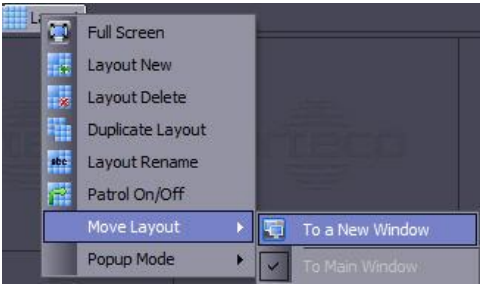


Figure 32 - Layout Manager

Moving one or more layouts to a new windows is useful when, for example, in a control room you have a client with multiple video cards.This will provide a single client the ability to manage multiple monitors with different layouts on each.

Figure 33 - Multi-Monitor Display

Par 2.14 Resizing box

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 34 - Resizing box

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.

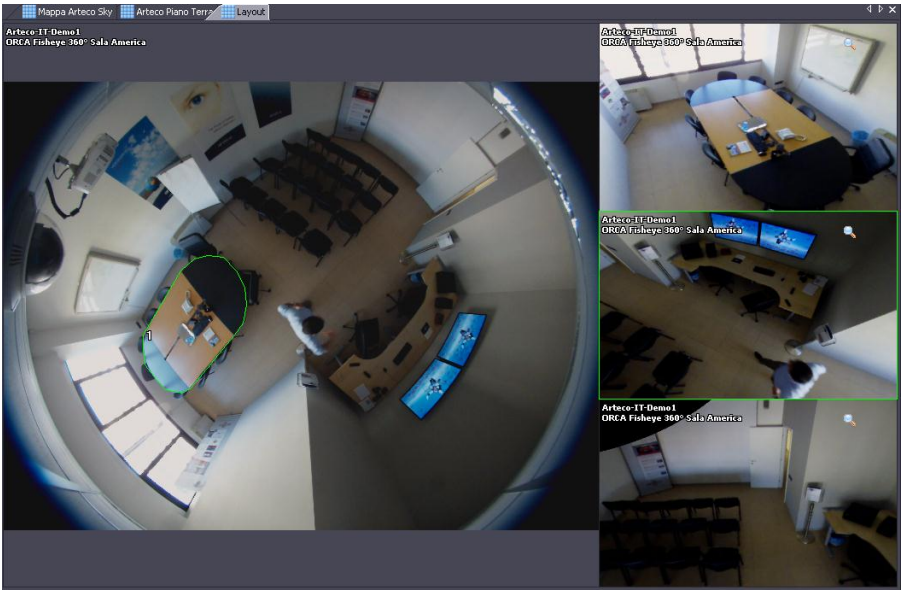


Figure 35 - Resizing box

Par 2.15 Patrol

Patrol on/off allows for an adjustable time between alternating layouts.

The patrol is configurable and can be activated by the  button or by right clicking on a tab, as in **Figure 37 - Configure .**

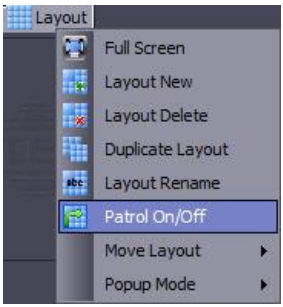


Figure 36 - Patrol

Par 2.16 Configure Tour.

A screen will appear as in **Figure 37 - Configure** that allow you to turn on and set the time interval between the rotation of the Layouts.

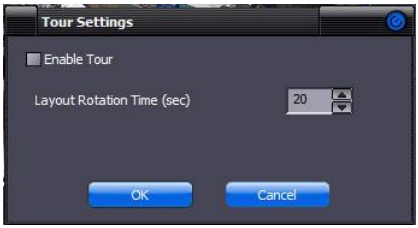


Figure 37 - Configure Tour

Par 2.17 Popup Mode

The Popup mode is activated from "Layout" from the main menu and allows the automatic display of live images from the cameras that generate events.
There are two types of Popup: "On Event" and "Cyclic".
"On Event": if the event is activated, the camera cooresponding to the event will flash in the current layout, if it is already 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 "On Event" 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 cyclically rotate views on the layout.

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 appears superimposed on the grid.

Par 2.18 Quick Recall Output

It is possible to activate an output associated with a video source in several ways.
Right clicking on the grid with the connected source will show **Figure 38 – Linked Outputs**, 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).

Figure 39 – Linked Outputs

Par 2.19 Screenshots and Release

It is possible to save a snapshot of the current image displayed.
Once you have selected the video source on the layout with the left mouse button, click on the  button . You can save a snapshot as a .GIF, .JPEG, .BMP, .TIFF or .PNG.
Using the command "Print Preview" you can view the image and zoom before printing (**Figure 3 - Print**).

Figure 3 - Print

Par 2.20 Digital Zoom

It is possible to Magnify and image digitally, both when viewing Live, and during the playback of recordings.
To zoom in you need to select the image of interest and turn the wheel at the center of the mouse forward, each rotation leads to an increase of the zoom. Each rotation in the opposite direction will cause the reduction of the zoom until the image returns to its actual size.
While in zoom mode a magnifying glass is shown in the upper right corner of the image, as shown in Figure 40 - Zoom Icon.
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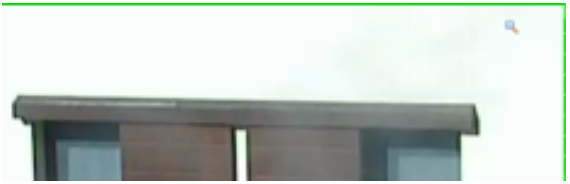


Figure 41 - Zoom Icon

Once you have enlarged the image, when you click, 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.

Figure 4 - Interaction with the image

There is an alternative way to increase and decrease the zoom of images using the ARTECO-LOGIC Next software, 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  or  on 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.

Chapter 3 Interface Customization

One of the key specialities of ARTECO-LOGIC Next is the possibility to move each element of the interface to your liking, at any point of the screen, so that you can arrange and negotiate the most suitable information deemed useful to your job.

Par 3.1 Moving interface elements

Take for example the Environments panel, you'll notice on the left side of the panel a "strip" of vertical dots, as highlighted in green in **Figure 42 - Move Panel.**
By hovering over the dots with the mouse the arrow will change to a cross. By holding left mouse button you can move the panel anywhere on the screen, simply release the button to place the item where you want.

Figure 42 - Move Panel

To facilitate customization and viewing by the user, there is also a semi-automatic mode. Via a "magnet effect" it will position the element with precision.
Moving for example the panel toward one of the ends will cause **Figure 43 – Magnetized Cross to appear**, allowing you to arrange, in an orderly manner, the selected panel.

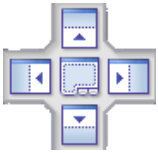


Figure 43 – Magnetized Cross

This magnetized cross indicates that the selected item is "attached" at one end of the interface (arrow indicators) or may create, if possible, a "Tab Menu" (to label menu), as shown in the center of the cross.
While still holding down the left mouse button, positioned on top of one of the elements present in the cross direction, you will notice in the video the appearance of a "shadow" that will indicate in Blue where it will be positioned, as shown in **Figure 44 –** .
It can also be noted that the individual directional arrows appear at the ends of the interface, as shown in green (non-selected areas) and red (selected area), to facilitate the user in locating the panel.

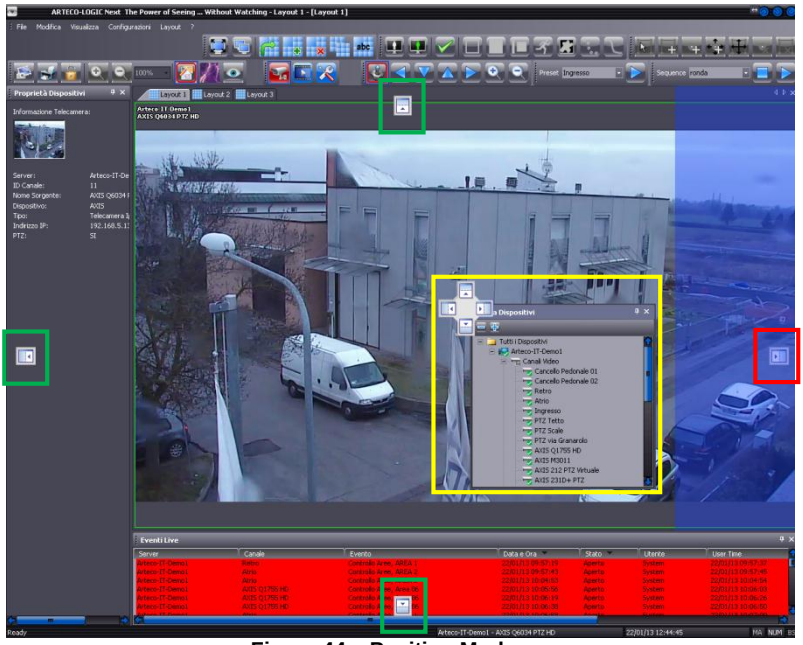


Figure 44 – Position Markers

A peculiarity of this function is that each element, in addition to being able to be displayed within the screen, can also be positioned outside of the window, or on another Montor connected, always remaining active.

Par 3.2 Audo Hide Tab Menu

Each Tab Menu as well as being moved, 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 panel, but open and use them when necessary, by a simple click of the mouse or cursor positioning a few seconds. This gives gives extra space to the remaining elements of the interface.
By default, each Tab Menu displayed with Auto Hide is set to Off, that is permanent until changed. This is recognizable because it has a symbol of a "pin" downward, as shown in **Figure 45 - Auto Hide Off.**

Figure 45 - Auto Hide Off

To enable Auto Hide, click the pushpin to turn it to the left as shown in **Figure 46 - Auto Hide** and Tab Menu will be automatically hidden.

Figure 46 - Auto Hide On

To view the hidden menu, you simply need to position the cursor of the mouse on the label of the panel, and click with the left mouse button, or “stop” the cursor on the label, after 1 second the panel will appear on the screen displaying the information.

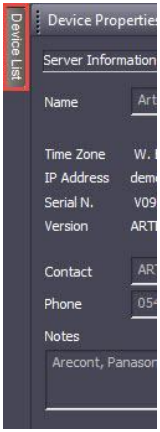


Figure 47 - Tab Menu

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 4 Configuring Cameras

In this chapter you will see how to add and remove video sources (cameras) and how to adjust the parameters of acquisition and transmission over the network.
The complete list of video sources to an ARTECO system is seen by expanding the Tree Menu in the Device List. If the system is equipped with analog cameras, they will appear automatically, otherwise the IP cameras will be added later.
.

For access to the configuration area, select the icon  in the Environments Toolbar, you will see the Device List panel, and next to it a window with Various Buttons.
Selecting the Server reference, locate the button "Devices", as shown in
Figure 48 - Devices.

Figure 48 - Devices

Par 4.1 Adding Manual

Manually adding channels is located in the upper part of the screen when “Devices” is clicked. It displays the words "Add Manually", using a drop-down menu you can choose to manually add analog cameras, recognizable by the prefix BNC, or IP, so it is important you know the brand of the camera, its network address, and credentials authentication (if different from the default). Once you select the type of channel to be added, click the "Add Channel".

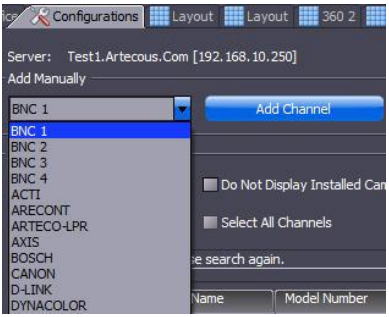
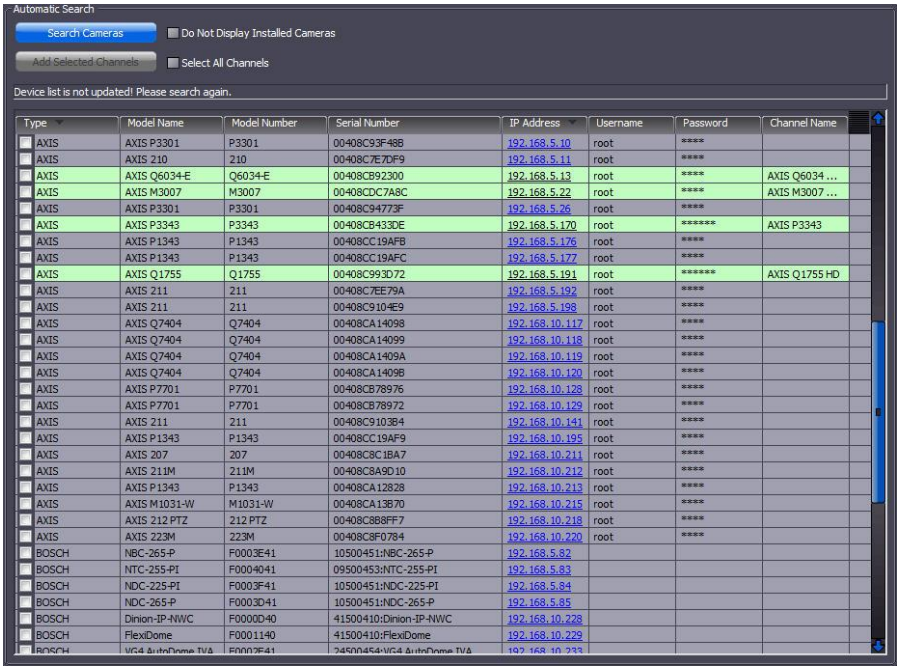


Figure 49 - Added manual

Par 4.2 Automatic Search

Automatic Search simplifies the installation of one or more IP cameras in a few steps.
Clicking on the menu item, you will then see a screen , like **Figure 50 - Automatic**, showing all UPnP IP devices on the Arteco Server network.
This feature identifies the IP cameras on the network, even if the cameras are in different classes of network and / or 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 "Filter Cameras Existing Configuration") 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 on "Add Selected Channels".



Type	Model Name	Model Number	Serial Number	IP Address	Username	Password	Channel Name
AXIS	AXIS P3301	P3301	00408C93F48B	192.168.5.10	root	****	
AXIS	AXIS 210	210	00408C7E7DF9	192.168.5.11	root	****	
AXIS	AXIS Q6034-E	Q6034-E	00408CB92300	192.168.5.13	root	****	AXIS Q6034 ...
AXIS	AXIS M3007	M3007	00408CDC7A8C	192.168.5.22	root	****	AXIS M3007 ...
AXIS	AXIS P3301	P3301	00408C94773F	192.168.5.26	root	****	
AXIS	AXIS P3343	P3343	00408CB433DE	192.168.5.170	root	******	AXIS P3343
AXIS	AXIS P1343	P1343	00408CC19AFB	192.168.5.176	root	****	
AXIS	AXIS P1343	P1343	00408CC19AFC	192.168.5.177	root	****	
AXIS	AXIS Q1755	Q1755	00408C993D72	192.168.5.191	root	******	AXIS Q1755 HD
AXIS	AXIS 211	211	00408C7EE79A	192.168.5.192	root	****	
AXIS	AXIS 211	211	00408C9104E9	192.168.5.198	root	****	
AXIS	AXIS Q7404	Q7404	00408CA14098	192.168.10.117	root	****	
AXIS	AXIS Q7404	Q7404	00408CA14099	192.168.10.118	root	****	
AXIS	AXIS Q7404	Q7404	00408CA1409A	192.168.10.119	root	****	
AXIS	AXIS Q7404	Q7404	00408CA1409B	192.168.10.120	root	****	
AXIS	AXIS P7701	P7701	00408CB78976	192.168.10.128	root	****	
AXIS	AXIS P7701	P7701	00408CB78972	192.168.10.129	root	****	
AXIS	AXIS 211	211	00408C9103B4	192.168.10.141	root	****	
AXIS	AXIS P1343	P1343	00408CC19AF9	192.168.10.195	root	****	
AXIS	AXIS 207	207	00408C8C1BA7	192.168.10.211	root	****	
AXIS	AXIS 211M	211M	00408C8A9D10	192.168.10.212	root	****	
AXIS	AXIS P1343	P1343	00408CA12828	192.168.10.213	root	****	
AXIS	AXIS M1031-W	M1031-W	00408CA13B70	192.168.10.215	root	****	
AXIS	AXIS 212 PTZ	212 PTZ	00408C8B8FF7	192.168.10.218	root	****	
AXIS	AXIS 223M	223M	00408C8F0784	192.168.10.220	root	****	
BOSCH	NBC-265-P	F0003E41	10500451:NBC-265-P	192.168.5.82			
BOSCH	NTC-255-PI	F0004041	09500453:NTC-255-PI	192.168.5.83			
BOSCH	NDC-225-PI	F0003F41	10500451:NDC-225-PI	192.168.5.84			
BOSCH	NDC-265-P	F0003D41	10500451:NDC-265-P	192.168.5.85			
BOSCH	Dinion-IP-NWC	F0000D40	41500410:Dinion-IP-NWC	192.168.10.228			
BOSCH	FlexiDome	F0001140	41500410:FlexiDome	192.168.10.229			
BOSCH	VG4 AutoDome TVA	F0002E41	24500454:VG4 AutoDome TVA	192.168.10.233			

Figure 50 - Automatic

To get updated information on the compatibility and recommended configurations of the models of IP cameras and video servers are compatible it is advisable to contact the ARTECO Support Site. The list of compatible IP cameras is evolving rapidly and may vary depending on the software version installed.

Par 4.3 Removing Channel

For the removal of a video source, while remaining in the Configurations Environment Settings, go to the the Device List panel.
Open the menu tree on the system, under video channels right click on the device and then select "Delete Channel", as shown in **Figure 51 - Removing Channel .**

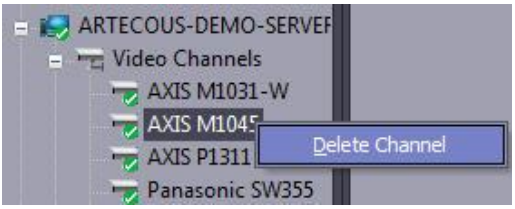


Figure 51 - Removing Channel

Please note: the removal operation will erase all settings and records relating to the video source, The channel will be re-activated by the operation of addition, but will be assigned to the factory settings.

Par 4.4 Setup video sources (analog or IP)

Once you have defined a list of cameras to be connected to the system it is necessary to set up the external network transmission and video analysis of the images.
For the configuration of a video source to be identified, while remaining in the Configuration Environment Settings, go to the Device list panel. Open the menu tree for the device, find the camera, you will see a side panel as in **Figure 52 - Channel Setup** that allow you to set the parameters of Live.

Figure 52 - Channel Setup

Par 4.5 Analog Camera Setup

The screen consists of 3 main elements: an image, device configuration and Live Stream.
Take for example the configuration of an analog camera as shown in **Figure 53 - Configure NTSC.**
The header shows the name of the physical input which corresponds to the video source. This is a physical Female socket BNC input connector corresponding to an analog camera. ii is also possible to change the default name of "Room XX", this will help to understand the messages generated by the system that will contain the names of the custom views (eg: "Pedestrian Gate 01").

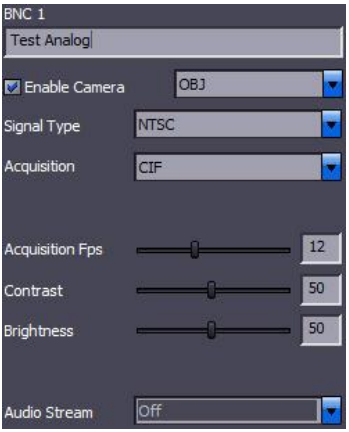


Figure 53 - Configure NTSC

Unchecking the "Enable Camera" allows the temporary disabling of your video source on the server and will not erase the recordings. To the right of that is the type of video channel, this is determined on the basis of license rights in the system. A source can be, SMB, PRO, ENT and OBJ. According to the type of source, each are associated with different functionality (analysis algorithms) systems described in the following paragraphs.
The choice of the "Video Signal" depends on the nature of the camera used. Generally those sold in the North American market produce a signal in NTSC, while in the Europen Market, the signal is PAL.
The "Resolution Analysis"Allows you to choose the resolution to be reserved for video analysis (processing used by the plug-in view): the system allows you to scan in both PAL and NTSC without loss of information at 4-CIF (704 x 576 pixels for PAL and 704 x 480 for NTSC) or CIF (352 x 288 pixels for PAL and 352 x 240 for NTSC). The factory settings for ARTECO LOGIC-Next are set to PAL CIF and must be changed to NTSC in order for the software to operate at optimal performance.
The parameter "Acquisition Fps" defines the number of frames per second that are running the image analysis (processing used by the plug-in). Any modification is directly perceived as a change in the speed of image analysis: the higher the "Acquisition Fps" the greater the frequency with which processing is performed controls the smoothness of the output. This parameter also regulates the fluidity of the details that are the result of image processing. This parameter directly affects the load on the CPU of the server, so you should adjust it with this in mind. In the event that the channel is not given any plugin parameters it is appropriate to set this item to the minimum value. The value of Acquisition Fps recommended varies from **5 to 12 fps** depending on the speed of objects. If you use a plugin for the count, or the analysis of the trajectories you should configure it to the maximum frame-rate (25 fps) so as to achieve ideal performance.
The parameters "Contrast" and "Brightness" regulate the respective properties of the video source for this video.

Remember to click on the 

button to save your scan settings for analog video sources.

To cancel the scan settings for analog video sources instead click on the 

button.

Par 4.6 Setup IP camera

For IP cameras from other manufacturers the window will look like **Figure 54 - Configuring IP channels**

.

