



# Online Help

MOBOTIX MxManagementCenter 2.4

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# What's new in MxMC 2.4?

## SSL certificates for cameras

SSL is the standard technology for securing an Internet connection by encrypting the data sent between a website and a browser (or between any two computers). This function allows an administrator to upload or create an SSL certificate to the selected cameras.

See [Managing SSL Certificates](#), p. 262.

## New Histogram

The histogram can now be used horizontally in the bottom bar according to its purpose. The functions are the same.

See [The Histogram: Graphical Representation Of The Frequency Distribution Of Events](#), p. 185.

## P7 Apps as Smart Data Source

In MxMC 2.4 you are able to detect license plates with the P7 Apps from Vaxtor and FF Group as well as faces with the P7 App from Visage.

If a license plate or face is recognized, the user can see the result in a list in the MxMC Smart Data Search View.

See [Smart Data Settings](#), p. 250

## Custom color schemes and logo

This setting enables you to adapt MxMC optically to your needs. You user can freely select the primary color of the headers and the font displayed there. You also can add an individual logo.

See [Preferences](#), p. 230

## Readable Backup of Action Log

The Action Log can now be stored as readable PDF and CSV files on a user defined storage path.

See [Preferences](#), p. 230

## Export project data for MOBOTIX LIVE App

The Action Log can now be stored as readable PDF and CSV files on a user defined storage path.

See [Backing Up And Exporting](#), p. 123



# Basics/Introduction

This chapter provides an overview of the features in MxMC and provides guidance on using the online help. You will also find explanations of the program structure and operating concept of MxMC.

## MxManagementCenter Function Overview

MxManagementCenter is a video management software for setting up and using a complete video surveillance system that offers a variety of features for different tasks and user groups:

Area	Features
Camera Management	Unlimited number of cameras, definition of hierarchical camera groups, different system environments (e.g., with different network addresses)
Live Video Surveillance	Display of individual cameras and freely definable grid views (with up to 80 cameras simultaneously), user-defined graphics and info views, automatic camera switching (camera sequencer and group sequencer), multi-monitor support (number of available display devices can be further extended with MxThinClient devices), manual recording of live images (live recorder)
Alarm Processing	Visual and audible alerting to new events, alarm filtering (specific alarms for specific types of alarms), background monitoring of cameras
Research, Analysis and Recording Playback	Search and playback for individual cameras in the Playback view, time-synchronized search for several cameras simultaneously (grid playback), special search view with the latest alarm images of selected cameras, research and playback of data directly using the camera or via direct connection to the file server, fast display of the latest alarm images during live display (instant playback), subsequent distortion correction of hemispheric camera images, special search functions (subsequent video motion detection, histogram, Smart Data System)
Data Export	Export of single or multiple time ranges in the recording at the same time, export of the data by the camera or via direct connection to the file server, export of individual image areas (subsequent PTZ), export at variable frame rates, resolution with and without audio
Door Station Functions	Bell signaling and live two-way communication, open doors and switch lights, play back mailbox messages
Security Functions	Definition of users and user rights, supervisor function (dual control), system security check, health check
Special Program Functions	Softbuttons for executing special functions, action logs, remote control

tions	
Program Operation	Fast switching between different views with different functions, fast display of cameras via drag & drop, touchscreen operation supported, various program behavior settings

Camera Feature Overview

MxMC allows MOBOTIX MOVE cameras and third-party cameras providing an ONVIF-compatible interface to be integrated and operated. However, the full range of MxMC features is not available for all camera types. The following table briefly lists the functions that be used with the different camera types.

