Digifort Standard Manual
Surveillance Client
Version 7.3.0.0
Rev. A

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Chapter

1 Welcome to Digifort Standard Manual

This User Manual and Technical References provide all the information needed to effectively implement and use all of the basic and advanced features found in the Digifort System's Surveillance Client Standard.
This manual is constantly updated and does not include the features for Digifort's Beta versions.

1.1 Screen Shots

The screen shots contained in this manual may not be identical to the interface that you will see using the Surveillance Client. Some differences may appear, with no impairment in use of this manual. This is due to the fact that frequent updates and the inclusion of new features are carried out with the purpose of continuous improvement of the system.

1.2 For whom this manual is intended

This manual is directed toward the administrators and operators of surveillance stations.

1.3 How to use this manual

This manual is structured into chapters, topics and sub-topics.

Important:

- If your version is not the Enterprise, some features may present limitations. To know the limitations of your version check the Feature Matrix table on the www.digifort.com site.
- The screenshots in this manual are originally taken from the Enterprise version. For this reason, some features may present differences in the screenshot from the version you are using. We are constantly updating this manual and improving its content.

1.4 Prerequisites

For complete appreciation of the content of this manual, some prerequisites are necessary:

- Use of computers and their peripherals equipment.

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- Use of the Microsoft Windows operating system.
- Knowledge of client-server architecture.
- Knowledge of computer network architecture.

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Chapter

2 The Surveillance Client

The Surveillance Client is the module responsible for the surveillance of cameras and the receipt of alerts configured by the administrator.

The Digifort System allows simultaneous surveillance of several cameras at the same time by way of views, which can be dynamically created. It offers the capacity of controlling movable cameras with PTZ functions (Pan Tilt Zoom) and IO control, permitting the setting off of alarms, the opening of electronic doors and the receipt of alerts from motion sensors.

It's also possible to execute video recording in local HD, creating a copy of the images received from the selected cameras in the surveillance station, allowing for the recording of this part of video in a CD or DVD for later visualization in any other computer.

Like the Administration Client, the Surveillance Client also has the capacity to monitor several servers simultaneously. With this feature, images of various cameras can be monitored alone or mixed in a view in a way transparent to the user. Using a set of special tools, it allows for live detection of motion and automatic control of image quality.

The Surveillance Client also allows interoperability among the Explorer, Standard and Enterprise versions, that is, the Surveillance Client can monitor cameras of servers of other versions.

Attention

It's not recommended to execute the Surveillance Client in the same computer as the Digifort Server, except for small installations, as the processing used by the Surveillance Client for displaying cameras in the screen could hinder the recordings carried out by the Digifort Server. This is due to the fact that the Surveillance Client needs to decode the images for displaying on the screen, and, depending on the number of cameras in the screen, this processing can be high

2.1 How to execute the Surveillance Client

To access the Surveillance Client, locate the Digifort Surveillance icon on your Desktop Digifort 7.3.0.0 Monitoramentoor in Start->Programs->Digifort->Clients->Surveillance.
The following should show up on the screen:

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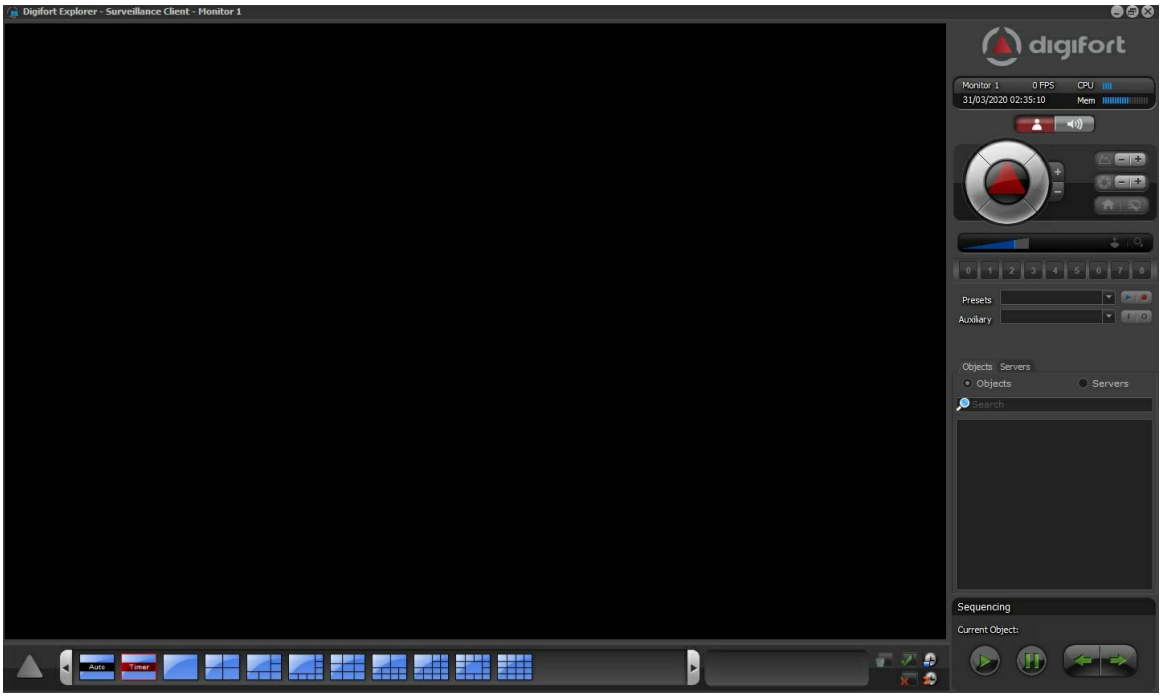

This is the Surveillance Client's main screen.
Clicking on the triangle in the bottom left corner, a menu is displayed with the following tools:

2.1.1 Configurations button

Opens the configurations screen of the Surveillance Client.

2.1.2 Recordings button

Opens the recordings screen, in which you will be able to select any camera of the system and visualize the recorded videos filtered by date and time.

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2.1.3 Trigger Events button

Opens the screen for setting of trigger events, which can be, for example, the opening of an electric lock. To learn how to register manual events, consult the manual of the Administration Client.

2.1.4 Analytics records

Opens screen with analytics records.

The analytics records make it possible to search the system's analytical events and generate reports.

2.1.5 LPR Reports

Opens screen with analytical records.

The analytical records make it possible to search the system's LPR events and generate reports.

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2.1.6 Virtual Keyboard

Opens the Digifort virtual keyboard.

The surveillance client can use the virtual keyboard without needing a physical keyboard.

2.1.7 Event Log

Opens the Event Log Screen.
To learn about this feature see chapter Logs de eventos 219

2.1.8 Audit

It opens the Audit logs.

The audit logs screen allows you to query the audit of all connected servers simultaneously.

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2.1.9 Close button

Closes the surveillance client.

2.1.10 Update Button

Updates the Surveillance Client configurations.
Whenever changes are made to the user configuration in the Administration Client, this button must be pressed to ensure the command is effected. All other configurations made to the Administration Client are automatically updated in the Surveillance Client.

2.1.11 Full-screen button

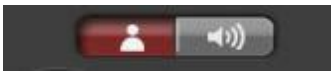
Expands the space reserved for visualization of the camera by filling the entire screen. To return to the normal mode, press the ESC key on your keyboard.

2.1.12 Button Minimize to System Tray

Minimizes the system in the same bar where you can find the Windows clock

2.1.13 Controls

To enter on **Controls** mode, click as shown below:



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2.1.13.1 PTZ Controls Options

The Surveillance Client has the basic PTZ controls in its main screen, as shown in picture below.

The functioning of PTZ controls will be detailed in the PTZ 124 section.

2.1.13.2 PTZ use status

When a user is using PTZ the icon is shown near the PTZ control. By placing your mouse over the icon you can see which user is interacting with the selected PTZ camera.

2.1.13.3 Focus Button

Zooms in or out if the camera includes this function.

2.1.13.4 Digital PTZ Button

Activates or deactivates the Virtual PTZ in Dome cameras

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2.1.13.5 Iris Button

Increases or decreases the camera's iris opening, if this exists.

2.1.13.6 Joystick button

Activates or disactivates the visual joystick. To learn how to use this feature, see Movement via Visual Joystick 125.

2.1.13.7 Home Position Button

The camera moves to the Home position.

2.1.13.8 Screen wiper

Activates the camera's screen wiper, if this exists.

2.1.13.9 Presets Button

Executes or saves a preset.

To execute a preset, simply select it from the list and click on play as shown below:

Or click on the numbers as shown in the screenshot below:

To record a preset, click on the icon give it a name, and click on Ok as shown below:

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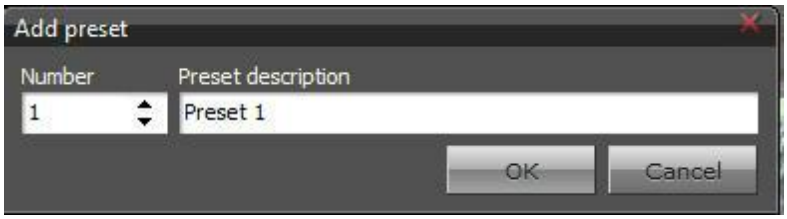


2.1.13.10 PTZ Surveillance Button

Pauses or begins PTZ surveillance. To learn how to create PTZ surveillance, refer to the Administration Client manual. .

2.1.13.11 Auxiliary Button

Activates or deactivates the camera's support function, if this exists. To learn how to register support functions refer to the Administration Client manual.

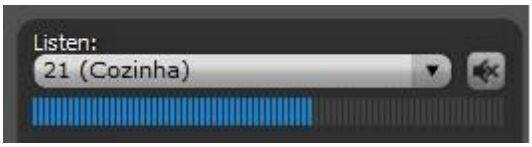
2.1.14 Audio

To enter in audio mode, click the button as shown below:

Digifort has the functionality to listen to audio from a camera and send an audio to your speakers.

2.1.14.1 Listen

You can listen to a camera by simply selecting it in the box as shown in the picture below or by clicking on its image in the mosaic.



- **Mute button**: Mutes the audio from the camera
- **Volume bar:** Shows the audio volume in real time

2.1.14.2 Speak

Some cameras allow audio to be sent to your speakers, ie the operator can talk through the camera.

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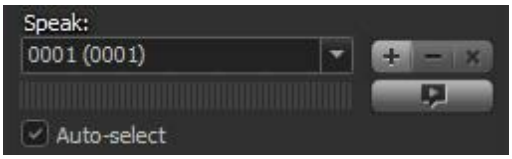

To speak, simply select the camera in the box and click on the button below:

NOTE: To speak, the operator must maintain the above button pressed.

It is possible to speak to multiple cameras simultaneously, ie sectorize the audio areas.
To create a group of cameras to send the audio, simply click on the **+** sign and the following window will open:

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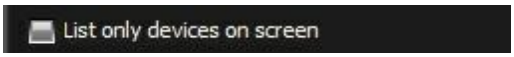
- **Name**: Name of camera group
- **Description**: Description of the group created
- **Devices**: Click on **Add** to enter the cameras in the group

To change a group you created, select it and click on the button: **-**
To delete a group you created, select it and click on the button: **+**

2.1.14.3 List cameras



- **List only the cameras on screen:** Select for the selection boxes to only show the cameras that are in the current mosaics, otherwise, all cameras will be available.

2.1.14.4 Volume

Adjust the volume of your speaker and microphone by dragging the blue bars shown in the image below:

2.1.15 Screenstyles Options

The Surveillance Client has eight Screenstyles, which are located in the lower part of the system, as shown in picture below.

The functioning of the Screenstyles will be detailed in the Working with Screenstyles 63.

2.1.16 List of Objects

The list of objects includes all Digifort's visual functionalities as shown in the picture below:

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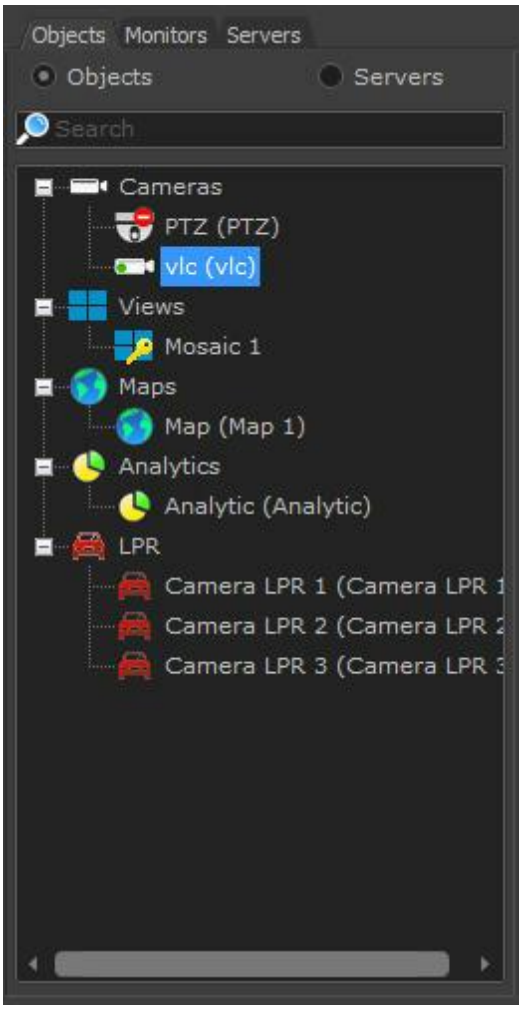

The picture above shows all the objects found in Digifort:

- **Cameras**: Shows all the cameras registered in the Administration Client. To see the view of the camera click on its icon and drag towards a screen style.
- **Screen styles (Views):** Shows all the screen styles saved in the Surveillance Client per category. Example: Only screen styles with 4 cameras, 6 cameras, etc). To see the screen style double click on its icon.
- **Maps**: Shows all the maps registered in the Administration Client. To see the map click on its icon

and drag it to a screen style.

- **Analytics Records:** Shows all the analytic records registered in the Administration Client. To see the

analytic records click on the icon and drag it to a screen style.

- **LPR (License Plate recognition):** Shows the objects for plate recognition registered in the Administration Client. To see the LPR click on its icon and drag it to a screen style.

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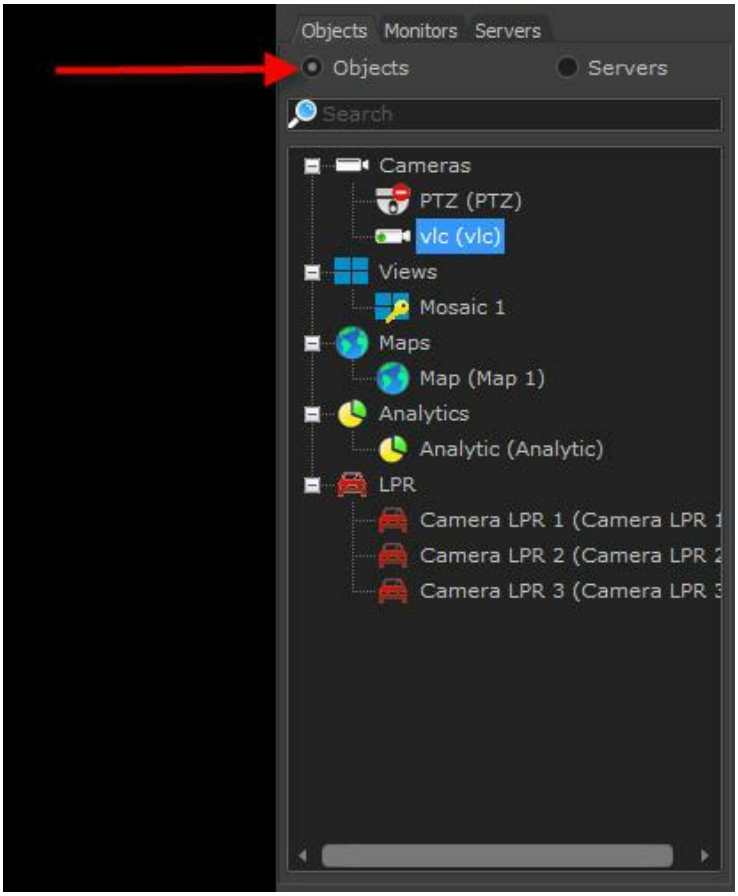
Nota

The objects appear according to each user's rights. To understand how to configure the user right, refer to the Administration Client manual.

After registering the servers (see Configuring the server to be monitored 30), if the surveillance client is updated, the objects registered on the server can be seen on the list at the side as shown below:



In the list of objects you can use a search to quickly find a specific object. To use the filter just enter in the field indicated in the figure below:

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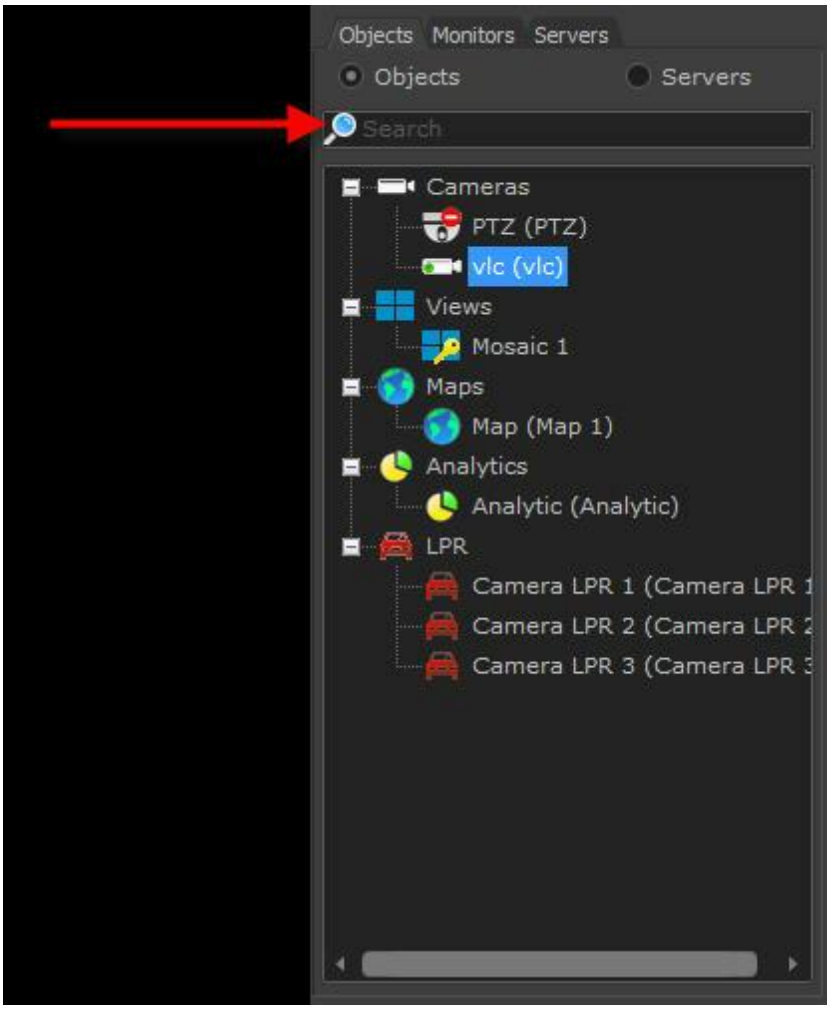
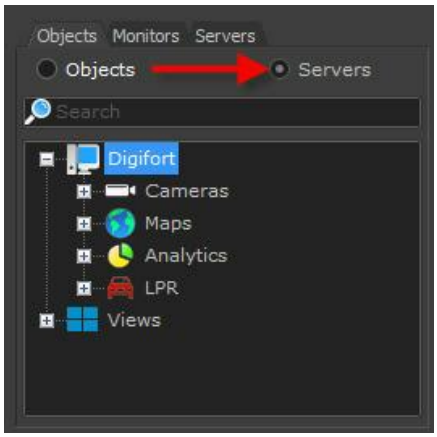


Another view option is to click on Servers and from here you can separate the objects into their respective servers as shown below:



To check status, connect or disconnect the registered servers, click on the Servers option as shown

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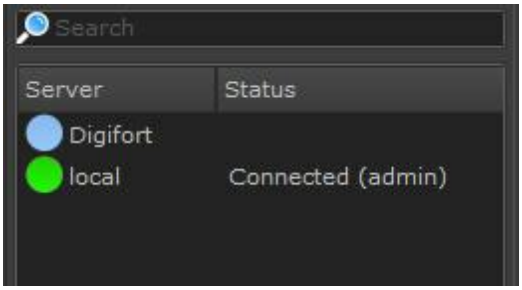
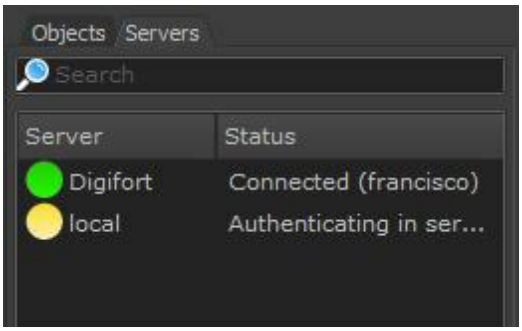
below:

To disconnect a server, simply double-click on it. In the picture below, the 'Digifort' server has been disconnected..



If there is a problem with the server connection, an error message is shown on the Status column. The picture below shows an error in the 'Digifort' server where the system's versions are incompatible.



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2.1.16.1 Camera Status

This icon means that the camera in question is a Dome camera, i.e. it includes the Pan or Tilt features.

This icon means that the camera in question is a Dome camera, i.e. it includes the Pan or Tilt features.

These icons mean that the camera in question is deactivated at the Administration Client.

These icons mean that the camera in question is activated but is not recording

These icons mean that the camera in question is activated and recording.

These icons mean that the camera in question is activated, recording and detecting movement. The detection of movement is only indicated if the camera is recording by movement or has some sort of alarm configured for movement. (To learn about movement detection, refer to the Administration Client manual).

These icons mean that the camera in question is out of order.

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Chapter

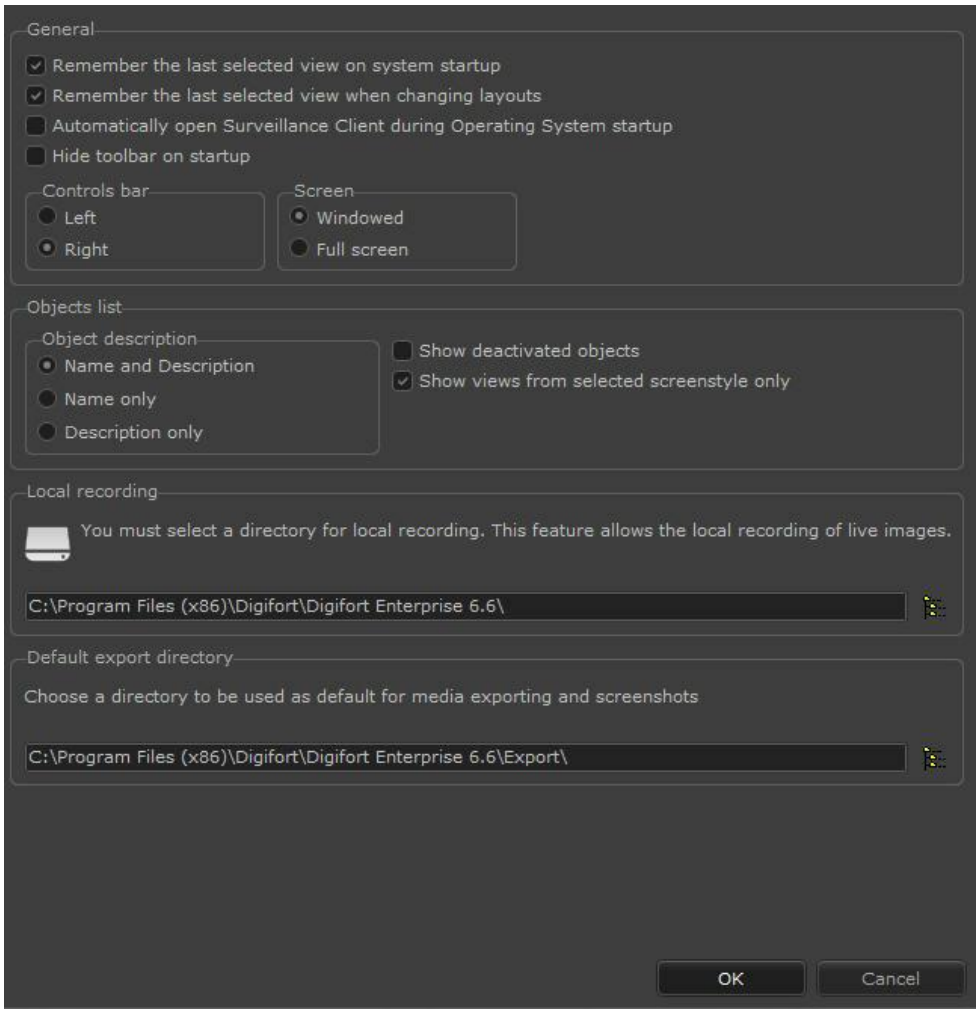
3 Configuring the Surveillance Client

This area of the system allows you to configure and customize the Surveillance Client. It's necessary to specify the servers that will be monitored and the parameters of the Surveillance Client environment.

To access the configurations area, click on the Configurations button located on the tool bar on the right side of the system.
If you add, modify, or exclude any server in the configuration of the client, then you must click on the Update button so that the Surveillance Client reconnects to the servers using the desired configurations. Any other modification of the configurations will be applied when a new view or camera is selected in the screen.

3.1 General Configurations

By clicking the Settings button, as explained above, the following screen will be displayed:



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This is the General Settings screen of the Surveillance Client; it gives you the following options:

3.1.1 Remember the last selected view when opening the system

When you select a view or a camera, the system automatically keeps your reference so that when the Surveillance Client is reopened, the same camera or view reappears automatically in the screen. If this option is not marked, no camera or view will be loaded automatically for exhibition when the Surveillance Client is opened.

3.1.2 Remember the last selected tile when changing layouts

The Surveillance Client now provides the option to load or not load the last selected tile to switch between screen styles (Layouts). The default option is to always load the latest tile selected, thus maintaining compatibility with the behavior of previous versions..

3.1.3 Keep objects on screen when changing layout

By default, when you select a new layout the system will clear the screen so that the new layout is displayed empty (unless the option "Remember the last tile when switching layouts" 31 is selected). However, with this option selected, the system will keep the camera, or cameras, that are already on screen and populate the next layout, thus allowing the user to "open more space" for creating mosaics. If the selected layout has fewer spaces than the number of cameras on screen, the system will remove the excess cameras.

3.1.4 Initialize the surveillance client upon initialization of the operating system

It initializes the surveillance client when the operating system starts by automating the cameras' monitoring process.

3.1.5 Hide tool bars on startup

Hide the control bars when system is started

3.1.6 Directory for local recording

Digifort has the functionality to make recordings on the monitoring computers. Enter the location where the videos will be saved here. It is also possible to select whether the local recording will be made in Native format (with the player) or MP4. To learn how to make local recordings see the chapter Executing Local Recording 129

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3.1.7 Control bars

This option allows for the positioning of the side bar on the left or right of the monitor.

- Left: Positions the bar on the left of the screen.
- Right: Positions the bar on the right of the screen.

3.1.8 Screen

This option allows Digifort to be have windows like those of Windows or in fullscreen.

- **Windowed:** Digifort behaves like a Windows window with the minimization, maximization and resizing options.
- **Full screen:** Digifort will occupy the entire screen.

3.1.9 List of objects

You can choose how the identification of objects will appear in the list of objects in the Object List 20 monitoring client

• **Name and Description:** Displays the name and description of the camera.
• **Name only:** Displays only the name of the camera in the list.
• **Description only:** Displays in the list only the camera description

3.1.10 Show deactivated cameras

The deactivated cameras are shown in the list of objects.

3.1.11 Display only the tiles of the selected style

By default the system will display only the tiles of the selected layout, but when disabling the "**Only show the selected layout tiles**", all tiles are displayed in the object list, and when selecting a tile of a different layout, the system will automatically change the layout.

3.1.12 Standard directory for exporting

Sets a default directory for saving screen photos and exported videos. In addition, in this section there is the option to put a name, date and time on the exported images.

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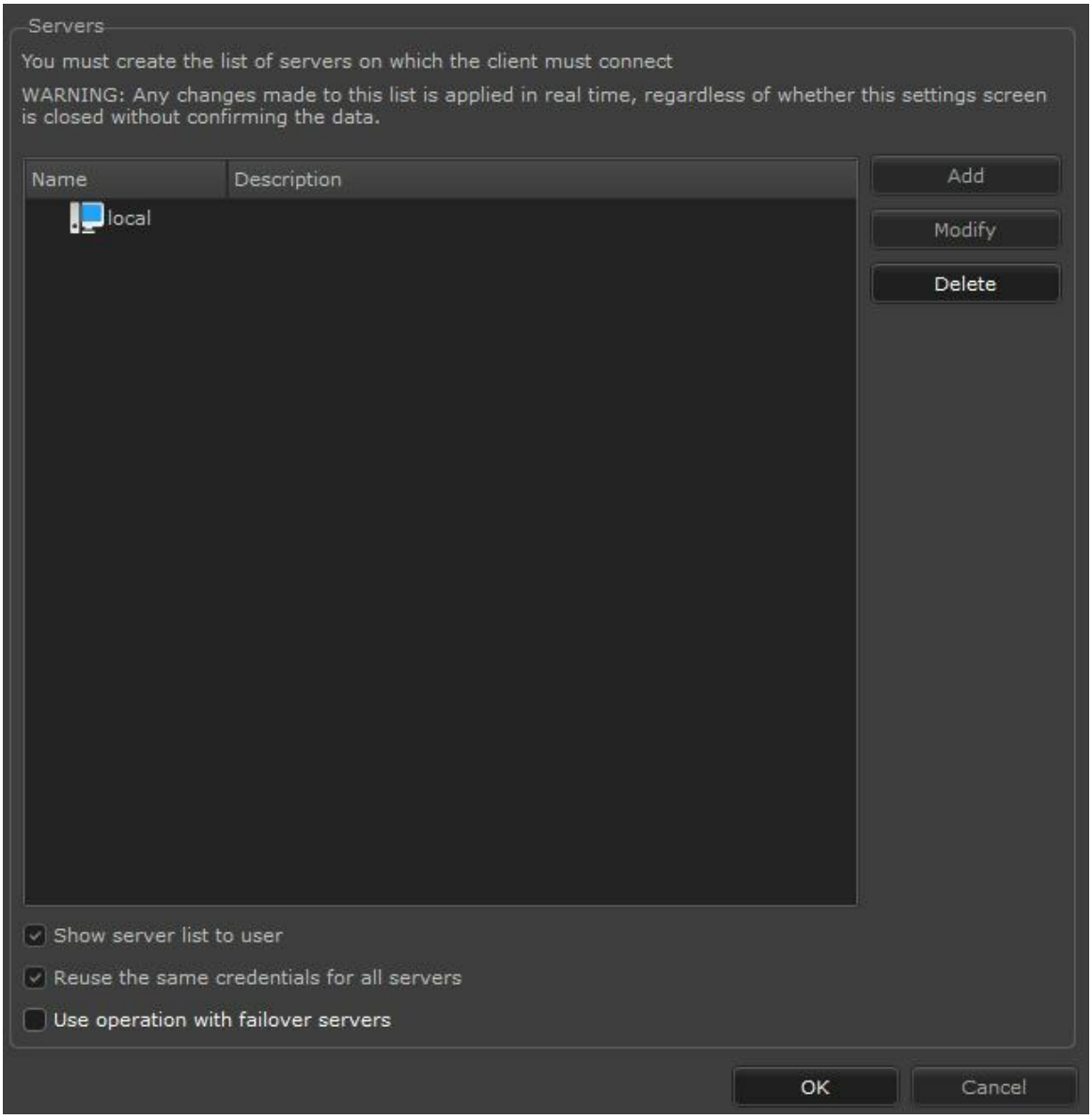
3.2 Configuring the servers being monitored

To configure the servers to be monitored by the Surveillance Client, click on the Settings button, as previously explained, and then click on the Servers tab to prompt the following screen to be displayed:



This is the server configuration screen. On this screen, it is possible to configure which servers the Surveillance Client will monitor.
Keeping in mind that the Digifort System architecture is client-server, as many servers as desired can be added, from either your local network or the Internet. This way, the Surveillance Client will monitor all of them simultaneously, as if it were a single server.

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- **Display server list to the user**: Enables or disables the connections tab according to the servers available on the Surveillance Client main screen.
- **Reuse the same login for all servers**: Uses the login informed by the user on all registered servers. This option is intended to facilitate the login on multiple servers.
- **Use operation with Failover servers**: This option allows the cameras in the mosaic to be automatically replaced by the cameras from the failover server when Digifort is used with failover servers.
- **Do not display alert messages from servers**: This option disables alert messages (such as licensing or database) that appear when logging on to servers, being particularly useful in applications where the monitoring client is being displayed on a video wall, without an operator controlling.
- **Ping Interval**: This value is used to verify that the server is still available and functioning, if the server does not respond to the Client's ping message, then the connection will be terminated and restarted. In case of using Failover servers, use smaller values for the client to identify more quickly in case the main server becomes unavailable, so the change to the Failover server will occur more quickly.

Note

When adding, changing or removing a server, the Surveillance Client must be updated by clicking on the Update button on the main screen.

3.2.1 Adding, changing and removing a server

To add a server, click on the Add button; to change a server select the server wanted from the list of servers and click on the Change button, or, if you prefer, double-click on the server selected. To remove a server, select it and click on Remove.
The figure below shows the screen where you can add or change servers.

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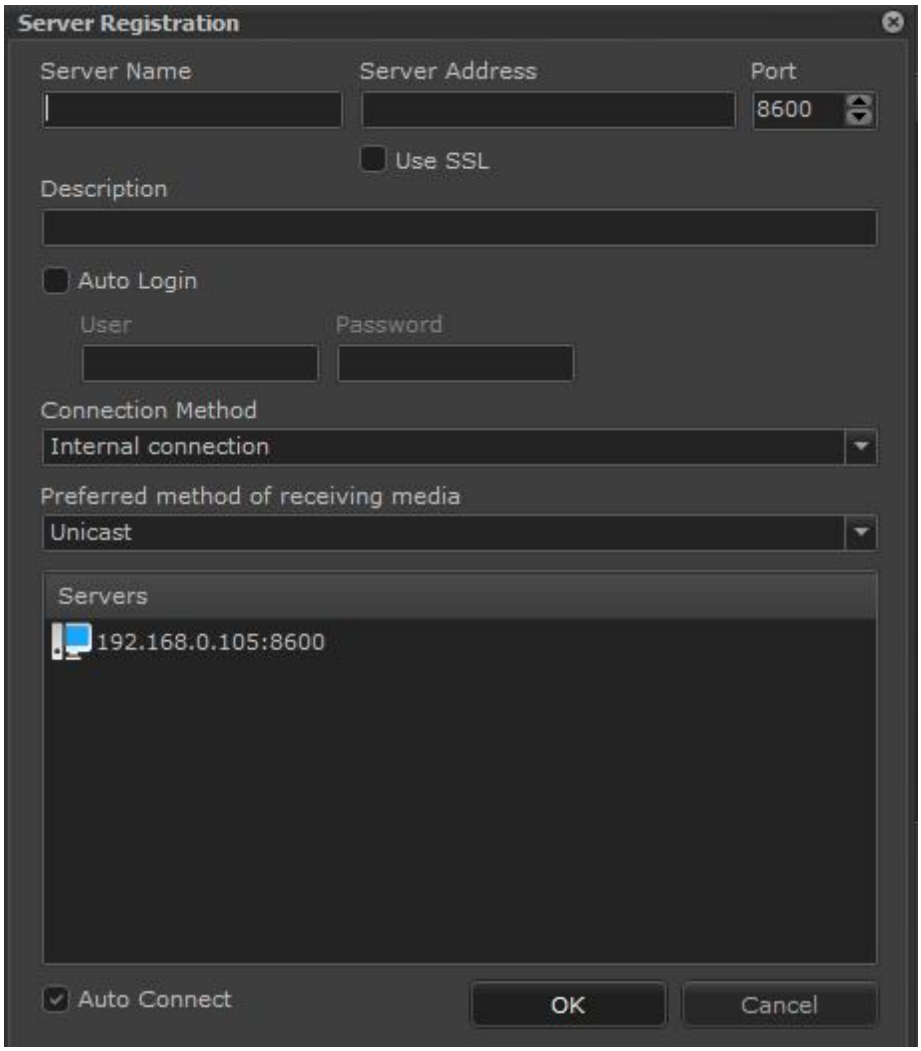

- **Server name:** Give the server an identification name. Once saved, this name cannot be changed as it will be used to identify the server in the Surveillance Client.
- **Server IP**: Fill in this field with the server's IP address. A DNS address can also be used.
- **Port**: Type the connection port with the server; the standard port is 8600.
- **Description**: Type a short description for the server only used to help it being identified in the system by the operator.
- **Auto Login**: This option enables the user and password fields to be filled in. By enabling this option, whenever the Surveillance Client is executed or updated it will use the username and password provided to make the authentication in the server. If this option is unchecked, the user must type his username and password to enter the login screen which appears when the client connects to the server.

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- **Connecting:** Select Internal Connection if the server is on your local network or External Connection if it is on the Internet. The Internal Connection option uses the Private IP configurations, and the External Connection uses the Public IP configurations. Those configurations are carried out in the Administration Client for each camera.
- **Method to receive media:** In this option, it's best to choose the Onicast or Multicast method to send video to the client. To find out more about the Multicast sending method refer to the monitoring client manual
- **Active:** Uncheck this option if you don't want the Surveillance Client to connect with this server. By unchecking this option no camera on this server will be available for viewing.
- **Servers:** Shows all the Digifort servers found on the network. Double-click on one of the servers on the list and the Server IP and Port will be automatically filled in.
- **Automatic Connection**: Enables the Surveillance Client to automatically connect to the server when starting or updating.

Once the parameters have been filled in, click on OK to save the server or click on Cancel to cancel your editing..

Important

If the user password informed in the auto-login fields is modified by the administrator in the Administration Client or modified by the user himself by way of the password modification module, the values informed here must be updated.

Dica

If the Digifort Server is executing in the same computer as the Surveillance Client, the Loopback IP identified by 127.0.0.1 can be used.

3.3 Live Surveillance Configurations

After clicking on the Configurations button, as explained before, and on the Live Surveillance tab, the following tab will be displayed:

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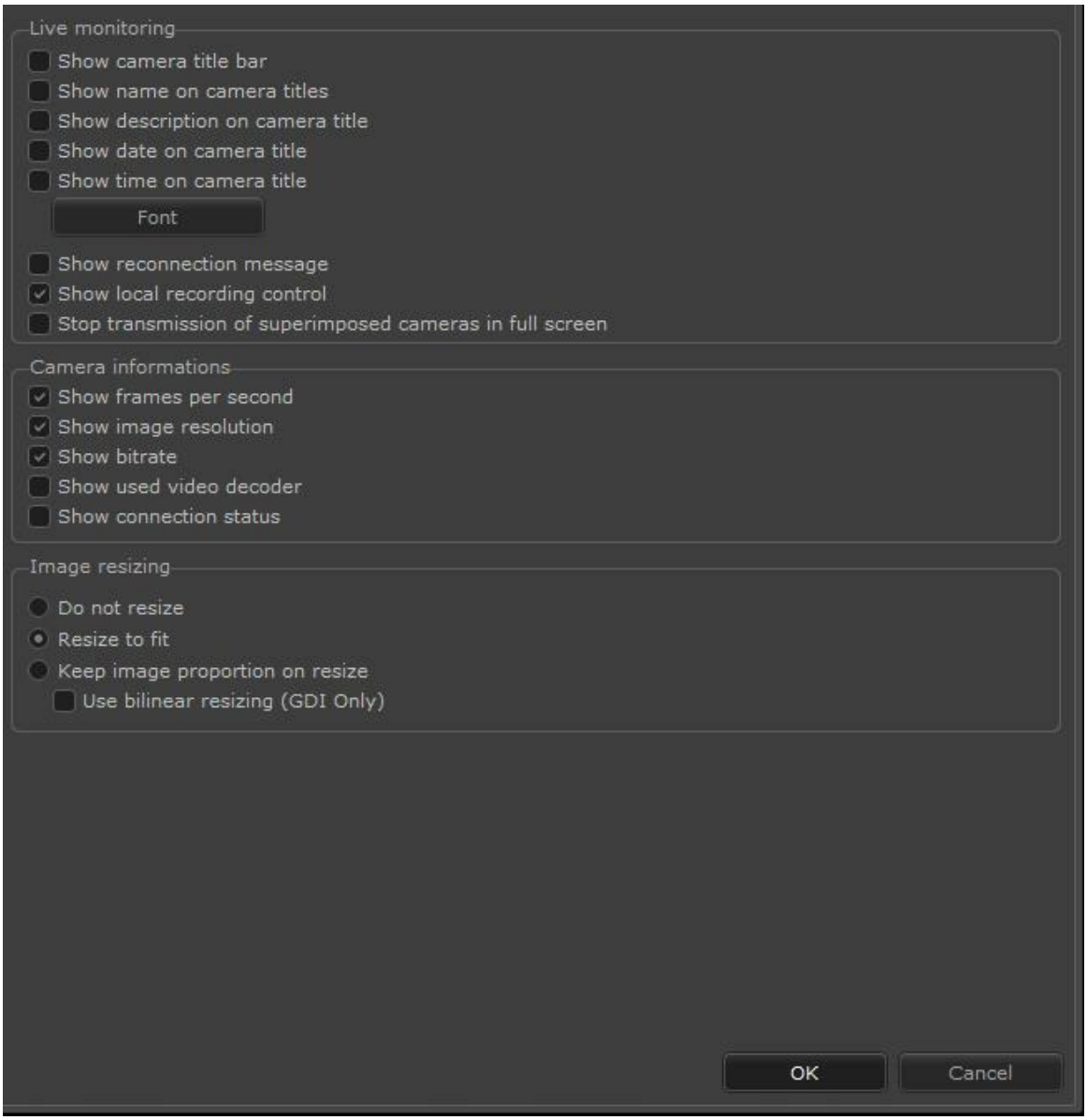

This configuration is divided into three parts: live surveillance configuration, camera information, and configuration of image resizing.

- **Show cameras title bars**: It shows a black bar where the camera information will be positioned at the top of the image.
- **Show name on camera titles:** Display the camera name at the top of the image.
- **Show description on camera title:** Display the description of the camera at the top of the image.
- **Show description on camera title: D**isplays the description of the camera at the top of the image.
- **Show date on camera titles:** Display the current date at the top of the image.

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- **Show time on camera titles:** Display the current time at the top of the image
- **Fonts:** Option to change the font with which the descriptions of cameras will be displayed.

With all previous options active

With no previous option active

- **Display reconnection message:** When the communication with the camera fails for any reason and this option is enabled, the Surveillance Client will show a message of reconnection. The picture below shows the working of this feature:

- **Display recording controls:** Displays the recording controls, allowing the operator to record the desired camera images in the surveillance station itself for later visualization. To learn how to use this feature, see Executing Local Recording 129.

- **Stop the transmission of overlapping cameras in full screen:** The cameras can be overlapped when the user selects a full-screen camera (by double clicking). In this case, all the cameras that are below (not being displayed) continue to transmit and decode, but when enabling this new option, the stream of these overlapping cameras will be disabled, saving bandwidth and CPU resources.

- **Display frames per second rate:** Displays the frames per second rate in the image of the camera.

- **Display transfer rate:** Displays the band width used by the camera in the image of the

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camera.

- **Display video decoder used:** Displays the decoder used for image decoding of the camera.

- **Don't resize the images:** The images arriving from the cameras will be shown in their real size. If the image resolution is smaller than the space reserved for it, the image will be small, and if the image is larger than the space reserved for it, some of its parts will be lost. The picture below shows the working of this feature.

- **Resize to fit :** The images arriving from the cameras will be resized so that they occupy all of the space reserved for them. The picture below shows the working of this function.

- **Resize maintaining image proportion:** Resizes the images coming from the cameras in such a way as to resize height and width proportionally.

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- **Use bilinear resizing:** When the camera images are resized to a larger-than-natural size, some distortions can occur. With this feature enabled, the images will undergo a filter to minimize this distortion, keeping the image quality as close as possible to the real image.

Important

When bilinear resizing is activated, more processing power is required from the surveillance station, since the correction of image distortion is executed using complex algorithms.

3.4 Video / Audio Configurations

Digifort offers two methods of rendering images from cameras to the screen that influence the quality and performance of the images shown on screen.

These configurations, in addition to being applied to live surveillance, will also be applied during video playback.

To access this feature, click on the Video / Audio tab, as shown in the picture below.

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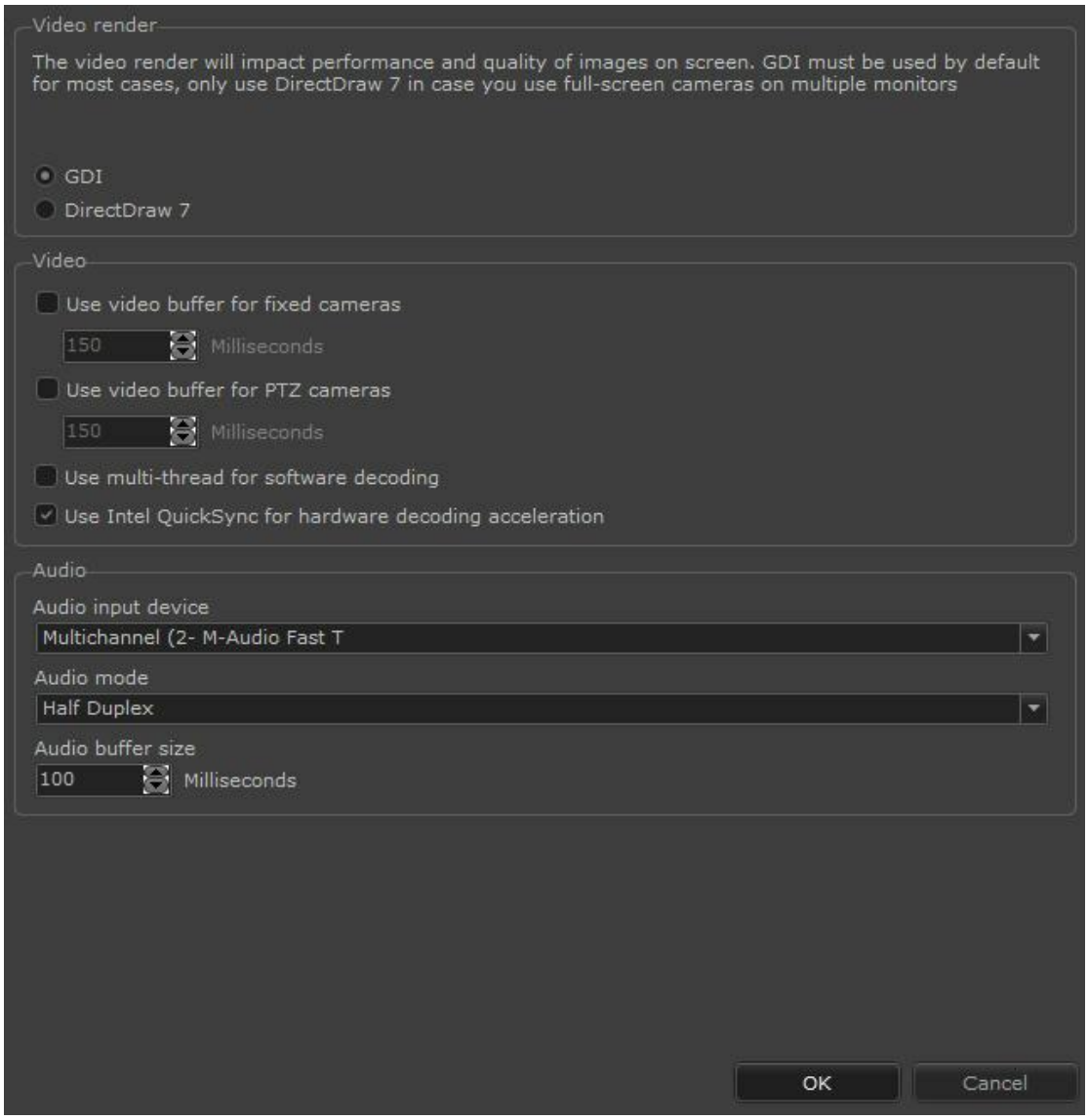

3.4.1 When to use the GDI render

GDI software is native to the operating system. Its use is recommended when the surveillance station or its way of use has the following characteristics:

- Has no video accelerator card.
- Display of more than 16 cameras simultaneously on the screen.

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3.4.2 When to use the DirectDraw 7 render

The DirectDraw software will be available when the DirectX package was previously installed, offering superior image quality and its use is recommended when the surveillance station or its way of use has the following characteristics:

- Has a video accelerator card.
- Display of up to 16 cameras simultaneously on the screen.
- Its use is recommended when the images have a high degree of resizing, that is, the display of a single camera in full-screen or in views where the size of images is reduced.

Observation

The DirectX package generally comes integrated to Windows, but in some cases its installation or update is necessary. To execute this task, consult the instructions manual or site of the manufacturer of the operating system.

3.4.3 Video Configuration

By default, the Surveillance Client will not use a video buffer, which means that the video from the cameras will instantly be rendered when received. Although this is the option that offers the view with least possible delay, the video may not be soft enough, for the rendering depends on several external factors, such as the quality of transmission over the network, the camera, the load on the recording server etc.

By using the video buffer, the system will receive the images and keep a few milliseconds in the memory and then play back the images steadily, greatly increasing the video fluidity.

The system also allows different settings for fixed and PTZ cameras. This option was designed because adding some delay to fixed cameras does not cause many problems, but a short delay for PTZ cameras will compromise its movement

To activate, simply select the desired option and configure the amount of time in milliseconds in which Digifort will make the video buffer.

The Monitoring Client allows the use of multi-thread for decoding H.264 and H.265 video. This option can be used to speed up the decoding of video on the client, especially of ultra megapixel images. Using this option will add 1 frame delay to the video, that is, at 30 frames per second

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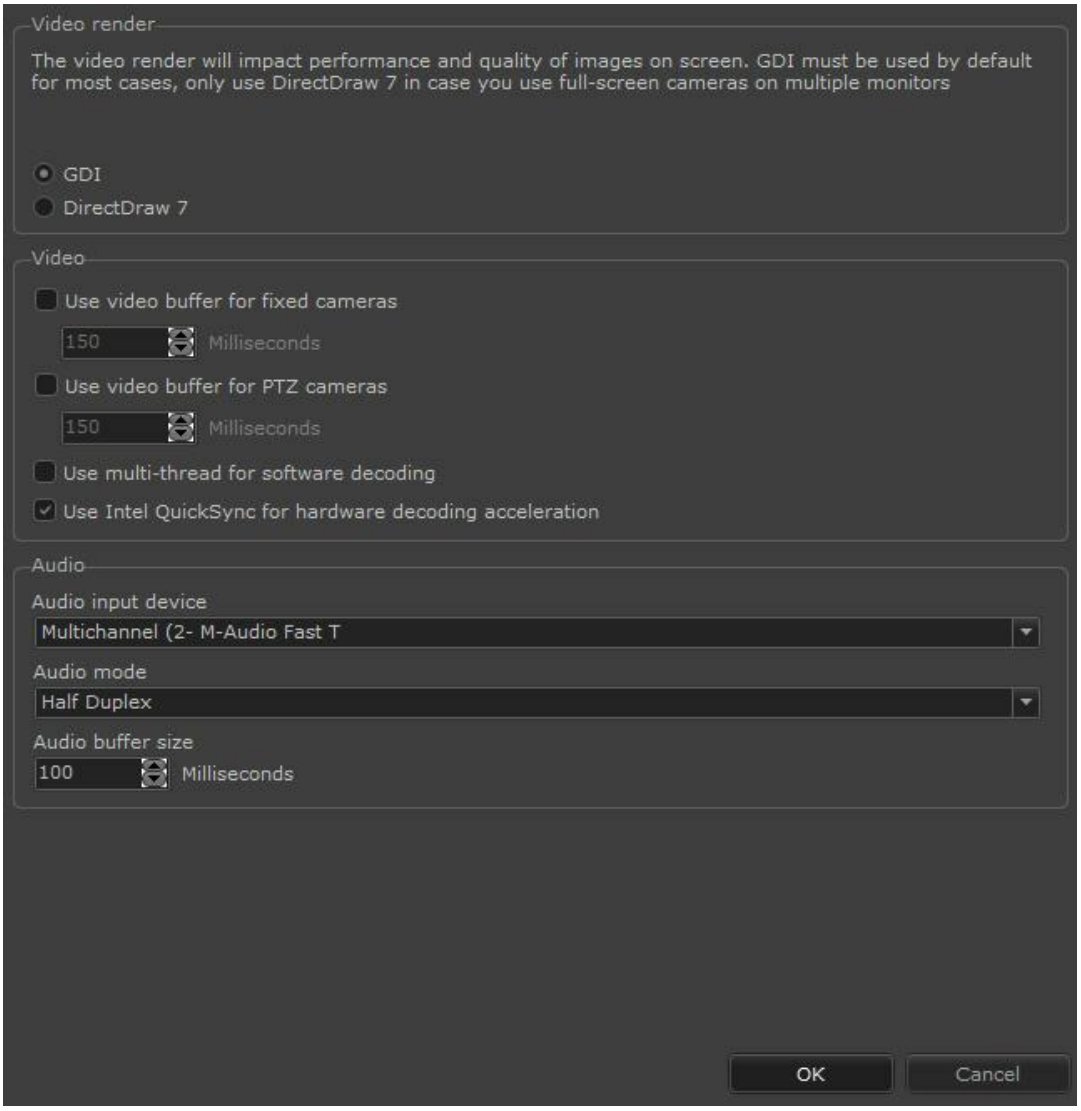
the additional delay will be 33ms while at 7 frames per second the additional delay will be 143ms. Just check the option **to use Multi-thread for software decoding.**

3.4.4 Audio Settings

Digifort allows some audio settings are customized at Surveillance Client. Click on the tab **Video / Audio** and the following screen appears:



- **Audio input device:** Select the device to capture audio. Digifort detect the devices recognized by Windows.
- **Áudio mode:**
  - **Half Duplex:** While sound is sent to the camera can not listen any audio
  - **Full Duplex:** You can listen and talk at the same time.

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3.5 Video Decoding via NVidia GPU

For higher system performance, it is now possible to use video decoding acceleration through NVidia cards.

Video decoding via the NVidia GPU will dramatically reduce the monitoring station's CPU usage, allowing a greater number of cameras decoding in parallel.

We recommend using at least 1 video card of the Pascal architecture (at least one GTX 1060).

For more information on NVidia video card compatibility, visit this link:
https://developer.nvidia.com/video-encode-decode-gpu-support-matrix#Decoder

Decoding via the NVidia GPU is only available in the 64-bit Surveillance Client (Surveillance64.exe) and requires the installation of NVidia official drivers: https://www.nvidia.com/Download/index.aspx?lang=en-us

It is possible to use 2 or more video cards for decoding, and the system will balance the decoding load between the available NVidia video cards.

The system further implements a video card resource monitor, which will constantly assess GPU usage and GPU memory usage. If GPU or memory usage is above the set limit, the system will start offloading, and decoding via CPU (software) will be used.

Currently, the video decoding option via the NVidia GPU is only available in the Surveillance Client and in the export Native Player, and it is not available for use on the server.

Each camera instance being decoded (regardless of the resolution used) will use approximately 200~250MB of GPU memory.

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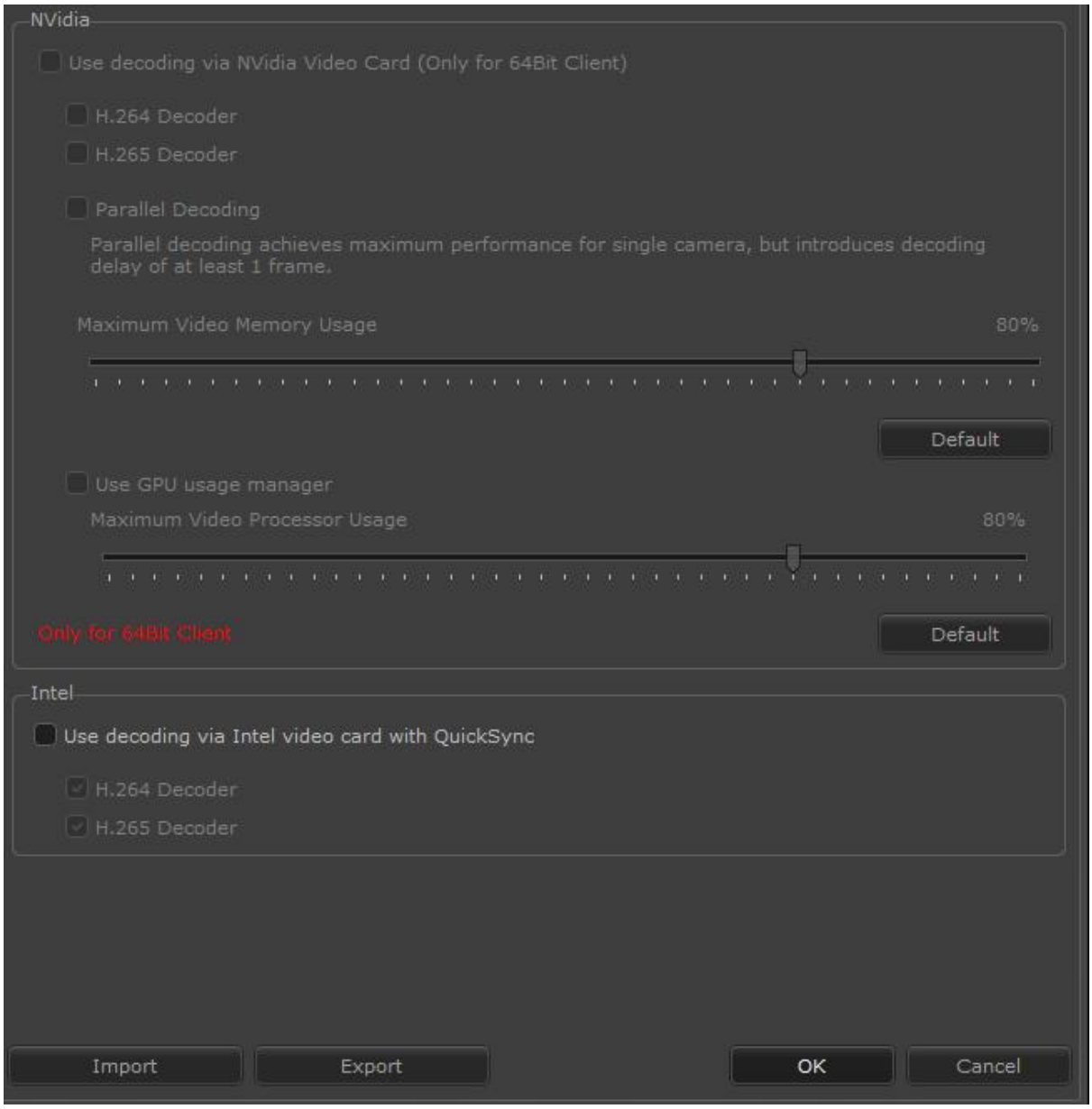

3.6 QuickSync

Added support for video decoding (H.264 and H.265) via QuickSync through video cards of Intel processors. QuickSync is an Intel technology that allows video decoding through the graphic processor built into its processors. To use QuickSync, the computer must support the use of the built-in video card (Intel HD Graphics) and it must be enabled in the operational system. The use of QuickSync is recommended to view images of 5 megapixels or higher, wherein gains from hardware decoding are more noticeable. It is also recommended the use of the 64-bit Surveillance Client, as memory usage is higher. Support to QuickSync was added to the Surveillance Client and to use it, simply enable the QuickSync option.

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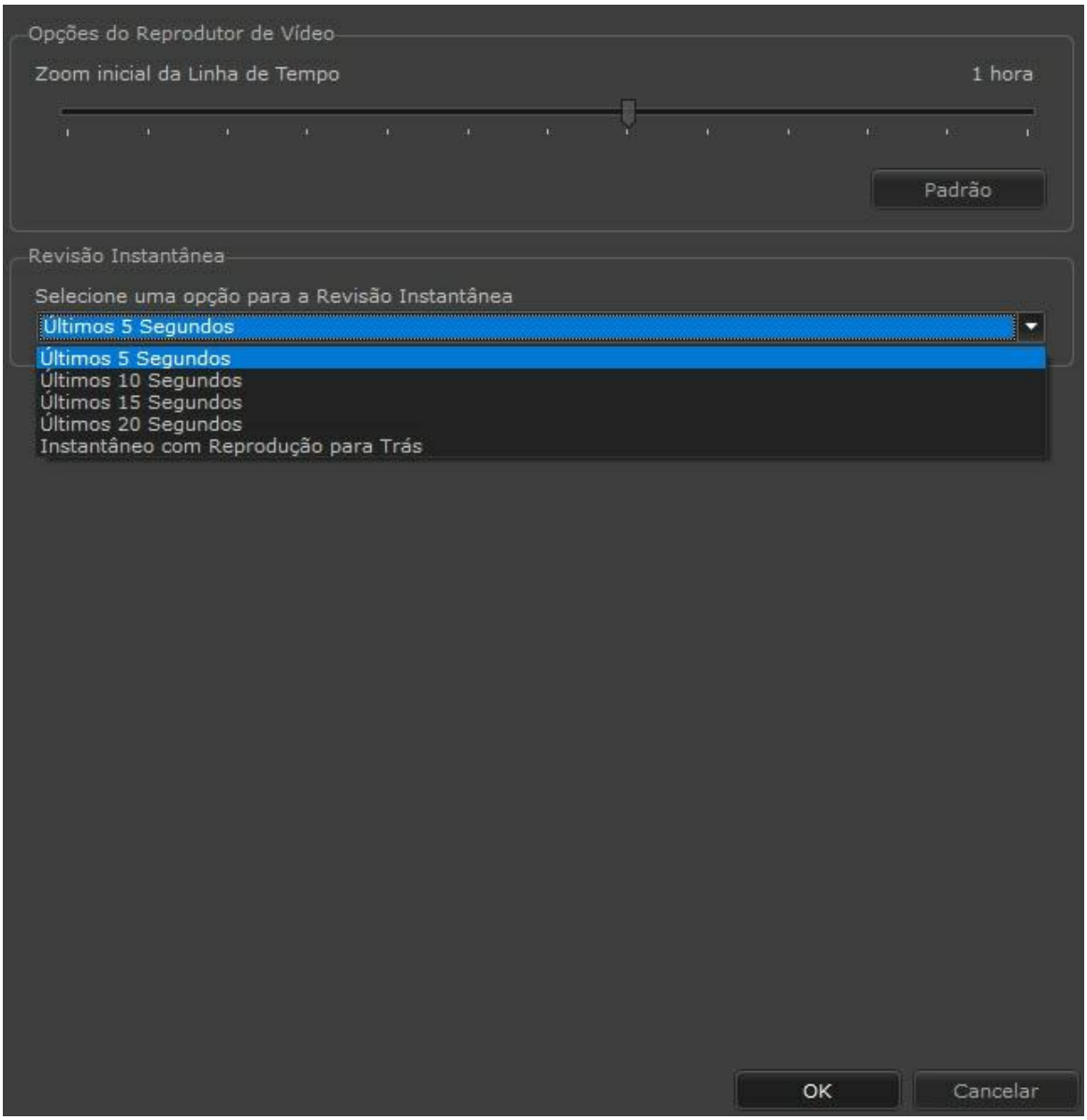
3.7 Video playback configurations

When clicking on the "Video Playback" option, the following screen will be displayed:



Aqui o usuário pode selecionar o **Zoom Inicial da Linha do Tempo**, que é qual intervalo de tempo será aberto por padrão ao fazer uma reprodução de mídia, assim como configurar o tempo padrão para a **Revisão Instantânea** ou mesmo selecioná-la para que já faça a reprodução para trás por padrão **.**

Here the user can select the **Initial Zoom of the Timeline**, which is what time interval will be opened by default when making a media playback, as well as setting the default time for the **Instant Review** or even selecting it so that it already does the playback backwards by default.

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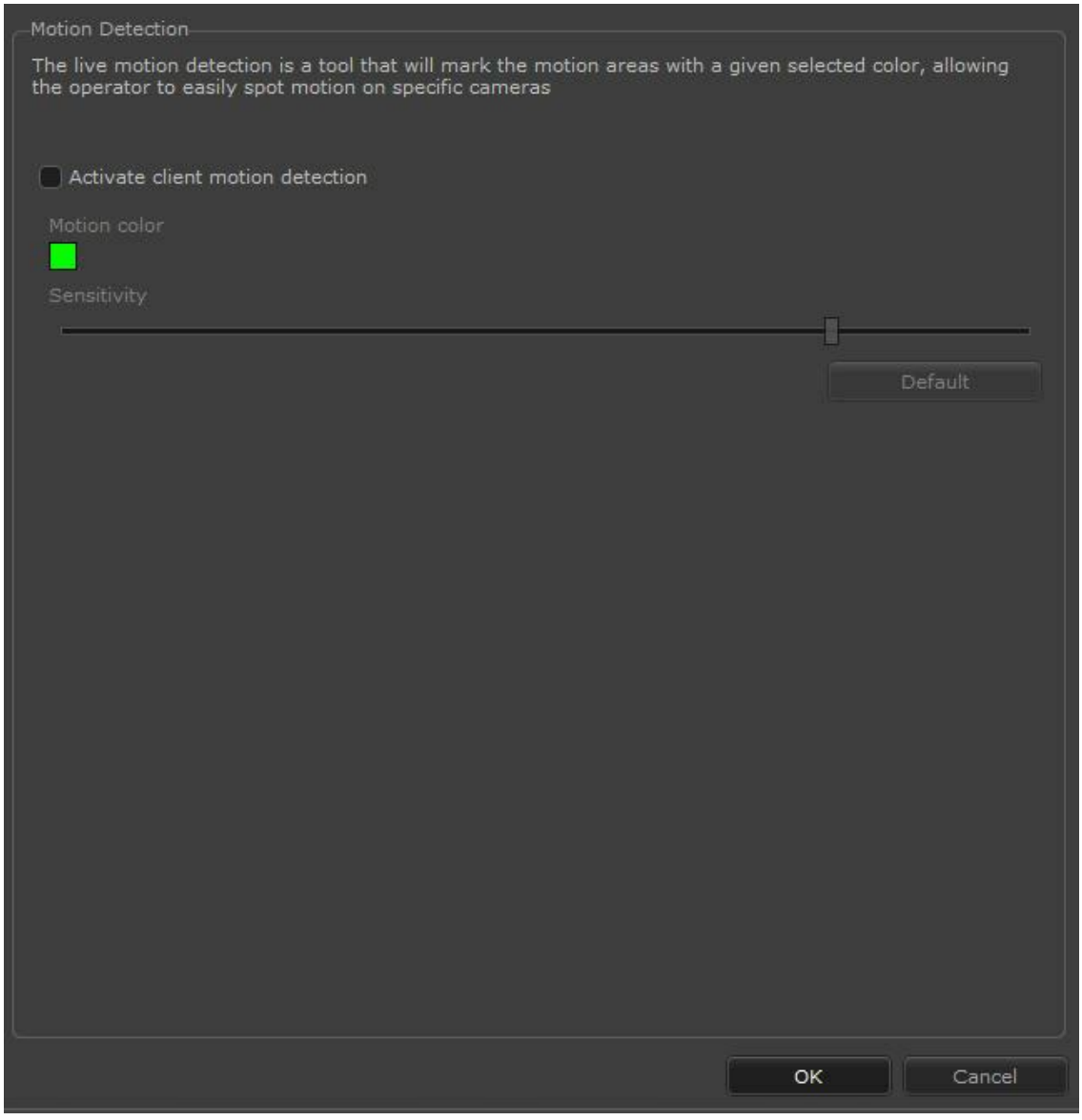
3.8 Motion detection configurations

Motion detection makes it possible for the operator to more easily recognize movement in an image.

Motion detection is a filter applied to the images, highlighting any movements in the desired color.

To access this feature, click on the Configurations button, as explained in the previous topic and then click on the Motion Detection tab.



- **Activate motion detection in the client:** Activates the filter of motion detection.

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- **Motion color:** Select the color for highlighting the movement, clicking on the green square.
- **Sensitivity:** Sensitivity of motion recognition.

3.9 Multi-Monitor Configurations

Digifort has a feature which makes it possible to use several interconnected monitors in one single surveillance station, creating an individual surveillance screen on each monitor where, for example, you can show a surveillance screen style on one of the monitors and a single camera on the others. In this way, by adding several video cards, Digifort can work as a decoder and image multiplexer for as many cameras as are needed.

To access this feature, clique on Configurations (as explained in the topic above) and then click on the Multi-Monitor guide as shown in the figure below:

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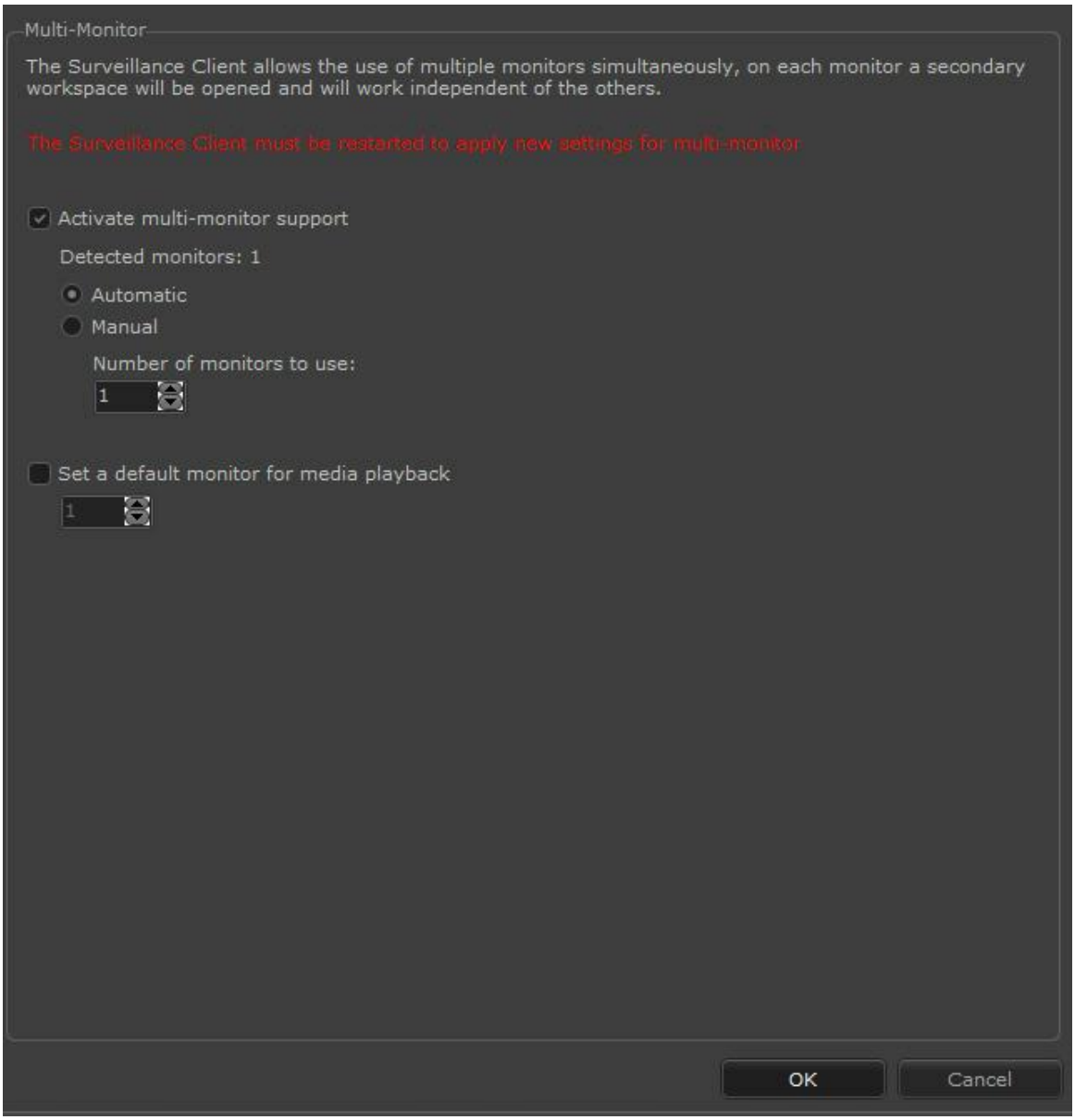

- **Activating the multi monitor support**: Activates the multi-monitor support.
- **Detected monitors**: Number of monitors detected at your work station.
- **Total monitors to be used**: Select the number of monitors to be used.
- **Define a standard monitor for the Media Playback:** Defines on which monitor the Digifort media playback will appear when opened.

Note: To know the limitations of your version of Digifort see the array of resources on our Website: http://www.digifort.com.br/feature-matrix

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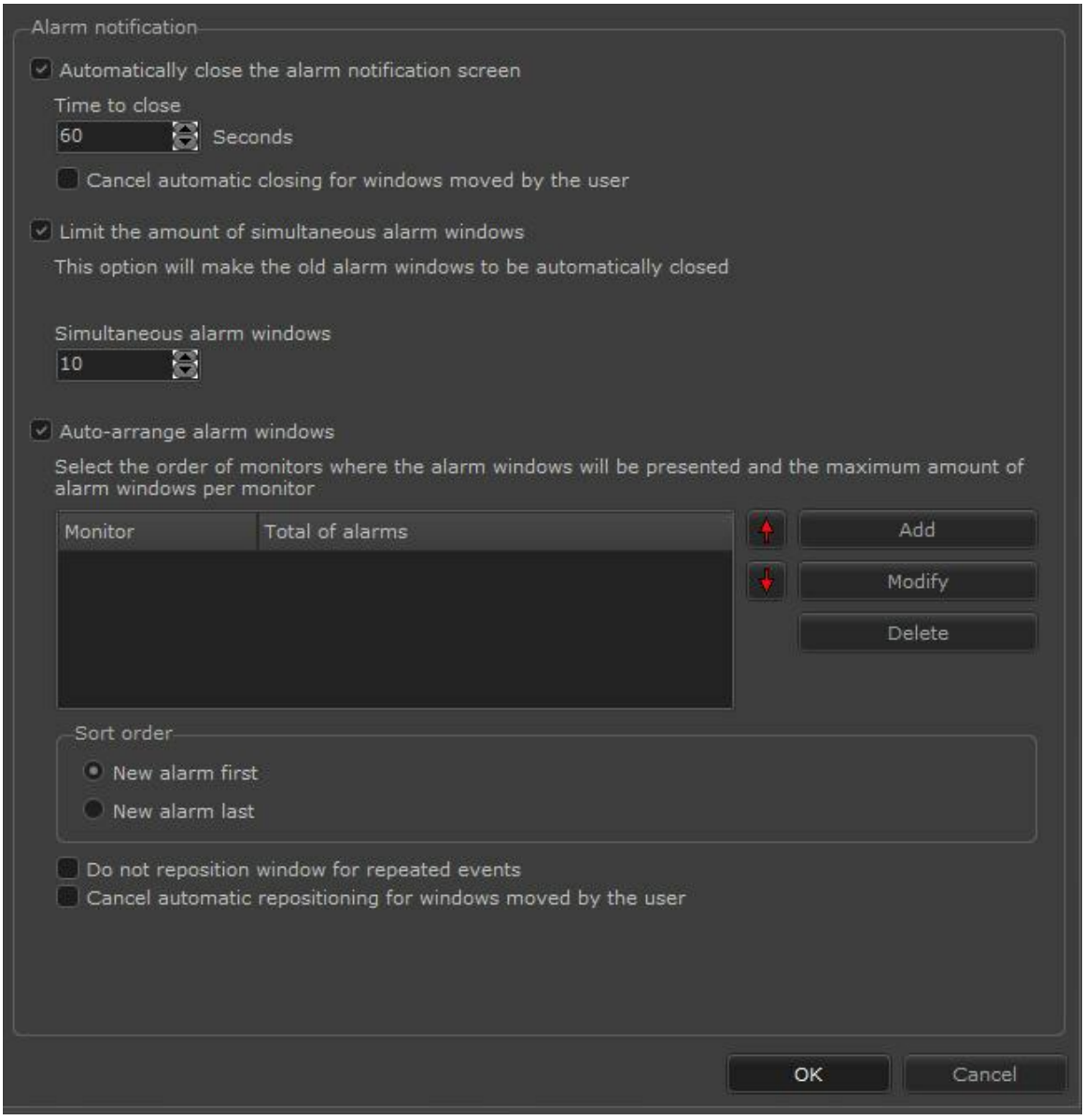
3.10 Alarms

The alarms screen allows various settings related to alarm pop-ups that are triggered on the surveillance client.



The following screen has the following features:

- **Automatically close the alarm notification window**: This option makes the alarm window to be automatically closed after X seconds set. The system also allows the cancellation of the automatic closing if the alarm window is moved by the user.
- **Time to close**: With the previous option enabled, it is possible to set the time in which the alarm

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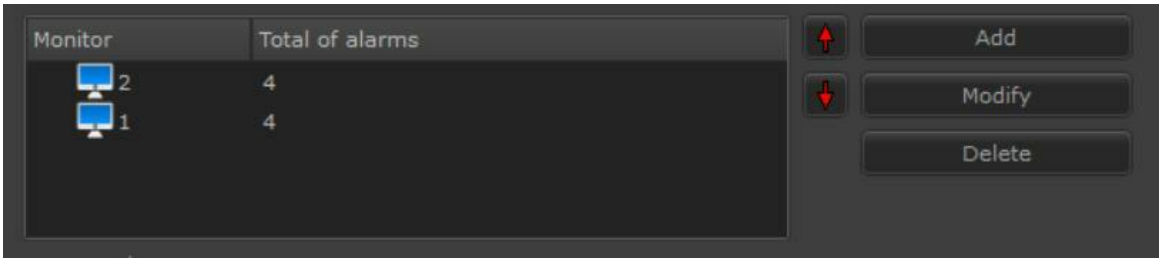
pop-up will automatically close.
- **Cancel automatic closing for windows moved by the user**: If the automatic closing is enabled, this option will not let the pop-up automatically close if the user drags it.

- **Limit the amount of simultaneous alarm windows:** The alarm system now allows you to limit the amount of alarm windows simultaneously open. When the windows limit is reached, the oldest pop-up will automatically close.
- **Simultaneous alarm windows**: Set with the number of desired alarms pop-ups to be open together.

- **Self-arranging alarm windows**: It allows the system to do the self-adjustment of the alarms windows position on the monitors. When a new alarm pop-up is opened, the system will automatically reposition and adjust the open windows size in an automatic layout format.

On the list provided on the screen you can set the order and amount of pop-up that will be displayed on each monitor:



In the above image, the following order was configured: the first 4 pop-ups will be displayed on monitor number 2 and the other 4 will be displayed on monitor number 1. In this case, if 9 pop-ups are to be displayed, the oldest one will disappear leaving the most recent 8.

Upon adding a monitor to the list, the following screen will be displayed:

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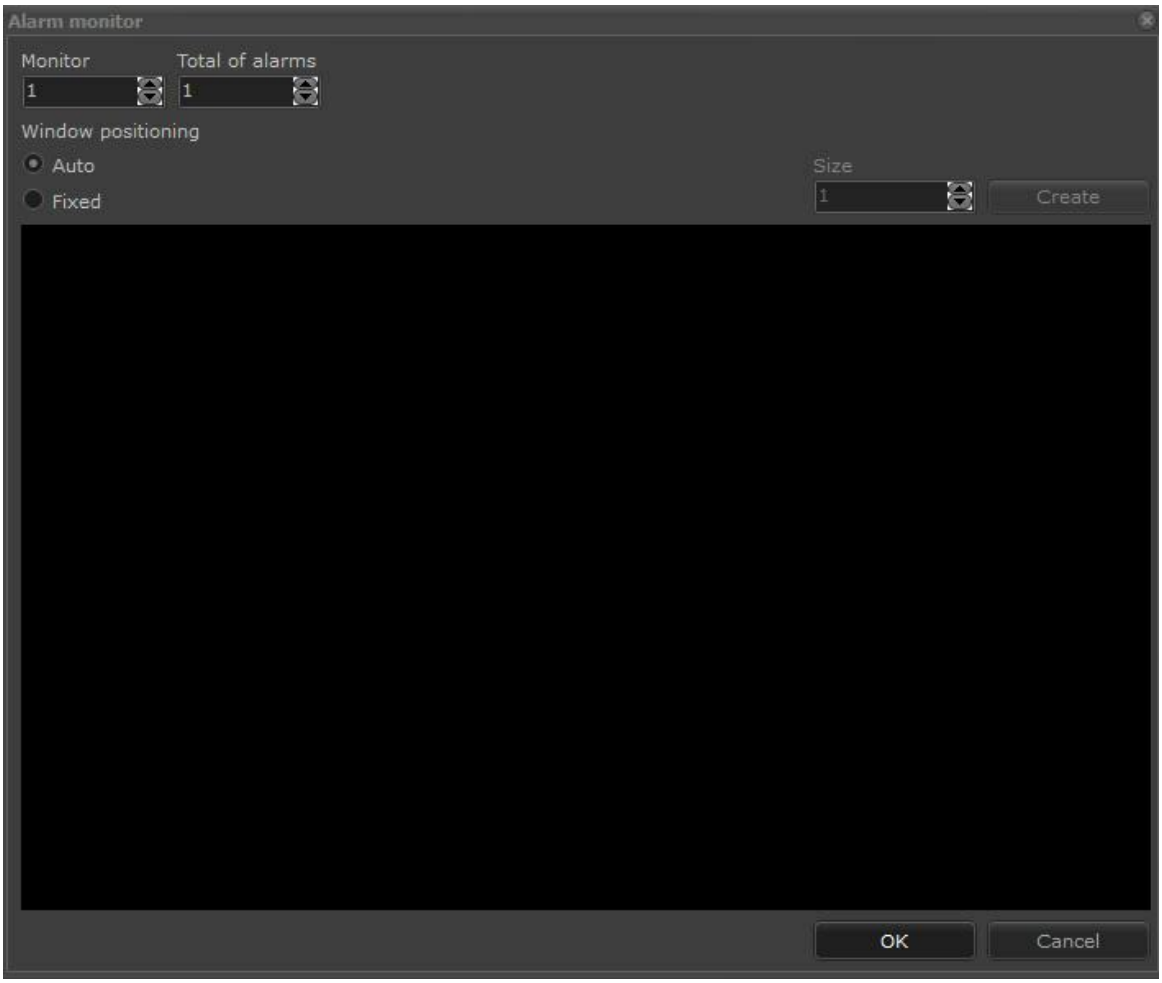

- **Monitor**: Selects the number of the monitor to receive the alarms.
- **Total number of alarms:** Selects the maximum number of alarms that this alarm can receive
- **Window positioning:**
  - Select automatic in order for the system to arrange alarm position automatically, according to the **total number of alarms** configured.
  - Select fixed in order to configure the desired layout manually. Example for 10 alarms:

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The order in which the pop-ups may appear is:

- **New alarm first**: In the hypothetical case of alarms A1 and A2 being on the screen, a new alarm would take the place of A1. Then we would have: A1 (new alarm), A2 and A3.
- **New alarm, a last one**: In the hypothetical case of alarms A1 and A2 being on the screen, a new alarm to be taken would be A3. Then we would have: A1, A2 and A3 (new alarm).