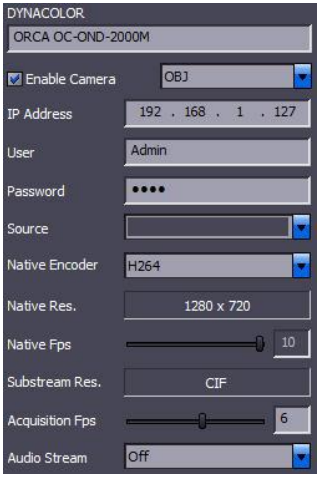


Figure 54 - Configuring IP channels

As for analog sources, unchecking the "Enable Source" allows the temporary disabling of your video source on the server and will not erase the recordings.
In the "IP Address" enter the 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 software ARTECO-LOGIC Next proposes default credentials provided by the manufacturer. Change the data in the event that there have been changes.
The parameter: “Source” with the drop down menu, allows you to choose which channel / lens to use (eg Arecont cameras 180 ° / 360 ° and multi-lense).
The parameter: “Native Encoder” with the drop down menu allows you to choose which encoder is used to manage the device (refer to the manual of the camera).
The parameter: "Native Res." is taken directly from the value set via the Web Server of IP camera. To change this parameter you must connect to the camera interface by opening a page of the Web browser and typing in the cameras IP address. It is highly recommended that you dedicate an IP camera to a single system so that it does not affect the optimal operation of the camera that would otherwise need to transmit multiple video streams simultaneously to multiple systems.
"Substream Res." can not 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 analysis of the images.
The parameter "Acquisition Fps" allows you to limit the frame rate of image processing that the system performs on that channel (see the description in the section analog sources).
The "Audio Stream" allows you to enable the use of the resource relative to the single audio channel.

Par 4.7 Setup IP Camera Wide Angle

In this section you can view and define the area of dewarping (anti-deformation of the image) on the fisheye camera. 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.

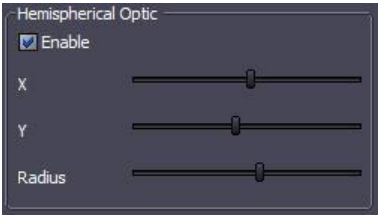


Figure 55 - Wide Angle Optical Construction

Par 4.8 ONVIF IP camera setup

Unlike the configuration for the cameras "branded" , the ONVIF devices (see IP Compatibility List) GUI will look different, as shown.

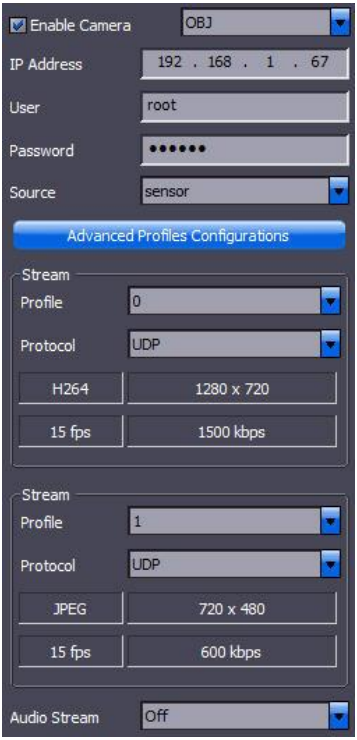


Figure 56 - Configuration ONVIF

You will immediately notice the "Advanced Configuration Profiles", click on the button and you will go to a screen that allows you to configure the video streams the ONVIF camera in question is capable of delivering.

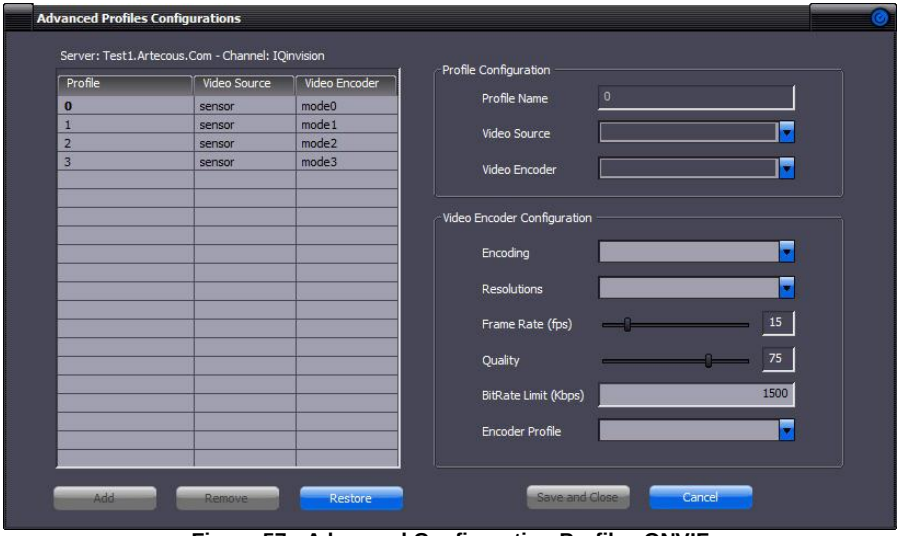


Figure 57 - Advanced Configuration Profiles ONVIF

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).

Par 4.9 Live Options Overview

Network settings can be found at the bottom of the configuration window for each camera. These have an effect on the transmission of live images between the Server and the ARTECO-LOGIC Next software. The assigned values result in a change in bandwidth allocation data and the quality and fluidity of the live image.
MPEG-4: it has a bandwidth of about eight times less than the compression MJPEG. The quality is a little lower than the H264 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: ensuring best performance in terms of bandwidth but burdens the server because the video encoding system hardware burden.
MJPEG: 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 dispatch of live images over the network.
Native (MJPEG, MPEG4, H.264 or MxPEG): This encoder allows you to lighten the ARTECO Server load from the operations of the network transmission of images as video compression takes place as if it were hardware.Wherever possible you can add the audio track to the video using "Camera Audio" or "Server Audio".
For displaying live images it is good to know what "bottleneck" is in terms of the Band of the data channel between the Server and the ARTECO Client PC , you must decide how to configure this section in relation to the transmission of all video channels, it is also important not to overload the PC on which you installed ARTECO –LOGIC Next with too many channels in too high of quality.

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 the remote monitoring occurs from stations located in different zones or different types of users.

Par 4.10 Options for Live IP cameras

At the bottom where it says “live profile” is the parameter "Encoder" which can be of four types: Native (various formats depending on the nature and configuration of the camera), MPEG4 (CIF), H.264 (CIF) and MJPEG (CIF). The use of native parameter is recommended because it is the one that provides optimal picture quality. With high resolution cameras, this flow can be up to several Mbit / s.
It is possible to specify, for each camera configured, the default profile for live video, in order to make every client receive the stream select the check box "Default Profile".

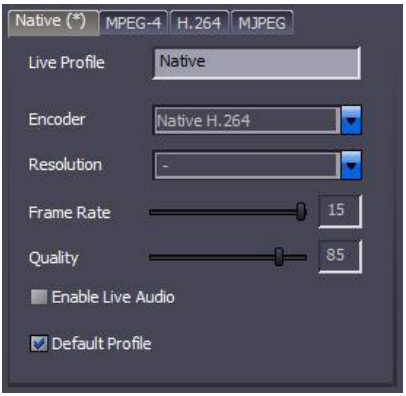


Figure 58 - Configure Live IP camera

Each authorized user on each client can then make changes to the display of the device by right-clicking the image in the Layout, then selecting the preferred encoder in relation to the required quality and / or the capacity of the data band.

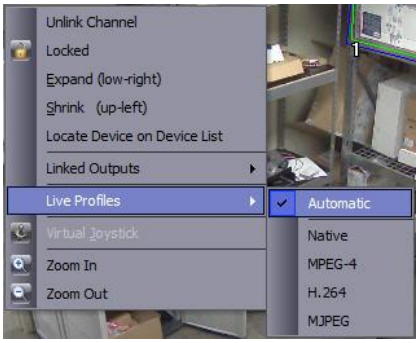
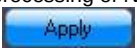


Figure 59 - Selection of Live Profile

Even if the Live profile "Auto" is selected by the system administrator in the configuration of the channel, selecting a different profile you will still receive the preferred flow.
The disadvantage of the Native encoder (MJPEG, MPEG4, H.264 or MxPEG) is that you can not change Frame Rate and Quality of network transmission, which are set on the IP camera. This can create problems of bandwidth: if you set, for example, 25fps in Web Server of the camera, this means that 25fps will be sent to ARTECO-LOGIC Next, with a consequent high bandwidth.
The use of MPEG4 codec (CIF) or H.264 (CIF) reduces Live image quality and is recommended if you do not have a lot of network bandwidth available or the ARTECO-LOGIC Next Client installed on it has inadequate hardware specifications to manage multiple video streams in another resolution. Please note that with the use of codecs (CIF) resolution rests on the CPUs of the ARTECO Server for processing of Native Encoder.

Remember to click on the 

button to save the settings to capture digital video sources to IP. This operation causes it to write the parameters on the IP device, in some cases, automatic restarts may result in inaccessibility for a few seconds.

Par 4.11 Live Options for Analog Cameras

For analog sources, with less than specified requirements, it is recommended to use the hardware encoder (H264) for sending over the network.

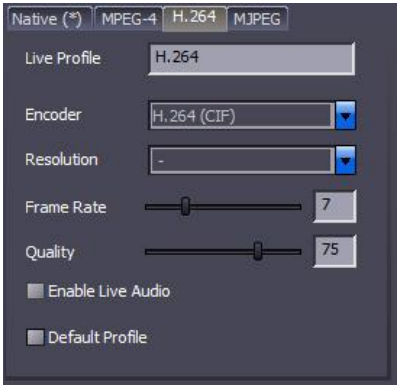


Figure 60 - Configure Live camera PAL / NTSC

it is possible to specify, for each camera configured, the default profile for the live transmission of images, in order to make every client receive the stream selected by clicking the check box "Default Profile".
The first parameter of the Live options is"Encoder": This drop down box allows you to select three different methods of image compression for transmission in a network between ARTECO-LOGIC Server and Next
Hardware (H.264): Enables the best performance in terms of bandwidth.It also lightens the load on the server from the operations of the network transmission of images as video compression rests soley on the system hardware. This encoder is the recommended choice for transmission over the network.
MPEG-4: it has a bandwidth of about eight times less than the compression MJPEG but higher than the H.264, also decoding and sending Images over the network has an impact on the CPU load of the ARTECO server. The quality is slightly lower than the H.264 and MJPEG.

MJPEG: this encoder has the largest bandwidth consumption but an improved image quality. Even in this case, unlike the H.264, decoding and sending images over the network is reflected on the CPU load of the ARTECO server.
The second parameter of the Live options is the "Resolution": This parameter defines the level of detail contained in the image. In the case in which the encoder is MPEG4 or MJPEG the resolution is fixed to the resolution of analysis. Conversely, if you select the Hardware Encoder (H264) the combo box "Resolution" allows you to choose between 4-CIF (704 x 480 pixels) and CIF (352 x 240 pixels). The factory settings for the solution provide the optimal parameter for a resolution to CIF (352 x 240 pixels). **See Figure 60 - Resolution Live Camera PAL / NTSC**

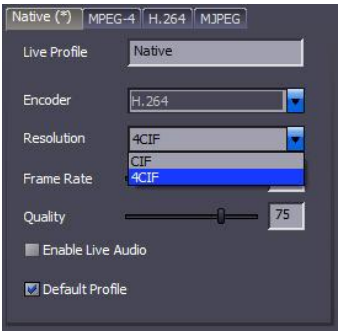
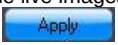


Figure 61 - Live camera Resolution PAL / NTSC

If the words "4CIF (Rec Used)" appear, it means that the encoder has a resolution that is already used in the recording of the channel in question (see beginning Chapter 5). Therefore it will not be possible to change the parameters of "Frame Rate" and "Quality", which will appear greyish.

Among the options in **Figure 61 - Live camera Resolution PAL / NTSC** , Using the "Frame Rate" you can set the fluidity of images over the network. Like the previous parameters of the network options, these have no impact on bandwidth consumption.
In the case of MPEG4 and MJPEG encoder you can not adjust the frame rate transmission network options above the Frame Rate Analysis. Instead you can do this by using the Hardware encoder (H264). As we recall above, in the case where the Hardware encoder is selected (H264) and 4-CIF resolution (Rec used), it is not possible to change Frame Rate and Quality, changes can only be made in the recording parameters.
The reduction of the parameter named "Quality" determines a reduction of bandwidth consumption and a reduction of the quality of the received images. A good compromise to avoid losing too much detail of the live images and engage the band small quantities is Quality = 75.
Remember to click on the 

button to save the settings for the Live video source.
As for IP cameras, each authorized user on each client can then make changes to the display of the device by right-clicking the image in Layout, then selecting the preferred encoder in relation to the required quality and / or bandwidth capacity data.

Chapter 5 Recording and Playing Back Images

This chapter explains how to configure the recording device.

Par 5.1 Configuring Routes Registration

For access to the configuration area, select the  icon to pull up the configuration Environment in the Toolbar. You will see the Device List panel, and next to it a window with Various Buttons.
Selecting the Server you would like to configure, locate the button "Storage", as shown in **Figure 62 - Storage**

Figure 62 - Storage

After clicking “Storage”, a screen that allows you to manage and view the configuration on the "Disk Management" of a system will appear on the screen.

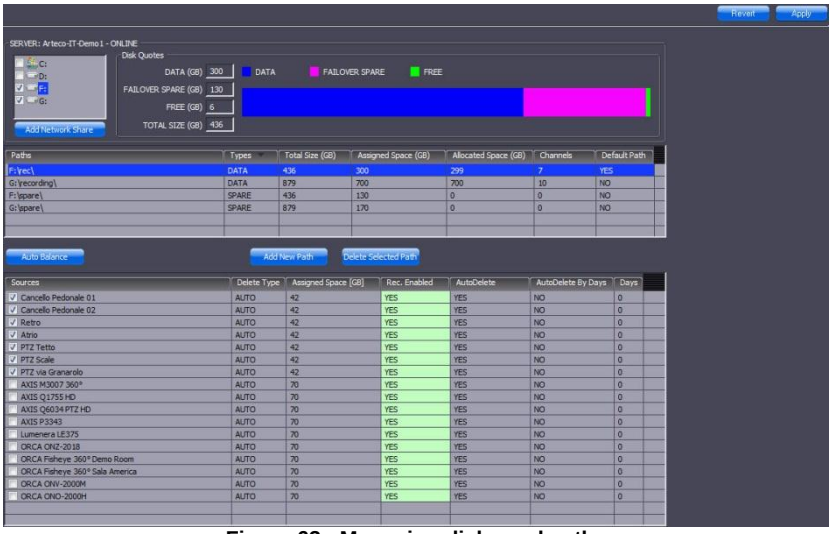


Figure 63 - Managing disks and paths

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

- Devices that Windows identifies as "Removable Storage" (eg. Most of the pen-drive or USB also removable media such as Compact Flash, SD, ...) do not show as present as thus can not be used
- There are obviously disks which are physically removed fom the system
- A disc is considered corrupted if the system detects anomalies in the process of reading or writing data. Another method to mark as "Damaged" if the disk is having problems reading the SMART parameters.

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

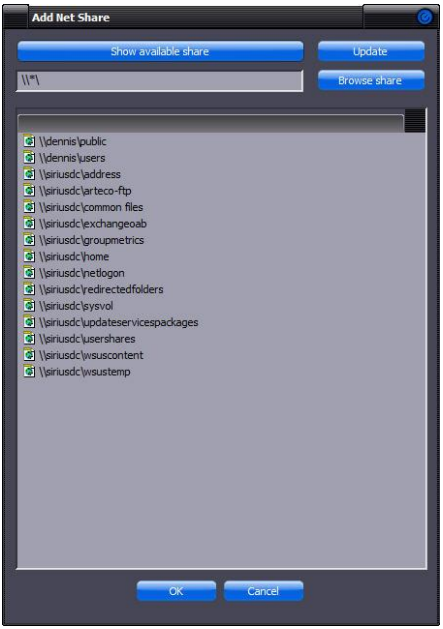


Figure 64 - Path Network

When you select a disk in the Logical Drives list (eg. In **Figure 65 Disc Space**, it is selected disk F: \), you can view a bar graph showing the distribution of the space allocated for the records "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).

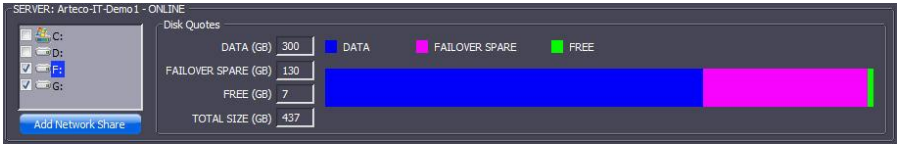


Figure 65 - Disc Space

The box provided to the left of a disk (Example: "F: \") indicates that the disk is used for recordings or "DATA" or for failover "SPARE". When you check the box next to the disc it automatically creates a record path "DATA" on the selected disk which is given all the available free space.

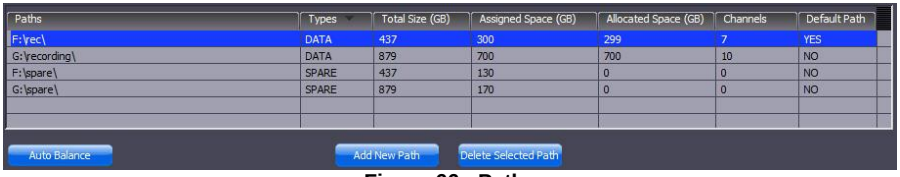


Figure 66 - Paths

If you do not not assigned a video source to the path "DATA" this path will not be used, so it will not be visible in the list of routes (unless it is the default path, which can not be eliminated).
If your system has more possession Hard-disk intended to contain the records, you can select each video source to the path of / and recording / i.
To create a path for the recordings "DATA" or for failover "SPARE" is to use the button "Add. New Path ", see **Figure 66 – Paths** which allows you to Add a New Path. When you press that button appears in the window.**Error! Reference source not found.** Browsing showing the olders on the remote system ARTECO. You can create new folders using the "New Folder" and then set the type, if "DATA" or "SPARE". The crea 0tion of a path of "SPARE" is subject to licensing as this is an optional feature of the system ARTECO, this means that for systems that do not have such an option, it will not be possible to create “SPARE” routes.
Once you select the path and press "OK" the path is created and ready to be configured in the "Paths".

In the table "Paths" are given various parameters:
- "Type" indicates whether the path is "DATA" or instead "SPARE"
- "Total Size (GB) ": Indicates total GB of disk
- "Assigned Size (GB)": Indicates total GB to be reserved to the path (only parameter that is configurable through this interface)
- "Allocated Space (GB)": indicates how much space has been allocated for the recordings. And the sum of all the spaces assigned to video sources, visible in the "Video Sources" of such a path.
- "Channels": indicates the number of video sources assigned to that path
- "Default Path" indicates the path of Default and is the only one that can not be removed and remains always 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, the only exception is for the Default path, which can not be deleted. If you delete the video sources that are part of a process of registration, or if you delete a record path, the video sources are assigned to the Default path. Once you have created and configured the allotted space of a process of registration, it shall be assigned to the video sources. The video sources assigned to a route will use this path as the target of the recording files.

Note: You can not make a recording of a video source on multiple paths. A video source can record on one and only one path.

Par 5.2 Configuration Sources

On the bottom half of the same section you will see where the previously created andnew video sources are, by clicking on the specific path and looking under the"Sources" column, see **Figure 67 - Video Sources.**

.

Sources	Delete Type	Assigned Space [GB]	Rec. Enabled	AutoDelete	AutoDelete By Days	Days
☑ Cancello Pedonale 01	AUTO	42	YES	YES	NO	0
☑ Cancello Pedonale 02	AUTO	42	YES	YES	NO	0
☑ Retro	AUTO	42	YES	YES	NO	0
☑ Atrio	AUTO	42	YES	YES	NO	0
☑ PTZ Tetto	AUTO	42	YES	YES	NO	0
☑ PTZ Scale	AUTO	42	YES	YES	NO	0
☑ PTZ via Granarolo	AUTO	42	YES	YES	NO	0
☐ AXIS M3007 360°	AUTO	70	YES	YES	NO	0
☐ AXIS Q1755 HD	AUTO	70	YES	YES	NO	0
☐ AXIS Q6034 PTZ HD	AUTO	70	YES	YES	NO	0
☐ AXIS P3343	AUTO	70	YES	YES	NO	0
☐ Lumenera LE375	AUTO	70	YES	YES	NO	0
☐ ORCA ONZ-2018	AUTO	70	YES	YES	NO	0
☐ ORCA Fisheye 360° Demo Room	AUTO	70	YES	YES	NO	0
☐ ORCA Fisheye 360° Sala America	AUTO	70	YES	YES	NO	0
☐ ORCA ONV-2000M	AUTO	70	YES	YES	NO	0
☐ ORCA ONO-2000H	AUTO	70	YES	YES	NO	0

Figure 67 - Video Sources

The table "Video Sources" shows the sources assigned to the path selected in the "Paths". The columns of the table "Video Sources" is composed of some parameters:

-  Check that identifies whether or not the video source assigned to the route is selected in the "Paths"
- "Clear": Identifies the type of deletion implemented for the video source, and can be assigned "SET" or "AUTO".
  - "SET" is set to a fixed amount of space allocated to the video source
  - "AUTO": the value of space assigned to the source is automatically calculated among all video sources that share the same route of the recordings.
- "Assigned Space (GB)": is the maximum space (in GB) of record that can be used by a source. Exceeding this value activates the process of Auto Deletion of records which eliminates the oldest recordings.
- "Rec. Enabled ": this parameter is read-only and shows whether logging is enabled for a given video source. To enable / disable this value
- "AutoDelete": This mechanism operates independently for each channel and continuously verifies that the proportion of space allocated to your video source (Assigned Space [GB]) has not been exceeded. In the case where it has been passed the space assigned to channel the mechanism comes into operation by deleting the oldest recordings in blocks of up to 200MB return under the maximum limit assigned.
- "AutoDelete By Days ": This is an additional control parameter which is used to ensure compliance with the laws that protect the privacy which provides that records are retained for the time strictly necessary. This method of deletion mechanism comes into action after the Auto Deletion.
- "D": Defines the maximum amount of days of recording will be preserved.

Note: In all the situations in which you change the recording path to a video source all previous recordings are lost.

Par 5.3 Failover of a disk

In the event when a recording medium is no longer reachable or the system detects it as corrupted and therefore no longer usable, interrupting the recording;
The Plugin "Failover" (optional for PROFESSIONAL-systems, standard on the ENTERPRISE) works on systems with at least 2 disks used for the Storage and bypasses this series very particular cases and, instead of stopping the recording, the recording path is moved to the other drive called "SPARE"
A path of type "SPARE" must be created like any other path, however, it has the distinction of not having assigned video sources (only operationional for the functionality of Failover).