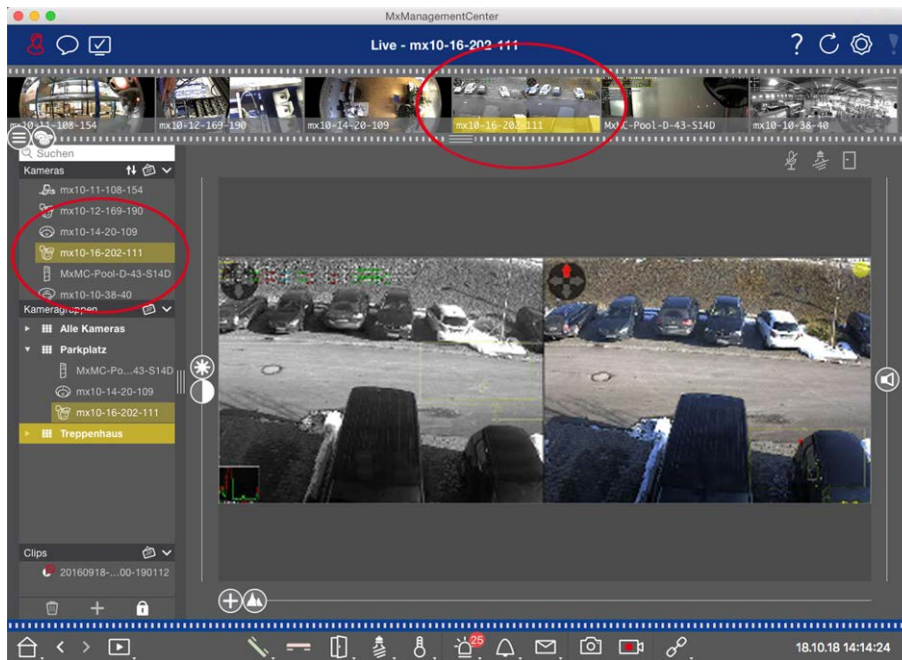
Function	MOBOTIX Camera	MOBOTIX MOVE Camera	ONVIF Camera
Camera Configuration	yes	no	no
Alarm Processing	yes	no	no
Recording Access	unlimited	only via MOBOTIX NAS	only via MOBOTIX NAS
Recording Playback	unlimited	only forward playback	only forward playback
Export	unlimited	only as MJPEG and H.264 (H.264 with corresponding license)	only as MJPEG and H.264 (H.264 with corresponding license)
Research View	yes	only for marked events	only for marked events
Special Search Functions (post-VM, histogram, Smart Data)	yes	no	no
Check System Security	yes	no	no
PTZ	Camera PTZ	mechanical PTZ	mechanical PTZ
Subsequent Equalization of Hemispherical Images	yes	no	no
Live Recorder	yes	no	no
Camera Groups	unlimited	group functions	group functions
Door Station Functions and Switching Functions	yes	no	no
MxThinClient Devices	yes	no	no
Snapshots	yes	no	no



## Working With The Live View

The Live view allows you to control the live images of individual cameras. This also includes switching various functions, e.g. opening doors or switching lights.

### Showing Cameras



**Fig. 1: Showing cameras**

To view a camera, you can use the Device or Camera bar. To do this, either drag and drop the desired camera from the Device bar into the display area or click on the desired camera in the Camera bar. The displayed camera is marked with a yellow bar in the Device bar as well as in the Camera bar.

## Customizing Image Settings

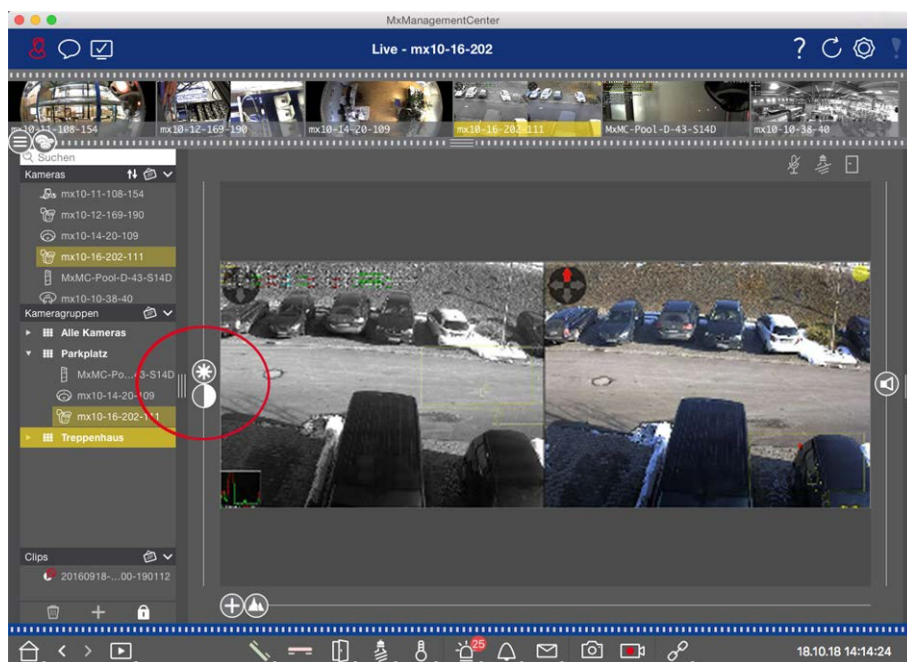


Fig. 2: Customizing image settings

Use the **Brightness**☀️ and **Contrast**⬤ controls to adjust the image display of the displayed camera to the current environment.

Move the corresponding slider upwards or downwards. The new settings are stored automatically for the current camera. The default values can be restored by double-clicking on the corresponding slider.