- **Do not reposition the window for repeated events:** If "Self-arranging alarm windows" is active and the same alarm is triggered twice, the pop-up that is already open on the screen of the same type will not be repositioned.
- **Cancel automatic repositioning for windows moved by the user**: The windows that are moved by the user will no longer be automatically repositioned by the system.

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3.11 Digifort Keyboard Controller

Digifort offers integration with the Digifort keyboard controller. This keyboard controller gives the user full control over the Surveillance Client without the need for a mouse and keyboard. The photo below illustrates the keyboard controller:

For information on how to use the Digifort Keyboard Controller, see Digifort Keyboard manual available on Digifort website.

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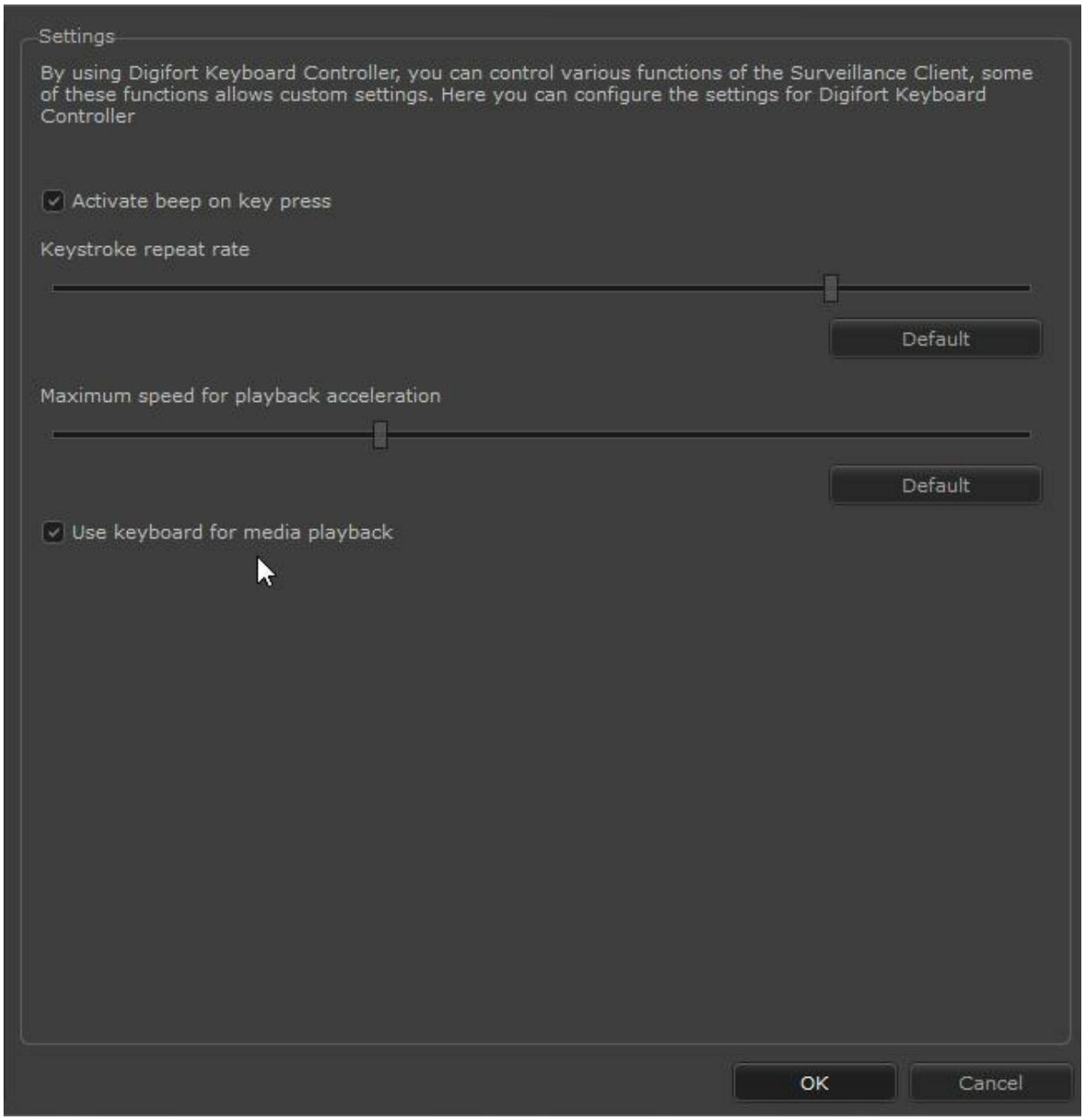

In the above screen, it is possible to adjust the following settings:

- Enable and disable beep upon pressing a key on the Keyboard Controller.
- Adjust repetition speed upon maintaining a key pressed on the Keyboard Controller.
- Set the maximum video acceleration speed during media playback on rotating the Z-axis of the Keyboard Controller.
- **Use the keyboard controller for media playback**: Allows the use of the Digifort keyboard controller for media playback to be disabled. When the media player is opened, the keyboard controller will continue to operate live for the selected camera, sending PTZ controls to this camera instead of controlling the media player.

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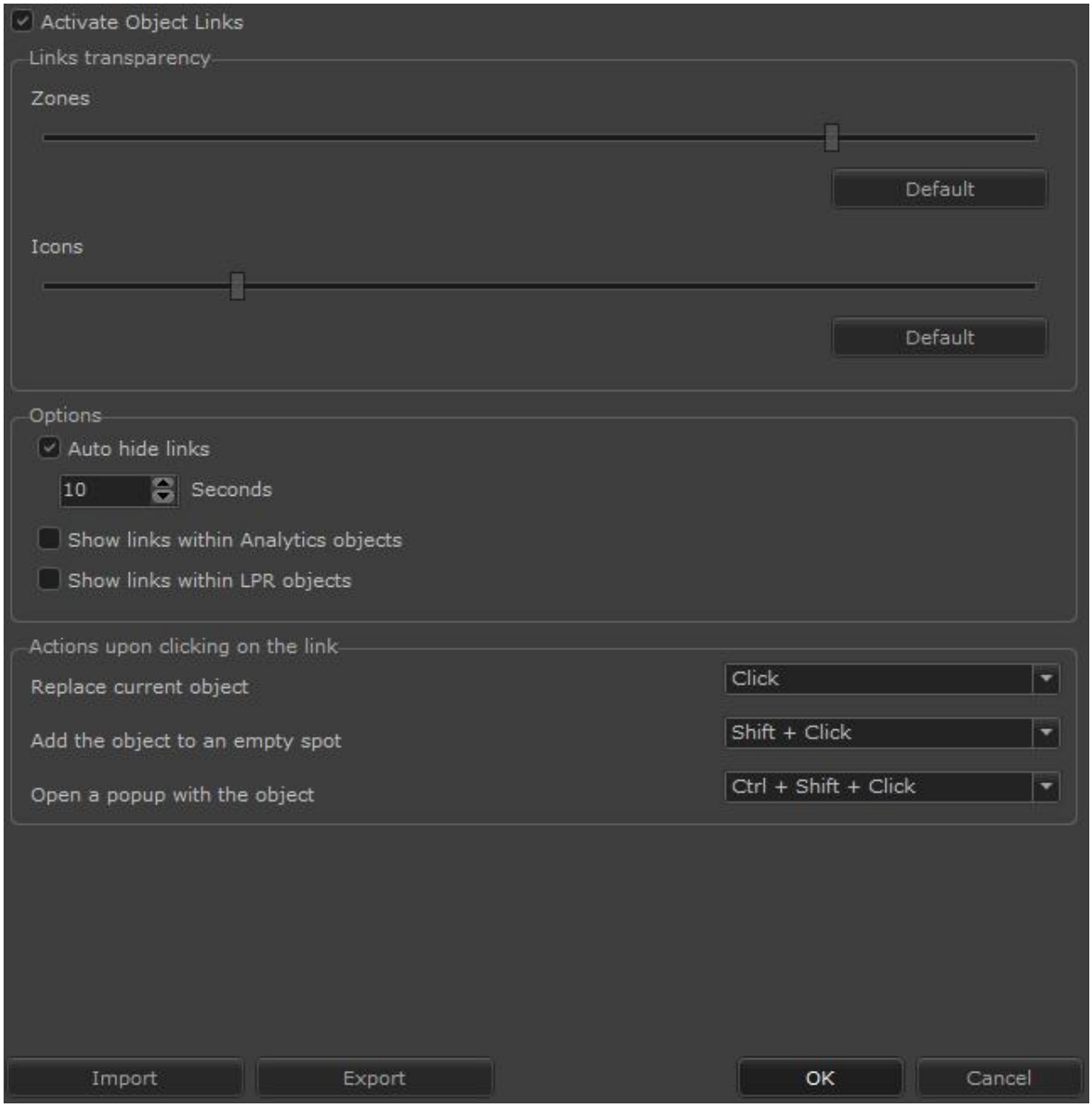
3.12 Visual Objects Links

Object links, if enabled (for know how to configure object links, see the administration client manual), can be configured on each monitoring client.



The visual object links screen has the following features:

- **Activate object links:** allows the control of the activation or not of the links in each monitoring client individually.
- **Links transparency:** allows the opacity control of zones and icons, so that it is possible to

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see the camera image behind the icons and zones or keep them in a solid color.

- **Auto hide links**: this option causes the links to disappear from the image after X seconds, re-appearing when the mouse moves in the image.
- **Show links within analytics objects**: this option makes the links available even in the analytics settings of the respective cameras.
- **Show links within LPR objects**: this option makes the links available even in LPR configurations of the respective cameras.

This screen also allows you to configure the shortcuts in the operation of object links, which are click, shift + click and ctrl + shift + click.

- **Replace current object**: this option will cause the object to be changed completely, without changing the mosaic just by overlapping the current object by the link object (if the link leads to an object, if it is an event, the object will remain on the screen)
- **Add the object to an empty spot**: when executing the selected command, the system will add the link destination in an empty space in the mosaic, without losing sight of the current object.
- **Open a popup with the object**: when using the selected combination, the system will open a popup with the link destination, keeping the current object on screen in the background.

For event activation links, the system will always ask for confirmation from the operator to activate the event, unless the operator uses shift + click, where then the system will fire the event immediately.

3.13 Navegador Web

Configure the details of the Web Browser object:

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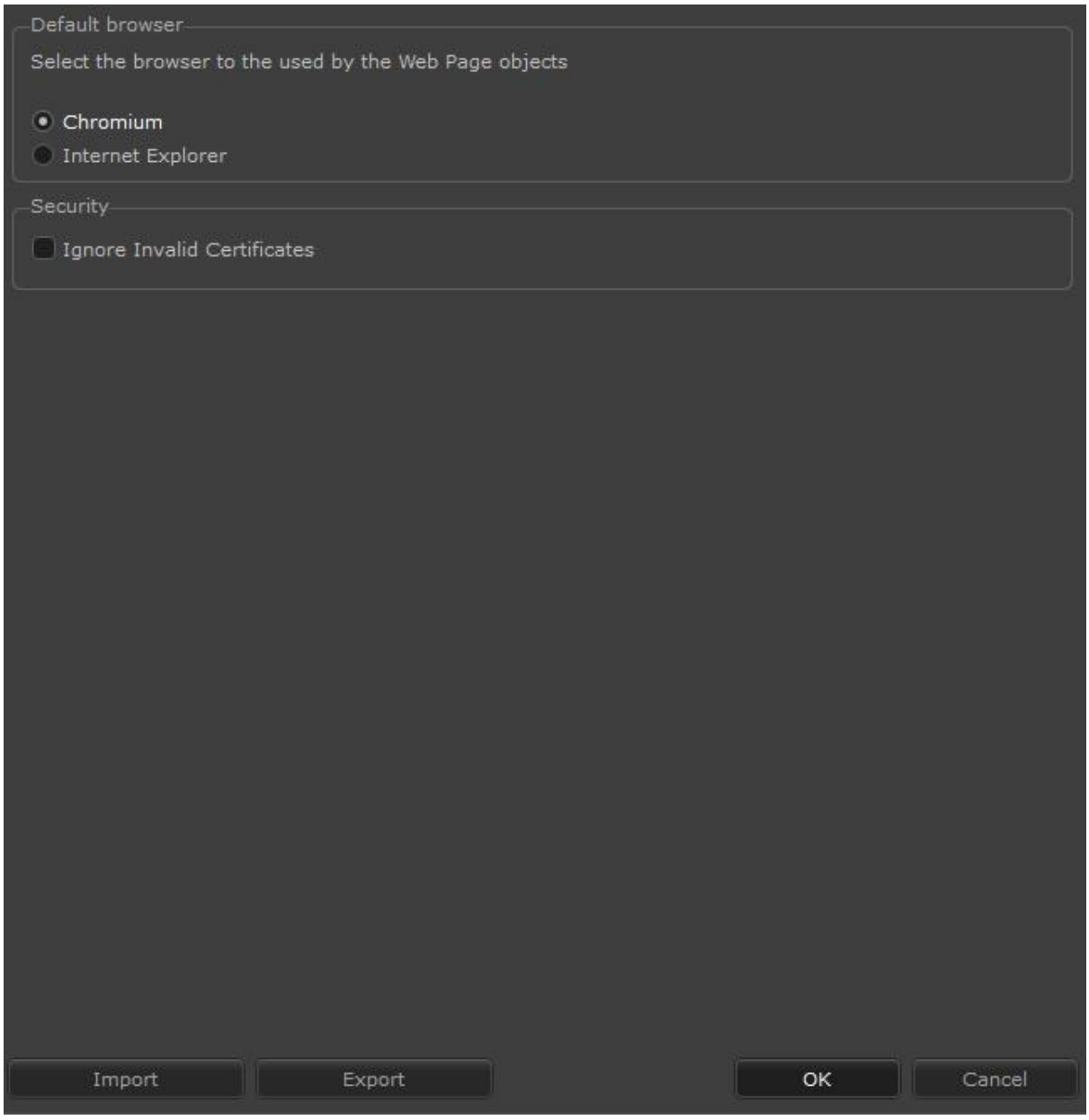

- **Default Browser**: Select which browser will be taken into account for displaying the browser in your Monitoring client.
- **Security**: Ignores messages from sites with Invalid Security Certificates.

To learn more about this feature see the Monitoring Client Manual

3.14 Analíticos

You can configure the default rendering options for analytics metadata. Whenever an analytics object is added on screen (in the Surveillance Client), the options set in these settings will be used by default. The user can also change the options for each object manually through the context menu by right-clicking on the analytics object.

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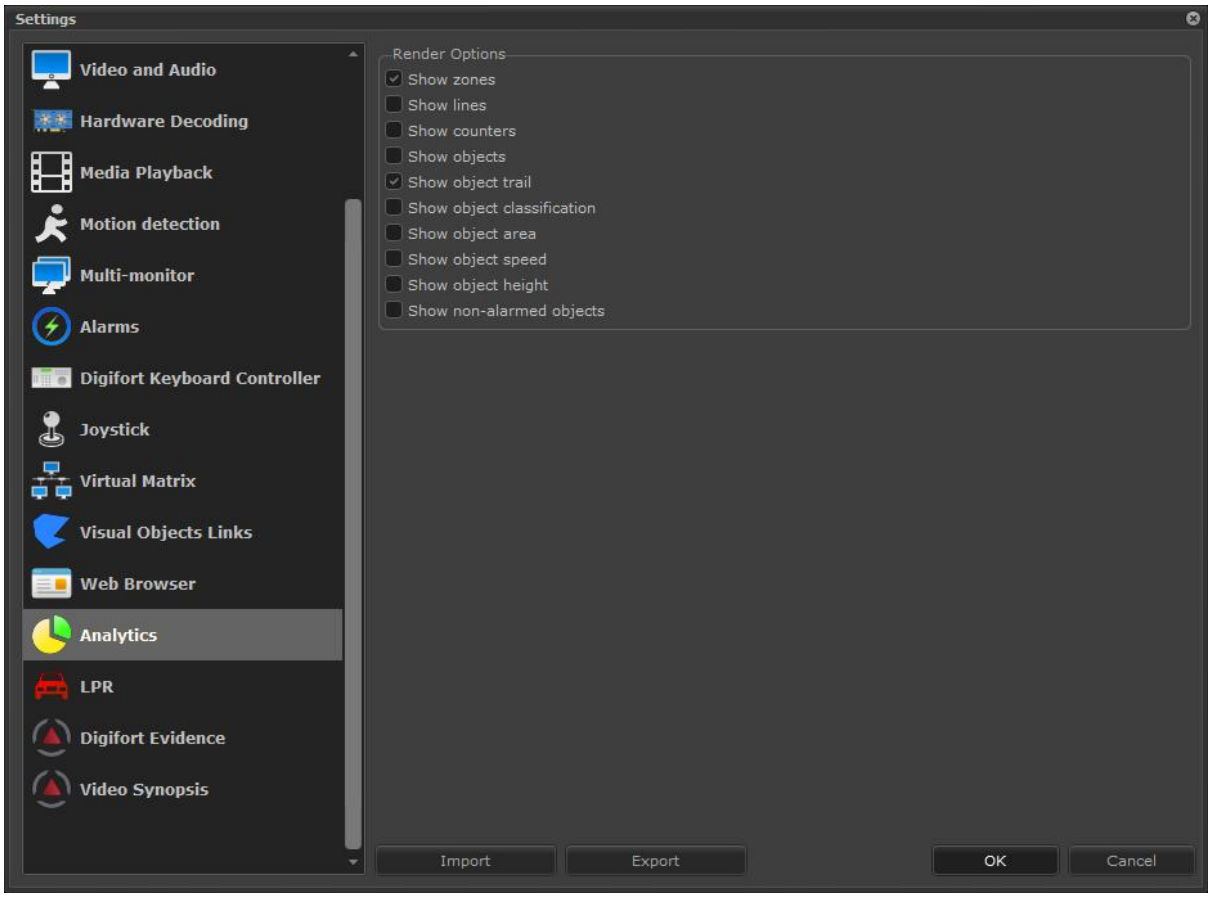
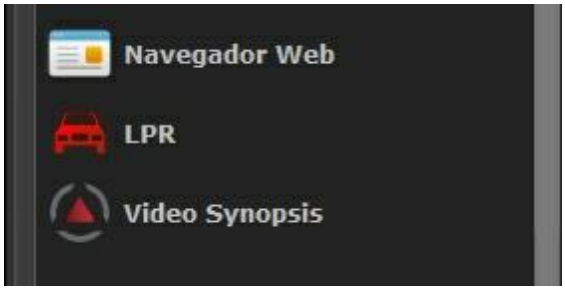


3.15 LPR settings

There is LPR settings that can be made on your Monitoring Client.
To access them, navigate to the Digifort Monitoring Client general settings menu and click on the LPR tab:



The following settings will be available":

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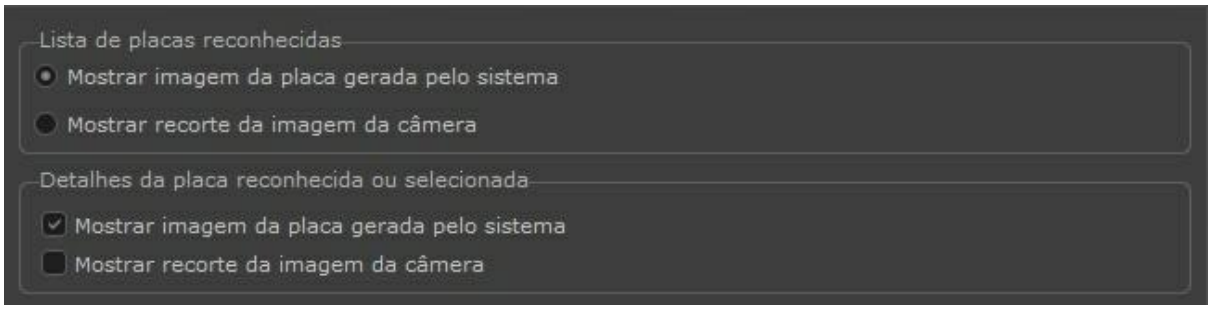

List of recognized plates:

- Show plate image generated by the system
- Show crop image from camera

In your mosaic, when live camera detection captures an image, you can choose to display the image generated by the system, or display a cropped photo of the detected camera, as in the examples below:

Details of the recognized or selected plate:

- Show plate image generated by the system
- Show crop image from camera

These settings refer to the details of the capture, presented when a card is searched in the system, according to the example below:

3.16 Surveillance Client Short-Cuts

To ease the work of the operator, the Surveillance Client offers some short-cuts for easy access to some of the most-used features.

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In the Standard version of Digifort there are four short-cuts:

- **F3 key:** Makes a screenshot for saving the image in a disk file.
- **F5 key:** Updates the Surveillance Client, again updating all of the configurations of the server, such as the list of cameras, user rights, etc. This short-cut has the same effect as the Update button, located on the main screen.
- **F11 key:** Displays the cameras in full-screen. To leave the full-screen mode, press the ESC key. This short-cut has the same effect as the Full-Screen, button, located on the main screen.
- **F12 key:** Modifies the password of a logged-in user in the connected servers. To learn how to use this feature, see page 31.
- **Shift key + Click:** it's possible to expand the image of some camera that is within the surveillance view to full-screen. To do this, hold the Shift key of your keyboard and click on the image of the desired camera. To return to normal state, repeat the same process.

- **CTRL + S:** Sending an audio to the selected camera (The system will send an audio while the shortcut is being pressed).
- **CTRL + B**: Create a new bookmark.
- **CTRL + Y**: Enable/disable the Privacy mode.
- **CTRL + D:** Enable/disable the Digital Zoom.
- **CTRL + H:** Call the Home position of the selected PTZ camera.
- **CTRL + L**: Lock/unlock a PTZ camera for exclusive use.
- **CTRL + P:** Pausing/Unpausing a PTZ Surveillance.
- **CTRL + 0..9:** Call preset (0 to 9);
- **CTRL + J**: Enable/Disable Visual Joystick.
- **SHIFT + F3**: -Snapshot of the selected camera (The snapshot will be saved automatically, without opening the screen Snapshot).

3.17 Modifying the user password

The Surveillance Client is equipped with a function for changing the password of users logged into the servers. To do this, press the F12 key of your keyboard, displaying the password modification screen, as shown in the picture below.

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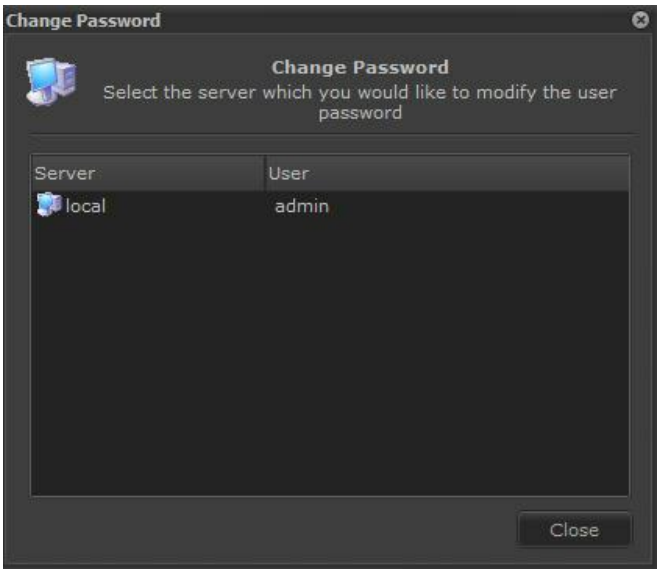

All users in the servers to which you are connected and their respective users are listed in this screen.
To change the password of some user, double-click on the desired server, opening the screen below:

Enter the current password, the new password, and the confirmation of the new password.

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If all data is correct, the password will be modified and must be used during the next log-in.

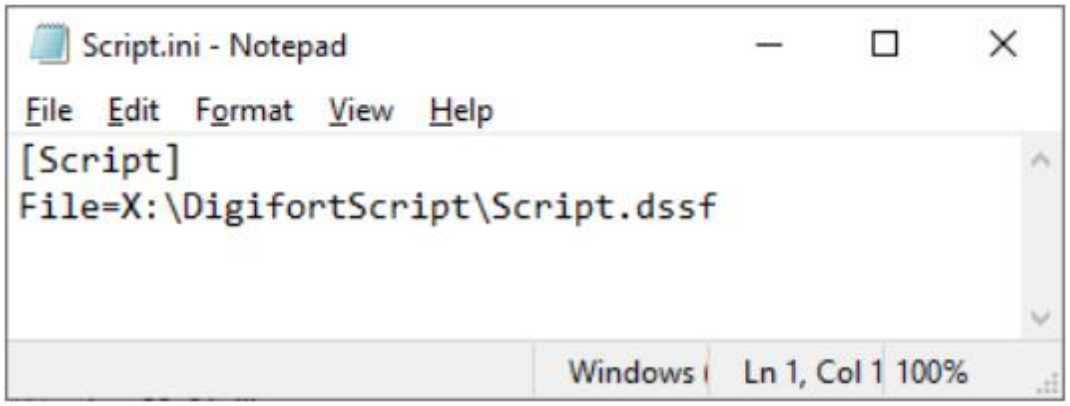
If the server with the modified password has the auto-login option enabled, it will be necessary to modify this configuration, entering the new password.

3.18 Centralized registration of Surveillance Client servers

In installations with multiple servers, server registration in monitoring stations can become a very complex work, and when there is an IP change or server addition, all clients must be changed.

To facilitate server registration in Surveillance Clients, the system now allows the specification of a file (of a shared folder on the network) from where the Surveillance Client will load server registration.

To use this feature, it is first necessary to define a file called Script.ini and save it in the Surveillance Client's installation folder. This file will contain the server file path:



When the Surveillance Client opens, this file (if any) will be queried and the system will attempt to open the referenced script file (which must preferably be on a shared network drive, where all clients have access). If the file is located and successfully opened, the system will load the list of registered servers into this file.

With this method, whenever there is a server change (e.g., a new server or changed IP address), simply change this central file and all clients will receive the update the next time they are loaded.

The file containing the server definitions follows the format of the Surveillance Client script file.

An example Script to load 3 servers:

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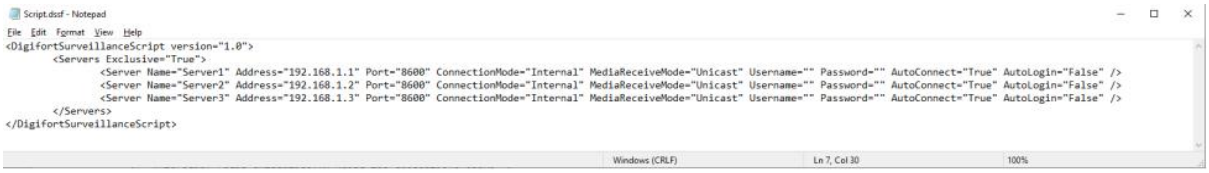
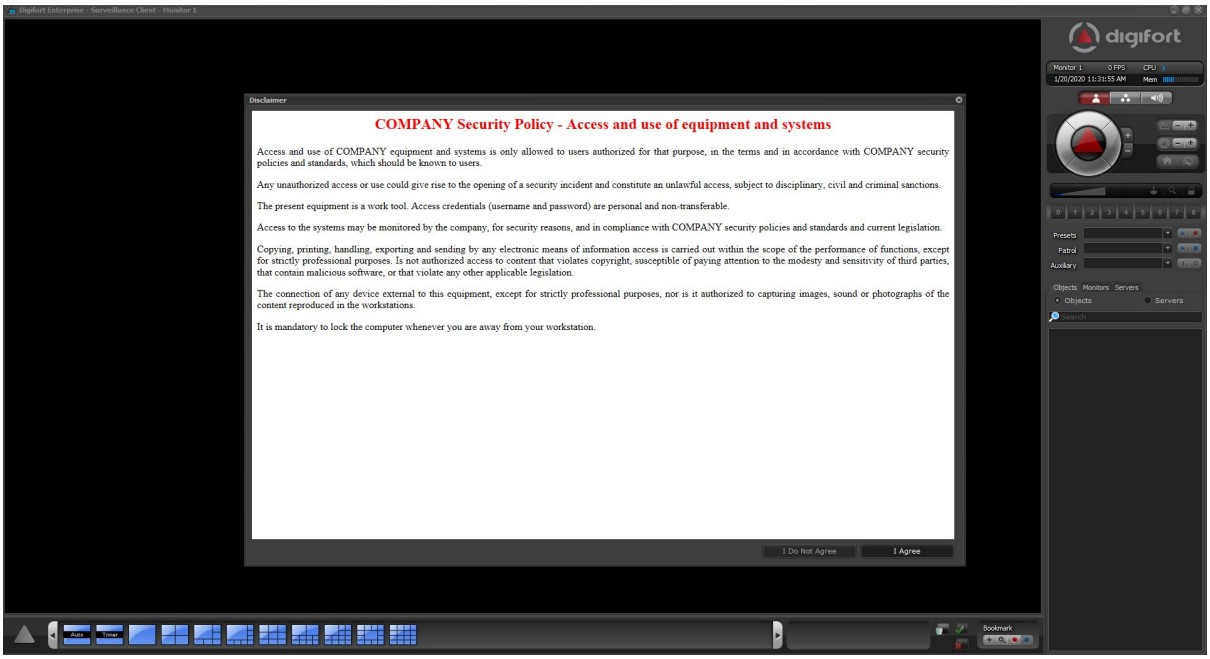


3.19 Disclaimer Message

The system now allows the display of a custom disclaimer message upon opening the Surveillance Client or Administration Client. The user must click on “I Agree” to be able to use the system, otherwise the client will be closed.

To add a custom disclaimer message, simply add a file called “Disclaimer.htm” in the client’s installation folder.



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Chapter IV

4 Working with Screenstyles

The Standard version of Digifort provides eight different screen styles. For each screen style unlimited tiles can be created

Upon creation of a view, it will be saved in the profile of the user logged into the Surveillance Client. Thus, each user can have his own customized views.

Automatic screenstyle: This screenstyle permits the creation of views of automatic sizing, that is, as many cameras as necessary can be inserted into this view, which automatically resizes the space reserved for each camera in such a way that all of them can be displayed in the screen simultaneously.

Timer screenstyle: This screenstyle permits the creation of sequences of cameras and views that will be displayed alternately on the screen with a time specified by the user.

Screenstyle for one camera: This screenstyle permits the visualization of a single camera in the screen.

Screenstyle for four cameras: This screenstyle permits the creation of views for addition of up to four cameras to be displayed simultaneously.

Screenstyle for eight cameras: This screenstyle permits the creation of views for addition of up to eight cameras to be displayed simultaneously.

Screenstyle for ten cameras: This screenstyle permits the creation of views for addition of up to ten cameras to be displayed simultaneously.

Screenstyle for thirteen cameras: This screenstyle permits the creation of views for addition of up to thirteen cameras to be displayed simultaneously.

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4.1 Virtual Matrix

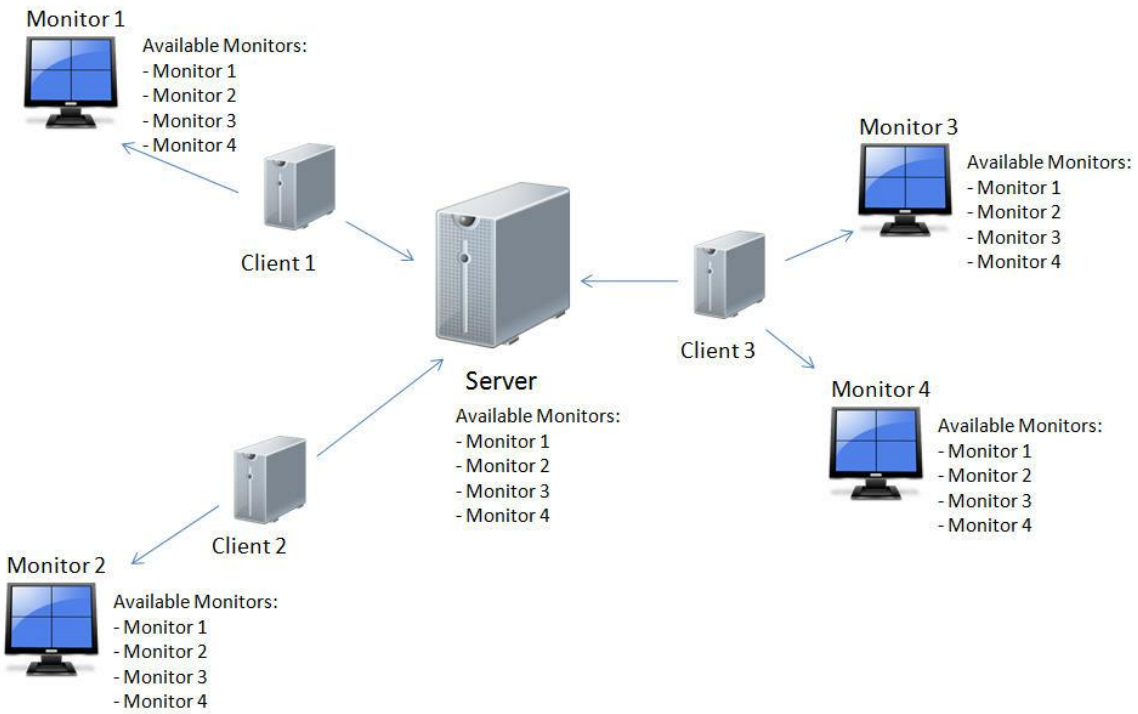
This chapter is dedicated to the configuration of the Virtual Matrix of Digifort.

The virtual matrix allows the operator to send or drag (drag and drop) any object such as cameras, maps, mosaics, photos and web pages to any monitor where the Monitoring Client is open on any computer on the network or to Video Wall. All functions for Video Wall are available through this facility.

4.1.1 Understanding Virtual Matrix

With the Virtual Matrix option, the Digifort Surveillance Client is able to connect to any monitor of any computer in the network that has the surveillance client running. This way, it's possible to send objects among the clients such as cameras, maps and screenstyles.

Look at the figure below:



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In these images we have 3 clients connected to the Digifort server. The Digifort server has a list of all of the monitors available for the virtual matrix, which, in turn, sends to all of the clients. This way, all of the clients connected to this server will have an updated list of available monitors.

See below how to configure the virtual matrix.

4.1.2 Configuring the Virtual Matrix

The first configuration to be made is to activate the Virtual Matrix and define the monitors that will be available for use.

In configuration of the Surveillance Client click on the tab Virtual Matrix as shown in the figure below:

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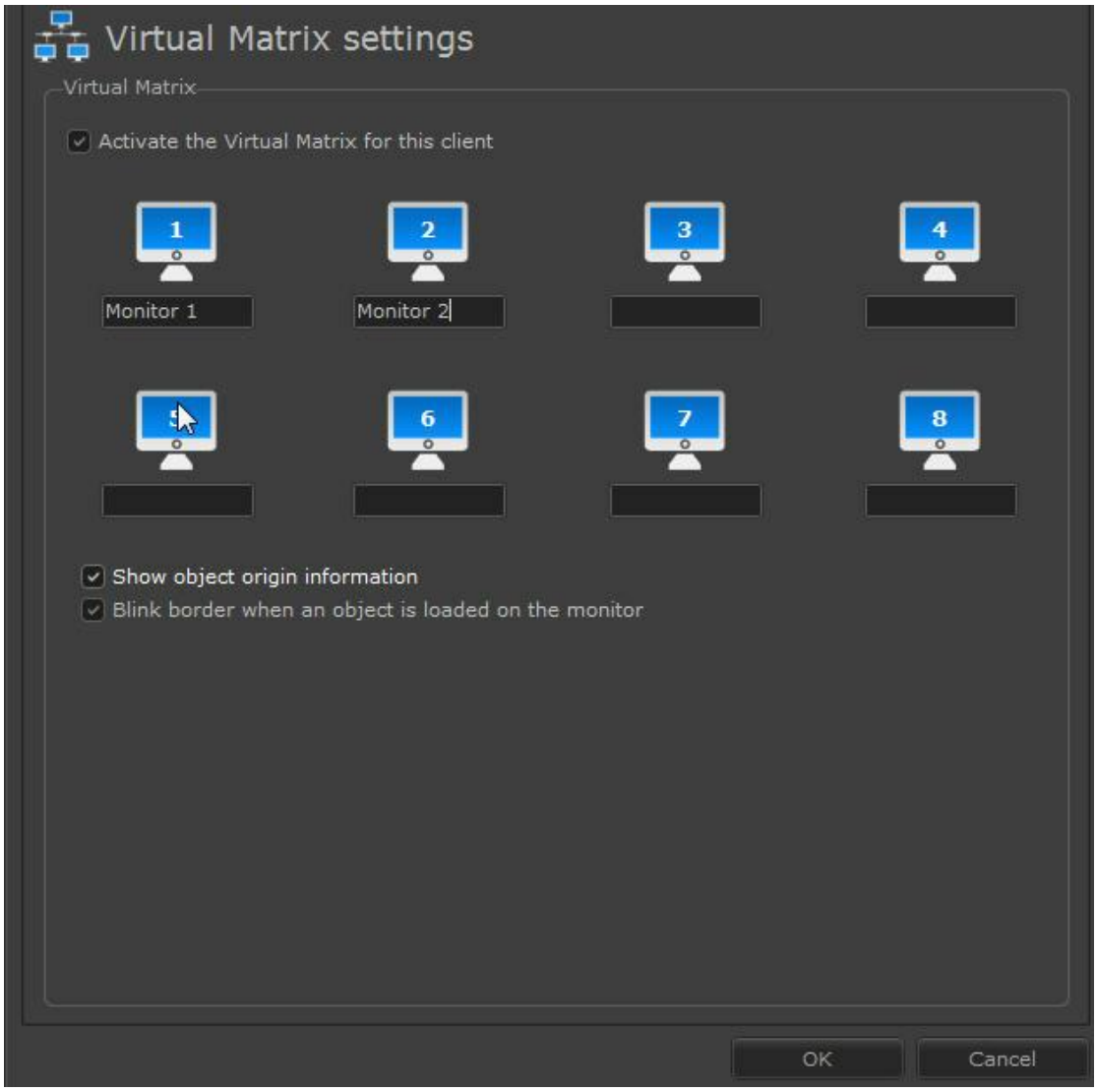

This screen offers you the following configuration options:

4.1.2.1 Activate the Virtual Matrix for this client

Activate the virtual matrix for the current computer.

Observe, that upon clicking on activate, some text boxes highlight themselves, allowing for the input of text as shown by the figure below:

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The number of available monitors to be configured will be equal to the number of monitors configured in the Multi-Monitor tab. (To learn how to configure multiple monitors, see the chapter Configurations of Multi-Monitor 45).

Upon entering the name of a monitor, it will automatically be available for use in other clients.

4.1.2.2 Displaying data of the origin of the object

When an object (such as cameras, screenstyles or maps) is sent by a user to another monitor by way of virtual matrix, data about the origin of that object is displayed to the operator as shown by the figure below:

4.1.2.3 Blink the border when an object is loaded into the monitor

When an object (such as cameras, screenstyles or maps) is sent by a user to another monitor by way of virtual matrix, the window indicates this by alternating the colors black and red as shown by the figures below:

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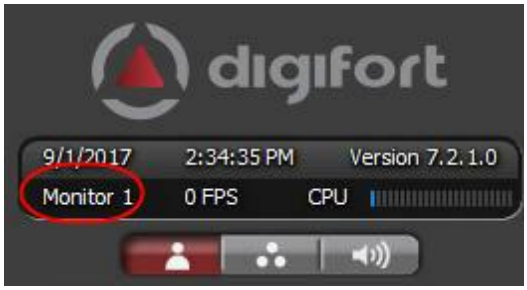
4.1.2.4 Show monitor name on the main screen

It allows displaying the name of the Virtual Matrix monitor on the main application screen.



4.1.3 Using the Virtual Matrix

There are several ways to send objects to other monitors in the virtual matrix. After configuring the monitors to be used in the matrix, make sure that the user logged in to the monitoring client has the right to use the virtual matrix (to learn how to grant user rights, refer to the administration client manual) and use the techniques described below :

4.1.3.1 Sending Cameras

There are two ways of sending cameras to a monitor of the matrix.

The first way is by clicking on the camera's image with the right button of the mouse during surveillance and soon afterwards in the Virtual Matrix - Display in option and choose the desired monitor as shown in the figure below:

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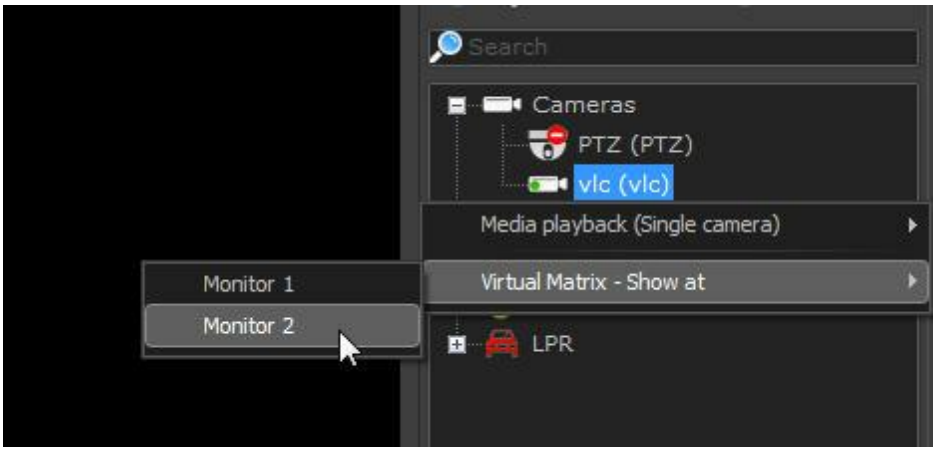
It's possible to do the same procedure described above in the list of cameras of Digifort, as shown by the figure below:



A screen will appear asking you to choose the place where the object will be sent. Among the options is full screen or within a view as shown in the figure below:

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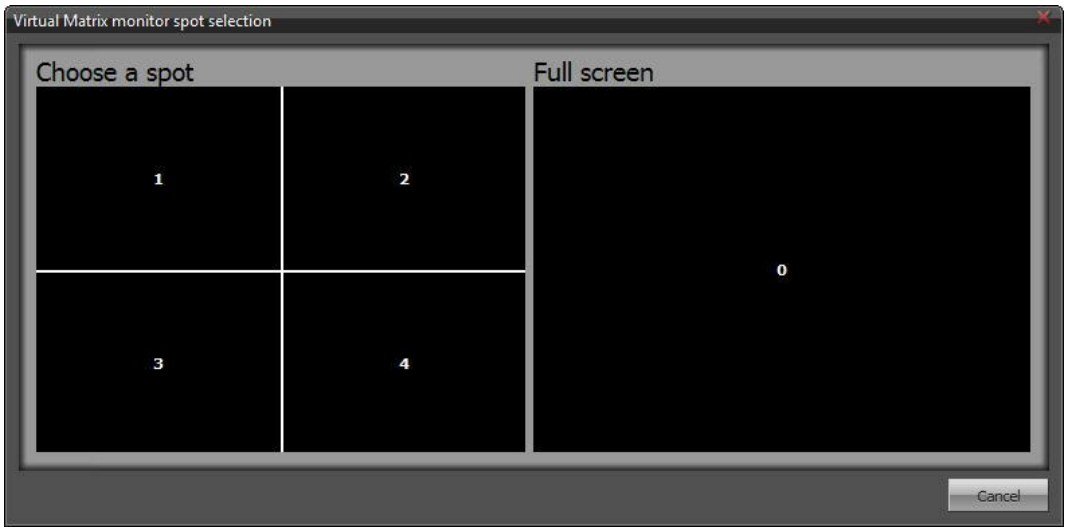
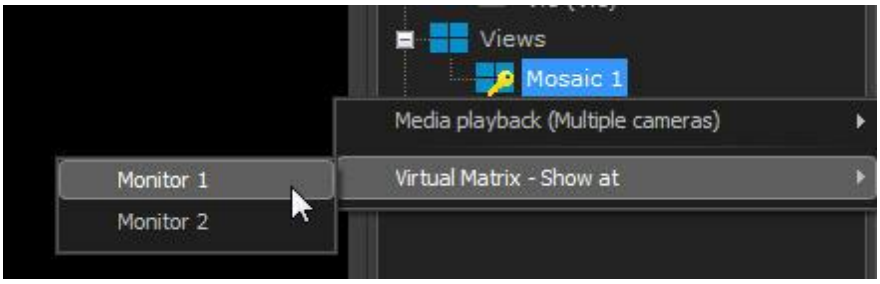


4.1.3.2 Sending Screenstyles

To send a screenstyle to another monitor, click on the right button over the screenstyle in the list of Digifort objects and soon afterwards on the Virtual Matrix - Display in option and choose the desired monitor as shown in the figure below:



4.1.3.3 Sending Maps

To send a map to another monitor, click on the right button over the screenstyle in the list of Digifort objects and soon afterwards on the Virtual Matrix - Display in option and choose the desired monitor as shown in the figure below:

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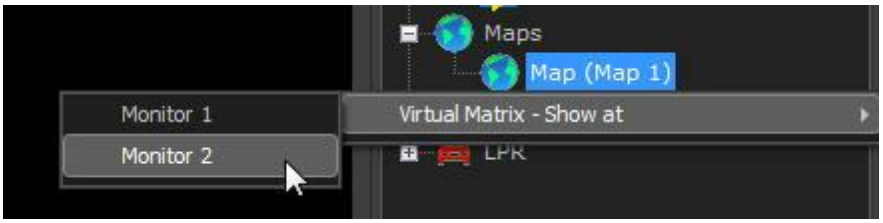
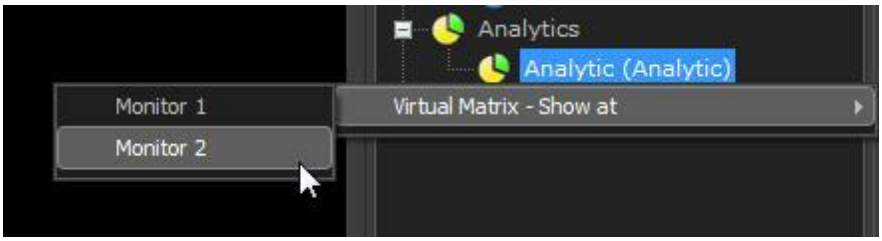


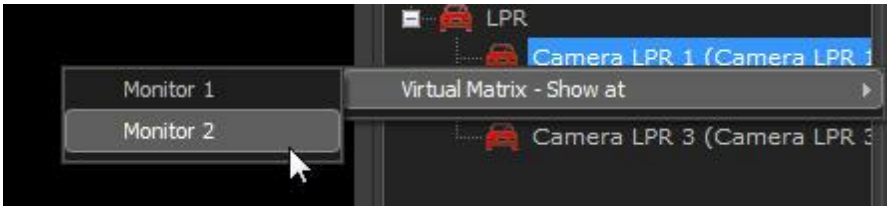
4.1.3.4 Sending Analytics

To send an analytics configuration to another monitor, right-click on the Digifort object list and then on **Virtual Matrix - display on** and choose the monitor you want as illustrated in the figure below:



4.1.3.5 Sending LPR

To send a LPR configuration to another monitor, right-click on the Digifort object list and then on **Virtual Matrix - display on** and choose the monitor you want as illustrated in the figure below:



4.1.3.6 Sending all objects

The Virtual Matrix enablesall objects that are present in the current mosaic to be sent together with their settings (media profile, zoom position, 360-lens position, image filter, and motion detection).
By right clicking on any object (or on the empty matrix), the **"Display all objects in"** option will be provided with a list of available monitors.

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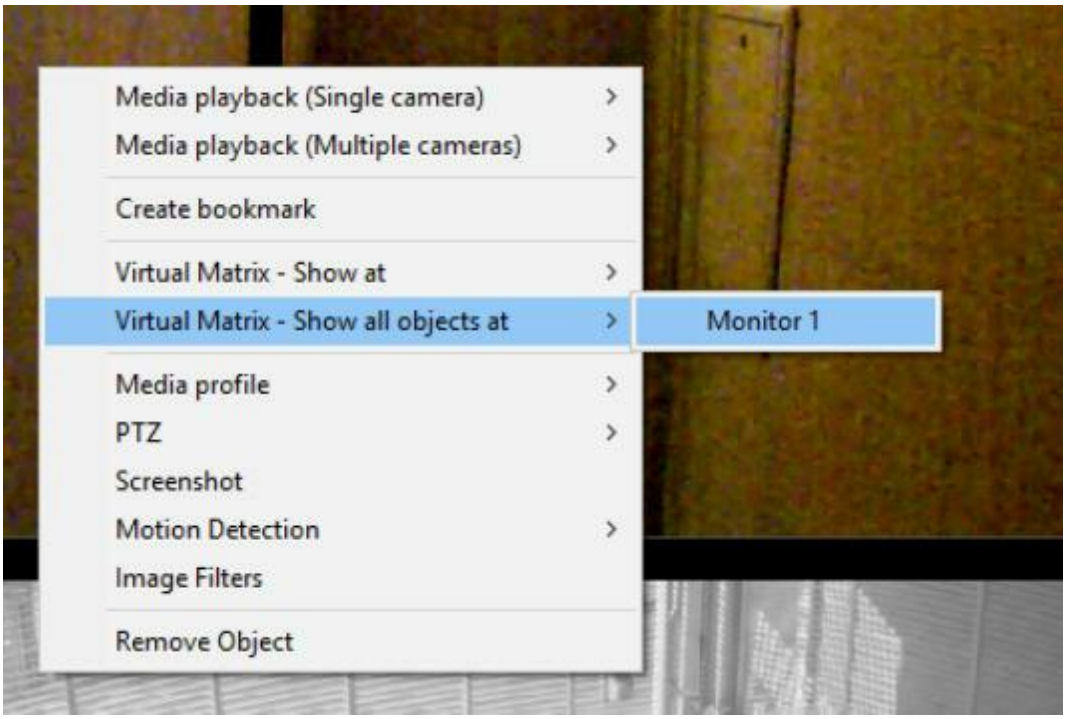

Note: The mosaic does not need to be saved for this option to be used.

4.1.4 Monitoring monitors objects

The surveillance client allows the operator to know which object is being viewed in each monitor at the matrix.

To access this feature, simply access the virtual Matrix tab located on Digifort side bar, as shown in the figure below:

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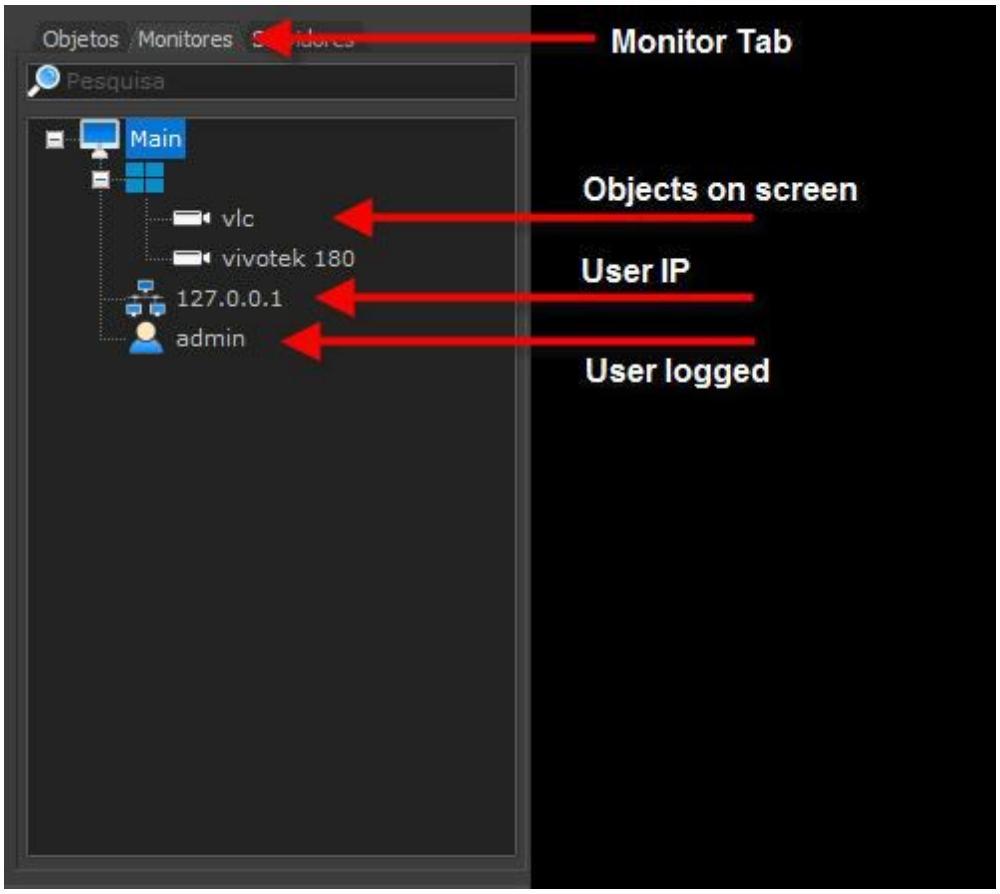

4.2 Creating surveillance views

Digifort offers you the option of creating surveillance views, adding the desired cameras to the screen
for simultaneous monitoring.
To create a surveillance view, select the desired screenstyle and click on the Remove cameras from
screen button. Then select the desired cameras in the list of cameras and click on the Add button,
repeating this process until all of the screen space is filled. The picture below shows an example of
this:

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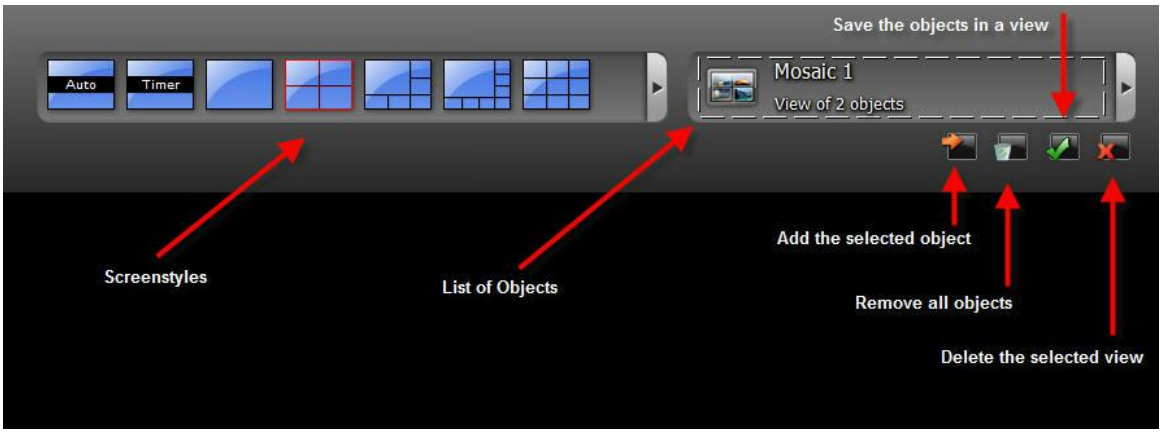
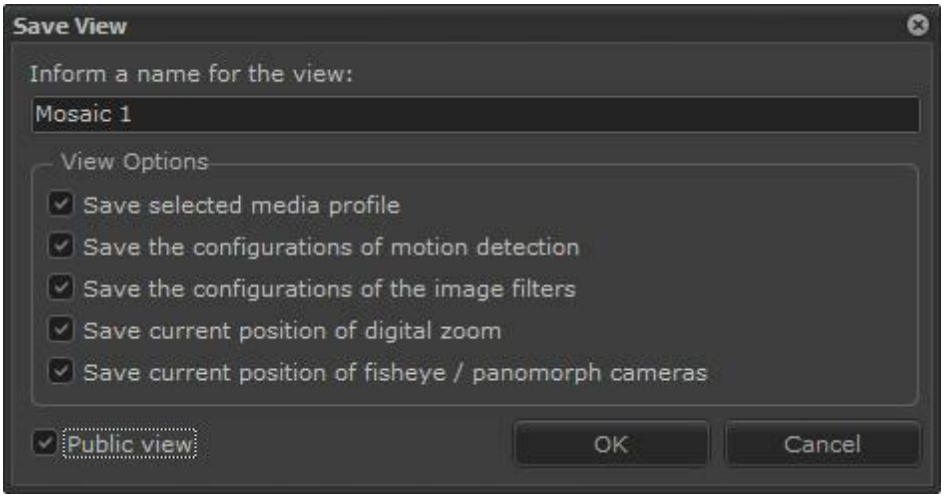


In the example above, we are creating a surveillance view of four cameras.
After adding all of the cameras to the screen, click on the Save the objects on a view button, opening the following screen:



In this screen, give an identification name to the view.

The newly-created view will be listed in the list of views.
The monitoring mosaics are updated dynamically in real time when they are created, updated or deleted on all clients, without the need to re-connection to the server.

To exclude a view, select the desired view and click on the **Exclude** button.

In the future, you can change the positions of cameras in a surveillance view. To do so, click on the image of the camera and drag it to the desired position.

To view the mosaics via the web browser, it is necessary to create them in advance, following the instructions mentioned above.

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4.2.1 Options for creating the views

Select the following options if necessary:

- **Save the selected media profile:** Upon selection of this option, the selected media profile of each camera will be saved. To learn about media profiles, consult the manual of the Administration Client.
- **Save motion detection configurations:** Upon selection of this option, the configurations of motion detection will be saved together with the view. To learn how to configure motion detection, see Motion detection configurations 44.
- **Save image filter configurations:** Upon selection of this option, the configurations of image filters will be saved together with the view. To learn how to configure image filters, see How to configure the image filters 82.
- **Save current position of Digital zoom (Save current position of digital zoom):** By selecting this option, the last position left in each camera of the digital zoom will be saved. To learn about digital zoom see the chapter Drive through the Digital PTZ
- **Public Mosaic (Public View):** Transforms to be saved in a public mosaic. The public mosaic when saved will appear for all users of the system.

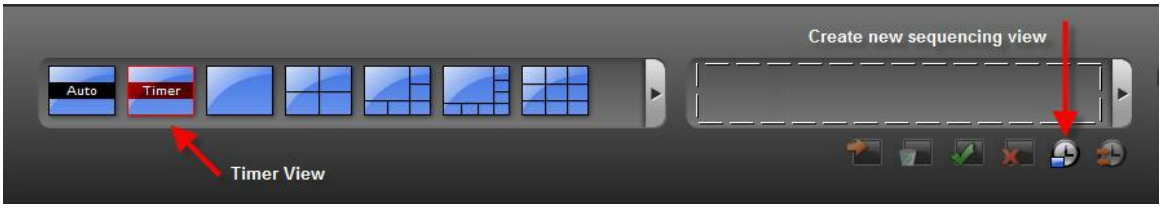
When the mosaic is saved publicly its icon in the list of objects will be:

When the mosaic is saved only to the user, or lose, its icon in the list of objects will be:

With these options, the last valid configurations of each camera in the screen will automatically be reloaded upon selecting again the saved view.

4.3 How to create timer views

This screenstyle permits the creation of a sequence of cameras and views that will be displayed alternately with a time defined by the user. To access this feature, select the timer view in the list of views and then click on New, as shown in the picture below.



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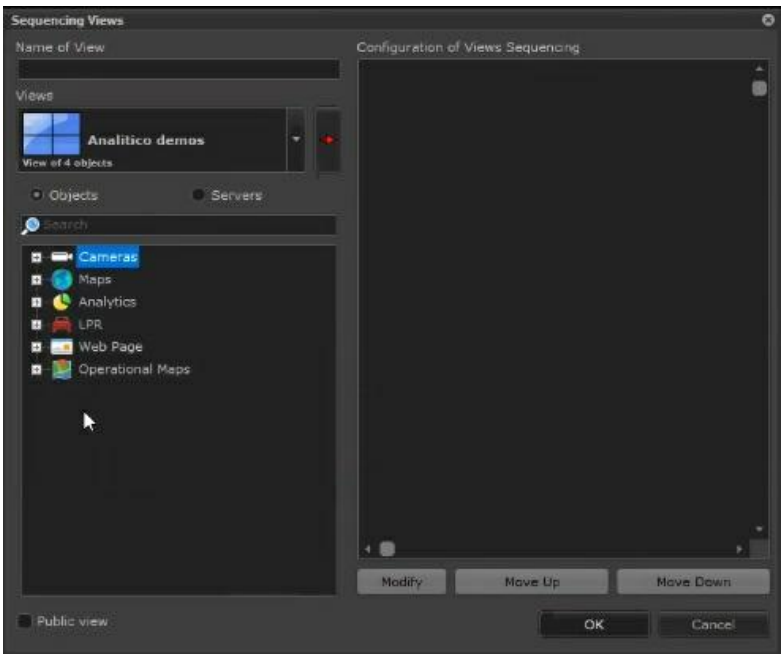
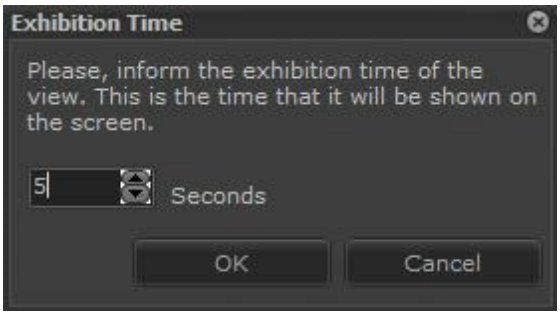
After this process, the timer view inclusion screen will be displayed, as shown in the picture below.



- **Name of the view:** Enter a reference name for the view.
- **Available views:** List of available views. These views were previously created. To learn how to create views, see page 34.
- **Available cameras:** List of available cameras. These cameras were previously registered. To learn how to register cameras, consult the manual of the Administration Client.
- **Configuration of the sequence of views:** List of timer view items created by the user.
- **Up and down buttons:** Modify the order of the selected view.

To add a camera or a view to the sequence, select it and click on the Add button, represented by the red arrow pointing to the right, opening the screen that requests the time during which the camera or view will remain in the screen, as shown in the picture below.



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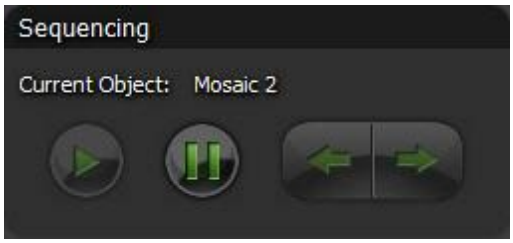
Inform the desired time and click on **OK.**

After addition of all of the desired views and cameras to the timer view, it starts its execution, showing the times in the sequence you created.

Digifort offers some controls for manipulation of this view, located in the main screen of the Surveillance Client, with functions such as sequence pause, advance and rewind among cameras or views, and reinitiate, as shown in the picture below.



4.4 Working with surveillance views

After creation of the surveillance views, some special functions will be available for handling of any camera shown in the screen. To access these functions, click on the right button of the mouse over the image of some camera. This action will cause a function menu to be displayed with the functions supported for the selected camera, as shown in the picture below.

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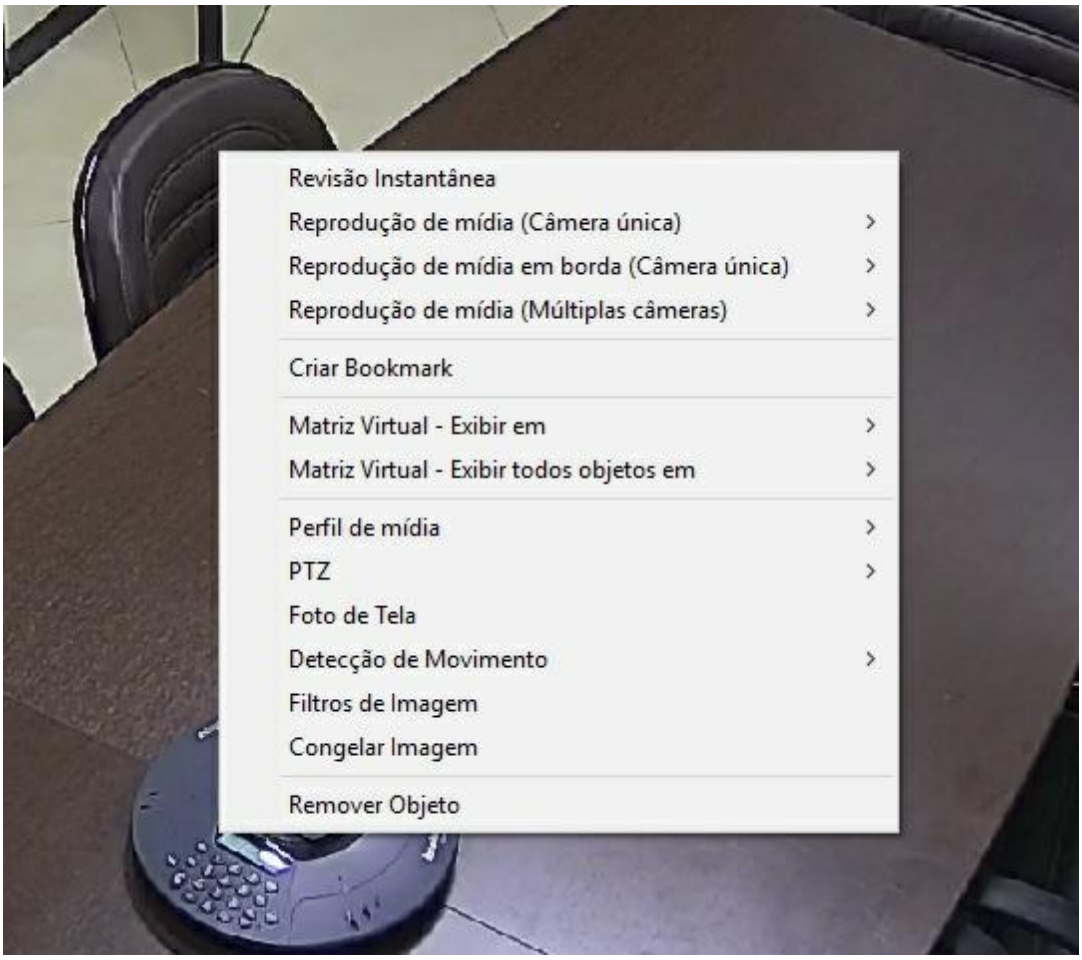

As opções disponíveis são:

4.4.1 Media Playback

To learn about media playback see chapter: Fast Media Playback 120

4.4.2 Virtual Matrix - Shows on

Sends the object to another monitor using the Virtual Matrix. To learn about the Virtual Matrix check chapter Virtual Matriz

4.4.3 Media profile

Upon selecting this item, a sub-menu will be displayed with all of the media profiles of the selected camera. To modify the media profile to be used in the monitoring of the camera, simply select the desired option. To learn how to create media profiles, consult the manual

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of the Administration Client.

4.4.4 PTZ

To learn about the features of PTZ see chapter: PTZ 124

4.4.5 Manual Events

If there is manual events registered for this camera it is possible to activate them by clicking on the desired event.
To learn about events manuals see chapter: Manual Eventss 134

4.4.6 Screen photo

Upon selecting this item, a screen will be displayed with the current image of the selected camera, permitting the saving of this image in a file or its sending via e-mail.

4.4.7 Motion detection

Upon selecting this item, a sub-menu will be displayed with the configurations of motion detection for the selected camera.

- **Activate/Disactivate:** Activates or disactivates motion detection for the selected camera.
- **Configurations:** Opens the configuration screen for motion detection of the selected camera. To learn how to configure this feature, see Motion detection configurations 44

4.4.8 Image filters

Opens the configuration screen of image filters for the selected camera. To learn how to configure this feature, see How to configure the image filters 82

4.4.9 Freeze Image

By clicking on this option, the system will freeze the camera image to pause it.
To return to normal, simply click on the same button.

4.4.10 Exit full screen

This option is available when the Digifort is in full screen mode. Clicking on this option it is possible to exit it full.

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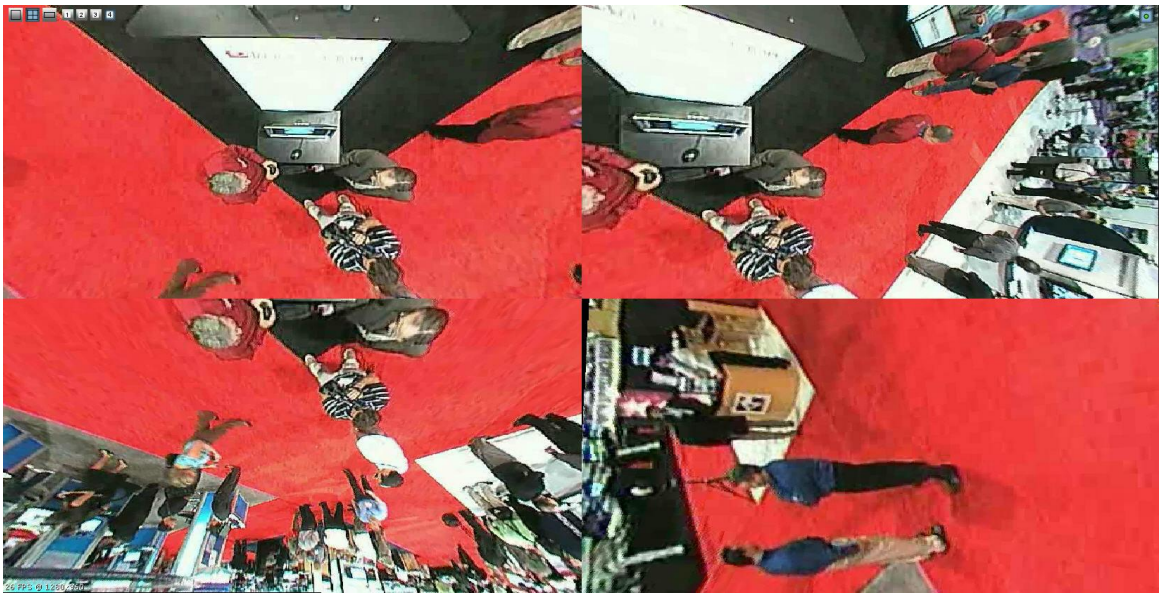
4.5 Working with panamorphic lenses

To understand what Panamorphic Lens is, see the Administration Client Manual.

By placing a camera with Panamorphic lenses on the screen, the following buttons are available:

Virtual PTZ: Allows you to navigate the camera with an image in dewarp.

Divides into 4 cameras without distortion as illustrated below:



To operate the PTZ in one of the divisions, simply click on the desired number represented by the

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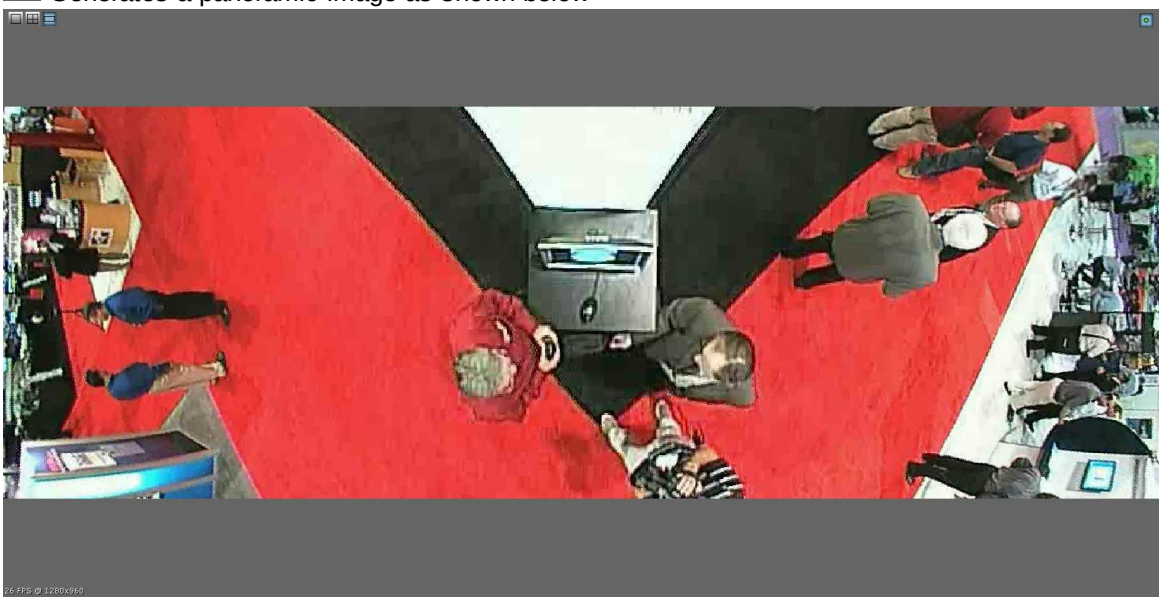
icons:

Generates a panoramic image as shown below



Enables or disables the controls. Upon disabling the document image is shown.

By disabling all controls the original image is shown as below.

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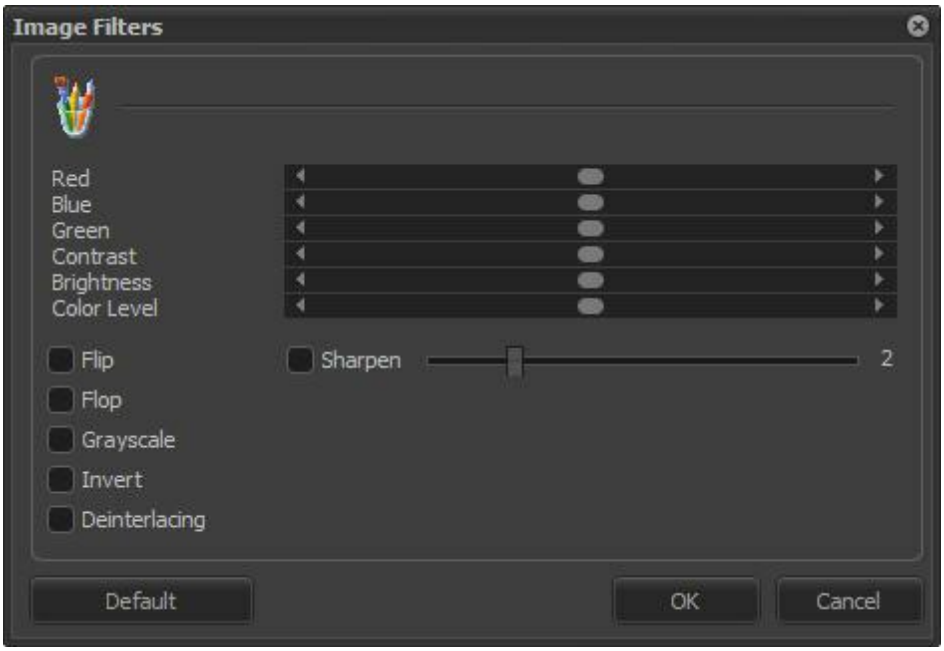
4.6 How to configure the image filters

Image filters are configurations applied to the image of a camera aimed at highlighting colors and details of a scene for helping in its analysis.

To access this feature, click on the right button of the mouse over the image of some camera, thus showing a menu of special functions, and select the Image Filters option, as shown in the picture below.



- **Red:** Adjusts the level of the color red in the image.
- **Blue:** Adjusts the level of the color blue in the image.
- **Green:** Adjusts the level of the color green in the image.
- **Contrast:** Adjusts the level of contrast in the image.
- **Brightness:** Adjusts the level of brightness in the image.
- **Color level:** Adjusts the level of color in the image.
- **Zero button:** Returns the above mentioned values to their initial positions.
- **Preview button:** Opens the video of the camera with the applied configurations.
- **Emboss:** Leaves the image in gray tones to highlight relief.
- **Flip:** Inverts the image horizontally. Recommended when the camera is installed in an inverted position.
- **Flop:** Inverts the image vertically. Recommended when the camera is installed in an inverted position.
- **Grayscale:** Leaves the image in gray tones.
- **Blur:** Applies a blurring effect to the image. Adjust the intensity level of the filter using the slide bar alongside.
- **Gaussian Blur:** Applies a Gaussian blurring effect to the image. Adjust the intensity level of the filter using the slide bar alongside.
- **Sharpen:** Applies a border highlight effect to the image.
- **Deinterlacing:** The deinterlacing filter that smooths the images because of the movement are left with a lower quality. In the picture below has an example of

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deinterlacing.

NOTE: To know the limitations of these features of his version of Digifort see the feature matrix on our website: http://www.digifort.com.br/feature-matrix

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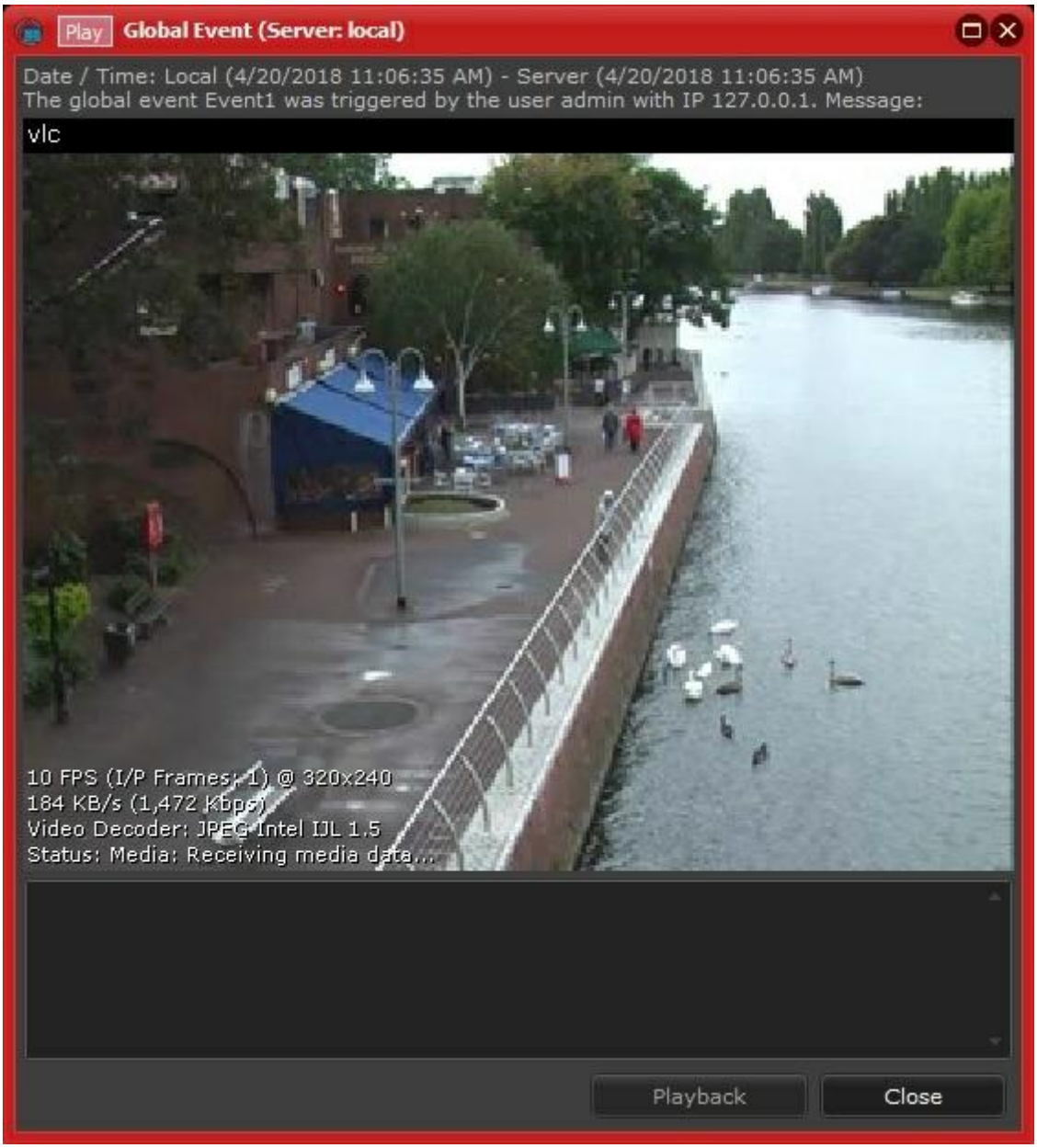
Chapter

5 Alarmes

The Surveillance Client, in addition to visually managing the cameras on the screen, also manages the alarms that are set in the Administration Client.