In a system configured with two HDD used for storage, you can have a path "SPARE" in both the disks in this way if one were to break records would be moved automatically to the "SPARE" disk is not damaged.
At the start we have two disks D: \ and E: \ and both possess a "DATA" and one "SPARE". At one point, we assume that "E: \" is damaged: The system reacts to the signal by moving the video sources assigned to disk "DATA" to "E: \" path to "SPARE" to "D: \". From this moment on new recordings will be filed in "D: \".

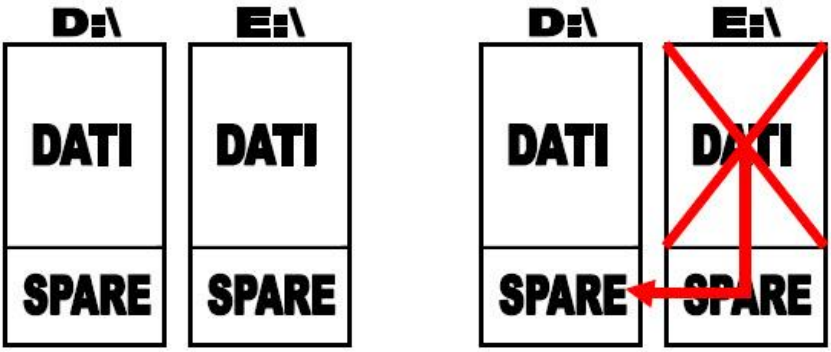


Figure 68 - Automatic Failover

Par 5.4 Recording Settings Device

Once you have the list of cameras connected to the system it is necessary to establish the settings for recording images.
For the configuration of a video source to be identified, while remaining in the Environment Settings, Devices Panel List.
Open the Menu Tree on the device, find the camera, and you will see a side panel that allow you to set the parameters of registration, by choosing Basic Settings.

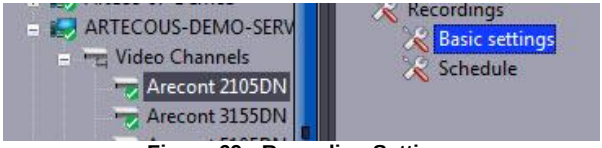


Figure 69 - Recording Settings

The recording parameters are those related to camera highlighted in the Panel Devices list. You will see a screen made up from the preview of the camera and a menu which contains the parameters of the recording itself.

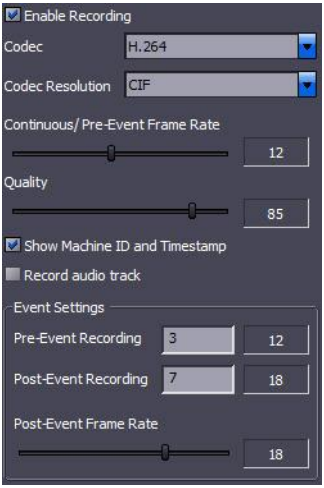


Figure 70 - Parameters of NTSC Camera Record

Inside the interface shown in the following parameters appear:
"Enable Recording": Enables or disables logging.
"Encoder": this parameter defines the type of compression (encoding) to be used in the recording.

- **"MJPEG"** the use of this encoder gives higher quality and lightens the computational load of the system but takes up disk space, on average 10 times more than that used by other types of compression, the images will be at CIF resolution.
- **"Mpeg4"** occupies less space and uses the resources of the system to compress the video, which will be at CIF resolution.
- **"H.264" for the cameras** IP records images at CIF resolution relieving the band but weighting the computational load of the server.
- **"Hardware (H.264)" for analog cameras (PAL / NTSC)** acquisition card is used to compress the images for the recordings, this decreases the CPU load of the system. Moreover, in choosing this encoder you can enable overlay and the time and channel name ("Show Time & Machine Id") on the recordings.

Note: The resolution of Encoding Hardware (H.264) is not necessarily the same as that of analysis and sending the image via the network. This allows the advantage of using the analysis functions and sending over the network with CIF resolution and possibly record to 4CIF.
However, using the Encoding H.264, there exists a case in which the network settings are not necessarily the same as those set in registration and this is done by setting the resolution to "4CIF": if this is set in both recording and it is then sent over the network, next to "Resolution" will appear the word “4CIF” (Net Used) " to indicate that the same resolution is already used for sending the network and the values of Quality, and Frame Rate set here, the parameters will be applied to sending network also.
"Native (H.264, MJPEG, MPEG4 or MxPEG)" for digital cameras (IP-CAM) the compressed stream of the camera is saved directly to disk without decoding any charges on the server. As can be seen in **Figure 71 - Parameters of IP Cam Recording**, Many parameters are not

editable (greyish), since those settings can only be changed by the configuration of the IP-CAM accessible via a web browser, as is the case for most of the manufacturers.

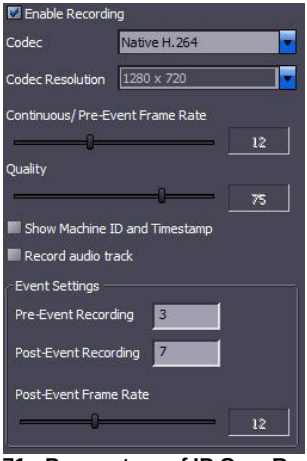
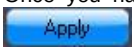


Figure 71 - Parameters of IP Cam Recording

"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 number of maximum fps (frames per second) used in recording. Using MPEG4 or Motion JPEG encoder as this value may not exceed the analysis. While using the Encoder Hardware (H264) you can set a number fps independent of the Frame Rate Analysis.
For IP cameras is recommended to use the Native Encoder, which allows for better compression and quality.
Tip: recording at a low frame-rate allows you to store much larger than a recording made at 25fps. As a recording at 25fps may seem appropriate, actually it takes up much more space and provides just as much information with respect to a hardly noticeable performance at 12fps. It is recommended to save disk space by limiting the frame rate parameter.
"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.
NOTE: If you enable this feature and whether this channel has the Hardware Encoded (H264) selected for sending information over the network will also appear on the live images.
"Record Audio Track": allows you to add to the recording of the video stream and also recording the audio track if the device is compatible and properly configured.
"Pre-Event Recording ": Sets the duration of the advance start viewing 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 will still be active after it has finished recording the action that initiated the event. If the queue post-event is for example is 30 and before the expiry of this time another event occurs, the event registration will be extended to other 30 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 active reporting of an event.

Once you have finished the configuration, you must enable this feature by pressing the 

button which is located at the top of the configuration window.

To cancel the scan settings for analog video sources instead click on the 

button.

Par 5.5 Recording Schedule

In ARTECO-LOGIC Next, “Enable Calendar” allows programming of the recording.
For the configuration of a video source to be identified, while remaining in the Configuration Environment, locate the Device List panel.
Opening the menu tree for the device, find the camera, you will see a side panel that allow you to set parameters for recording, select the Schedule.

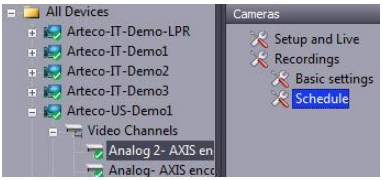


Figure 5 - Planning

The plugins and continuous recording capabilities are ARTECO that can be activated in timed mode.
The effect of timed activation of continuous recording produce an unconditional control of the recorder continuously activating only in the scheduled times.

Par 5.6 Research and Consultation of Records

To see or to review one or more records, click on the Recordings Environment button in the "Environments Panel" of ARTECO-LOGIC Next.
This will open a screen composed of elements useful to research and review of Records, by default it is on the right of the screen (but you can move it), which will allow you to perform two types of research: through time query or via the events browser.
To determine the type of search to perform, select the appropriate panel in the lower part of the menu, as shown in **Figure 72 – Recordings Search Window**.

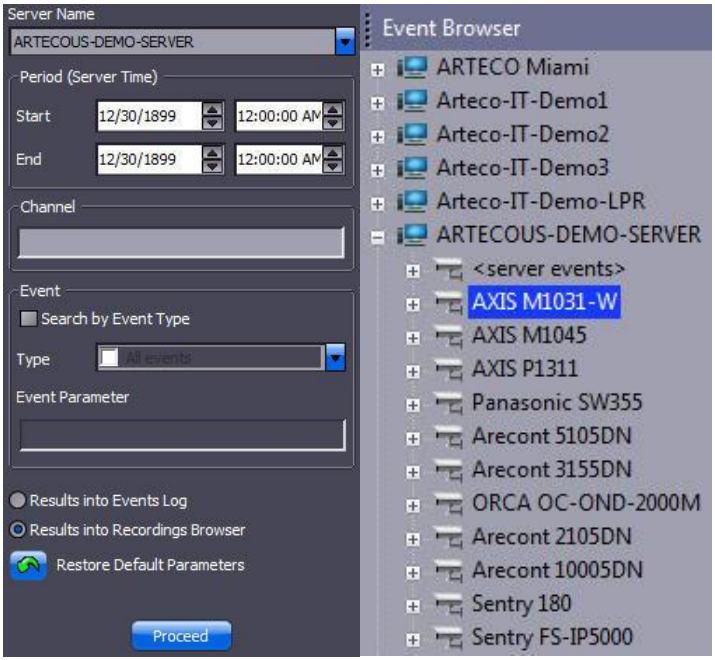


Figure 72 – Recordings Search Window

Par 5.7 Research and Review of Records

Searching by selecting the Events Browser can "explore" the records of the events, clicking the + symbol will expand the tree on the right with the camera list.
If you do this a request will be sent to the server that will provide a list of all the events associated with the selected camera. As shown in **Figure 73 - Display Record.**

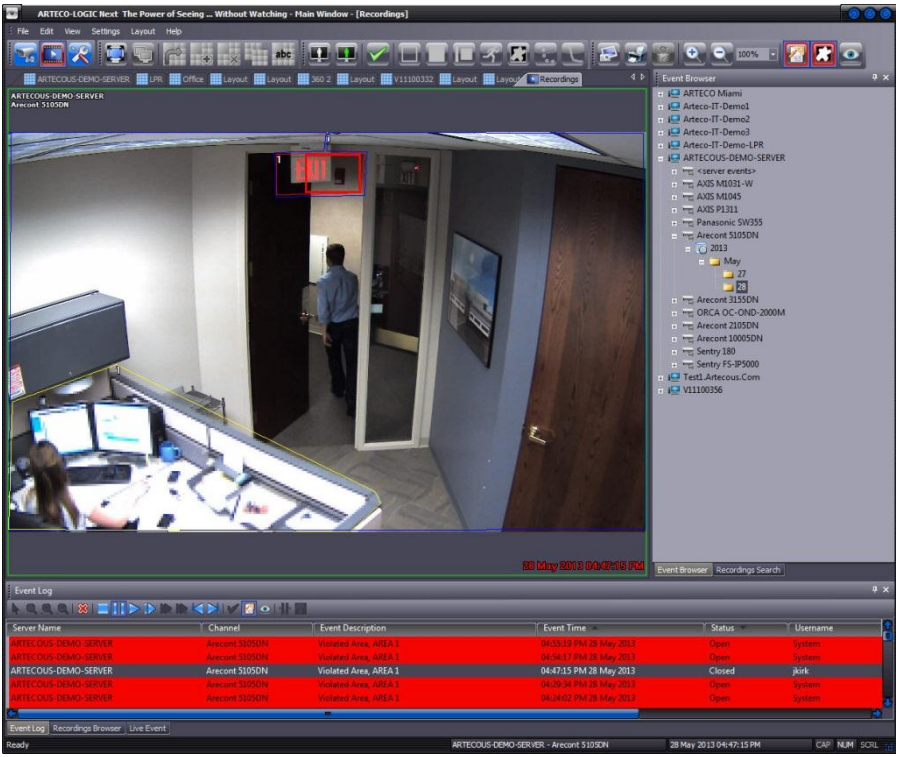


Figure 73 - Display Record

You can sort the events based on the available fields: Server Name, Channel, Event Discription, Event Time, Status, User, or Acknowledgement Time. To enforce the sorting according to a column just click on the header to display an arrow going up or down (down creates an ascending sort upwards creates a descending sort). In the example

it is set in a decending order according to the name of the "Event Time" .
Clicking on one of the lines of the log starts playback of the recording.
The player to view the recorded video is an advanced tool for reviewing the records and allows you to view the recording and the live feed of the same channel.
We can in fact drag, with drag and drop, one of the lines of the log on the layout (board) reserved for displaying even though we had a space reserved for the same camera. Then clicking on the same line of the event log will be loaded and displayed in place of the drag image. The difference between live and recorded video is immediately identifiable thanks to the time-stamp (time and date) of the event.

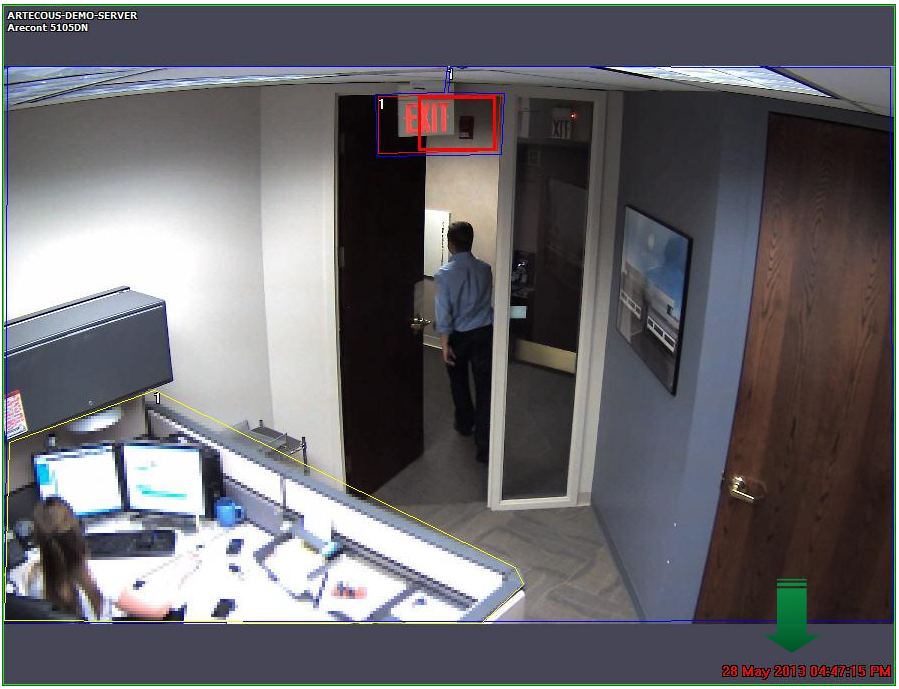


Figure 74 - Timestamp Recordings

With the buttons  and  you can respectively start and pause the display of the recording.

With the double arrow buttons  you can increase or decrease the playback speed of the playback up to 1024 times its normal speed.

With the buttons  you can proceed or go back one event at a time.

The icon  allows you to return to the "live" of the selected view, or stops the current operation if the server appears slow when downloading a recording.

Pressing the button  you can view the “details” that generated the event, and make the area of analysis and Bouding box event appear. If you're doing this with an administrator account, you can delete the area of privacy by pressing the button  to see the images clearly.

Par 5.8 Search Recordings

As shown in **Figure 75 – Records Search**, In the Recordings Environment, to the right, there is a convenient option to search for events.
The search function allows you to search through all records available for those that most interest you.

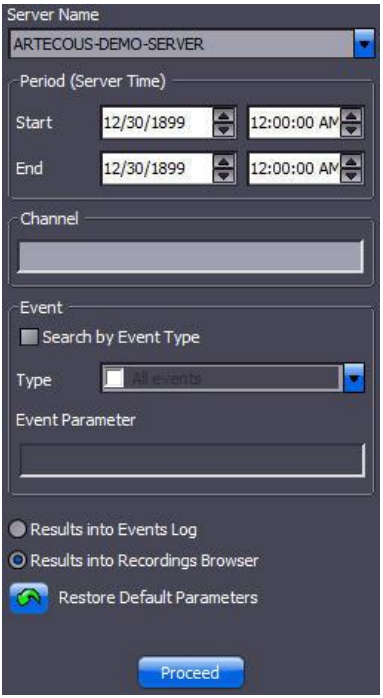


Figure 75 – Records Search

There are several fields to select the various search criteria. We can choose to use one or more than one. When we come into this environment it defaults to the last hour of recording on the current day.
In the event that the search criteria does not correspond to any registration on the server or if it has been performed the Auto Deletion of records you will see a text box that warns you that "No channel matches the search criteria."

Figure 76 - Server

The **Figure 76 - Server** shows the interface that defines the server (including those related) on which we want to search.

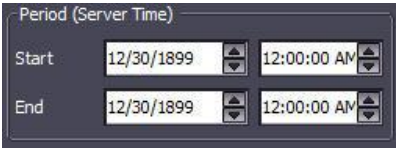


Figure 77 - Time interval

In the fields in **Figure 77 - Time interval** you can define the time interval in which the research will be carried out on the records.

Figure 78 - Channel Selection

The text box shown in **Figure 78 - Channel Selection** Allows you to define the name, or part of the name of the channels to be searched. If, for example, we had two views "PTZ Roof" and "PTZ Input", writing in this field "PTZ" would return all results from both to "PTZ Roof" and "PTZ Input".

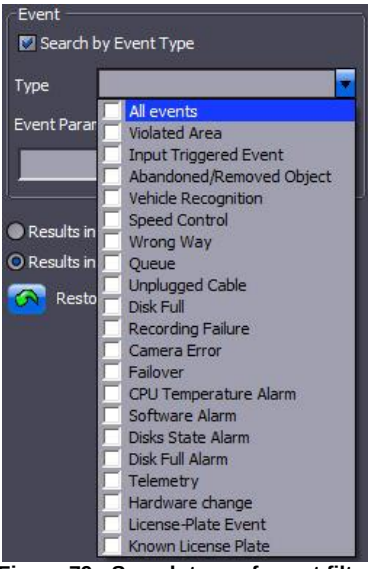


Figure 79 - Search type of event filter

The interface shown in **Figure 79 – Search type of event filter** allows you to define the search filter based on the type of event. At this point you can select the display mode of the search result. If you choose "Results in Historic Events" you will be shown a textual finding in the Event Log.
If you choose "Results into Recordings Browser", the available records will be shown graphically by bands of blue and the event will be marked by red vertical sections.

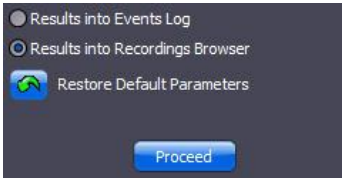


Figure 80 - Display of search

To view your recordings results from the "Search the Event List" double-click the mouse on the line / Event concerned, or drag the line on the grid of the layout, the event playback will start automatically.

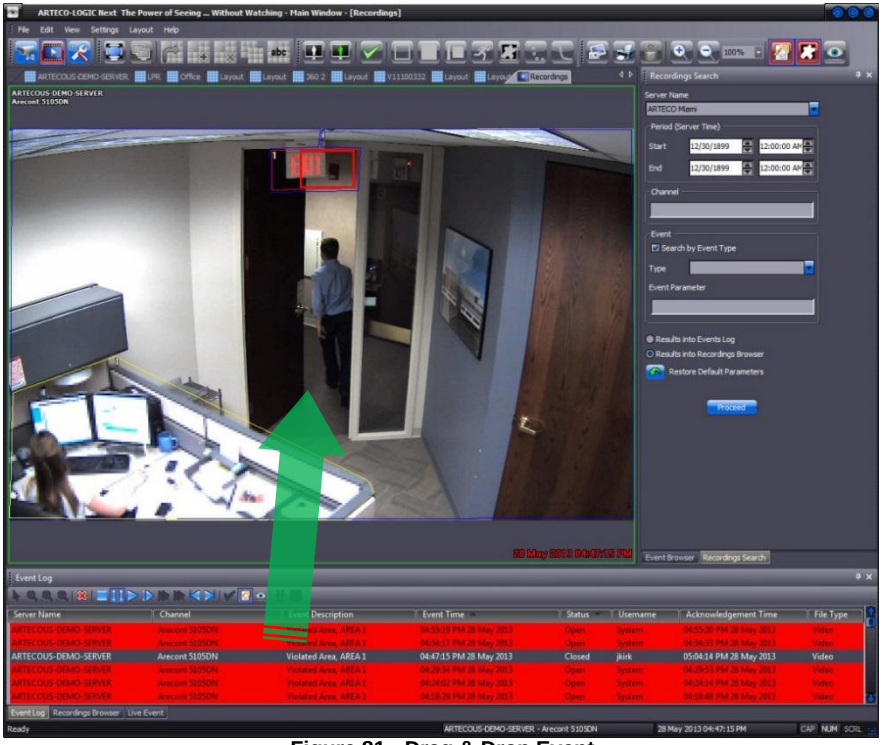


Figure 81 - Drag & Drop Event

To view your recordings results from the "Results in Recordings Browser " you need to select the source you want to view, by moving the time indicator (vertical black line) and then use the buttons on the player.

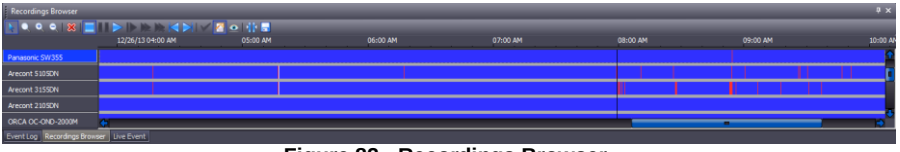


Figure 82 - Recordings Browser

Figure 83 - Time scale Recordings

In the bar represented in **Figure 82 - Recordings Browser** you can see how the channel "Panasonic SW355" is selected (only the selected channel is played when you press the Play

button). The vertical black line represents the exact point from where the display of the recording when you press the play button. The lower part shows the name of the channel and the selected servers to the right of the date, the time, and the speed at which you are viewing the recording.

The icons  allow you to increase or decrease the time scale.
By selecting the “empty” Lens, you can click with the left mouse button at the point where we want to zoom in, and without letting go of the mouse button, drag the cursor to where you want it to be magnified (Figure 84 - Playback and time scale).