### Note:

Adjusting the image settings does not have any effect on the camera settings. These will not be changed

## Performing PTZ Actions

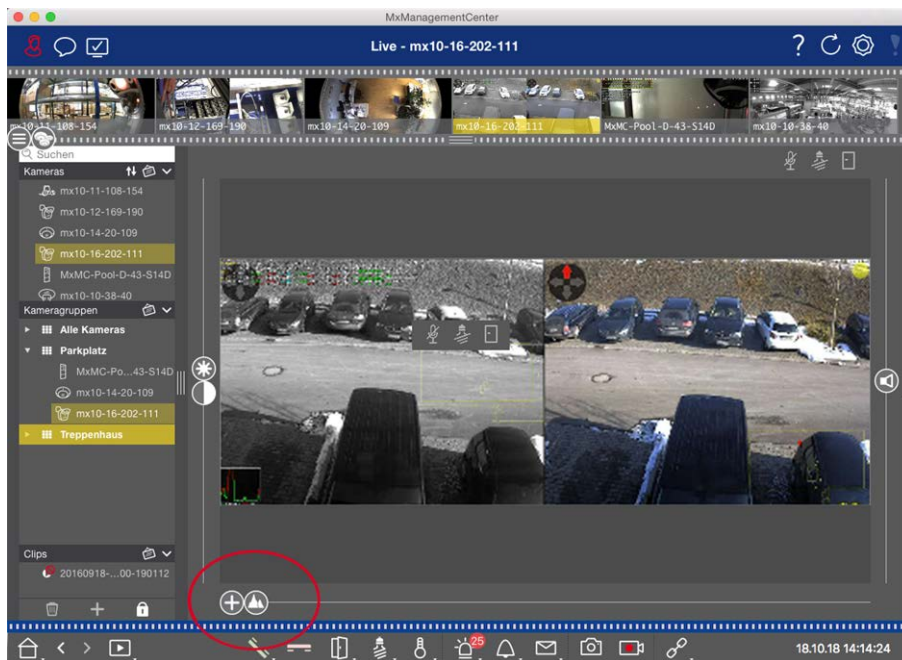





Fig. 3: Performing PTZ actions

### Note


On a secondary monitor, a single camera image can only be zoomed with the mouse wheel or panned with the mouse button pressed down. PTZ controls are only available on the MxMC main screen or on the secondary monitor in Grid View.

To better identify objects in an image section, you can zoom the live image and move the resulting image area around (PTZ). To facilitate quick loading of these image sections, several image positions are already pre-configured for loading using the slider .


The program also shows the  slider on Dual cameras. Use this slider to show the live images of either the right, the left or both image sensors.

When showing the live images of hemispheric cameras, you can configure different display modes (slider .

## Zooming and Moving Image Sections

You can zoom using the slider  or the mouse wheel. Zooming with the slider takes place only on the computer. This means that only the image section of the current live image is modified.









To see other image sections, you can move the live image using the mouse.


If you want to execute the PTZ actions on the camera, you can also switch to camera PTZ. In this case, the PTZ actions are applied to the camera's live image and also influence the recordings (but only if the camera does not record the full image). To use this feature, click on the slider  and keep it pressed until it starts flashing. You can now adjust the zoom level as needed. To store the setting, click again on the slider and keep it pressed until the slider stops flashing.

## Selecting and Adjusting Image Sections

### Selecting Image Sections

To quickly focus on a specific image section, you can use one of the factory default image positions that are predefined in the camera.




- Preview , detail , overview  and point of interest 
- Top , bottom , left , right 

The camera will then move to the selected position. Note that the PTZ actions are executed on the camera and also influence the recordings (only if the camera does not record the full image). Move the  slider to the next position or until you have found a suitable position.

### Adjusting Image Sections

You can adjust the pre-defined image positions of the factory default. Select a position and modify it as needed. Keep the slider on this position until it flashes once. The new image section has been stored.




## Choosing a Sensor

If you want to show the live images of only the right or the left image sensor, you can move the  slider to the right to  (left sensor) or further to the right to  (right sensor).

## Correcting The Distortion Of Hemispherical Images


When showing the live images of hemispheric cameras or cameras with the lenses L12/B016, L23/B036, L25/B041, you can select different display modes. This requires that you enabled **OpenGL** in the settings (Mac: **MxManagementCenter > Settings > General** menu; Windows: **File > Settings > General** menu). In order to get naturally-looking images, the camera will automatically correct the distortion in these modes. This distortion correction can be refined even further when using the panorama correction. The selection of a display mode is always done locally and thus does not influence the camera settings. However, the selection is also applied to the other program views. When selecting a display mode in the live view for a specific camera, this mode is also applied if the camera shows up in the focus window of the Grid view as well as in the live images of the Graphic view. Consequently, the alarm images in the Alarm bar and in the Research view are also shown in the selected display mode.

### Selecting The Distortion Correction Mode




-  **Full image:** Shows the entire (distorted) full image.
-  **Normal:** Shows a distortion-corrected image and allows executing PTZ actions.
-  **Panorama:** Shows the entire distortion-corrected image (corrected 180° panorama) from the left to the right border. The aspect ratio (width to height) is 8:3.