When alarms are triggered, they are shown in the form of pop-ups, as shown below:



This screen has the following features:

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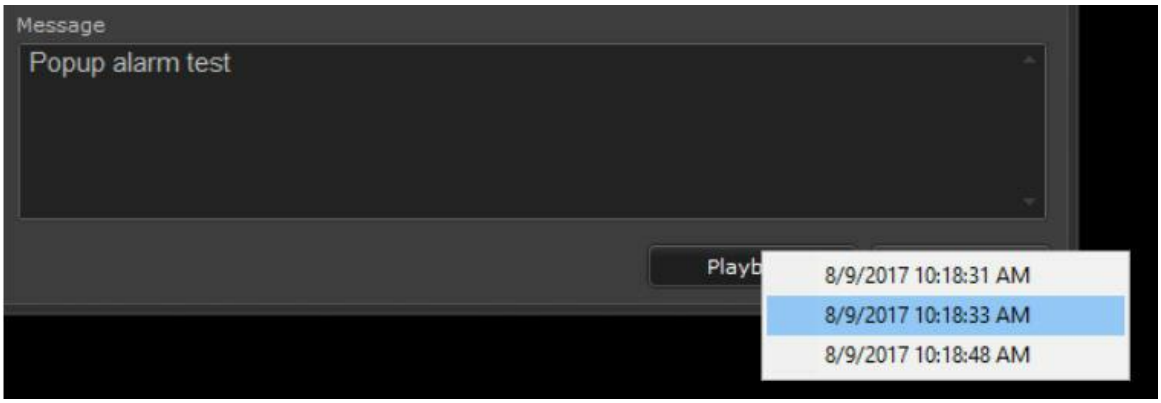
Date / Time: Date and time the event occurred. The client and server times will be shown.
Description: Description of the event.

Save position upon closing the screen: It saves the position on the screen where the pop-up can be found for the next pop-up to open on the same place.

Playback: It provides a recording at 4 minutes before and after the Event **trigger** time

Alarm windows, by default, will not open again if the same event occurs again while the window is already open; however, when the event is set to request a written confirmation from the operator, a new alarm window opens, thereby forcing the operator to confirm all events in writing.
The alarm pop-up can still contain some other features that are set in the Administration Client.

The alarm window will store the time for all repeated alarms that occurred while the window was open, allowing the user to choose a specific time when clicking the **Playback** button as shown in the image below:



5.1 Message

A message that has been configured to complement the description for the alarm set off as shown in the picture below:

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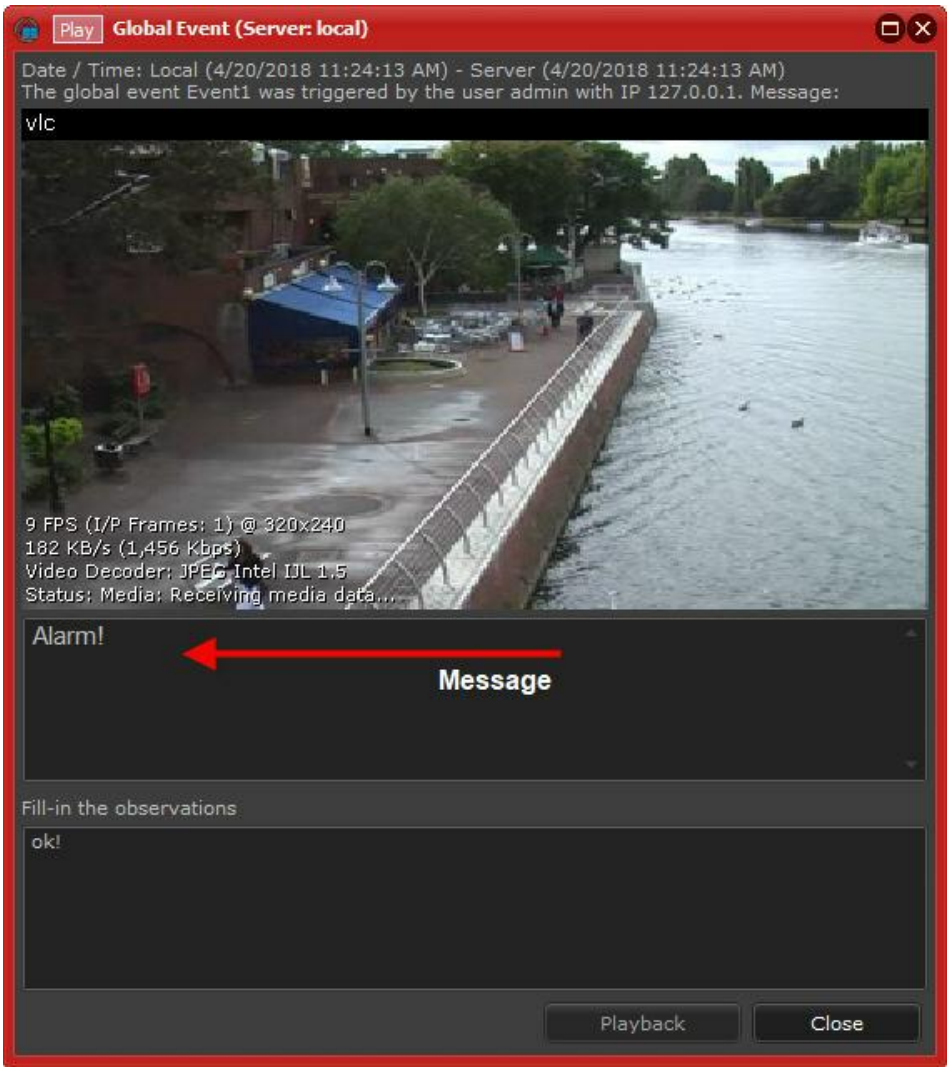

5.2 Observations

- **Observations**: It may or may not be necessary to enter an observation so that the pop-up alert can be closed as shown in the figure below:

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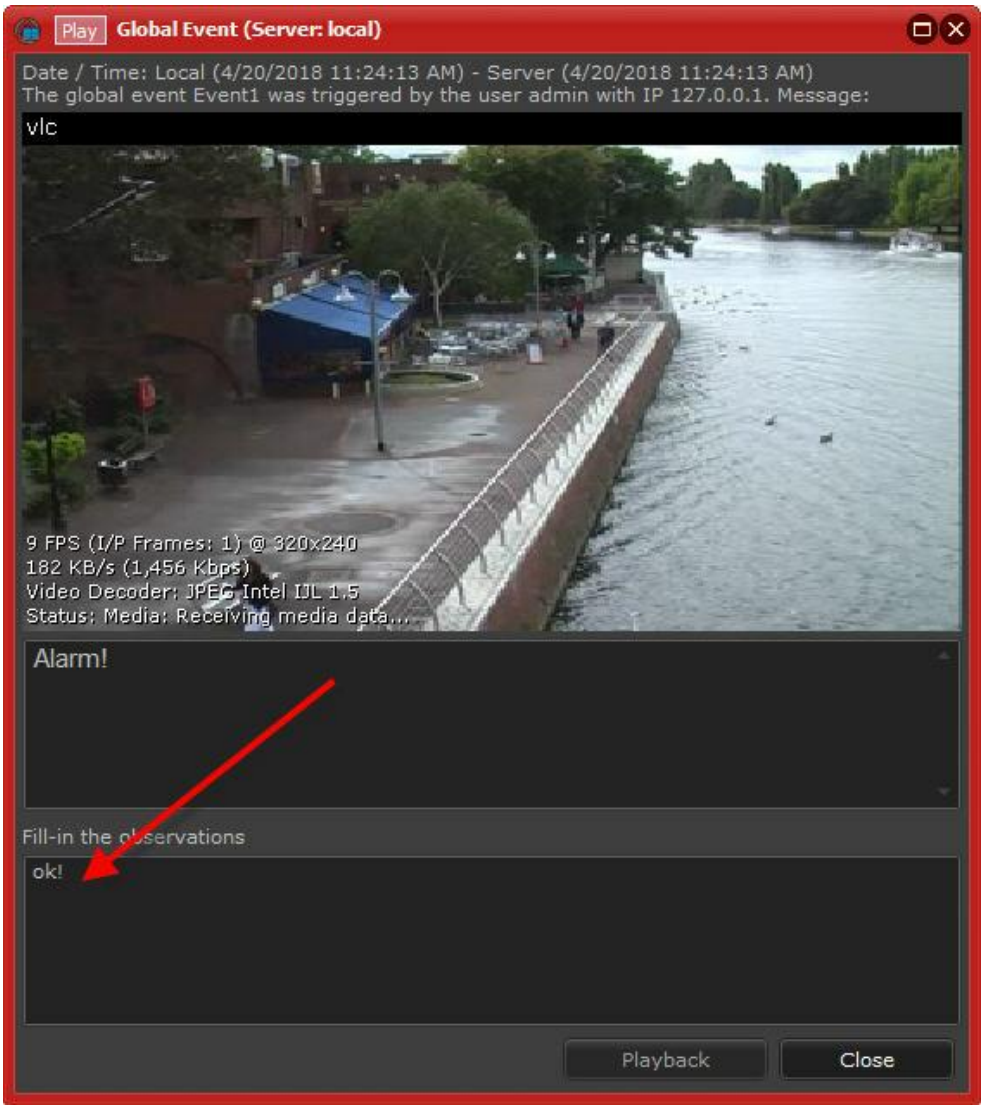

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Chapter VI

6 Video Playback

This chapter is dedicated to the playback of videos previously recorded by the Digifort Server.

The images recorded in the server are recovered by selecting the camera and by carrying out a date and time search. It is also possible to create a video only when there is movement in the selected image area. The user can zoom in or out of the scene viewed, and each with an independent movement regarding the main image. There is also a number of filters and tools for image treatment and video RGB control aimed at facilitating the location of details that may be difficult to see.
The object link function is also available during export, thus allowing the operator to navigate between cameras easily and quickly.

6.1 Playing videos back

O Digifort fornece a opção de visualizar vídeos previamente gravados. Para isso clique sobre o botão Reprodutor de Mídia, a seguinte tela de reprodução de vídeo será aberta conforme ilustrado nas figuras abaixo:

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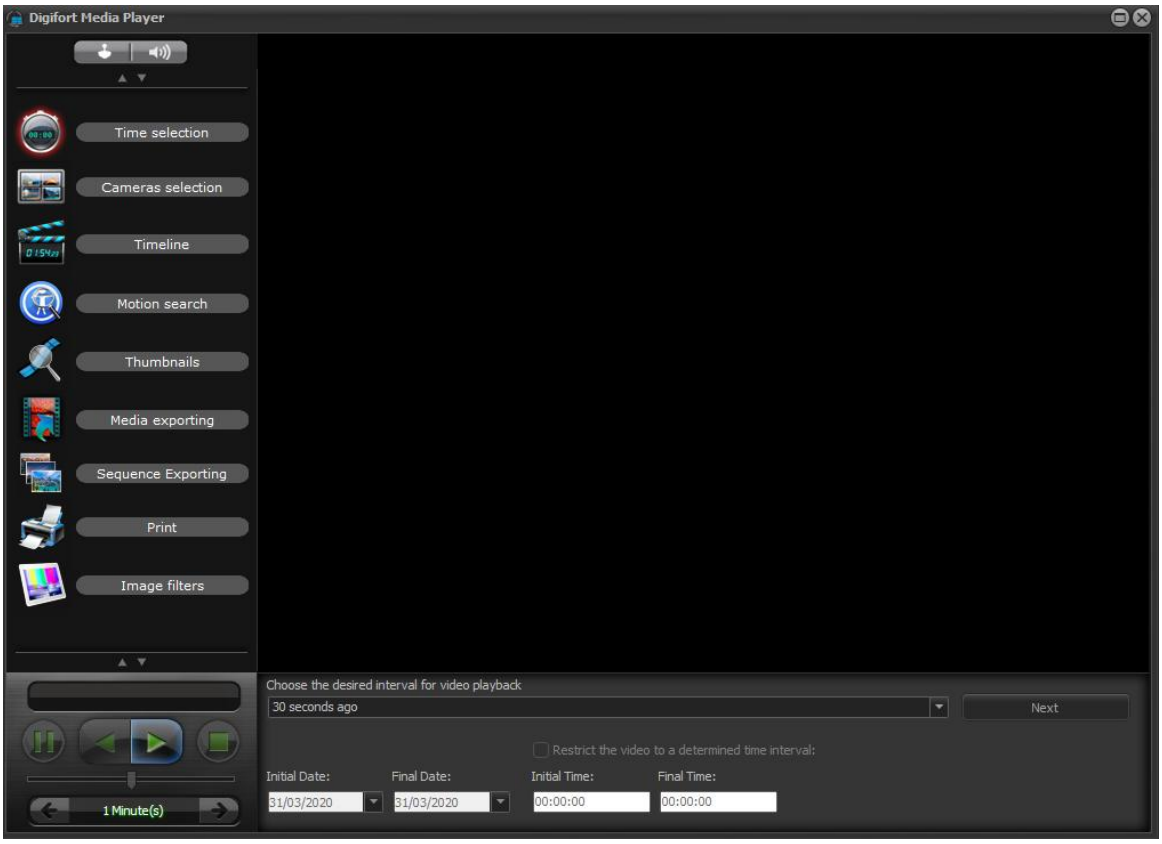

Para reproduzir o vídeo de uma ou mais câmeras, escolha o período desejado. Para escolher seu próprio período selecione o período Personalizado e preencha os campos de data e hora localizados abaixo.
Ao término dos ajustes clique em **Próximo**, abrindo a tela de Configuração de câmeras conforme ilustrado na figura abaixo.

Caso deseje visualizar um vídeo exportado selecione a opção Reproduzir gravações locais e selecione o diretório onde se localiza o vídeo. Para aprender a realizar gravações locais veja o capitulo Realizando Gravações Locais 129

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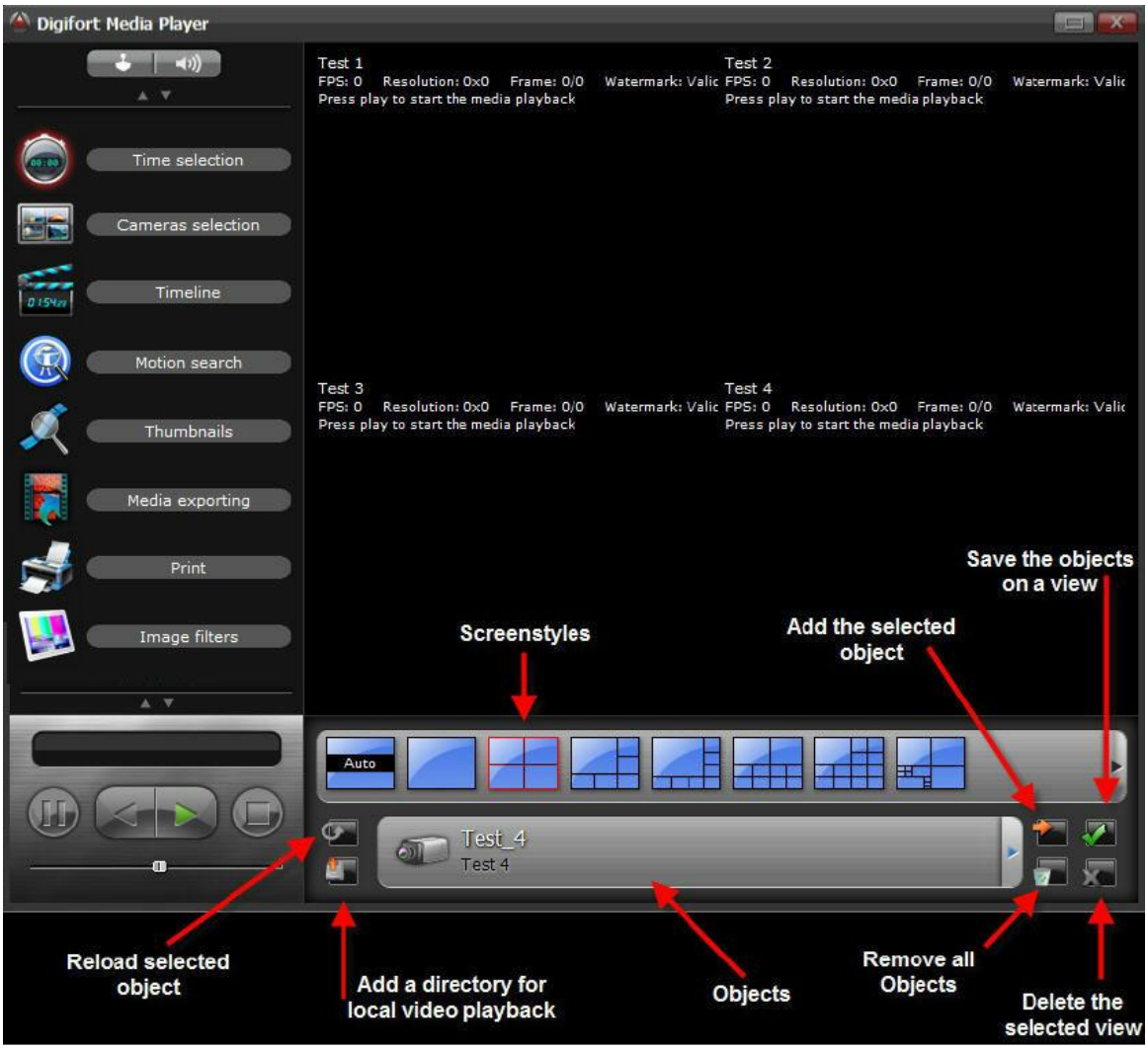

Com a tela de Configuração de Câmeras aberta, primeiramente escolha o mosaico para a visualização da gravação.

O Digifort permite a visualização e exportação de várias câmeras simultâneas e sincronizadas, por isso a escolha do mosaico se torna importante para a visualização das câmeras necessárias. Para aprender a criar seus próprios mosaicos consulte o manual do Digifort Cliente de Administração.

Após a escolha do mosaico, selecione os objetos a serem adicionados. A seguinte tela será aberta:

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The Digifort provides the option to view previously recorded videos. To do this click on the Media Player button. The following video playback screen will open as illustrated in the images below::

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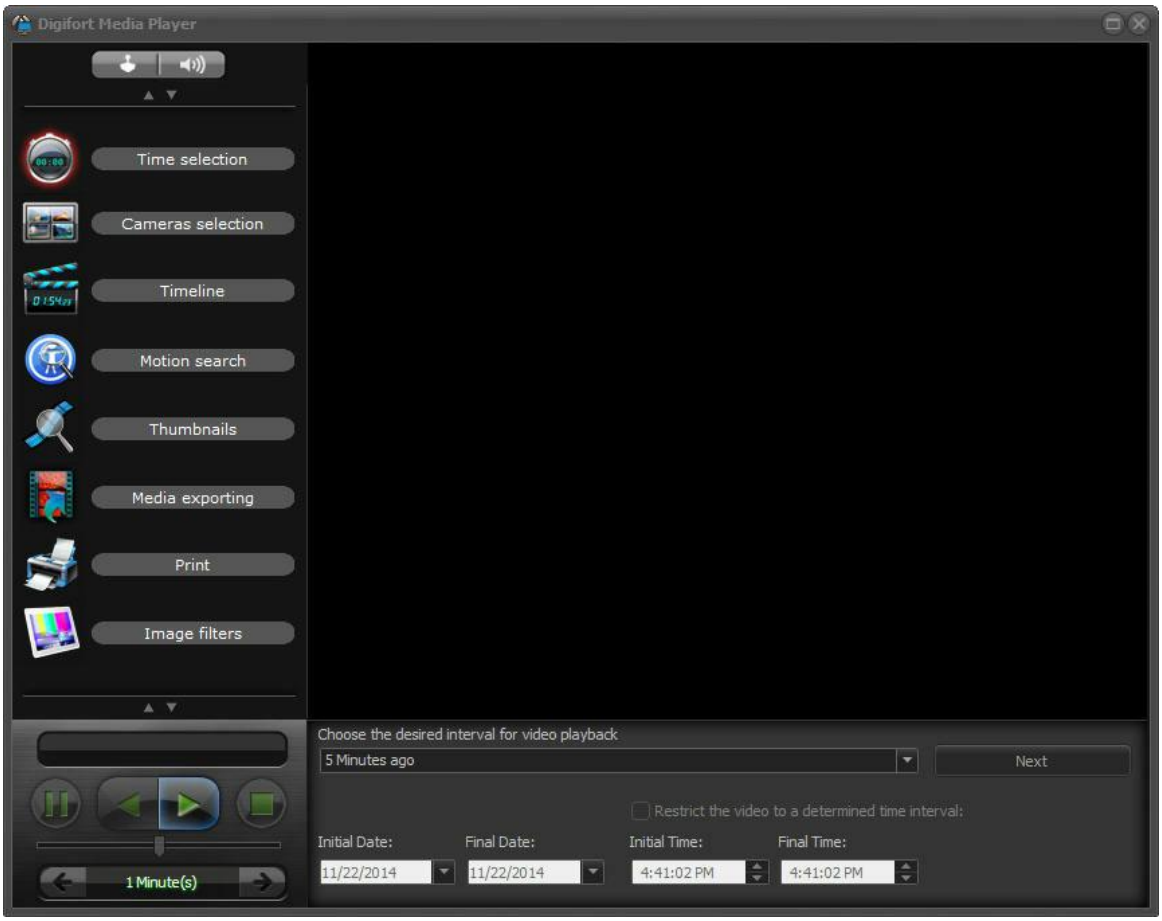

To play the video from one or more cameras, choose the period you want. To choose your own period select the Custom period and fill in the date and time fields located below.
At the end of the settings click on **Next**, opening the Camera setup screen as illustrated in the image below.

If you want to view an exported video, select the option Play local recordings and select the directory where the video is located. To learn how to perform local recordings check the chapter Performing Local Recordings 129

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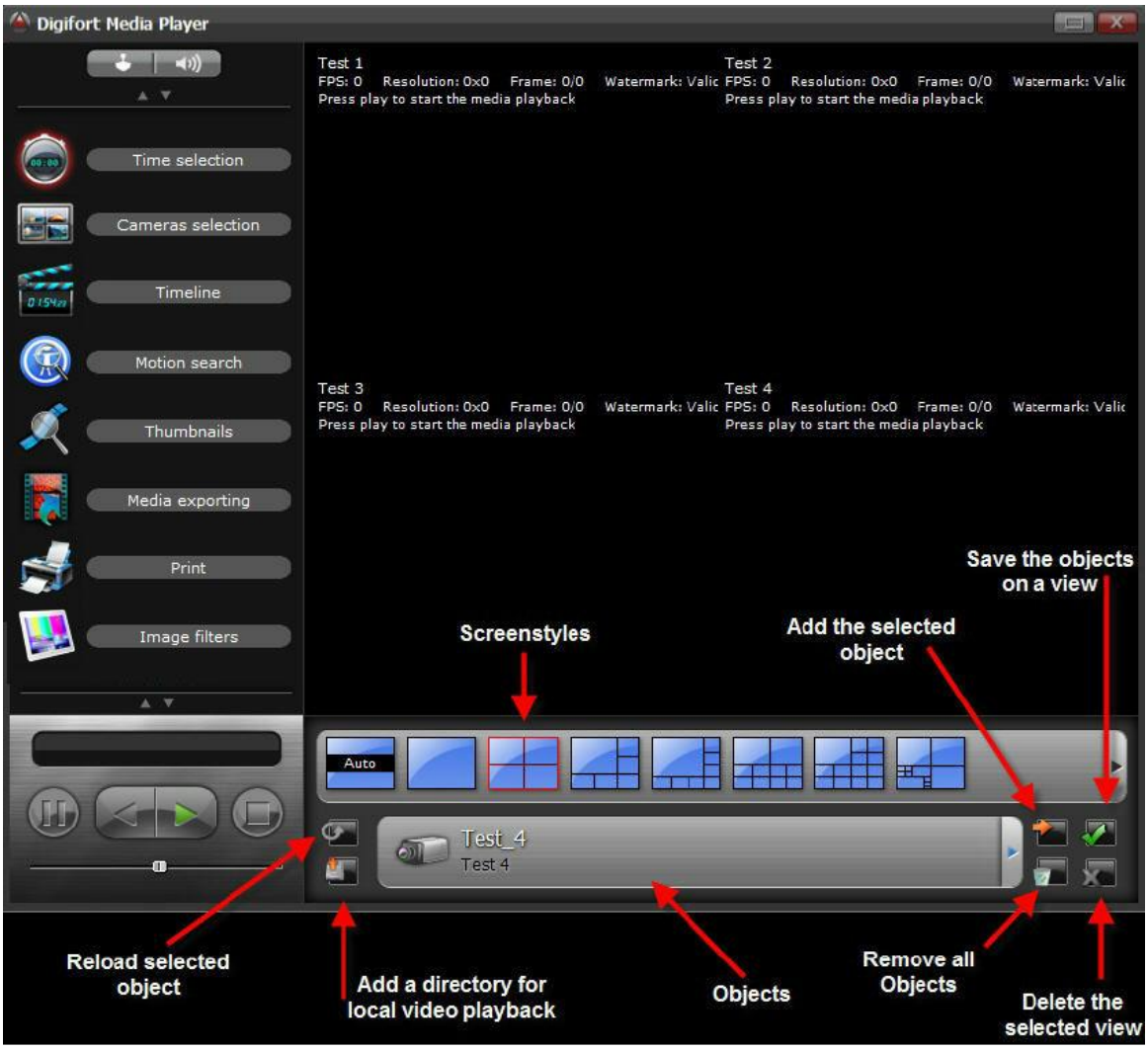

With the Camera Setup screen open, first choose the screenstyle to view the recording.

Digifort allows viewing and exporting multiple simultaneous and synchronized cameras, so choosing the screenstyle is important to view the cameras needed. To learn how to create your own screenstyle, check the Digifort Administration Client Manual.

After choosing the screenstyle, select the objects to be added. The following screen opens:

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This screen provides the following features:

- **Organization by objects**: Show all objects in the list.
- **Physical organization**: Show all objects organized by server.
- **Add object by double-clicking**: Allow objects to be dynamically added to screenstyles by double-clicking.
- **Object list**: Click on an object. If the option Add objects by double-clicking is disabled, then click on Add the selected object.

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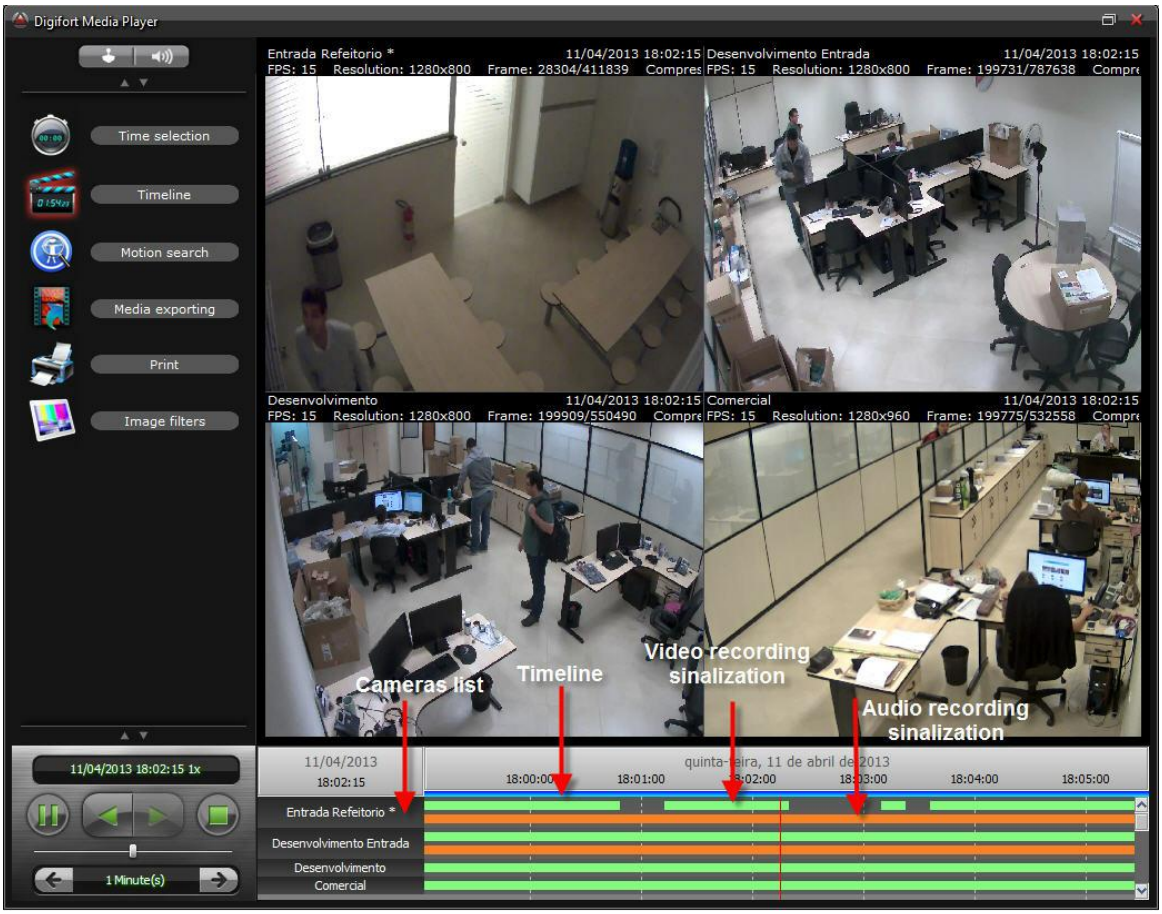
When all cameras you want are on the screen, click on Play. .

The Timeline screen will open as illustrated in the figure below:



In this screen there will be the video control and the time line.

The Media Player offers the following functions:

- **Information about the video:** General information about the video, such as date, time, resolution, frames per second, video compression and the number of the current image.

- **Authentication watermark of the image:** When the image coming from the camera is recorded in disk, a security code is generated based on the image. If, for any reason, the image is modified, the authenticity code is broken, showing a crossed circle as watermark.

- **Video timeline:** Scroll bar with which it's possible to advance, rewind, and export the video.
- **Demarcações de Áudio:** A linha do tempo marca com retângulos laranjas onde houve gravação em cada câmera. O Áudio é reproduzido juntamente com o vídeo da câmera

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- **Limitation of recording intervals:** The time line shows green rectangles to mark where each camera had recording. It is in this time interval that video for exportation must be selected.

- **Select the desired period with the right button:** With the right button it's possible to select the desired recording period for exportation. Simply click-and-drag and a blue bar will come up limiting the time line for exportation.

- **Zoom on the time line:** To analyze or select a more detailed time period it's possible to space the time line out for greater precision. Use the +-key to increase the spacing and the –- key to decrease.

- **Tool bar:** The tool bar offers the following functions:

o Play video back in reverse

o Play video back.

o Pauses the video.

o Stops the video.

o

Shows information about the date, time and playback speed.

o Video playback speed.

o

Forwards the video every minute or every second. Just click on the arrows to move forward or backward.

o To change the time, place your mouse over the description of the time and click and drag. By default, the component will be in minutes mode, to change for seconds let in 1 minute and then release the click and click again dragging left. After doing so, simply click and drag over the time period to select seconds. To switch back to the minutes, put in 1 minute and then release and click again and drag to the right.

- **Digital Zoom:** Is it possible the implementation of the Digital Zoom on the selected images to view the recording. Just add the cameras screen video playback and the right to select the desired area. In the lower right corner will show the location of the selected area. Selecting the camera is possible to print the image or save it in JPG format.

Some options are available when you click with the **right button on the timeline** as shown in the image below:

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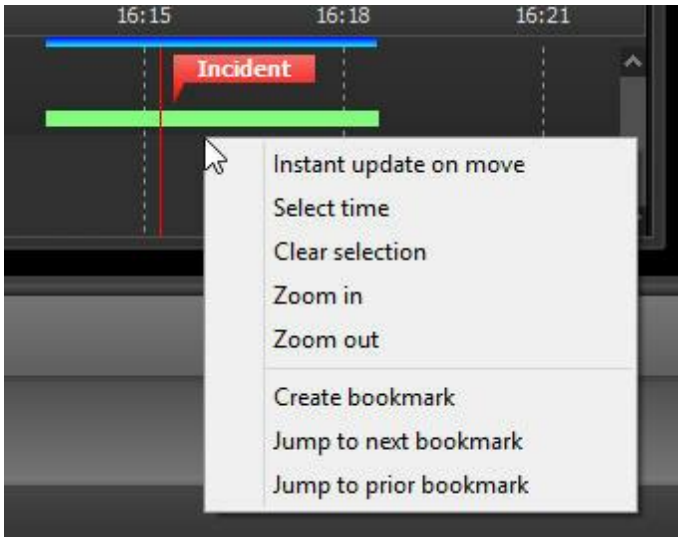

- **Instantaneous timeline update:** By moving the video player timeline, by default, image update will only take place 500ms after the user stops moving.A new option for instantaneous updates was added.

With this option, the image will be instantaneously updated on moving the timeline, allowing a quick view of those events that have taken place at various times by simply dragging the timeline (in order for this resource to work correctly, the client must be on a high-performance local network).

- **Select a time period**: Select a time period to export or for motion detection. The demarcation of the selected period is indicated by the blue bar.
- **Clear the time selection**: Clear the time selection marked by the blue bar.
- **Zoom in**: increases the time spacing marked in the timeline.
- **Zoom out**: decreases the time spacing marked in the timeline.
- **Create Bookmark:** To learn about Bookmarks check chapter: Bookmark. (Professional and Enterprise only)
- **Skip to the next Bookmark**: Allows you to move the recording to the next Bookmark. To learn about Bookmarks check chapter: Bookmark.
- **Skip to the previous Bookmark**: Allows to rewind the recording to the previous Bookmark. To learn about Bookmarks check chapter: Bookmark.

the desired recording period for exportation. Simply click-and-drag and a blue bar will come up limiting the time line for exportation.

- **Zoom on the time line:** To analyze or select a more detailed time period it's possible to space the time line out for greater precision. Use the +-key to increase the spacing and the –- key to decrease.

6.1.1 Metadata

It is possible to enable Metadata together with the recording from a camera. This Metadata will create additional bars that will make it easier to view additional information with the recorded images.

It is possible to create markers for analytics (see the Recording and Metadata 140), chapter), motion detection, and per event recordings.

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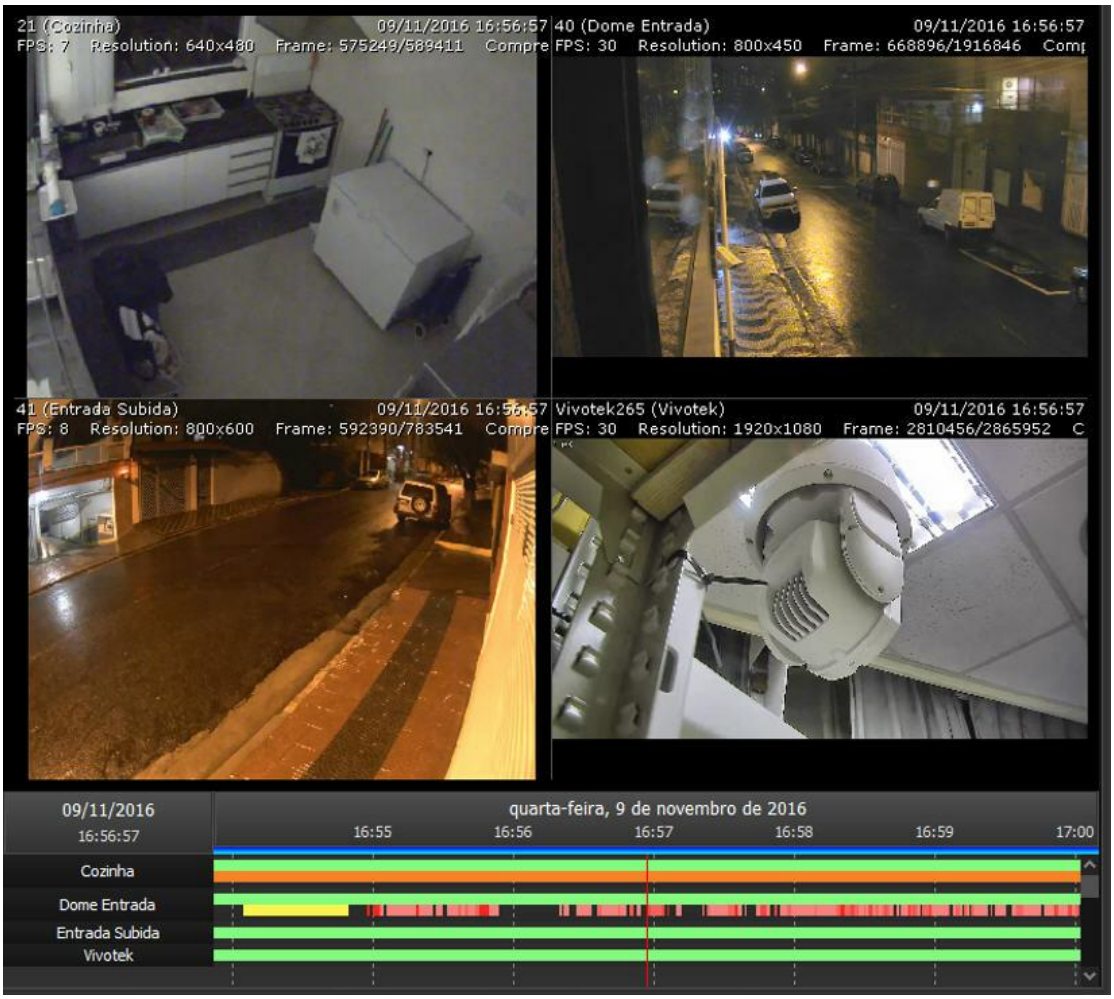
When a recording is started by an event, it will be possible to verify a yellow bar. To learn how to start a recording by event, check the **Administration Client manual.**
It is possible to add markers for motion detection, i.e., whenever there is a motion detection event, it will be possible to view a red bar. Darker red indicates a greater movement and lighter red indicates a smaller movement. To enable a motion detection event, see the **Administration Client manual**.



6.1.2 Playing audio back

The audio is recorded along with the video from the camera, if enabled. To choose the camera you want to listen to, simply select it on the playback mosaic or click on the audio option, as shown in the figure below:

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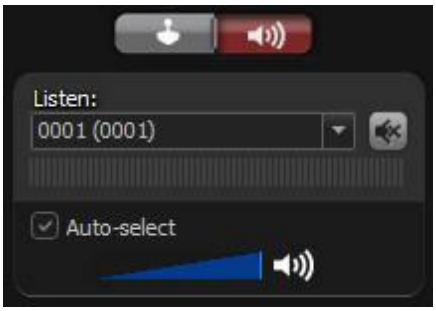

In this control, it is possible to select the camera, activate the mute option, and view the volume of the recorded audio.

- **Auto Select**: Automatically selects the audio functions for the selected camera on the mosaic.

6.1.3 PTZ on playback

You can use PTZ controls in the recording. To open the control just click the joystick option as shown below:

- **Camera with standard lens:** The PTZ will be used in Digital Zoom mode.
- **Camera with Panamorph lenses**: The options presented in the chapter Working with panamorphic lenses 80 will be available on the screen.

6.2 Creating videos with Motion Search

Digifort provides a very useful feature that allows you to create videos where there was movement only in the selected image area. This feature is called Advanced Search. This feature is very helpful in finding some loss occurrence, because the image display time recorded by the camera is much lower.
To access this feature, click on Media Playback, select the desired cameras and the runtime, as explained in the previous section, and then click Motion Search. As illustrated in the figure below:

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This is the advanced search configuration screen; it displays the first image recorded on the camera in the specified time interval, and provides the following features:

Settings

- **Sensitivity**: Sensitivity of motion recognition. 80% are the optimal figure for recognition of significant image movements. If you want to change this value, move the bar in order to get the desired value.
- **Just Key-frames**: Motion search only in key frames (just H.263, MPEG-4 and H.264). The search speed can be greatly increased by using this option, but the search can become less accurate.
- **Start Search button**: It starts the motion search. You can follow the search progress on the Timeline tab. As shown in the figure.
- **Clear Data button**: It cleans the data collected during the search. These data are information

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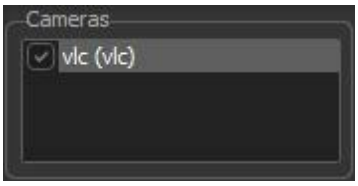
of where there has been movement in the video; while they are not cleaned the timeline will only display the recordings where the movement chart is marked (red bars).

Time

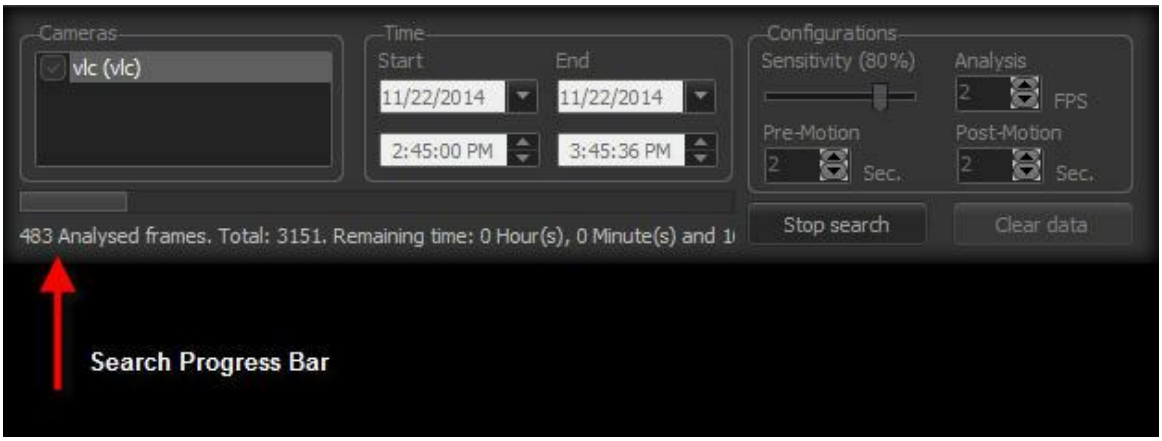
- **Start time:** Start date for the motion search. The search requires starting and ending times to be configured. This time can be filled according to the selection on the timeline (blue bar).
- **End time**: End date for the motion search. The search requires starting and ending times to be configured. This time can be filled according to the selection on the timeline (blue bar).
- **Box for selecting cameras**. Select the cameras that will be in the motion search

Cameras

Box for selection of cameras. Select the cameras which will be in the motion search:



Now click on Start Search. You will be able to accompany the search by the bar on the motion search tab as shown by Figure bellow.



Or on the Time Line as shown by Figure 4.10

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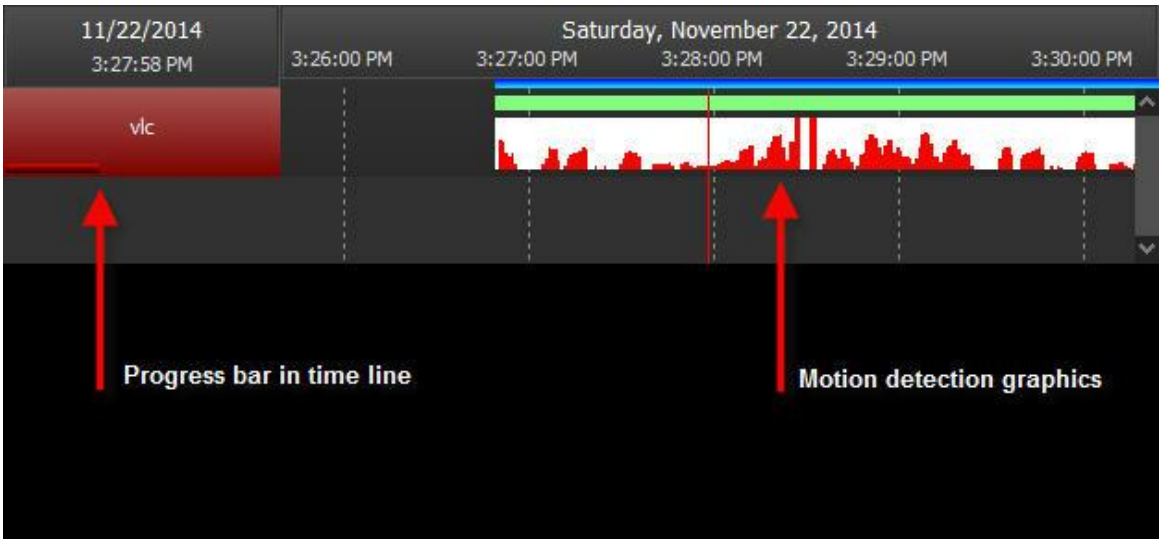
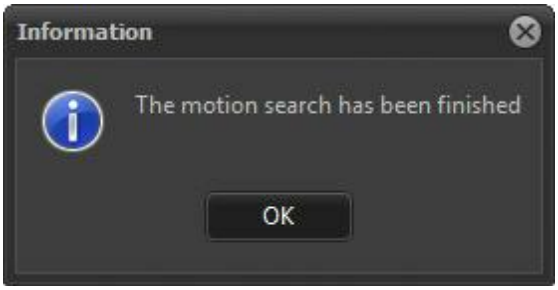


After the end of the search a message will be displayed as shown in Figure bellow:



6.3 Video Exportation

Exporting video is one of the most important features of the Monitoring Client, as it is here that we can export security copies of any claim for later viewing on any computer.
To start the video export process open a media session and select one or more cameras, as explained in the Video Playback 90 section.
Once this is done, the video player will start.

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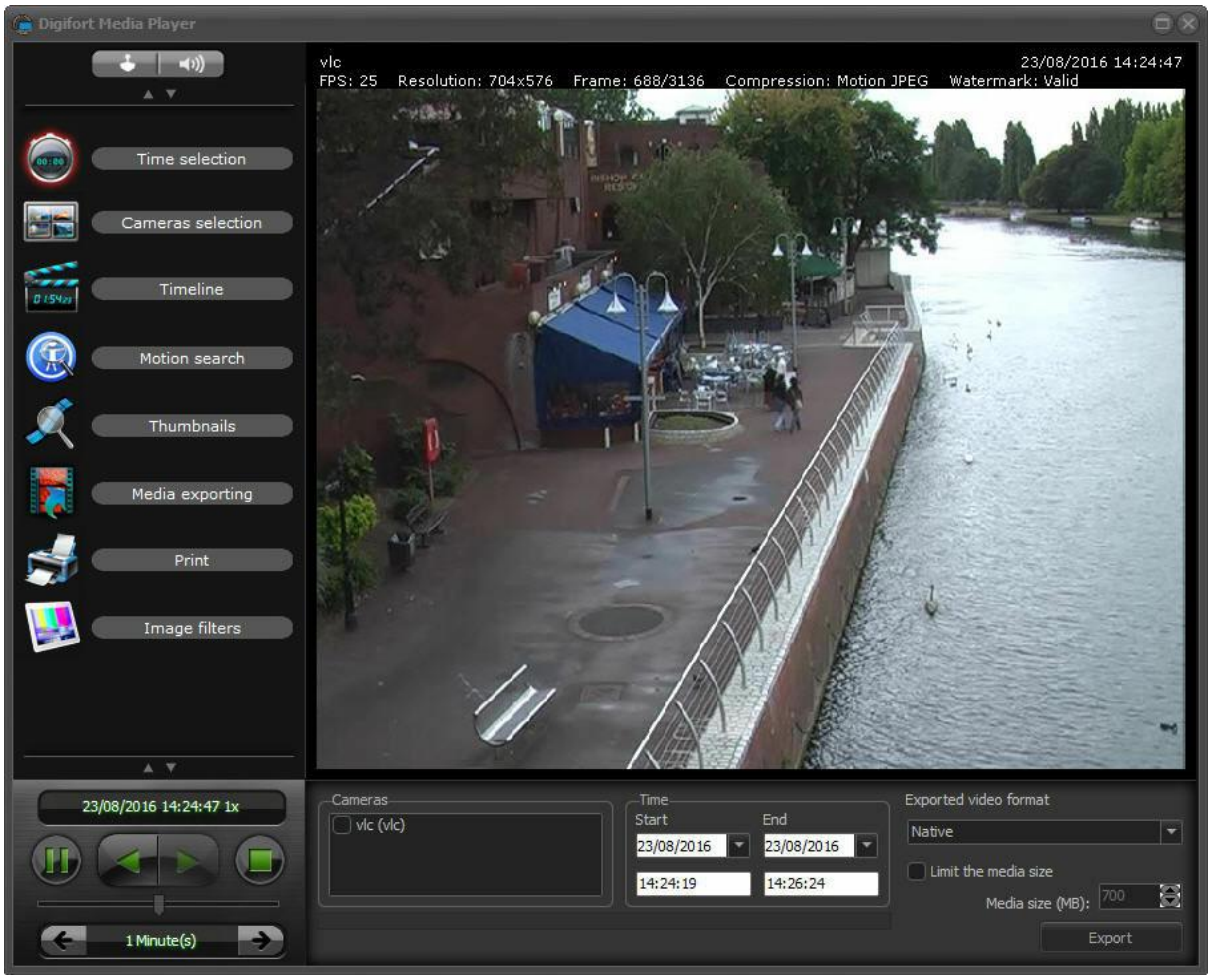
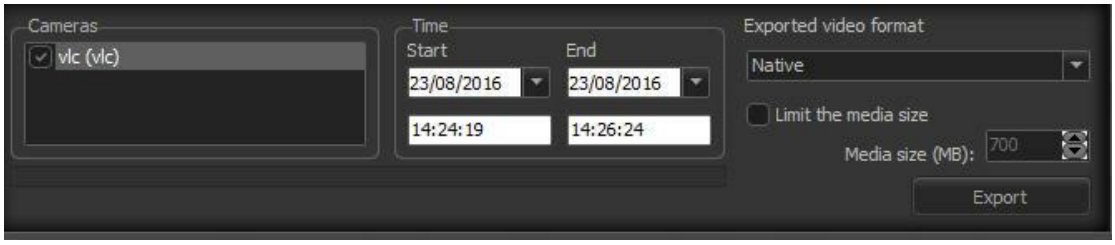


6.3.1 Configuring the exportation of video

The export options are shown as illustrated in the picture below:



This screen provides the following features:

- **Cameras**: Selects the cameras to be exported. When selecting more than one camera, the videos are simultaneously displayed and synchronized.
- **Time**:Allows the desired time for export to be selected with more precision.

The values are already defined according to the selection on the previous screen.

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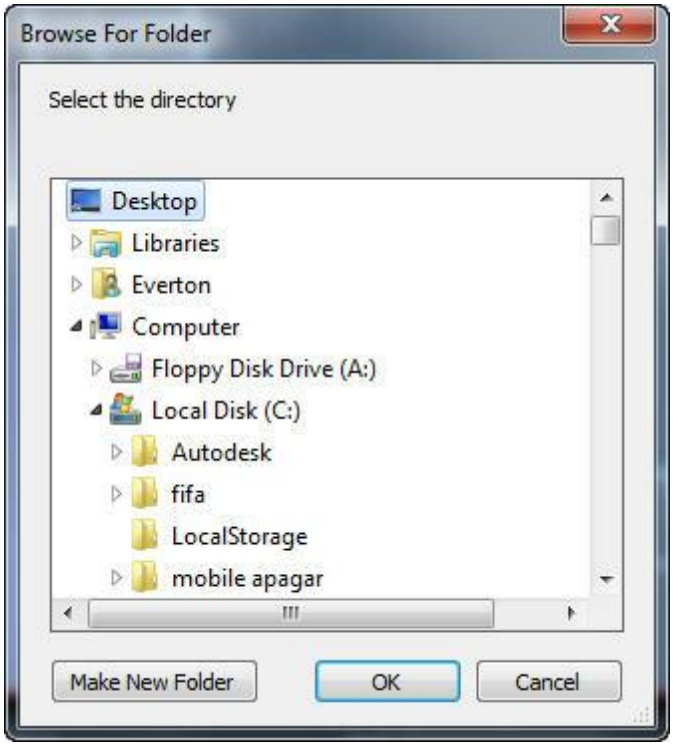
The options are: start and end date and time.

- **Export Formats**: Choose the desired format in which the video will be exported.

  Digifort Native: This is the recommended video format since an exact copy of the database is exported. With this type of export, the system automatically creates a media with a video player that is identical to the one presented in the previous topic and with all features, including the video authenticity watermark. The system automatically divides the video into several parts of configurable sizesin order to allow the recording to be done in multiple CDs or DVDs. In this format, as many videos as necessary can be exported to the same directory as the system automatically divides the size of the media. It will still be possible to view the videossimultaneously on Digifort players.
  MP4: The .mp4 file format is extremely versatile and allows the encapsulation of several video and audio formats. The system can quickly export videos in .mp4 without transcoding, packaging the original video frames (audio will always be converted into AAC if it has been recorded in another format) and exporting without any changes to the image's original data. However, some formats may not be compatible with all video players (such as Windows Media Player, which natively does not support MJPEG and MPEG-4). For these cases, the system allows video transcoding in H.264 (together with AAC audio), which should be compatible with most video players without the need of using special codecs, but the export process will be slower since the video will be recoded.

The following screen shows the MP4 export options:



Selecione o local desejado para a exportação e clique em OK!

Se for selecionada a exportação no formato Digifort uma janela abrirá solicitando informações de identificação do vídeo, conforme ilustrado na figura abaixo:

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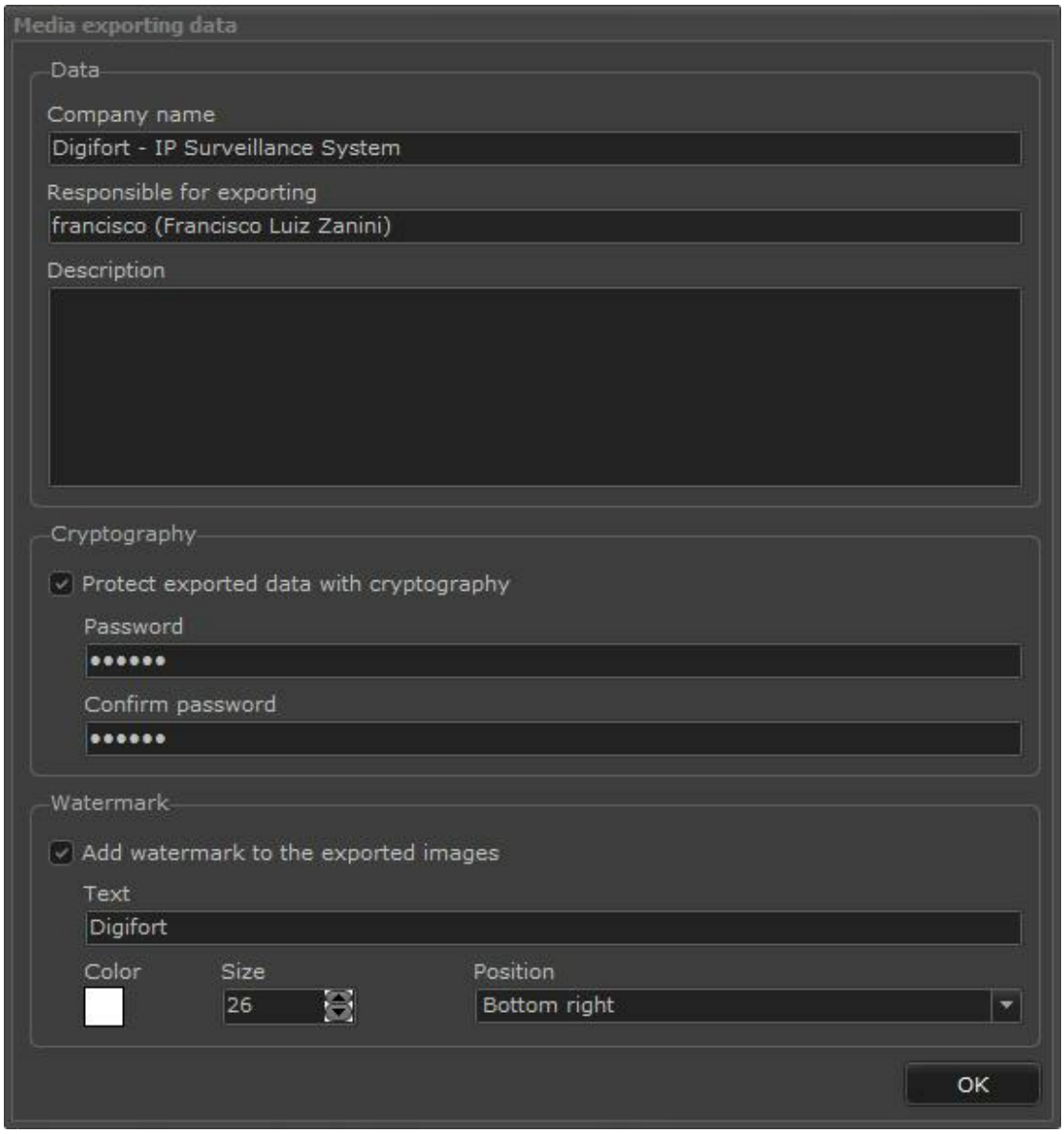

If export in AVI format is selected, a window will open to configure the video compression as shown in the figure below:

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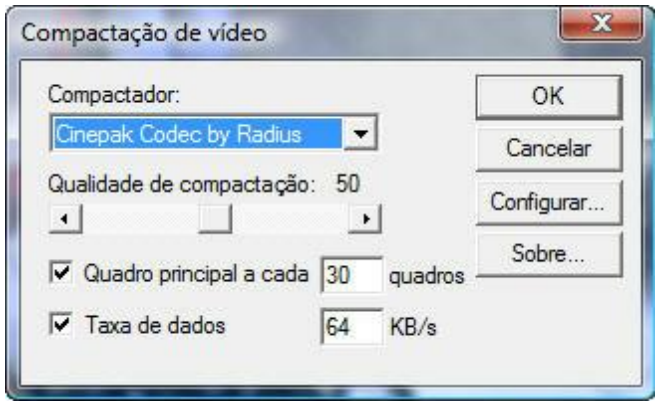
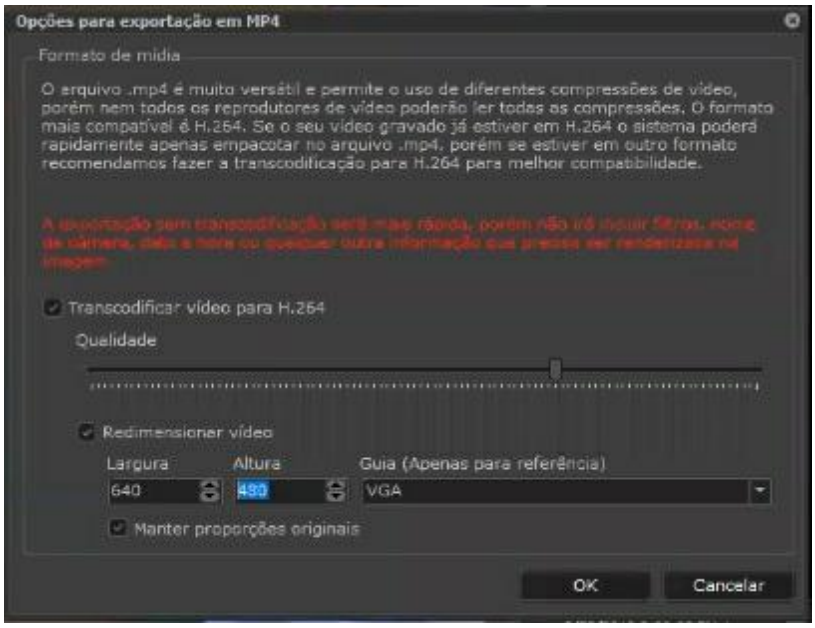


If the export in MP4 format is selected, a window will open to configure the compression and transcoding of the video, as shown in the figure below:



It is possible to transcode the video to H.264 and set the output quality of the video. When resizing, to keep the Aspect Ratio, check the "Keep Original Aspect Ratio" option or the video may end up switching, for example, between 16: 9 and 9:16.

If the option to export in JPEG is selected, a window will open to configure details of compression and transcoding, as well as the desired frame rate:

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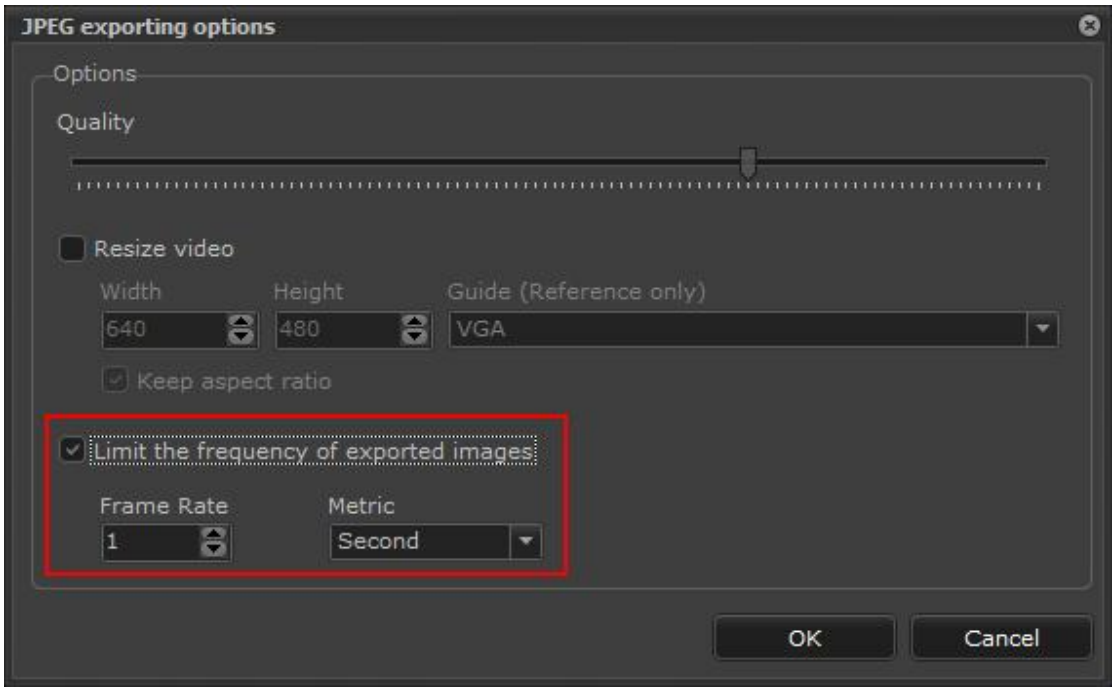
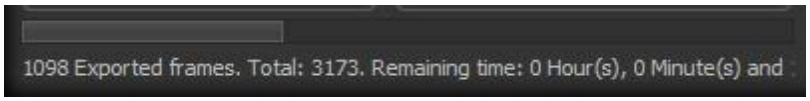


The option to limit the frequency of exported images is widely used to create "timelapse" videos where we have one frame per hour, or even one frame per day for very long videos of buildings, where the same location is recorded for months and then it is necessary to view the video with only a few frames per week, etc.

After configuring the export data, click OK and the bar will show the export progress:

Just below the bar you can view the remaining export time as shown in the figure below:



If the export is successful, the following dialog box appears:

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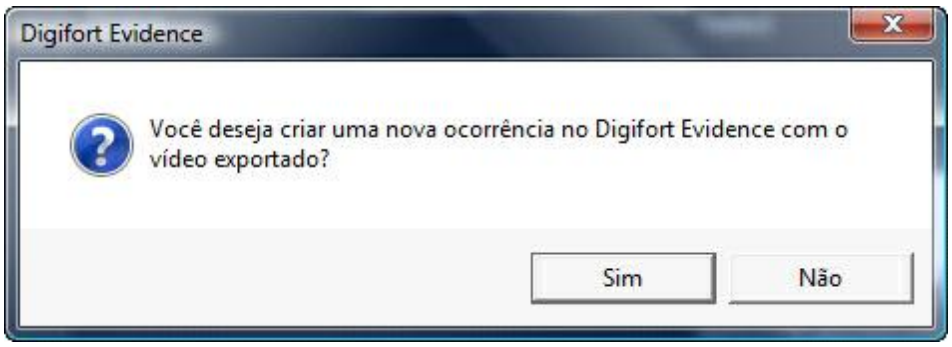
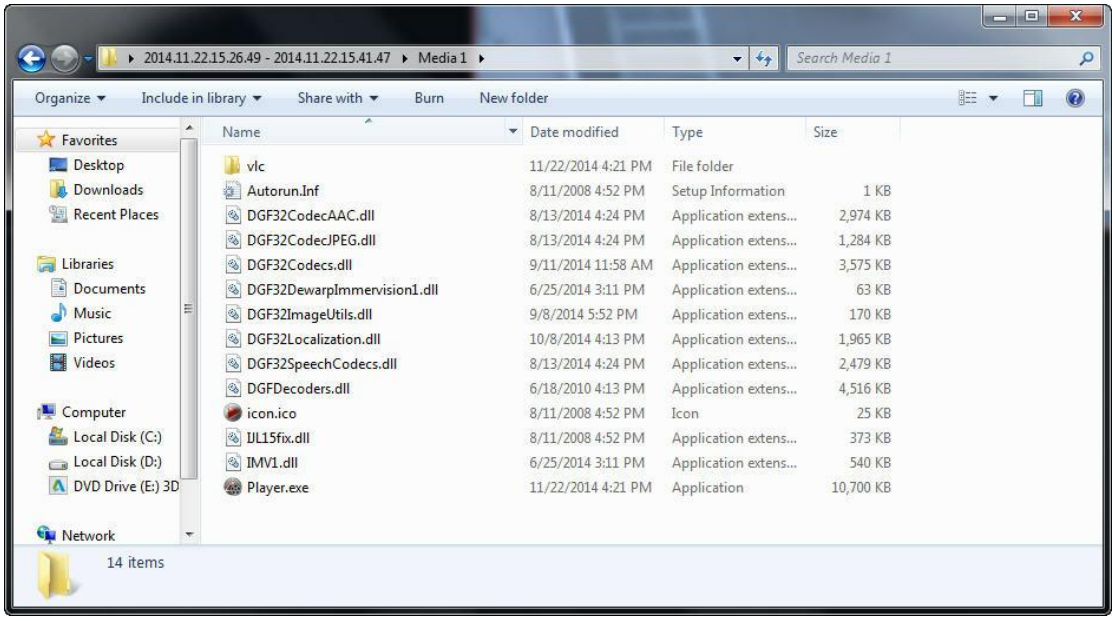
If there is integration with Digifort Evidence, the selected video can still be exported as an occurrence for archiving.



For more information, see the Evidence manual.

If the videos are exported in Digifort format, they will go to the chosen directory, the Digifort Player (Player.exe) will be available in the folder according to the figure below :.



To burn to a CD / DVD / Blu-Ray / Pen-Drive, just copy these files with Player.exe at the root of the disc as shown in the figure above.

6.4 Printing

Digifort allows printing one or more images as a report.
To print, just pause and select the desired camera video, and on the left menu click on the print icon. Once this is done, the following screen will appear:

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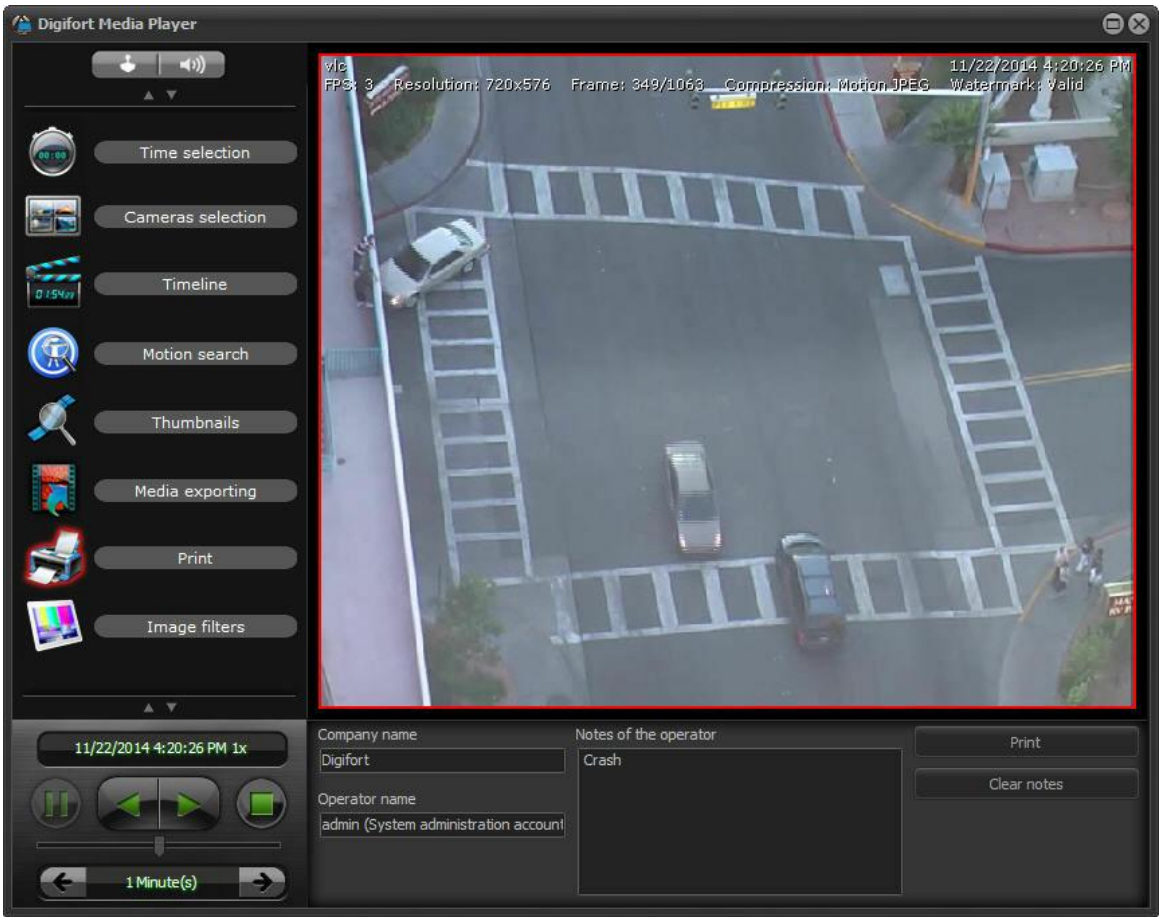

Before printing, data such as company name, operator name and operator notes can also be typed.

Then click **Print**.
The screen below allows viewing, exporting and modifying the logo, which will come out with the report.

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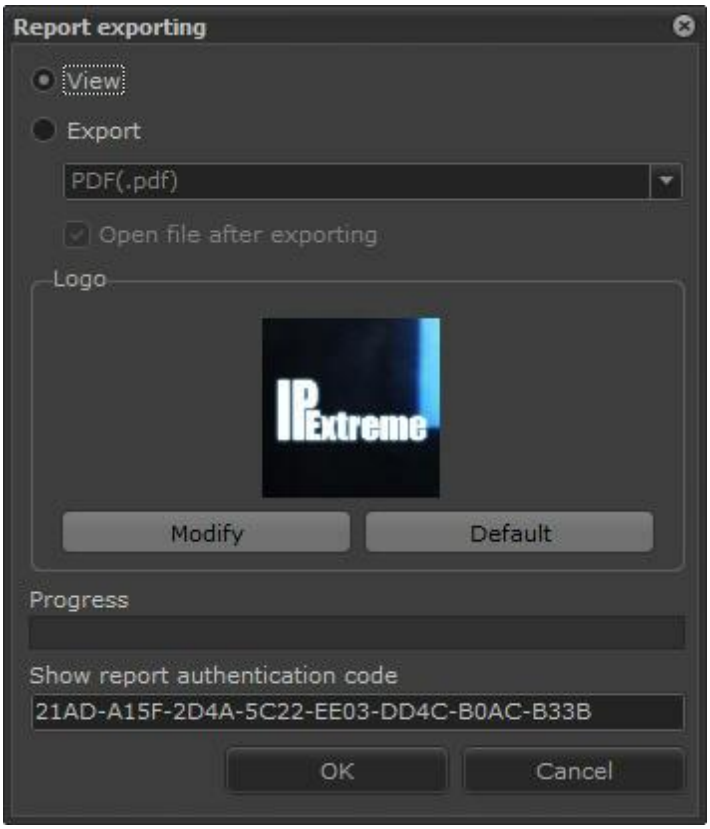

Click **OK** and a screen with data for printing opens.

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In case of playback of multiple cameras, if no camera is selected in the tile, the report will come out with the image of all cameras:

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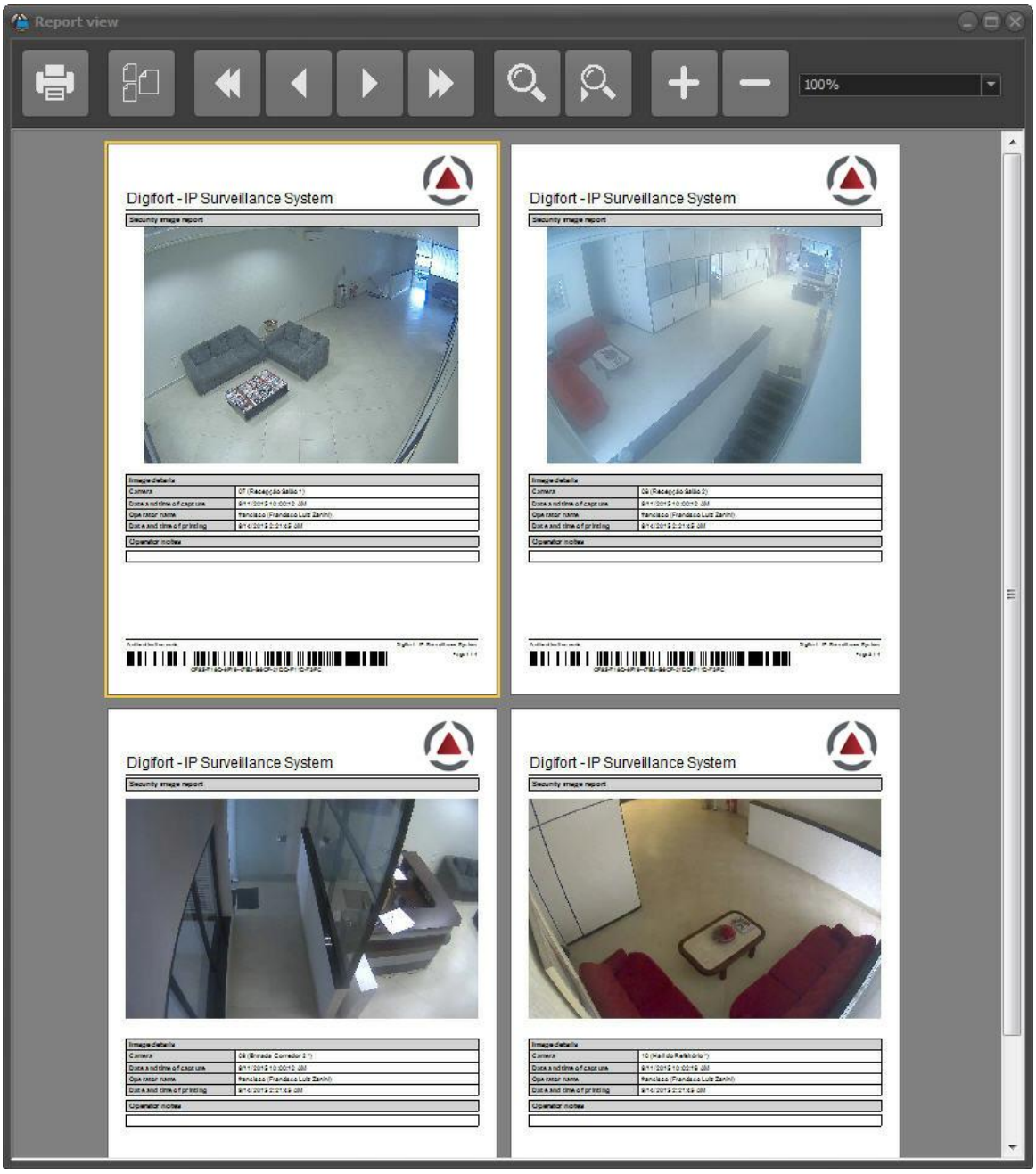

If the image is with Digital Zoom, the report will be generated only with the Digital Zoom image:

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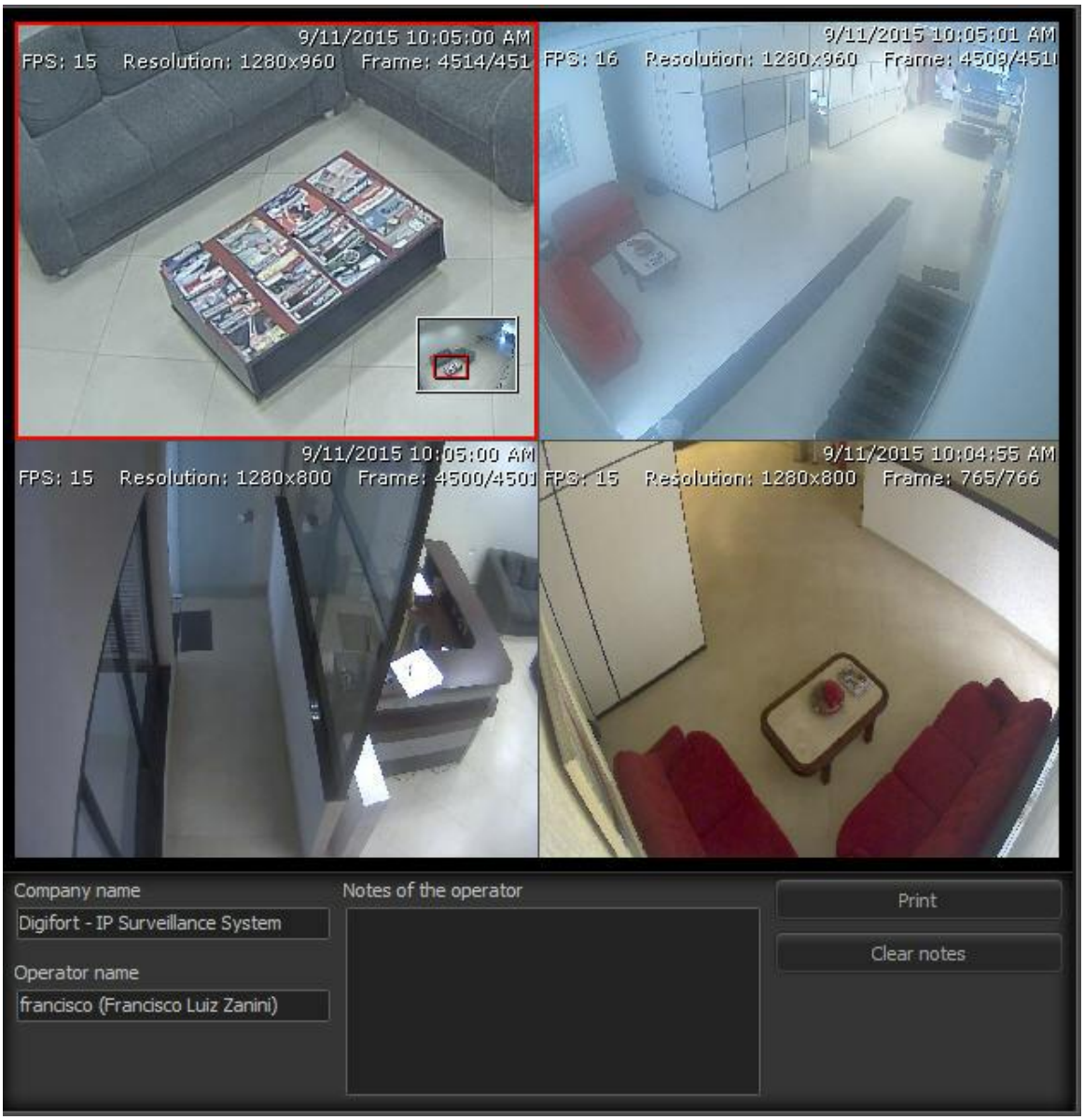

Report:

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6.5 Thumbnails

The Media Player allows searching by thumbnails. This excellent feature will display a thumbnail for different recording times, allowing the quick pinpointing of a desired scene.
It is possible to generate thumbnails based on a slice of time, where the system will display thumbnails with a fixed time interval or by bookmark in which case the system will display a thumbnail for each camera bookmark. The system further allows the custom choice of time intervals and the size/number of thumbnails on the screen. By clicking on a thumbnail, the video will be synchronized with the time of the thumbnail for quick event viewing.