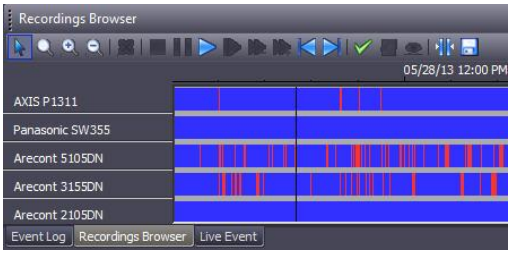


Figure 84 - Playback and time scale

Par 5.9 Playback Multiple Events

To view multiple channels, for example, to cross-check the records, you can simply select the cameras you want to see by holding down the CTRL key on your keyboard and left clicking each channel.
Note: the multiple view applies to movies corresponding to the same server at the same time frame.

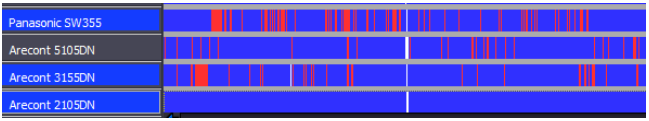


Figure 85 - Selection of sources

By clicking on the play button, it will automatically create a layout where you can start viewing the recordings.

Figure 86 – Multiple Playback

Par 5.10 Instant Player

The functionality of Instant Player allows you to view movies with a single click for the last hour (by default). This feature can be activated in Live, and is useful for example to view real-time footage of an event that has just occurred, while still monitoring other live cameras.
To activate the feature, simply move the mouse pointer to the bottom of the live image, this will allow you to start recording, pause, move the cursor quickly within the period and exit (STOP).

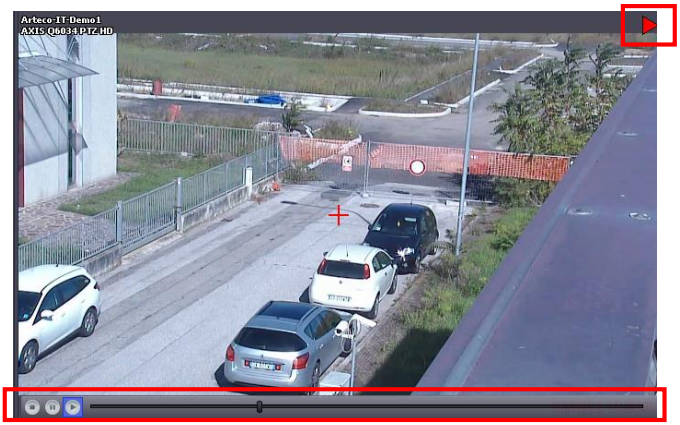


Figure 87 - Instant Play

Par 5.11 Exporting Recordings

Through the ARTECO-Logic Next Software you can export movies and convert them to various formats compatible with most popular video player.
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  . You will see two vertical bands of green and white as shown in **Figure 88 - Export**.

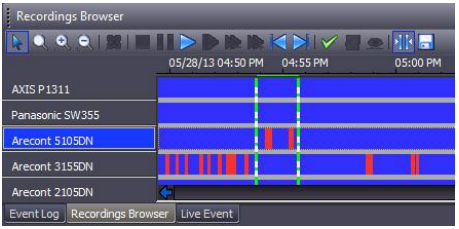


Figure 88 - Export

Passing near these bars the mouse cursor changes its state from  to  allowing you to change the portion 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  .
You will see a screen that will appear to configure the export.

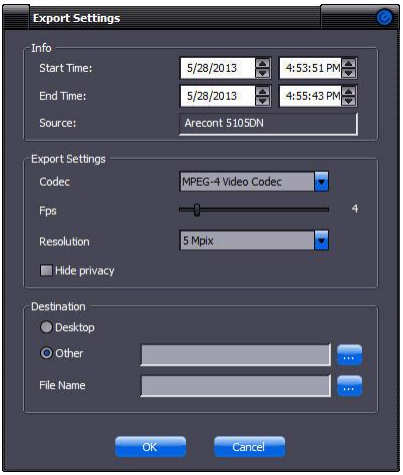


Figure 89 - Export Parameters

The choices to be made prior to exportation are to:

- Confirm the date and time of start and end export
- Codec to use
- Number of frames per second
- Resolution
- Hide Areas of Privacy (available to system administrators)
- Destination of the file (Desktop PC-client or other locations)
- Filename

Depending on the "Codec" installed on the PC we have:
- MPEG-4.2
- MPEG-4
- Uncompressed

It is recommended to use the first, MPEG-4.2, since it is the one that matches a good quality with very low occupancy of hard disk. If you choose "Uncompressed" is one that provides the best quality video possible, but only 1 minute of footage takes up about 1 GB of hard disk.

Resolution: you should set a quality greater than or equal to that set in the Record menu under "Resolution". We recommend not to export at a lower resolution or disproportionately higher than that of the original registration. In the event that you are registered to CIF (352x288) and is exported to 4CIF (704x576), three-quarters of the videos will be filled by a black space with no advantage to the visual information; conversely, if the exported format has a lower resolution the registration, you will see only a portion of the original movie.

Figure 90 - Resolution Export

For the number of "Frames / sec" the same applies that has already been said for the resolution. It is not worth exporting an AVI with a number of frames greater than that with which you have registered.
If you have administrator rights, you can delete the area of privacy in order to see the images in the clear.
If you select "Other" under destination, a screen will appear allowing you to choose the name and location to save the AVI file, otherwise the file will be saved on your Desktop. After setting the parameters to your liking click "OK".
Upon completion of the export operation, you can review the video with Windows Media Player or other software that can read MPEG4 movies or WMV3

Par 5.12 Multiple export

It is possible to simultaneously export multiple movies 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 "Exports in progress" will show the progress of the ongoing processes.

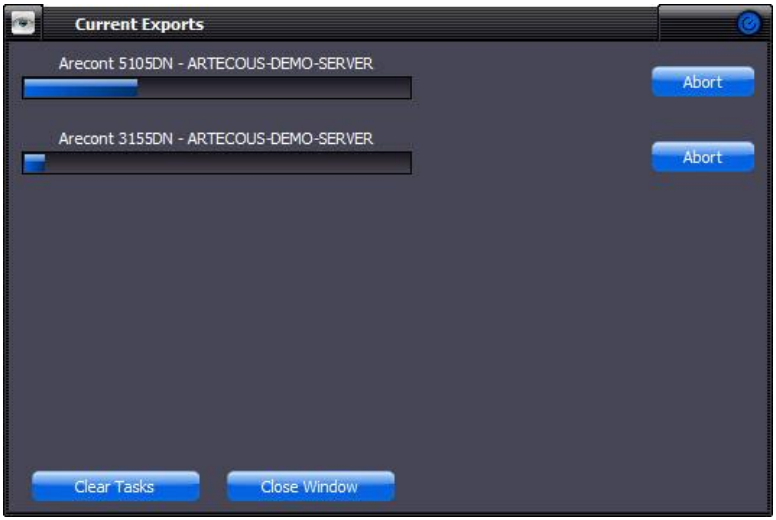


Figure 91 - Export Multiple

Chapter 6 Management-PTZ Dome

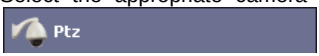
The ARTECO system is equipped with the necessary drivers to control Dome PTZ - IP and Analog.
For the compatibility list of IP DOME PTZ-refer to the document "IP Compatibility List" available on the website http://support.arteco.it/en.
For Dome PTZ -Analog, verify that the system is equipped with a serial RS-485 to control the position of the cameras (Pan-horizontal, Tilt- Verticle, and Zoom).
The ARTECO software must contain the communication protocol compatible on the basis of the following list:

Manufacturer PTZ	Model	Connection RS485/Ethernet	Protocol
PELCO	SPECTRA III DD53C22	half duplex / simplex	PELCO-D
PELCO	SPECTRA III SD5318	half duplex / simplex	PELCO-D
PELCO	SPECTRA III SD53TC	half duplex / simplex	PELCO-D
PANASONIC	SUPERDYNAMICIII 5xx/8xx/9xx	full / half dup / simplex	PANASONIC
Dynacolor	HighSpeed - D7722	half duplex / simplex	Dynacolor / PELCO-D
Ernitec	ORION / 2	half duplex / simplex	PELCO-D
Dome General	Generic PTZ	half duplex / simplex	PELCO-D

Figure 92 - PTZ Protocols Compatible

Once you connect the camera, you must configure the system by entering the information specifying the model of the camera and the video input to which it is connected.

Par 6.1 Setting up a PTZ Dome-

For access to the configuration window of PTZ cameras click on the  button, that allows you to enter in the Configuration Environment.
Select the appropriate camera from from the Menu list to configure, then click on the 

button.
A window will appear to configure the PTZ shown in **Figure 93 - PTZ Configuration**

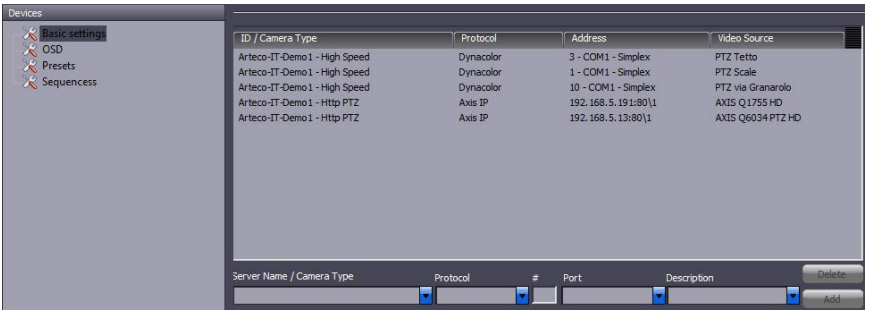


Figure 93 - PTZ Configuration

To insert a new PTZ Camera select Settings and then enter in the following fields:
Model: select the model according to the product in possession
Protocol : Select the protocol on the camera side
Id: This is the number assigned to the RS485 PTZ Analog (1 to 255)
Port: The serial COM port of ARTECO should be connected to the RS232-485 converter
IP Address: if you add a PTZ-IP (Http or IP PTZ) it is requesting an IP address instead of the fields "ID" and "Port".
Source: is the name ARTECO previously assigned to the video input to which is connected to the Dome PTZ Camera -Dome PTZ.
Finally click on the button "Add" to save the parameters entered with ARTECO which connects with the camera.

Par 6.2 PTZ controls, Virtual Joystick, Placement Manual and Automatic

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.

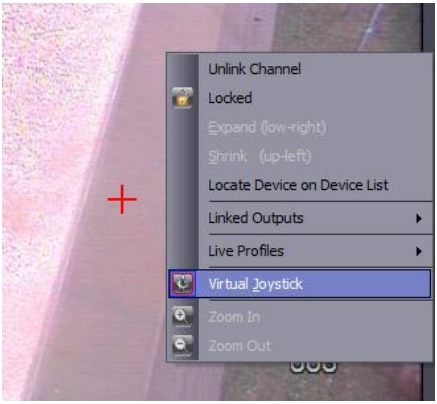


Figure 94 - Virtual Joystick

The Virtual Joystick is represented by the red cross visible in the center of the image, as shown in **Figure 94 - Virtual Joystick.** 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 flag "Virtual Joystick", or by clicking on the button  .

While the joystick is active, camera you can use the arrow keys  for observing the PTZ, Or 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, as shown in **Figure 95 - Handling Mouse PTZ**.
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 line. The greater the length of the line, the greater the speed of rotation.

Figure 95 - Handling Mouse PTZ

To make a zoomed image you simply select the same layout and use the mouse wheel, if it has one, to increase or decrease zoom available in the camera. The use of the wheel up will zoom in, while the rotation in the opposite direction will decrease.
For direction control of the PTZ there is also a specific panel "Positioning Dome PTZ."

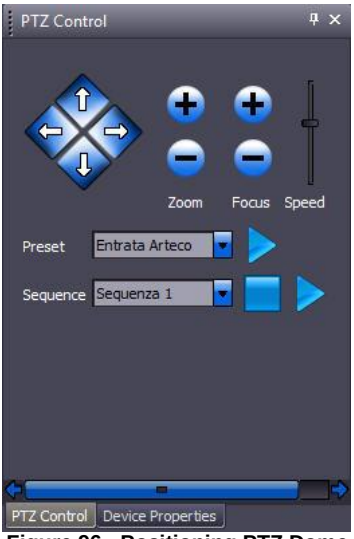


Figure 96 - Positioning PTZ Dome

The pointer Figure 96 - Positioning PTZ Dome allows the rapid displacement of the 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 slide "speed" determines the speed of movement of PTZ cameras compatible.
Will will discuss later the use of control commands "Preset" and "Sequence" as the automatic positioning assumes that you have predefined positions and sequences of positions as we will see described in the next paragraphs.
Selecting a preset position in the combo-box "Preset" and clicking on "Go" you will get the fast positioning of the camera to the default coordinates. Alternatively, select one of the sequences (eg "PTZ hall"), the camera will start an endless cycle of placements as defined in the sequence activated (you can program up to 8 sequences for the camera).

Par 6.3 Storing your favorite locations

On the ARTECO System you can store your favorite locations of shots of PTZ cameras. These memories relate to the 3 parameters Pan, Tilt and Zoom and call themselves "Presets" as shown in **Figure 97 - Configure Preset PTZ Dome**.
To Configure Preset you need to go in its PTZ setup menu, as explained in the previous section, and select the appropriate item in the Menu.

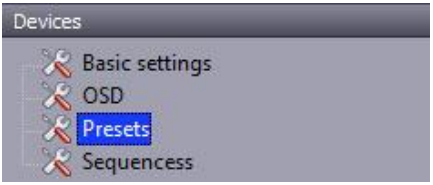


Figure 97 - Configure Preset PTZ Dome

To store a favorite location manually adjust the camera view as described in Par 6.2, Then write the name of the preset in the form as shown in **Figure 98 - Preset PTZ Dome** and save with "Save".
You can also associate the Preset to an input device (physical or virtual) in such a way as to move the camera to the position pre-defined each time that the state of the Input selected changes.
Through this means, for example, 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.

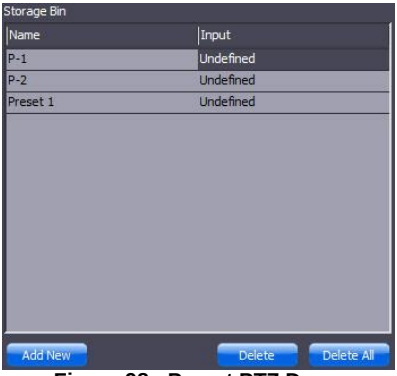


Figure 98 - Preset PTZ Dome

When you create a preset is also possible to specify that it may suspend for a certain period of time in any sequence, if this was in place the recall of preset durations. To do this, specify the time for which you want the suspension inside the box "General Parameters".

Par 6.4 Storing sequences of positions

On the ARTECO System you can store sequences of preferred positions of PTZ cameras. These stored sequences can be recalled as described in the Previous Par 6.2. To program a sequence click on "Create" in the window shown in the following Figure 99 - Sequences PTZ Dome.

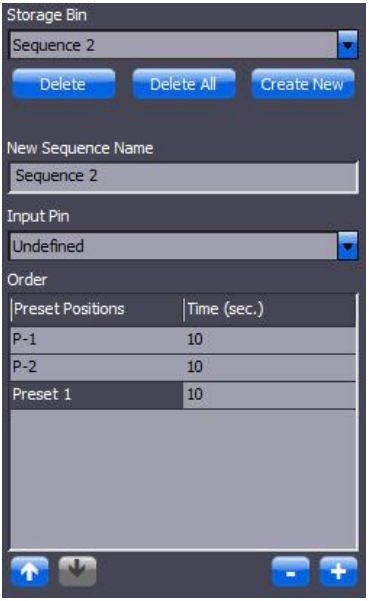


Figure 99 - Sequences PTZ Dome

This will open a field where you can enter the name of the sequence. Select the "Preset" of one of the favorite locations previously created (see 0) also assigning the residence time in seconds within the cycle of the sequence. After "Preset" and "Seconds" click on the button  to add it to the sequence.
After completing the sequence, you can change the order of the presets by clicking on the arrows  .

You can also remove a preset already inserted in the sequence by clicking on the button  .
The patrol, in addition to being activated by the automatic control mode of PTZ, can be associated with an input. To do this, you must select an input from the pull-down menu "Input associated." When the software completes the virtual, digital input selected, it is automatically made from the associated sequence mode.

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

Chapter 7 Basic analysis of the images

The basic analysis of the images consists of extracting from the images the shapes of objects which will then be examined by ARTECO by means of vision algorithms described in the next Chapter.

Par 7.1 Terminology: "plugin", "background" and "blob"

ARTECO systems allow you to make image analysis according to some criteria, hereinafter defined as "plugin" or vision algorithms. To perform this analysis, all plugins are based first on a separation process of objects / people / vehicles from the background of the scene ("background"). The proper functioning of this process is crucial for achieving good performance on the part of the plugins that are the heart of the ARTECO active video surveillance software. In the ARTECO systems exist four types of background that allow them to detect the movement of the main objects of context with respect to the scene, in relation to the type of recovery.
The result produced by an algorithm is defined as a black background with white shapes (called "blob") 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-LOGIC Next.

Par 7.2 Viewing Details

The View "Details" has the dual function of showing information about the source of the images (view name, time, etc.) and data processing of the same. This latter feature is useful during calibration of the system is working to understand how the algorithm background.
To choose which details to display the toolbar identify and locate the button that shows the "Check Mark" in green, as shown in Figure 100 - View Details.

Figure 100 - View Details

 Image processed: shows the image processed by analysis algorithms as a movement (white blob) and as a still (everything is black).

 Mixed Picture: Displays the actual image with the blobs detected by the system superimposed (the 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): brings up the value of the speed.

 Bounding Box: brings up a box around the blob on the screen.

 Center of gravity is a pointer to appear at the centroid 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 7.11.

All of the above views of 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 in case of need (such as the need to know a dimension of an object to calibrate the filtration system in all of the smaller ones).

Par 7.3 Various types of background

As mentioned in the Par 7.1, The ARTECO system objects are detected by the difference between the current image and a reference in which is contained the background ("background") of the scene in the absence of objects or people. When we speak of an algorithm of background (or simply a background), we refer to the method of updating the reference image that contains the objects. A good update of the reference is essential to detect objects and allow the system to process images.
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 shooting condition. They are:
- Standard
- Without Shadows *
- Iterative *
- Cluster *

**: If the product is licensed. See product-comparison in the appendix.*

Their configuration is accessed through the button present in the command console 

.

In the vertical "dialog", located to the right of the ARTECO-LOGIC Next Interface, As seen in Figure 101 - View Details, In this window there are the 4 possible choices on the type of background.

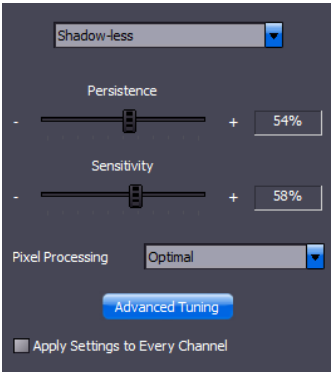
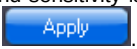


Figure 101 - View Details

The setting of "Persistence" allows you to determine how long an object that stops in the scene is detected by the system before being "absorbed" into the background or background.
The adjustment of the "sensitivity" allows to vary the threshold above which an object is "seen" by the system.
In addition to the configuration of the background window contains the parameters have "Definition" (described in the following Par 7.4).
The check-box "Apply to all channels on the server", if checked, causes the writing on the background of other video sources on the type of background and values of persistence, sensitivity and definition.
For more details on the characteristics of each of the 4 Background see the following paragraphs.
For each of them it is possible to adjust the specific parameters by clicking the "Advanced Tuning" button seen in Figure 101 - View Details which opens the corresponding Properties window. To return to the simple mode click on the "Basic Tuning" which appears in place of the "Advanced Tuning" button in the advanced settings window.
The application of the values chosen for Persistence and sensitivity is instantaneous. Do not forget to save all the other settings in this dialog via the 

. button

Par 7.4 Pixel Processing

In the same window that allows you to configure various types of background as shown in Figure 102 – Pixel ProcessingPixel Processing This is the combo-box of the parameter "Pixel Processing" with which you can define the precision of image processing by the system.
The value of the "Pixel Processs" directly affects the processing load. For this reason, you must find the best compromise between the pixel Definiation Necessary and the load to be introduced this ARTECO resource. While increasing Pixel Processing does Increase the precision with which ARTECO recognizes the shapes of objects, this also leads to an increased workload for the CPU of the server.
By assigning "Pixel Processing" = "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 1 pixel (rarely an object is only 1 pixel high and this makes detection in critical because its dimensions are comparable to those of noise) . This parameter should normally be set "Pixel Processing" = "Optimal".

This value allows the system to perform video analysis while still optimizing resources. For each image the amount 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 occupy a good part of the picture you can lighten the processing load of the system by lowering the resolution and / or the Pixrl Processing.

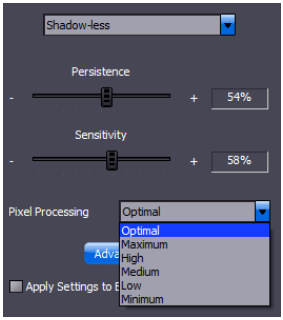


Figure 102 – Pixel Processing

Par 7.5 Background Standard - Advanced Properties

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 including a little bit at a time objects that are stationary for longer 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.

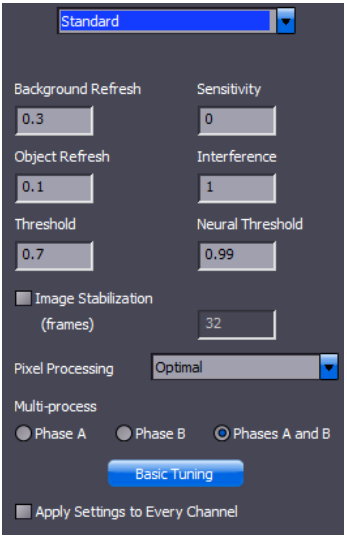


Figure 103 - Advanced Background Standard

The following parameters produce differences only on the "Phase A". For optimal adjustment it is recommended to select only "Phase A" In Figure 103 - Advanced Background Standard.