- **Surround:** This option shows four image sections (one for each cardinal direction: N, E, S, W) in one joint view. Note that you can use PTZ actions to modify all four views independently from one another.
- **Double panorama:** This mode shows a panorama view for the North half of the image and a second panorama view of the South half of the image using an aspect ratio (width to height) of 4:3. This mode makes sense for a hemispheric camera that is mounted to the ceiling. It can be subsequently customized to use local PTZ.
- **Panorama focus:** This display mode combines the panorama view (aspect ratio 8:3) with two smaller images (each with aspect ratio 4:3) in one large image.

To select a mode, move the slider  to the right until you reach the desired position. This slider position will be stored automatically until you change it again.

## Panorama Correction

The distortion-corrected images of the different display modes can be further refined. For example, if the image in Panorama mode is not centered, you may see a trapezoidal distortion. The panorama correction allows adjusting the skewed (vertical) lines of the image to produce a more naturally-looking image. To do so, move the  slider to the right to  and use the mouse to correct the image. To store the corrected setting, click on the  slider and hold it until the slider icon briefly appears in the center of the image.

## Status Display

The Status bar displays different states by means of icons. The status displays always refer to the displayed camera. This gives you an up-to-date overview, e.g., showing you at a glance whether a door has been closed again or is still open.

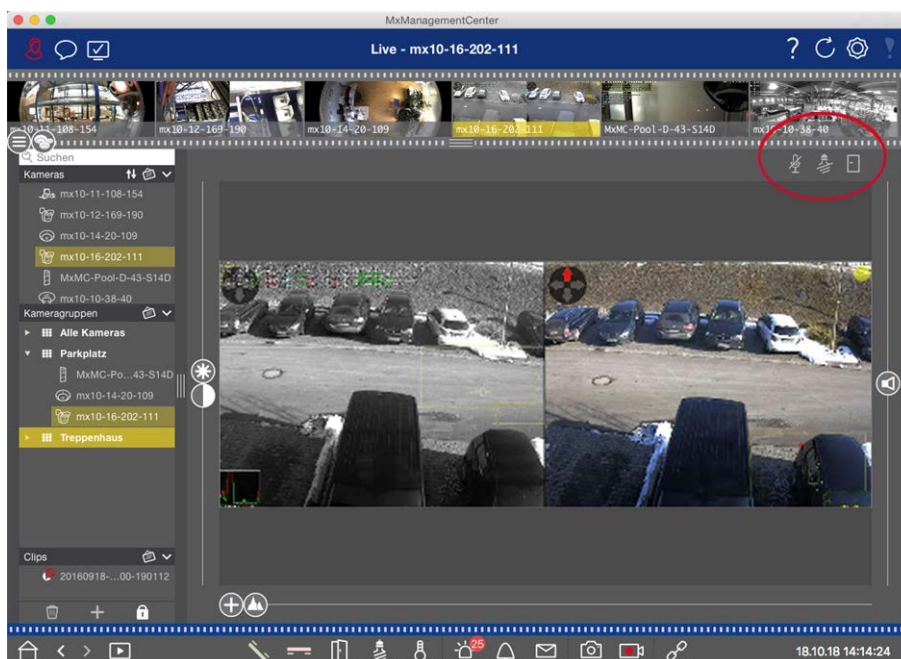








Fig. 4: Status display




#### Door Status Display

-  = door is closed.
-  = door is open.
-  = door is locked.
-  = door lock switch is locked, but the door is open!

#### Light Status Display

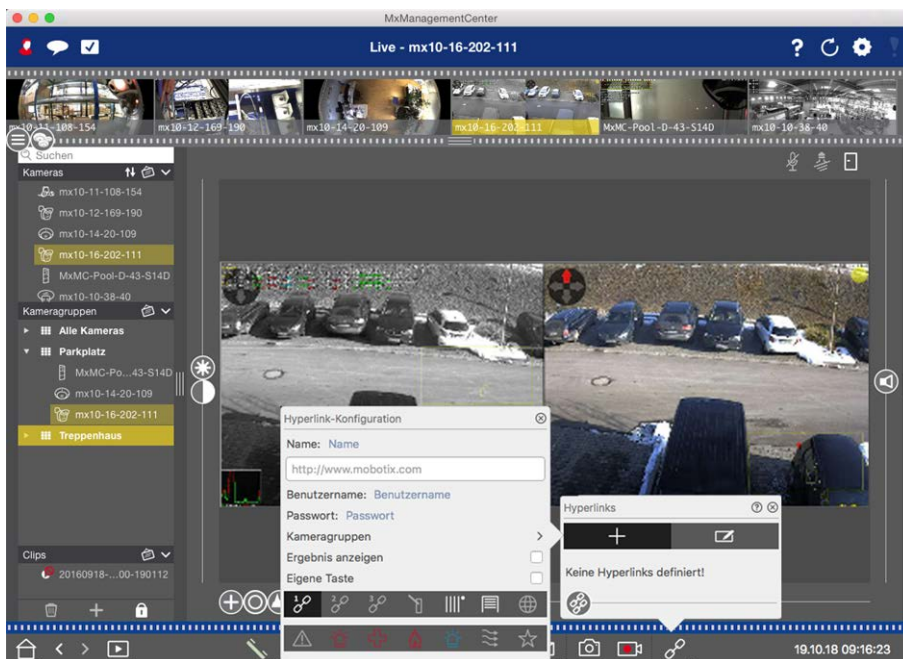
-  = light is off.
-  = icon is lit: Lights are on, needs to be switched off manually.