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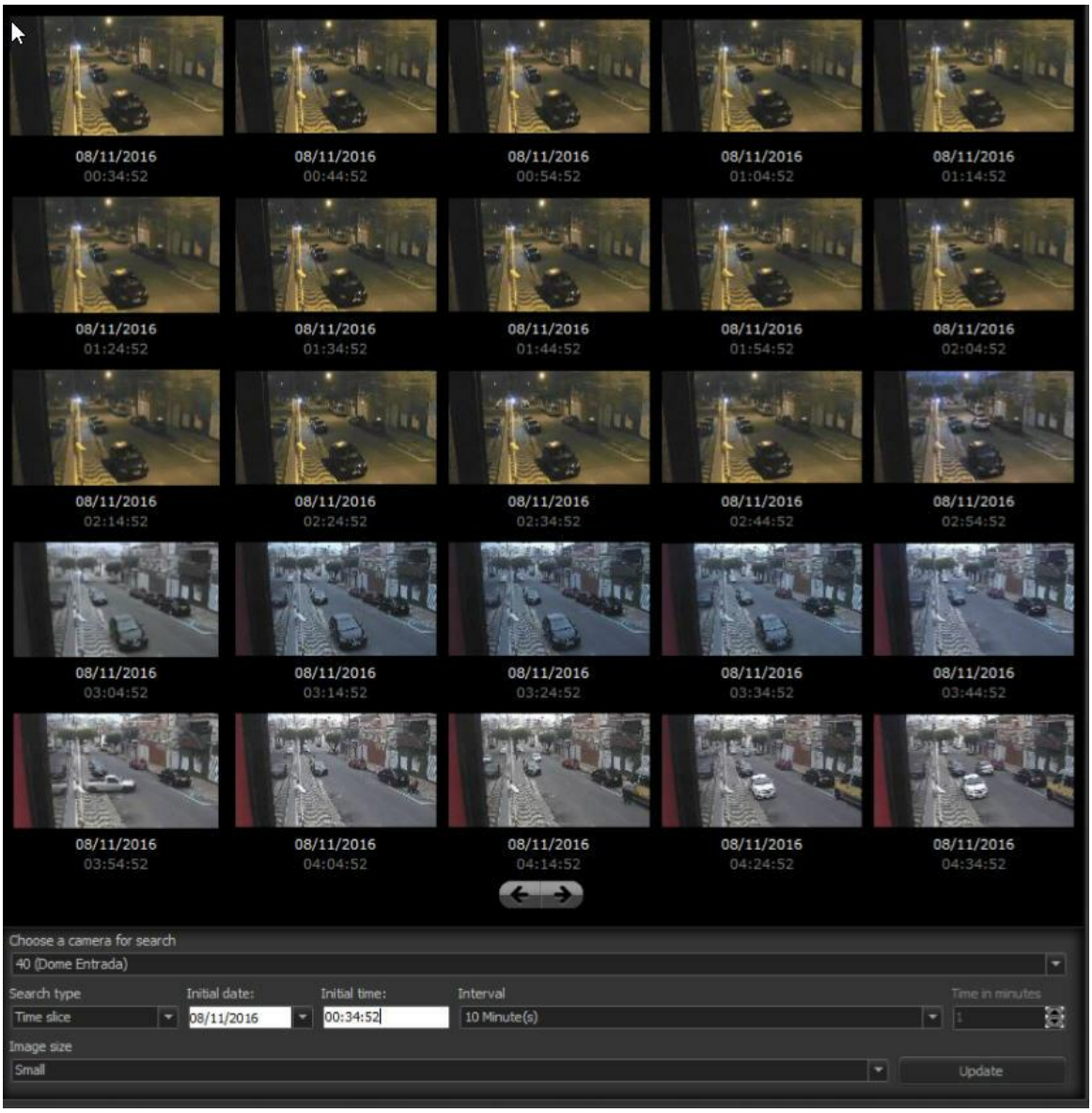

This screen has the following configurations:

- **Choice of camera for the search**: Selects the camera for which you wish to view the thumbnails. The camera must already be open for playback within the previously set time.

- **Type of search:**
  - **Time**: Divides the thumbnails by set intervals. In the example above, there are thumbnails at every 10 minutes.
  - **Bookmark**: Provides bookmark thumbnails created by the user.
- **Start date**: Selects the start date from which the thumbnails will be displayed.
- **Start time**: Selects the start time from which the thumbnails will be displayed.
- **Interval**: Selects the desired interval between each thumbnail.
- **Time in minutes**: If the "custom" option is selected in the interval option, it is possible to select the desired interval in minutes in this option.

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- **Image size**: Selects the display size of the thumbnails: Large, medium or small.
- **Update**: Updates the screen with new recordings.

The system further allows searching the thumbnails in videos exported in native format.

6.6 Playing Exported Videos Back

After exporting the video in the "Digifort" format, enter the export directory and find the icon "Player. exe".

This is the playback player of exported videos:

If the video is exported with a password, when you open it you will see this screen:

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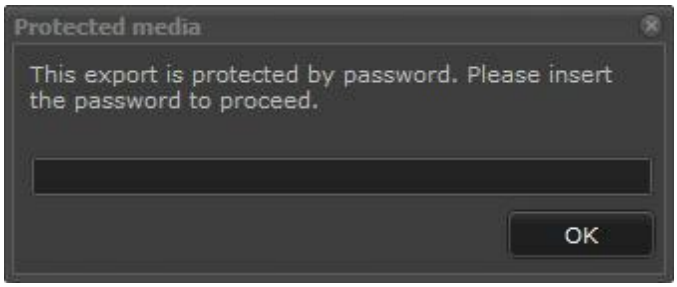
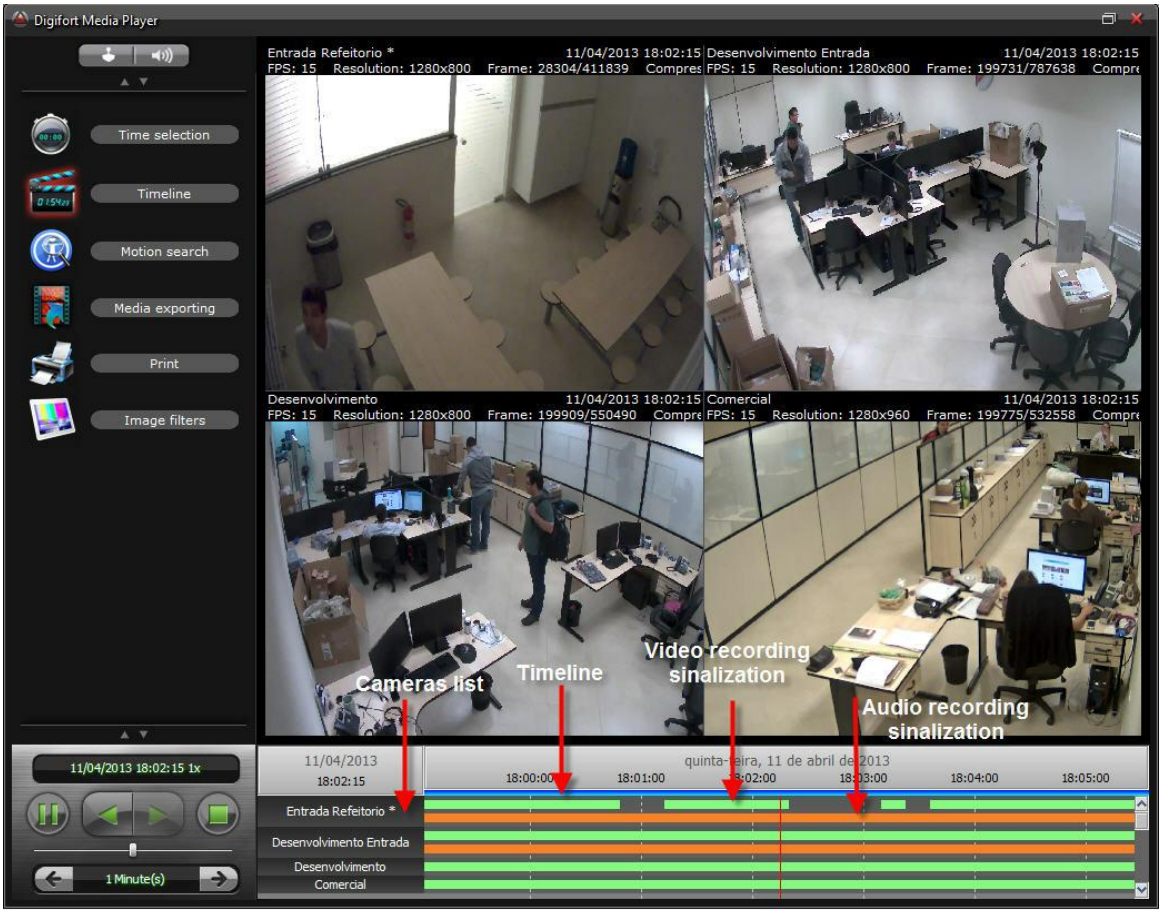


When the exportation was created, some information such as the person responsible for the exportation and his description was lost, these descriptions can be viewed in this first screen as shown in Figure 4.23.
Simply click on Start and the video player will be executed with all of the functions presented on Video Playback 90, as shown in Figure bellow.



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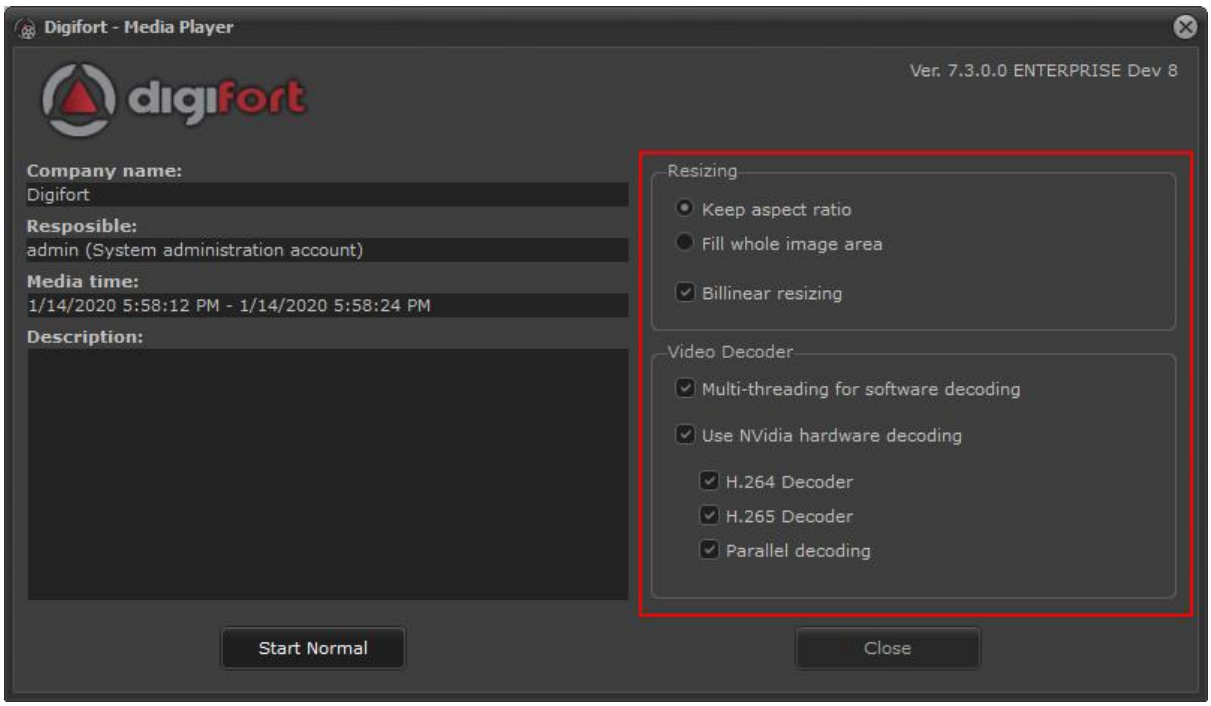
6.6.1 Image and decoder options in the exported Player

The exported video media player in the native format provides video playback options:

- **Resizing Options**: It allows you to configure the type of image resizing for improved viewing.
- **Video Decoder**:It allows you to choose multi-threading options for decoder via software (for higher performance) and decoding via NVidia GPU (only on Player64.exe)



6.7 Quick video playback

Thinking about usability, Digifort allows there to be a quick playback of recorded videos.
On the Surveillance Client's main screen, right-click on a camera image, as shown in the image below:

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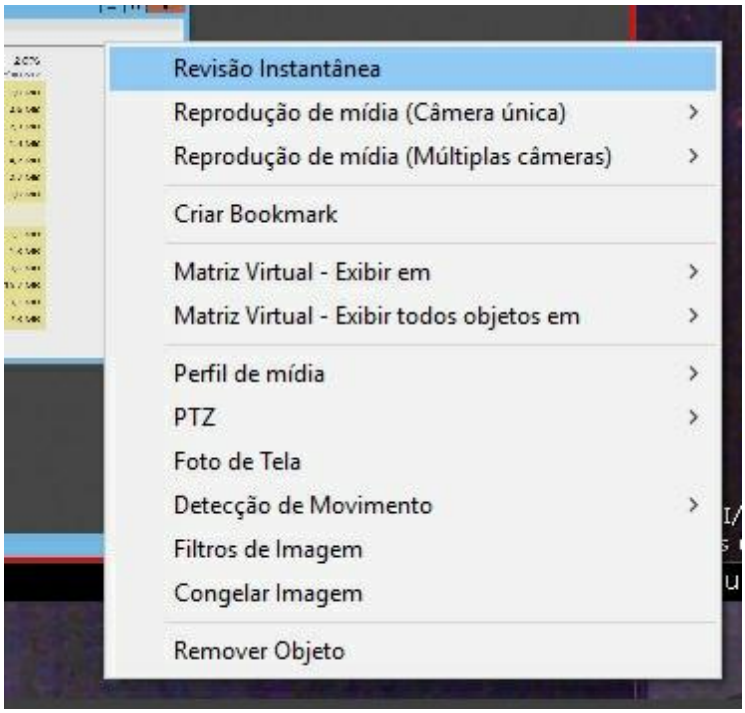

Three playback options are available:

- **Instant Review:** This option provides a quick way to playback a video with a pre-set time. This option becomes very useful for environments where the quick viewing of events is necessary, such as, for example, in Casinos where the instant review of a fact is necessary.

By right clicking on the camera or on the list of cameras, the context pop-up will be displayed and the first option will be Instant Review, allowing quick access to the event.

You can set the time that the Instant Review will play:

- **Last 5 seconds**
- **Last 10 seconds**
- **Last 15 seconds**
- **Last 20 seconds**

To set the desired time, access the screen shown in the video playback menu chapter. 43
There is also a special “Instant Review with Backward Playback” option. This is becoming an essential tool for Casinos, as playback will start at the current time and will play the video backwards, allowing the visualization of a fact that occurred in a few moments.

- Media playback (Single Camera): This option plays back the video from the selected camera. After the option is selected, the timeline screen will be displayed as in the Video Chapter 90 chapter;

- Media Playback (Multiple Cameras): This option plays back the video from the cameras that are in the mosaic. After the option is selected, the timeline screen will be displayed as in the Video Chapter 90 chapter;

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The quick playback option is also available for Analytic and LPR objects, when available.

Note

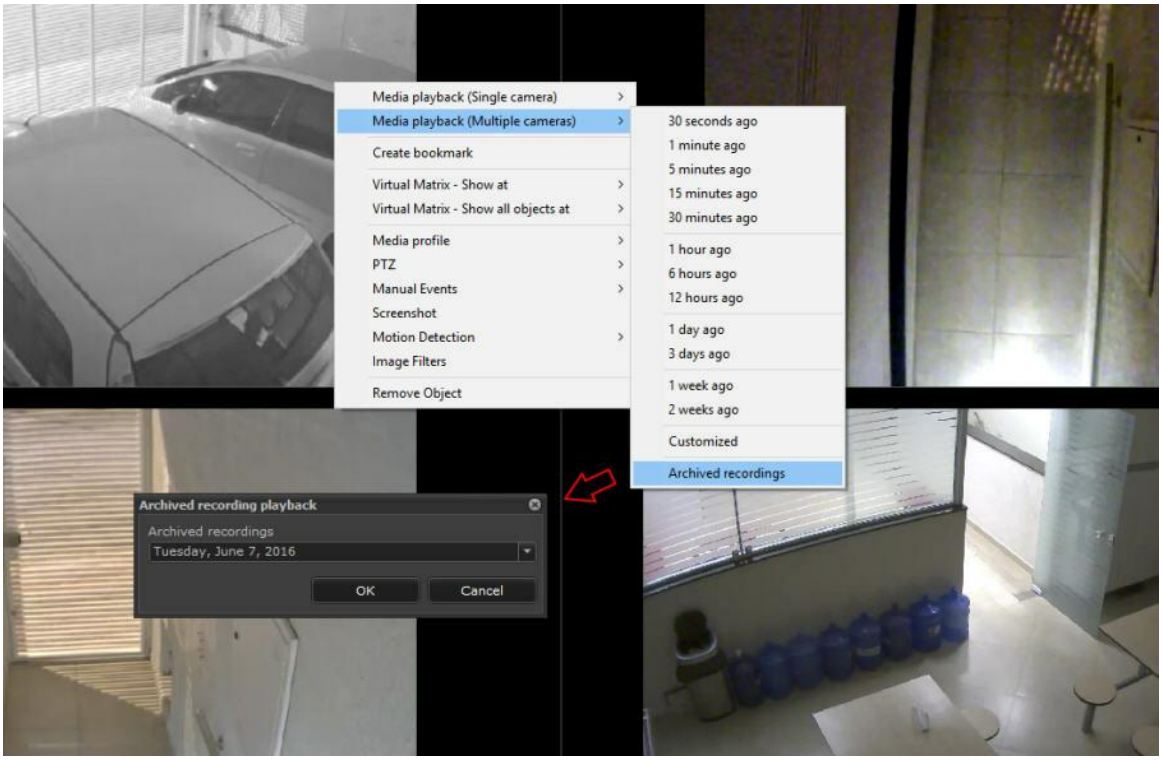
The quick video playback option can also be accessed by right-clicking on an object in the list (cameras or mosaics)

6.8 Archived Video Playback

Archived videos are considered "cold storage" and are part of the archiving system, which can be configured to copy all recordings from the day to an archiving folder.
To learn how to activate the image-archiving feature, see the **Administration Client**.

Due to the format of the archived recordings, it is only possible to playback 1 day of archiving per playback session, selecting the day available in archiving through the archived recording selector.

To view the archived image from a camera, **simply right-click** on the desired camera and then on **Archived Recordings**. In sequence, select the desired day:



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Chapter VII

7 PTZ

The Surveillance Client allows the user to control movable cameras via the PTZ feature.

Digifort offers four types of camera movement control: movement via the screen's basic and advanced controls, via table joystick, visual joystick and by click-and-center.

To move a camera, first you have to select it by clicking on the chosen camera twice creating a red strip on its upper part.

The following topics explain how the four types of camera movement work.

7.1 Movement by screen controls

Digifort offers all of the basic tools for moving a camera via screen controls. To access this feature, locate the PTZ controls in the main screen of the Surveillance Client, as shown in the picture below. These controls will only be available if a camera with PTZ support is selected.

Up, down, left, and right arrows: Move the selected camera in the clicked direction.

Central button: Activates the movement by click-and-center.

.

Mais zoom e menos zoom: Increases or diminishes the zoom of the selected

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camera.

Sensitivity bar: This bar defines the speed at which the camera will move when executing a PTZ function. Digifort always keep the last position used by the user.

7.2 Movement by Click-and-Center

This feature makes it possible for the user to click on some point of the image in which he wants to center the image.

When clicking on the camera image, the camera will move positioning itself in such a way as to center on the clicked point.
To access this feature, select the desired camera, double-click in the image, and then click on the central button of the screen's PTZ control, as explained in the previous topic.

7.3 Movement via Visual Joystick

The visual joystick is a tool that simulates the functioning of a table joystick.

To activate the visual joystick, select a camera and then click on the Joystick button.
The Joystick controls should appear as shown in the figure below:

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To use the visual joystick, keep the left button of the mouse clicked and move it to any position of the image. The further away the mouse is from the center of the image, the faster the camera movement will be, and vice-versa.

To carry out zoom operations, use the mouse's wheel, turning forward bring the image closer, and backward moves the image back. The zoom speed can also be controlled and visualized by the control to the left of the image. The nearer to the center the red mark is, the faster the zoom will be, and vice-versa.

7.4 Movement by presets

See Presets Buttons 17

7.5 Movement via the Digital PTZ

The Digital PTZ was created so that it is possible to move more dynamically in fixed cameras. The Digital PTZ means a fixed camera can simulate features such as Pan, Tilt and Zoom.

In a fixed camera, the icon indicated in the picture below shows that the feature is active:

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To start using the digital PTZ in a fixed camera, first start by zooming a chosen area. To Zoom, use the mouse wheel or the zoom button on the PTZ control.

When zooming, there will be a square with the whole image of the camera and a red square showing the area in the image where the zoom is working. See the picture below:

Once the zoom has started, all the Pan and Tilt options will be enabled. The Virtual Joystick can also be used with the Digital PTZ.
Another way to move the Digital Zoom is by clicking and dragging the red square (zoom area) shown in the picture above.

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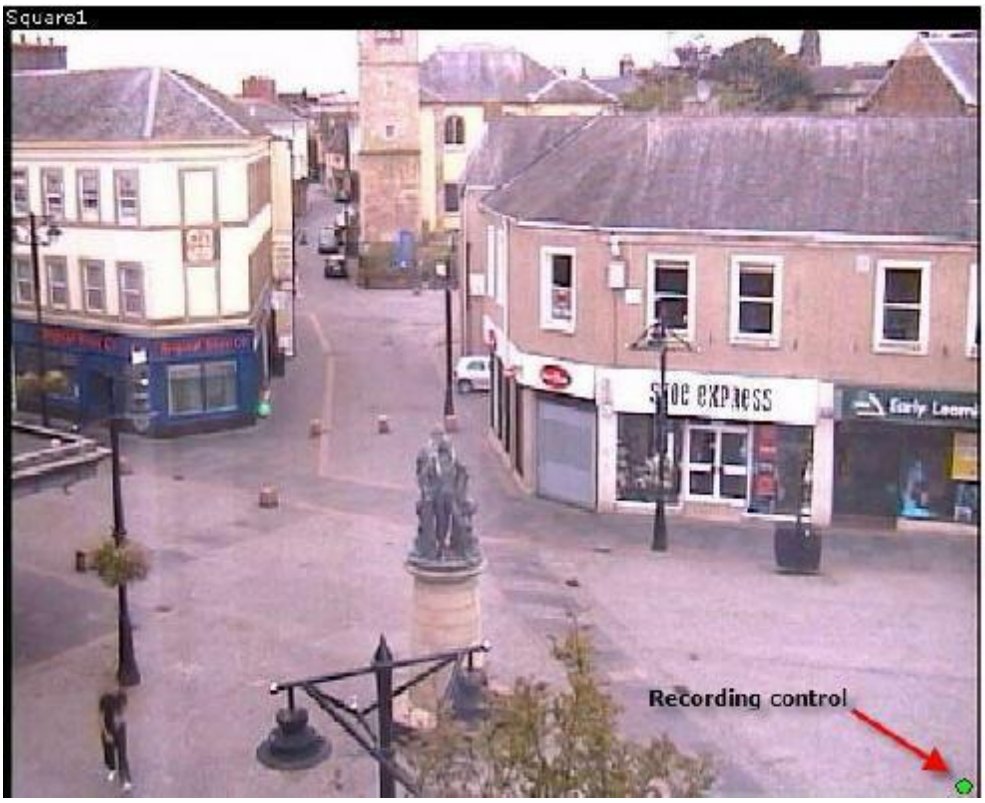
Chapter VIII

8 Executing Local Recording

Digifort makes it possible for the operator to carry out recording in his surveillance station, that is, in addition to the images being recorded in the server, they can also be recorded in the operator's computer.
To access this feature, enable the recording controls in the Surveillance Client configurations.
After enabling this feature, the recording controls will be displayed over the image of the camera, as shown in the picture below.



To start camera recording in the operator's workstation, click on the recording control. When this is done, the control will remain blinking.
To stop the recording, click again on the recording control.
To learn how to play local videos back, see Video Exportation 90

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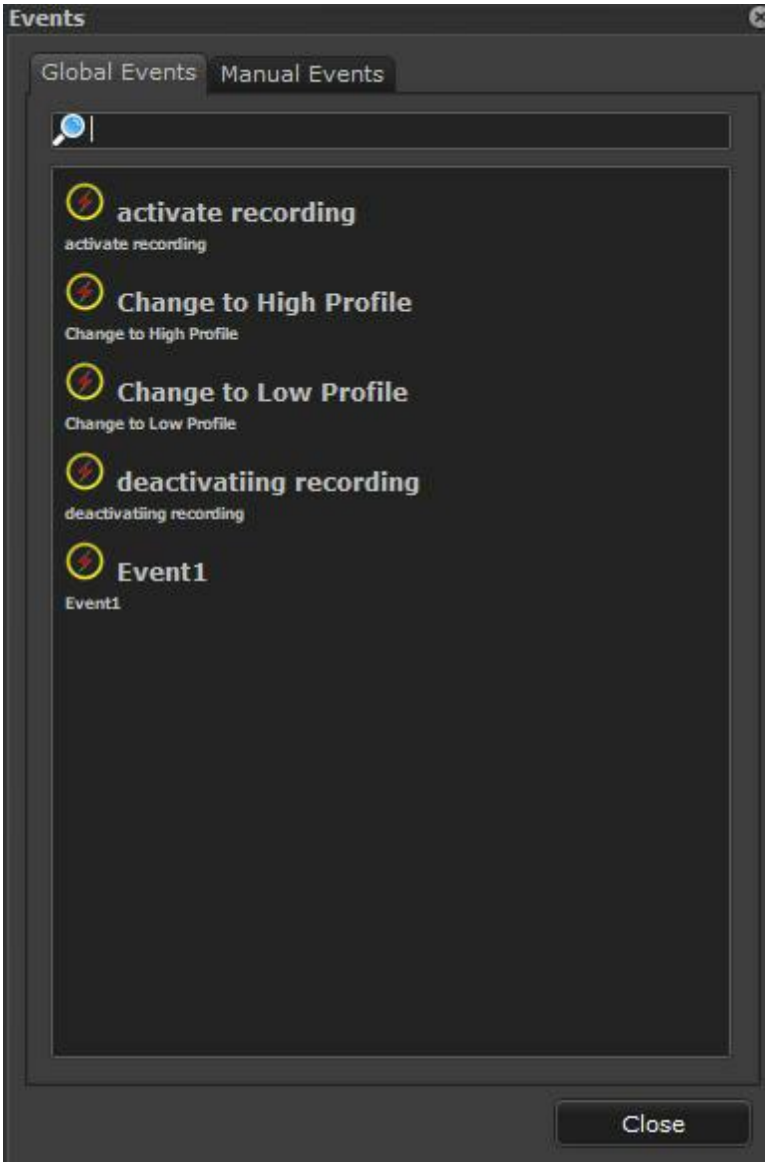
Chapter IX

9 Global Events

Digifort allows the creation of global events that can be triggered by the user through the Monitoring Client.
These events can, for example, trigger sirens, open electronic doors, turn on lamps. To learn how to configure global events, refer to the Administration Client manual.

9.1 How to activate global events

To activate global events, click on the Trigger Events button, located on the main screen of the Surveillance Client, as shown in the picture below.



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All of the global events registered will be shown in the screen.

To activate a global event, simply double-click on the desired item.

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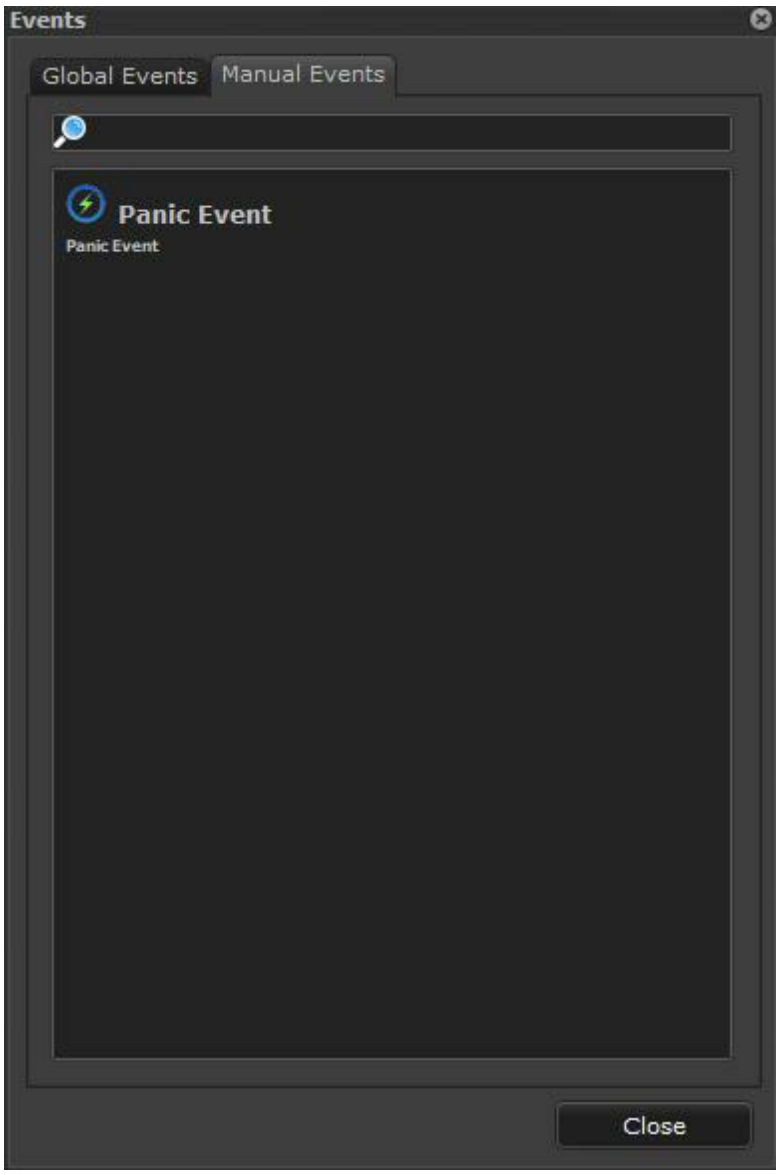
Chapter

10 Manual Events

Digifort allows the creation of manual events that can be triggered by the user through the Monitoring Client.
These events can, for example, trigger sirens, open electronic doors, turn on lamps. To learn how to configure manual events, refer to the Administration Client manual.

10.1 How to activate manual events

To activate manual events, click on the Trigger Events button, located on the main screen of the Surveillance Client, after this click on Manual Events Tab as shown in the picture below.



All of the manual events registered for the selected camera will be shown in the screen.

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To activate a manual event, simply double-click on the desired item.

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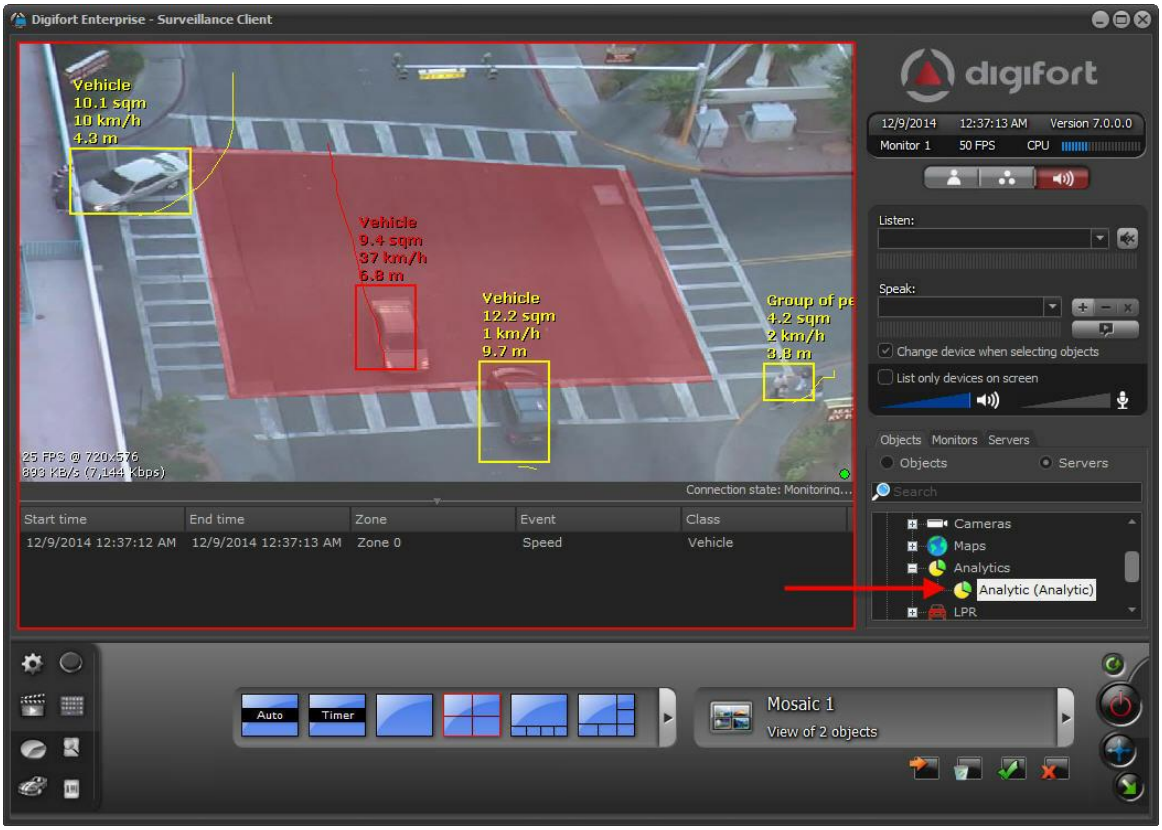
Chapter XI

11 Working with Analytics

The Digifort Software can work with video analysis. If you have this module, duly licensed and configured, you can see how it works in the surveillance client.

To learn how to create analytics configurations, refer to the Administration Client manual.

After registering your analytics, they will be available in the Digifort's sidebar list, as shown in the picture below:



Simply click and drag the analytics configuration to a screen style to see it working.

11.1 Events bar

- The events bar in the analytics notifies the last fifty events since it was activated on the screen.
-
- The bar has the following functionalities:

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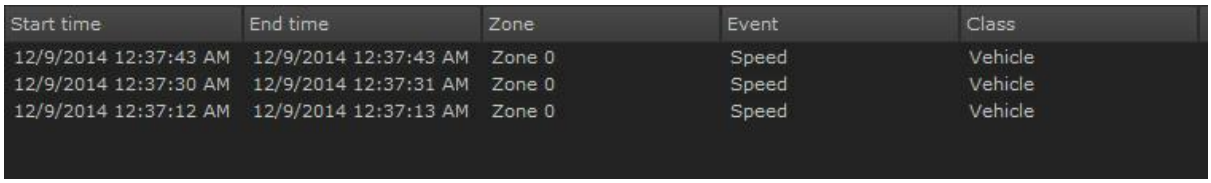
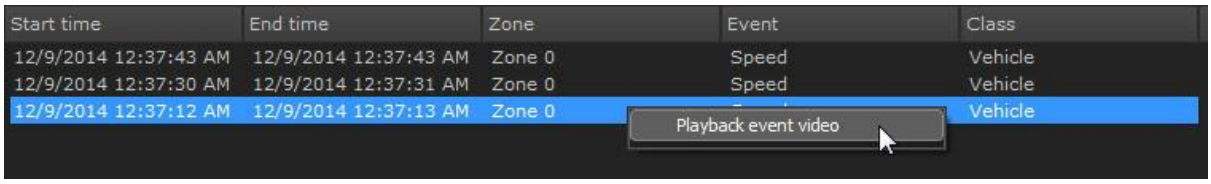


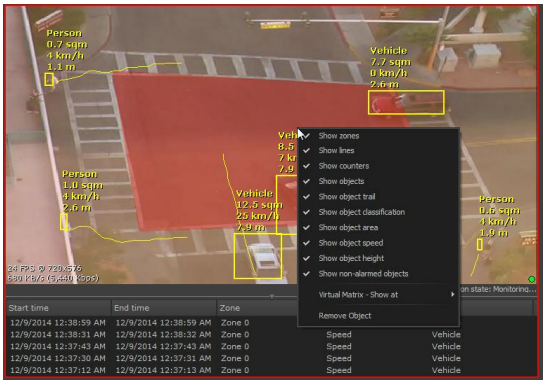
- **Start time**: Start date of the event.
- **End time**: End date of the event.
- **Area**: Area in which the event was captured. Obs.: Not all analytics have a configured area to work such as, for example, face detection.
- **Event**: The type of analytics that set off the event.
- **Class**: The class of object that set off the event. Obs.: The class of objects is only available in the advanced analytics.

The events bar organizes events in a decreasing order, that is, the last event triggered comes first.
You can watch the video of an event by clicking on it with the right-hand button on the mouse and then on the option **Playback event video.**



11.2 Screen controls

When there is an analytics object on the screen, some functionalities can be enabled or disabled. As a rule, the Digifort analytics shows information on the configured areas, counters, objects, object traces, etc. Such information can be hidden if needed as shown in the example below:



In the menu where the pointer is located you can see the following functionalities:

- **Reset all counters:** Resets the count on all counters available on the screen. You can reset a specific counter by clicking on it with the right-hand button of the mouse as shown in the picture below:

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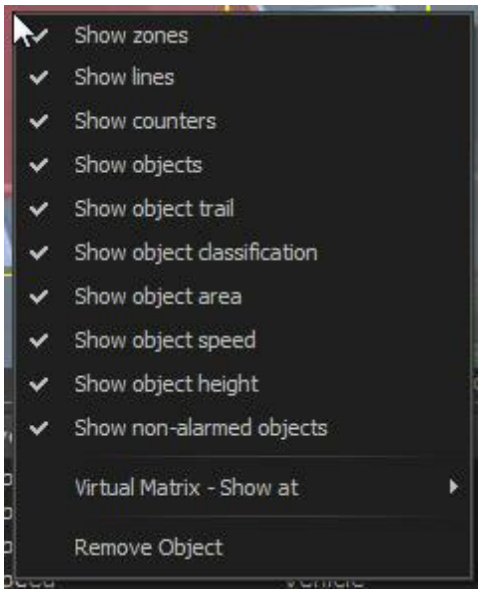

- **Show areas**: Enables or disables view of the areas configured on the screen.
- **Show lines**: Enables or disables view of the lines configured on the screen.
- **Show Counters**: Enables or disables view of the counters on the screen.
- **Show objects**: Enables or disables view of the square around the object on the screen.
- **Show object trail**: Enables or disables view of the object trail on the screen.
- **Show object classification:** Enables or disables view of the object classification (car, person, no classification, etc).
- **Show object area**: Enables or disables view of the calculation of the object area (m).
- **Show object speed**: Enables or disables view of the calculation of the object speed (km).
- **Show the objects not alarmed (Show non-alarmed objects):** Show the objects that are not triggering alarms on the screen. When an object raises an event of the analytics its outline changes from yellow to red. If the option is disabled, Digifort only shows the object in red when it raises an event.
- **Show object height**: Enables or disables view of the calculation of the object height. Obs: The height of the object is shown when the Grid is placed in a more vertical position as shown in the picture below:

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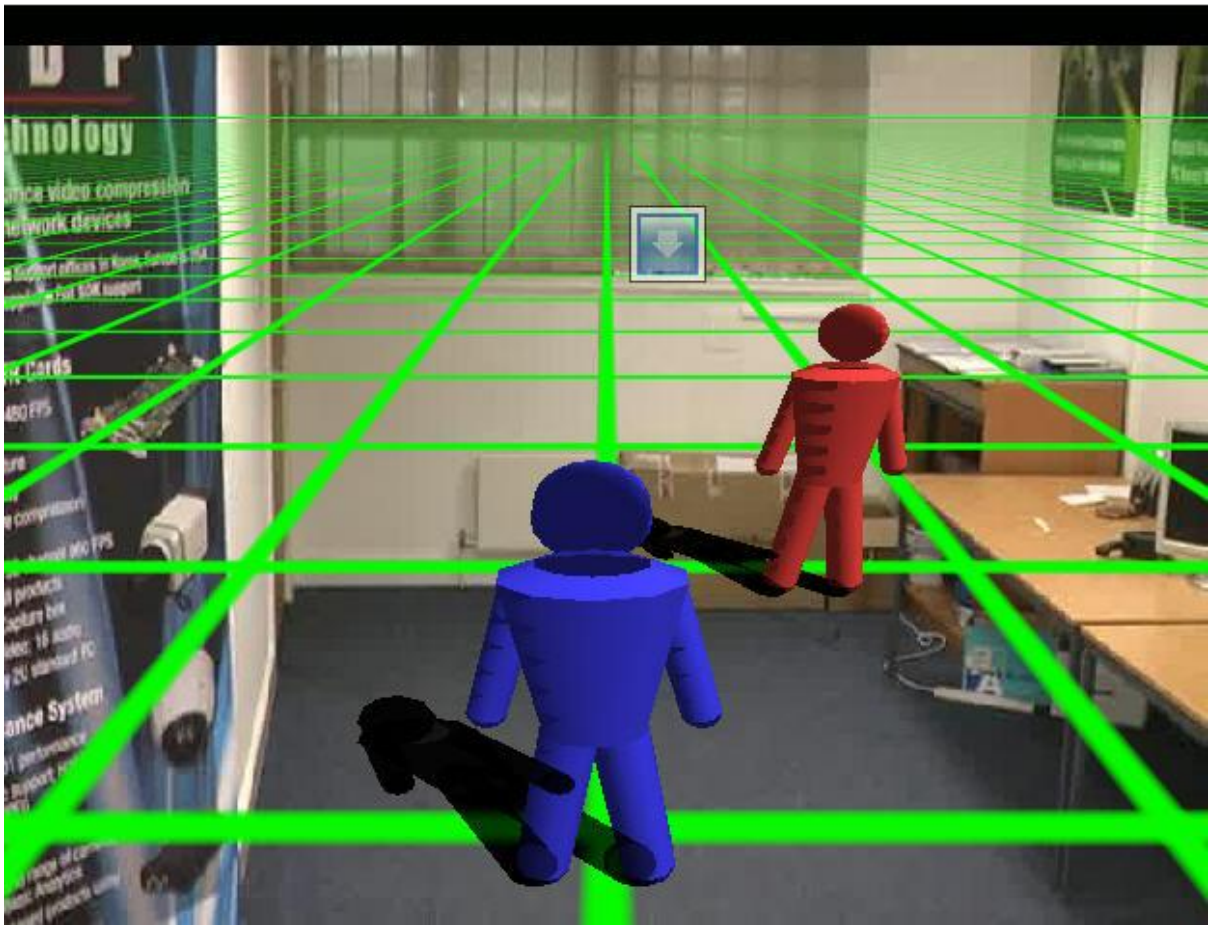

To learn about analytics configuration, refer to the Administration Client manual.

The analytics are also integrated with the virtual matrix. To understand how the virtual matrix works, refer to the Virtual Matrix .

11.3 Recording and Metadata

It is possible to activate the recording of data generated by analytics together with the images from the camera. To learn how to activate this feature, see the chapter **Registering a Camera -> Metadata** in the **Administration Client.**

When a camera is used by an analytic and the metadata recording feature is activated, it is possible to view the data generated by video analysis in its recording:

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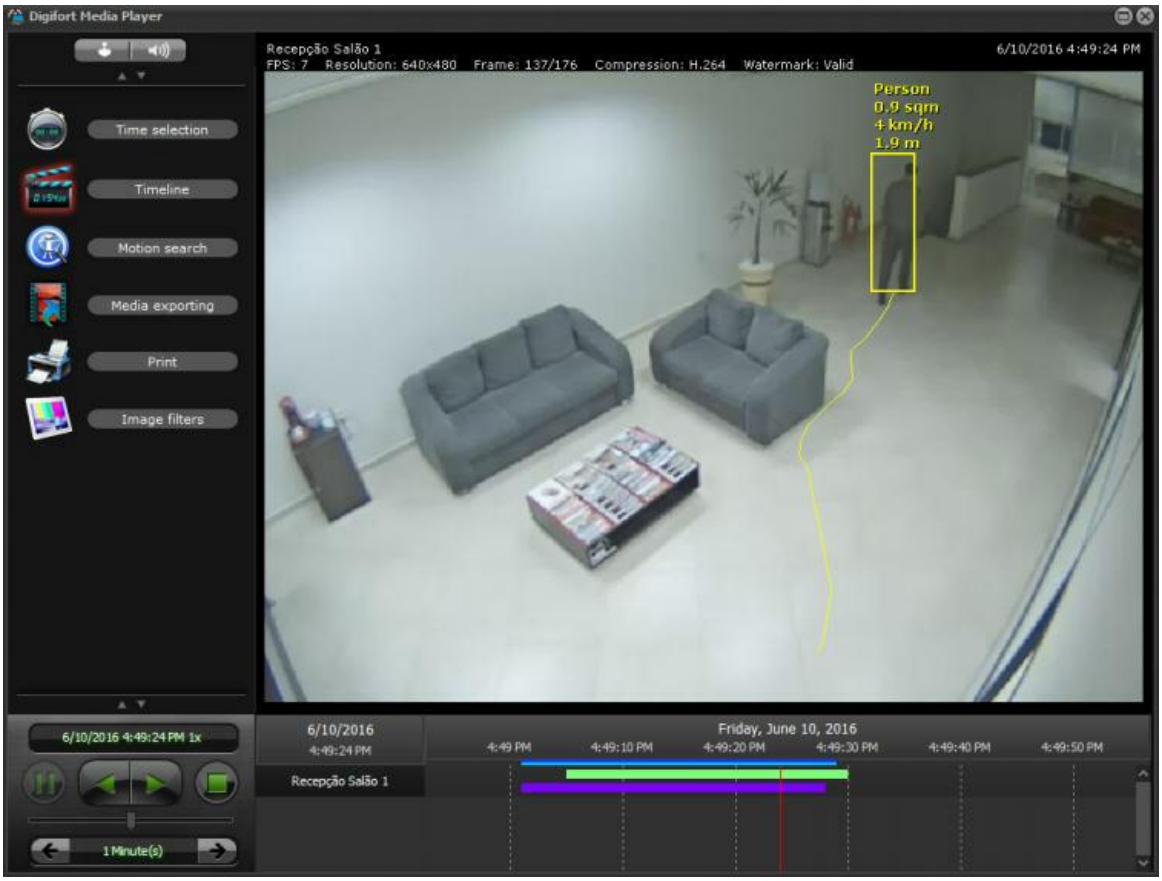

During video playback, a purple color bar appears in the timeline showing the metadata recording track .

The system also allows the selection of which analytic metadata will appear , just click the right button on the image as shown in the image below :

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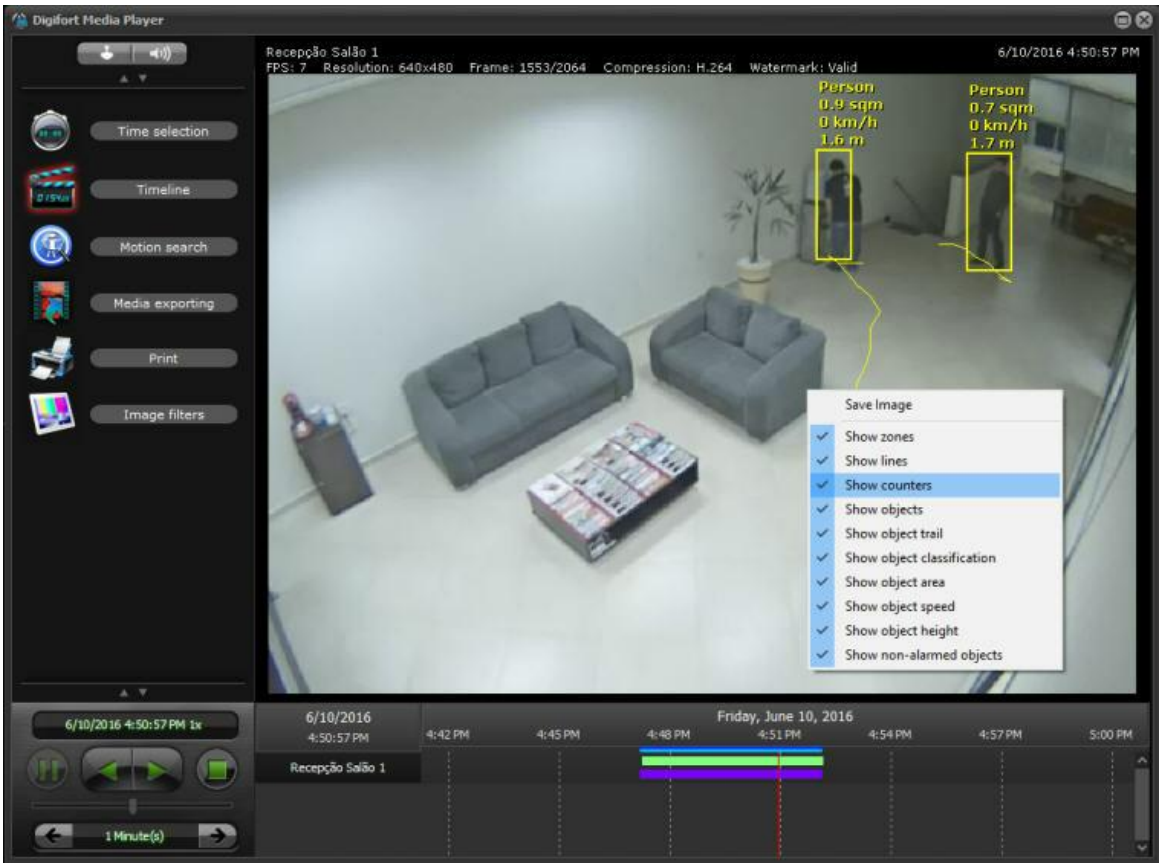

Note: The metadata will also be included in native format after exportation.
If the recordings archive is active for a camera with metadata , it will also be available.

To learn more about analytical see chapter Working with Analytic 137

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Chapter XII

12 Analytics records

With Digifort it is possible to search and refer to all the analytical events that occurred in the system.
As well as being able to quickly access those logs, it is also possible to create reports to statistically analyse the data.

12.1 Search records

To search records, click on **Analytics records** as shown in the picture below:

The following screen will show up:

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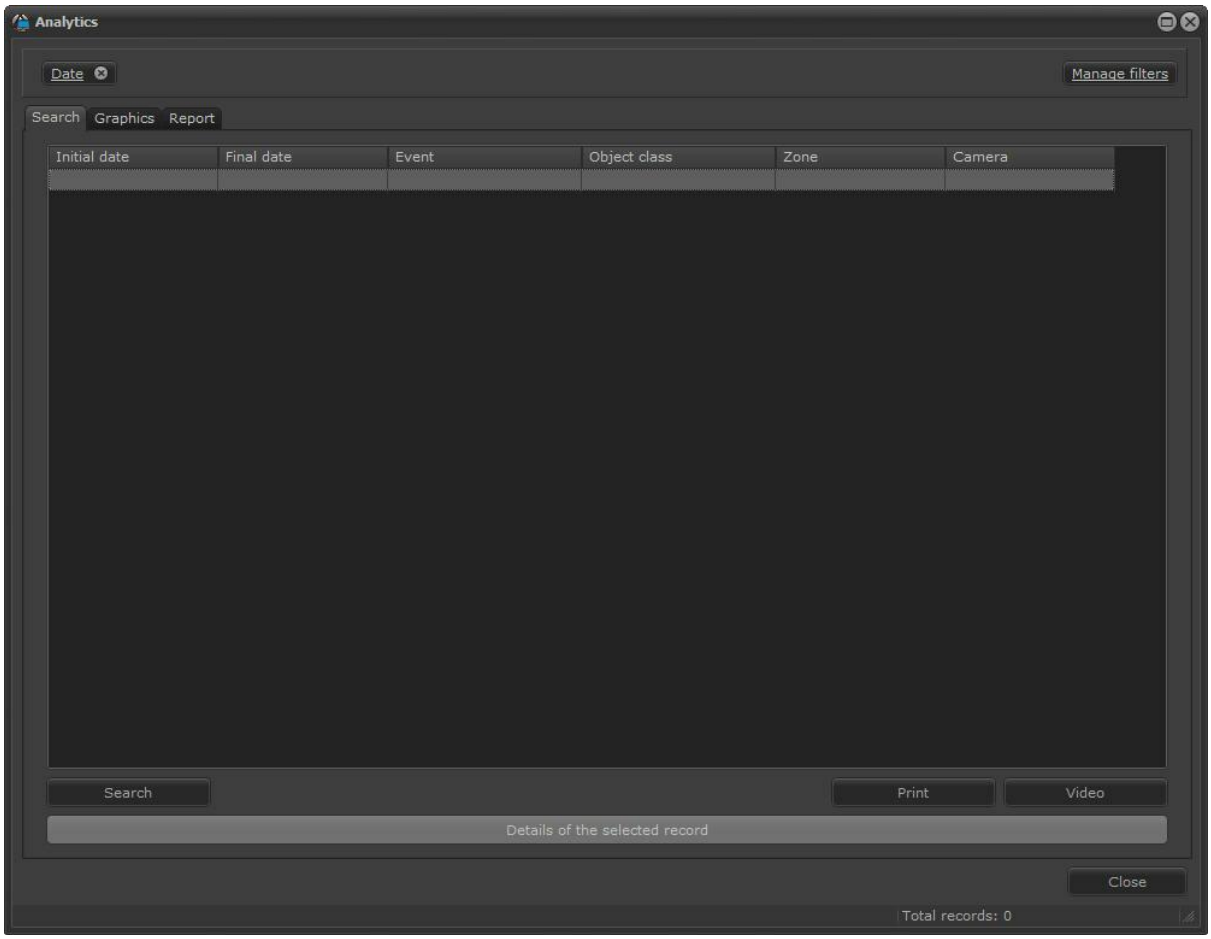

In this screen you can search records in different ways. We will go through each one in the following chapters.

When the **Search** key is pressed without a filter being configured, all the records in the database are shown:

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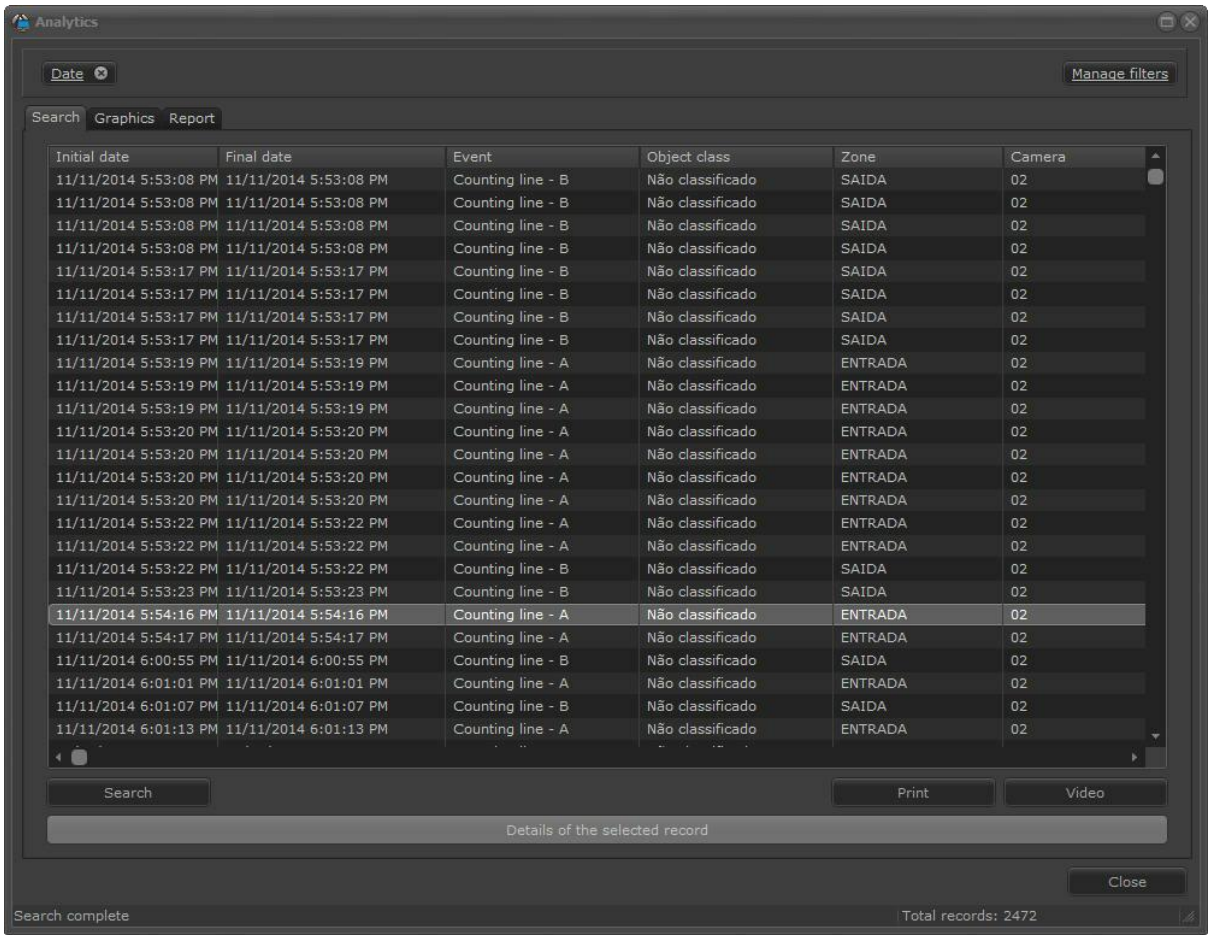

In this same screen you can export the list of all records in CSV format by clicking on the Export button.

All analytics events start and end at a certain date and time, so it is possible to see a recording of the exact moment by clicking on the chosen record and then on the **Video** button as shown in the Picture below:

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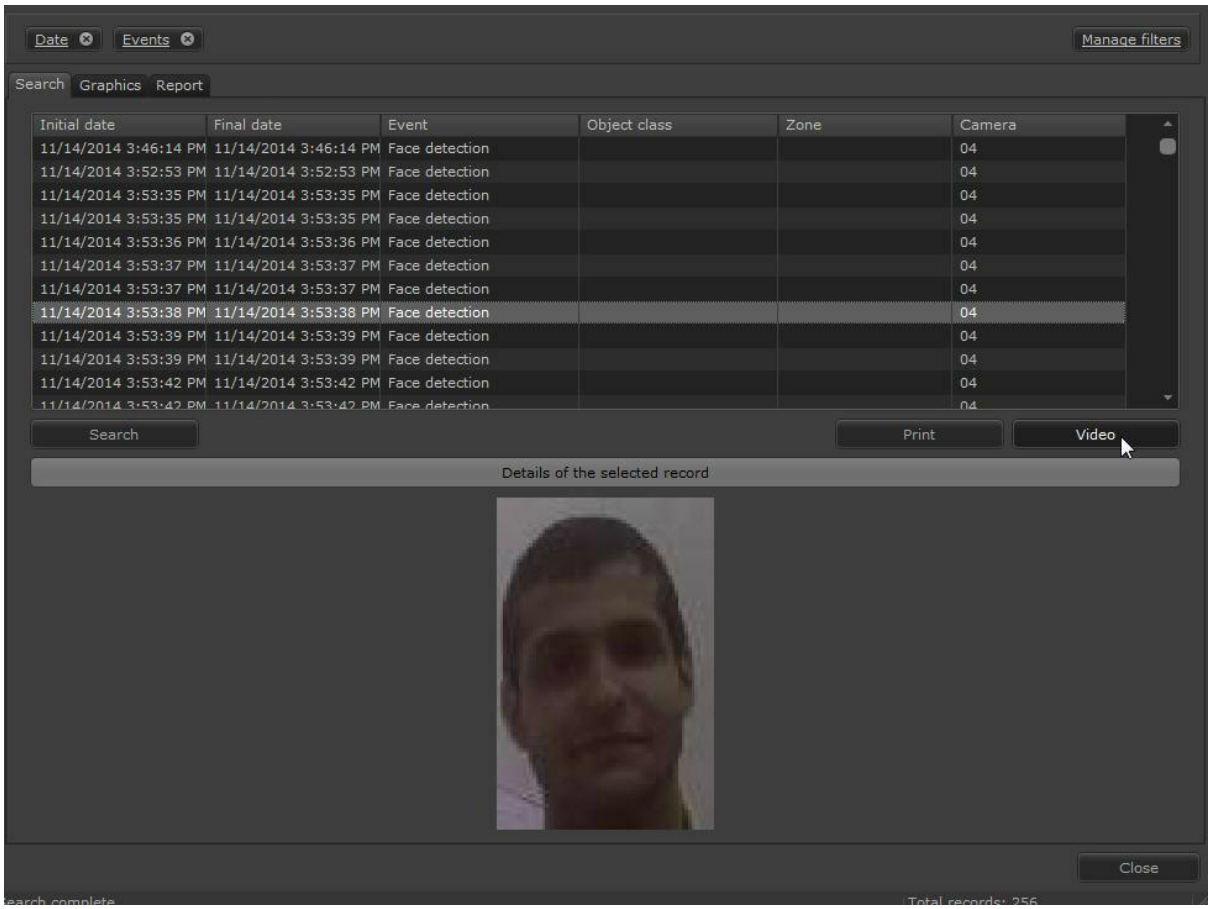

After clicking on Video, the Digifort player will open with the video of the event.

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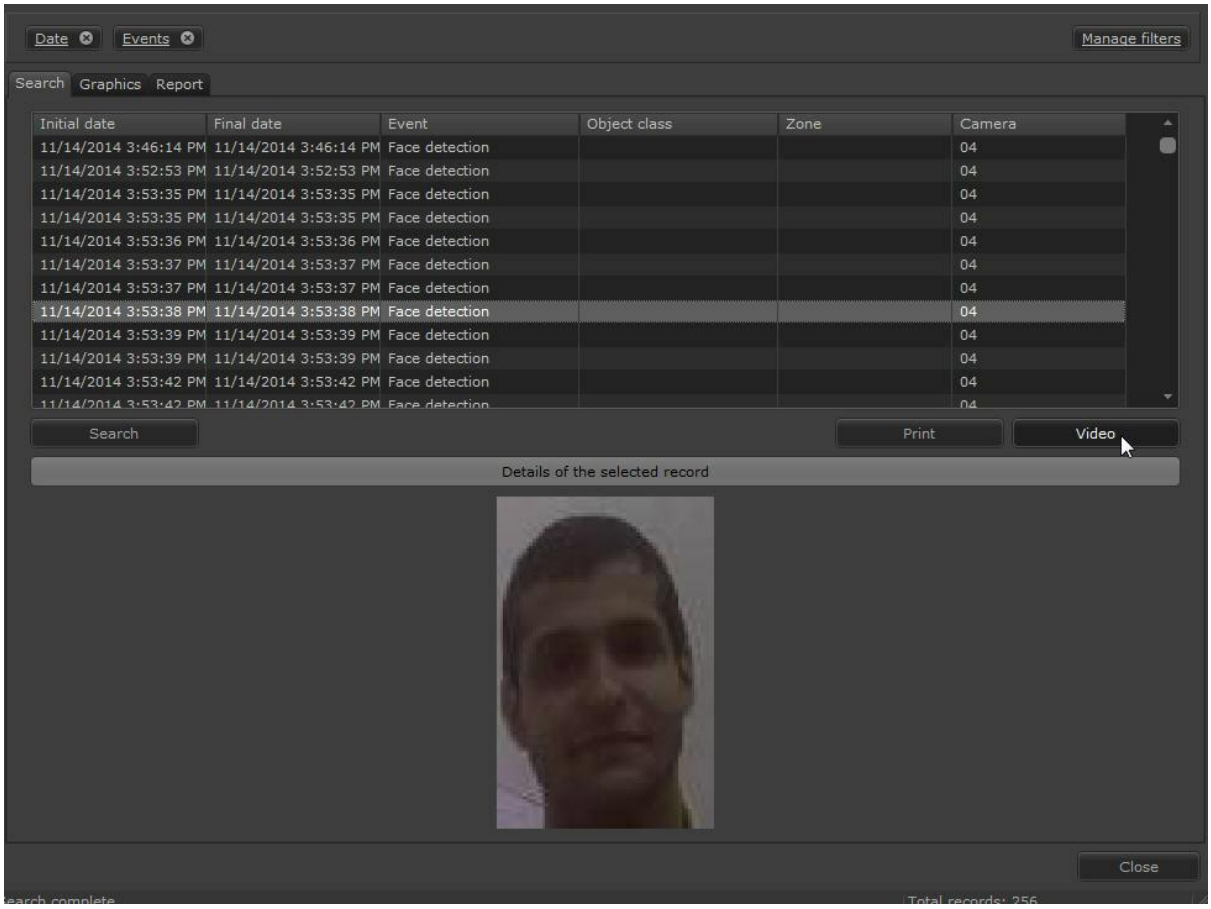
12.1.1 Details of the record

Some analytics records include annexes with a photograph of the moment of the event.

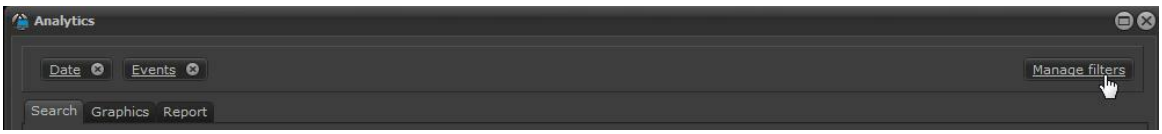
In the face detecting event: the face captured is stored in the database.
In the missing objects and objects left module: the picture captured by the camera is stored with a red square on the place or object that set off the event.

To see the details of a record simply select it and click on **Details of the selected record** as shown in the picture below:



12.1.2 Search with filters

The record filters were developed to facilitate the record search in the surveillance client. It is possible to quickly locate an event and view information and video.
To add filters, click on **Manage Filters** as shown below:



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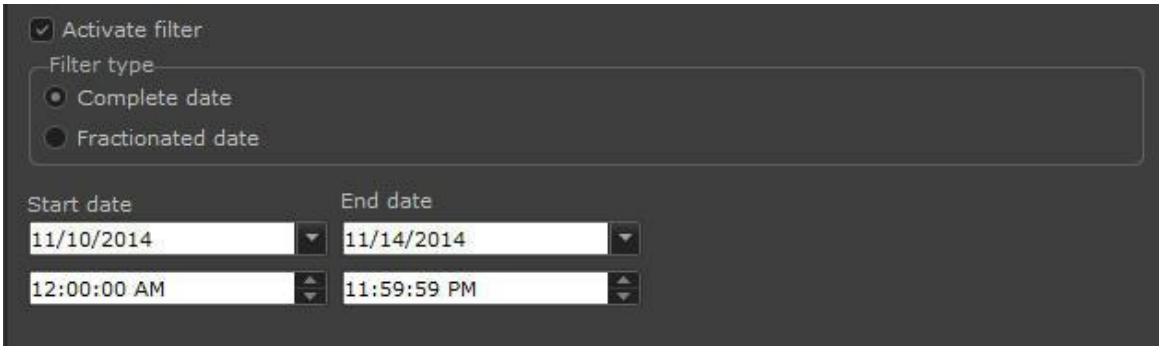
12.1.2.1 Search by date

Search per date allows you to filter the records by the selected date.

To add the filter click on **Manage filters**, and then click on the **Date tab**.
To activate the filter simply click on **Activate filter**.

You will see two options: **Full date** and **Fractional Date**.

To search per Full date simply choose the **Start date** and the **End Date**, and start and end time as shown in the image below:



The search per **Fractional Date** allows a greater variety of combinations. Select the **Fractional Date** field as shown in the following image:

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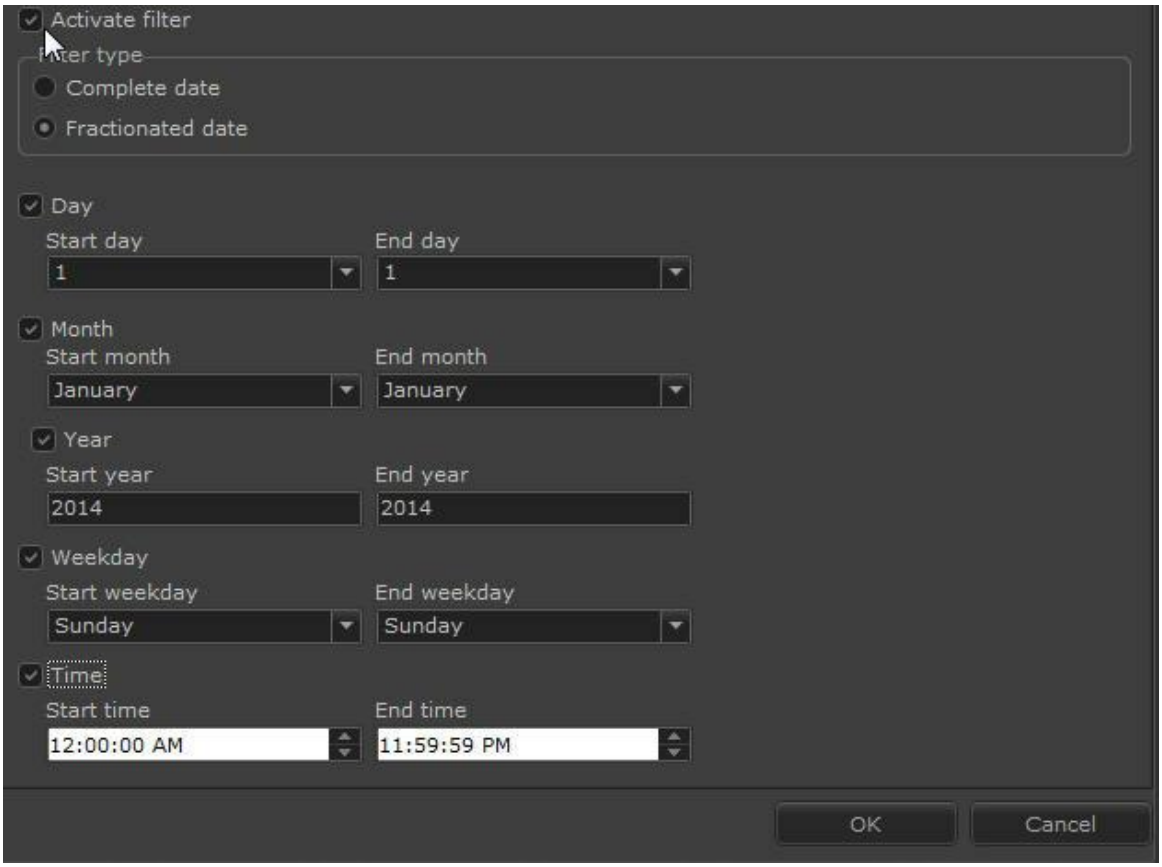

This screen has the following features:

- **Day**: Set the initial and end day to filter the events between these days.
- **Month**: Set the initial and end month to filter the events between these months.
- **Year**: Set the initial and end year to filter the events between these years.
- **Weekday**: Set the initial and end weekday to filter the events between these days.
- **Time**: Set the initial and end time to filter the events between these times.

This search allows merging fields and getting results like the example below:
I want to search the events between the **days 1 and 20**, between the **months of July and December**, between the **years 2010 and 2011**, between Monday and Friday and from 06:00 to 22:00.

After setting click on **OK**.
On the main screen of the report click on **Search** as shown below:

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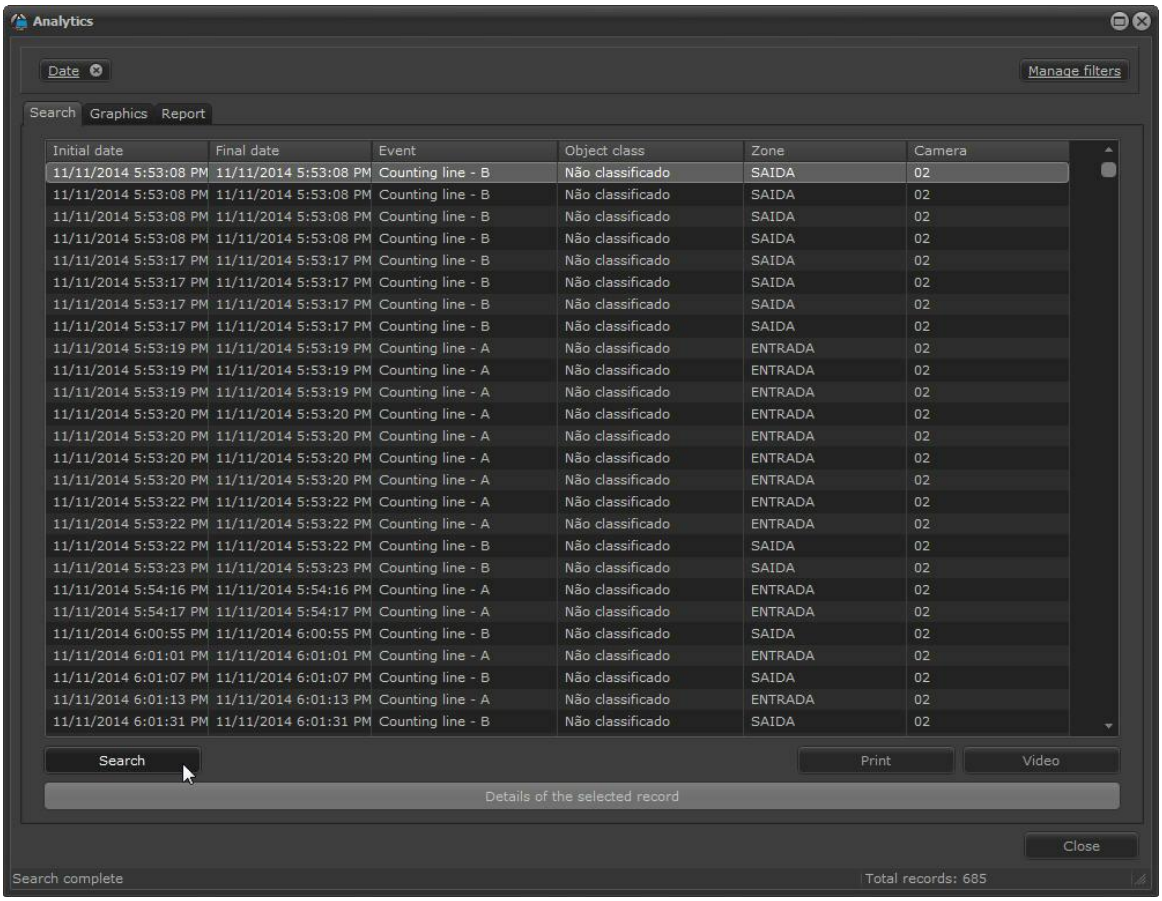

12.1.2.2 Search by camera

Search per camera allows you to filter the records by the selected camera.

A camera can have more than one analytics configuration. This search gets the events from a specific camera as shown below:

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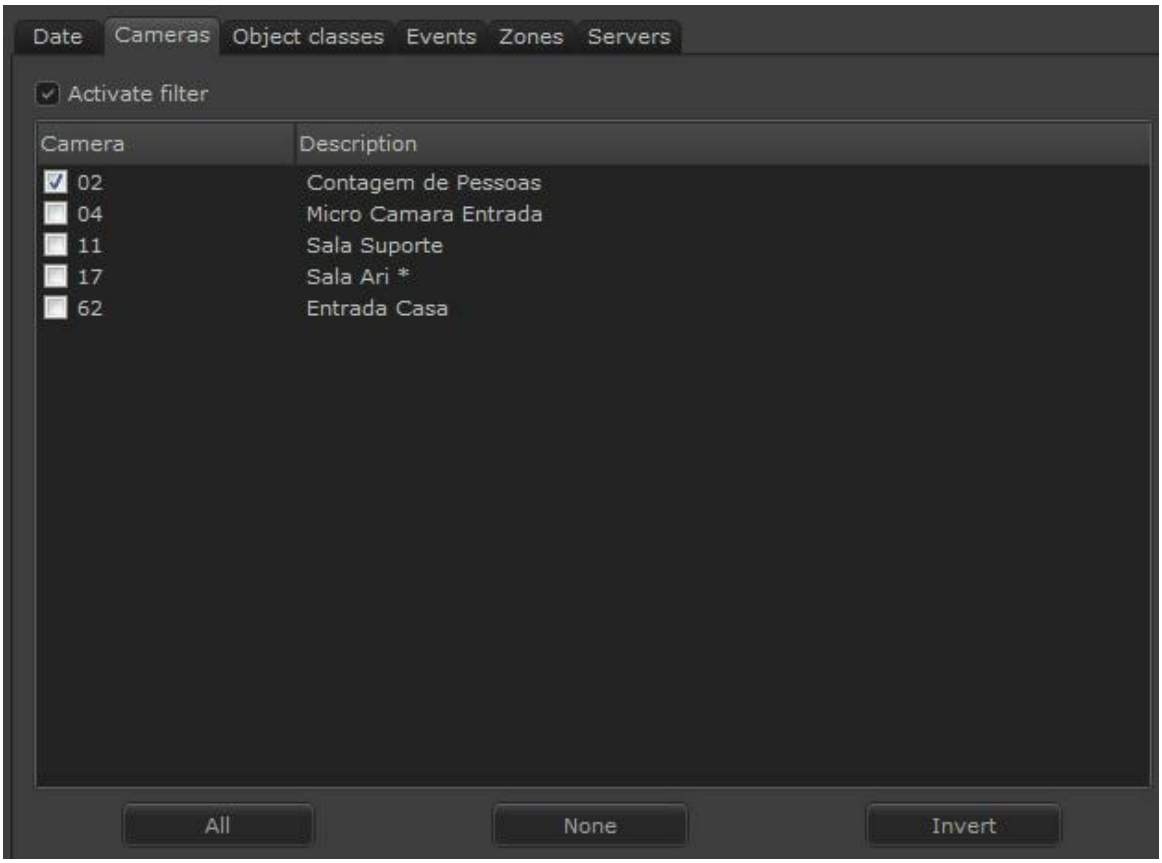

To activate the filter simply click on **Activate Filter**, select the camera you want and then click on **OK**.

Then on the main screen click on **Search**:

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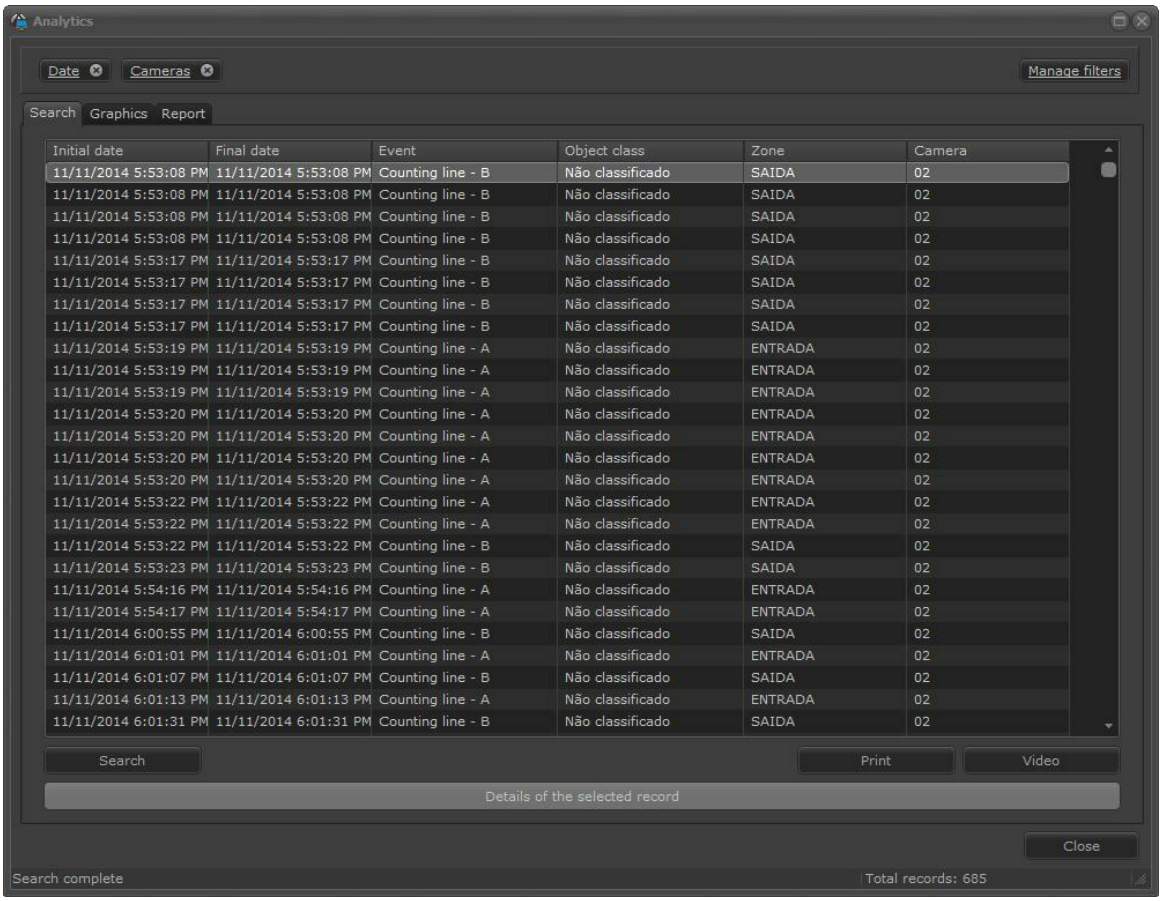

12.1.2.3 Search by object classes

The Digifort advanced analytics enable the Object Classification registration (for more information check the administration client manual). You can search for events in which the objects are involved. For example: I want all events triggered by person classification.

To add the filter click on **Manage filters**, and then click on the **Object Classification tab**.
To activate the filter simply click on **Activate Filter**.