There are two parameters that control the refresh rate of the objects (pixel-image corresponding to the white blob of black and white display mode) and background (all pixel-image that overlaps the black area surrounding the white blob display mode in black and white). Normally the refresh rate of the background must be an order of magnitude faster than that for the objects so that, for example, "Background Refresh" = 0.01 and "Object Refresh" = 0.001. So the background will be updated so faithful to the light variations of the scene, while a minimal upgrade will ensure the long persistence of the reporting of stationary objects and the restoration of any update errors.

Background “Standard” is therefore effective when you want to detect objects removed and abandoned, 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 analyze the images. The absorption time of new objects in the background depends on the channel framerate acquisition considered: at the same refresh rate, if you double the framerate it halves the time of reporting of new objects. The higher the value of the two speeds (is closest to 1),the more ARTECO will be insensitive to objects that come into play. The comparison of the current image with the reference gives rise to the image of the differences described in Par 7.2.

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 into visual disturbances such as shadows. Note that a high sensitivity corresponds to small values of the parameter "sensitivity" and vice versa, the maximum sensitivity is achieved by placing Sensitivity = 0. A typical value is Sensitivity = 2

Filter Interference. This disorder may be as residue from the Previous parameter settings and is often originated from the cameras. It is a value that can range from 0 (no filtering) to 13 (maximum filtering) in increments of 1. 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 filter" to the lowest possible value that is sufficient to achieve the elimination of this disorder. A typical value for the "interference filter" is 2. After the application of this filter may be necessary to re-adjust the values of "noise limit self-adapts" and "Sensitivity".

The following parameters produce differences only on the "Phase B". For optimal adjustment so it is recommended to select only "Phase B" In the "Multi-process"of Figure 103 - Advanced Background Standard.
Neural threshold, in "Phase B" the blob objects 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 (eg caused by artificial lighting inside indoors). For example, if an object is totally round and yellow and is located on totally green background, differences located only on the edge where there is the transition of the color and the corresponding blob will be an empty circle. Otherwise, the method of the "Phase A" would show a filled circle detecting fully 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 "Threshold Neural". The values

of the Threshold Neural are idealy are between 0.97 and 1 (the last corresponds to the maximum sensitivity). A typical value for the "Threshold Neural"= 0.985.

Using the filter "Image Stabilization " is very useful for the detection of abandoned and removed objects. The activation of this module generates a comparison between between the blob and background and an image of the medium (instead of the current image). That image of the medium is obtained by summing the pixels counterparts "Number of frames" images and dividing each sum for "Number of frames" itself. In this way it triggers a sort of pre-filter which attenuates very instantaneous 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 7.6 Background without shadows - Advanced Properties

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 background of the shadows cast by objects, enhancing the color differences (which are typical of the illuminated objects directly on the surface and are attenuated in the shade) and at the same time removing the light variations (who are the main manifestation of a ' shadow cast on a surface).
The "Background without Shadows" is very useful, for example, to improve the counting of objects at the same time through a gap. With the removal of the shadows that each project onto others, it is much easier to understand system that is disjoint objects and count them properly. The removal of shadows works in fully automatic mode and the configuration of the background without shadows is similar to that Standard. The removal of shadows however involves image processing more thorough than the Background Standard and this translates into a greater computational cost burden on a frame rate of acquisition.

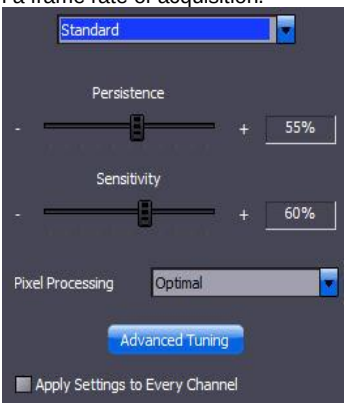


Figure 104 - Advanced Background Without Shadows

To activate this background, select "Background without shadows" in the combo box at the top of **Figure 104 - Advanced Background Without Shadows**. The parameters of this background have the same meanings as those of the "Background Standard" and reference is made therefore to the prec and dParagraph institution for their description.
The difference is appreciated between "Background Standard" and "Background without Shadows" is the removal of the shadows effect shown in Figure 105 - Simple Background (left) and No Shadows (dx) documenting the comparison between these two types the background.

Figure 105 - Simple Background (left) and No Shadows (dx)

As you can see, the shape of the hand in the picture to the right is subject to the "Background without Shadows" is less clear, but his shadow was eliminated almost completely.
To configure the filter "Stabilization OAR" see the previous Par 7.5.

To save the settings on this window click on the 

button.

Par 7.7 Background Iterative - Advanced Properties

The method of "Background Iterative" compares the current image with two previous taken momentst before. In this case there is therefore the problem of how to keep the background, since it is constituted by recent pictures that have already been updated in a natural way. 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" = 3, the current image will be compared with the image taken before 4 frames before and then with the acquired 7 frames before.
The greatest advantage of this algorithm is to be immune against light variations and, more in general, the most popular types of video noise. The correspondence between the object size and the actual recognized 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 very suitable background to detect moving objects, while it is not advisable to use it to detect objects removed or abandoned because the time available to determine if an object has been added or subtracted is really limited.
To enable this type of background select "Background Iterative" in the combo-box Figure 106 - Background Iterative. Interface appears similar to the previous with the exception of the parameter "Iteration" described below.

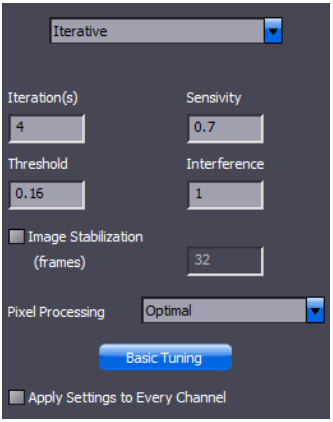


Figure 106 - Background Iterative

The parameter "Iteration" can be adjusted between1 to 16 and its effect will be to show a "trail" more or less long of moving objects that can be considered as a factor of "amplification of the movement", as seen in Figure 107 - Comparison of Iteration = 2 (left) and Iteration = 5 (right) after activating mode "difference" described in Par 7.2. Adjust this parameter between 5 and 10 if the image is small and slow moving objects; keep around 2 ÷ 4 if the movement and the size of objects are such as to cause the appearance blob of satisfactory size. A typical value for this parameter is Iteration = 3.

Figure 107 - Comparison of Iteration = 2 (left) and Iteration = 5 (right)

Completed the previous calibration of "Iteration" with the parameters (sensitivity, limit light noise, Interference noise filter), which are the same as those described in paragraph Par 7.5, Which should be consulted for their description.
For the filter configuration "Image stablization" see Par 7.5.

To save the settings on this window click on the 

button.

Par 7.8 Background Cluster - Advanced Properties

This background can be considered as a synthesis of the qualities of "Background Standard" and "Background Iterative". The "Background Cluster" has clearly defined forms when the object is moving (like those of the background Standard) and filters very well stationary objects (as does the background Iterative), also allowing you to keep them in sight for a configurable time before to eliminate them. The main window for the configuration of this background is as shown in Figure 108 - Advanced Configuration Window Background Cluster.

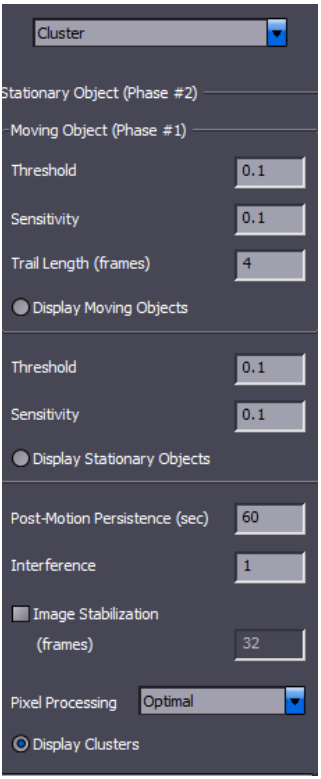


Figure 108 - Advanced Configuration Window Background Cluster

For optimal adjustment of this background to 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 switch to "PHASE 2 " (Steps 6-8) and then adjusts the tempo of "Persistence after moving" objects (steps 9.10):

Step 1) From the ARTECO-LOGIC Next command bar click on  so you can see the black and white image of "differences".

Step 2) in "PHASE 1 " select the button "View objects in motion."

Step 3) "PHASE 1 ", Limit noise ADAPTION.
For the description of this parameter, refer to Par 7.5

Step 4) "PHASE 1 ", Sensitivity
For the description of this parameter, refer to Par 7.5

Step 5) "PHASE 1 ", Queue Length

This form of "PHASE 1 " produces its result by comparing the current image with the previously immediately. To determine how many of the previous must take part in the comparison you change the parameter "Trail Length". This parameter can be adjusted between 1 to 16 and its effect will be to show a "trail" more or less long of moving objects. Adjust this parameter between 5 and 10 if the image is small and slow moving objects; keep around 2 ÷ 4 if the movement and the size of objects are such as to cause the appearance blob of satisfactory size. A typical value for this parameter is "Queue Length" = 3.

Step 6) In "PHASE 2 " select the button "Display stationary objects."

Step 7) "PHASE 2 ", Limit noise ADAPTION.
For the description of this parameter, refer to Par 7.5

Step 8) "PHASE 2 ", Sensitivity
For the description of this parameter, refer to Par 7.5

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

Step 10) persistence time post-movement
This parameter is used to determine how many seconds should last when the presence of a new blob enters the scene and then stops. At the end of the second set in this parameter, the stationary object will be included in the background and the message of his presence will disappear. There is a typical value for this parameter since it depends on the use made of it. We do not recommend you to set values greater than 120 " persistence time for the post-movement.

Step 11) Filter Interference
For the description of this parameter, refer to Par 7.5

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

For the filter configuration "Image Stabilization" see the Previous Par 7.5.

To make the settings on this window click on the button 

.

See Paragraphs preceded for the simple settings for the parameters not mentioned in this paragraph.
.

Par 7.9 Selecting Object Characteristics

Locate and select the "Filtering Blob" option on the Configuration page in the background.

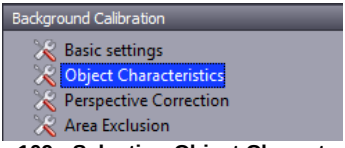


Figure 109 - Selection Object Characteristics

It opens the form "Object Characteristics" that allows the removal of objects of interest (and therefore their blob, if you have activated the display mode of the differences described in Par 7.2). These objects can be eliminated on the basis of minimum requirements on their area,

perimeter, form factor and smooth rotation. Once Objects are deleted, the system does not take them into account for the purposes of data processing. The configuration window appears as in **Figure 109 – Selecting Object Characteristics** Figure 110 – Characteristics Filtering.

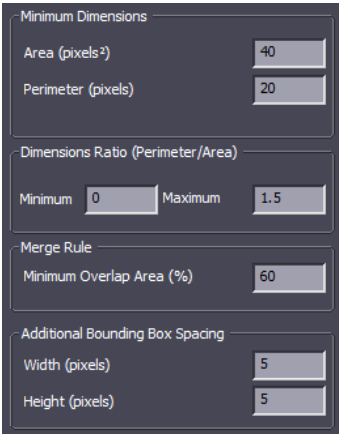


Figure 110 – Characteristics Filtering

"Minimum Dimensions:Area": is the minimum surface expressed in pixels2, below which the blob is not processed. You will notice later that there is another filter, like this, but this refers only to the Plugin "Control Zone" (see Par 8.1).
"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" gives account of the "roundness / elongation" of the objects (Dimensions Ratio = perimeter of the blob / area): Objects next to or greater than 1 have long narrow Dimension Ratios, while compact objects and those more rounded have Dimension Ratios between 0 and 0.2. A value often used for the range of the Dimensions Ratio is 0-0.9: this interval filters all too oblong blob.
The parameter "Minimum Overlap Area" defines the identity of the actual objects and those previously defined whose bounding boxes overlap for at least the specified percentage of their area.
The tracking module within the system allows you to control the association of objects in successive images on the basis of the percentage corresponding to the "bounding box" of the first image than the "bounding box" of the same object in the next image. This particular setting imposes a "linear" of the motion of objects that is typical of real objects (people, cars, ...) and vice versa does not belong to the forms of the disorder. If this requirement is not satisfied with the "history" of the object the previous is suspended and an object is created with a new identity. The more this percentage is low, the greater the ability to associate objects with existing objects in the previous image that are close to them. Conversely, a high value of this percentage will tend to "break" the trajectories of objects as soon as they deviate from their positions between two consecutive images. In order for this "filter" function it is necessary that the framerate analysis be adequate, compared to the speed of the objects. Normally 8 fps are sufficient but, in the presence of objects very fast increase is appropriate.
The "Additional Bounding box spacing" allows you to determine how many pixels to increase artificially the bounding box of all objects in order to obtain a greater likelihood that, "touching" the small blob, fuse together and represent more correctly objects to which they belong. And it

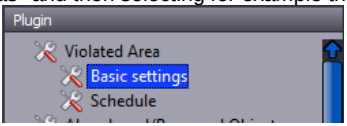
is possible to differentiate the magnification in height and width by placing different values on objects along the horizontal or the vertical dimension.

The above parameters are present if allowed by the product license. See product-comparison in the appendix.

Par 7.10 Editor Zone

The Zone Editor serves to draw all the zones in which to subdivide the image in, in order to apply the various plugins.
This tool is activated by the environment configuration, throught the “Plugin” menu.

Open the Menu "Control Areas" and then selecting for example the "Basic Settings"



A number of elements will appear on the right side of the screen.
This part of the Editor is easily recognizable:

Figure 111 - Editor

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 finish a 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 plug-in (eg, Motion Detection, Privacy).
As long as Zone Editor is active, the other functions are inhibited ARTECO-LOGIC Next.

Par 7.11 Correcting Perspective

This special feature of the system is necessary to draw the contours of a volume superimposed image of the camera.
Log on to this in theConfiguration Environment Menu “Background” and then click "Perspective Correction".

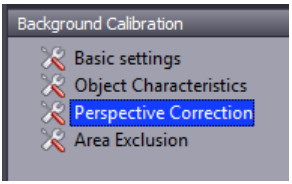


Figure 112 - Perspective Correction

By clicking on this icon the system is prepars by drawing a box:

Figure 113 - Perspective Correction

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. Similarly 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 Editor Zone ARTECO-LOGIC Next will fit the points in the order indicated by the Figure 113 - Perspective Correction (1-2-3-4-5-6-7-8). Height can be easily found using a person standing 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 on the size of the segments drawn.

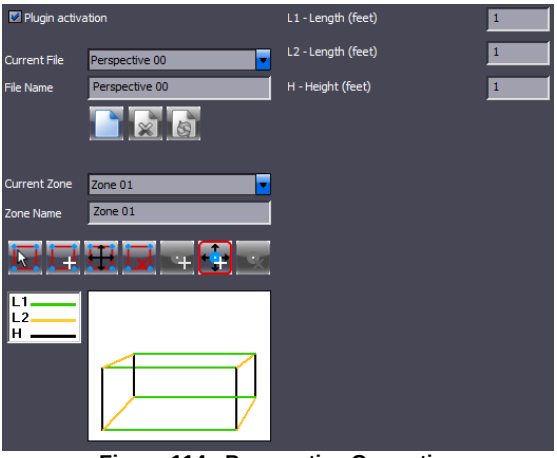


Figure 114 - Perspective Correction

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 appears next to "Plugin Activation" and enter the values in meters of the segments previously designed with the Editor Zone.
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 or were to change the zoom it is possible that the perspective calibration is to 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 7.12 Area Exclusions

The areas in which you define the regions of non-interest to be excludedduring image processing. This relieves the ARTECO server of processing unnecessary loads so as to maximize the performance of the system as a whole.
To define one of these areas makes use of the instrument "Editor Zone."
Log on to this in the Environment Configuration Menu Background and then click "Area Exclusion".

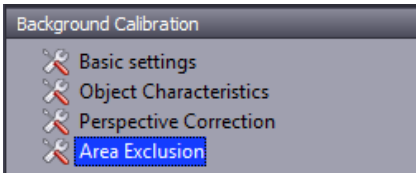


Figure 115 - Restricted area

First select the video source (shown live on the board) on which you want to enable the Area Exclusion.
You can now upload, draw or modify one or more off-limits to "apply" to the current image.
A preview of his form will be represented in the white space.113

With the mouse, click on the check next to "Plugin activation."

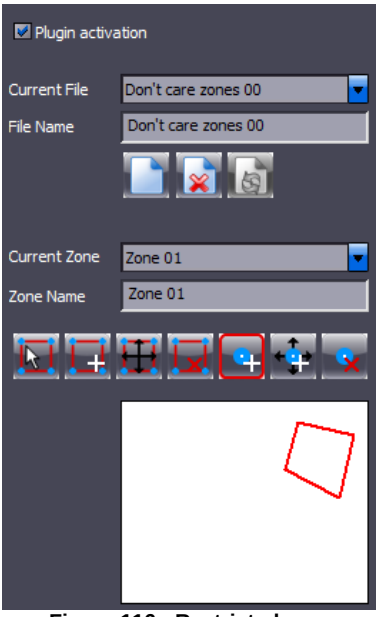


Figure 116 - Restricted area

Chapter 8- Plugin Analysis

Under the license in possession, the ARTECO software performs different types of algorithms for 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 can cause the acceleration of the recording frame rate (Par 5.6).

Click on the button 

located in the Environment Configuration of ARTECO-LOGIC Next. Then access the configuration menu of the "plugin", which appears in the "dialog" in the center of the screen, as represented in Figure 117 - Plugin.

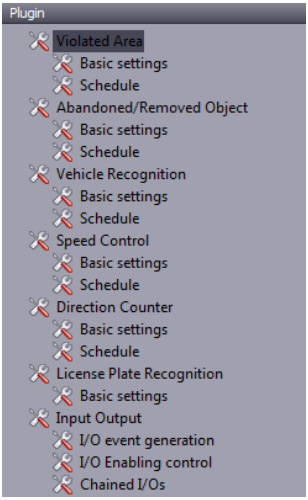


Figure 117 - Plugin

The plugins are:

- Violated Areas
- Abandoned / Removed Object*
- Vehicle Recognition *
- Speed Control *
- Direction Counter *
- License Plate Recognition*
- Input Output *

**: If licensed product. See product-comparison in the appendix.*

Each plugin can be associated with the video source selected in the “Device List” menu of ARTECO-LOGIC Next.
A- video source can also be applied to all available plugins, ARTECO recommends using the least number of plugins for each individual image to avoid conflicting conditions of the background.

For each plugin must be defined Area(s) on which to operate, and this is done in two steps:
1 - saving the areas you draw with the tool "Zone Editor"
2 - recalling 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 in the image.
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 of the module "Calendar" described in Chapter 10

Par 8.1 Plugin Control Areas

Control Areas is a video analysis algorithm that detects and distinguishes moving objects from those stops (Motion Detection).
The first thing we have to think about is therefore to what area / and we want to apply the Motion Detection plugin "Control Areas". 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. To avoid this it is therefore advisable to choose areas as much as possible without moving objects.
After drawing the area that we want to analyze the algorithm of motion detection of a source selected from the board of the layout, we will have to load it into the system.

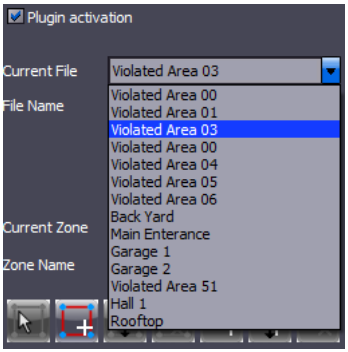


Figure 118 - Selection Control Zone

Open the list of areas available by clicking on the button  place in the vicinity of the line "Current File" and then select the area as shown in Figure 118 - Selection Control Zone. At this point, a preview of the area in a white box will appear as shown in **Figure 119 - Preview Control Zone.**

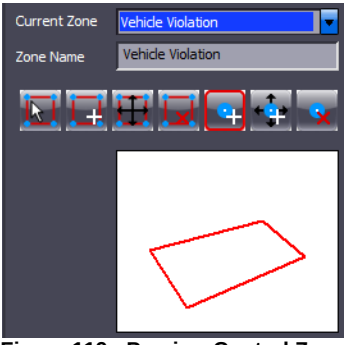


Figure 119 - Preview Control Zone

With the Zone Editor you can create multiple zones for the same video source. From the "Zone Name" in Figure 116 – Preview Control Zone we can attribute a name and a parameter for each of them (Zone 01, Zone 02, etc.).
In the Settings section instead there will be additional calibration tools Plugin, which we now analyze.

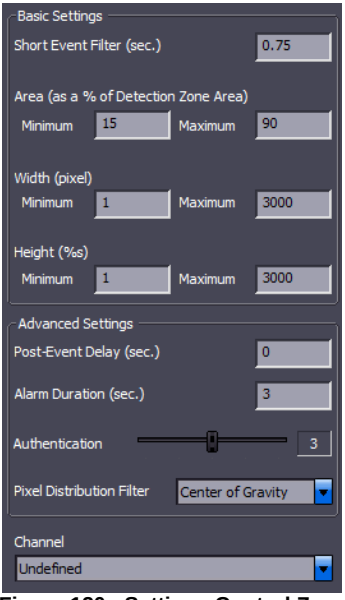


Figure 120 - Settings Control Zone

"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 that will not generate system events. This parameter is useful for example to ignore the fast crossing of the cameras field of view by a bird.

"Area (as % of Detection Zone Area)": Allows you to specify a range of areas 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 "control zone" that contains them. Remember that they shall not be considered objects whose surface is lower than the filter "Minimum Area" described in Par 7.9.

"Width (pixel)": Allows you to specify a range of widths between two values, minimum and maximum, beyond which the blob will not be processed. The unit of measurement is the initial pixel, when the filter is activated prospective, see Par 7.10, The unit of measurement from pixels passes in meters.

"Height (%s) ": Allows you to specify a range of heights between two values, minimum and maximum, beyond which the blob will not be processed. The unit of measurement is the initial pixel, when the filter is activated prospective, (see Par 7.11), The unit of measurement from pixels passes in meters.