#### Microphone Status Display

-  = microphone is switched off, no announcement possible.
-  = microphone is on, announcements are possible.
-  = microphone connection is blocked, possibly because a connection has been established to a different remote station.

## Switching additional devices via hyperlink

Hyperlinks can be used to switch additional devices or to send HTTP requests. When defining hyperlinks, you can select an individual button icon for the hyperlink (there are several pre-defined icons to choose from) or set one button from which to run all hyperlinks.



**Fig. 5: Switching additional devices via hyperlink**

To define a hyperlink, right-click on  and then on .

In case you did not assign an icon for the individual hyperlinks, they will be combined under one  button.

To execute such a hyperlink, click on  and then on the name of the desired hyperlink.

## Manually recording live images

In the Live view as well as in the Grid view, you can start manual recording at any time, such as when you observe a suspicious situation that should be recorded. While you keep track of the situation in the live image, the images are recorded and saved as a MXG file.


Users with administrator rights can specify where the clips are saved and how long the recordings can be in

the [Program Settings](#) (Mac: **MxManagementCenter > Preferences > Live Recorder** menu, Windows: **File > Settings > Live Recorder** menu).

#### Notes:

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

Audio can only be recorded with the Live Recorder under these conditions:

- Audio transmission must be activated on the camera side.
- In the Live View of MxManagementCenter, the audio connection must be activated by clicking on .

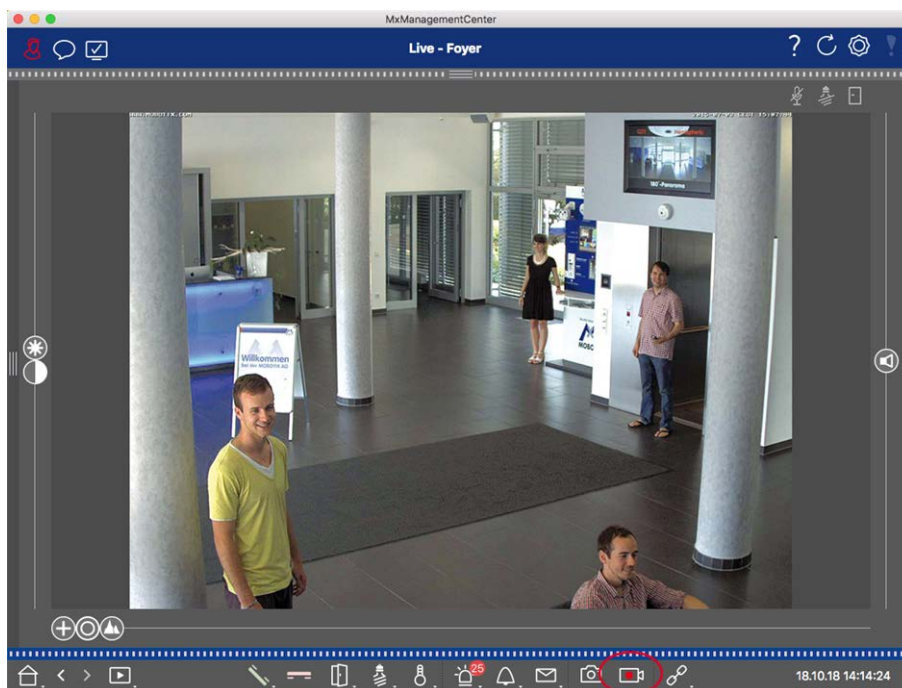




Fig. 6: Manually recording live images


### Starting And Stopping Recordings

To start recording, click on **Live Recorder** . Recording will stop automatically after the recording time set in the program settings has expired. Just before this time expires, a message will be displayed. You can stop the recording from within this message or extend the set period of time. To stop recording before the time expires, click on  again.

#### Note

If you change the view, the recording is automatically stopped. However, a camera change within the Live view does not stop the recording.