The image below shows an example:

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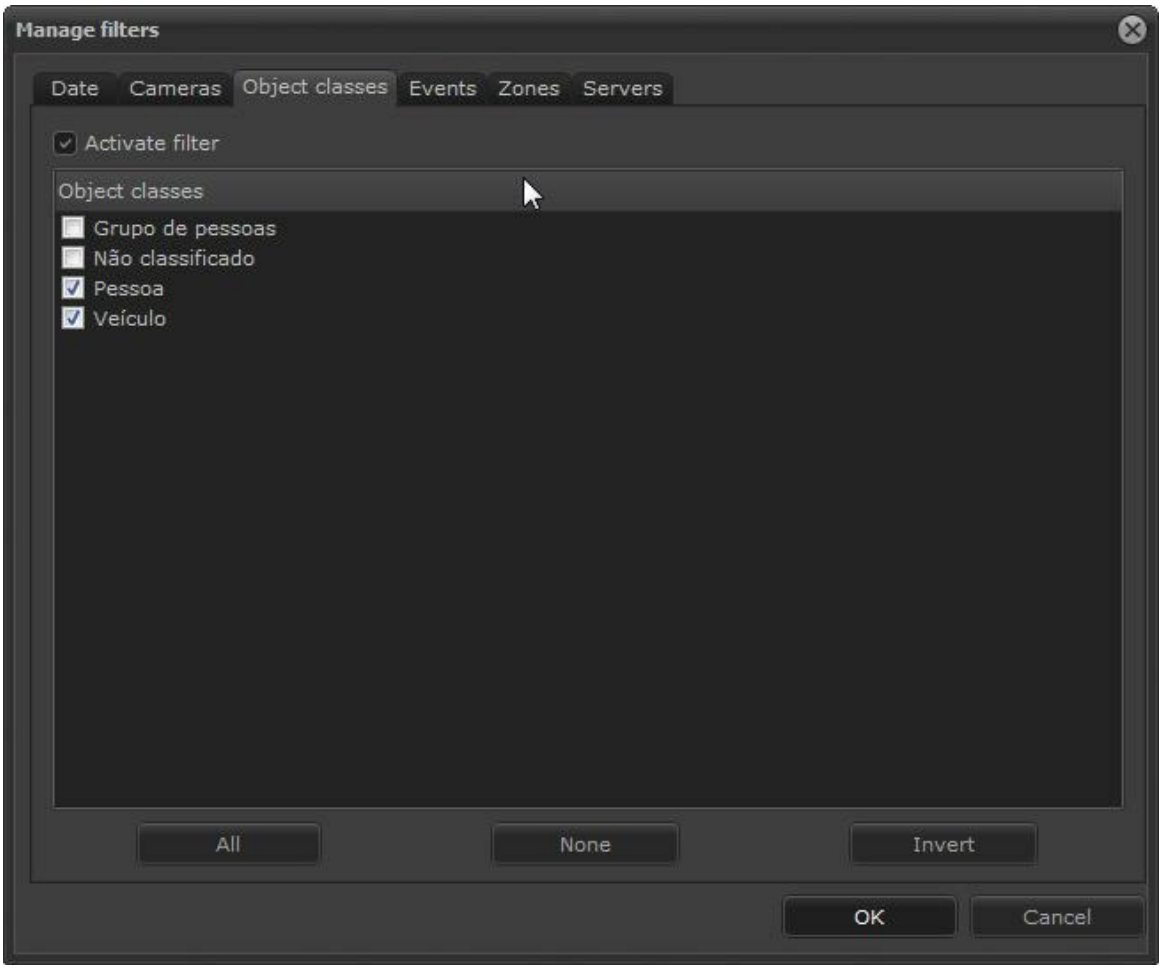

After selecting the object classification to filter, click on **OK**.
On the main screen of the report, click on **Search**:

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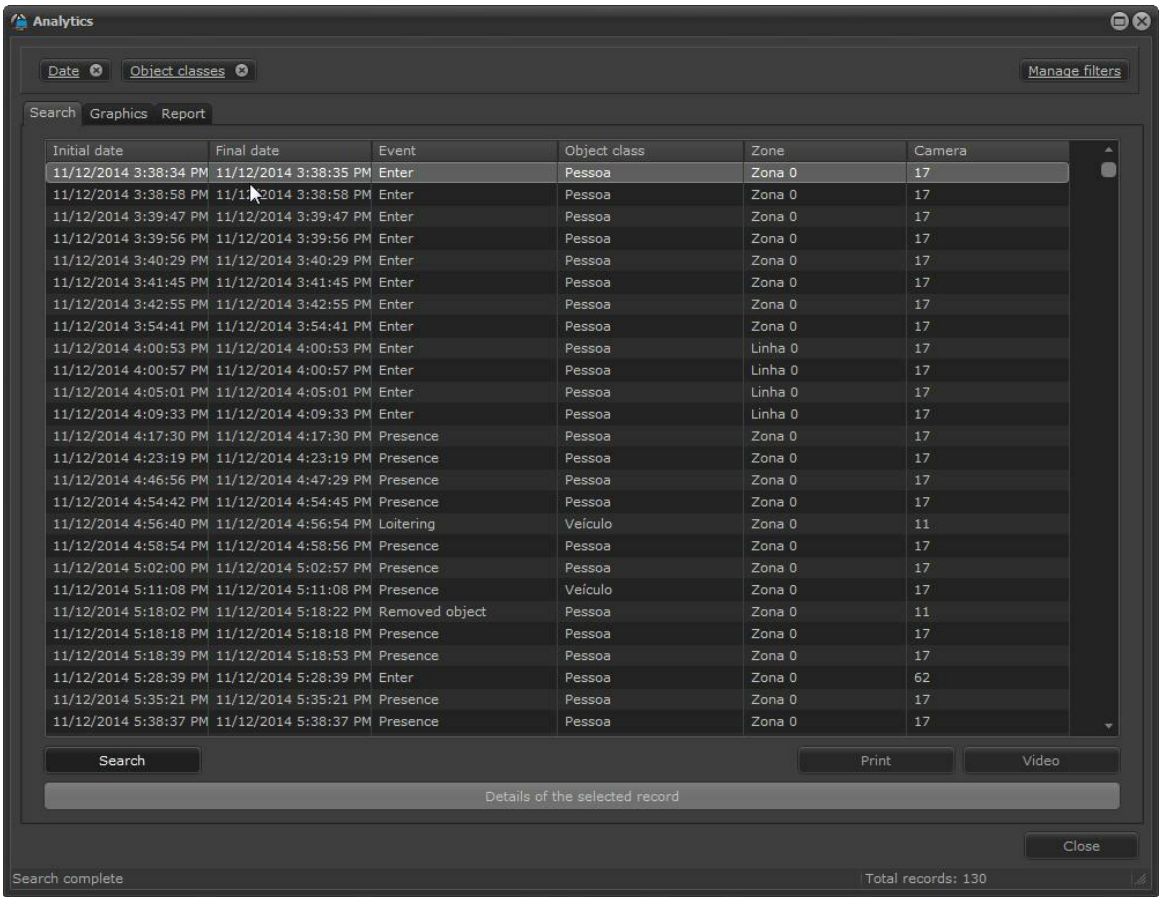

12.1.2.4 Search by events

Search per events allows you to filter the records by the selected event type.

To add the filter click on **Manage filters**, and then click on the tab **Events**.
To activate the filter, simply click on **Activate Filter**.

The image below shows a search with only events of **Face detection**:

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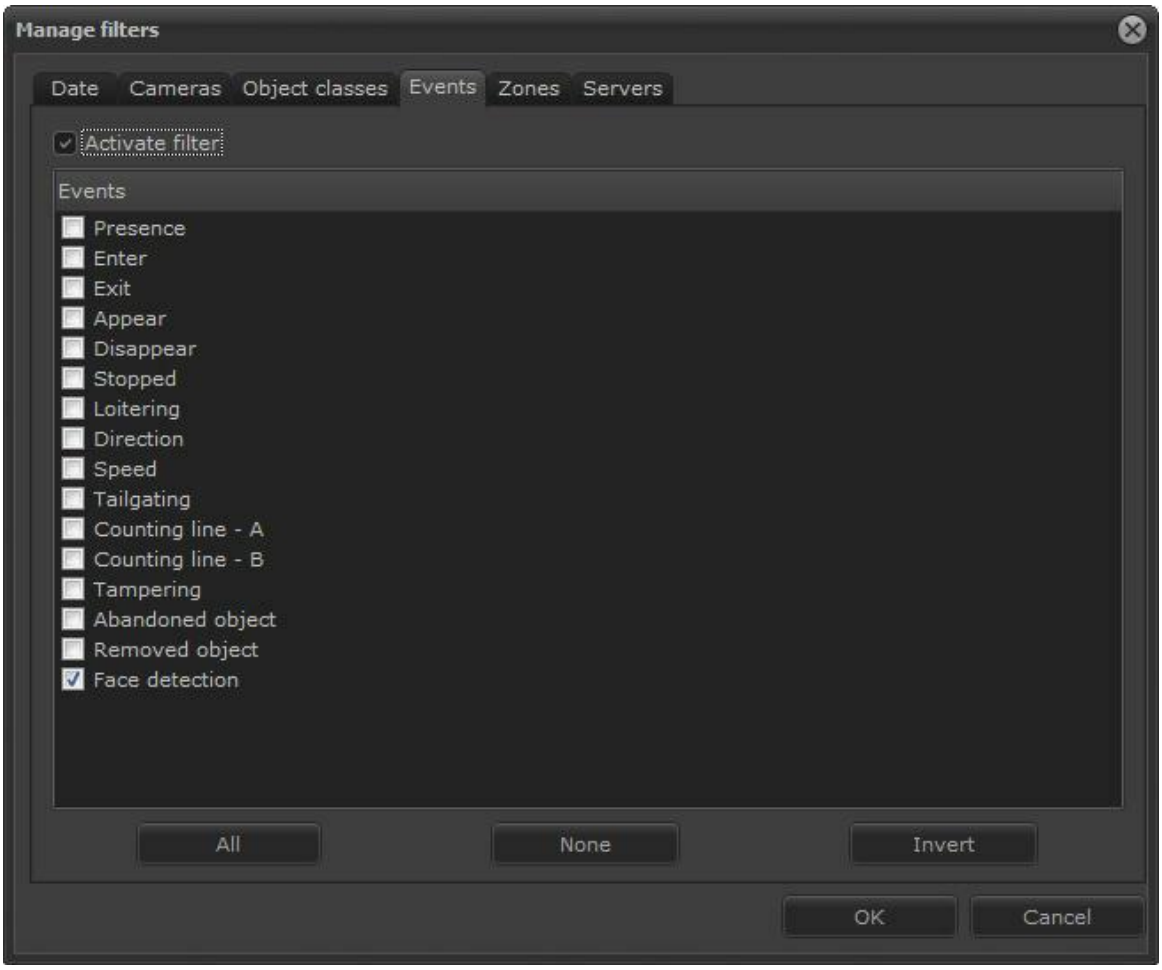

After selecting events to filter, click on **OK**.
On the main screen of the report, click on **Search**:

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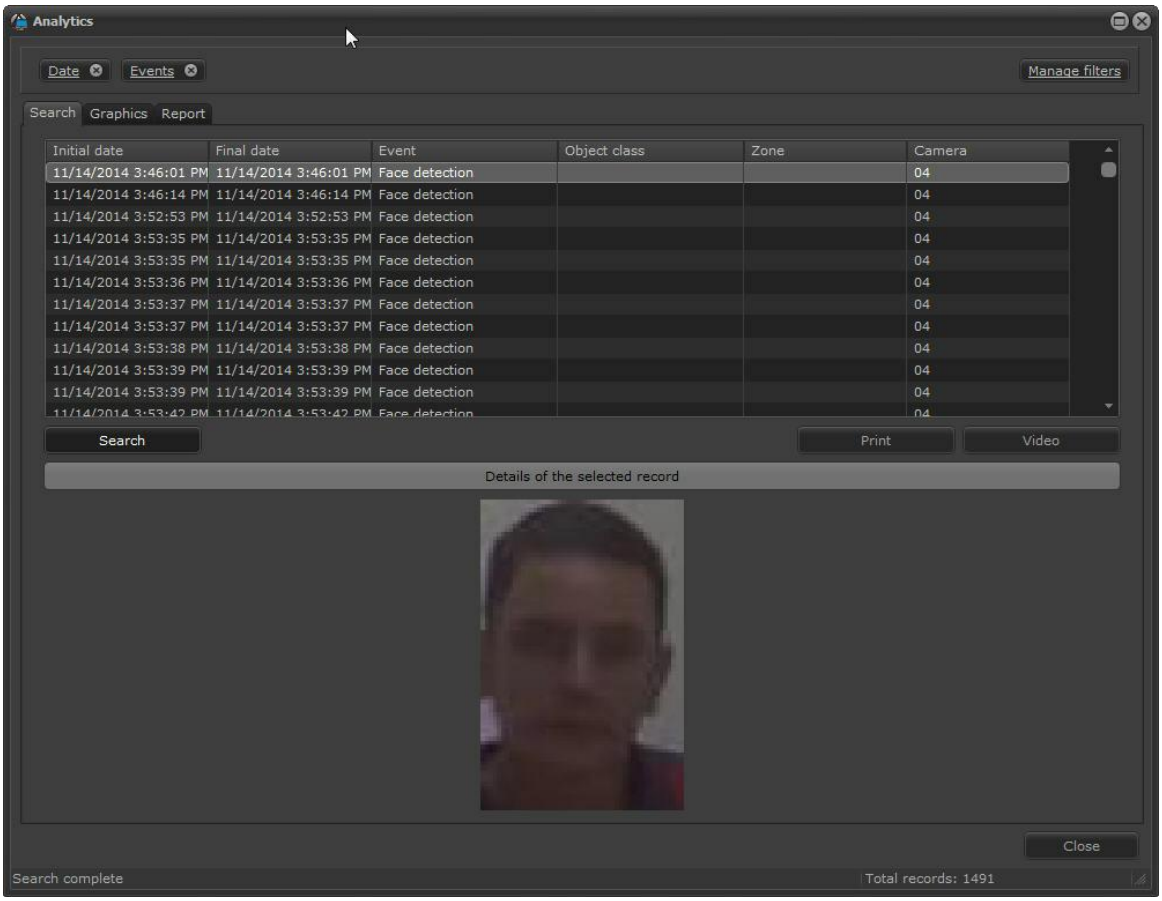

12.1.2.5 Search by zones

The **Presence**, **Entrance, Exit, Appear, Disappear, Loitering, Direction Filter, Speed, Left and Removed Objects** analytics work from a zone created in the Administration client.

To add the filter click on **Manage filters**, and then click on the **Zones** tab.
To activate the filter simply click on **Activate Filter.**

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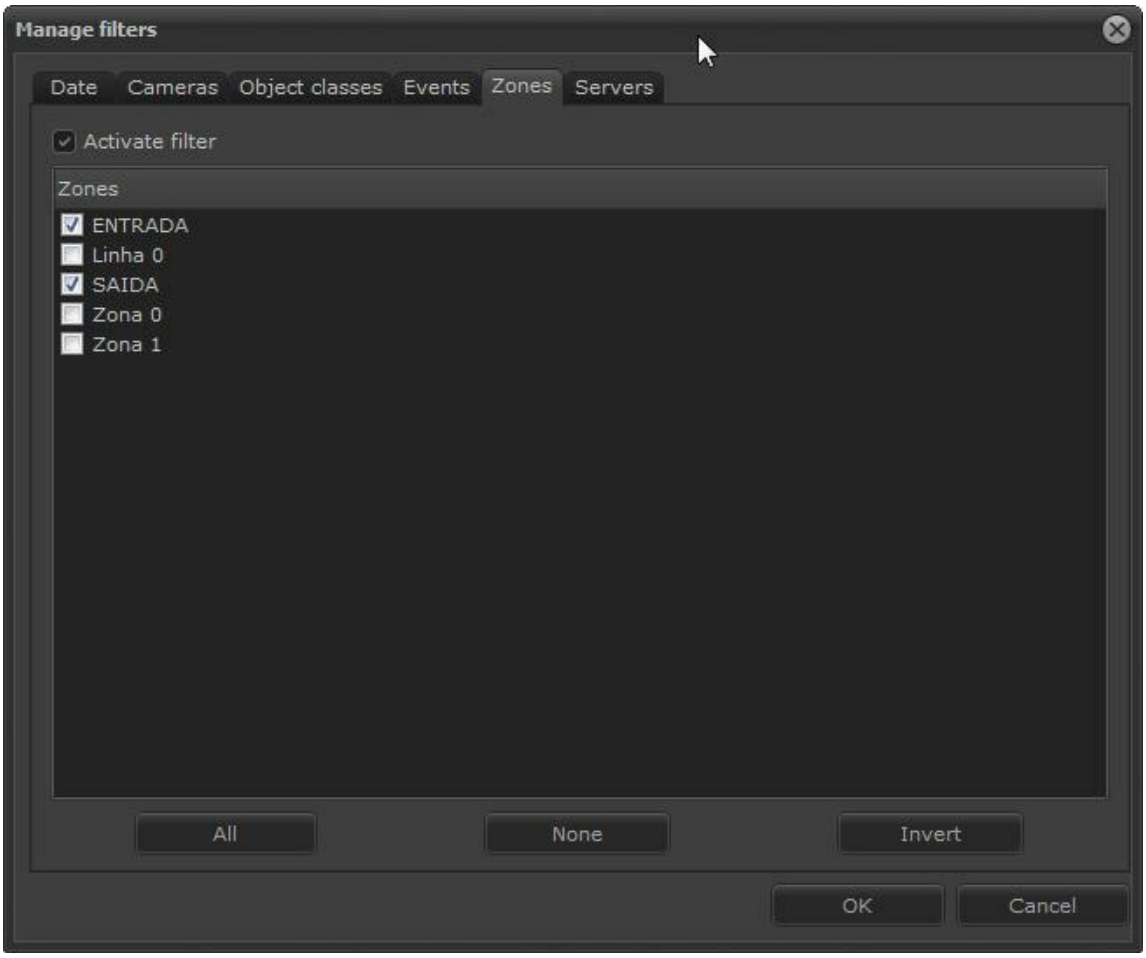

After selecting the zones to filter click on **OK**.
On the main screen of the report, click on **Search**:

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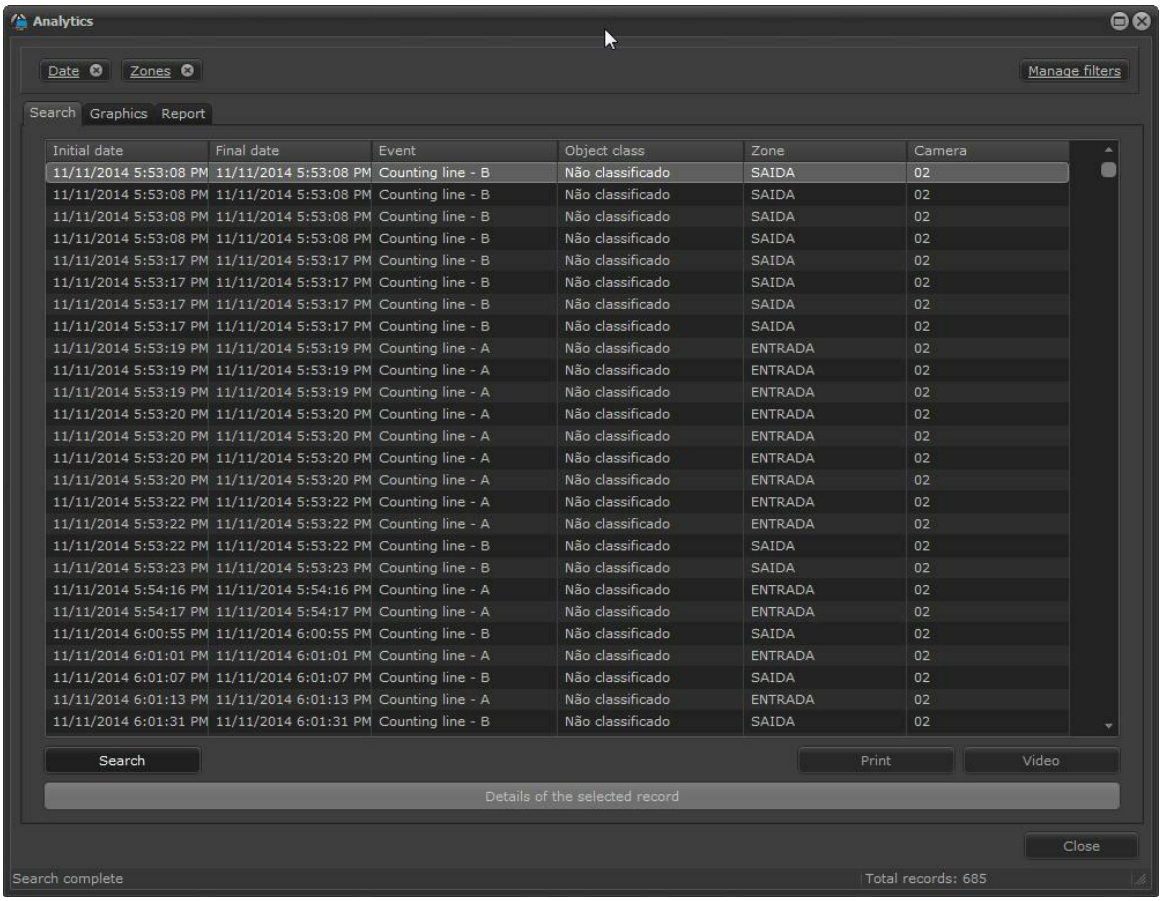

12.1.2.6 Searching per servers

Searching per servers allows you to filter the records per server in case the surveillance client is connected to more than one.

To add the filter click on **Manage filters**, and then click on the **Servers tab**.
To activate the filter simply click on **Activate Filter**.

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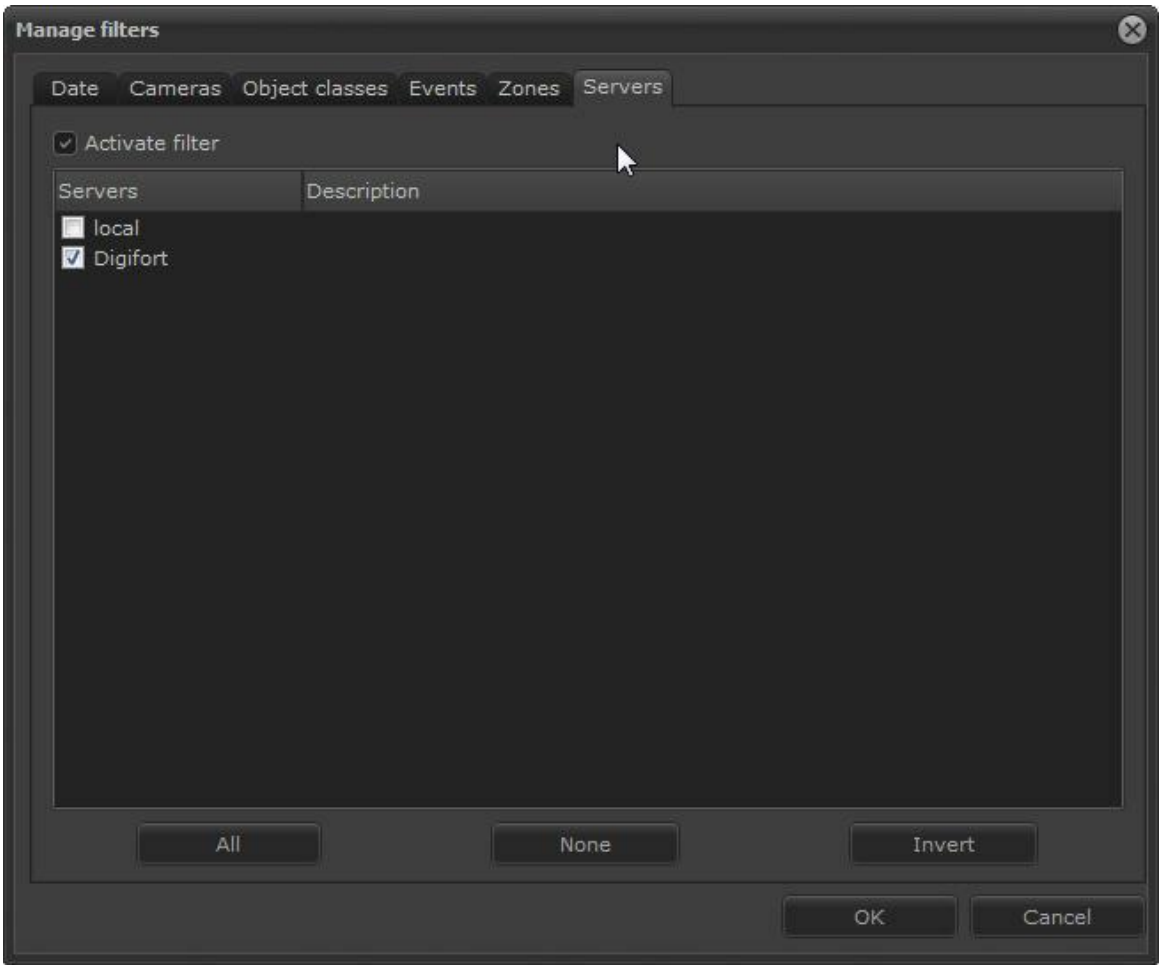

Select the server you want and then click on **OK**.

Then on the main screen click on **Search**:

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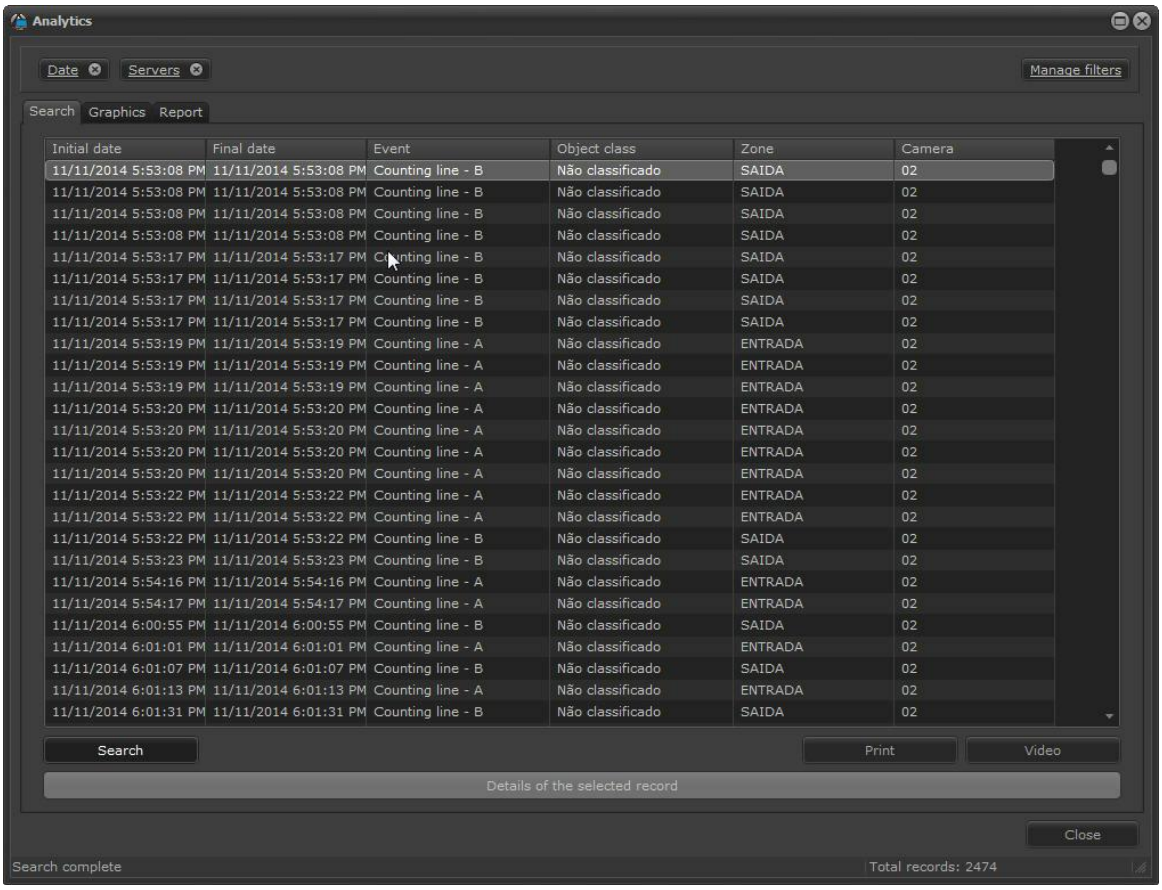

12.1.2.7 Mixing the filters

Note that the Enabled Filters are displayed on the top bar where you can add them or delete them as necessary:

The filters selected intersect, that is, only the information they share will be filtered.

12.2 Generating Charts

The analytics charts are a powerful tool that include instant statistic records of every event in the system. In the following chapters, we will look into this tool in more detail.

Start by clicking on the **Charts** tab on the analytics record screen and the following screen will show up:

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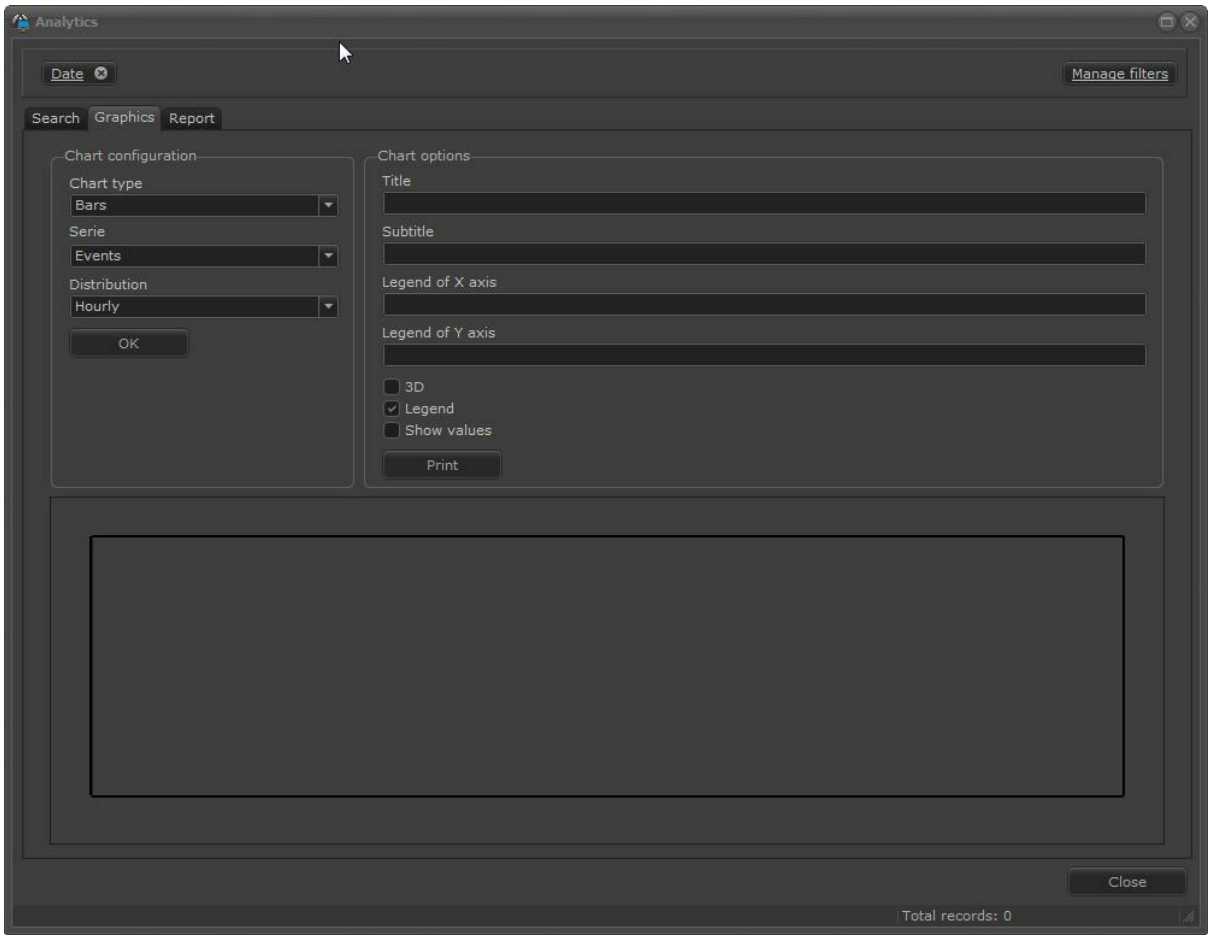

This chapter uses concepts related to filters explained in the chapter Search with Filters 148.

12.2.1 Chart Configurations

The chart tool provides greater flexibility when you have to produce reports.
The chart configurations are as follows:

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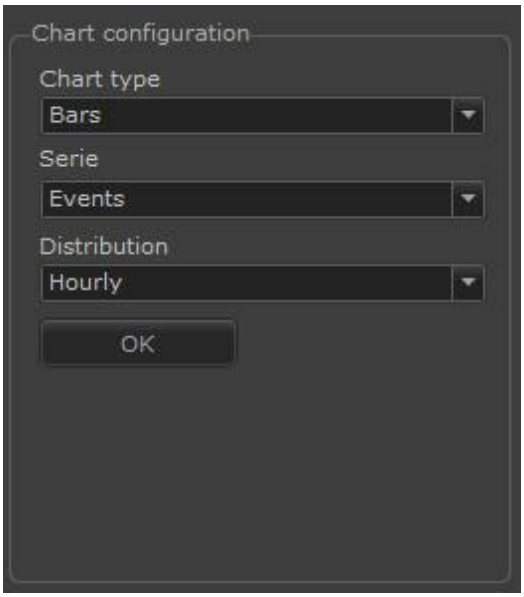
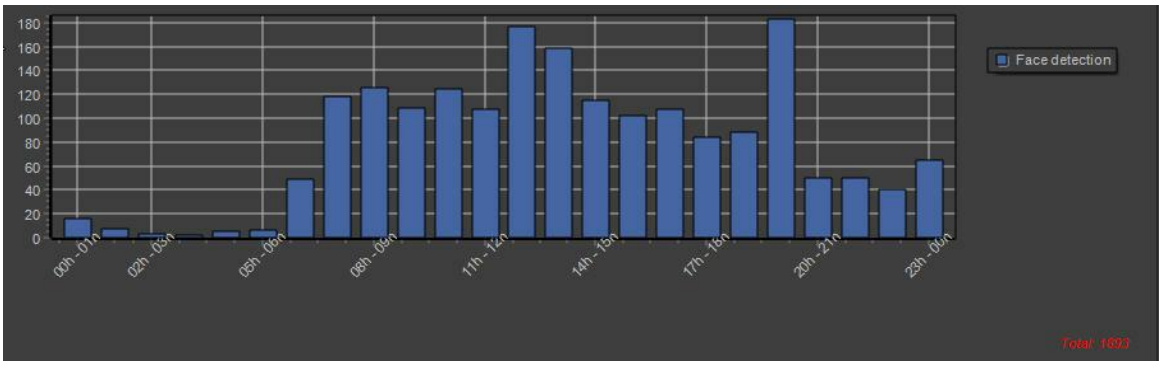


12.2.1.1 Chart Types

Chart Type: This option defines the type of chart produced. There are the following options:

- **Bar chart**: The bar chart looks like this:



- **Lines chart:** The lines chart looks like this:

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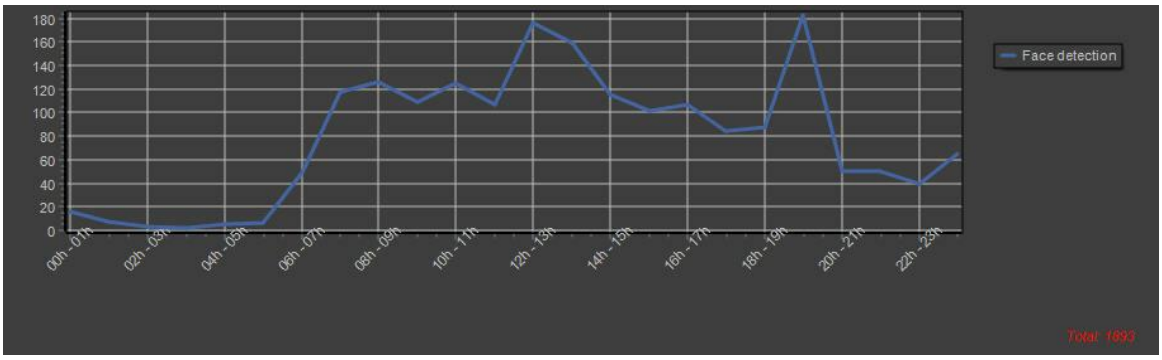
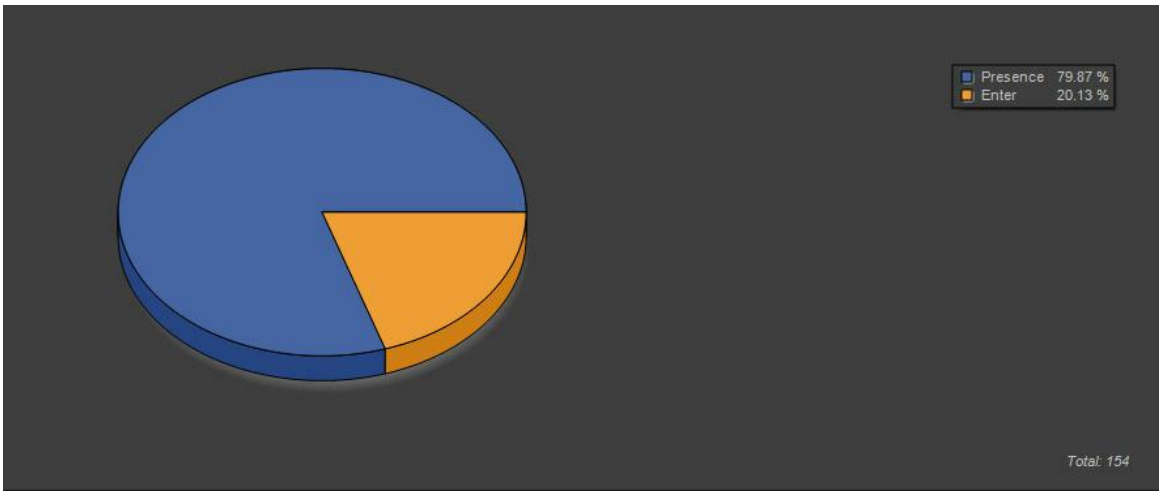


- **Pie chart:** The pie chart looks like this:



12.2.1.2 Series and Distribution

By combining the **Series and Distribution** functions you can obtain interesting results in the reports. Let's look at each one.

In the picture below, the chart type was configured as **Bars**, and **Events** in the **Series** option. Like this, the chart will show the sum of all events in the system on the Y axis (in this case, there have only been recorded **Direction** events).

The Distribution shows data for a certain time sample. In the picture below, the distribution is **Daily**, that is, the sample shows every day of the week (1, 2 ,3 ...31). As no filter on the right has been activated, such as the Date filter for example, the chart will show the sum of every event since they started being recorded.

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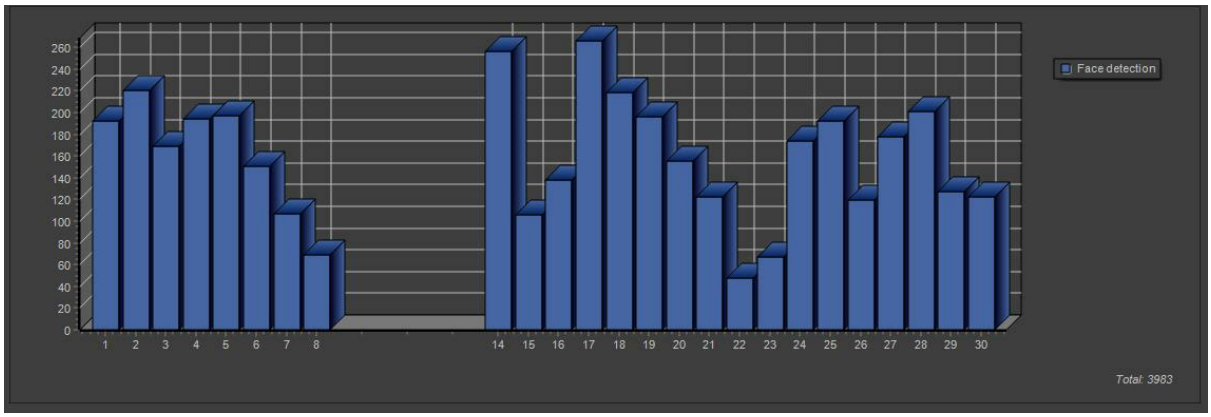
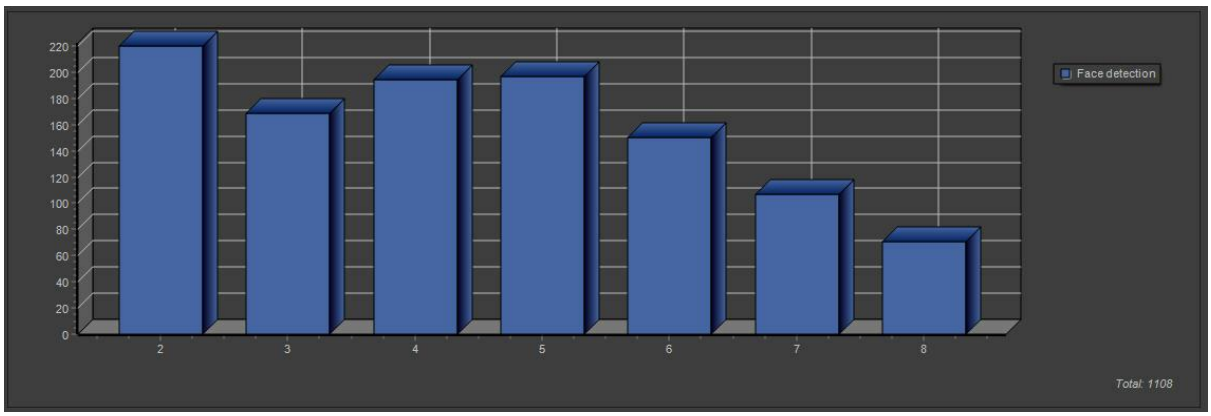


If the **Date** filter is activated, the result may be different, as shown in the picture below:



To understand how filters work, refer to the chapter Search with filters 148.
The **Distribution** option is related to the X axis on the charts, with the time sample to be more precise, and includes the following functionalities:

- **Hourly**: Divides samples into hour periods (from 00:00 to 23:00). If no filter is selected, there is a sum of the sample for such times for every day/week/month/year.
- **Daily**: Divides the samples into days (from day 1 to day 31). If no filter is selected, there is a sum of the sample for such days for every week/month/year.
- **Weekly**: Divides the samples into weeks (from Sunday to Saturday). If no filter is selected, there is a sum of the sample for such weeks for every month/year.
- **Monthly**: Divides the samples into months (from January to December). If no filter is selected, there is a sum of the sample for such months for every year.
- **Yearly**: Divides the samples into years (years which include records). If no filter is selected there is a total sum of the sample.

The **Series** option is related to the Y axis on the chart, more precisely with the sample, and includes the following functionalities:

- **Events**: If no filter is configured, this option will show the sum of all events on the Y axis according to the distribution on the X axis, as shown in the example below:

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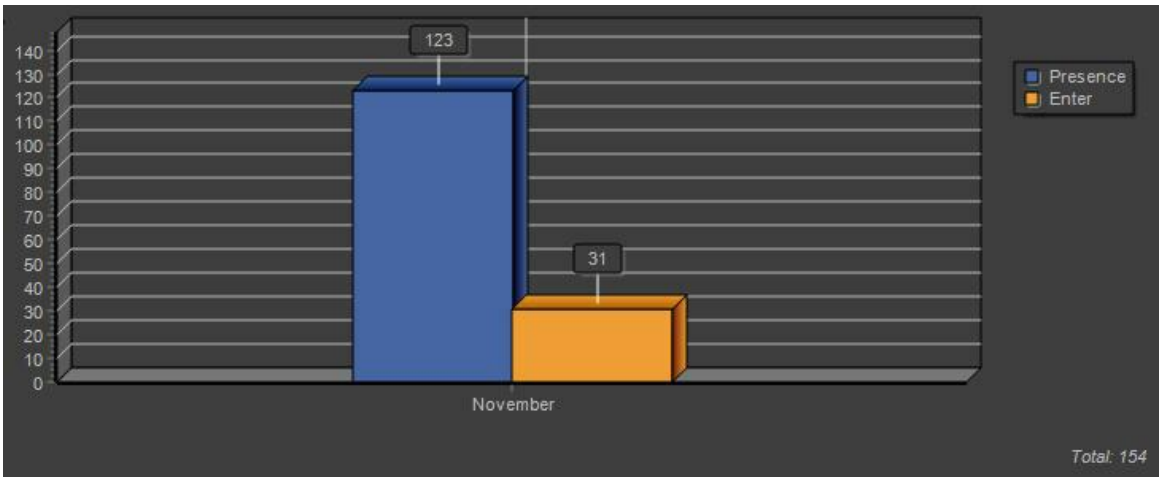
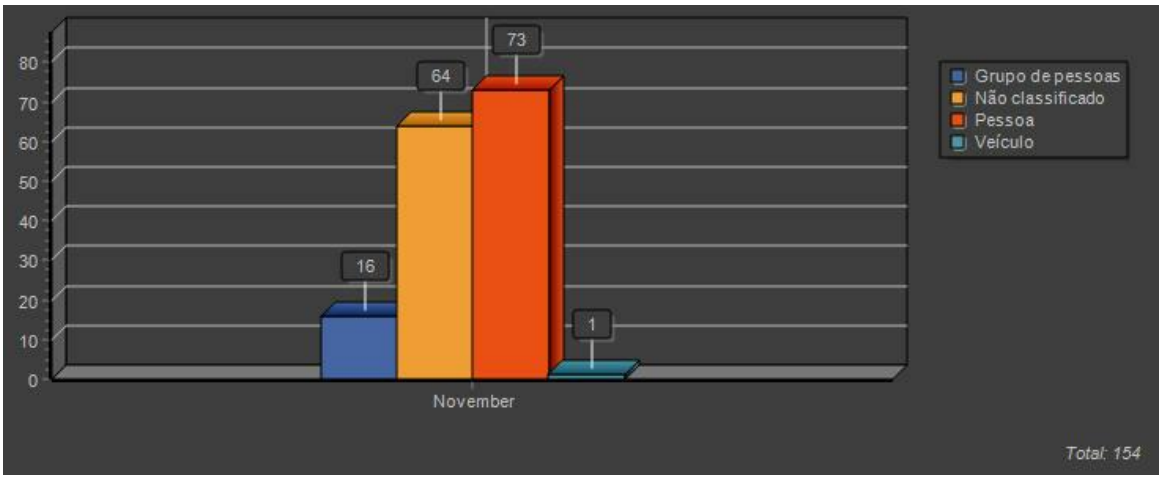


- **Object Class:** If no filter is configured, this option will show the sum of all events, organized according to the classifications of the objects that set them off. For example::



Note

Face Detection, Objects Left and Missing do not store object classes and therefore will not be included in the statistics for that filter.

- **Zones:** If no filter is configured, this option will show the sum of all events, organized according to the areas where they were captured. For example:

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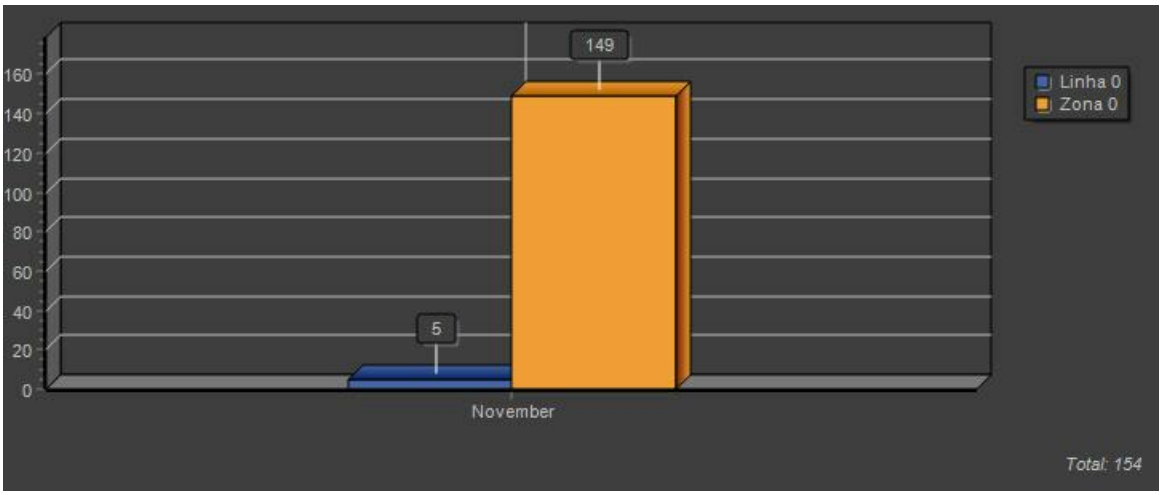
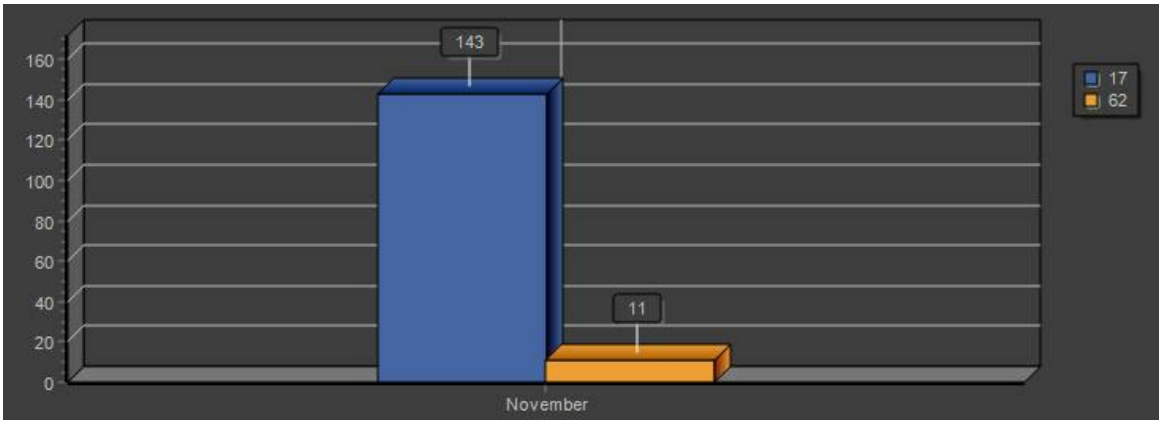


Note

Face Detection, Objects Left and Missing do not store object classes and therefore will not be included in the statistics for that filter.

- **Cameras**: If no filter is configured, this option will show the sum of all events, organized according to the cameras where they were captured. For example:



- **Week**: If no filter is configured, this option will show the sum of all events, organized according to the weeks when they were captured. For example:

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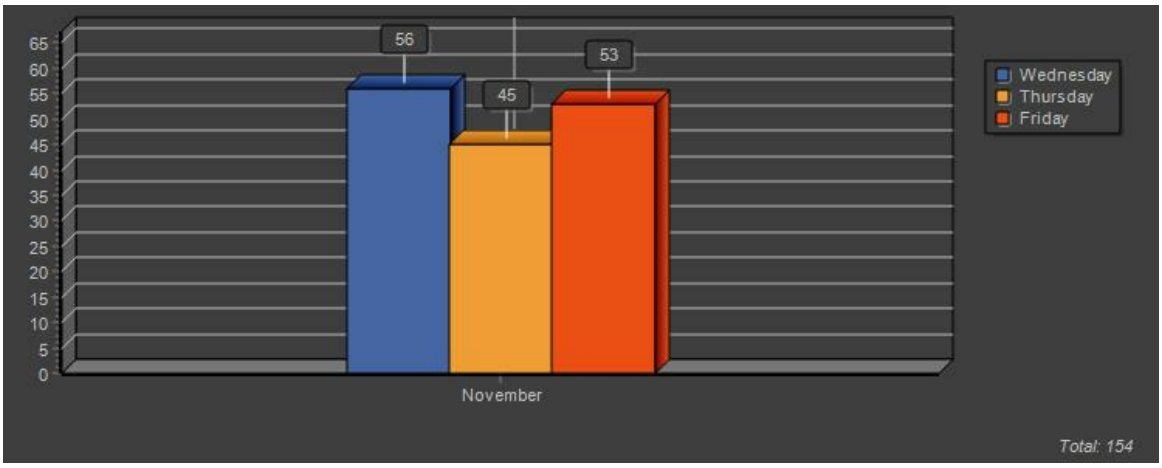
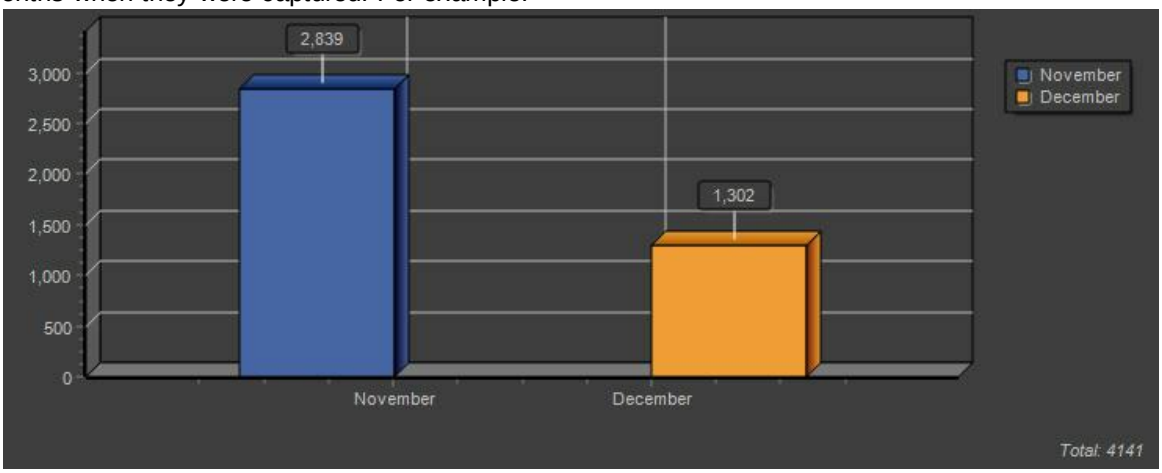
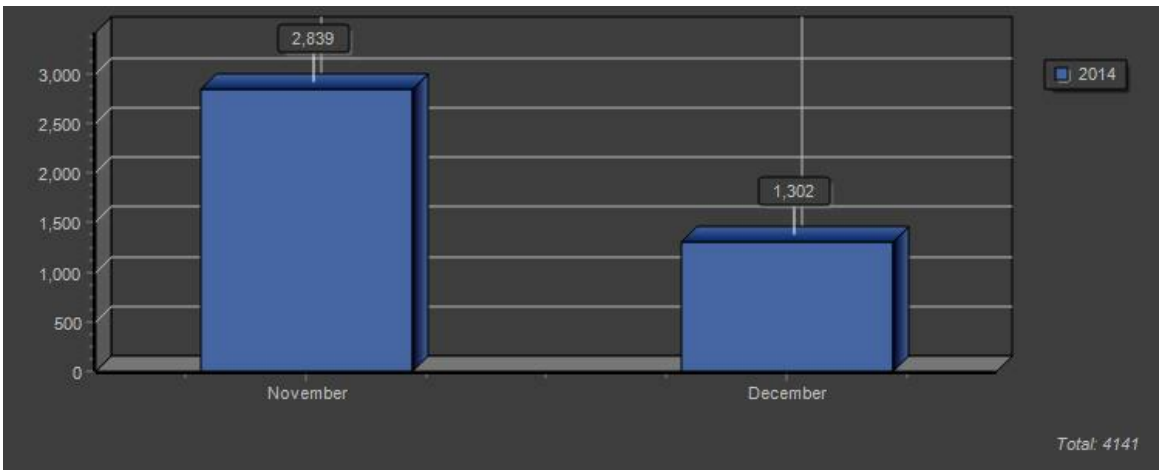


- **Month**: If no filter is configured, this option will show the sum of all events, organized according to the months when they were captured. For example:



- **Year**: If no filter is configured, this option will show the sum of all events on the Y axis according to the distribution on the X axis, as shown in the example below:



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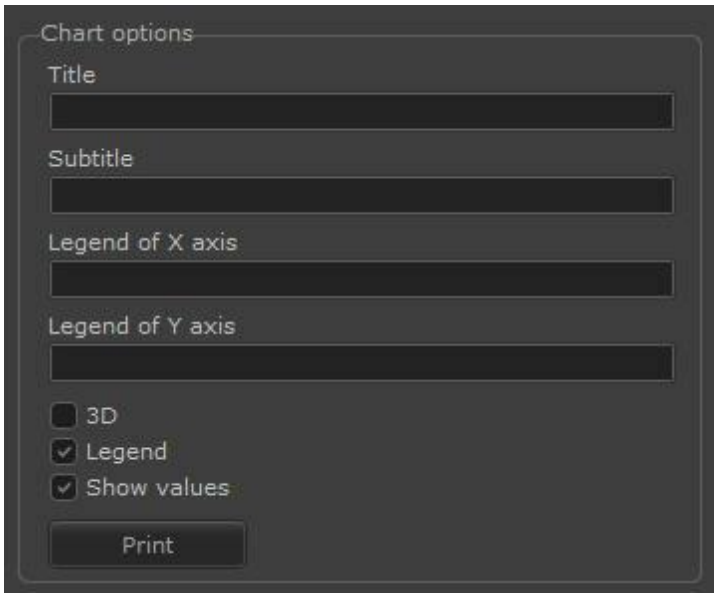
12.2.2 Chart Options

Some options enable the user to change the chart layout for printing or for a better view.



The picture above includes the following functionalities:

Title: Adds a title to the chart as in the picture below:

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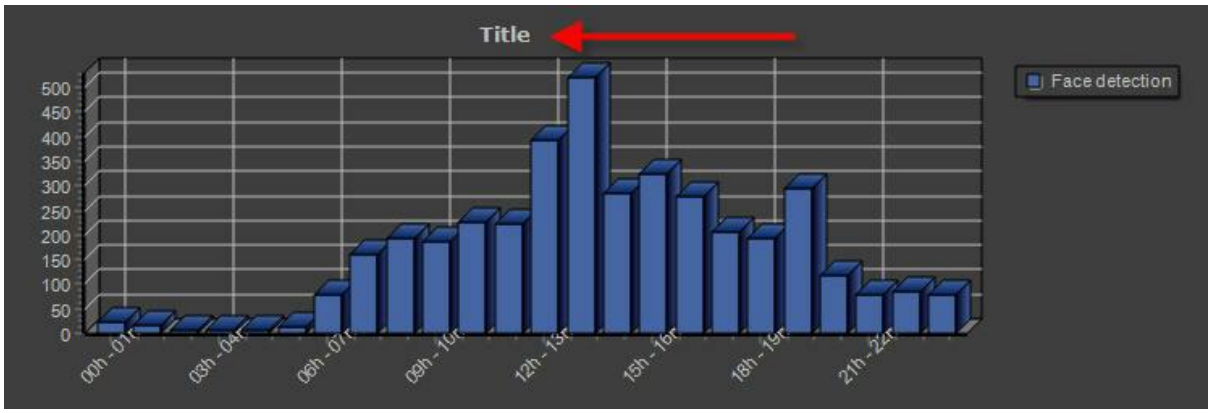
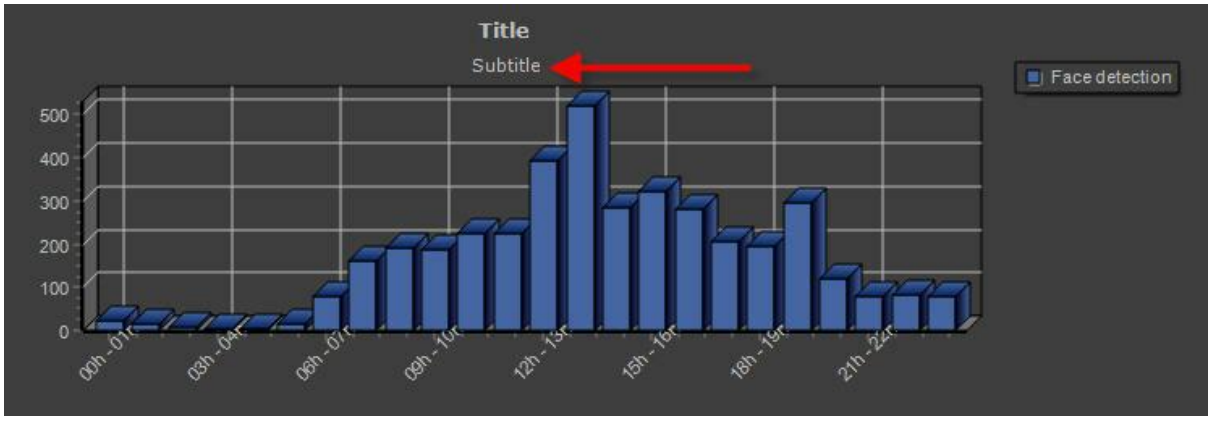
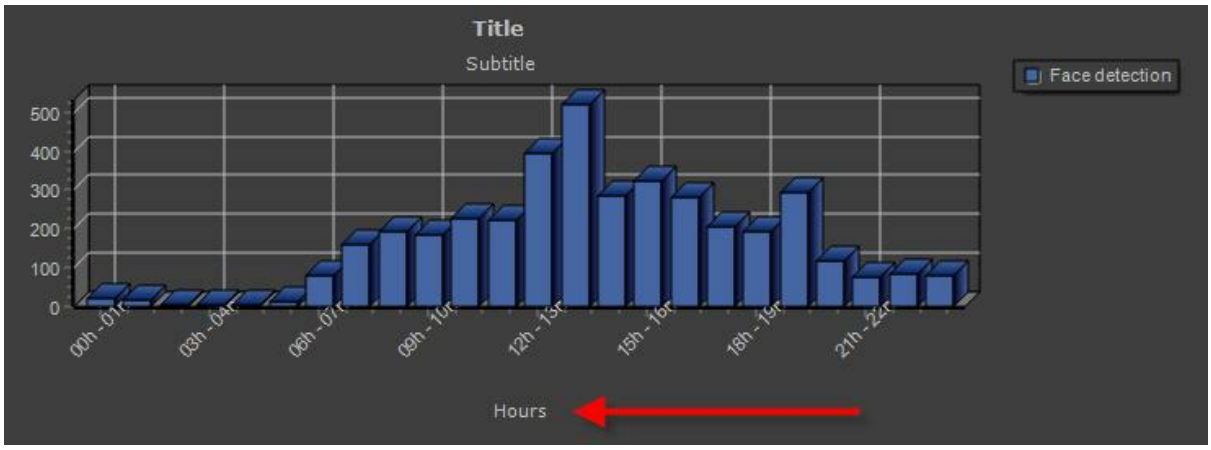


Subtitle: Adds a subtitle to the chart as in the picture below:



Legend of X Axis: Adds a subtitle to the chart as in the picture below:



Legend of Y Axis: Adds a subtitle to the chart as in the picture below:

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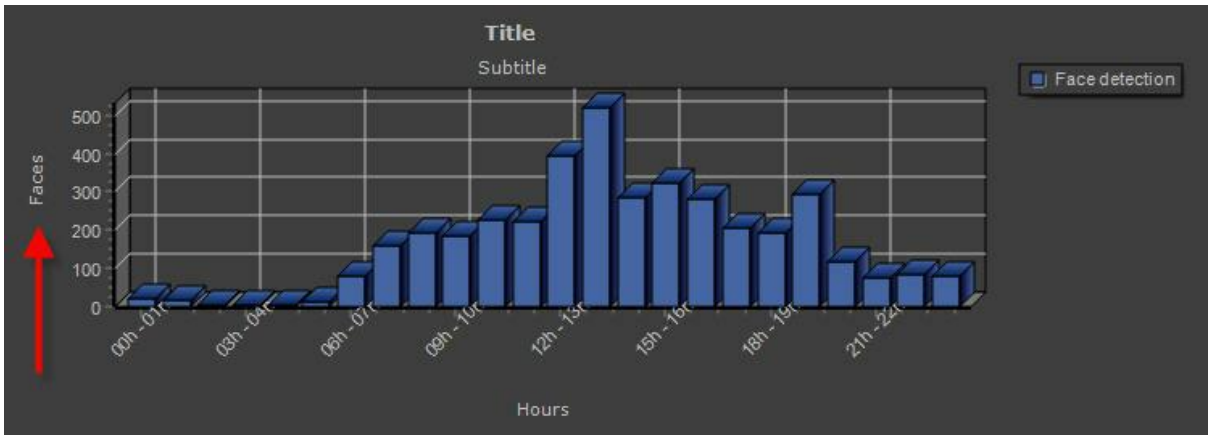
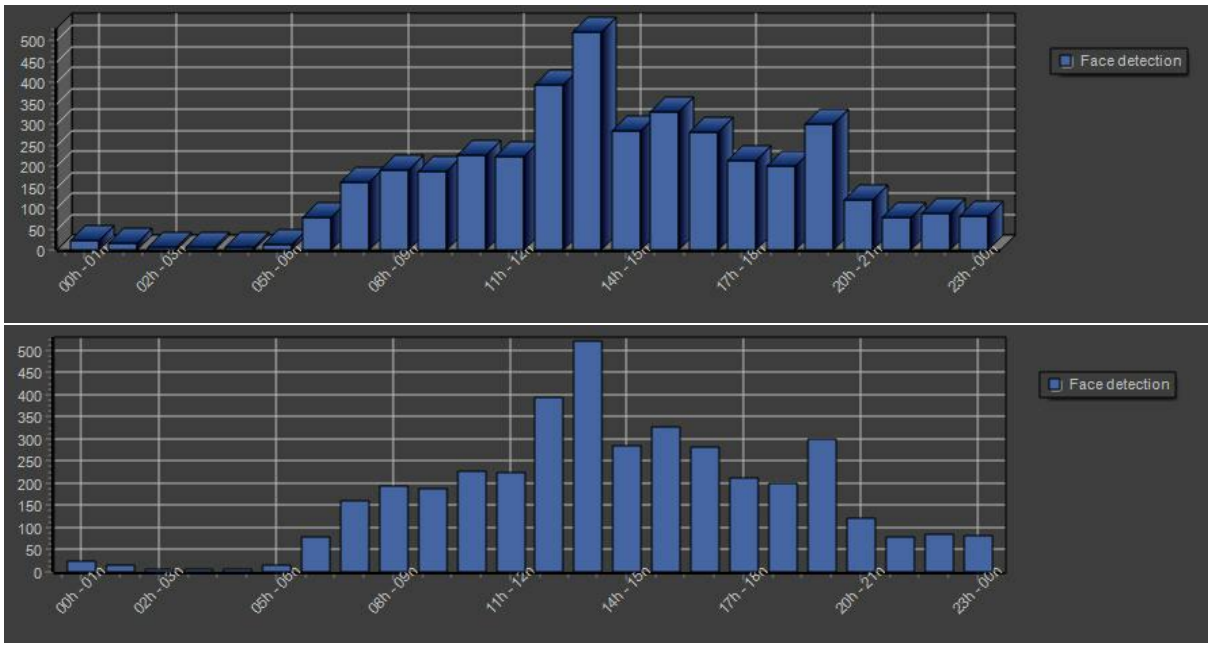


3D: Option that can give the chart a 3D look. The picture below shows the chart with this option enabled and disabled, respectively:



Legend: Enables or disables the captions in the chart. The picture below shows the chart with this option enabled and disabled, respectively:

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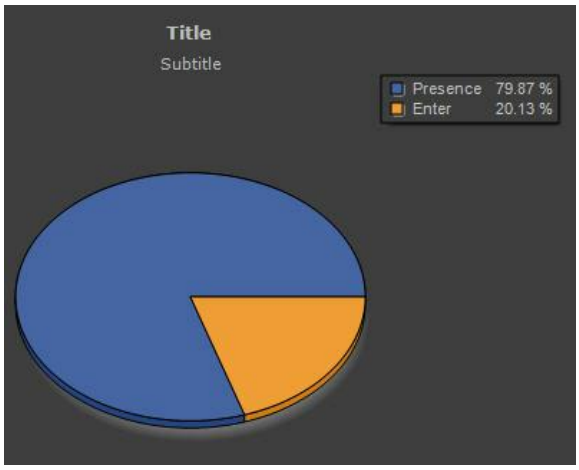
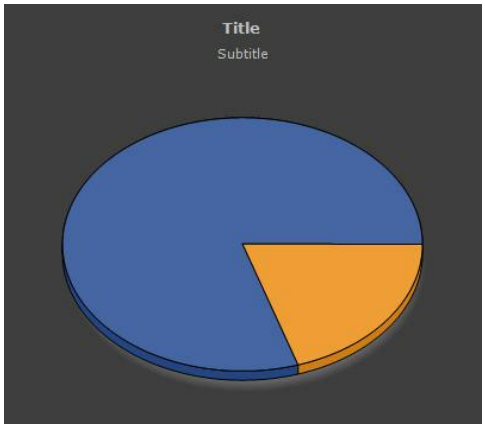
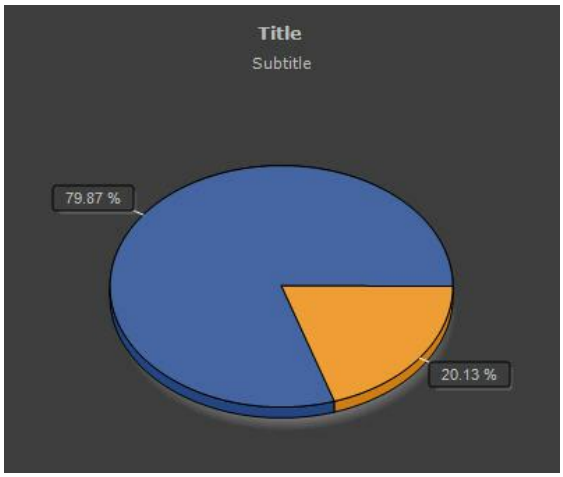
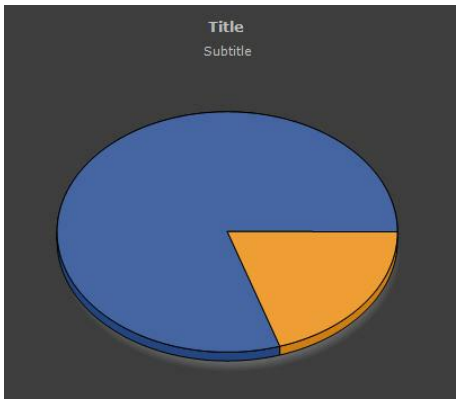




Show values: Enables or disables the values in the chart. The picture below shows the chart with this option enabled and disabled, respectively:





The **Print** button opens a screen with the report to be printed or saved on the disk as shown in the Picture below:

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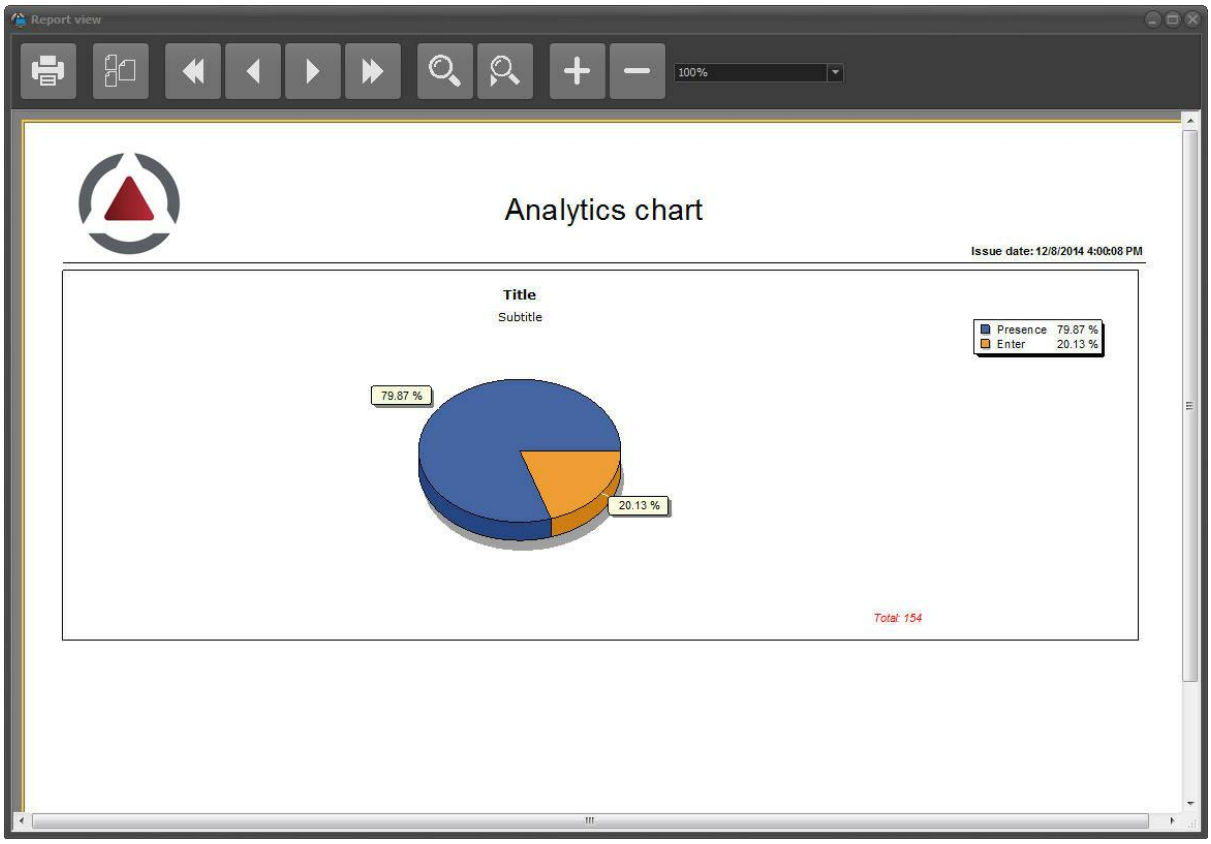

Important

A standard printer must be configured in the computer for any printing or record print preview.

12.3 Generating Reports

The analytical reports allow the user to be able to generate a custom report with analytic records. You can view the report on the screen, print, or export the report to PDF and CSV.

The report screen is accessible by the Report button at the top of the screen as shown in the image below:

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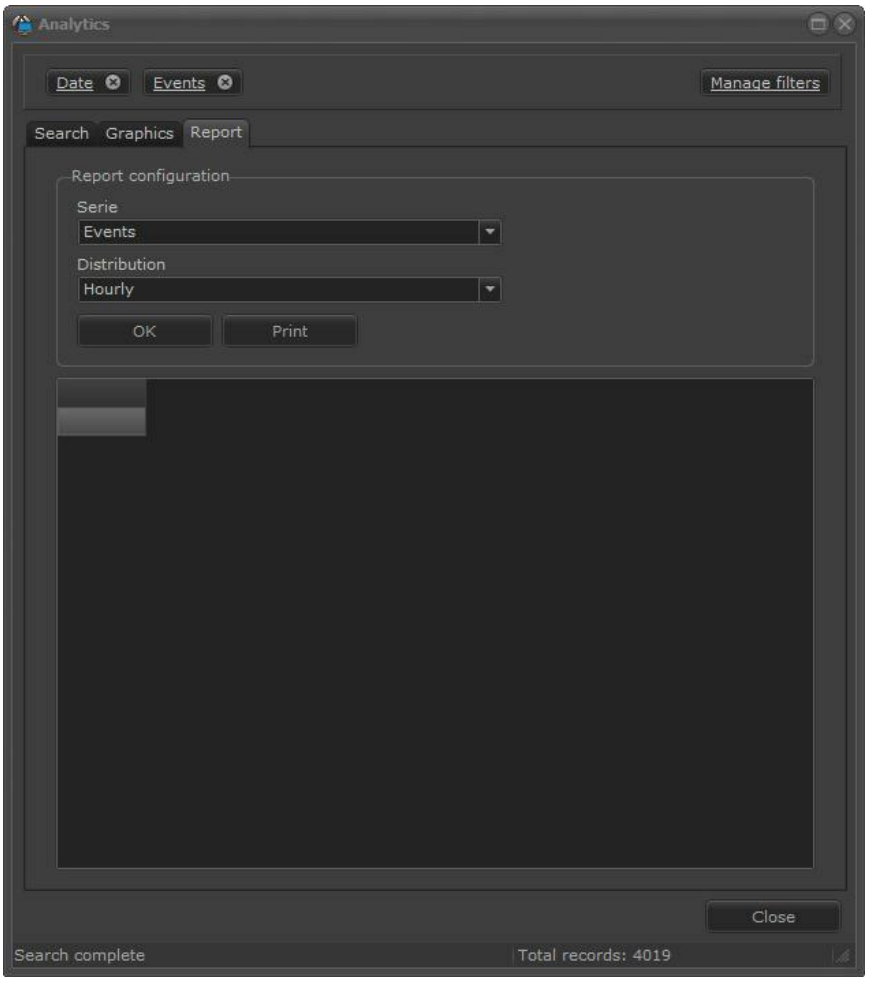

The operation follows the same logic as the graphics screen displayed in the previous chapter Generating Graphics 161. You can filter the information by the options found in the left sidebar and select the type of number and distribution you want. Below is an image of a report where the distribution is weekly and the series are classes of objects:

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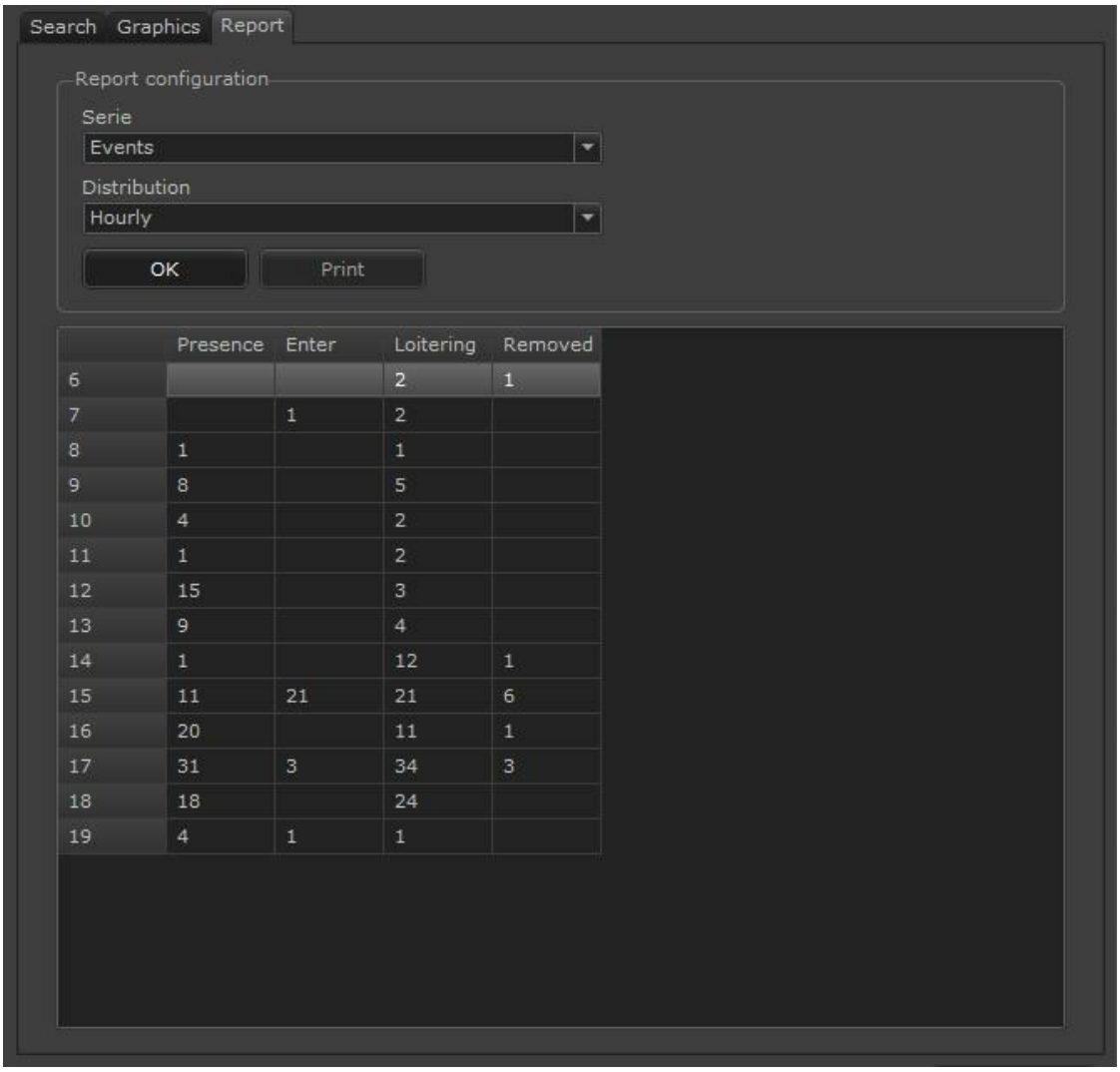

	Presence	Enter	Loitering	Removed
6			2	1
7		1	2	
8	1		1	
9	8		5	
10	4		2	
11	1		2	
12	15		3	
13	9		4	
14	1		12	1
15	11	21	21	6
16	20		11	1
17	31	3	34	3
18	18		24	
19	4	1	1	

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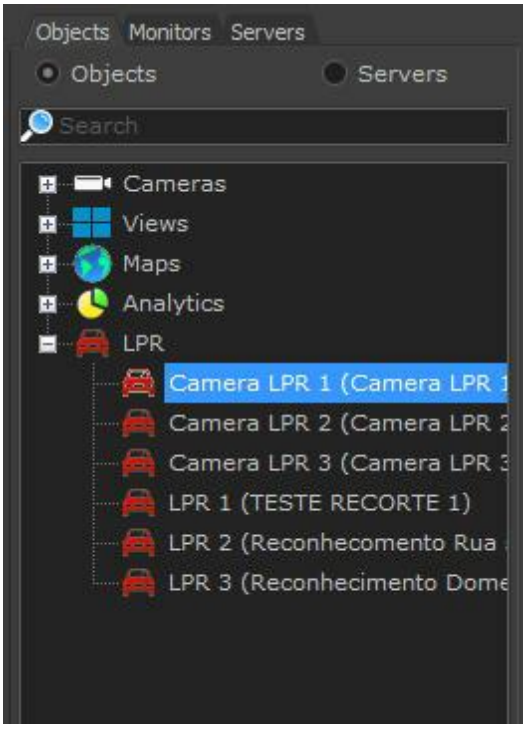
Chapter XIII

13 Working with LPR

The Digifort Software can work with plate recognition (LPR). If your module is properly licensed and configured you can see how it behaves in the Surveillance client.

To learn how to create analytics settings, check the Administration Client Manual.