"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 all reports of an event notification to the user (duration of beeps, the flashing around the image, the output pulse I / O, etc., see Par 9.1)

"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** will not be used advanced filter.
- **Foot / Bottom** the system will consider only those blobs whose pixels fall over the lower horizontal edge of the area in the lower calibration.
  Assuming you have traced zones at the edges of roads or footpaths, these filters are used, for example, to delete objects that may come between the lens and the ground

area of interest, for example with the "Foot / Bottom," only people whose "feet" are contained in the sensitive area.

- **Head / Top** the system will consider only those blobs whose pixels fall below the upper horizontal edge of the area in the highest setting.
- **Center of Gravity** the system will consider only those blobs whose point of center of gravity falls into the area in calibration.

"Associate Pin Output" Output activation of event, see Par 14.18.

The measurements of the width and height of the objects in the image can be displayed by activating the module described in detail Par 7.2 check the "Enable Overlay Information". From the measured values on the various blob you can easily deduce those to be included in the two previous parameters, in order to consider only the blob objects of interest. Plus the two values of each interval will be similar to each other, the more the system will pay attention only to objects of a precise measure to generate events. To disable this type of filters change "range to" enter one "0 " in the minimum value and a very large value for the maximum.

Access to the functions of this Plugin changes in relation to the product and license in possession see Product Comparison.

Par 8.2 Tips for Control Areas

To get good results in the control areas and avoid problems due to changes in ambient light intensity or shadows moving inside the area under control you should use the Background “Standard" (see Par 7.5). It is also advisable to use a low Persistence Value (<50%) in the configuration of the background to ensure a fast updating of the reference image.
You must remember that the size of the objects that we want to be detected 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" (Par 7.12) for anything that does not concern us, this will prevent the system from performing unnecessary processing, saving resources and allowing the user to better understand what the system is processing.
Once you have finished configuring this plugin you must activate it by means of the check "Plugin Activation" located at the top of the configuration window.
It is also possible to time the activation of the plugin by selecting the "Schedule". For programming the tool "Calendar" see Chapter 10.

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

.

Par 8.3 Plugin Subject Abandoned / Removed

Access to the functions of this Plugin change in relation to the product and license in possession (see Product Comparison).

The Plugin "Abandoned / Removed Object" allows the system to detect an abandoned object (Antiterrorism Function) or removed (Anti-Theft function) in the scene after a certain time.
The steps to load the different areas are the same to configure as the plugin Control Areas, refer to Par 8.1 for further details.
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 background "Iterative" for the plugin Object Abandoned / Removed.
Instead, we recommend the use of the Background “Standard” (Par 7.3 and Par 7.5) For which it is appropriate to insert high Persistence values (> 50%) so as 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", (v Par 7.2) The Blob disappears after so many seconds of the object movement. If this time is longer than the time we think is right to "declare" an object removed / abandoned ("Short Event Filter") the value of Persistence is correct, otherwise it will be necessary to increase (v Par 7.3).

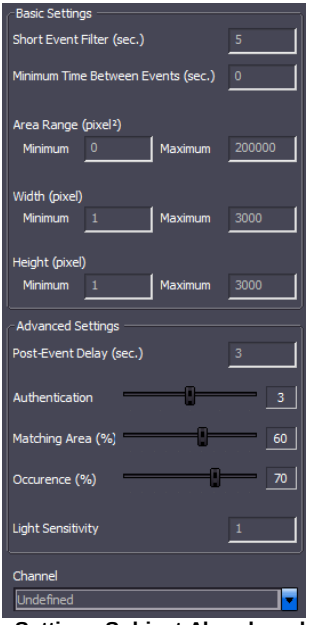


Figure 121 - Settings Subject Abandoned / Removed

In **Figure 121 - Settings Subject Abandoned / Removed** Object we would point out to ARTECO-LOGIC Next, abandoned objects / removed after 5 seconds, this is the value assigned to the "Short Event Filters". Adjust the "Minimum Time Between Events" by placing the minimum number of seconds that must elapse between one signal 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 (pixel^2)": Allows you to specify a range of areas between two values, minimum and maximum, beyond which objects will not be considered. Remember that objects whose surface is lower than the “Minimum Area” filter as described in Par 7.9 shall not be considered objects.
"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.
when execute the system measures the surface, width and height of objects by activating the display module of the details described in Par 3.2 on the check "area". From the measured values on the various blob you can easily deduce those two parameters to be included in

previous parameters, in order to consider only the blobs of objects of interest. Plus the more the two values are similar, the more the system will pay attention only to objects of a well-defined size to generate events. To disable this type of filter "range to" 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 Sectionthat strengthen the reports produced by this algorithm and are particularly useful in crowded environments or with many ailments. 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 the 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 detect a coincidence percentage of object pixels than "Correspondence pixels (%)" among those acquired at the beginning of the event and those measured during the time frame after frame "filter short events." The pixels are white object can be displayed in "View Image color / white differences black" described in Par 7.2. A typical value for this parameter is 60%, higher values result in a greater selectivity; lowest values that also allow objects of variable size can combine to generate an event.
-
- "Occurence (%)": each image received during the verification time of the "Short Event Filter" the system performs the control parameters on the two previous, if they are both satisfied it increases the value of "Occurence (%)". At the end of the "Short Event Filter" verification time if the percentage of images in which the parameter is set, exceeds the value of "Occurence (%)" then the system generates the Abandoned / Removed event.

In the Advanced settings module the following two parameters are also available.

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". For programming the tool "Calendar" see Chapter 10

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

.

Par 8.4 Plugin Stop Prohibited

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

This type of automatic analysis allows the system to notice the presence of a stationary vehicle for a certain time within a zone traced by the User.
As for the previous plugin, also in this case is a useful type of background that allows the slow updating of the reference image. Similarly to what was said in paragraph Par 8.3 operations are carried out by loading the surveillance zones.
For correct operation of this plugin you can use the model parameters proposed in Figure 122 - Example Parameterization Plugin Stop Prohibited.

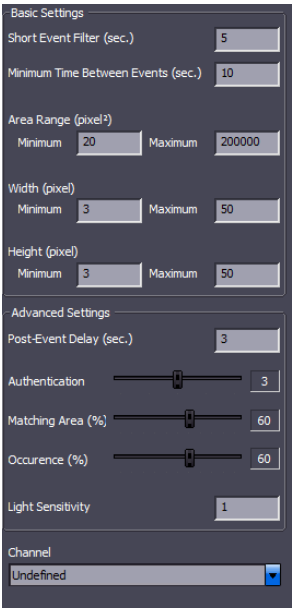


Figure 122 - Example Parameterization Plugin Stop Prohibited

Once you have finished configuring this plugin you must activate it by checking "Plugin Activation" located at the top of the configuration window.
In the Figure 123 - Example Plugin Stop Forbidden Zone 2 is shown as an example of prohibited stopover areas in the same video source. ARTECO allows to track an unlimited number of zones within the same image and control them separately.

Figure 123 - Example Plugin Stop Forbidden Zone

It is also possible to time the activation of the plugin by selecting "Schedule". For programming the tool "Calendar" to see Chapter 10.

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

.

Par 8.5 Plugin speed control

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

The speed control allows you to determine the velocity of an object within an area. Its use can be useful for example to identify traffic congestion or to find out if the vehicles in a given area tend not to respect the speed limits.
To optimize the operation of this control system it is necessary to acquire the highest number of frames possible. The settings are the same as counting gates, for advice on parameters for the background see Par 8.7.
It is also advisable to carry out the calibration of perspective (see Par 7.11 and Figure 124 - Correction Perspective) To obtain a speed detection as little as possible dependent on the distance factor of framed objects from the camera.

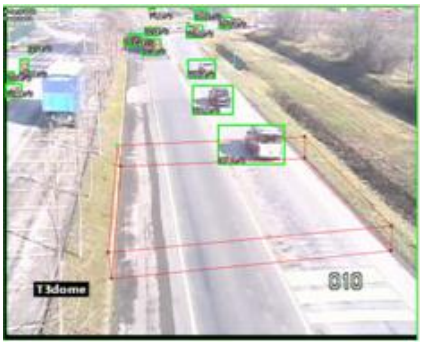


Figure 124 - Correction Perspective

After you set the perspective correction you must draw a new zone with the zone editor (to a file other than the one where the volume has been designed) where you want active speed control.

Figure 125 - Drawing area for measuring the speed

Load the previous designed and enable speed control.
If we wanted to receive alerts for items that exceed a certain speed range must use the first control called "Check range speeding". Since we enable perspective correction the unit of measure used is the feet per second, otherwise as the unit of measure the system will use the pixels per second.
Tip: To get the speed in fps, devide the desired mph by .682.

Tip: To get the speed in km / h is sufficient to multiply the meter / s X 3.6.

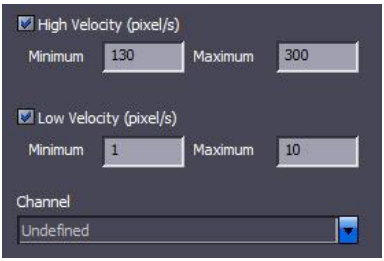


Figure 126 - Speed Settings Plugin

In the example Figure 126 - Speed Settings Plugin reports will be created for objects whose speed is between 35.00 and 60.00 meters per second and between 5.00 and 10.00 meters per second.
The speed range has been included because the tracking (tracking) of an object may be uneven in a few moments due to visual disturbances are part of the scene. It may therefore happen that an object for a few moments to appear much faster or much slower than it actually is.
For example if we want to detect all the cars in a way outweigh the 50 km / h we should set as min. (50/3.6) ~ 14 m / sec and the max. (120/3.6) ~ 33 m / sec. In this way any visual disturbances that may become framed scene will be filtered out all the times that fall within the specified range.

*Tip: To get good results in addition to activating the perspective correction must always have a high number of frames per second (> 12) and make sure that the bounding box is pasted as possible to the object, as shown in the figure below. To understand how fast the vehicles are proceeding it is recommended to enable the display of the speed settings of the "Details" (see*Par 7.2*).*

Par 8.6 Direction Counter Plugin

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

This Plugin is designed for counting and classification of vehicles crossing gates configured on one or more video sources.
The Direction Counter is able to count objects (people, vehicles, ...) that pass through a gap created by two neighboring zones (with one side in common) of a significant size with respect to those of the objects that need to be counted. The survey is sensitive to the direction of the objects and the system updates two different counters depending on the direction of travel.
You should draw two zones in a unique area using the tool "Zone Editor" These areas have one side in common, which defines the virtual gate crossing.

Once the configuration of this plugin is complete you must enable it by checking "Enable Count Varchi" located at the top of the configuration window.
In Figure we see an example of a virtual gap created at the center of the image, you can see the trajectory of the different types of vehicle crossing areas. To view these details we need to enable the display as described in Par 7.2.

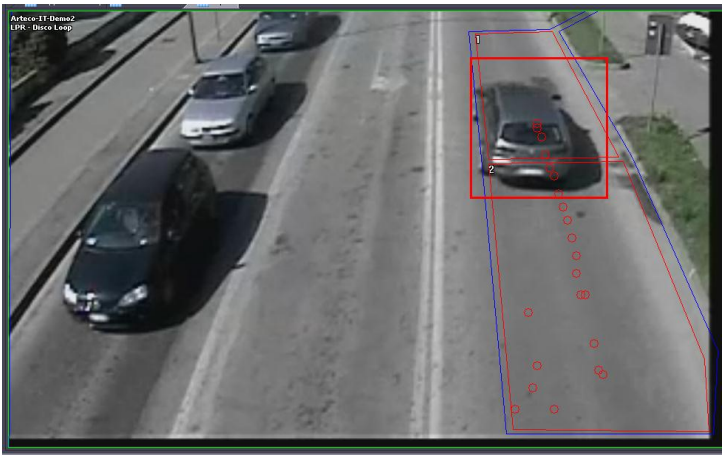


Figure 127 - Sample Count Varchi

The distinction of the counts based on size is useful to distinguish the counts of various types of vehicle. You can have up to a maximum 5 classes, discriminating against them based on the size of the object based on the area.
Once you have finished configuring this plugin you must activate it by means of the check "Plugin activation" located at the top of the configuration window. It is also possible to time the activation of the plugin through the menu planning.

Figure 128 - Sample Count

Is it possible to export the calculations carried out so far by clicking on the "Export" button. This will create a file in "*. Csv" that contains all the necessary data, broken down by categories and easy to interpret.
It is possible to time the activation of the plugin through the menu planning.

Par 8.7 Tips for counting objects

The most important prerequisite to obtain reliable counting and avoid that two very close objects are seen by the system as a as compact blob representing a single object, its bounding box shall be close as possible to the object.
The count can display even a statistical velocity of objects that pass through the gates drawn. The unit of measurement of the speed will be in pixels per second unless the filter is activated perspective correction. In this last case the unit of measurement of the speed of the objects will be mph

Par 8.8 Plugin Recognition Plaques

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

This Plugin is designed for the reading and encoding of license plates of vehicles passing through areas where the ARTECO LPR-Cam camera is .
The plate recognition can be codified and incorporated in the Arteco Database, all the license plates of vehicles are discovered by the OCR algorithm with the specific Arteco LPR-Cam camera, therefore, simply enable or disable this feature.
The detection of the plate will give rise to an event "Caught Target [XXXXXXXXX] Log in line, it will be possible to conduct searches based on the string / plate sought, as it will be possible to pre-load a list of license plates, as explained in the following paragraph .

Par 8.9 Database Management Signs

It is possible to pre-define and load within the Arteco Server Database a list of plates that can give rise to certain notification feature.
From the configuration, by selecting the Server that hosts the Arteco LPR-Cam camera and its plug-in license plate reader, select the menu "License Plates Database" as selected in Figure 129 - Database License Plates.

Figure 129 - Database License Plates

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

Figure 130 - Database Management Signs

By selecting "Import" button Windows will open a dialog box that will allow you to locate and load the .csv file containing the list of license plates..

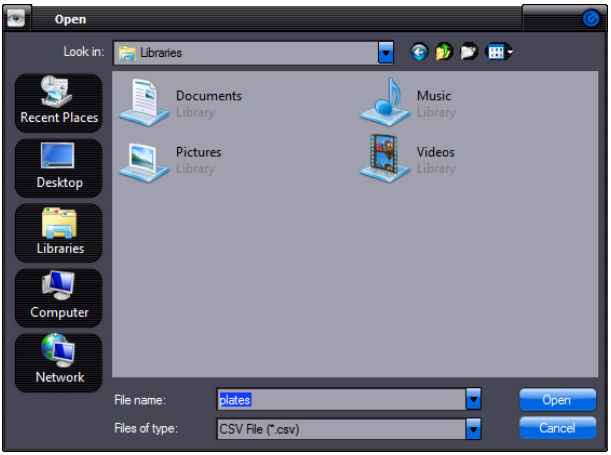


Figure 6 – Open License Plates Database

Similarly, you can export this list, so you can update the content.
N.B. The. Csv file must contain only one column, in which they are exclusively license plates, one plate per line.
Creating a list will enable differentiated management of notifications and automated corresponding to a list of vehicles authorized for access control, or a list of vehicles reported to law enforcement.
A useful feature is applicable by selecting "Ignore the first line", selecting this item will ignore the first line of the document, which can hold the title of category-elements then inserted in the file, in order to avoid incorrect reporting.

Par 8.10 Privacy Blur Filter

This plugin implements a function that makes the system compatible with the rules governing the right to privacy.
To configure the Privacy blur filter on one or more cameras available, you must enter its menu, which is in the Configuration.

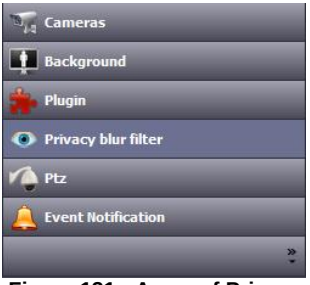


Figure 131 - Areas of Privacy

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..

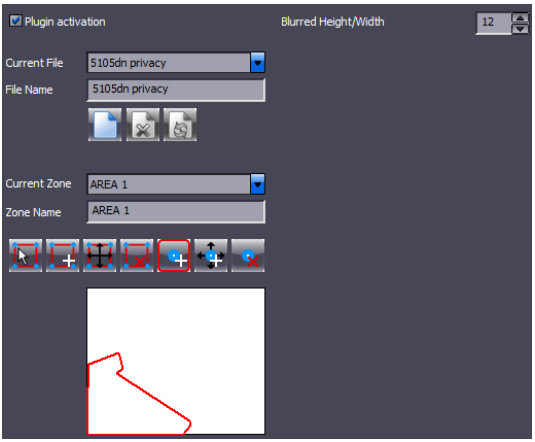


Figure 132 - Configuration of the plugin "privacy blur"

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 actication" is checked and click the "apply" button 

to save these settings.
It is also possible to time the use of the areas of privacy by means of the Calendar by selecting "Schedule"

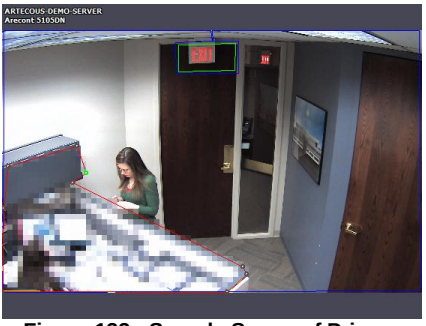


Figure 133 - Sample Scope of Privacy

Once you have activated your Blur area, you will get the effect shown for example in Figure 133 - Sample Scope of Privacy.Notice the area at the bottom of the image, where the person is not recognizable as a result of the blur.
Only users with Administrator rights are allowed to see the image clearly, if they choose to, other users can not 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 button  the administrator can remove the filter for privacy as shown in Figure 134 - Removal Policy during Playback.

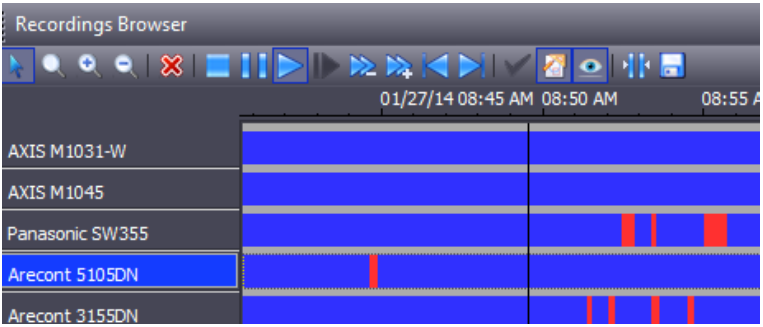


Figure 134 - Removal Policy during Playback

Chapter 9 - Events and Notifications

Within the system there are ARTECO modules that generate internal events related to the diagnostic hardware or to a given video source originated from a plugin or an input of the card I / O (seePar 14.13). These events can be used to cause "system actions" how to mark an event (as described in Par 5.6), Send messages to the user, or change the status of an output OUT (see Par 14.16 and Par 14.18).

Par 9.1 Notification Methods of User Events

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 "action system" and in this section describes the various methods of user notification of all internal events that are generated by one of the possible "Sources of internal events of the system."
Configuring the environment, by selecting the Server or the device on, select the "Notifications" as selected Figure 135 - Notifications Server and Device.

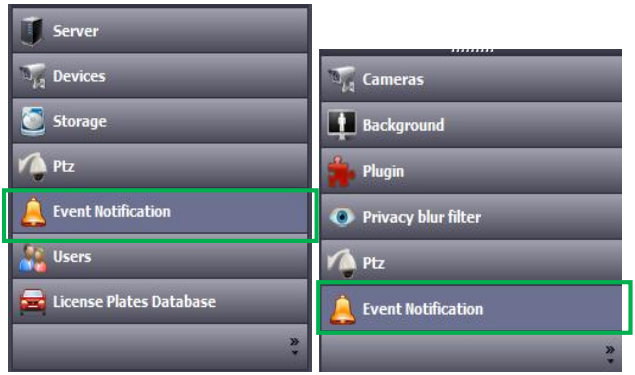


Figure 135 - Notifications Server and Device

You will see, in the above menu just selected, the interface that allows you to configure how you are notified, and its selection of events to handle.
In this section you can set the configurations common to all generations events that provide notifications via email or text message. With regard to sending emails, you can set the sender address and the SMTP server (see the specifications of your provider).
If the server requires it, you can enter values for SMTP authentication by entering the door to the use of SSL protocol criptografato ..
In addition to textual signaling via email, the system sends a snapshot, regardless of any event recording, to one or more email addresses configured (enter addresses separated by "comma" or "semicolon").
The system of sending email ARTECO is configured to limit the rate of sending email to amaximum a message every 3 minutes. In the case of events with a frequency greater then be sent to the first generated at the end of 3 minutes.
With regard to sending SMS (requires optional modem) is to set the COM port used by the protocol AT-CMD of the modem. When an event occurs, the system sends the SMS message to one or more specific recipients (insert the contact separated by "comma" or "semicolon"), the text of which is the name of the System, the date and ' time it is sent and the name of the area involved in the notification. Example: "AVSystemAlarm:" Arteco-ID-Demo2 "time: 15:01:13 Date: (13/01/2013) Event:" Zone front yard "violated ..". "
The system of sending sms ARTECO is configured to limit the rate of sending SMS to a maximum one every hour.
.

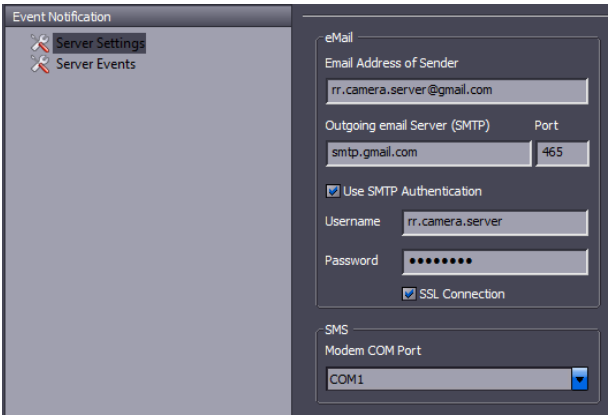


Figure 136 - Configure Notifications

For both of these alerts beeps can be enabled. For their configuration menu click on "Settings" at the top of the ARTECO-LOGIC Next interface. From here you can activate checkmarks on "Buzzer" and "Wave": the acoustic "Buzzer" sounds on the PC speaker and the ARTECO Server. The check turned on "Wave", it causes the execution of a pre-recorded audio file format "Wave" on the PC that is running ARTECO-LOGIC Next. This file can be customized by the user and must be placed in the folder where the configuration of ARTECO-LOGIC Next named "sound.wav."