## Play Clip

The live image data is stored in a MXG file at the location specified in Program Settings during recording. The clip file is automatically imported into the current project when the recording stops and the Device bar shows it alongside the  icon in the **Clips** section. You can click on the clip name to playback the MXG clip file via the Device bar.

## Working With the Graphic View

You can define a **floor plan** (ground plan) in the Graphic view and place the cameras or camera groups according to their actual positions. The icon of the corresponding camera turns red in case of an alarm (or green upon a bell event). A simple click is enough to show the current live image of the triggering camera, allowing you to quickly check the situation.

### Temporarily showing the live image of a camera

To temporarily display the live image of a camera, move the mouse pointer over the camera icon. In addition, the live image of another camera group can also be displayed in the Graphic view. Drag & drop the desired camera from the Camera bar onto the floor plan. When changing the view, the live image disappears.




### Automatically display all live images of a group

To keep track of all live images in the current group, you can activate the camera sequencer or the group sequencer. When the sequencer is activated, all live images of the camera group are displayed one after another in a small window. You can move this window to any location and enlarge it or make it smaller.

#### Camera Sequencer

If you want to see a different camera in the focus window, simply drag that camera to the focus window. Note that the camera sequencer can also switch cameras automatically.

#### Instructions:

1. Click on the camera sequencer icon  to activate the automatic switching.
2. Right-click on  to change the following settings:
  - **Duration Slider:** Move the slider to the desired duration (1 sec to 60 sec) to show each camera.
  - **Autostart:** Once you switch to the Grid view, the sequencer starts automatically.
  - **Stop at event:** The sequencer stops when an event has occurred, allowing you to further investigate the situation. To start again, click on .
  - **Restart after confirmation:** Activate this option if you want to avoid having to restart the sequencer over and over again.


#### Group Sequencer

If you want to display a different camera group in the focus window, drag and drop that camera group into the focus window. A grid with all cameras of the group will be displayed and each camera of the group will



be shown sequentially in the grids focus window for a defined time. You can automate this camera group change with the group sequencer.

### Instructions:

1. Click on the group sequencer icon  to activate the group sequencer.
2. To change the sequencer settings right-click on :
  - **Duration:** set the duration to show each group. You can set a value between 1 sec and 60. The “Combined Sequencer” activates the group sequencer together with the camera sequencer (“Autostart” on the camera sequencer is not needed). The group sequencer waits until all cameras on a grid or graphic have been cycled before switching to the next group. When the “Combined Sequencer” is active then the camera sequencers “Stop at Event” and “Restart after Confirmation” also apply to the group sequencer.
  - **Autostart:** Once you switch to the Grid view, the group sequencer will start automatically.

## Switching group functions

At the bottom of the program window is a Command bar with controls that change depending on the selected view. In the Graphic view, you can use the group buttons of the Command bar to control the functions of a camera group (Prerequisite: Group functions were assigned in the [Group Functions](#) dialog box). This means that you can switch on/off lights, open a door and make an announcement for a predefined camera of this group, regardless of the currently displayed camera. You can also assign the functions for switching on/off lights and opening doors to several cameras of this group, enabling you to switch on/off several lights or open several doors.

In addition, you can right-click on the group buttons to open the shortcut menu in order to control cameras that are not part of the current group. Before you can do this, the cameras have to be set up accordingly, that is, they need to be connected to door openers/light contacts and have to be configured properly.