After registering your LPR, it will be available in the Digifort sidebar list as shown below:



Simply click and drag the LPR configuration in a **screenstyle** to see it working as shown in the image below:

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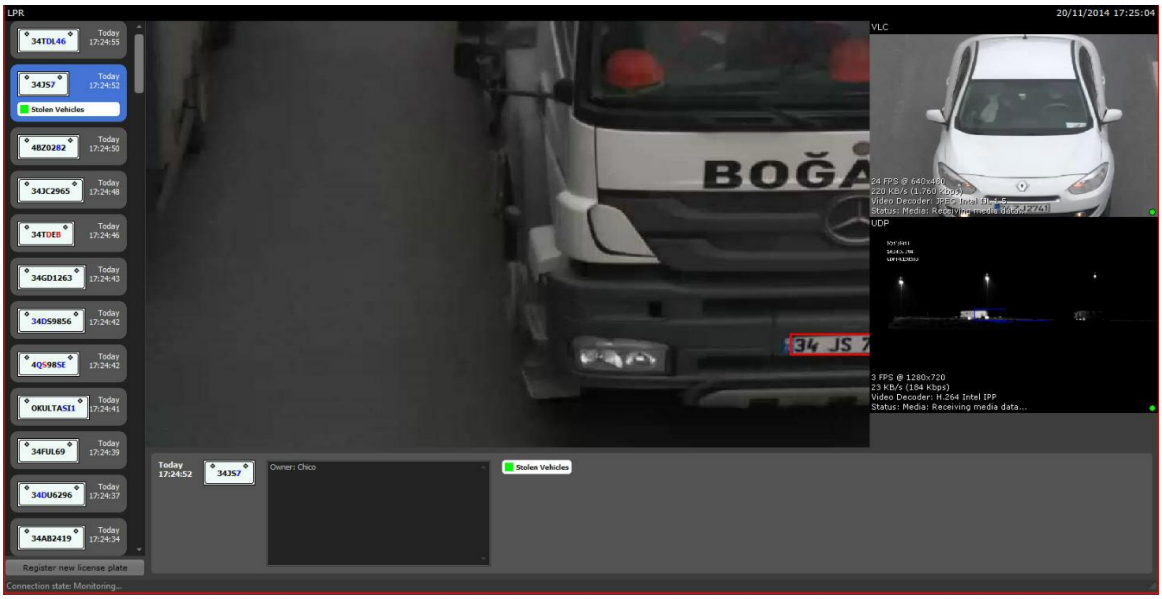
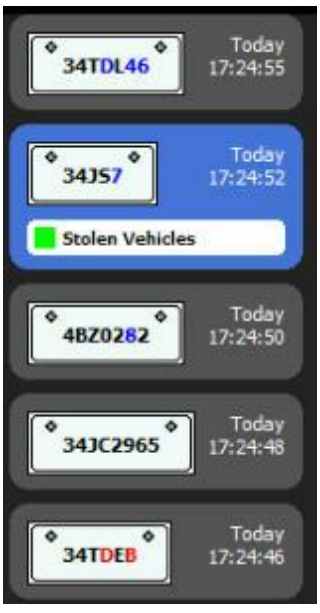


The screen central image shows the last plate recognized, or the plate selected in the event bar on the left.
The first image on the top right shows us the live camera where the recognitions are being performed . The cameras below show peripheral cameras, if registered.
To learn about peripheral cameras, check the Administration Client Manual.

13.1 Plate Identification

When plate recognition is triggered, physically or virtually, Digifort recognizes the characters as shown below:



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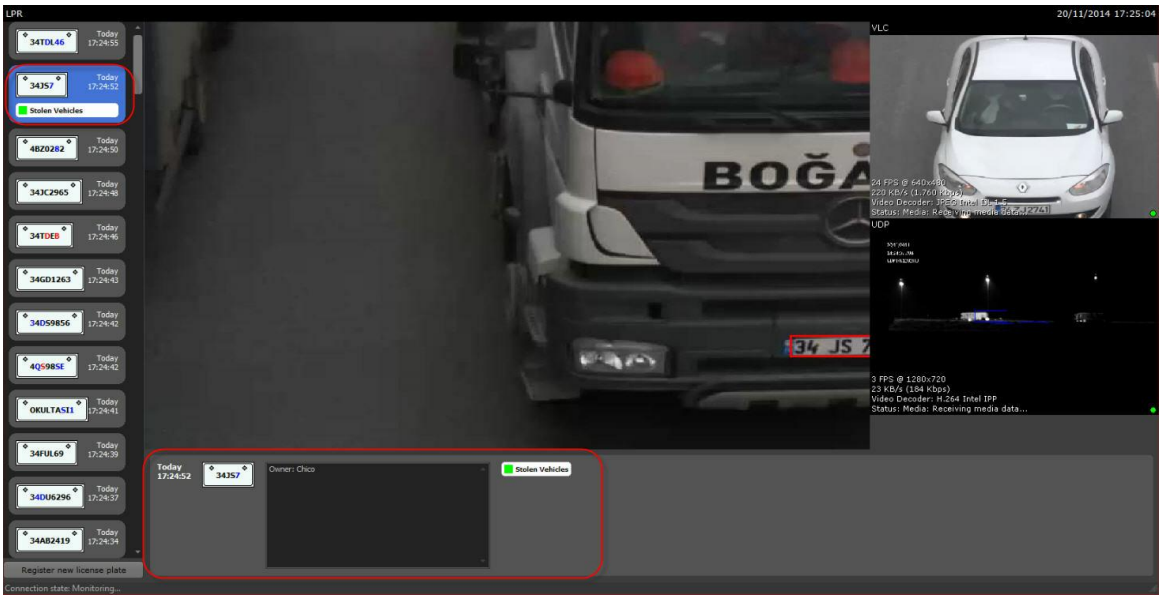
Digifort works with a plate reading accuracy rate as shown in the image above. This rate is sorted by colors:

- **Black**: high hit rate;
- **Blue**: average hit rate;
- **Red**: low hit rate;

When there is a plate recognition, an event is automatically generated in the right sidebar.

In the image below there is an area destined to the License plate information. This area tells you whether the recognized plate belongs to a list previously registered in the administration client (Check the Administration client manual). For example: Stolen cars list, allowed cars list, etc.



In this image, the plate selected in blue belongs to the green list "Stolen Vehicles". The software also shows whether a comment was registered with the plate and the detection time.

All plates, times and dates are recorded in the Digifort database and can be searched from the surveillance client.

13.2 Registering plates

It is possible to register plates in Digifort to generate events.
In the Surveillance client new plates can be inserted into existing lists by clicking on the **Register new plate** button shown in the image below.

To understand more about LPR events and lists, check the Digifort Administration Client Manual.

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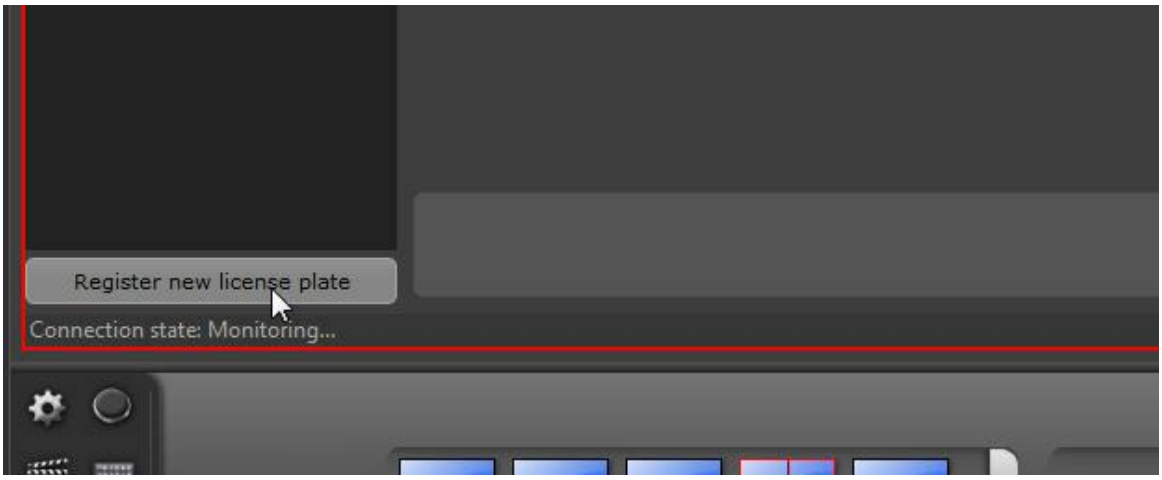
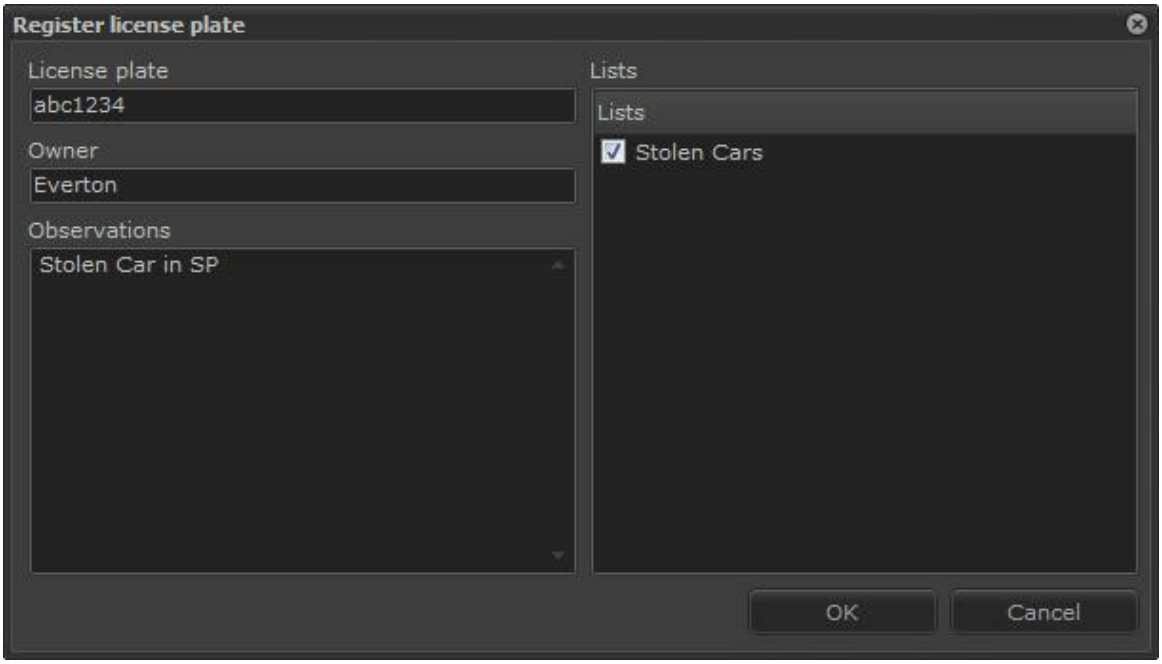


A window will open for plate registration:



Enter the plate you want and the additional information if necessary. The plate can be inserted into one or more previously registered lists.

13.3 LPR Records

Digifort allows all LPR events in the system to be searched and consulted.

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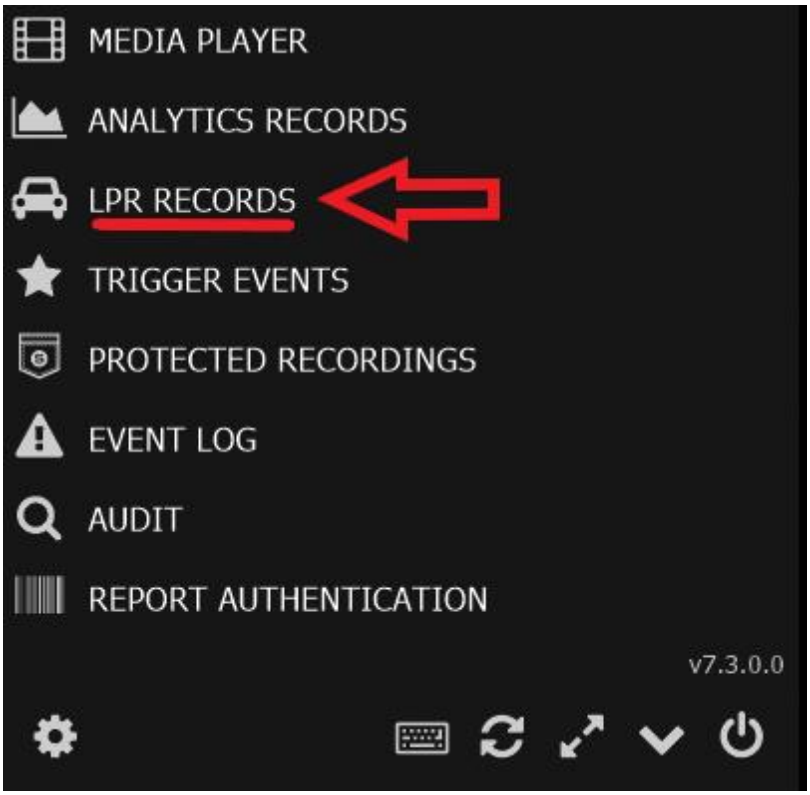
13.3.1 Search Records

To query records, click on the LPR Records option as shown in the image below:



The following screen will be displayed:

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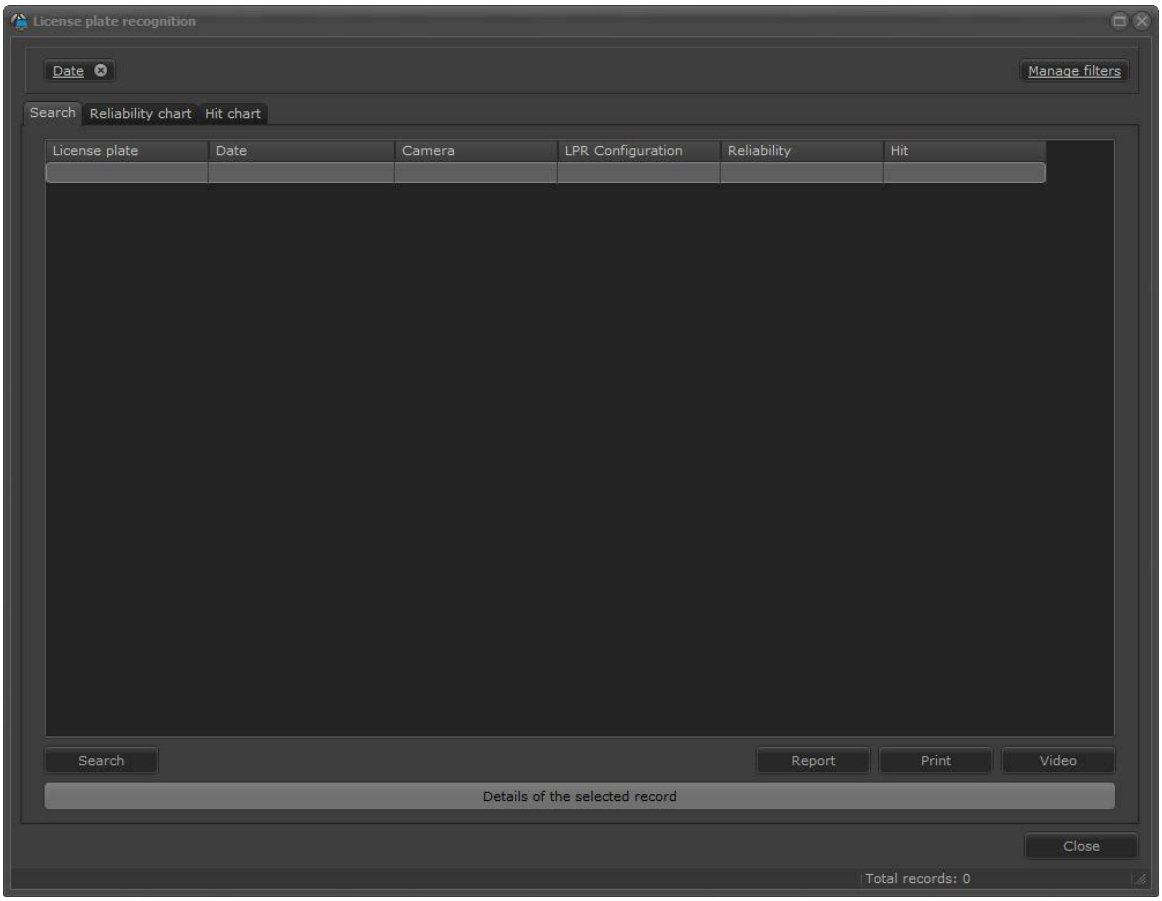

On this screen, you can query records through several methods.
We will see each one of them in the following chapters.

When the Search key is pressed with no filter configured, all records contained in the database will be displayed:

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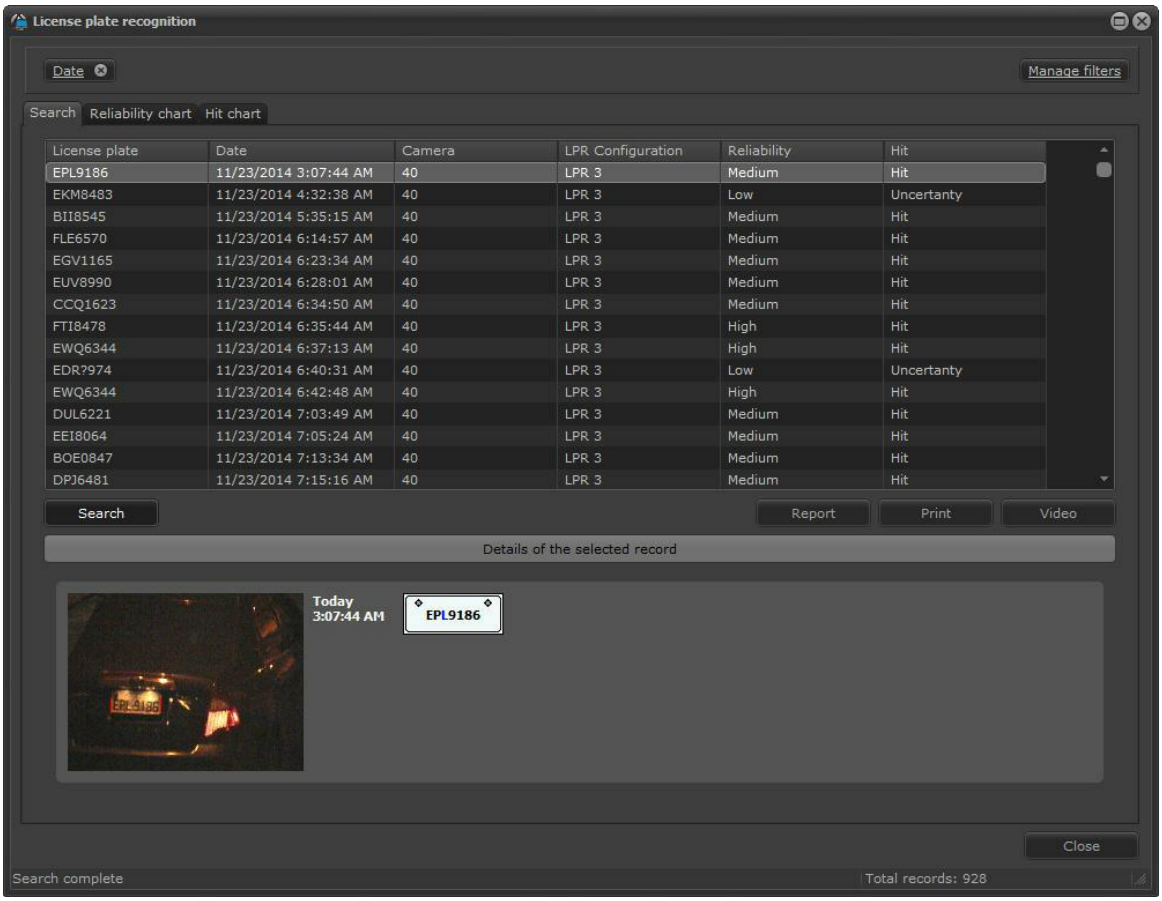

The red bar shows the search progress while Record Count is shown to the right of the screen.

With the camera with the LPR on the screen, you can query by the recent record in two ways:

By right-clicking on the record and choosing Quick Search:

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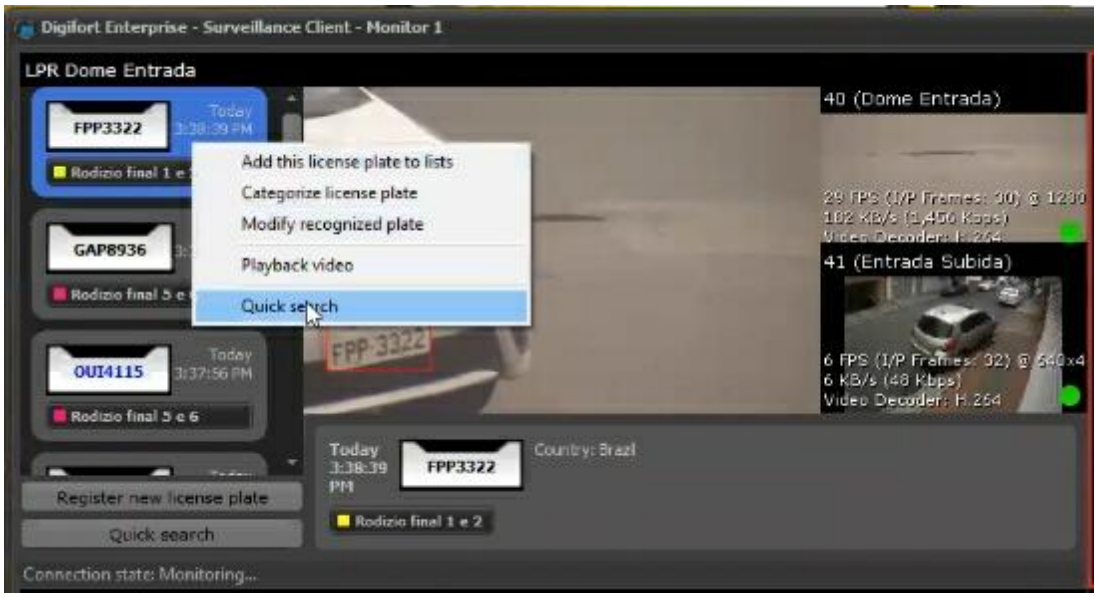

Or by clicking on the lower option, Quick Search:

The following window will be displayed:

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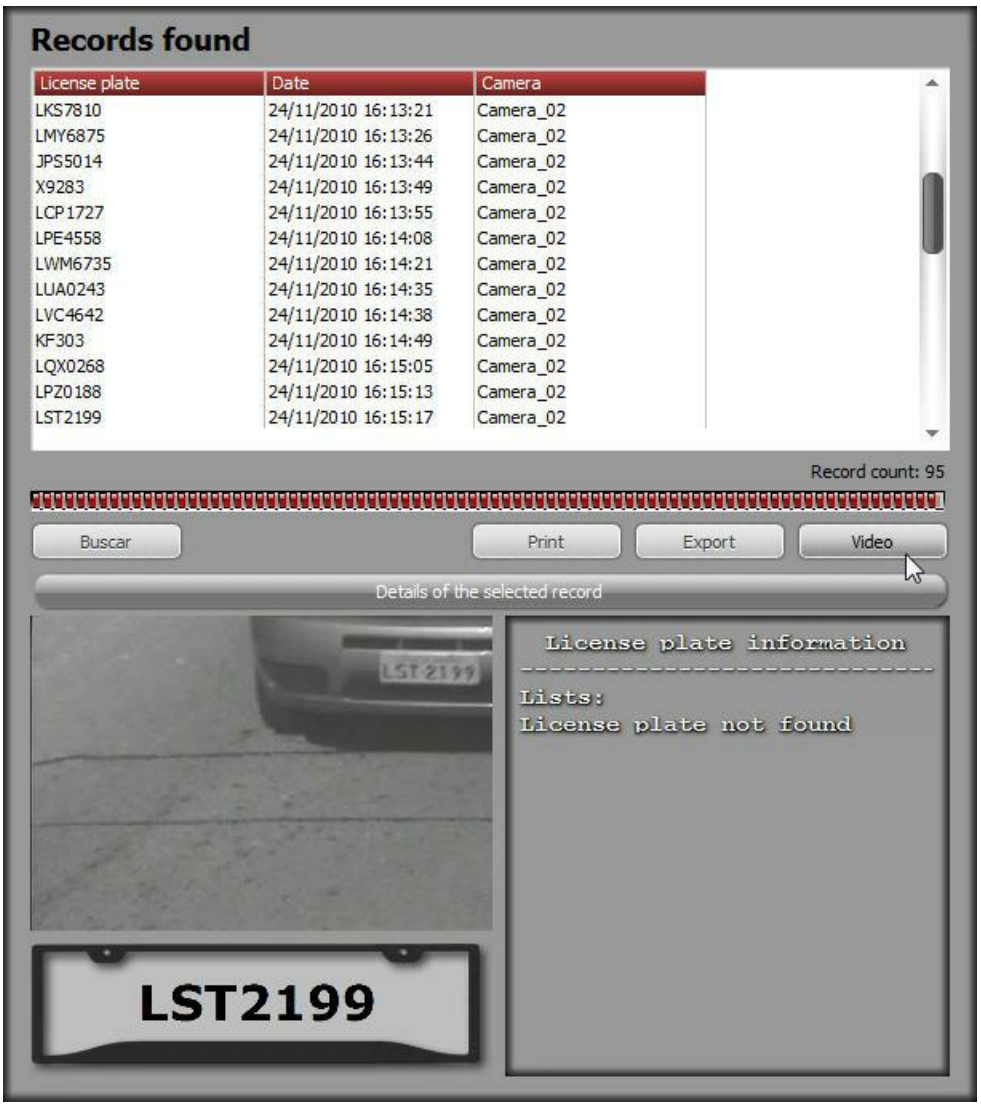
Simply select the date in which the query must be performed and fill-in the field with the plate of the vehicle to be queried.

In the advanced search screen, you can export the list of all records in CSV format by clicking on the Export button.

Every LPR event has a date and time, therefore, you can see the recording of the exact moment by clicking on the desired record and then on the Video button, as shown in the figure below:



After clicking on the video button, the Digifort player will open playing the video of the event.

13.3.1.1 Details of the record

The LPR records store the photo of the captured plate in detailsin the database.

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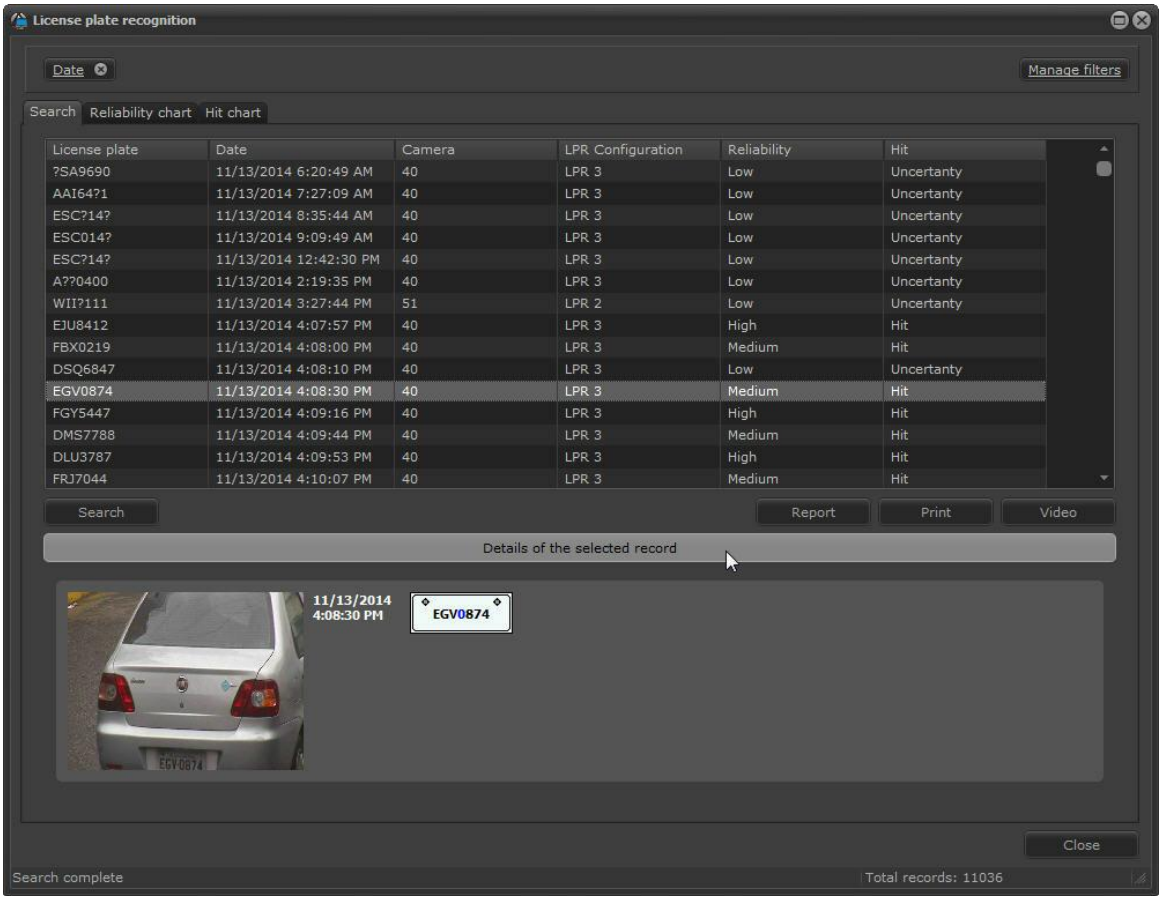
To see the details of a record, simply select it and click on **Details of the selected record**, as shown in the image below:



When viewing a recording of an LPR record, you can activate the digital zoom feature for image analysis.

During real-time detection, if any record has been detected incorrectly, the operator may manually alter the record as follows:

Right-clicking on the record:

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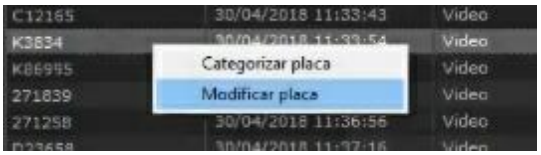
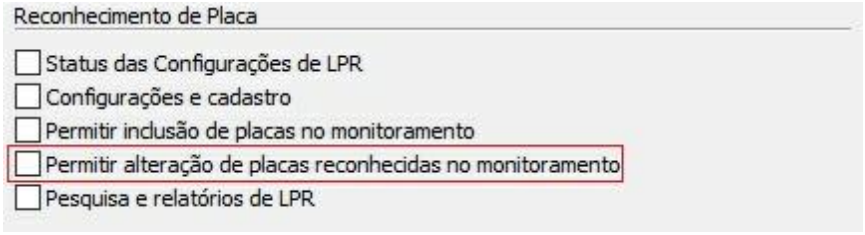
And selecting the Modify Recognized Plate option, the following window will be displayed, allowing the record to be altered by the System Administrator or by an operator with the appropriate permissions:

Alternatively, in the LPR records advanced search menu, by right-clicking on the record:



Bearing in mind that such changes can only be made by the System Administrator or by users with the following permission:



13.3.1.1.1 Display plate cropping in results

The LPR record viewer (live and query) now allows the display of the recognized plate cutout.

In live records, the system allows you to choose between image cropping or the virtual representation of the plate:

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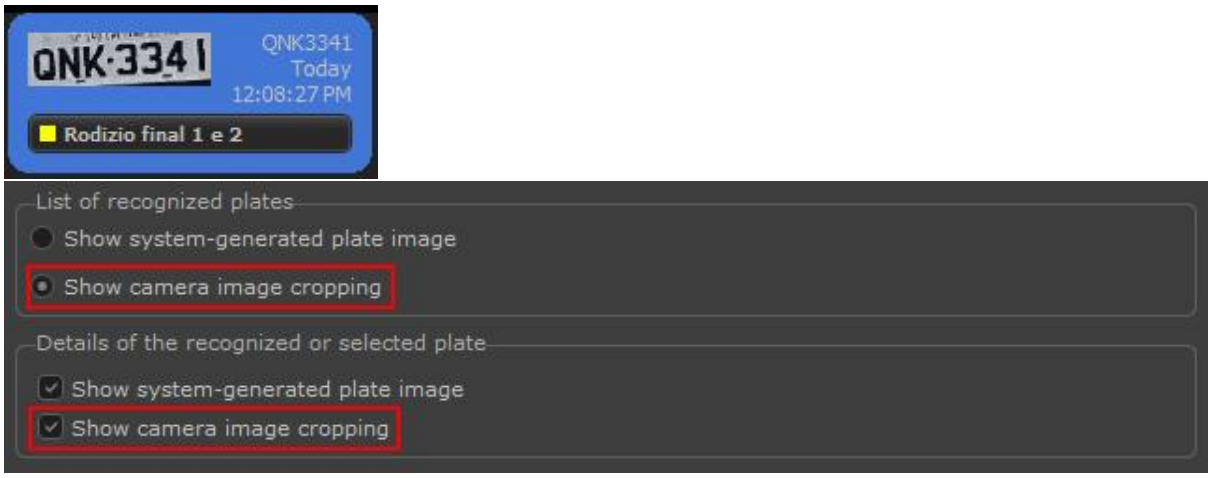
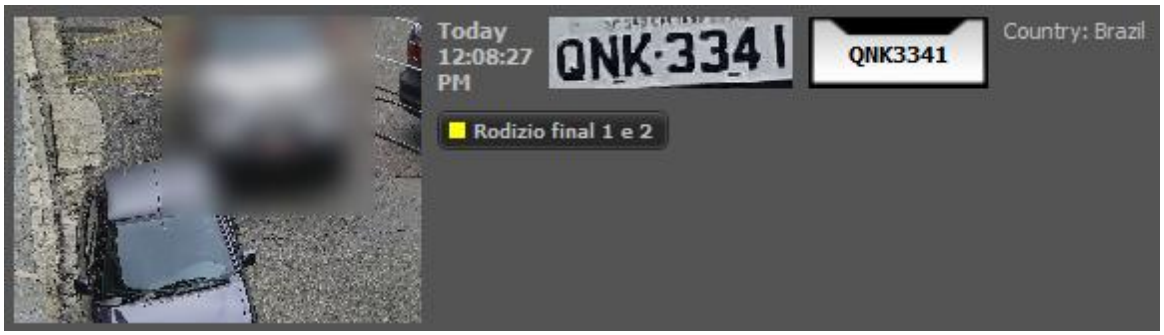
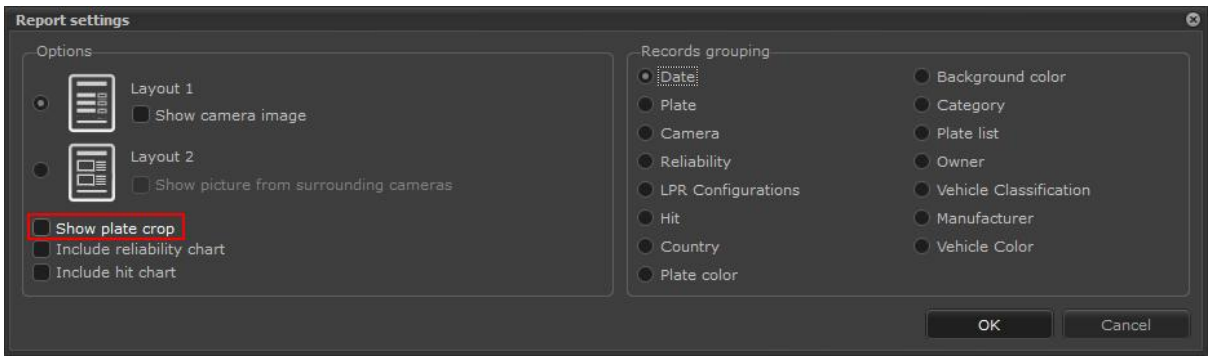


In the details of a record in the LPR record query, it is possible to configure the display of both the plate cutout and the virtual plate.



It is also possible to add plate cutouts in the printed LPR reports:



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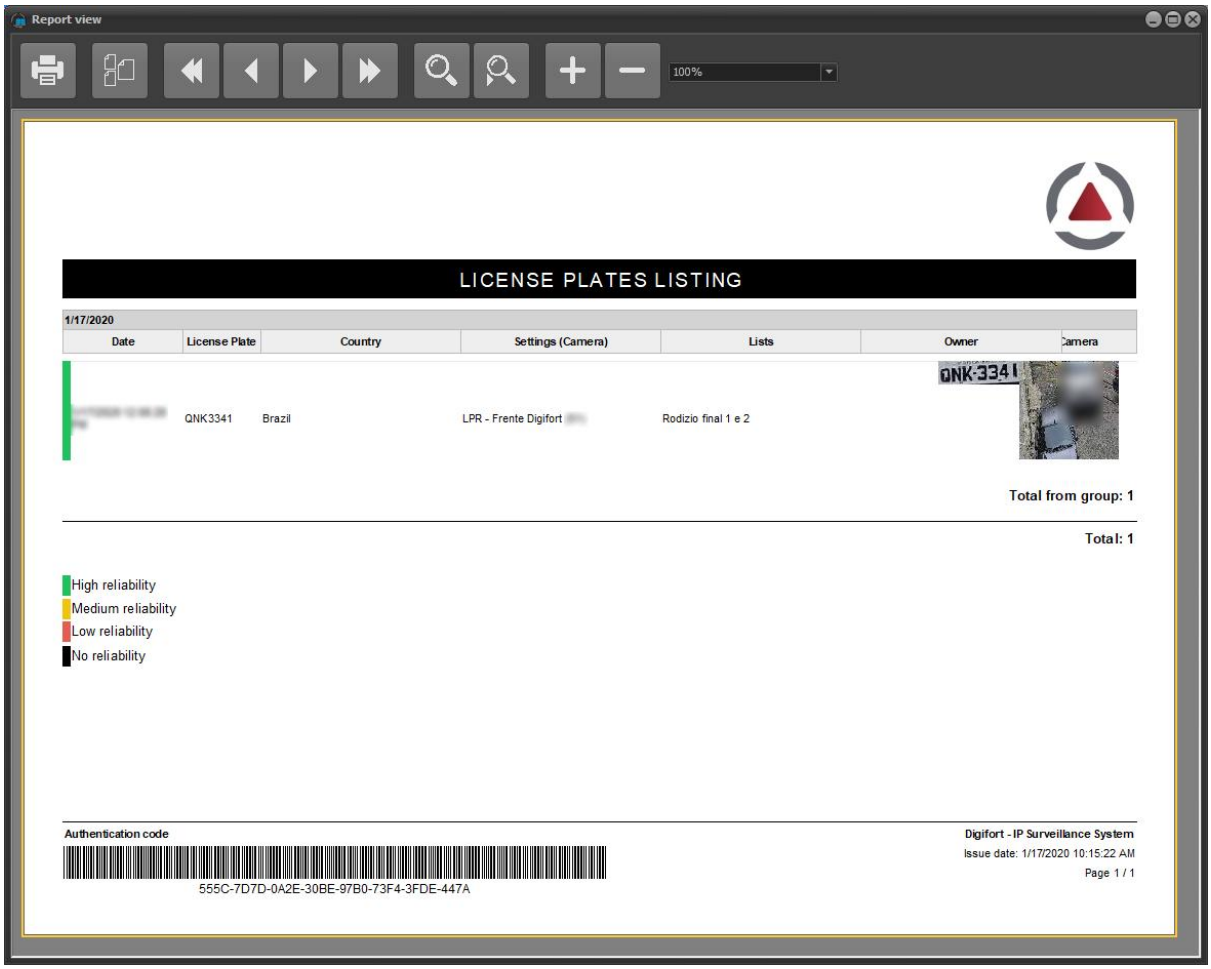

13.3.1.2 Search with filters

The record filters were developed to facilitate the record search in the Surveillance Client. With filters it is possible to quickly locate an event. See video and information.

Next we will see how they work.

13.3.1.2.1 Search by Plates

The plate filter allows one or more plates to be quickly located in the logs.
There are two types of search: the simple search and the advanced search.

To add the filter click on **Manage filters**, and then click on the **Plates tab.**
To activate the filter simply click on **Activate filter**.

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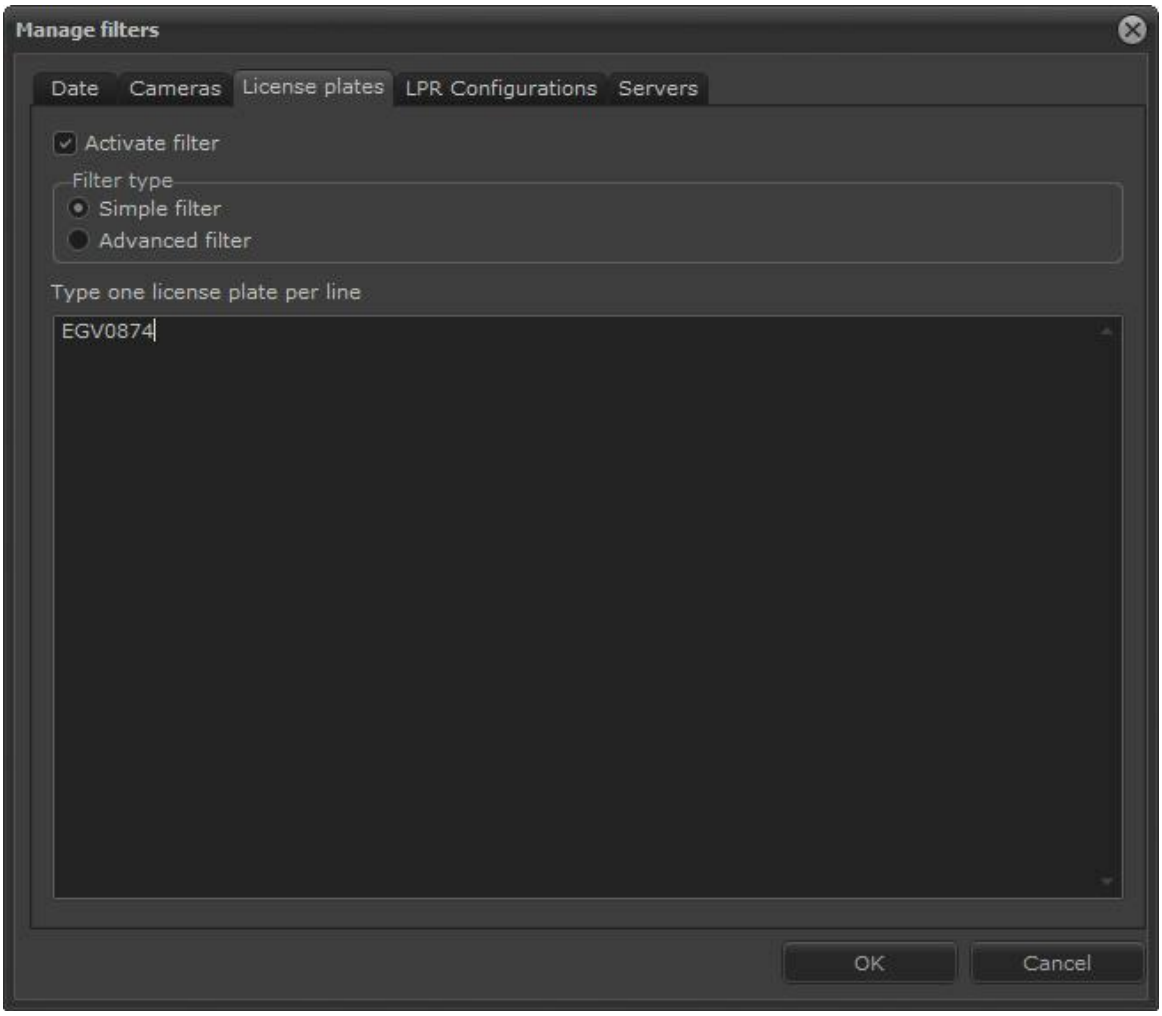
13.3.1.2.1.1 Simple Search

In the simple search, the search is made by the entire plate, that is, what you type is searched as shown below:



After typing the interest plate click on **OK**.

Then on the main screen click on **Search**:

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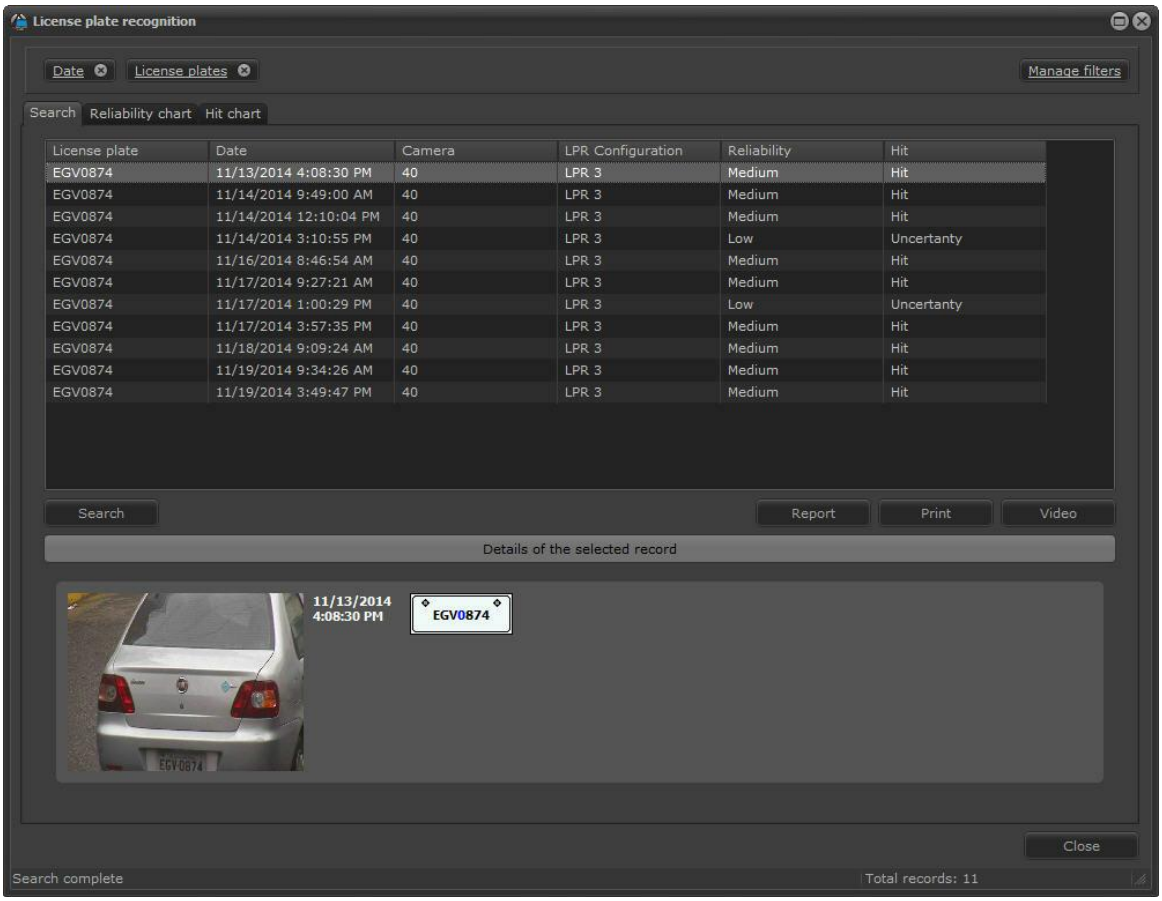

The records related to plate are displayed.

13.3.1.2.1.2 Advanced Search

In the advanced filter option there is a wider range of options to locate a record in the database. Select the **Advanced Filter** option. The following options are available:

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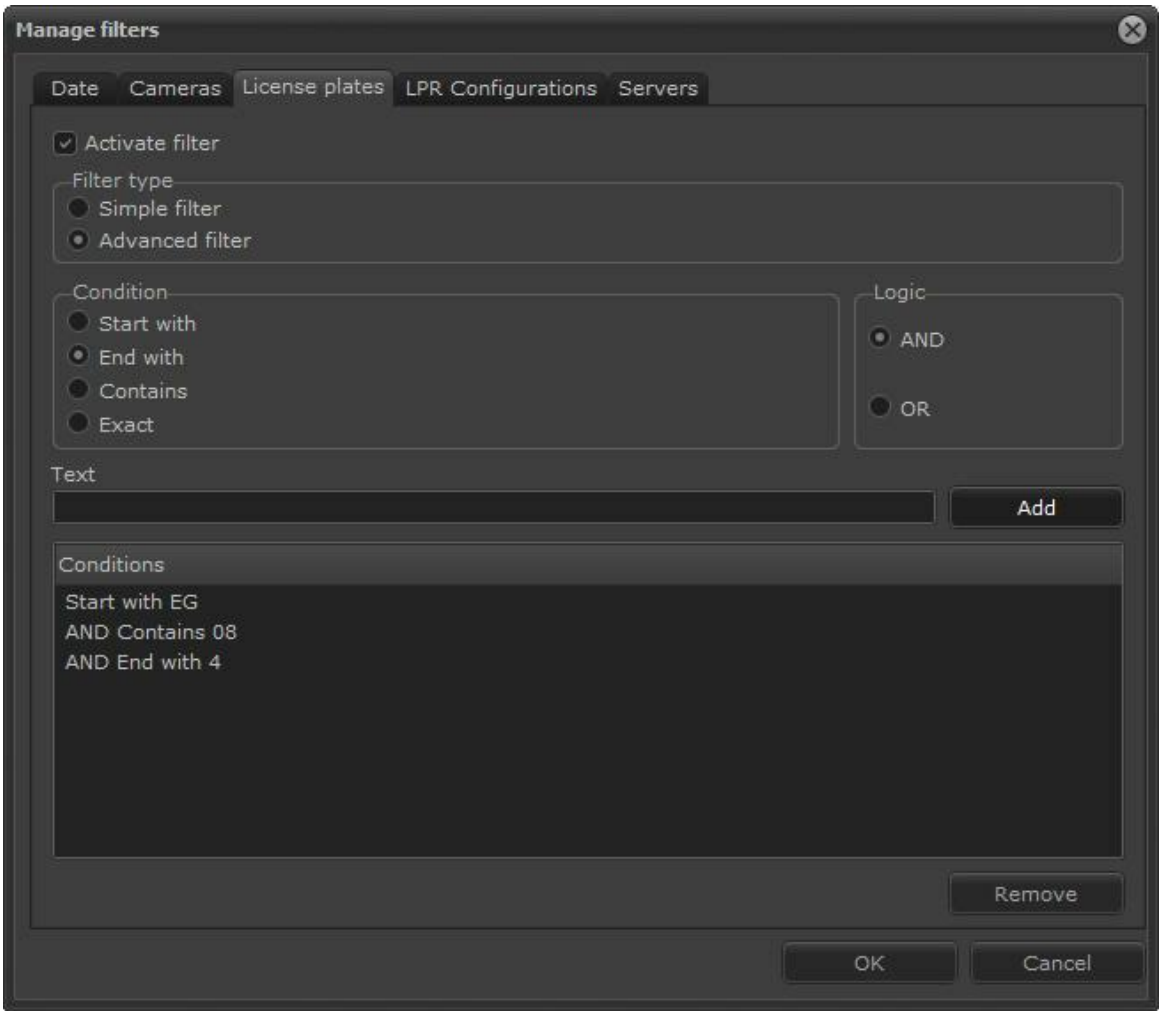

This screen has the following features:

The options below can be combined with **AND** and **OR** with the conditions **Start with, End with, There is** and **Exact**:.

Start With: Set the plate first character or characters.
End With: Set the plate last character or characters.
Exists: Set a character or combination of existing characters in the plate in the order you want.
Exact: Set the exact plate to search.
AND – Does the logic **AND** with the combinations creating **Conditions**.
OR – Makes the logical **OR** with the combinations creating **Conditions**.

For example: Search for plates that start with "KU" and end with "88" as shown in the image above or start with "KU" or end with "88".

13.3.1.2.1.3 Pesquisa Rápida

Live LPR control has a quick search function. Through the "Quick Search" button on the interface, it is possible

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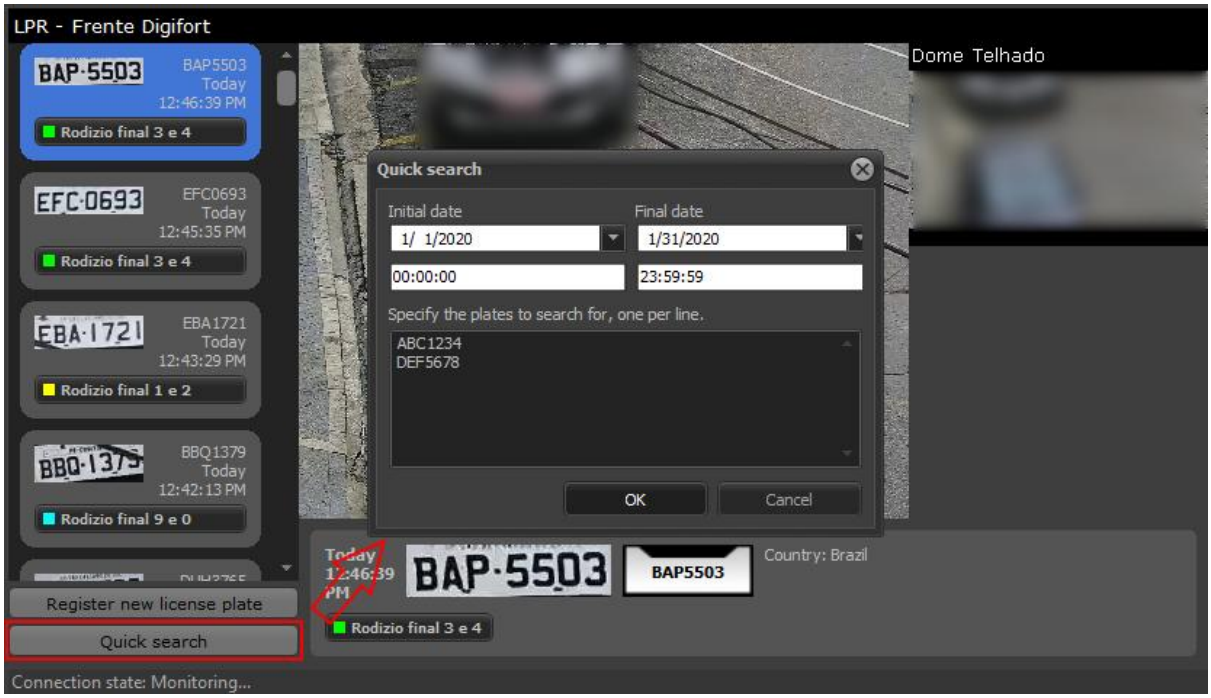
to quickly open a small query screen that already has a pre-configured filter to bring up all the records for the current month and allows you to specify a list of plates for quick consultation.



13.3.1.2.2 Search by date

This filter works in the same way as described in the chapter Search by Date 149
The following Filters can be applied to the search:

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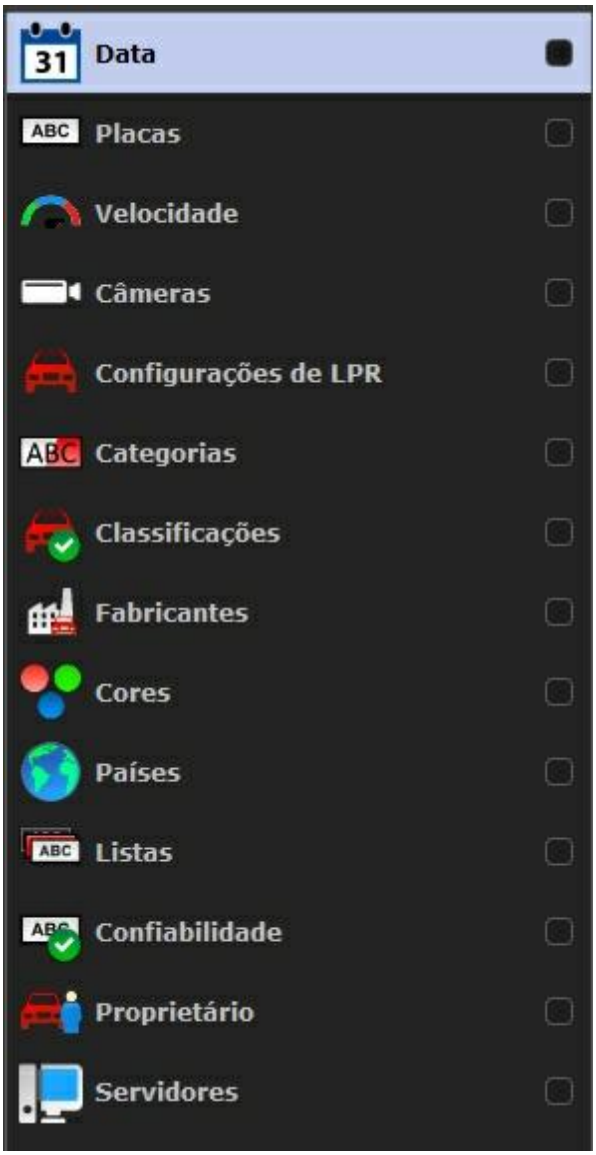

13.3.1.2.3 Search by camera

This filter works in the same way as described in the chapter Search by camera 194

13.3.1.2.4 Search per LPR configuration

This filter allows plates to be searched in only certain LPR settings.

To add the filter click on **Manage filters**, and then click on the **LPR settings**.
To activate the filter simply click on **Activate filter**.

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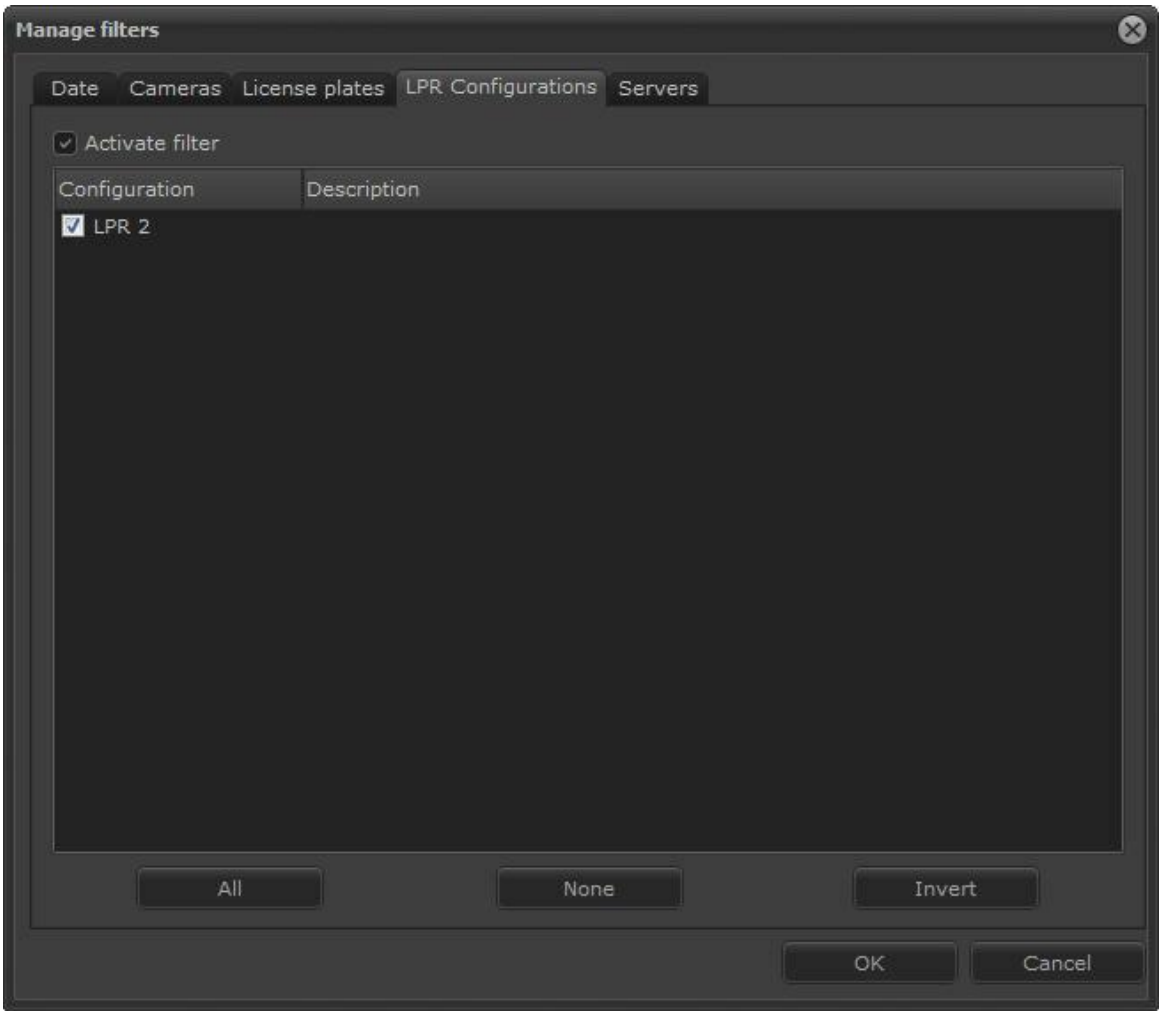

Select the configuration you want and click on **OK**.
Then on the main screen click on **Search.**

13.3.1.2.5 Searching per server

This filter operation is equal to the one described in the chapter Searching by server

13.3.1.2.6 Searching by reliability

It allows filtering records through the reliability of the recognition result.

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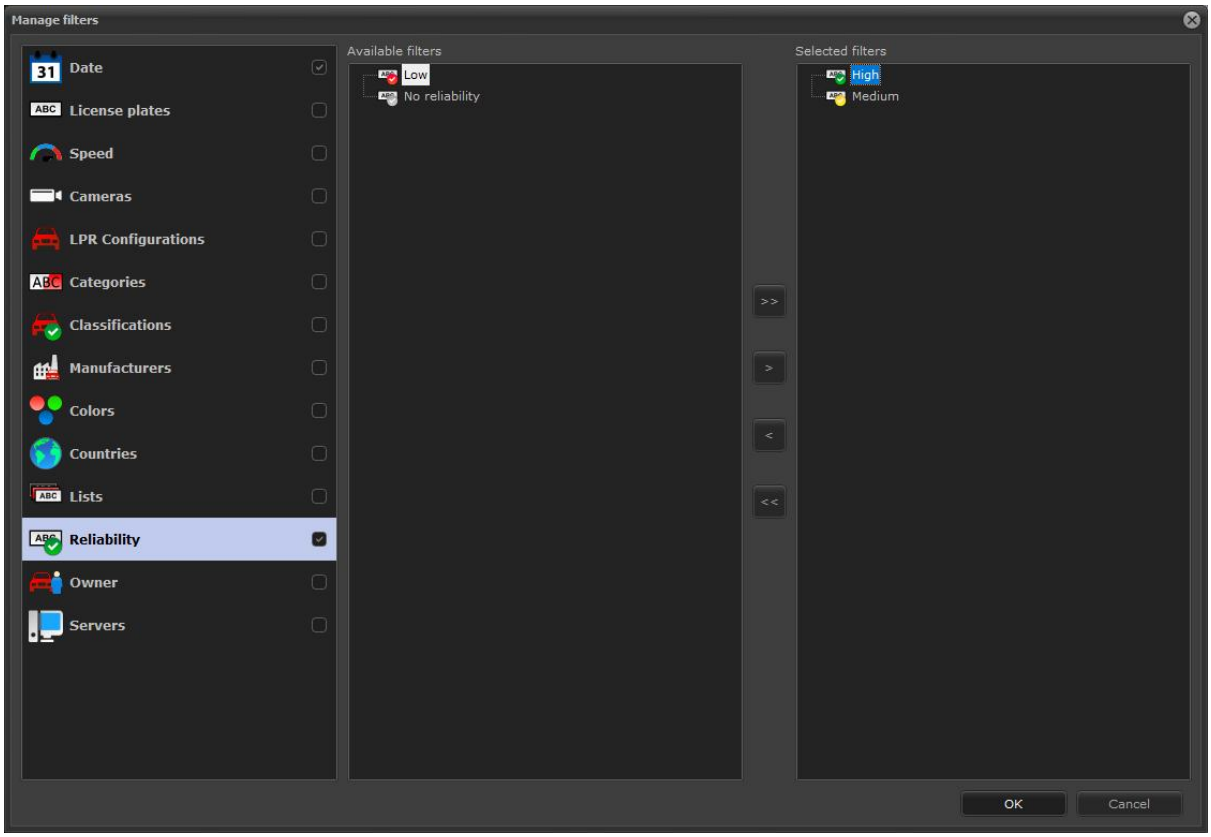

13.3.1.2.7 Searching by owner

It allows records to be filtered through the vehicle's owner. The vehicle's owner can be specified in the registration of plates through the Administration Client.

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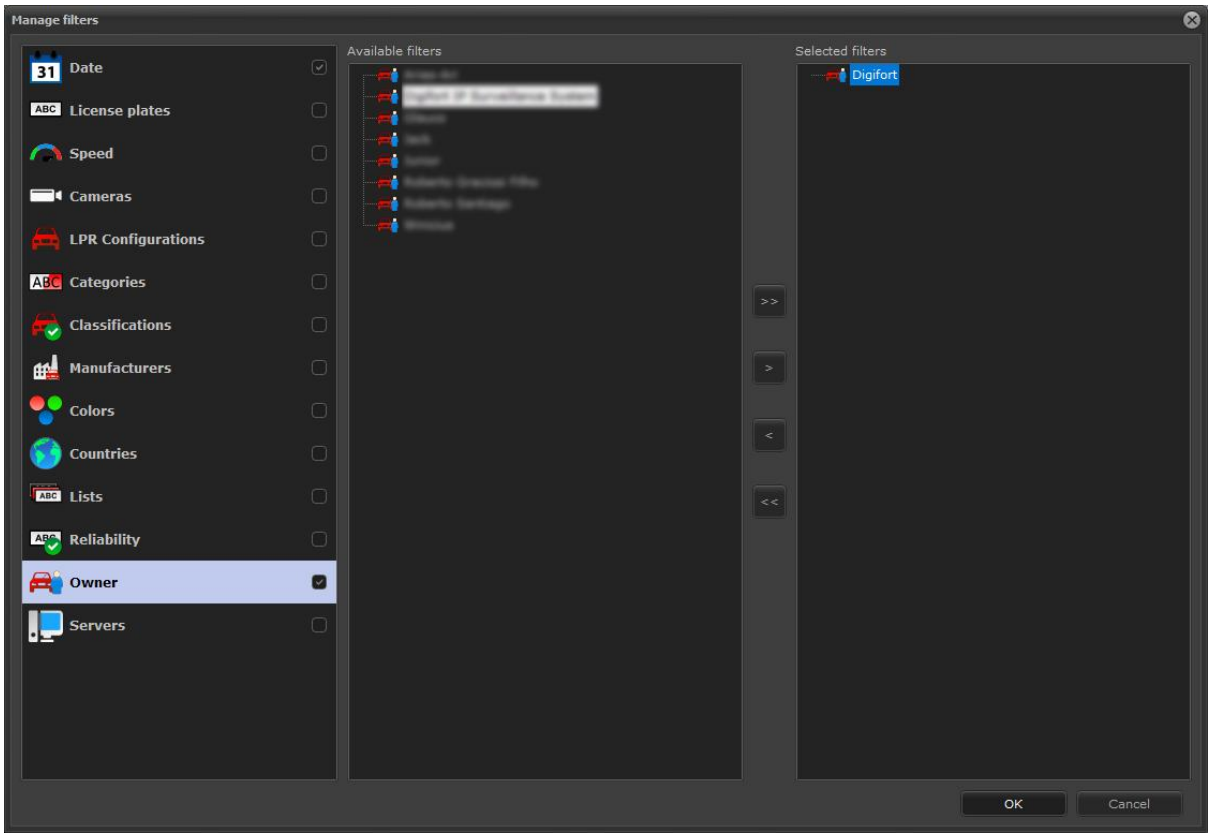

13.3.1.2.8 Searching by list

A new filter has been added to allow records to be filtered through the list of registered plates in the Administration Client.

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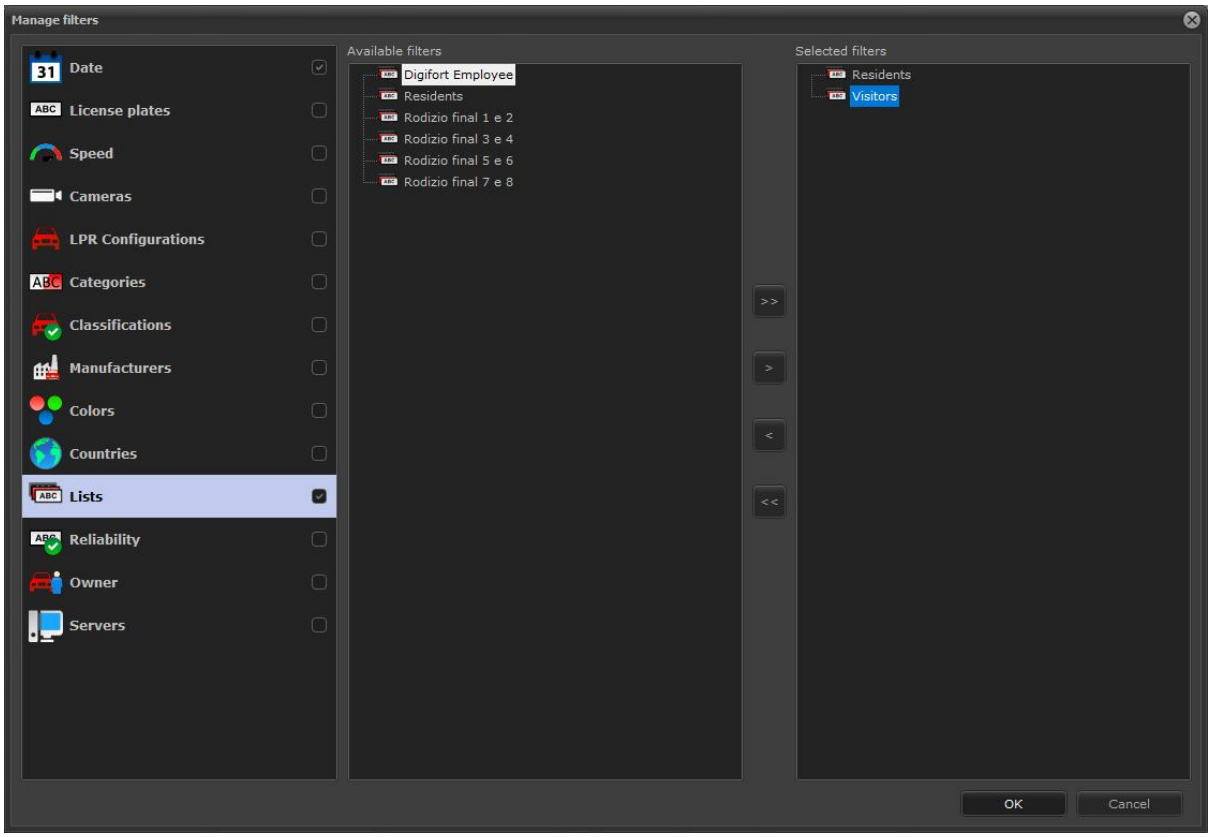

13.3.1.3 Creating Reports

The LPR record search screen allows reports to be saved or printed from a search.

After searching for the interest plates, click on the **Report** button

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A pop-up will open with the report configuration heading (**Report Settings**).

In options, you can choose which layout to use for your export.
How to also define:

- **Show plate cutout**: An image of the detected plate accompanies the record.
- **Include Reliability Graph**: Includes the graph showing the reliability of the detection.
- **Include Hit Graph**: Includes the graph showing the hit rate.

You can also group records using categories on the right side of the window.

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License plate list

Print date : 25/11/2010
License plate filter: Start with L AND End with 8
Records grouped by date

24/11/2010

Date	License plate	Camera
24/11/201016:12:03	LQX0268	Camera_02
24/11/201016:12:11	LPZ0188	Camera_02
24/11/201016:14:08	LPE4558	Camera_02
24/11/201016:15:05	LQX0268	Camera_02
24/11/201016:15:13	LPZ0188	Camera_02
24/11/201016:17:10	LPE6558	Camera_02
24/11/201016:18:06	LQX0268	Camera_02
24/11/201016:18:15	LPZ0188	Camera_02
24/11/201016:20:12	LPE6558	Camera_02
24/11/201016:21:08	LQX0268	Camera_02
24/11/201016:21:17	LPZ0188	Camera_02
24/11/201016:23:14	LPE6558	Camera_02
24/11/201016:24:10	LQX0268	Camera_02

License plate list

Print date : 25/11/2010
License plate filter: Start with L AND End with 8
Records grouped by date

24/11/2010

Date: 24/11/201016:12:03
License plate: LQX0268
Camera: Camera_02

Date: 24/11/201016:12:11
License plate: LPZ0188
Camera: Camera_02

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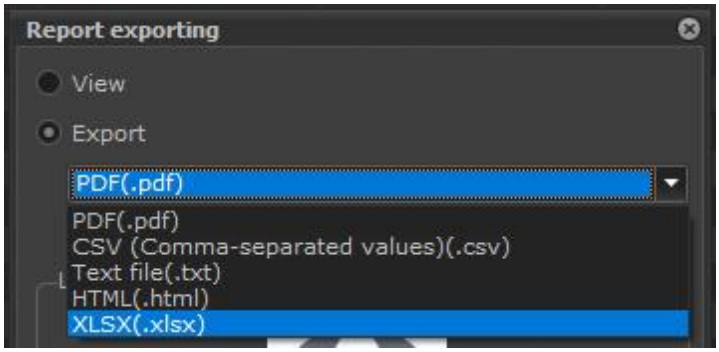
Important

Any printing or record viewing for printing requires that a default printer is configured to the computer

13.3.1.4 Exporting reports in XLSX

LPR reports can now also be exported in XLSX format:



13.3.1.5 Printing a record

The LPR record search allows printing a single record. Simply click on the item you want, then leave the record details box open and then click on **Print** as shown below:

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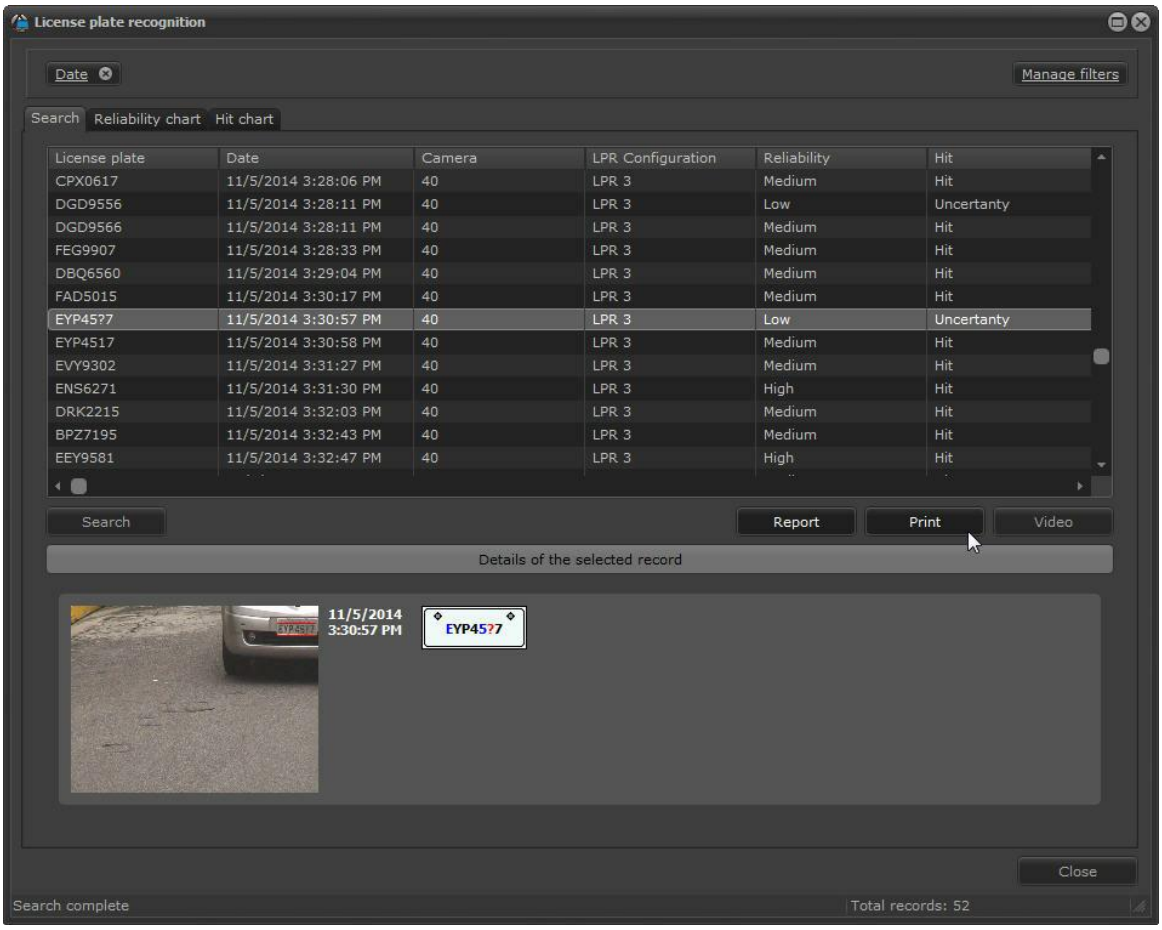

Type the information for printing:

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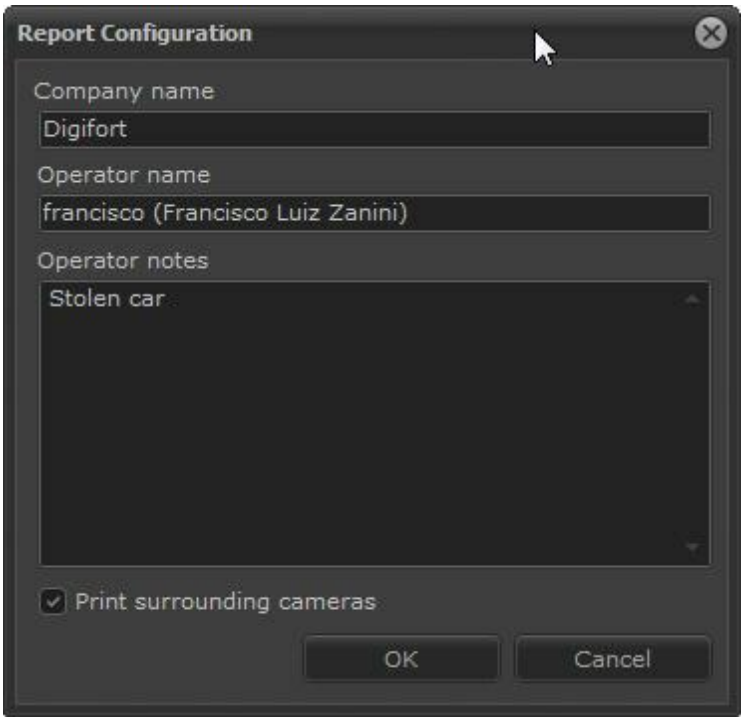

A screen opens to allow you to save or print the report. The report format is displayed as in the following image:

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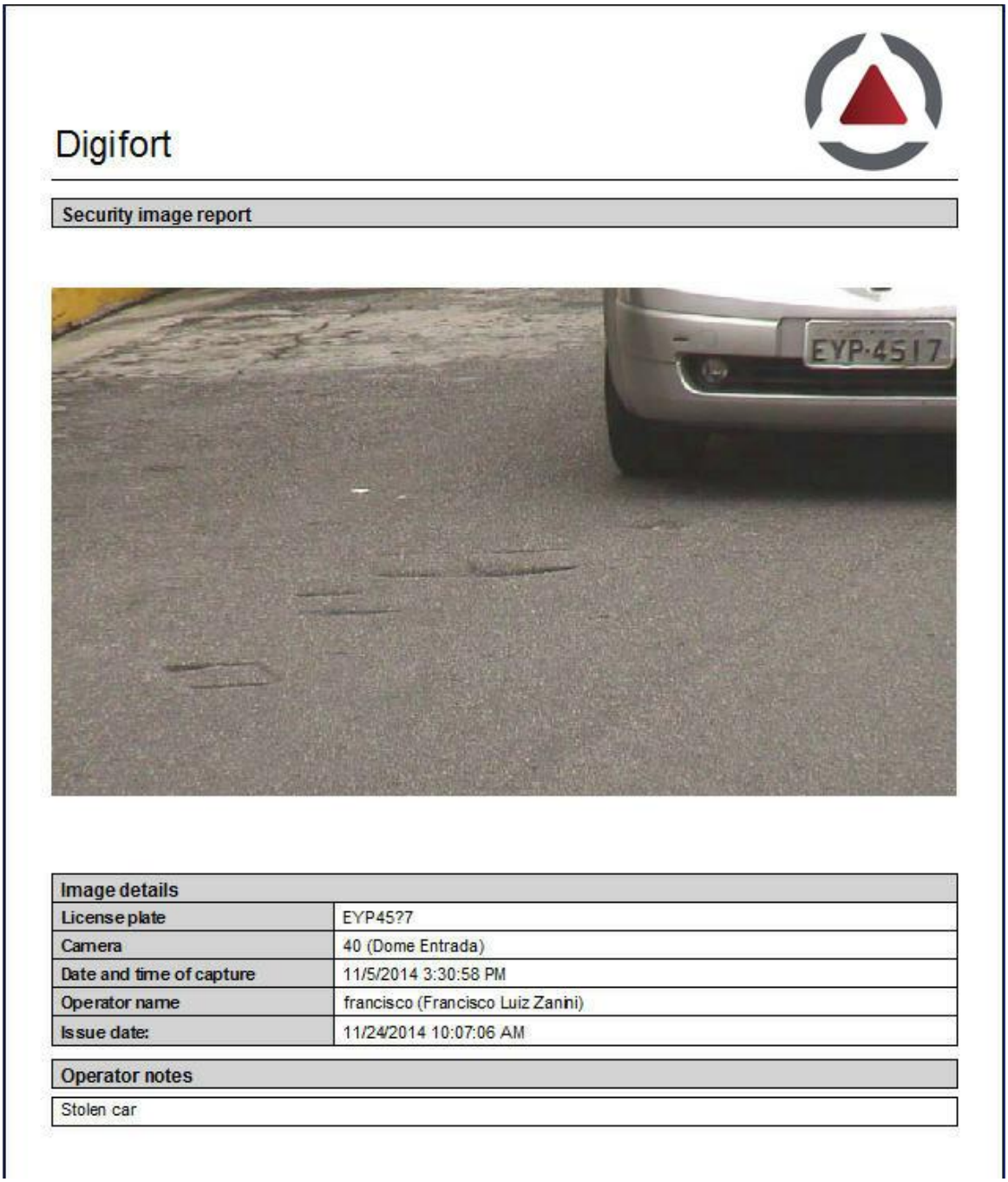

Digifort

Security image report

Image details	
License plate	EYP45?7
Camera	40 (Dome Entrada)
Date and time of capture	11/5/2014 3:30:58 PM
Operator name	francisco (Francisco Luiz Zanini)
Issue date:	11/24/2014 10:07:06 AM

Operator notes
Stolen car

Important

Any printing or record viewing for printing requires that a default printer is configured to the computer.