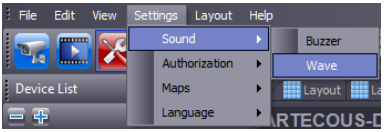


Figure 137 Audio-Notifications

Once you have completed the configuration of the windows, remember to click the Apply button to save all settings.
Then you can decide whether to enable event notifications for events related to the server or single-channel video. For each type of event, and for each channel or server, resuming the previously entered settings, you can receive acoustic signals or ask them to send an email, a text message or the termination of an Output digital / virtual with its time of notification.

Par 9.2 Notification Server Events

Having chosen to notify the events of the Server, you can manage the sending of audio notifications, sms, emails and Output control of a physical or virtual, for each system event.
By selecting "Event Server" in the menu, you will see a screen like in Figure 138 -Notifications that will allow you to select both by type of notification by type of event, which and how many notifications enabled on the selected server.

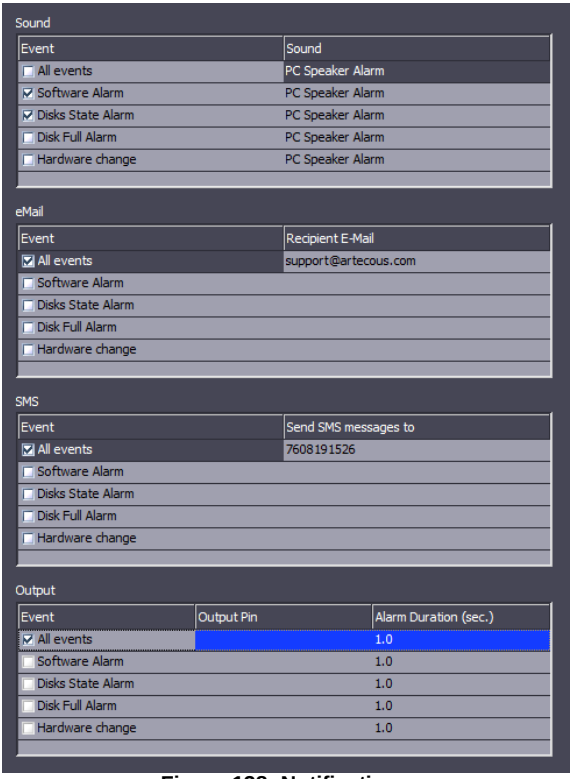


Figure 138 -Notifications

it is therefore possible to select and configure each type of system event for the notification to one or more users of these types of events:

- Alarm Software
- Alarm State Disks
- Disk Full Alarm
- Change Hardware

The management of notifications Output can command output physical (eg bars, lights, etc..) And the impulse can be controlled for a given time, from 0.1 to N seconds.

Par 9.3 Notifications Device Events

Having chosen to notify the event device, you can manage the sending of audio notifications, sms, emails and Output control of a physical or virtual, for the events generated from the selected device.
By selecting "Event Channel" in the menu, a screen will appear that will allow you to select both by type of notification for that type of event, which and how many notifications enabled on the selected device.

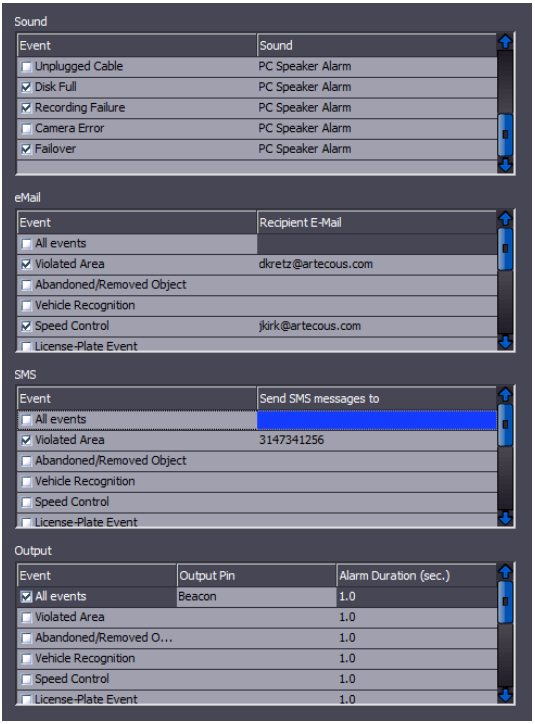


Figure 139 - Notifications

It is therefore possible to select and configure each type of device for the event notification to one or more users of many types of event.
The management of notifications Output can control physical outputs (eg, bars, lights, etc..), As well as virtual output (eg to start a preset of a PTZ camera), and the pulse can be controlled to a fixed term between 0.1 N seconds.

Chapter 10 - Scheduling

The plugins and continuous recording are capabilities of ARTECO that can be activated in Scheduling. In the configuration window of each camera there is a check mark located under “Schedule” that activates the calander.
Scheduling allows you to limit the generation of internal events to only certain times. It can also activate continuous recording only in the scheduled times.

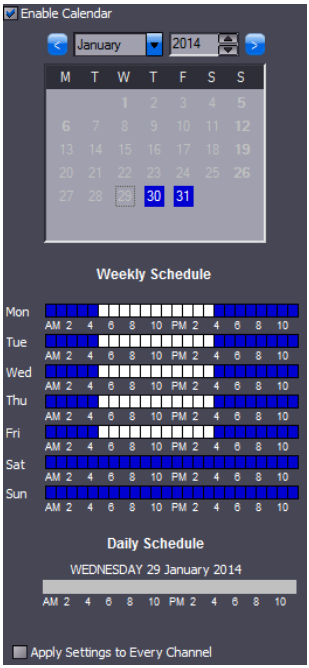


Figure 140 - Planning with Calendar

Select any one of the checkmarks to "enable calendar" from the configuration window shown in the calendar Figure 140 - Planning with Calendar.
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 and for all years. It is possible to program exceptions for particular days, which will have the previous settings on the weekly cycle.
From the calendar you can know, day by day, if they are programmed activations and what type they are, if there is no active function, the number of the day will be black, but if the day is highlighted in blue it means that there is at least one interval activation due to the weekly cycle, but if the day is highlighted in red, it means that there is at least an interval of activation due to the daily schedule (those relating to the weekly cycle will not be executed), 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 squares of the hours for the days when you want to turn on a certain function. The squares with the active function will become blue click them again to turn them off.
"Daily Schedule": allows the programming of an exception to implement a different program only for a day. To enable right-click on a selected day of the calendar: ☑ the module "Enable Daily Schedule". To select the active hours per day do as explained for the Weekly Schedule: mouse click you can turn on the red rectangles of hours for which we want to enable the function. To delete a daily schedule again right-click on the calendar day highlighted in red and uncheck “Enable Daily Schedule.
To delete all the actions of the calendar of a certain function, and set it always on or always off disable the check "Enable calendar" in the configuration box .

Chapter 11 - Maps

Through this function you can display one or more topographic maps, on which camera icons are visible at their actual location on the map. For visualization of topographic maps it is recommended to install ARTECO-LOGIC NEXT on a personal computer with a video card that has dual outputs (dual-head), so that you can see both interfaces (the main and maps) on two separate monitors , thus avoiding one overlaping the other. It is also possible to display the map on the layout, like a camera.
The main function of maps is to allow the user a quick localization of the events related to the security cameras.
To open the maps, click on "Maps" through the menu "Devices List" interface.

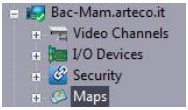


Figure 141 -Maps

The basic element in which you can enter one or more maps is called a "project." You must have the project files on your computer to pull into the system.
To add a "new project" right-click the mouse over the heading "Maps", a window will open that will allow you to add or remove projects.

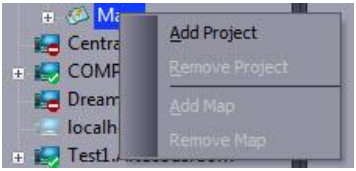


Figure 142 -Design Maps

Select "Add Project" in order to name the environment in which the cameras are installed.
Enter the project name in the dialog box shown in **Figure 143**

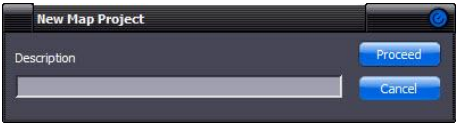


Figure 143 -Create New Project

Click on the tree interface to select the project you just created, and then, with the right mouse button, open the drop-down menu where you can select "Add Map", see **Figure 144 -Add Map.**

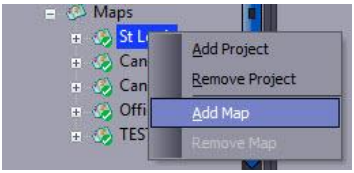


Figure 144 -Add Map

Next create a name for your new map as shown in **Figure 145 - New Map**.

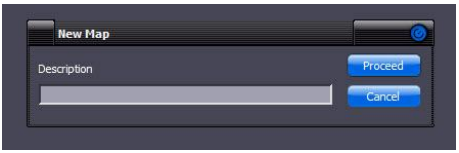


Figure 145 -New Map

Once you have a map created, right click on the background and choose “Change background” from the menu. Choose the image you would like to display and click open.

After loading the map selected, you can simply expand the menu tree and select the map, it will appear on the screen to the left, as Figure 146 -Overview Map.

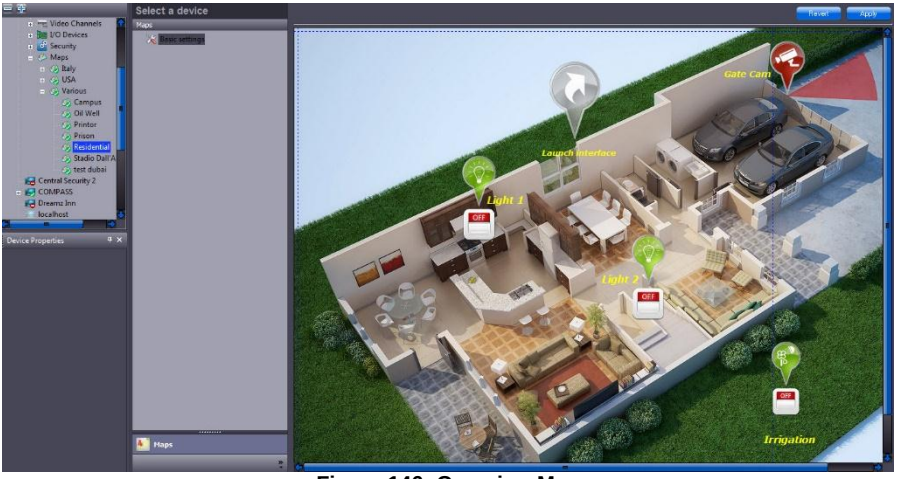


Figure 146 -Overview Map

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

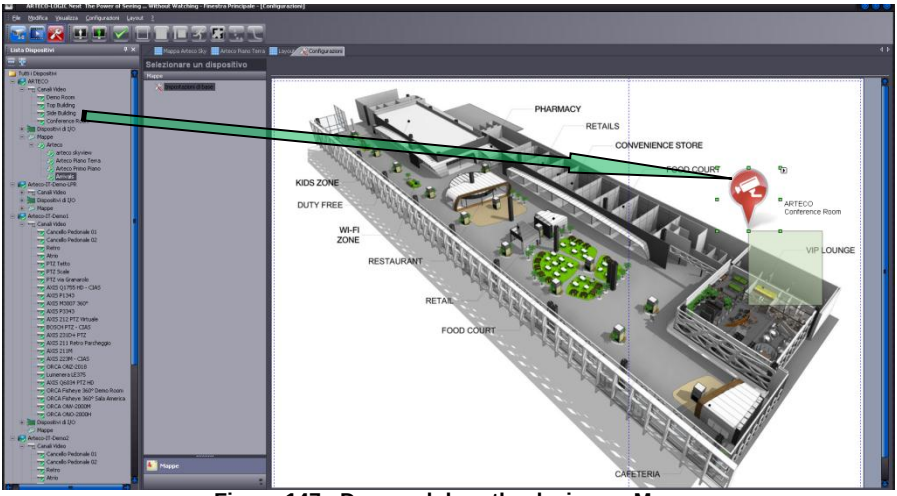


Figure 147 - Drag and drop the device on Map

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


Indicates a camera


Indicates an input device

Indicates an Output device

Par 11.1 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 lable.
By clicking on the button shown in the photo, you will see the option to change the icon representing the object.

Figure 148 - Change the device icon on Map

You can change the size of the icon by holding down the mouse button on the green squares and moving.

Par 11.2 Property devices

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

Figure 149 - Modify device properties on map

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

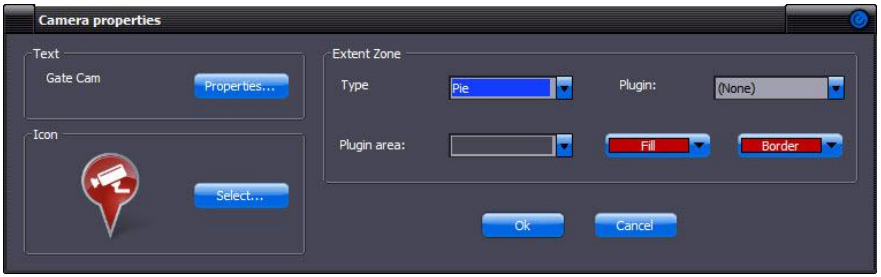


Figure 150 - Changing Device Properties

Par 11.3 Devices Properties - Text

By clicking on the “Text” Properties button you are able to change the label that will be assigned to the device. There are many adjustable parameters, the most important are the abilitys to change the font and color of the label.

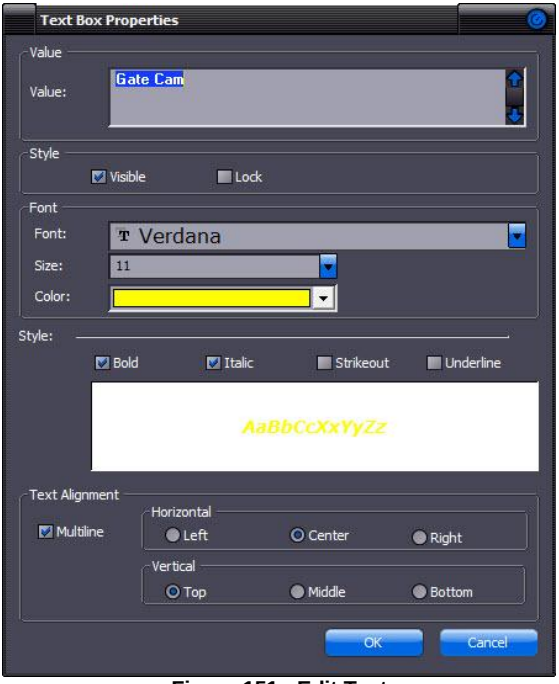


Figure 151 - Edit Text

Par 11.4 Property devices - coverage areas

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 possibility to choose the shape of the area of coverage that this goal "covers" on the map, the 3 options are: rectangle, ellipse or pie.

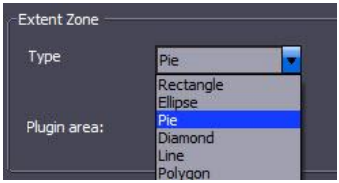


Figure 152 - Change the shape of the device

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 in connection with the plugin active on the device. For each selected plugin, it is possible to select the plugin area.

Figure 153 - Selection of the device plugin

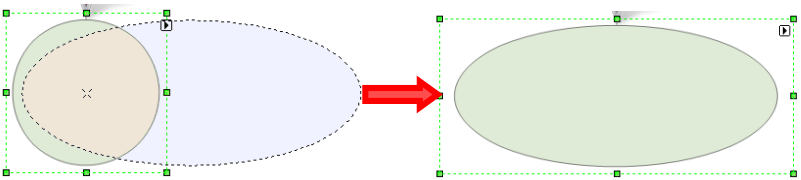
Selecting the fill and border will give you a specific color for the coverage area shown.

Figure 154 - Selection Plugin device

Once you have configured the map and placed the devices, you can start managing the environment through the Live Map.

Par 11.5 Changing coverage areas

You can modify each coverage area on the map, to show an acurate 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 11.6 Event Management on Map

The icons on the map are "shortcuts" that can be recalled by a double-click, the display of the live camera on the layout.
If the device can create events (video analysis, I /O or alarming, etc..), You will see a red frame flashe on the icon on the map, as Figure 155 -Events on Map.
You can also click on the I/O to change its current state.

Figure 155 -Events on Map

With a double-click on the device you can then view the last recorded event.
If you hover over the icon it will show the name / description of the device along with a live view of the device.

Chapter 12- User Management

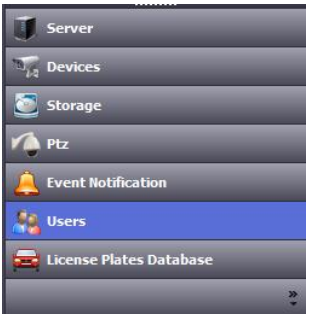


Figure 156 -User Management

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 (up to 255 maximum users per server).

The category "User" is defaultly reserved for normal users and thus allows access to view video surveillance. Regarding the recordings, "User" can only access recordings from the event log and will not have access to the archives. "Power User", compared to the "User" defaultly has more complete access to the archives of recordings. "Administrator" has access to all functions and, in particular, the configuration settings in the System.
The user settings are accessible in the "Configuration" of ARTECO-LOGIC Next. Be sure to have the correct server selected for the users you want to manage.

Figure 157 – Roles Features

NOTE: With versions 1077 and later, 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” an Administrator can assign different accessibilities to different levels so as to achieve the highest customization of user rights. See **Figure 157 – Roles Features**.

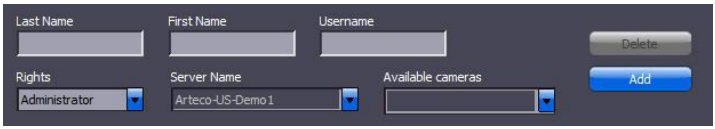


Figure 158 -Entering Users

To insert a new user fill in the fields "Last Name" "Name" and "Username" and choose the role (User / Power User / Administrator).Finally decide on which ARTECO Server you want to add the user. Once done, click on the "Add" button that will perform the insertion. To remove a user select the row corresponding to the user / server from the list and then click the "Delete" button.

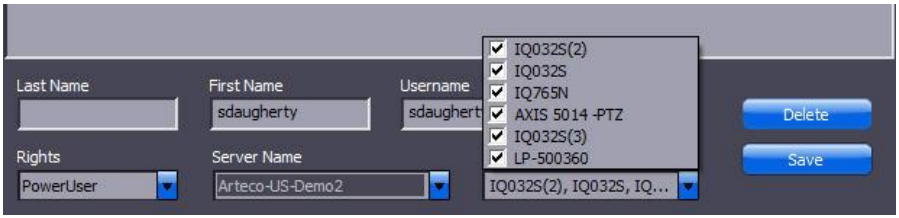
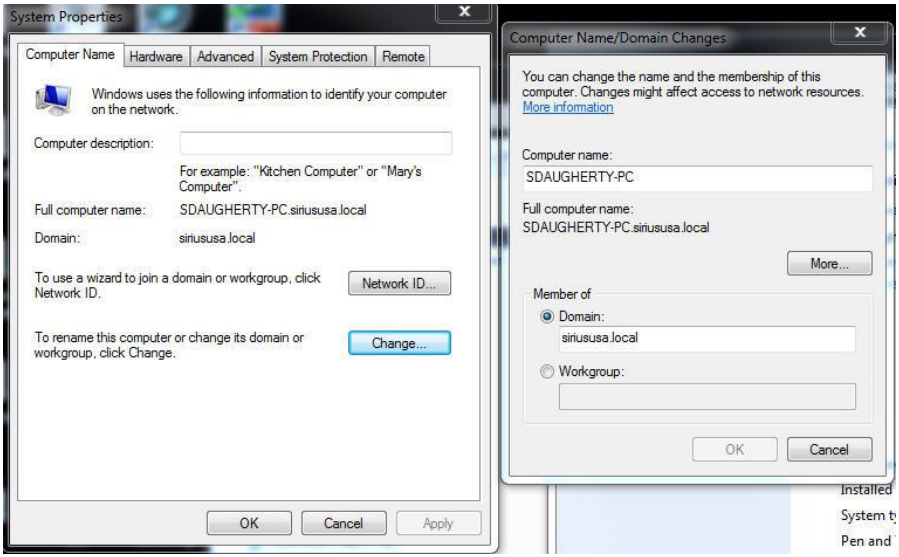


Figure 159 –Camera Selection

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. As shown in **Figure 159 –Camera Selection.**

Adding Domain Users-

Version 1077 and later have the option to add domain users as Arteco Logic Next users . By creating a domain group and adding domain users to it, you can add a group of users to Arteco Logic Next all of which can be assigned the same rights. Ensure your server is on the domain you would like to use. See **Figure 160-161**



160 – System Properties

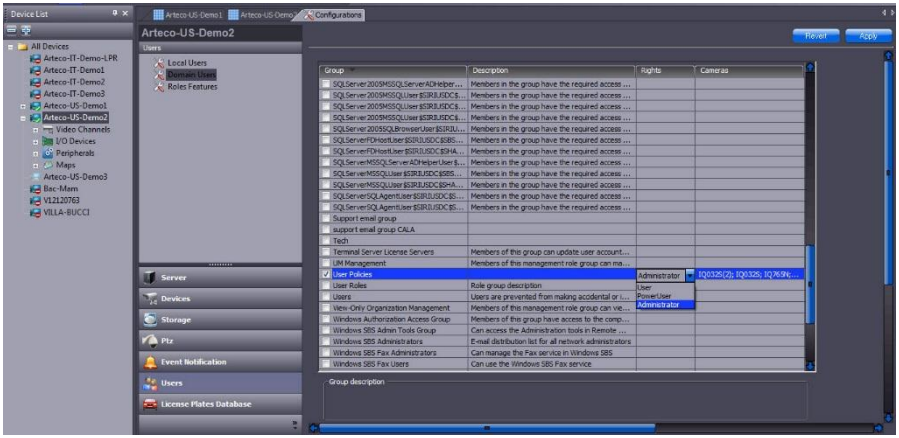


Figure 161 – Domain Users

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-LOGIC 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.