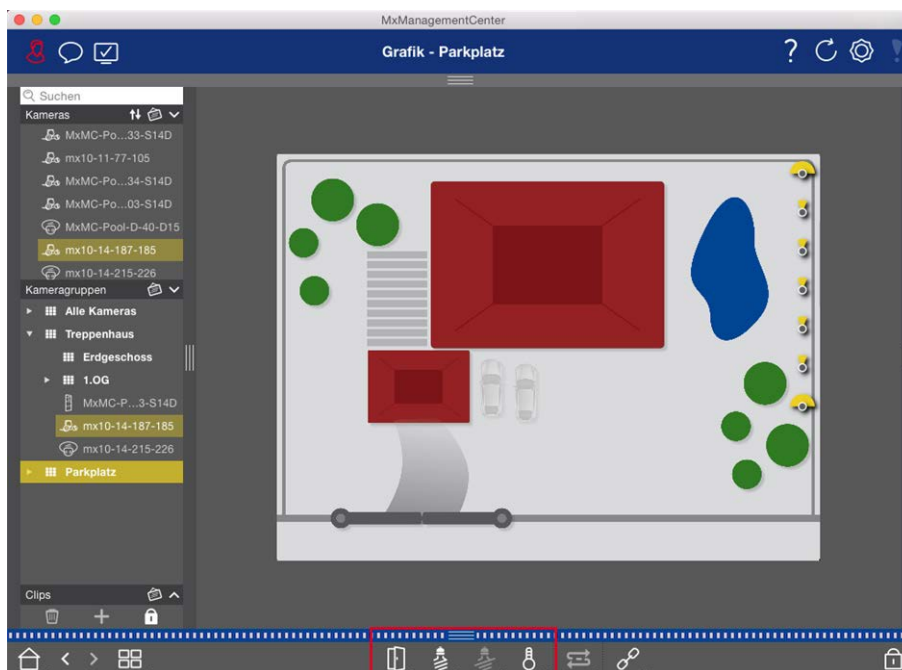


Fig. 7: Switching group functions

## Searching And Playing Back In Playback View

Recorded clips cannot only be played in the player, but they can also be searched. The way that you search depends on whether you want to search for specific events within the recorded clips or whether you want to search for events at specific times.

### General Playback View controls

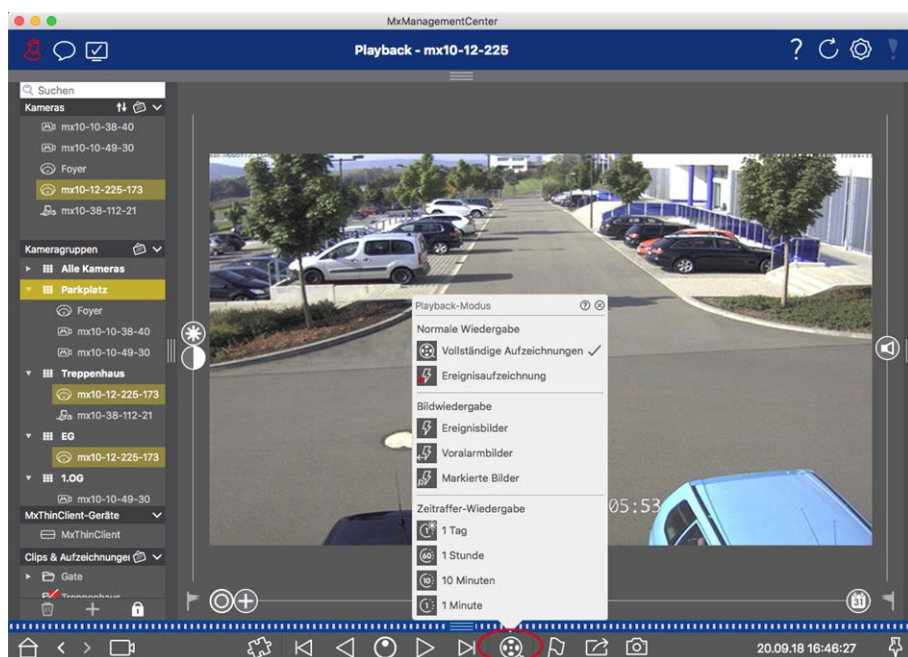







Fig. 8: General playback view controls

To search and play back recordings, first activate **Playback** mode  or select the date and time and then use the **Previous/Next Image** buttons  , to browse the recordings; alternatively, you can start the playback using the **Forward/Backward Playback** buttons  . Hold the **Forward/Backward Playback** to select a playback speed between 0.5 times and maximum.