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13.3.2 Reliability chart

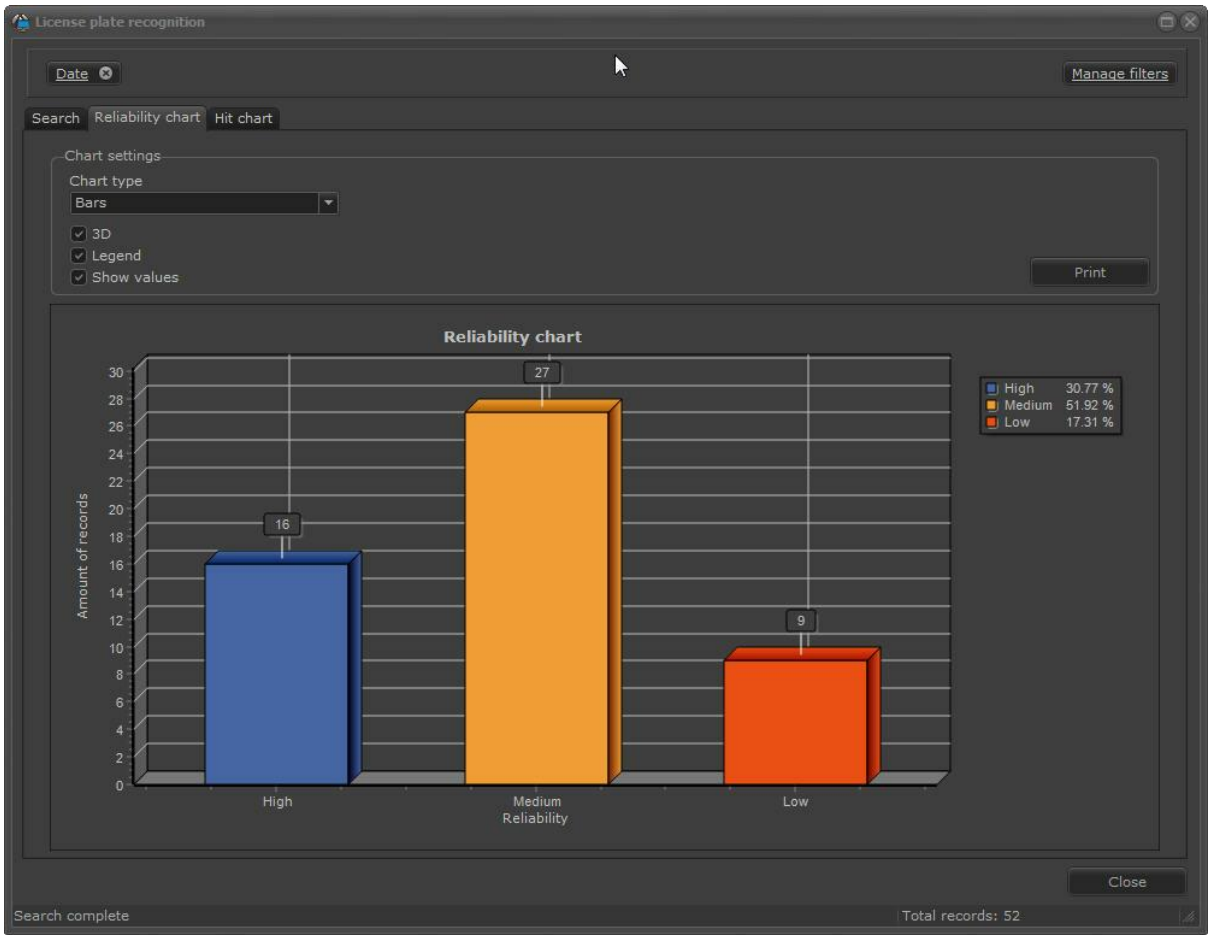
LPR has a reliability level in reading by character. The Software generates an average and displays the reliability degree per plate.

Example: The plate **ABC1234** had a recognition reliability rate of 90%, which is considered a high hit rate.

Reliability rates:

Reliability greater than or equal to 90% = High Rate
Reliability between 70% and 90% = Average Rate
Reliability less than 70% = Low Rate

After searching for the recognized plate records, you can generate a reliability rate chart. To do this, click on **reliability chart** as shown below:



The chart above shows that 16 readings among the 52 records had the high recognition rate. The

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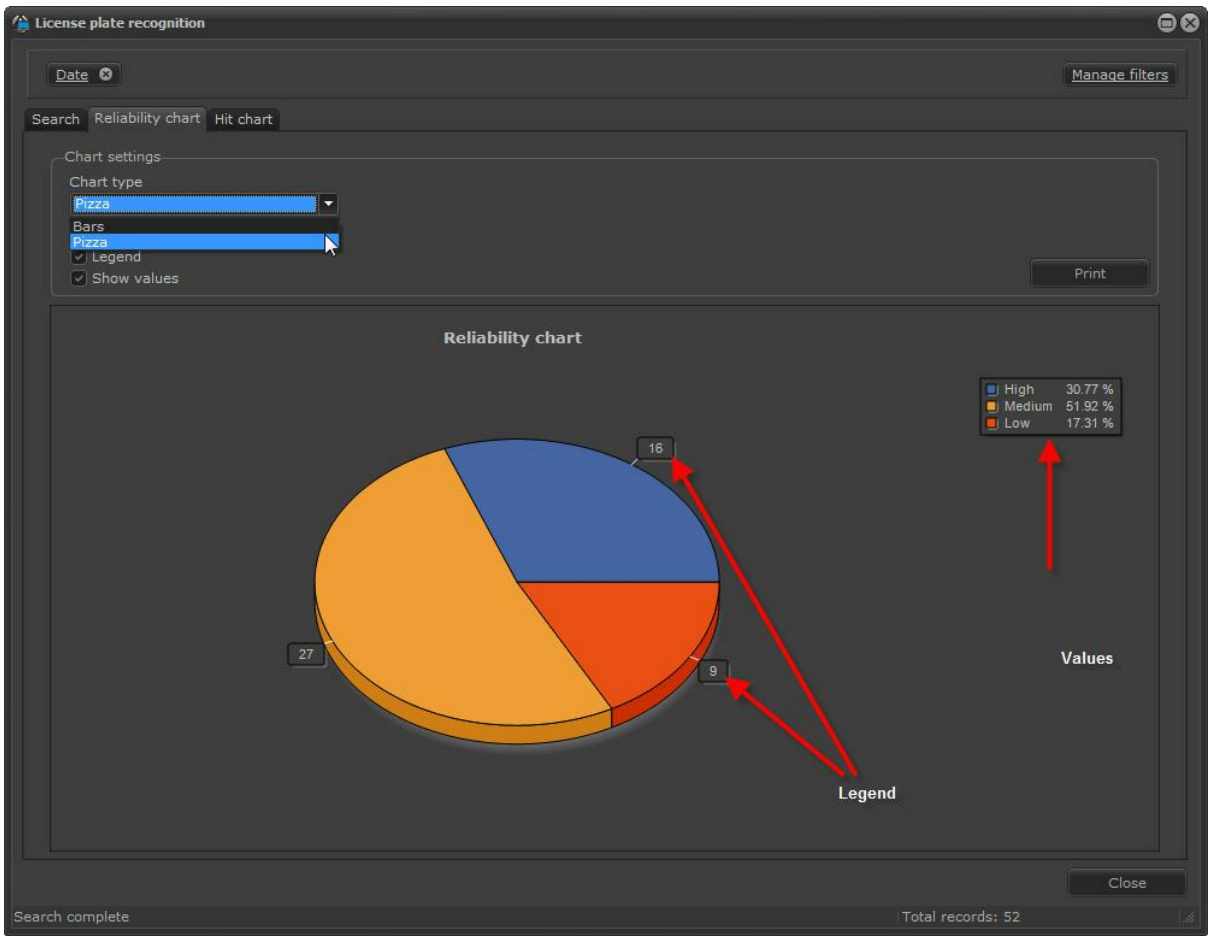
average rate is 27 and the low rate is 9.

The same chart can be generated in 2D/3D Pizza format. Simply select the chart type:



The generated chart can be printed or saved by clicking on **Print**.

13.3.3 Hit chart

Digifort considers a hit in reading the plate when the degree of reliability, mentioned in the previous topic, is either **High** or **Average**.

Click on **Hit chart** to generate a chart for that information as shown below:

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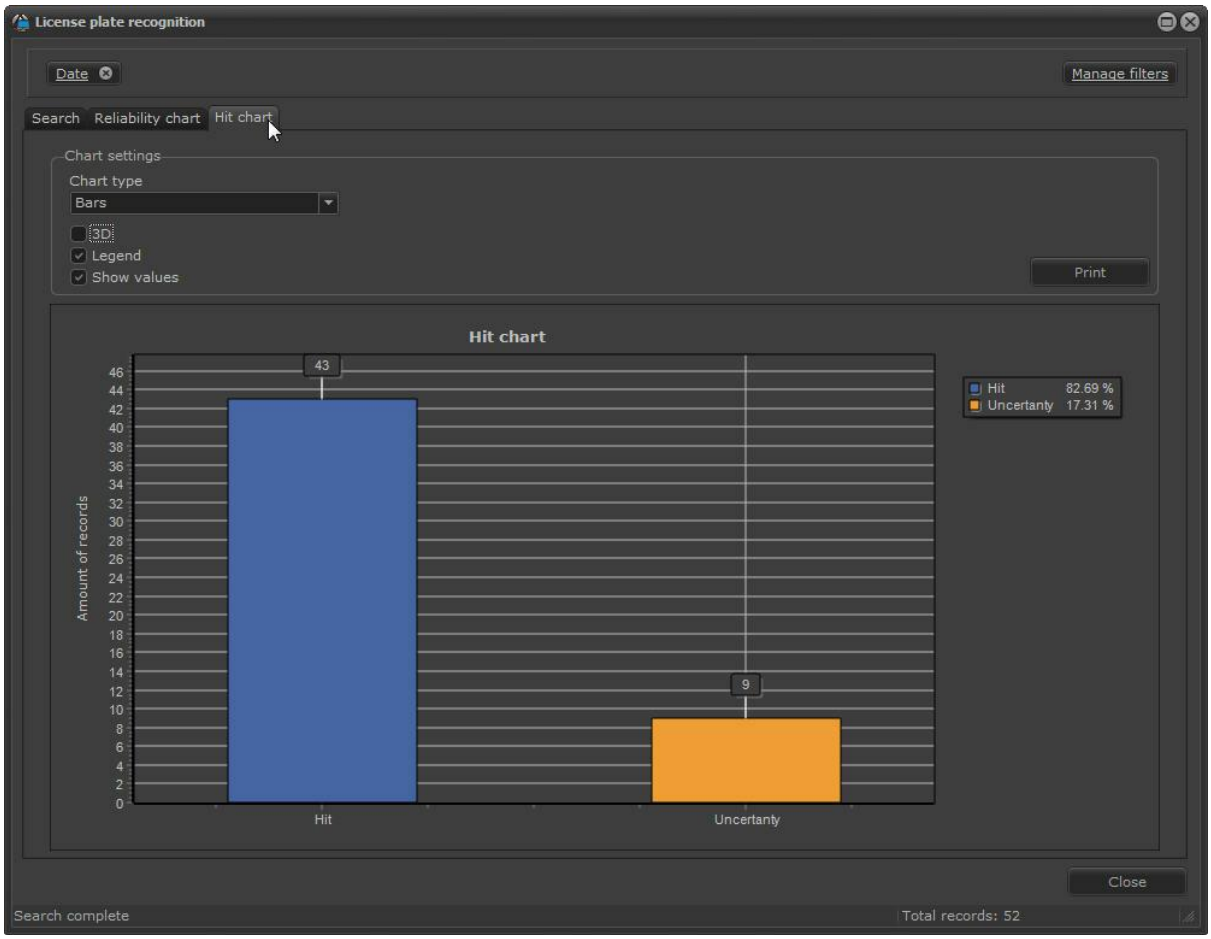
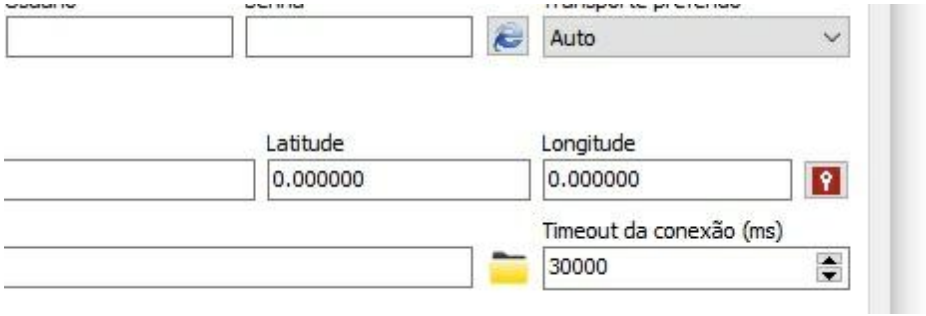


The chart shows that among 52 readings, 43 were considered hits and 9 uncertainties.

The generated chart can be printed or saved by clicking on **Print**.

13.3.4 Plot plate routes

The LPR records query system in the Surveillance Client now features integration with Google Maps, allowing the display of all recognition points of a plate on the map, simply by registering the GPS position of the LPR cameras.
By adding a camera using its latitude and longitude:



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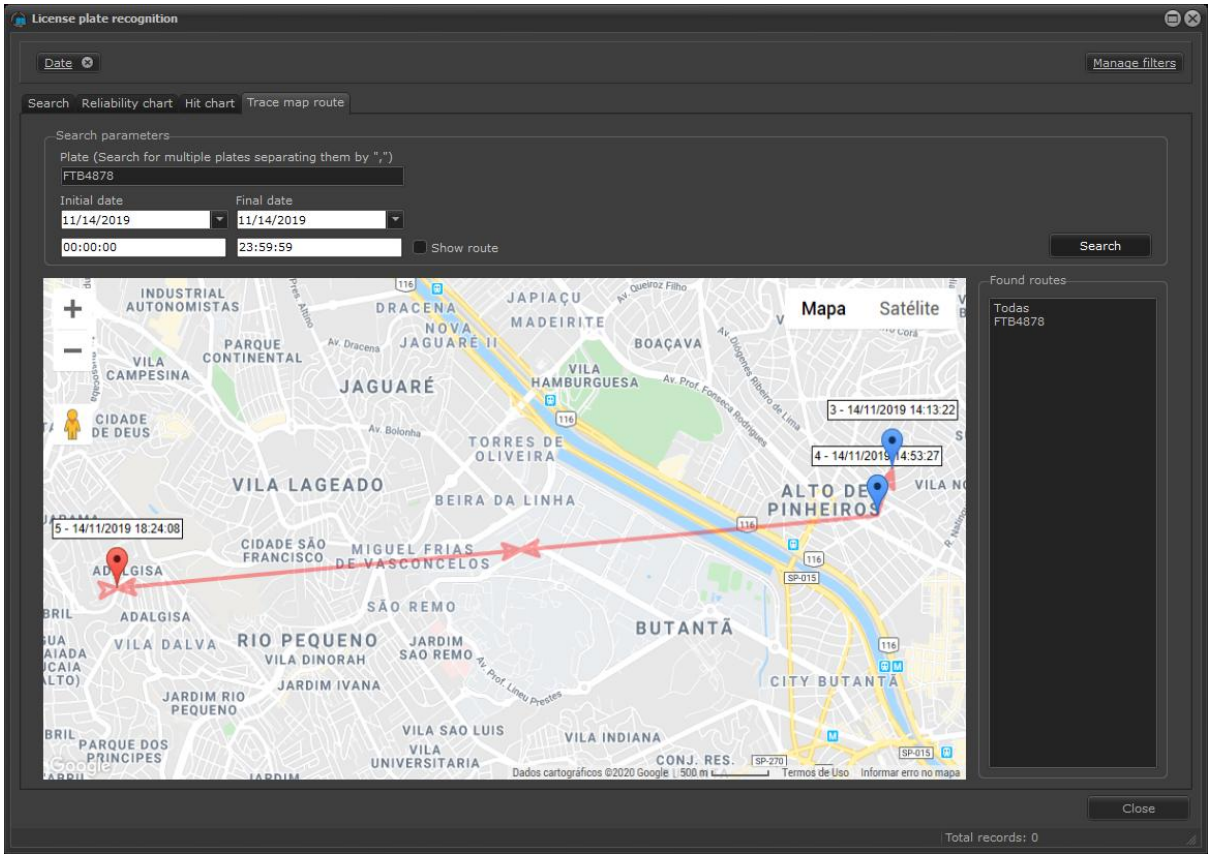
The screen for plotting the LPR route will display all points at which the plates informed in the query were found in the specified period and will connect the points through the time. You can also use Google Maps routing engine and plot a route between the recognized points; however, for this resource to work properly, the plate must have been recognized in several cameras to generate greater route precision. This is an excellent resource for LPR installations in smart cities.



The records will be saved in your database, and the latitude and longitude data of the cameras that made the record will be followed by the times when the vehicle was detected. From such data, the Surveillance Client (connected to an LPR server) can plot the vehicle's route in a Google Maps map.

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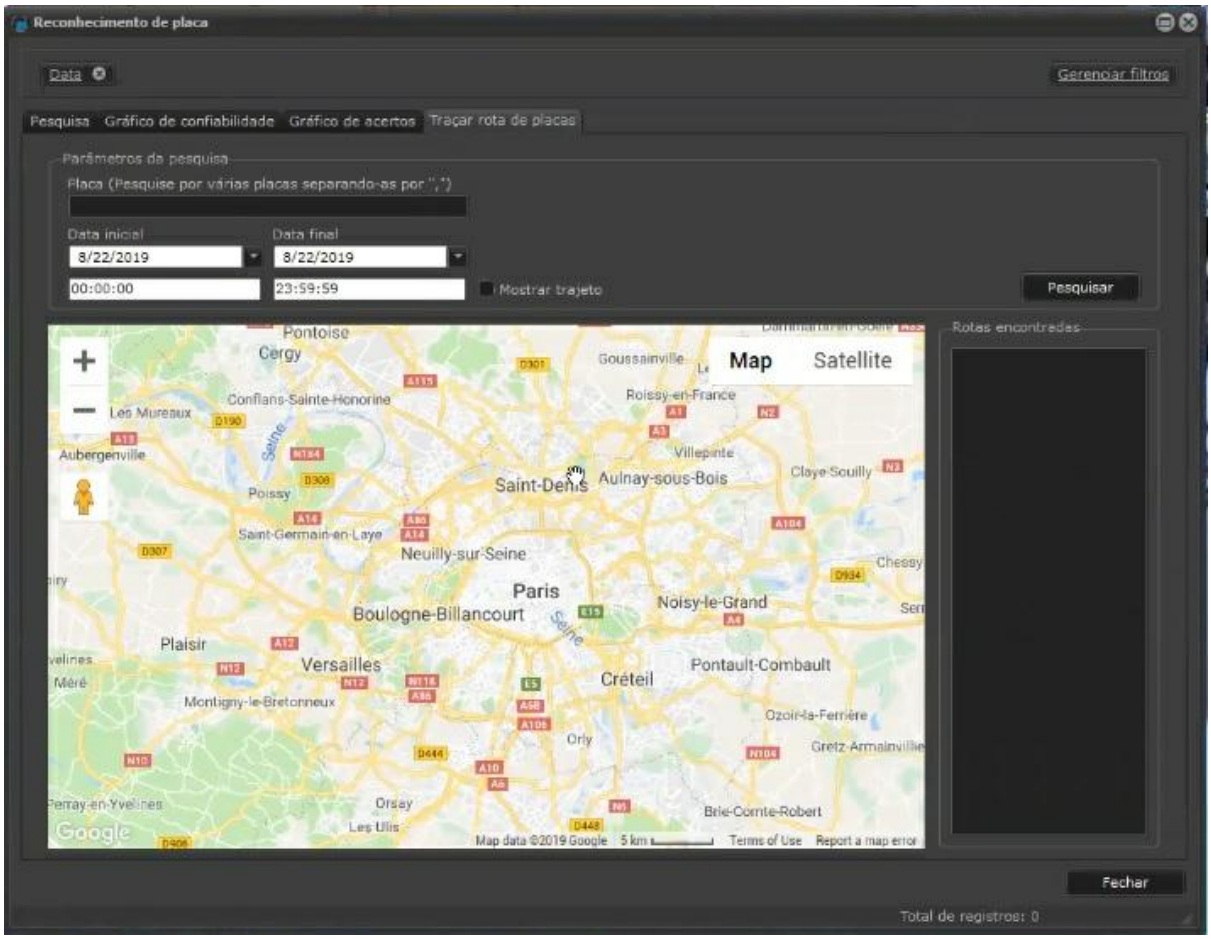

In your Surveillance Client, use the following function:

- **Plate**: The plate number to be queried.
- **Start and end date**: Hours and days that must be queried in the database.
- **Show path**: Digifort calculates, based on the times and locations where the plate was detected, the route traveled by the vehicle and displays it on the map screen.

To see this new feature in action, visit the videos available on our YouTube channel:
http://www.youtube.com/DigifortChannel

Link to the video:
https://www.youtube.com/watch?v=gC7U1GKiRdc

13.3.5 Country Recognition Support

The system supports the recognition of the country of the recognized plates (if the LPR engine used supports this feature). The country will be added to the recognition results and it can also be filtered through the new country filter.

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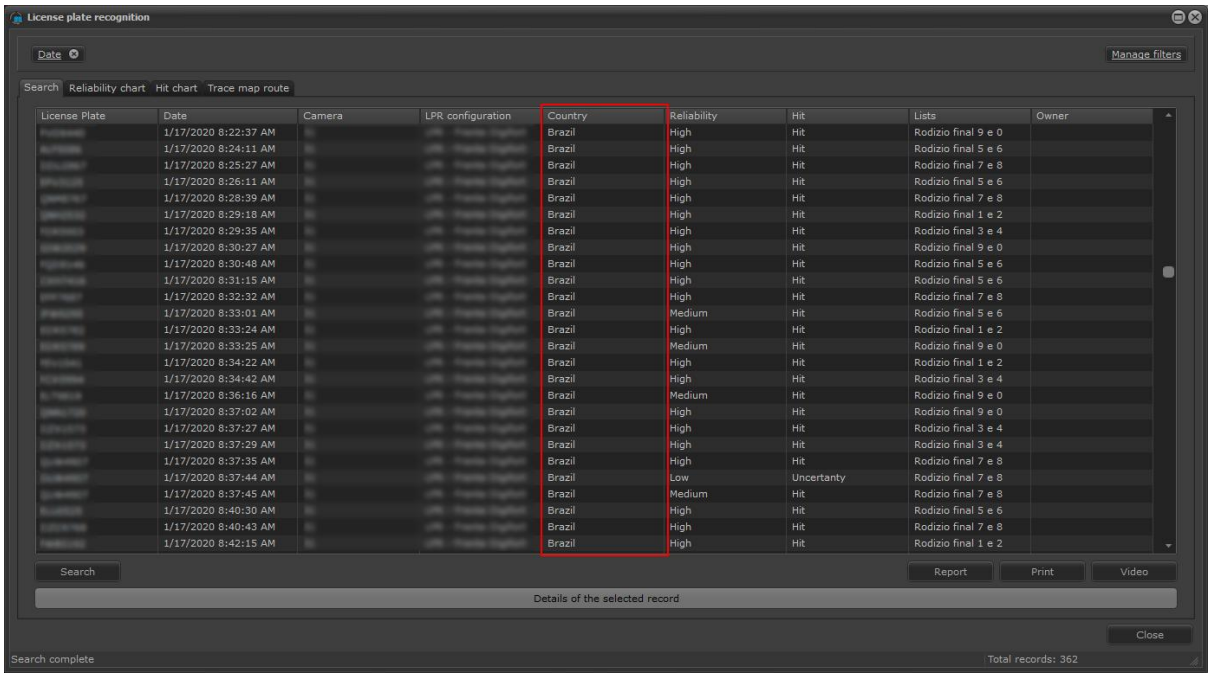

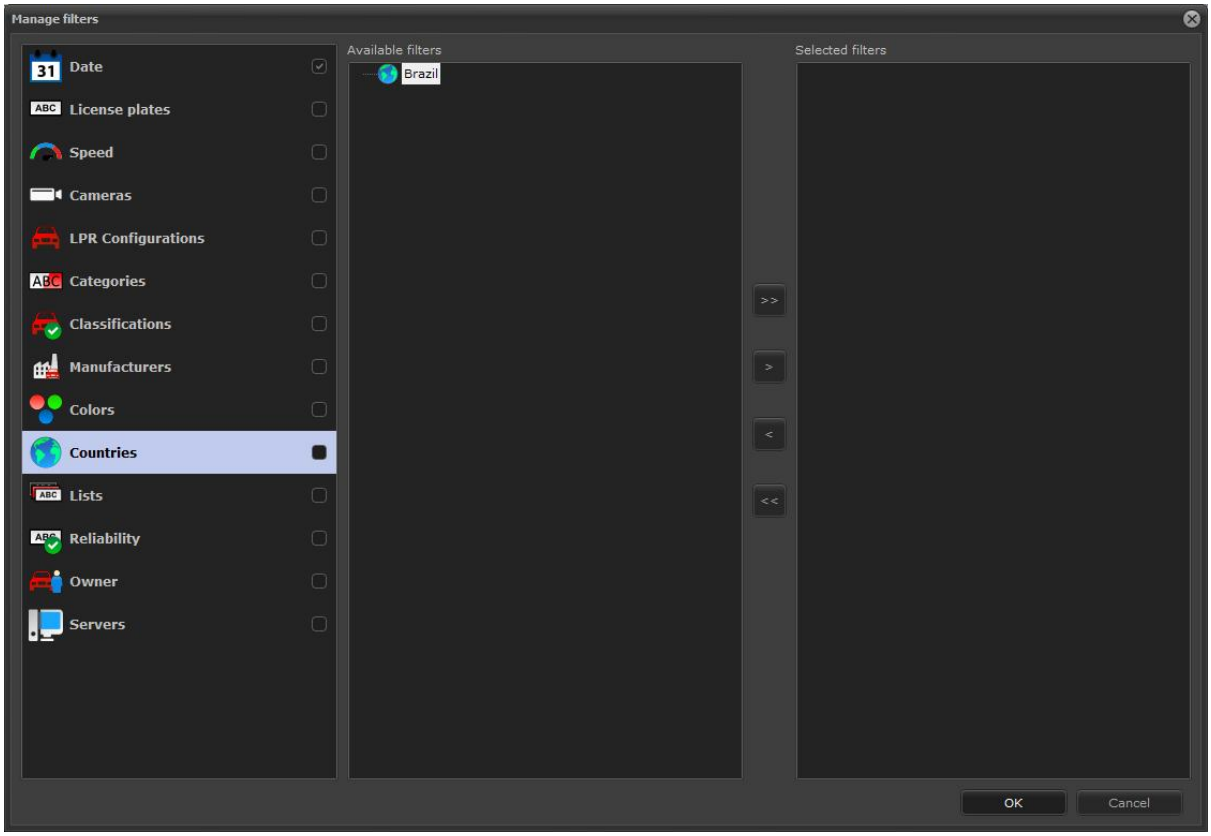

To update your system to recognize the new Mercosur plates, contact Digifort's Technical Support and inform what your LPR Engine is for the correct procedures to be followed.

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13.3.6 Plate Color Recognition

The system supports the recognition of the color of the recognized plates (if the LPR engine used supports this feature). The plate color will be added to the recognition results and it can also be filtered through the new plate color filter.

NOTE: Until the release of this manual, the only engine supporting plate colors is the ARH Carmen engine for plates from the Middle East. If engine manufacturers support plate color recognition for other countries, the system structure is ready to receive this information.

13.3.7 Vehicle speed recognition

The system supports vehicle speed recognition (if the LPR engine used supports this feature).
The vehicle's speed will be added to the search results and the system also provides a filter for records with speed, in addition to the "speed" column in the search results.

NOTE: Currently the only way to process the vehicle's speed is by using Edge LPR with ARH LPR cameras with integrated speed radar. If engine manufacturers support vehicle speed recognition, the system structure is ready to receive this information.

When configuring LPR events, the system further allows the creation of a condition where the event will only be triggered if the vehicle is recognized at a speed above the one configured, allowing the creation of high-speed alarms:

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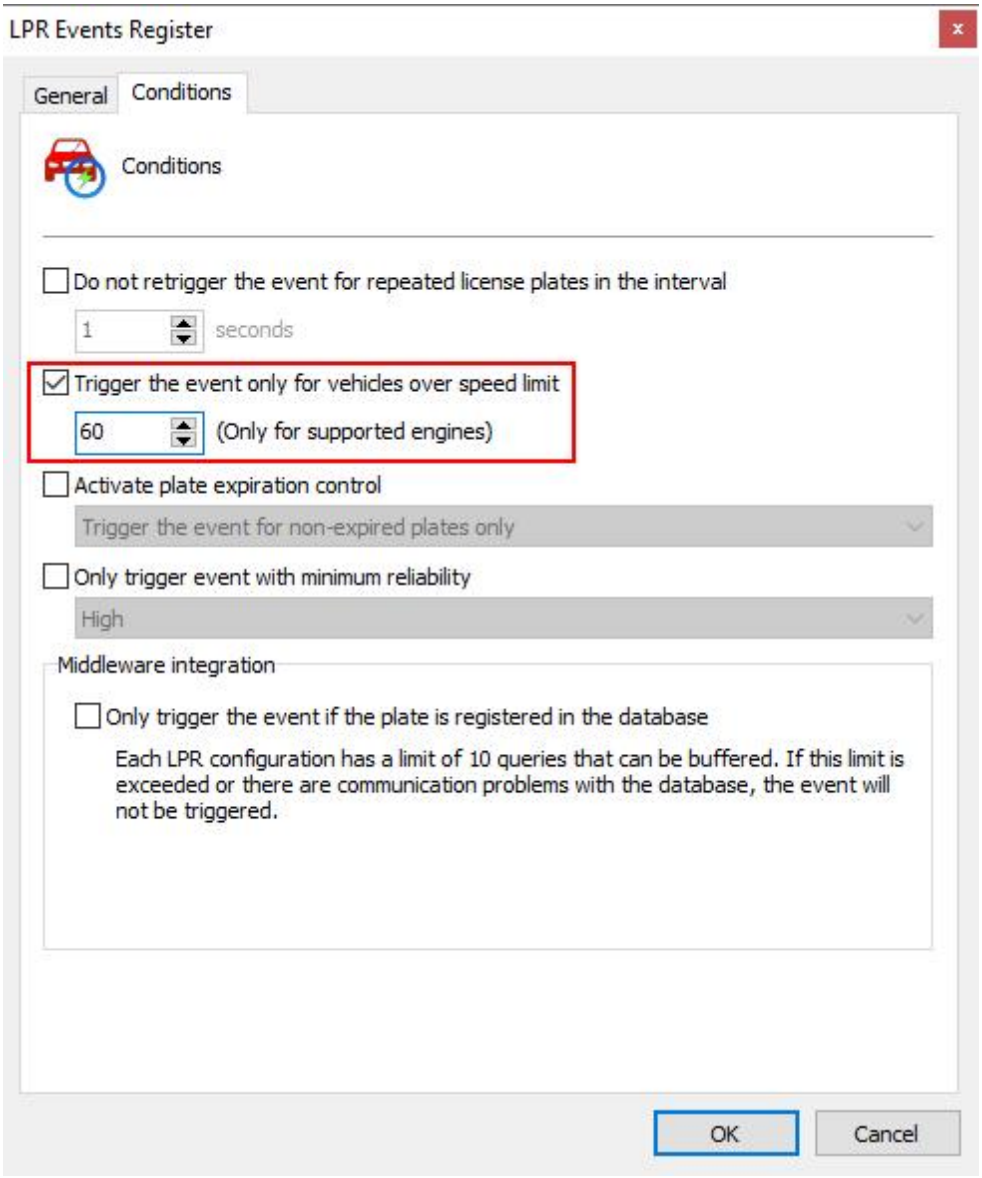
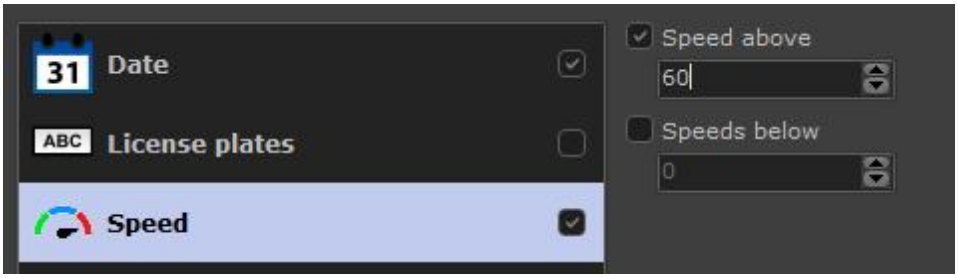


Speed filter for LPR records in the Surveillance Client:



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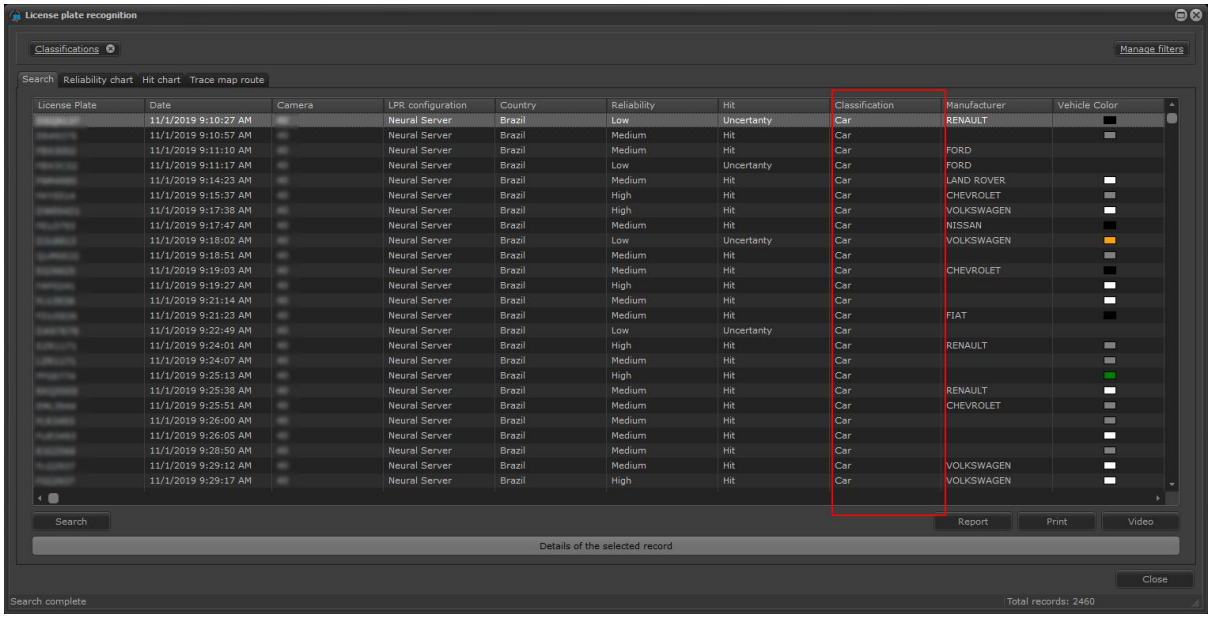
13.3.8 Vehicle type recognition

The system supports vehicle type recognition (if the LPR engine used supports this feature). The vehicle type will be added to the recognition results and it may also be filtered through the new vehicle type filter.

NOTE: Currently the only way to process the vehicle type is by using Edge LPR together with Neural Server software from Neural Labs. If engine manufacturers support the vehicle type recognition natively in the LPR engine, the system structure is ready to receive this information.



License Plate	Date	Camera	LPR configuration	Country	Reliability	Hit	Classification	Manufacturer	Vehicle Color
	11/1/2019 9:10:27 AM		Neural Server	Brazil	Low	Uncertanty	Car	RENAULT	
	11/1/2019 9:10:57 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:11:10 AM		Neural Server	Brazil	Medium	Hit	Car	FORD	
	11/1/2019 9:11:17 AM		Neural Server	Brazil	Low	Uncertanty	Car	FORD	
	11/1/2019 9:14:23 AM		Neural Server	Brazil	Medium	Hit	Car	LAND ROVER	
	11/1/2019 9:15:37 AM		Neural Server	Brazil	High	Hit	Car	CHEVROLET	
	11/1/2019 9:17:38 AM		Neural Server	Brazil	High	Hit	Car	VOLKSWAGEN	
	11/1/2019 9:17:47 AM		Neural Server	Brazil	Medium	Hit	Car	NISSAN	
	11/1/2019 9:18:02 AM		Neural Server	Brazil	Low	Uncertanty	Car	VOLKSWAGEN	
	11/1/2019 9:18:51 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:19:03 AM		Neural Server	Brazil	Medium	Hit	Car	CHEVROLET	
	11/1/2019 9:19:27 AM		Neural Server	Brazil	High	Hit	Car		
	11/1/2019 9:21:14 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:21:23 AM		Neural Server	Brazil	Medium	Hit	Car	FIAT	
	11/1/2019 9:22:49 AM		Neural Server	Brazil	Low	Uncertanty	Car		
	11/1/2019 9:24:01 AM		Neural Server	Brazil	High	Hit	Car	RENAULT	
	11/1/2019 9:24:07 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:25:13 AM		Neural Server	Brazil	High	Hit	Car		
	11/1/2019 9:25:38 AM		Neural Server	Brazil	Medium	Hit	Car	RENAULT	
	11/1/2019 9:25:51 AM		Neural Server	Brazil	Medium	Hit	Car	CHEVROLET	
	11/1/2019 9:26:00 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:26:05 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:28:50 AM		Neural Server	Brazil	Medium	Hit	Car		
	11/1/2019 9:29:12 AM		Neural Server	Brazil	Medium	Hit	Car	VOLKSWAGEN	
	11/1/2019 9:29:17 AM		Neural Server	Brazil	High	Hit	Car	VOLKSWAGEN	

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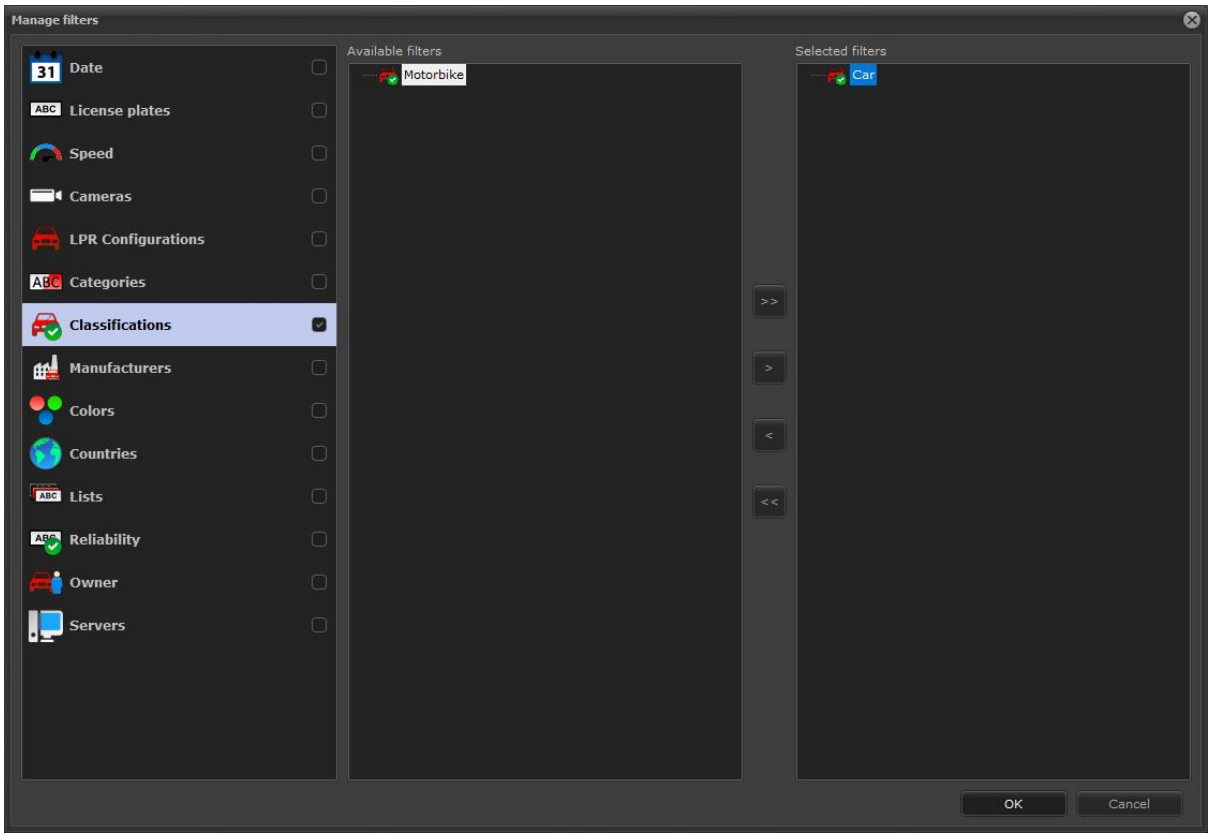

13.3.9 Vehicle manufacturer recognition

The system supports the vehicle manufacturer's recognition (if the LPR engine used supports this feature). The vehicle manufacturer will be added to the recognition results and it can also be filtered through the new vehicle manufacturer filter.

NOTE: Currently the only way to process the vehicle manufacturer is by using Edge LPR together with Neural Server software from Neural Labs. If engine manufacturers support the vehicle manufacturer's recognition natively in the LPR engine, the system structure is ready to receive this information.

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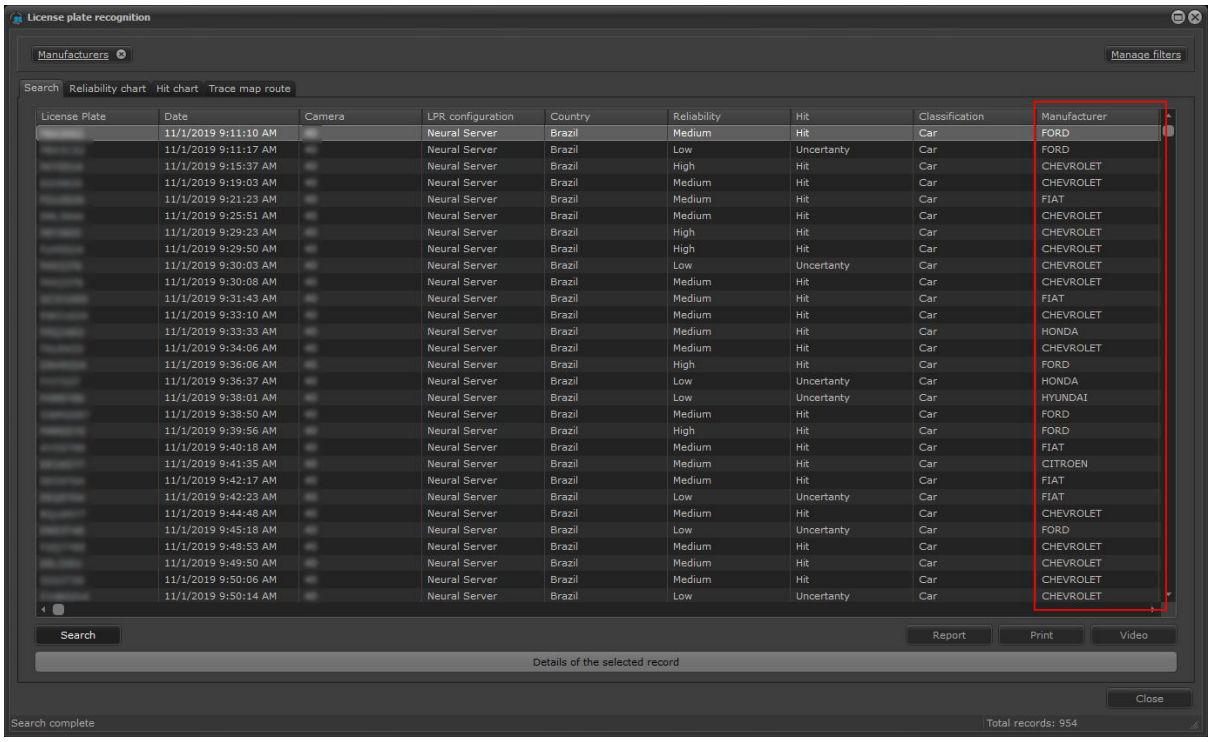

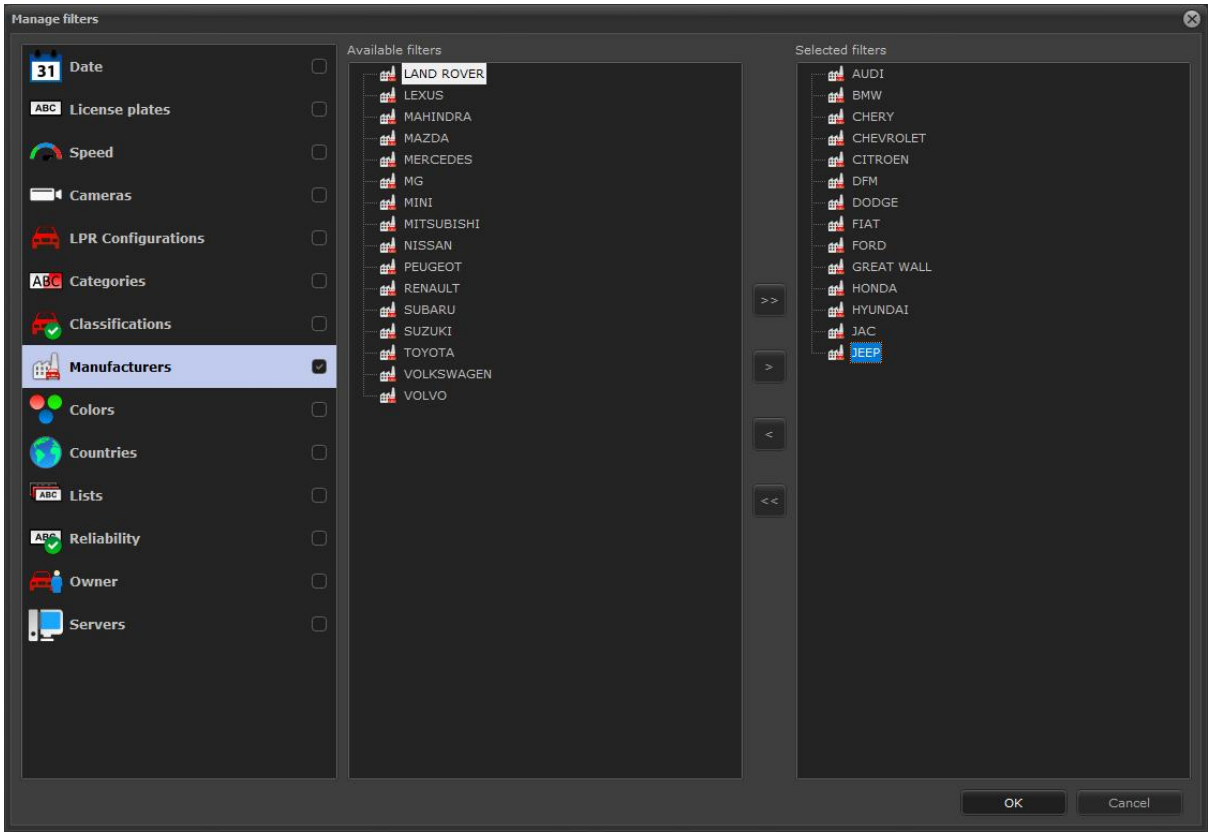

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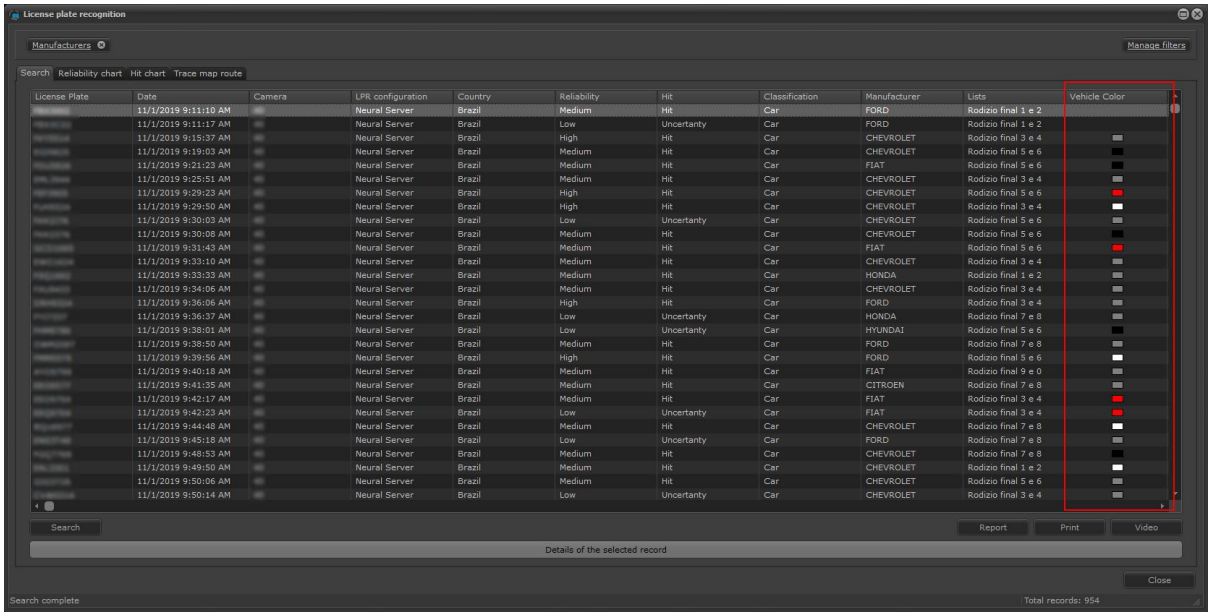
13.3.10 Vehicle color recognition

The system supports the vehicle's color recognition (if the LPR engine used supports this feature). The vehicle color will be added to the recognition results and it can also be filtered through the new vehicle color filter.

NOTE: Currently the only way to process the vehicle's color is by using Edge LPR together with Neural Server software from Neural Labs. If engine manufacturers support the vehicle's color recognition natively in the LPR engine, the system structure is ready to receive this information.



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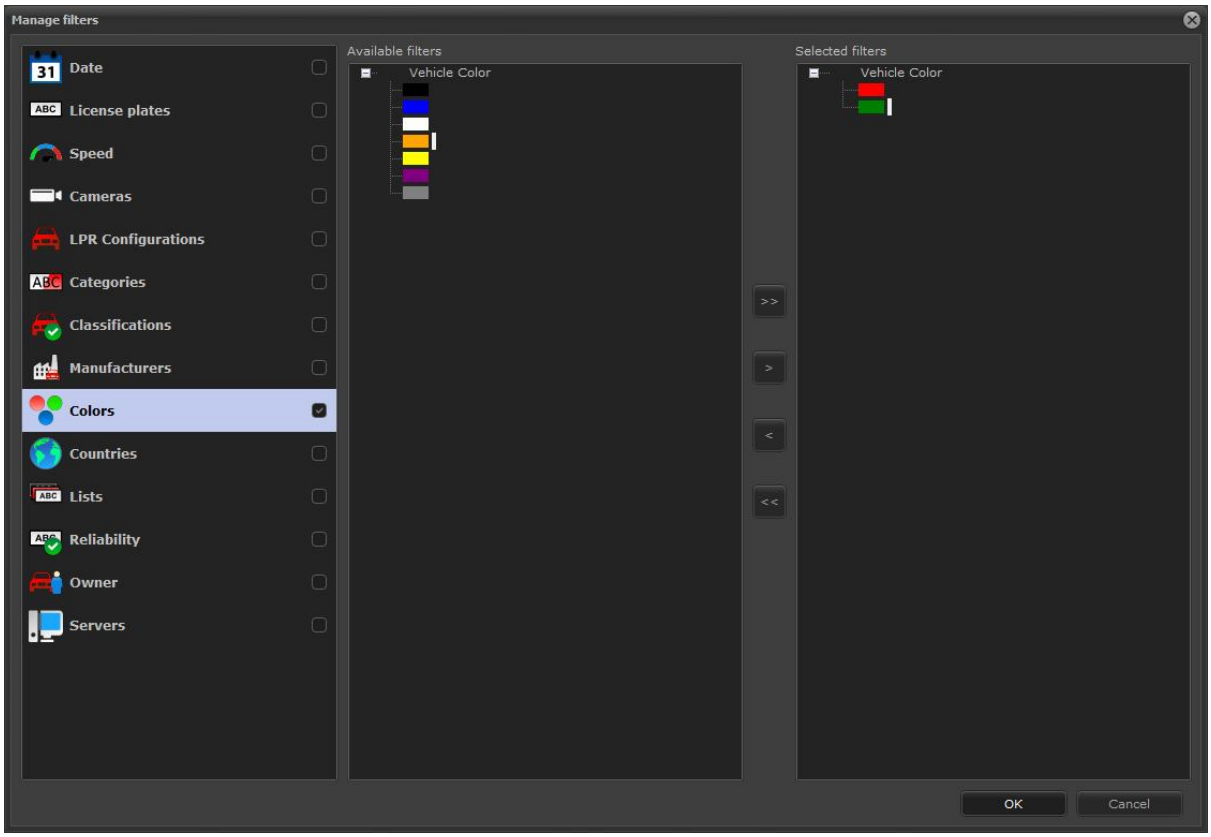

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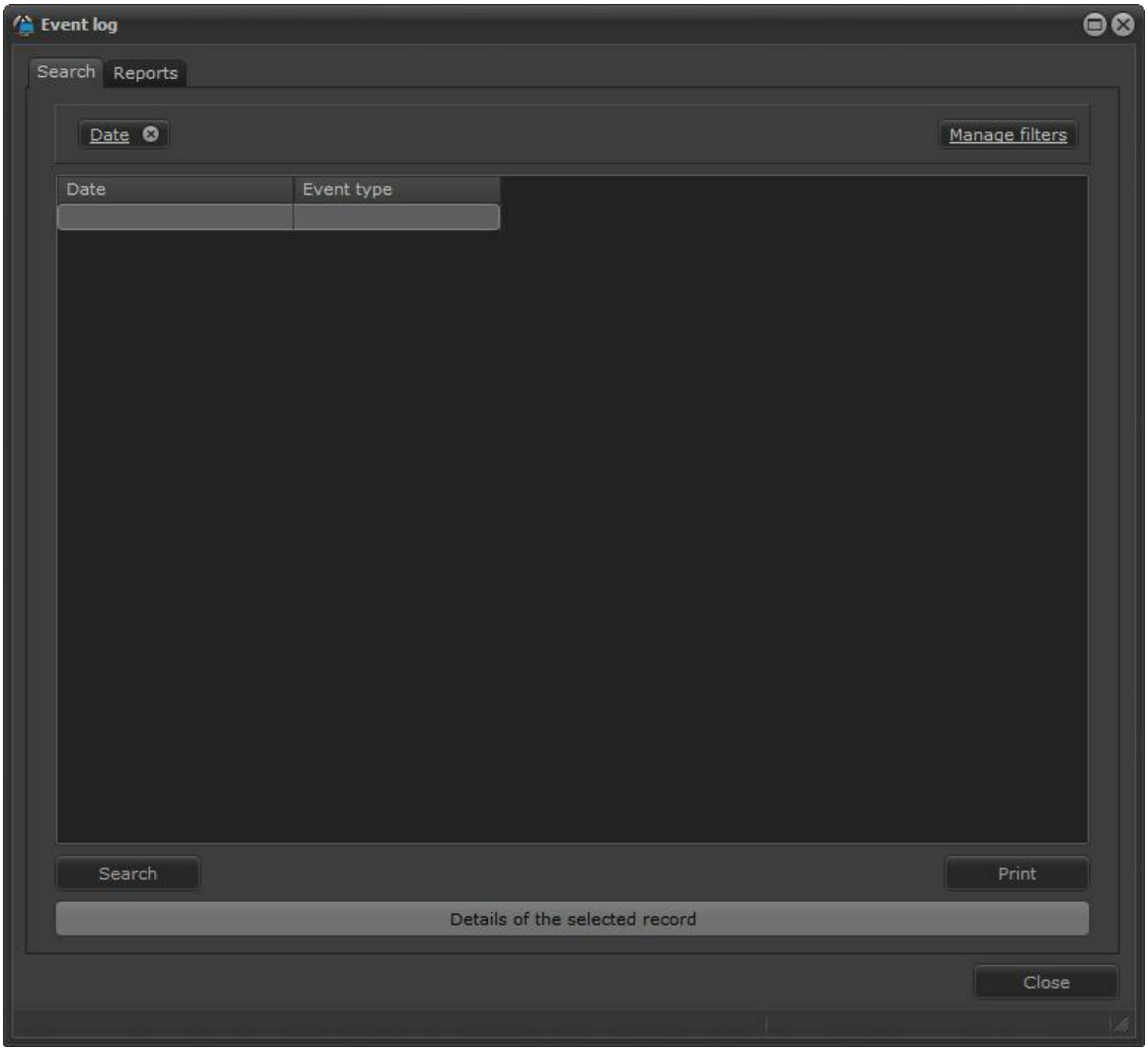
Chapter XIV

14 Event Log

The Digifort event log allows any event in the system to be quickly found, displayed and used as data to find a recording.

To open the event screen click on the button **Event log** as shown in the image below:

The following screen opens:



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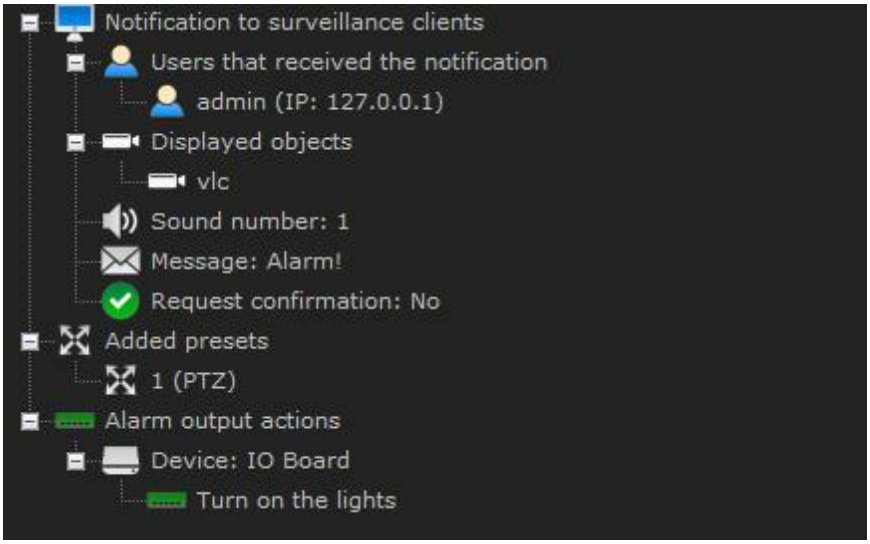
14.1 Record detail

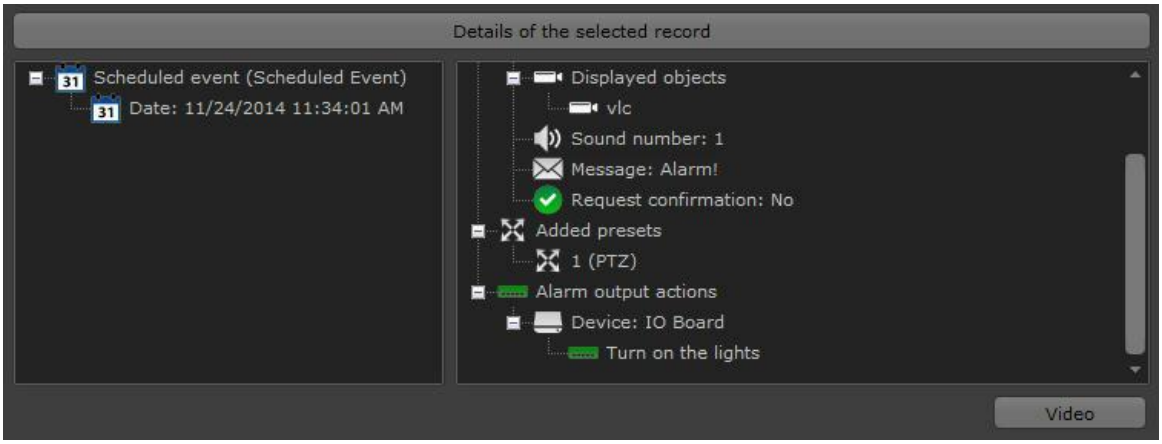
All registered logs have the option to view the event details.

These details allow the visualization of important information.
In the square on the left in the details, there is information regarding the event itself, for example: In events involving cameras, the camera name and other concerning information as event date and time are displayed.

The square on the right shows information about the alert actions generated from the event. For example: e-mails sent, cameras shown on the screen in pop-ups, messages sent, operator response to an alert, etc. The image below illustrates a sequence of events:



In the lower right corner, you can still trigger the video button. When you click on it, the media player opens to the video from the time at which the event occurred and the associated cameras in the event alert actions. To learn about alert actions check the Digifort Administration client manual.



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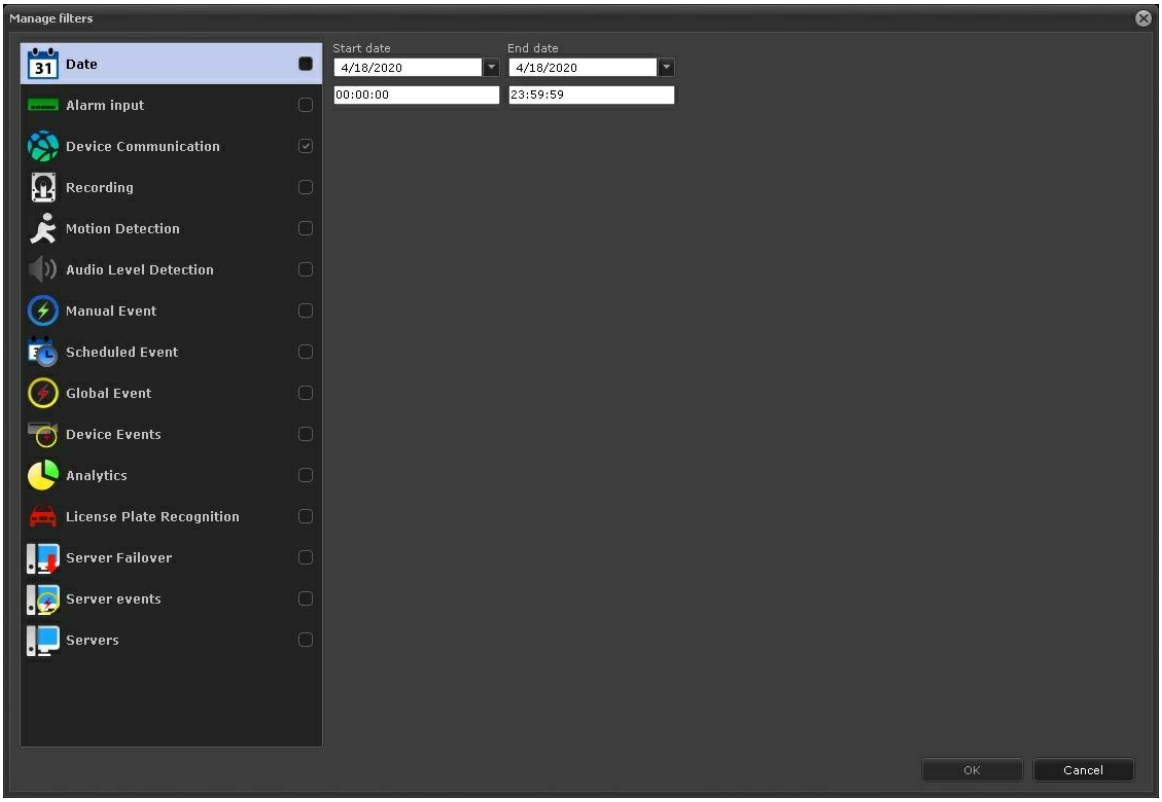
14.2 Filters

The event logs allow filters for a quick and better search for events.
The filters can be managed from the button "**Manage Filters**" located in the upper left corner. When you click on this button the following screen appears:



Select the "**Activate Filter**" box so it is added to the Event Log screen. For example: to activate the Communication error filter click on "**Activate filter**" and after drag the desire filter to the righr and click"**ok**" as shown in the image below:

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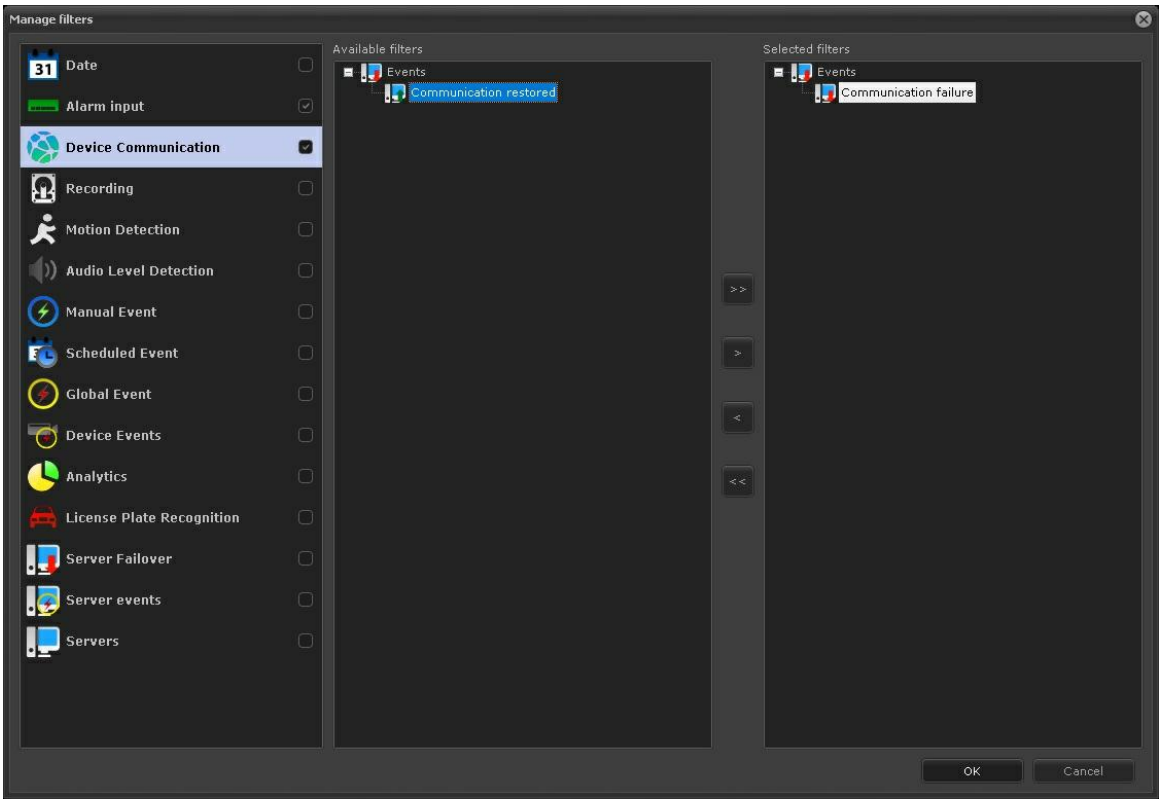
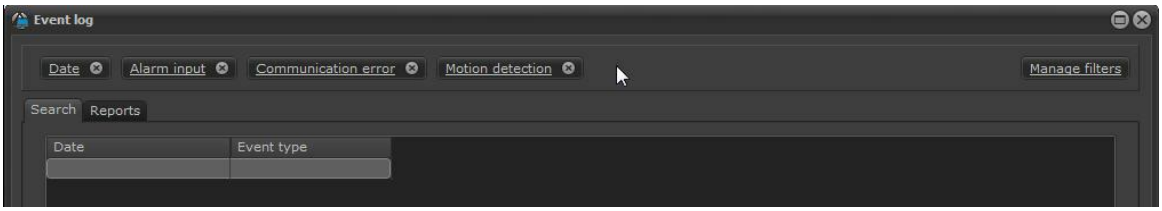


Note that filters are added on the top bar of the screen, where you can add them or delete them as you need.



To delete a filter, simply click on the close button:

The filter clicked will disappear from the filter bar:

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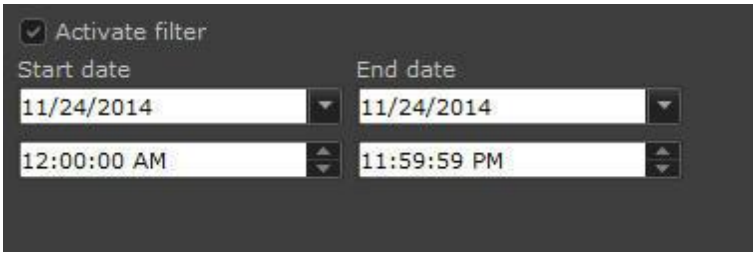
14.2.1 Filter per date

The filters that are selected intersect, that is, only the information they share will be filtered.



14.2.2 Filter per alarm entry

The alarm entry filter searches for all events that were triggered by the alarm entries (dry contact) from cameras and alarm boards.

The image below shows an example of search:

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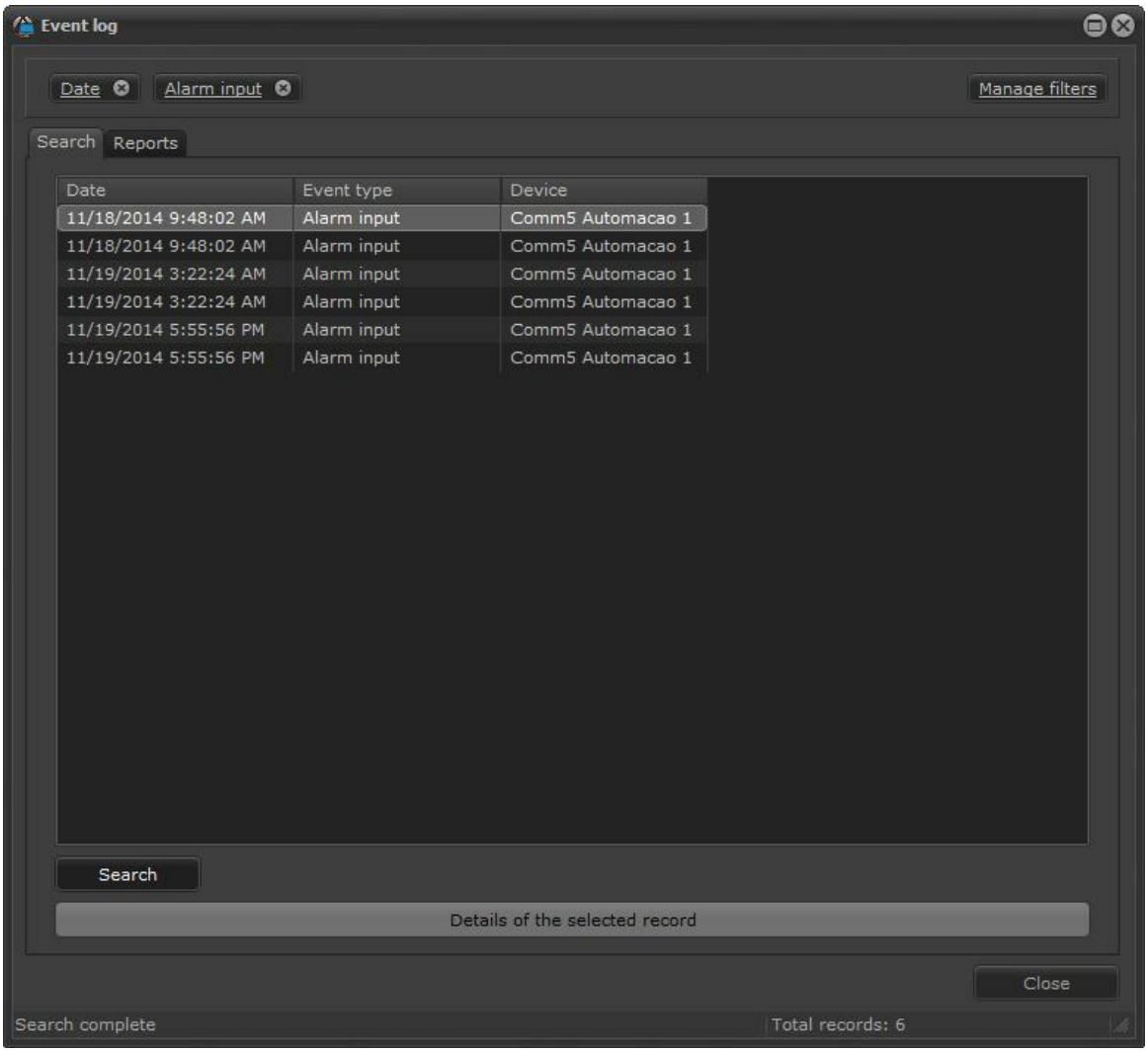

14.2.3 Filter per communication errors

The filter per communication errors searches for all miscommunications generated by equipment registered in Digifort.
The image below shows an example of search:

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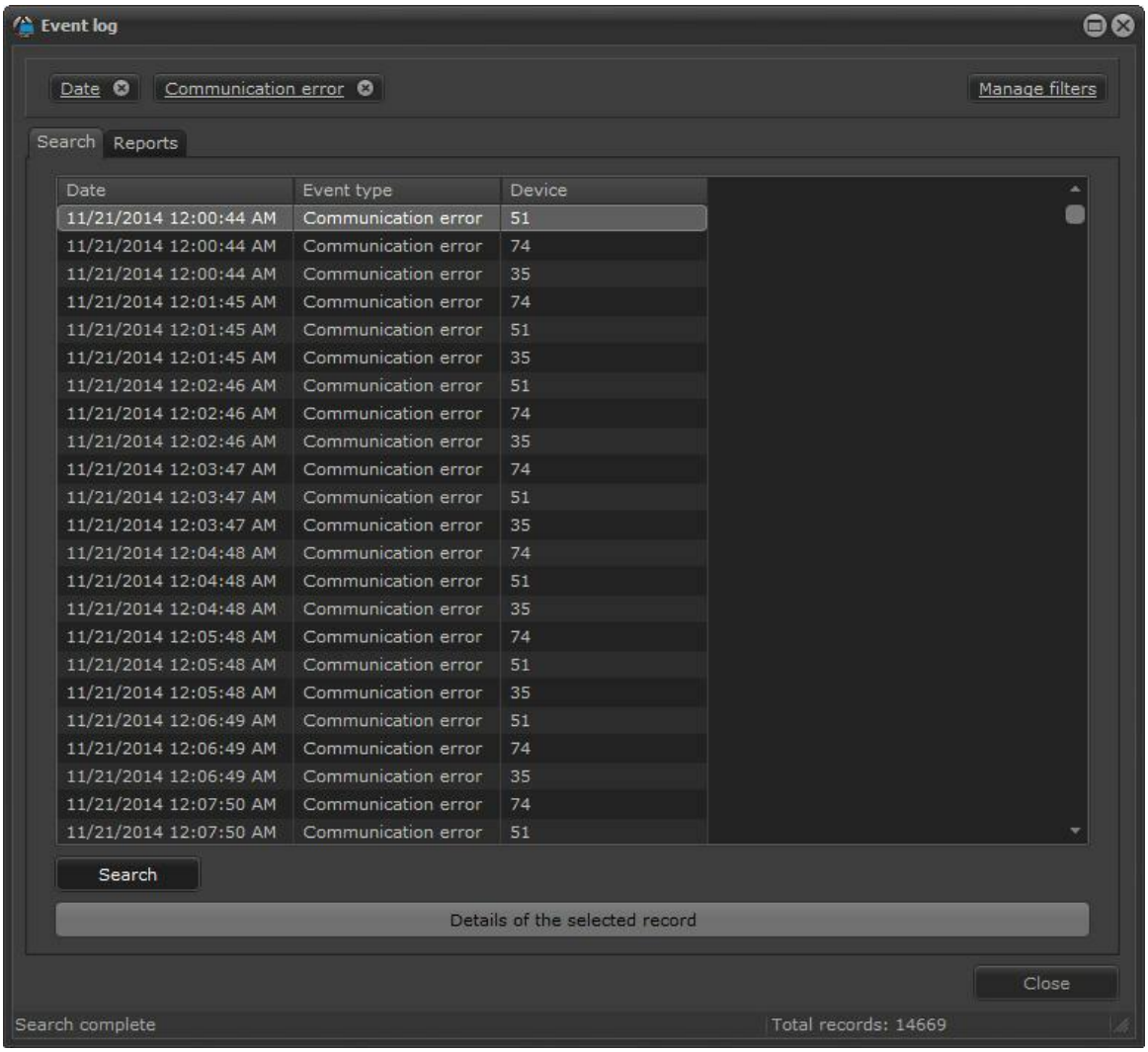

14.2.4 Filter per recording errors

The filter per recording errors searches for all recordings errors generated by cameras registered in Digifort.

14.2.5 Filter per movement detection

The filter per motion detection searches for all movement detections generated by the automatic event of a camera registered in Digifort.

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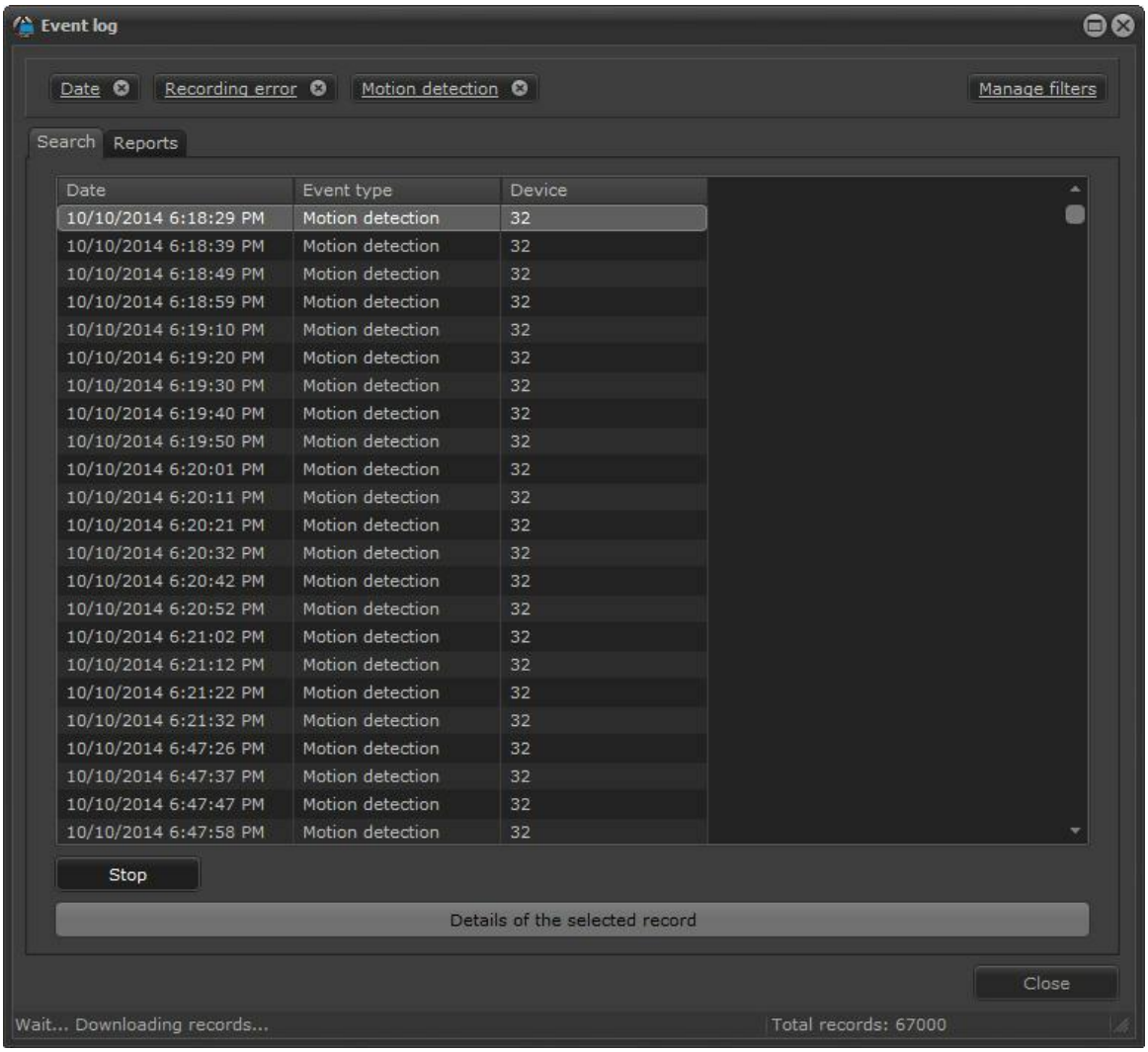
The image below shows an example of search:



14.2.6 Filter per manual events

The filter per manual events searches for all manual events generated by a camera registered in Digifort.