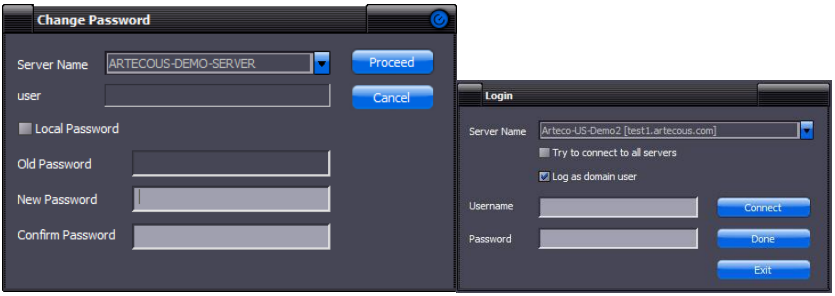


Figure 162 -Entering Password

Chapter 13- Management Log

Inside the system internal events are generated that, as explained in Chapter 8, May be attached to "actions". The list of these events can be displayed while viewing live images from a camera or by performing a search in the historical records.
The Log window appears immediately after logging in, without the need to activate it. Click the right mouse button on the log, to show the menu in Figure 163 - Management Log:

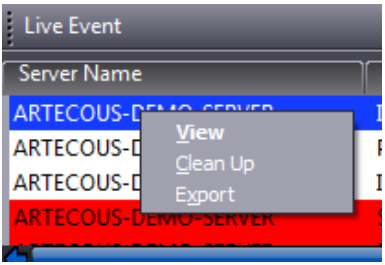


Figure 163 - Management Log

"View": Displays the layout the selected event.
"Clean Up" resets the log displayed on ARTECO-LOGIC Next.
"Export" is used to export the current log file displayed.

You can enter the environment of the records by clicking on the icon and, after doing research on the specific channel events, export the search results. The export takes place on CSV file which can be easily viewed in Microsoft Excel.
As shown in Figure 164 - Log, Events will be displayed in the log window with the following format:
Server: ARTECO contains the name of the server from which the event.
Channel: is the name of the video source involved in the event.
Date and Time: contains the date of the event is generated.
State: each event can be in the "Open" when it has not yet been viewed by any operator or "Taken in charge" when an operator has displayed. To the open state match the colors red (when the event is available for viewing), and yellow (when it is being written). The line corresponding to an event Log "Taken in load" model has the white background.

Server Name	Device	Event Description	Event Time	Status	Username	Acknowledgement Time	File Type	Note
Arteco-US-Demo1	Arecont 5105-...	Violated Area, Zone 01	01:51:13 PM 30 Jun 2014	Open	System	01:51:56 PM 30 Jun 2014	Video	
Arteco-US-Demo1	Arecont 5105-...	Violated Area, Zone 01	01:52:22 PM 30 Jun 2014	Open	System	01:52:22 PM 30 Jun 2014	Empty	
Arteco-US-Demo1	ARECONT 3105	Violated Area, kitchen	01:55:40 PM 30 Jun 2014	Open	System	01:55:48 PM 30 Jun 2014	Video	
Arteco-US-Demo1	ARECONT 3105	Violated Area, kitchen	01:57:04 PM 30 Jun 2014	Closed	SDaugherty	02:26:15 PM 30 Jun 2014	Video	

Figure 164 - Log

You can sort the events based on the available fields: Server, Channel, Event, Date and Time, Status, User, User Time and Format. To force sorting on a column just click on the header to display an arrow going up or down (down growing up first). In the example opposite

you chose in ascending order according to the name of the "Server" and the name of the "Channel".
The Log window is a convenient point of access to images, live or recorded. In fact, dragging a line on a Log pane layout (board) starts live viewing of the video source which is linked to the line of Log. Conversely, with a double click on the row of log, play back a recording on the event.

Chapter 14 Managing Digital I / O

The Arteco products can be equipped with a input / output card taht allows interfacing to external generic devices.
The user has software features that, together with the configuration mode of the card, are described below.

Par 14.1 Configuration of the various types of I / O

The system can be equipped with I / O devices digital and virtual.

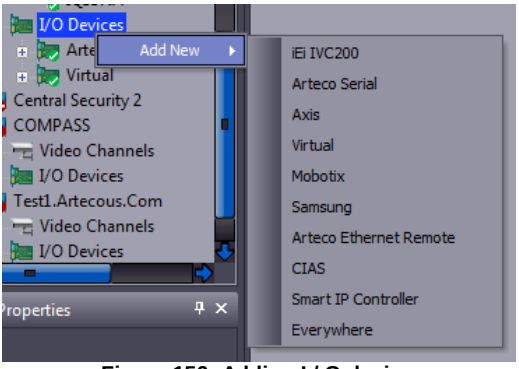


Figure 156 -Adding I / O device

To add and configure a new device I / O you need to access environment configuration.
The Figure 156 -Adding I / O device shows the interface that opens by right-clicking in the entry "Device I / O" in the Menu tree "Device List".
This interface allows the addition of I / O devices of the type in the list and described in the following paragraphs.

Par 14.2 Adding and removing resources I / O

To add a resource I / O click with the right mouse button on the icon of the server that appears in the tree **Figure 157 Table-I / O devices**. This will open the list of devices that you can attach to the server and which are summarized in the table below.

Name I / O resource	Type of resource	Description
IEI IVC 200	PCI	PCI board available on request
Serial Arteco	external form	Serial Module 8 In 8 Out disp + on request
Internal	internal module	Internal module 4 + 4 Out
Axis, Samsung, Mobotix	I / O available on IP cameras or devices	My IP compatible products (see Doc. Producer)
Virtual	variable software	Internal resource to the System

Arteco Ethernet Remote, Smart IP Controller, Everywhere	I / O device IP	Form Ip 4/8 In + 4/8 Out avail on request
CIAS	I / O devices connected to CIAS IBSystem	Intrusion detection devices connected to the system

Figure 157 Table-I / O devices

The addition of the I / O is controlled by the operator, the system that adds it only if actually present and functioning. If the verification by the system proves impossible, the addition will be carried out regardless of their presence, provided that the number is not more than the I / O resources defined in the System license.
Since the addition, resources will be available to all authorized users to use them.

To remove the resources just click with the right mouse button on the icon of the resource and select "Delete Device I / O".
The following paragraphs will describe how to configure each type of I/O device.

Fig 14-1 Panel configuration of I / O devices "IEI-IVC200"

The address of the card IVC200 IEI is the same set of dip switches on the card should therefore be set prec and dloopable in the production phase of the system.

Par 14.3 Device I / O "Arteco Serial"

In the case of a device "Arteco Serial" is acc and dand a configuration panel device as inFigure 158 Configuration-Serial I / O.

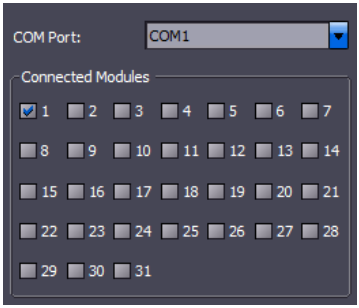


Figure 158 Configuration-Serial I / O

Must be set to the COM port to which devices are connected and the number of "Modules Connected", which corresponds to the number configured in the dip switch of the I / O port.

Par 14.4 Device I / O "Internal"

The I / O device "Internal" does not require any special configuration.

Par 14.5 Device I / O "Axis, Samsung, Mobotix"

The configuration panel of a device I / O Axis, Mobotix Samsung or allows you to set: IP, username, password, and the number of I / Os available on the device in question.

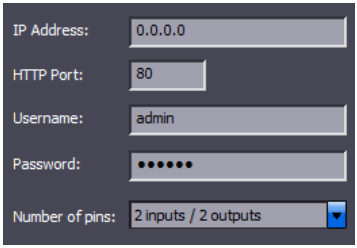


Figure 159 -I / O Configuration Axis

It is not essential that the system receives the video of this device to be able to manage the resources of the I / O

Par 14.6 Device I / O Alerts

From the I/O configuration panel it is necessary to set the virtual size of the number of variables (Pin) allocated in this system

Figure 160 -I / O Configuration Virtual

Each variable can be used within ARTECO virtual software without distinction as Input or Output.

Par 14.7 Arteco Ethernet Remote, Smart IP Controller and Everywhere

The configuration panel of a device I / O Remote Ethernet Arteco allows you to set: IP, http port, username and password for the device in question.

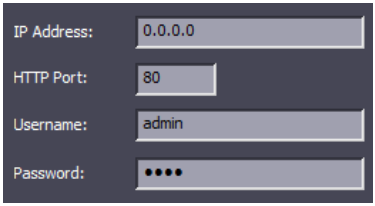


Figure 7 -Configuration Arteco Ethernet I/O Remote

Par 14.8 CIAS

The configuration panel allows you to set a CIAS : IP, port, and device group.
These values are the same as those configured on the device IBSystem CIAS, so you must know this data in advance.
You can, through the selection in the "OR" of the various types of alarm, define what will be the status of the device that will determine the creation of events.

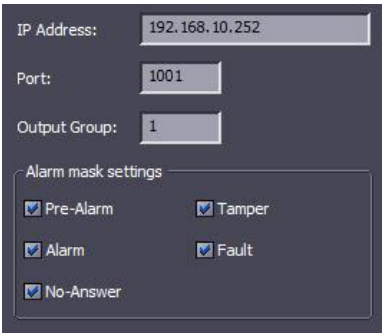


Figure 161 CIAS-device configuration

Par 14.9 Population of the menu I / O devices

For all devices selected and configured, the menu tree will automatically populate accordingly. For all the peripheral I / O channels will be show separate Input and Outputs, while for CIAS devices, specific names appear in the menu of installed devices, with a summary of the Group and of the number / device ID

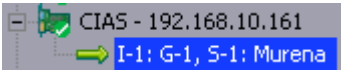


Figure 162 CIAS-device configuration

The image above shows that the device is configured to IBsystem 1, Group 1, the first device configured on the 128 available, and the name of the device.

Par 14.10 Labels, states of rest and manual controls I / O

For easy management of all the variables I / O, the user can customize the labels of the inputs and outputs by writing descriptions in context. This also improves the understanding of the event, as the system will report these names in reports on event logs and configuration of the software. After changing a label (see Figure 163 Input-off) Remember to click on the "Apply" button to save the change.

To assign to each input level that should be considered "normal" (or "off"), click on the resource INPUT and configure the idle state "HIGH" or "LOW" in the appropriate box. This is to determine if an input should generate an event when the system is in the "High" or "Low" (Figure 163 Input-off).

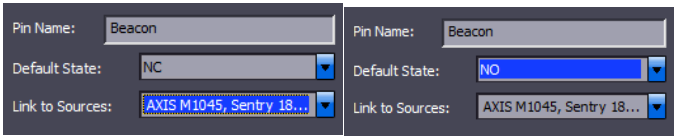


Figure 163 Input-off

The resource configuration is performed by clicking on the resource and then modifying the state of rest. This serves to define the state of the relay that should be considered "normal" (or "off") at the start of the System.
To configure the manual control of the outputs and force a reading of the inputs on the tree click the resource you want to control manually (in the case of an OUT) or for which you want to know the status (if it is an IN).
To manually check for an exit click on the "ON" / "OFF" contained in the "Check" relating to each individual OUT. Click on "Update Status" you can force the update on the status of the output. To make reading a rather IN click on "Update Status".
YOUcan also associate the relay output to a video of the system, directly from this interface, through the drop-down menu "Associated to" will show all the available video sources on the server that is referenced by the module output.
For the relay is also possible to enable their change in state on a time basis through the menu "Planning". The programming of this schedule will cause a single change of state of the relay within the indicated hours. Any change of state manual, the relay will return to its previous state.

Par 14.11 Programmable functions of the I / O

Through the section 

refers to the interface relative to the I / O that appears on the right side of the screen (see Figure 164 -I / O Functions).

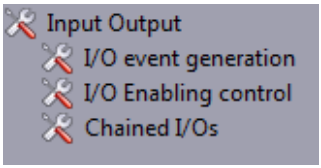


Figure 164 -I / O Functions

It provides access to software functions of the use of I / O, followed by the description in the 3 following paragraphs. These features are diversifiable per video channel, that is, each function I / O is available independently for each video source. This implies that there is the possibility to associate more than one event I / O to a video source: the selection of the video channel to which to bind the functionality of the I / O is achieved by clicking once on the live image displayed on the chessboard of the interface (the selected image turns on a green rectangle). Every time you click on an image the parameters of the functionality of I / O operations to the channel is updated in the interface for the function of I / O in the same way, to make a configuration of an I / O function on various channels Simply select a different image every time and customize the details of I / O interface.

Par 14.12 Minimum duration for the pulse input

Normally, the minimum pulse width to be provided to INPUT, to be recognized by the system, must be greater than the period of acquisition of the associated video input source. Therefore, if a source acquires 10 fps the period is 0.1 seconds and the minimum duration of the electrical signal input associated with that source must be greater than 0.1 seconds, so that it can be recognized.

Par 14.13 Functionality "Input alarming"

In Figure 165 -Select Input Enablers shows a snapshot of the interface for the configuration of an "Input Alarming". This function enables the generation of one or more internal events of system associated with a unique video source whose consequent actions can be programmed as described in the prec and dinstitution Par 14.11.

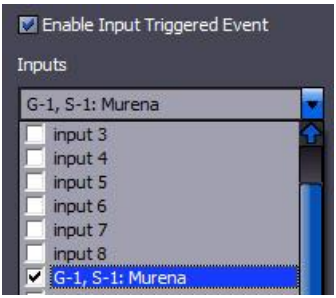


Figure 165 -Select Input Enablers

Par 14.14 Examples of applications "Input Alarming"

After selecting the image of a video source interface (assume that you selected the "camera 2 "), If the inputs are selected in the interface as shown in the figure, it will happen that, for each electrical pulse received from these inputs, it will be an internal event for the source video "camera 2 ".
This feature is useful for connecting the system to a Arteco IVS system intrusion or a volumetric PIR detector or an access control system.
In any case, whenever one of these devices should detect an alarm, the latter would be transmitted to the system Arteco that may perform one or more actions to choose from (notification, recording on a video channel, ...).

Par 14.15 Functionality "Input disabling"

For each video source, this feature allows you to activate / deactivate all the plugins configured vision of that source (control 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. To select the source video click once on the live image of the board and then enter the parameters in the interface Figure 166 Configuring Input-disabling that represented the programming window of the input enabling.
Disabling the checks on that video source will prevent the generation of events as a result of internal system and any "actions" planned.
Through the combo-box "Input Selection" you can attach the card to the input of the video source selected on the board (eg, input 8).
To determine whether the action should take place when the input is present or not a voltage at its input to configure the combo-box "Input Status": If set to "Off State" action will take place at a low level of ' input (and vice versa if it is set to "On State".
It may also configure the system to delay and timing the enablement of the controls after a time interval in which the input is turned on / off, selecting "Front Ascent" or "Front Descent" and then impostanto the activation delay and duration enabling signal.
In the example shown in the figure below, if voltage is provided in the input 1, the controls are disabled and vice versa, in a "standard" or "against"

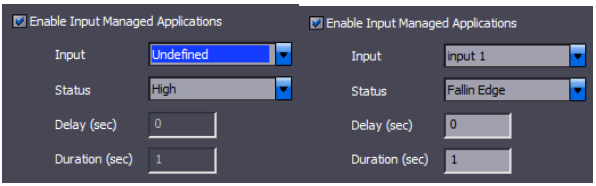


Figure 166 Configuring Input-disabling

This function can be used as a module on / off in the local system. Can be used, for example, to enable notifications of events by means of an Input. The system remains turned on, while the input disables all actions (notifications and recordings of event). YOUcan view this status change in the interface by the way the control areas become gray when the control is not active. To obtain this view, tick the box "Bounding Box Event" in the menu details.

Par 14.16 Functionality "I / O concatenated"

Through this function we can establish that, in correspondence of the change of status of a certain input of the card, both caused a corresponding variation of an output of the same. It is also possible to establish that, each time the input changes its state, the system inhibits the generation of all its internal events for "Time muting" seconds

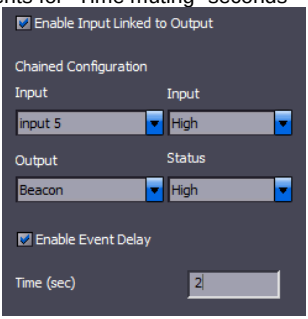


Figure 167 -I / O Configuration Concatenated

For example, by configuring the Input "pin 5" with "input was" High and then "Zoom Crossing" as "select output" and "High" in the "Output switches into" the system will behave as follows: to detect a status of "High "on the input will immediately close the circuit between pins" common "and" normally open "output. This state will persist until the output when the input is maintained at a voltage level "high". When then the input should return to the "low" level, the output will adapt accordingly, and would again inhibited the generation of events for "Time muting" seconds.

Par 14.17 Examples of I / O applications Concatenated

This function can be used for example to inhibit the generation of false events when light sources of artificial lighting. By connecting the switch (manual or twilight) to an input you will get the corresponding change in the output for the command of the lamp, while the system will be inhibited the generation of events for the time that the lamp needs to turn on or off (think of the time of ignition of 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 14.18 Functionality "Output dependent Plugin"

The software functions related to I / O so far examined involve in general a relationship between an event generated by an input and some actions that the system can accomplish. But the actions on output can also be controlled by events whose origin is not dependent on the inputs such as, for example, a plugin of vision (control areas, abandoned object, ...).
Unlike the pre functionsc and dbodies in the I / O to configure the output control on the part of the plug-in click on the chosen plug-in (Control Areas, etc.).
Within the programming interface of each plugin there is a section called "setting output" (see Figure 168 -Configuration "Output dependent Plugin" below) that allows you to choose which OUT must be activated as a consequence of an event generated by the plugin active on some selected source on the board.

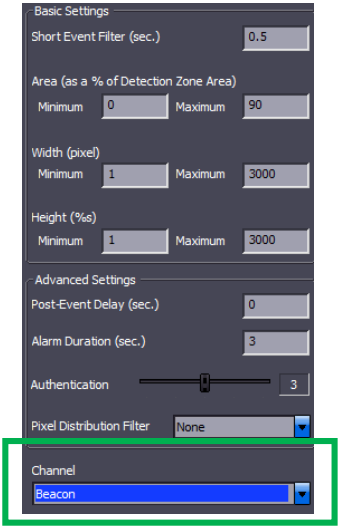


Figure 168 -Configuration "Output dependent Plugin"

This function of I / O, such as prec and dbodies, is separately programmable for each video source and for each plugin. Thanks to this highly versatile programming may therefore happen that two active plugins on the same video source also activate different outputs and the same thing can happen for the same type of plugin configured on separate video sources. When the event starts, the corresponding relay input changes state (compared to the one set as default). The time spent in seconds in the excited state corresponds to the "notification time" (see Par 8.1) Located in the submenu "Advanced Settings" of the plugin which you are configuring this function I / O.
The programming of this function is done by selecting a video source on the board, and selecting one of the plugins (the plugin in the snapshot you chose "control zone"). Finally, we must select the output to be activated ("Output 1 " snapshot of the interface).

Par 14.19 Examples of applications

This function is used for example to send an electrical signal standard to another generic device (such as a warning light) whenever a plugin detects a particular situation.

Par 14.20 Control of PTZ presets with Input

You can associate a digital input (up to "virtual") system to one of the preset of a PTZ camera, so that the camera positions, depending on which input is activated.
Alternatively it is possible to obtain the positioning of a PTZ on a preset function in an event generated by a plugin "control zone" (or another type of system event). To obtain this behavior, you must associate a variable I / O "virtual" to the preset position of PTZ. The same variable is then associated with the virtual plugin in the plugin configuration page (see Par 14.18). For the same video source you can create multiple zones of control by associating each a virtual I / O differently, so as to be able to command the PTZ in positions corresponding precisely to the areas that are activated

Chapter 15- Connection to Audio Server

Through the menu View> Panels> Voice Chat as Figure 169 - Enable Voice Chat.

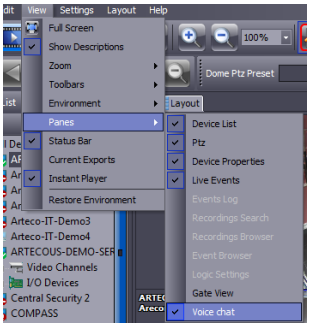


Figure 169 - Enable Voice Chat

It is the function of "Audio Connection to Server" (or intercom) whose horizontal interface opens in the lower area usually reserved for the Log. This function allows you to establish a connection with a two-way audio system at a time using the inputs / outputs of the sound card of the system on the one hand and the PC where it is installed ARTECO-LOGIC on the other.
For optimal performance we recommend the use of the connection of headphones from both sides. From the side of ARTECO headphone and microphone will be connected into the appropriate jacks on the system. To connect to your PC where it is installed ARTECO-LOGIC refer to the instruction manual of the PC.
The audio will be transmitted digitally over the network, through the communication port TCP-IP n. 5050, which must then be accessible from the side of the system (and vice versa).

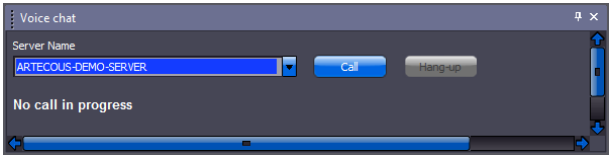


Figure 170 - Voice Chat

To establish the connection click on combo-box of the list of connected servers (those on which it was carried out authentication) and select one. Then click on the "Call" button and wait a moment until the connection is established.

Chapter 16 Contacts

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Notes