The manual event can be filtered per three categories:

- **Event**: Categorized by the type of event registered
- **Camera**: Categorized by the device in which the event is located
- **User**: Categorized by the user that triggered the action
- **IP**: Categorized by the IP of the computer that triggered the event

The image below shows an example of search:

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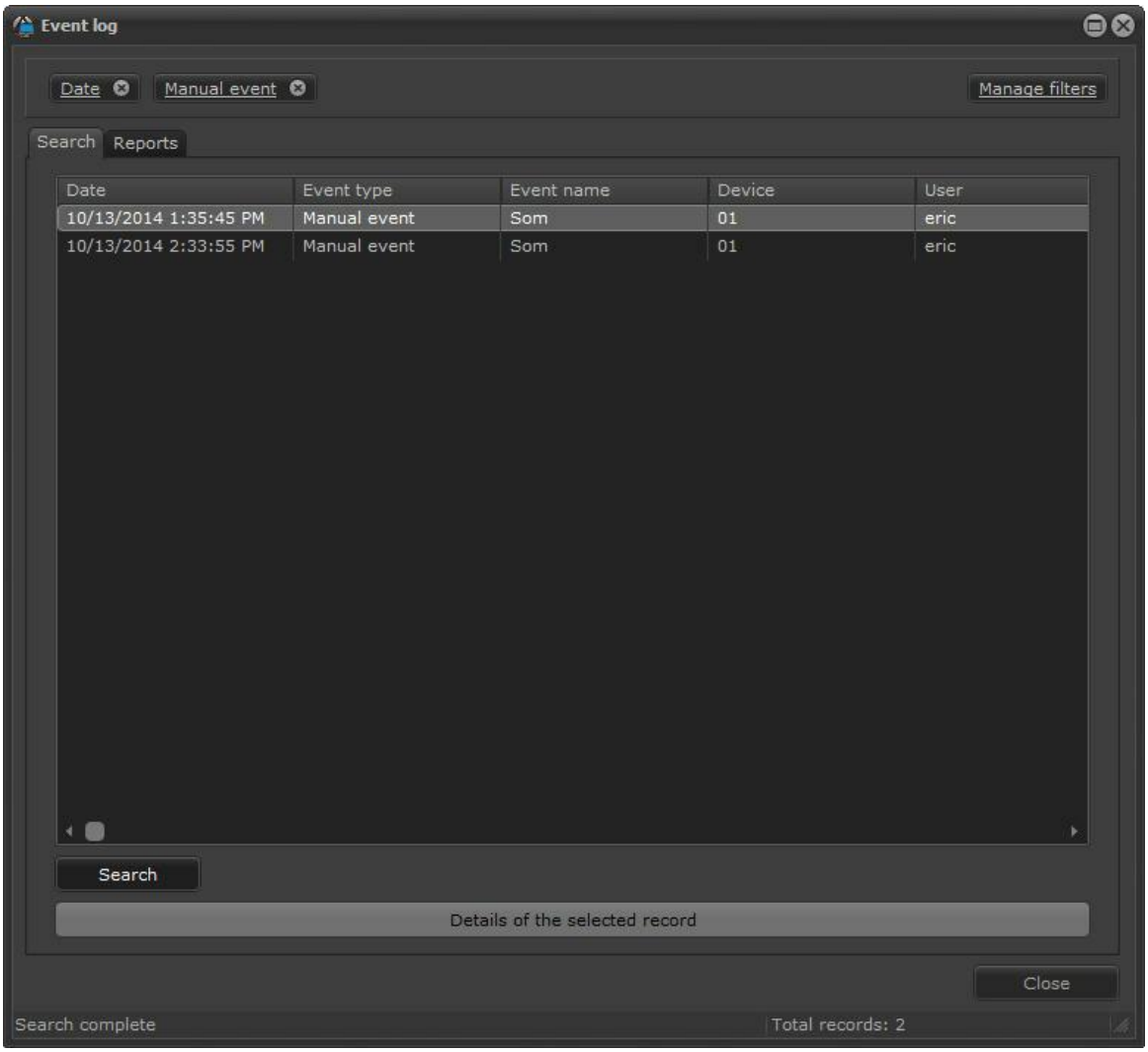

14.2.7 Filter per analytical events

The analytics events filter searches for all analytics generated by the Analytics Digifort server.

The manual event can be filtered per three categories:
- **Analytics type**: Categorized by the analytics rule types
- **Camera**: Categorized by the camera in which the analytics works
- **Zone**: Categorized by the zone that triggered the event

The image below shows an example of search:

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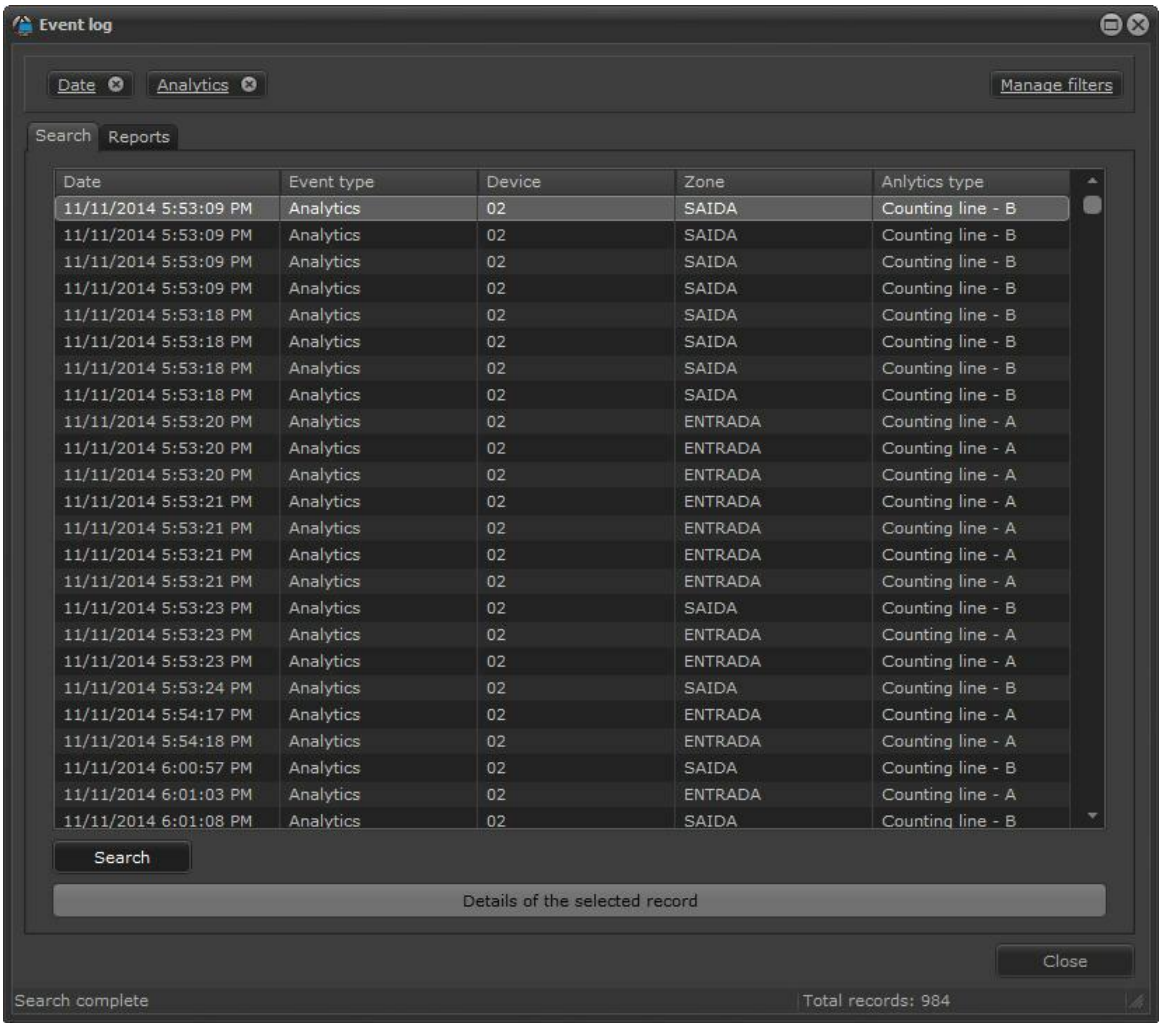

14.2.8 Filter per LPR events

The LPR events filter searches for all events generated by the LPR Digifort server.

The manual event can be filtered per three categories:

- **Camera**: Categorized by the analytics rule types
- **Plate Lists**: Categorized by the registered plate lists
- **Plates**: Search per plates in a text search. All plates must be typed in different lines.

The image below shows an example of search:

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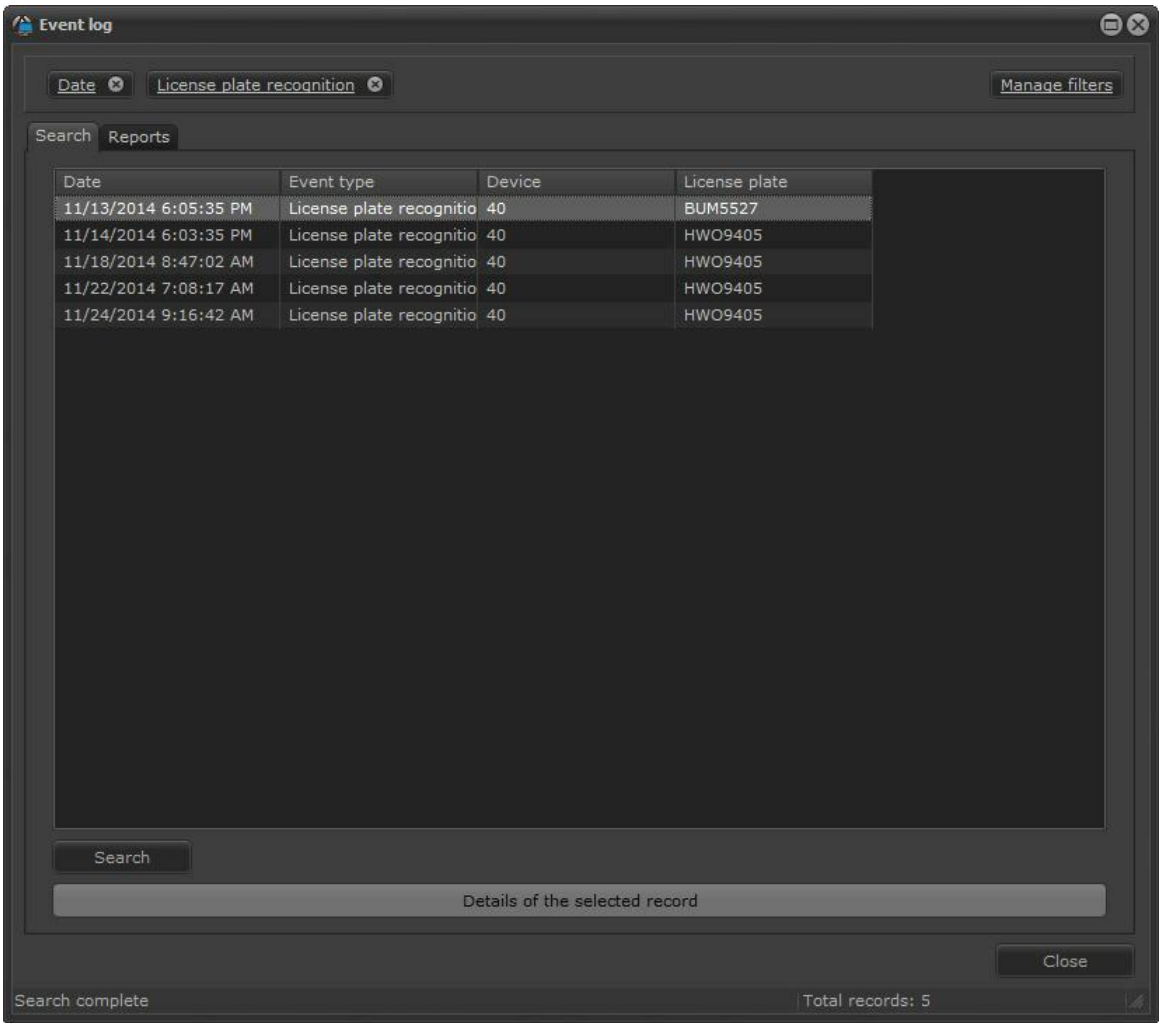

14.2.9 Filter per audio level detection

The filter per audio level detection searches for all events generated in two categories:

- **Audio Level**: Detection of low and high audio levels.
- **Camera**: Categorized by the device

The image below shows an example of search:

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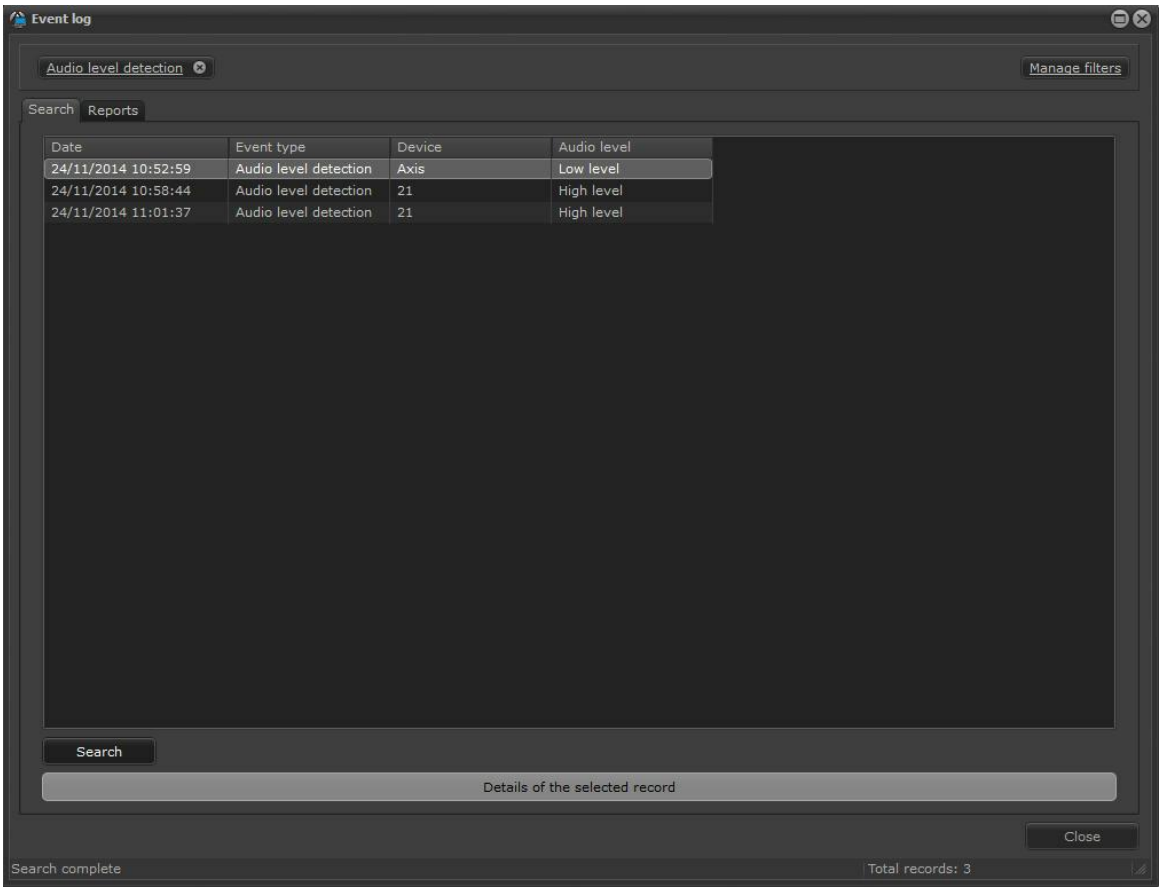
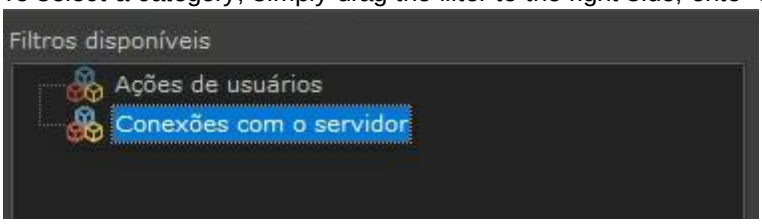


14.2.10 Filter by category

The filter by category allows records to be queried only by the selected category.
To select a category, simply drag the filter to the right side, onto “Selected Filters”.



- **User actions**: This filter selects all user actions, such as to add or remove system objects, select objects in the surveillance client, etc.
- **Server connections**: This filter will show all connections (login and logout) to the server. Be it through the surveillance client, administration client, RTSP, etc.

The image below shows a search example with this filter:

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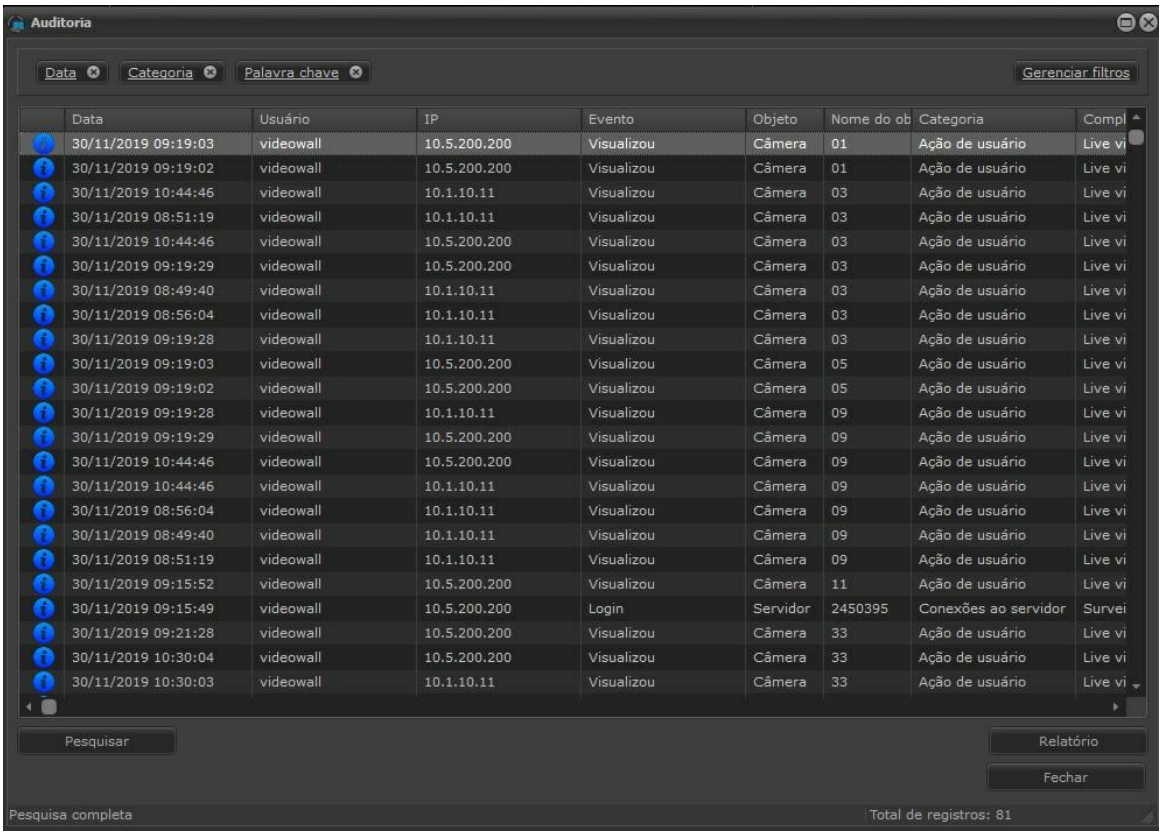


Data	Usuário	IP	Evento	Objeto	Nome do ob	Categoria	Compl
30/11/2019 09:19:03	videowall	10.5.200.200	Visualizou	Câmera	01	Ação de usuário	Live vi
30/11/2019 09:19:02	videowall	10.5.200.200	Visualizou	Câmera	01	Ação de usuário	Live vi
30/11/2019 10:44:46	videowall	10.1.10.11	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 08:51:19	videowall	10.1.10.11	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 10:44:46	videowall	10.5.200.200	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 09:19:29	videowall	10.5.200.200	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 08:49:40	videowall	10.1.10.11	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 08:56:04	videowall	10.1.10.11	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 09:19:28	videowall	10.1.10.11	Visualizou	Câmera	03	Ação de usuário	Live vi
30/11/2019 09:19:03	videowall	10.5.200.200	Visualizou	Câmera	05	Ação de usuário	Live vi
30/11/2019 09:19:02	videowall	10.5.200.200	Visualizou	Câmera	05	Ação de usuário	Live vi
30/11/2019 09:19:28	videowall	10.1.10.11	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 09:19:29	videowall	10.5.200.200	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 10:44:46	videowall	10.5.200.200	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 10:44:46	videowall	10.1.10.11	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 08:56:04	videowall	10.1.10.11	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 08:49:40	videowall	10.1.10.11	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 08:51:19	videowall	10.1.10.11	Visualizou	Câmera	09	Ação de usuário	Live vi
30/11/2019 09:15:52	videowall	10.5.200.200	Visualizou	Câmera	11	Ação de usuário	Live vi
30/11/2019 09:15:49	videowall	10.5.200.200	Login	Servidor	2450395	Conexões ao servidor	Survei
30/11/2019 09:21:28	videowall	10.5.200.200	Visualizou	Câmera	33	Ação de usuário	Live vi
30/11/2019 10:30:04	videowall	10.5.200.200	Visualizou	Câmera	33	Ação de usuário	Live vi
30/11/2019 10:30:03	videowall	10.1.10.11	Visualizou	Câmera	33	Ação de usuário	Live vi

14.2.11 Filter by keyword

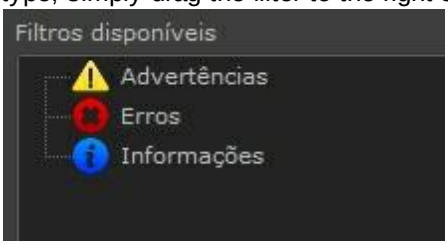
The filter by keyword allows the user to enter a word which will be queried in the audit fields to perform a faster search. This word can be usernames, objects, actions, IP, etc.

14.2.12 Filter by servers

If the surveillance client is connected to more than one server, the audit logs will present the audits of all servers. With this filter you can select one or more servers where you want to perform the query.

14.2.13 Filter by event type

The filter by event type allows records to be queried by the selected event type. To select an event type, simply drag the filter to the right side, onto “Selected Filters”.



- **Warnings**: This filter selects all user actions related to system administration, such as, for

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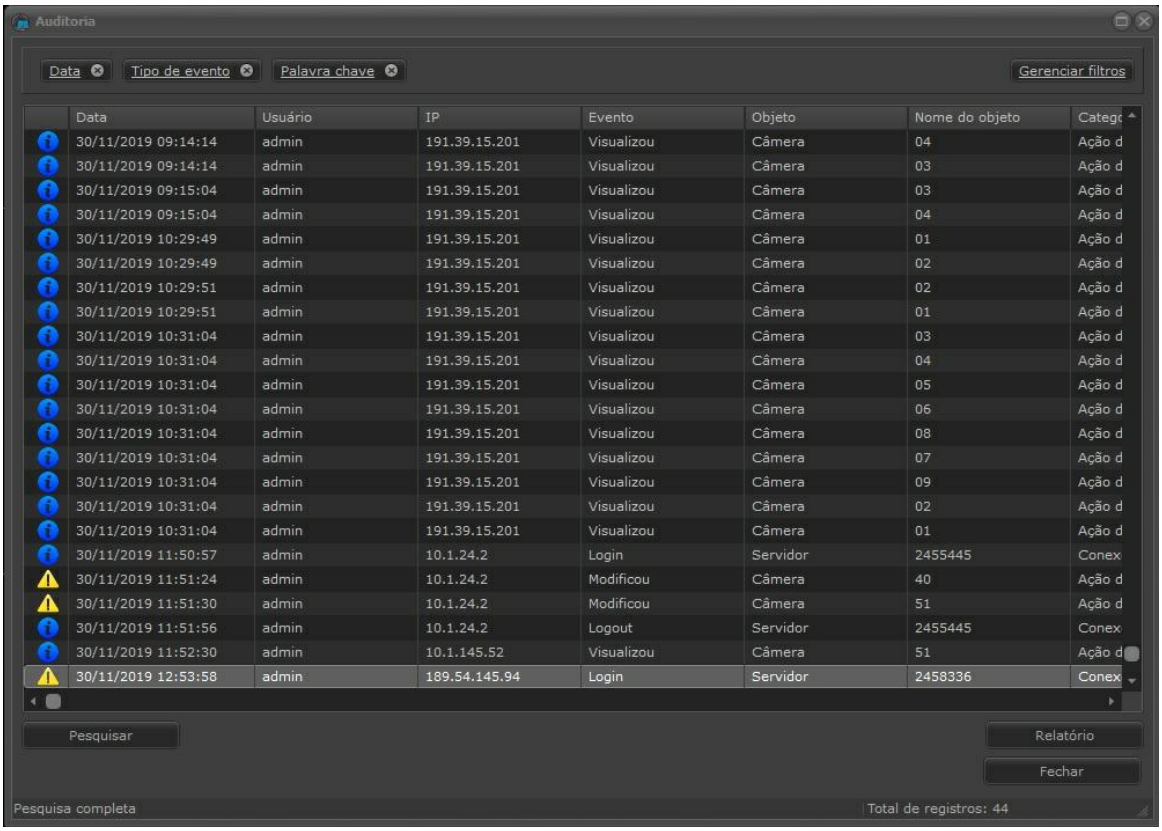
example, add/remove objects, change camera or user registrations, etc.

- **Errors**: This filter will show all connections (login and logout) to the server. Be it through the surveillance client, administration client, RTSP, etc.
- **Information**: This filter shows logs for information purposes, such as user actions, object viewing, etc.

The image below shows a query example with these filters:



Data	Usuário	IP	Evento	Objeto	Nome do objeto	Catego
30/11/2019 09:14:14	admin	191.39.15.201	Visualizou	Câmera	04	Ação d
30/11/2019 09:14:14	admin	191.39.15.201	Visualizou	Câmera	03	Ação d
30/11/2019 09:15:04	admin	191.39.15.201	Visualizou	Câmera	03	Ação d
30/11/2019 09:15:04	admin	191.39.15.201	Visualizou	Câmera	04	Ação d
30/11/2019 10:29:49	admin	191.39.15.201	Visualizou	Câmera	01	Ação d
30/11/2019 10:29:49	admin	191.39.15.201	Visualizou	Câmera	02	Ação d
30/11/2019 10:29:51	admin	191.39.15.201	Visualizou	Câmera	02	Ação d
30/11/2019 10:29:51	admin	191.39.15.201	Visualizou	Câmera	01	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	03	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	04	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	05	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	06	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	08	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	07	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	09	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	02	Ação d
30/11/2019 10:31:04	admin	191.39.15.201	Visualizou	Câmera	01	Ação d
30/11/2019 11:50:57	admin	10.1.24.2	Login	Servidor	2455445	Conex
30/11/2019 11:51:24	admin	10.1.24.2	Modificou	Câmera	40	Ação d
30/11/2019 11:51:30	admin	10.1.24.2	Modificou	Câmera	51	Ação d
30/11/2019 11:51:56	admin	10.1.24.2	Logout	Servidor	2455445	Conex
30/11/2019 11:52:30	admin	10.1.145.52	Visualizou	Câmera	51	Ação d
30/11/2019 12:53:58	admin	189.54.145.94	Login	Servidor	2458336	Conex

14.2.14 Filter by object type

The filter by object type allows records to be queried by the selected object type. To select an object type, simply drag the filter to the right side, onto “Selected Filters”.

The image below shows the types of available objects.

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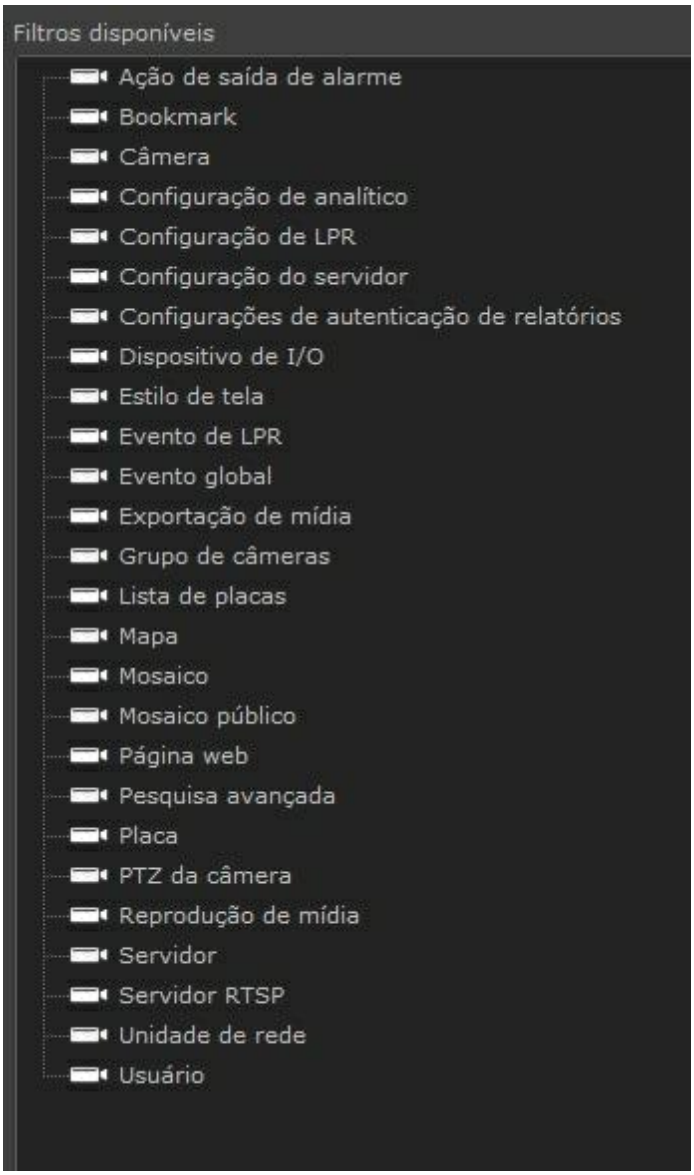

14.3 Reports

It is possible to see two types of reports on this screen: **Operators' response** to events and devices faults.

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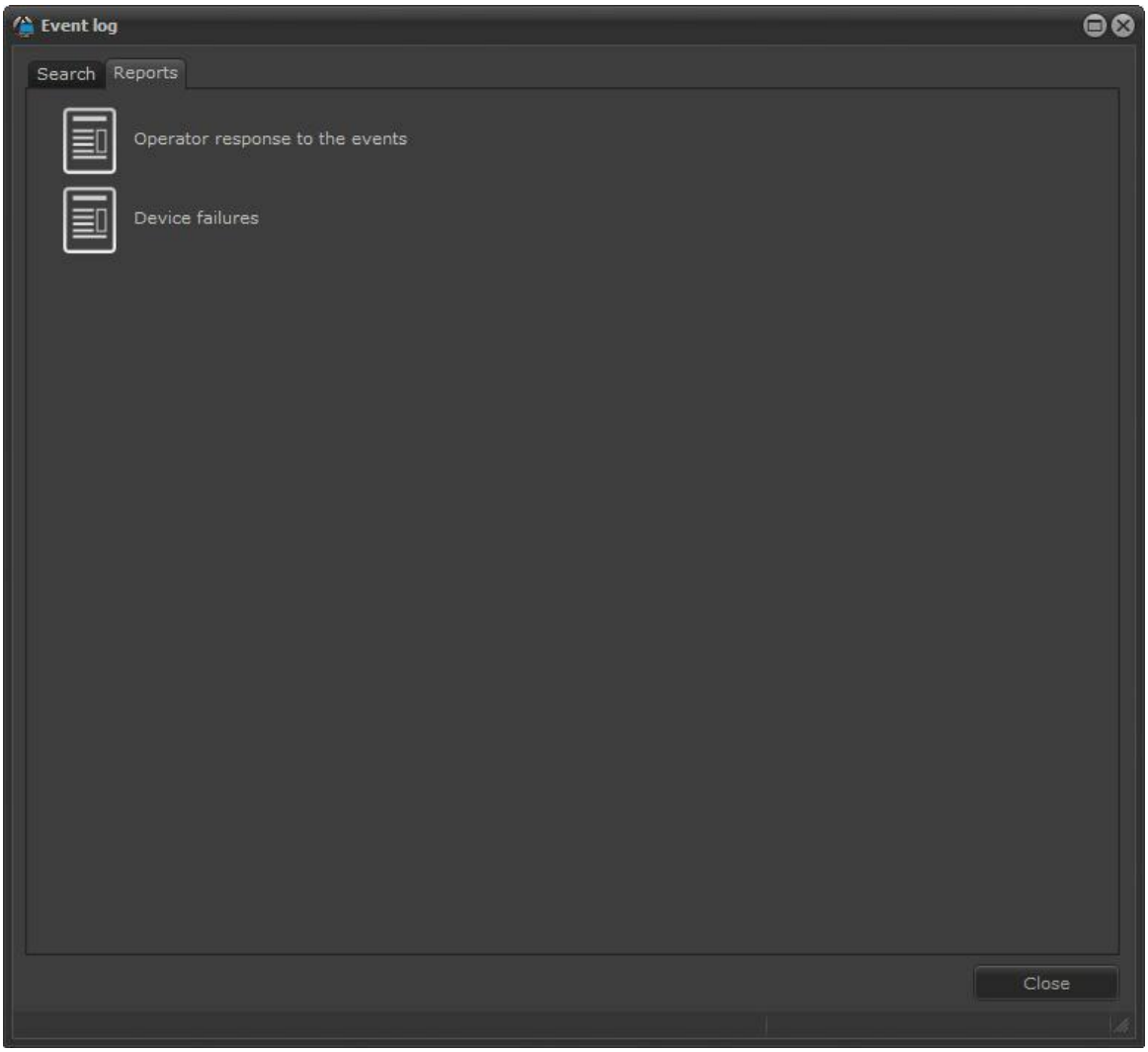

All reports can be exported to the formats: PDF, CSV, TXT, RTF, XLS and HTML.

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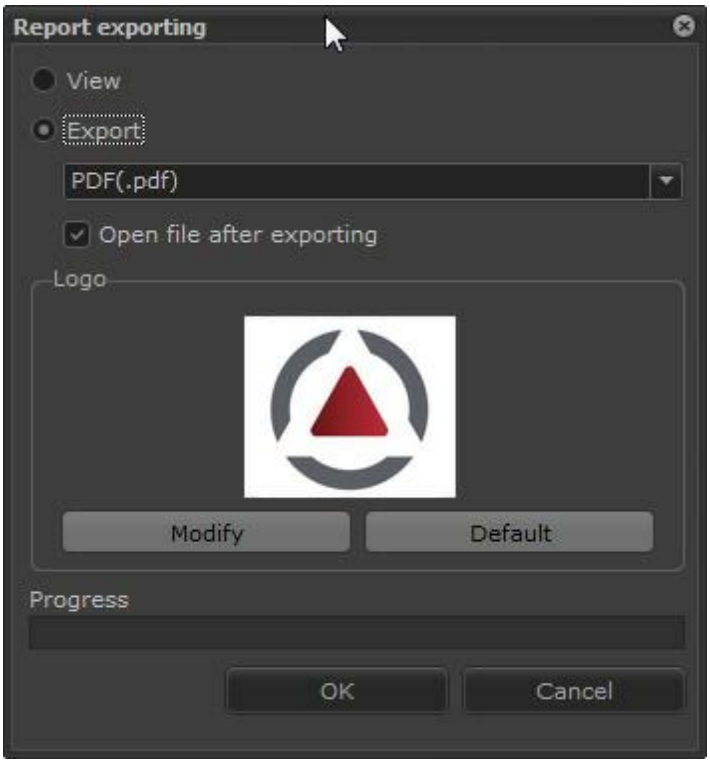

The screen allows the logo to be changed in order to customize the report. Simply click **Modify** and choose another image file.

14.3.1 Report of Answers to events

The report of **Answers to events** brings the information entered by users in the alarm pop-ups. To enable this option, refer to the Administration Client manual, chapter **How to set the alarm actions**.

To generate the report, simply click the desired option. After clicking, the filter screen for the research appears:

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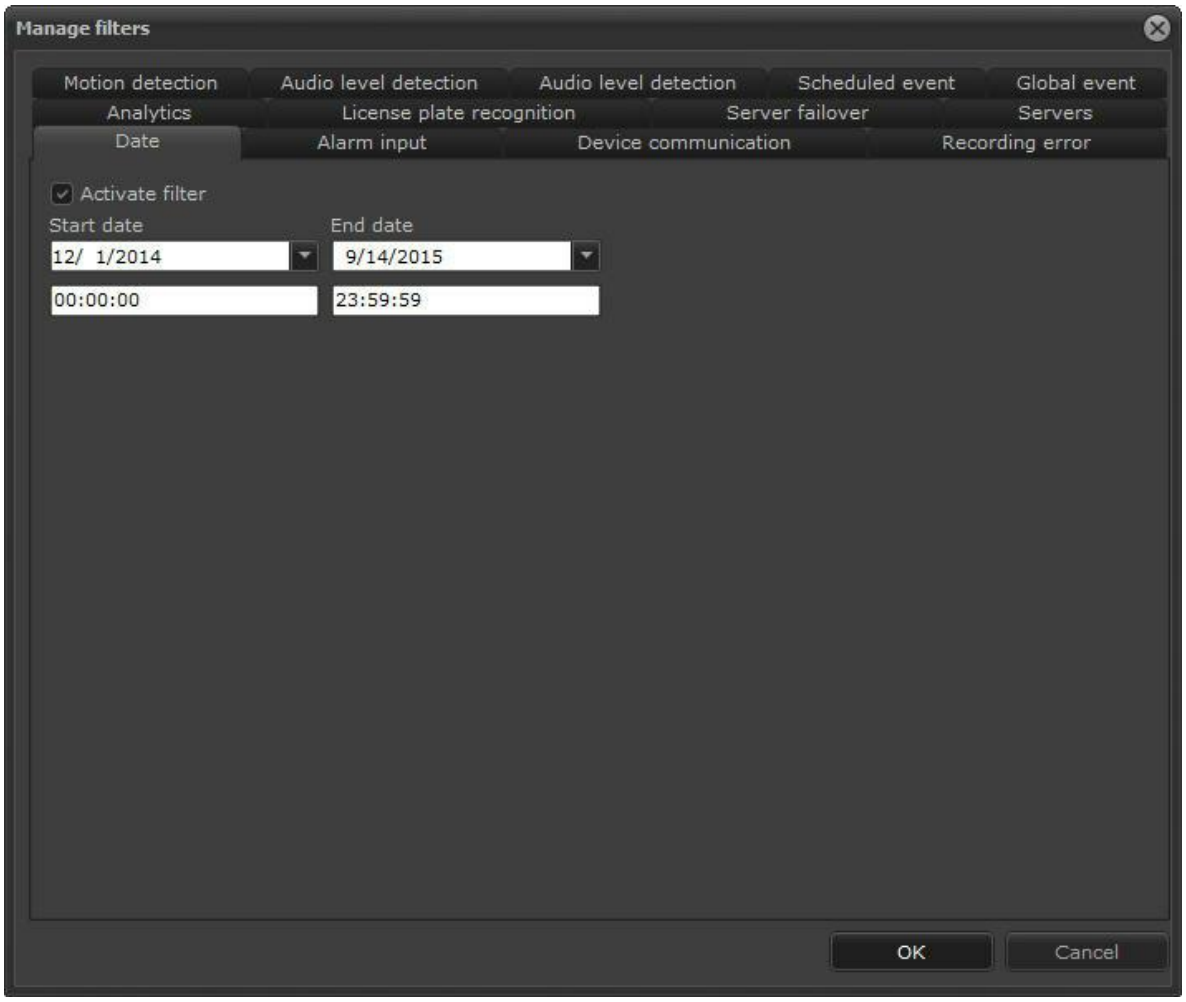

On this screen it is possible that more than one report can be generated at the same time because, depending on the amount of records, the operation may take some time.

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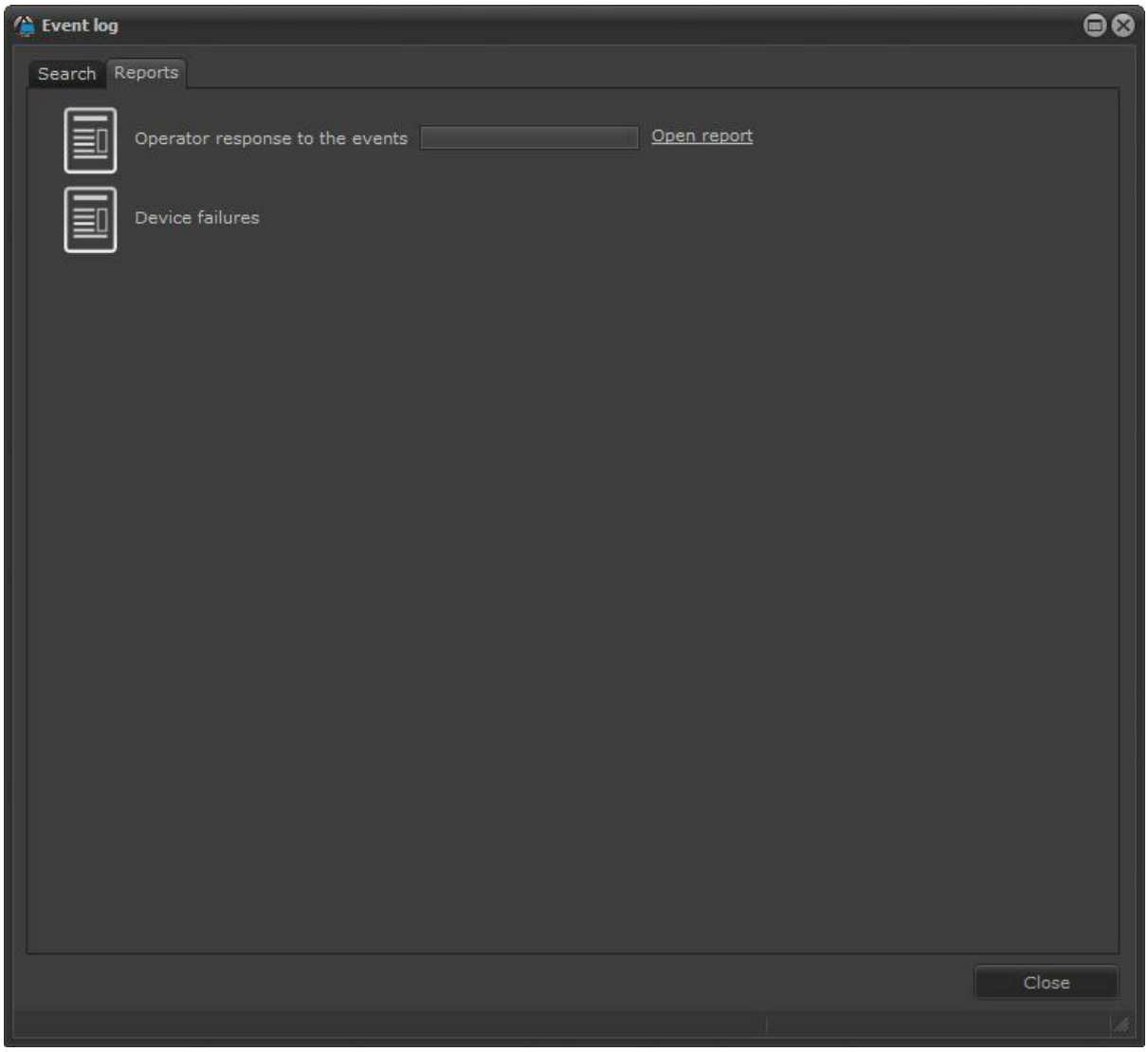

When the report is ready to be displayed, the **Open Report** option will be displayed. Just click to view the report:

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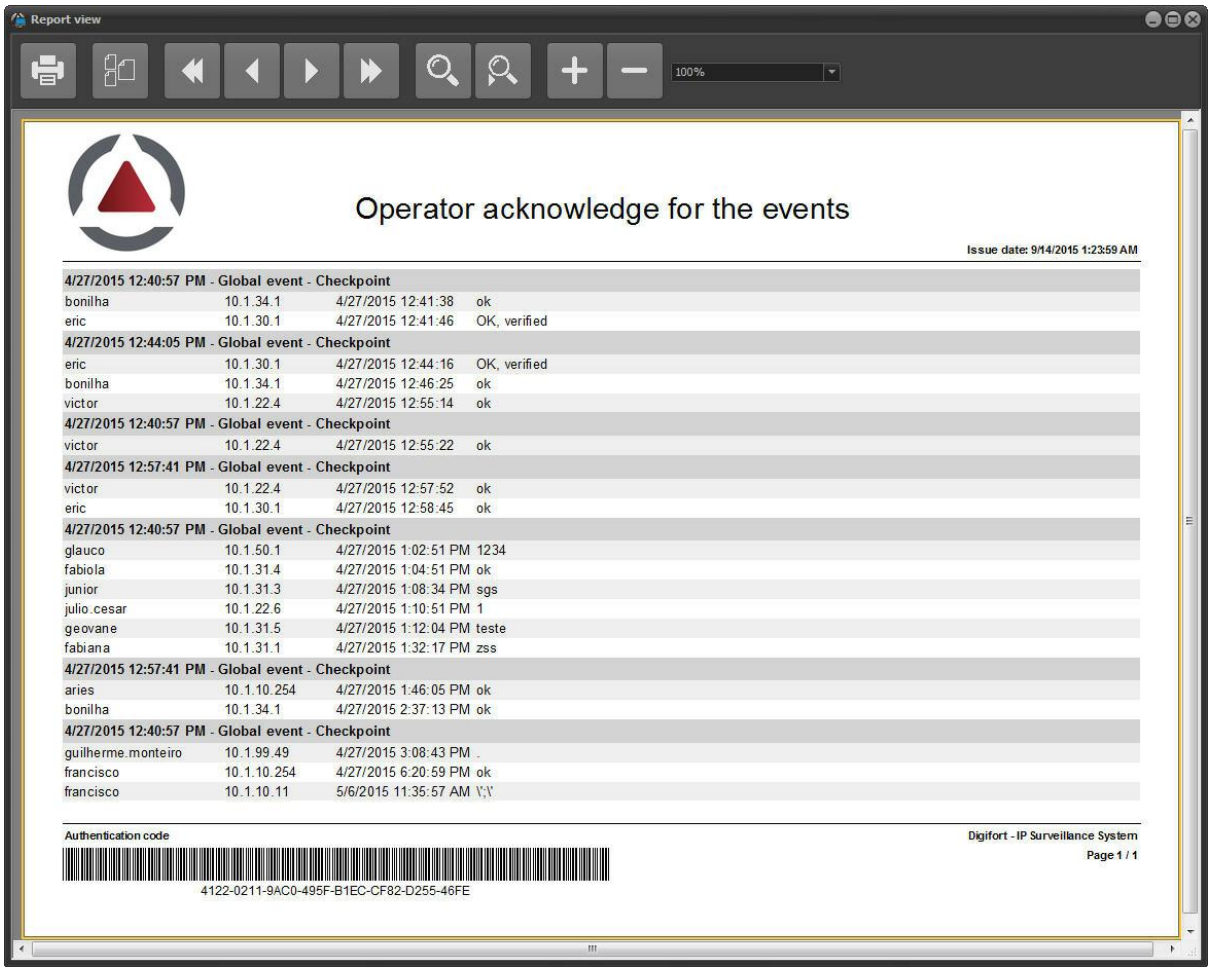

14.3.2 Devices failure report

The new devices failure report will list all faults and communication recovery with the system devices, also providing the failure total time period for each device. To enable this feature, see the Administration Client manual, **Recording Server -> How to trigger a camera -> Events -> Communication.**

To generate the report, simply click the desired option. After clicking, the filter screen for the research appears:

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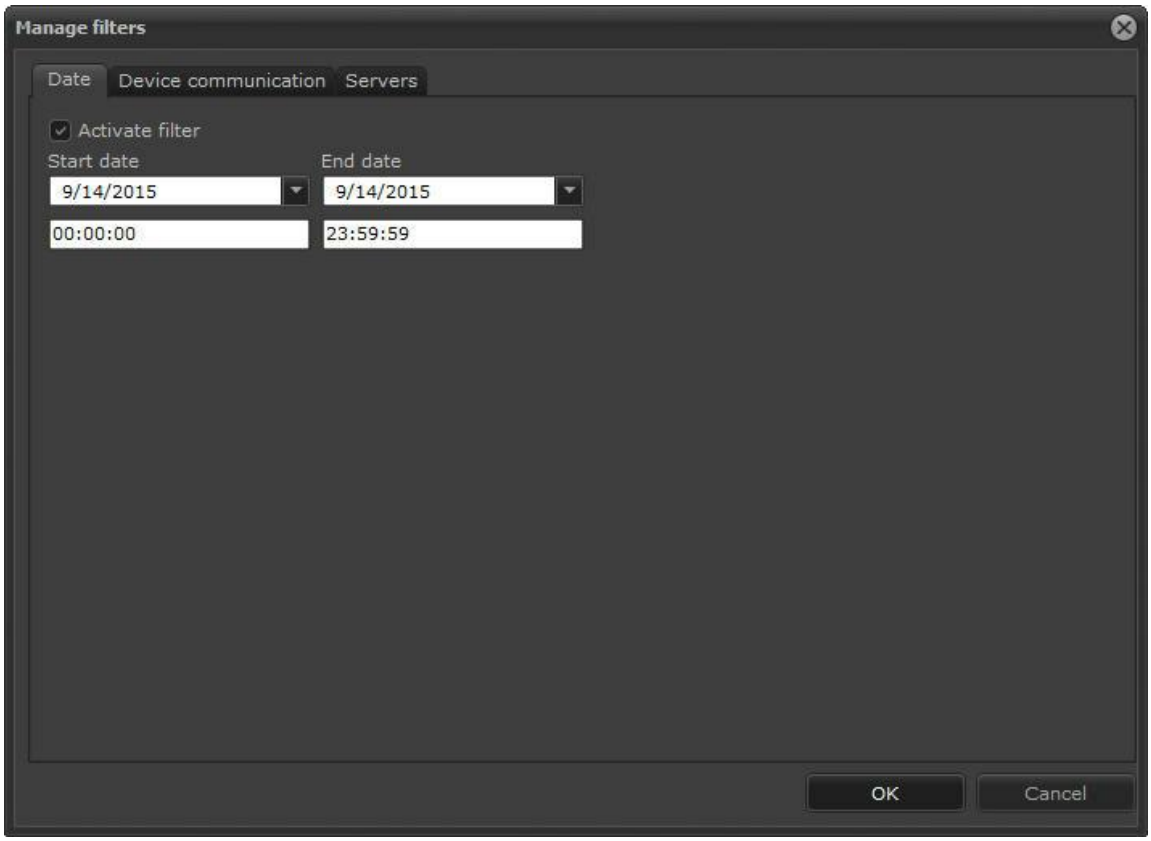

On this screen it is possible that more than one report can be generated at the same time because, depending on the amount of records, the operation may take some time.

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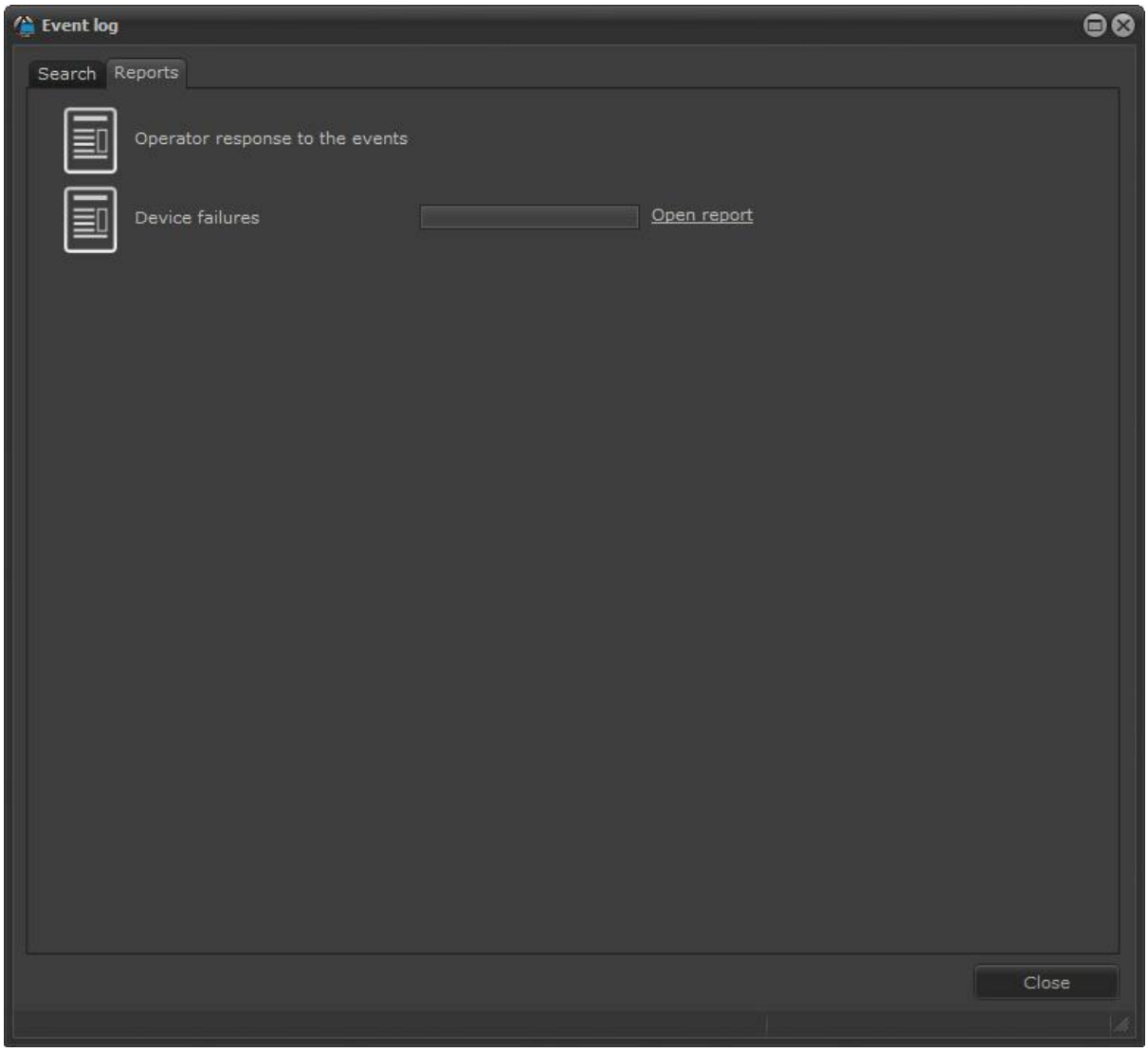

When the report is ready to be displayed, the **Open Report** option will be available as pictured. Just click to view the report:

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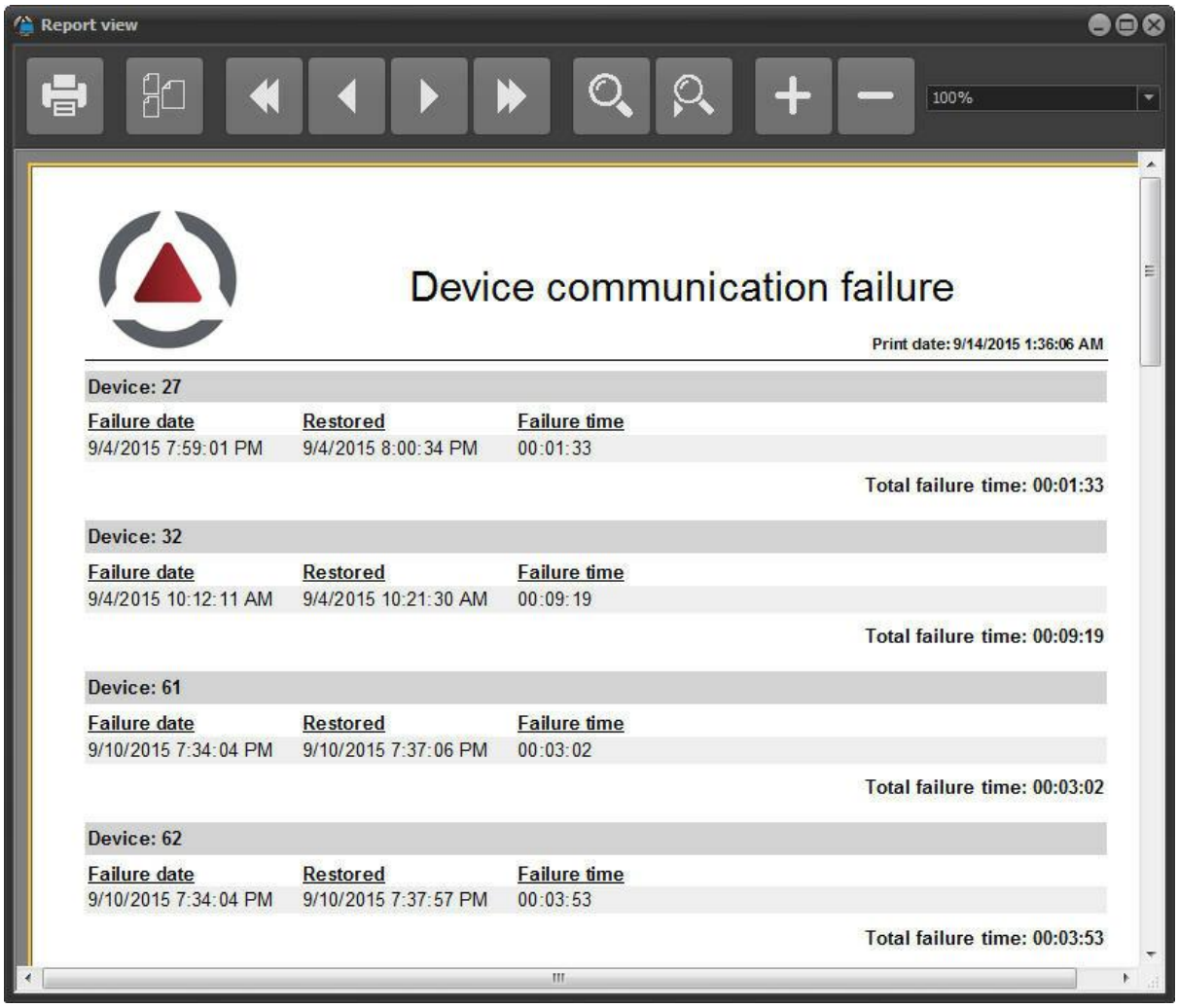

14.4 Audit Logs

Digifort's audit log allows any system event to be found quickly,viewed, and used as data to generate reports.

To open the audit screen, click on the Audit button, as shown in the figure below:

The following screen will be displayed:

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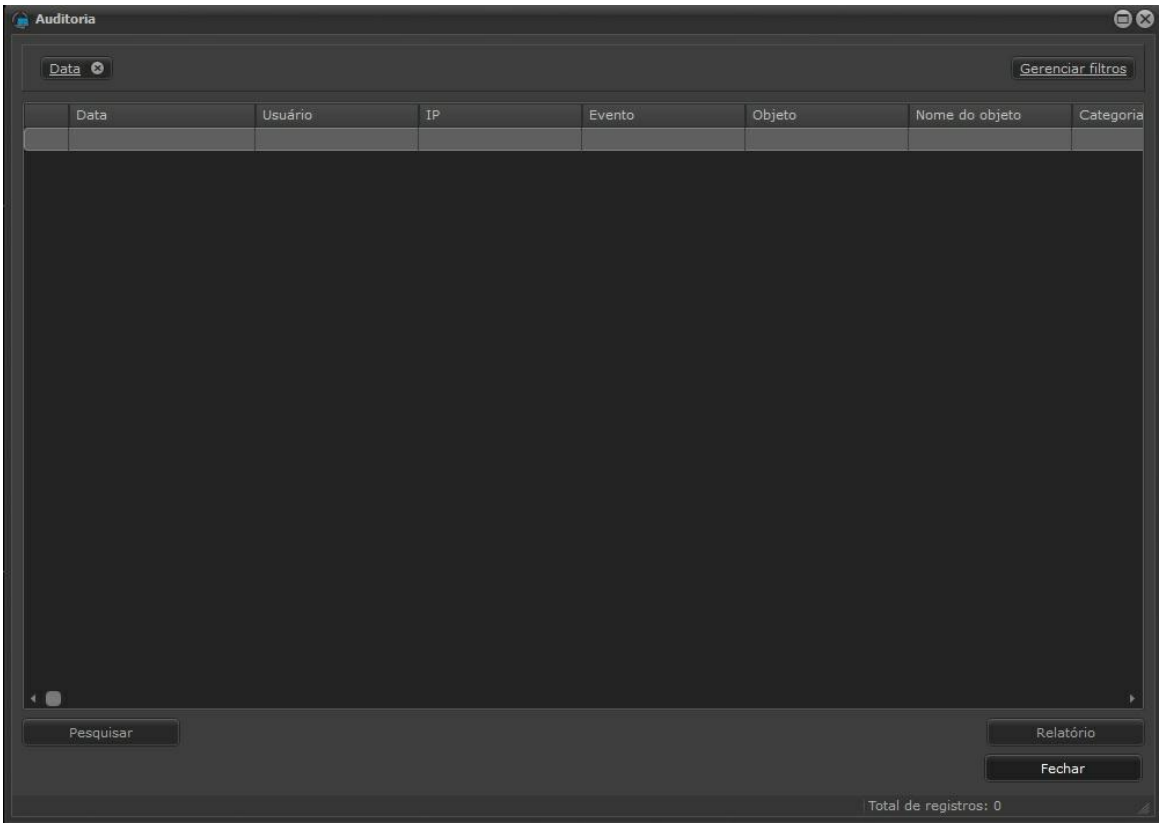
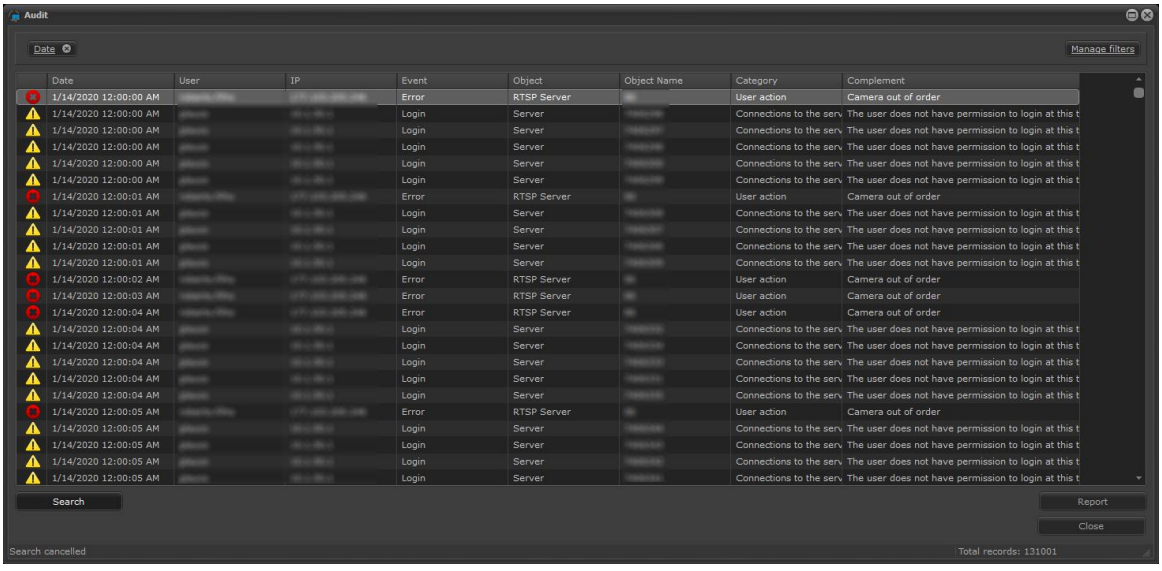


By clicking on **search**, the current day's events will be displayed as shown in the image below:



By clicking on **manage filters**, you can filter events by the categories shown below:

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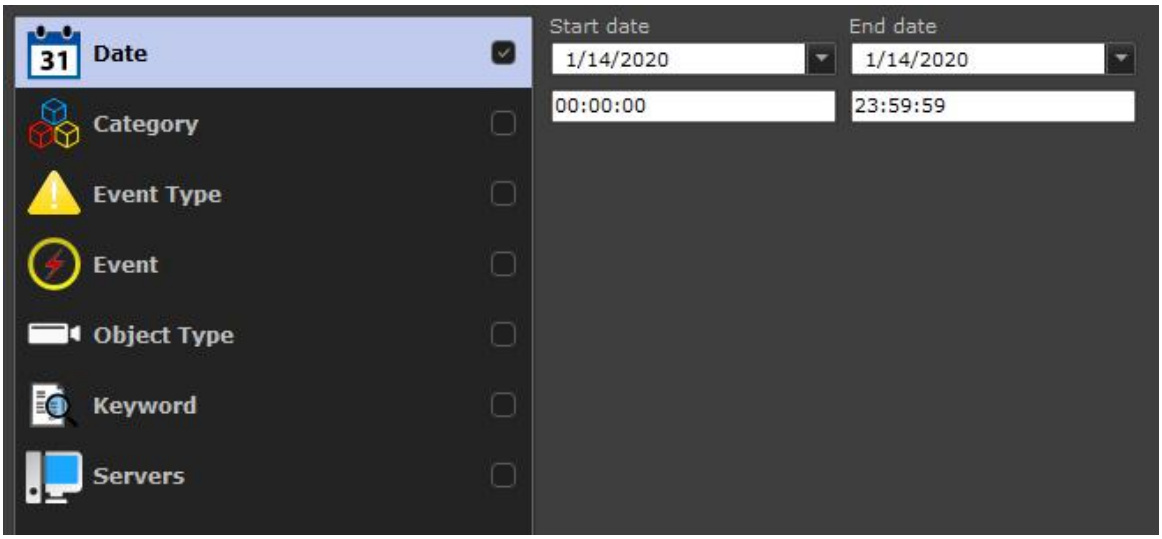

- **Date**: Selects the start and end date to filter the events.
- **Category**: Selects the category of the event you want to filter. Among them are: Server connections and user actions.
- **Type of event:** It is possible to display events by their criticality. Examples: Errors, System Information and Alerts.
- **Event:** Selects the type of the event you want to filter. Example: Login events, logout events, events in which settings were modified, etc.
- **Object type**: Choosesto which device your event is related. Example: Cameras, I/O devices, server, etc.
- **Keyword**:Searches for a keyword that may be related to the events. Example: type "Carlos" to search for events related to the user Carlos.
- **Servers**: In the case of multiple servers, you can select only the server of your choice.

14.4.1 Detailed audit

The user action audit has details about changes in the system. Any change made on any object will now be registered in the audit log details. For example, if a user changes the recording directory of a camera, or the set recording time, this information will be detailed in the audit log, including the old values and the new values.

The detailed audit is applied to all system objects, including server settings, thus making the audit tool super powerful to record and identify user actions in the system.

Critical fields, such as password or binary fields (or data storage containers) that cannot be displayed in text will only be referred to as "altered", but their values will not be displayed, such as, for example, “Lens.Data” in the image below, where there are no values since it is a field stored in the binary format.

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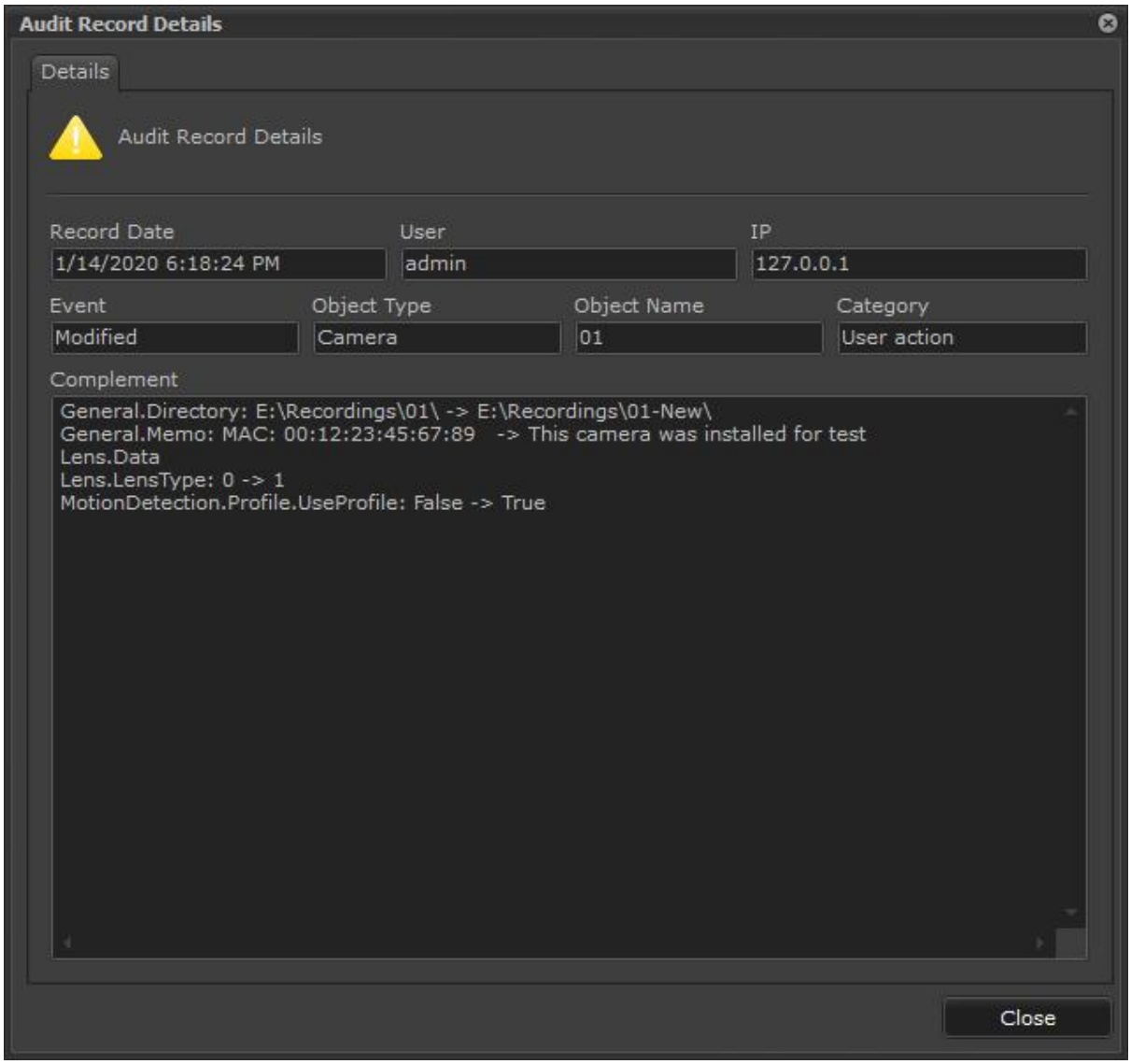

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Chapter XV

15 Interface Web

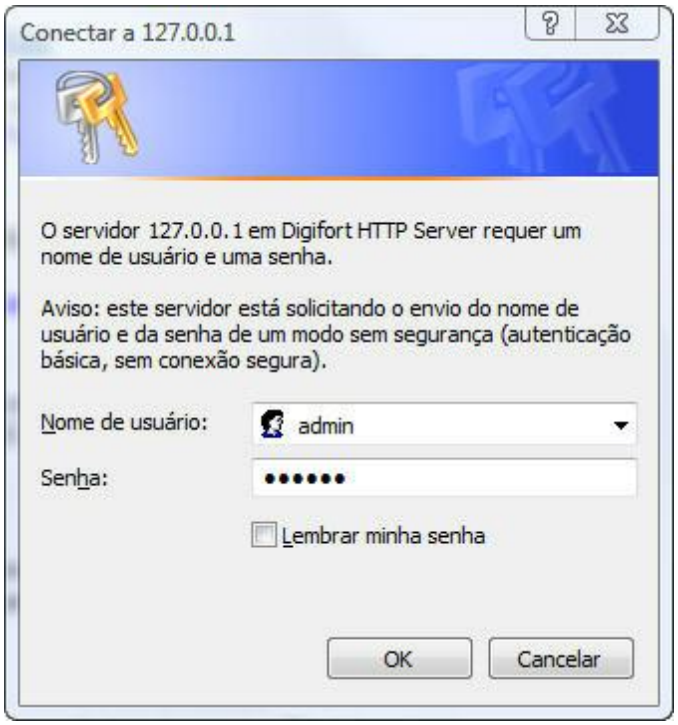
Digifort is equipped with a Web Server that makes it possible to monitor the server's cameras by way of an Internet navigator.

The access to the server via Web works in a similar way to the Surveillance Client, but does not have some functions such as view creation.

By web access it's possible to monitor and play back videos of any camera to which the user has the right.

15.1 How to access the Web Server

To access the Web Server of Digifort, open your Internet navigator and in the address field, enter the IP address or DNS of the server that you want to access, opening the authentication screen, as shown in the picture below.



In this screen, enter your user name and password as defined by the administrator in the Administration Client.

If this is your first access, a screen will be displayed for the installation of the plug-ins of surveillance and video playback, as shown in the picture below.

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In this screen, there are three installation links. Install the most convenient package:

- Click here to download the complete installation of the plug-ins: Install the plug-ins of surveillance and video playback.
- Click here to download only the installation of the plug-in of surveillance: Installs only the plug-ins of surveillance. It will not be possible to play recorded videos back.
- Click here to download only the installation of the plug-in of video playback: Installs only the plug-ins of video playback. It will not be possible to monitor the cameras live.

After selection of the desired plug-in option, a screen of your navigator will open, requesting a confirmation that you wish to download the specified file. Click on “EXECUTE" to execute the installation directly from your browser.

15.2 Monitoring via web access

After installing the surveillance plug-ins, as explained in the previous topic, click on Surveillance, located in the gray strip, under the Digifort logo.

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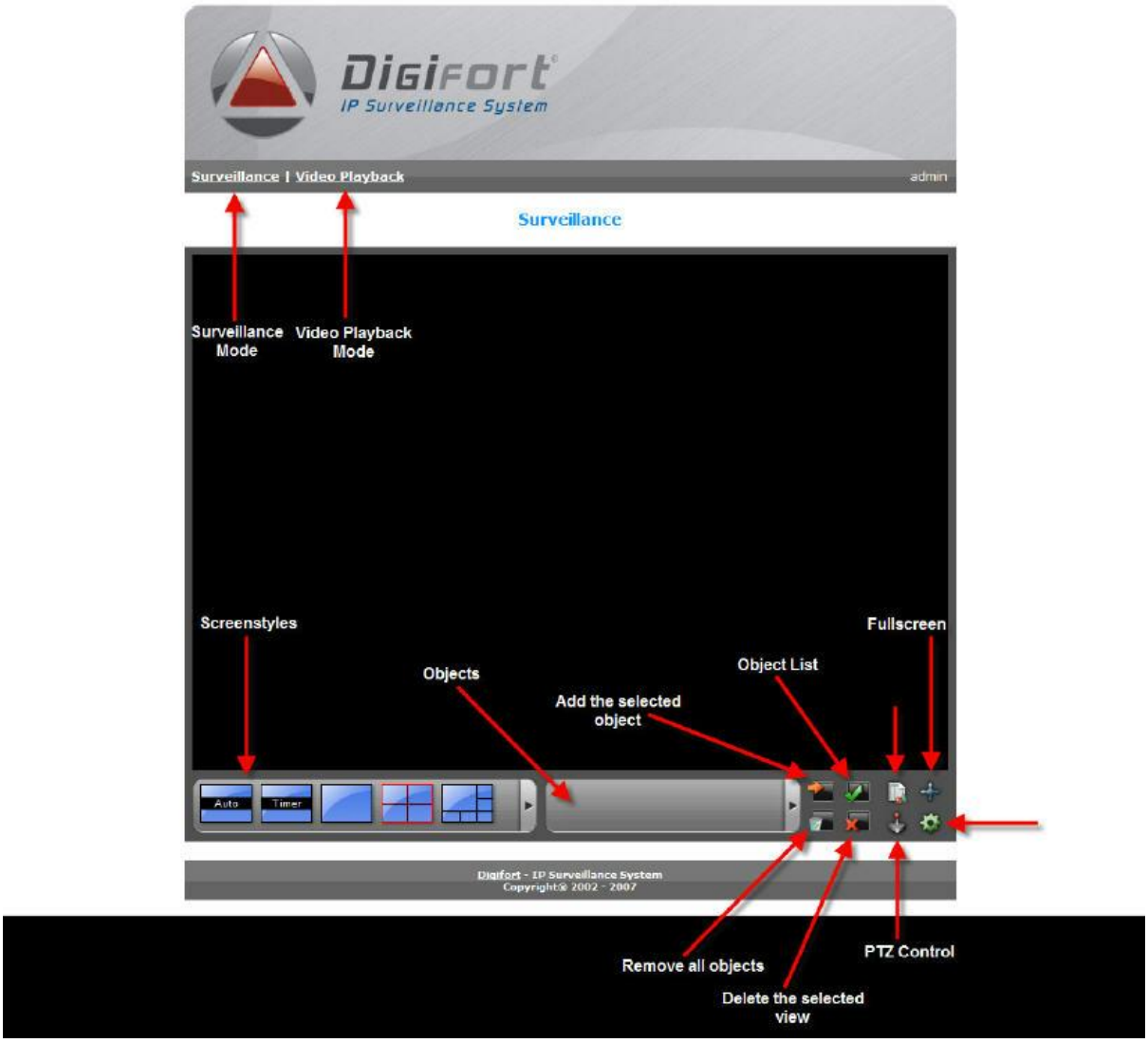

The surveillance web interface of Digifort offers the following functions:

Screenstyles: Digifort Standard comes with eight screenstyles.

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Objects Selection Screen: Open the screen with all of the objects in the system.

15.3 Playing videos back via web access

After installation of the video playback plug-ins, as explained in the previous topic, click on Video Playback, located in the gray field, under the Digifort logo and right afterwards on Start to open the video playback screen.

The functioning of the video player is identical to the video player of the Surveillance Client, explained on Video Playback 90.

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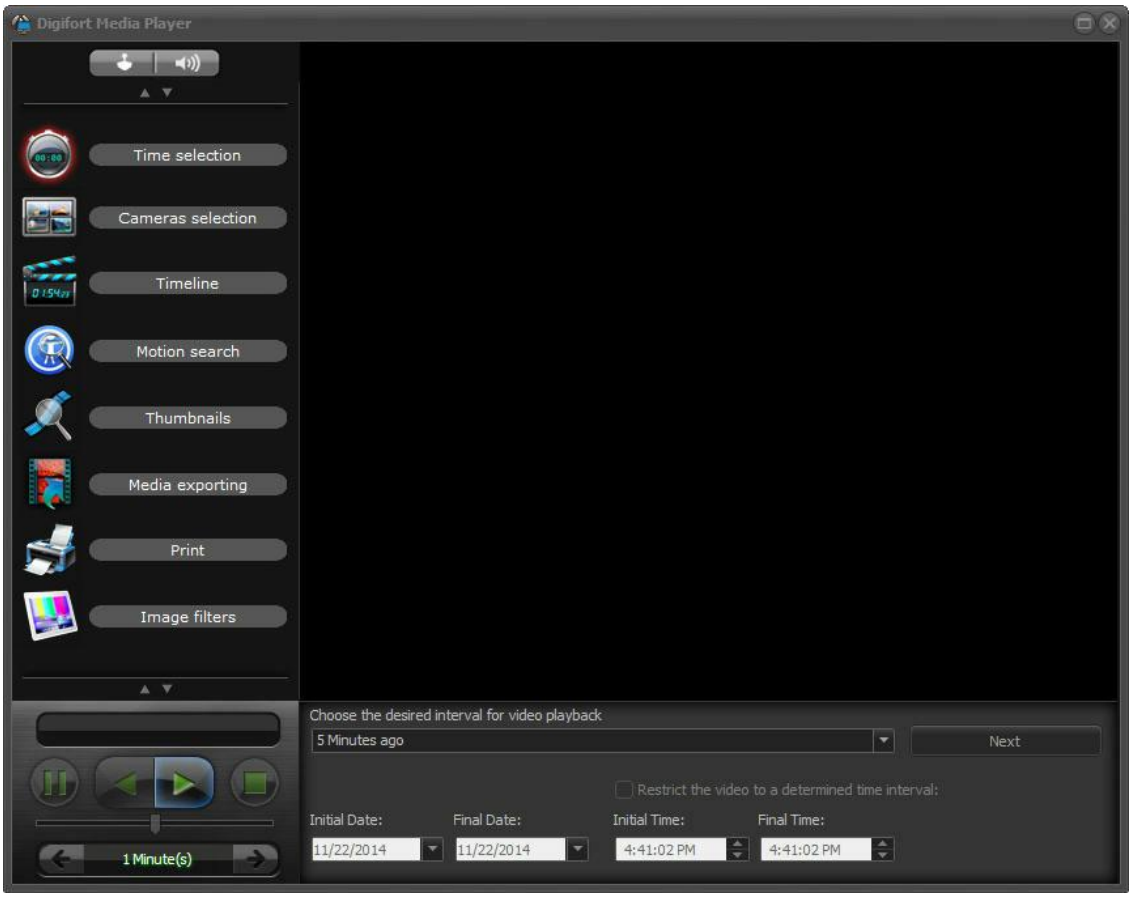

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