## General operation of the Playback View for MOBOTIX MOVE and ONVIF cameras

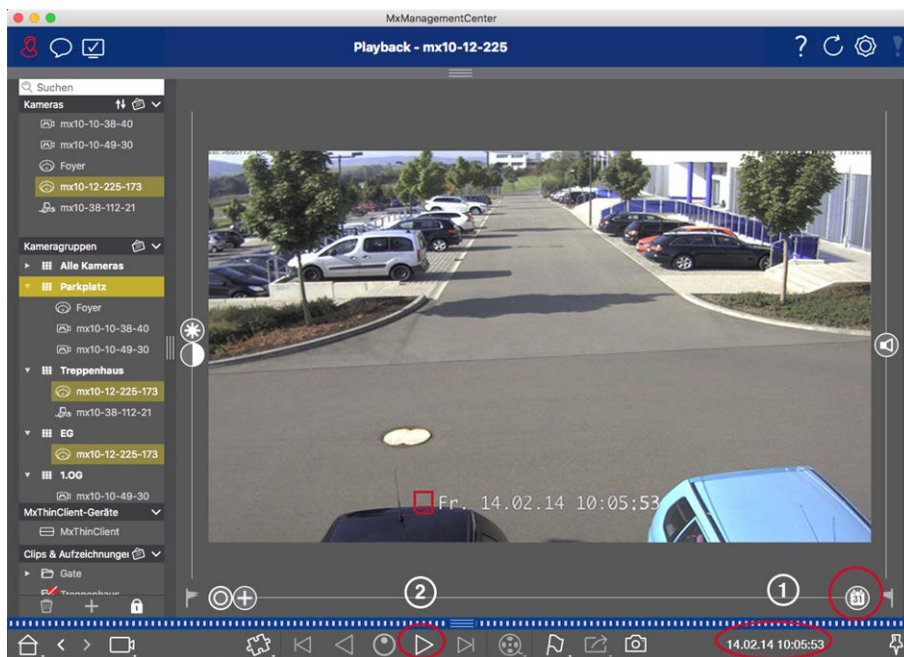
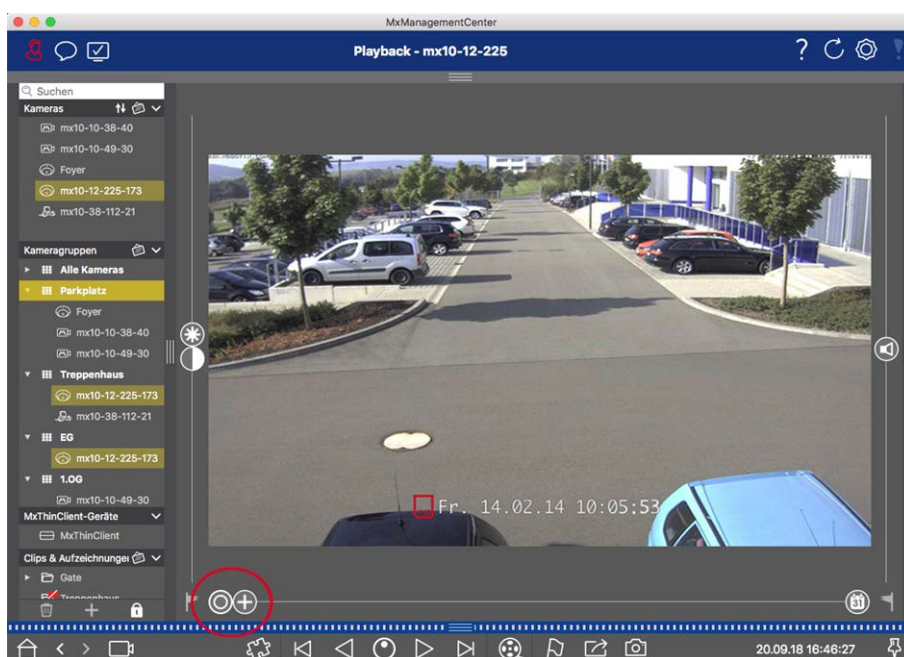


Fig. 9: General operation of the Playback View for MOBOTIX MOVE and ONVIF cameras

### Note

All playback capabilities are supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For these cameras, recordings can only be played forward. Therefore, first select Date/Time ①, and then start playback using **Forward Playback** ②.



## Performing PTZ actions in recordings




**Fig. 10: Performing PTZ actions in recordings**

#### Note




On a secondary monitor, a single camera image can only be zoomed with the mouse wheel or panned with the mouse button pressed down. PTZ controls are only available on the MxMC main screen or on the secondary monitor in Grid View.

You can zoom and move the visible image area not only in live images but also in recorded images (PTZ). This enables you to examine specific image areas more closely while the recorded video stream is playing back. On Dual cameras, the program also shows the  slider. Use this slider to show the images of either the right, the left or both image sensors. When playing back the recordings of hemispheric cameras, you can set different display modes .

## Zooming and moving image sections







You can zoom using the slider  or the mouse wheel. To see other image areas, you can move the recorded image using the mouse.

## Choosing a sensor

On Dual cameras, you can opt to see the recordings of the right, the left or both image sensors. To do so, move the  slider to the right to  (left sensor) or further to the right to  (right sensor).


## Subsequent distortion correction of hemispherical images

When showing recorded images of hemispheric cameras or cameras with the lenses L12/B016, L23/B036, L25/B041, you can select different display modes. In order to get naturally-looking images, the camera will automatically correct the distortion in these modes. This distortion correction can be refined even further when using the panorama correction. Note that this type of correction only takes place locally. This means that the distortion correction of the recorded images only takes place on this computer. The stored recordings (from the camera or a file server) are not influenced in any way.




-  **Full image:** Shows the entire (distorted) full image.
-  **Normal:** Shows a distortion-corrected image and allows executing PTZ actions.
-  **Panorama:** This option shows the distortion-corrected image of an entire room (corrected 180° panorama view) from the left to the right wall. The aspect ratio (width to height) is 8:3.
-  **Surround:** This option shows four image sections (one for each cardinal direction: N, E, S, W) in one joint view. Note that you can use PTZ actions to modify all four views independently from one another.
-  **Double panorama:** This mode shows a panorama view for the North half of the image and a second panorama view of the South half of the image using an aspect ratio (width to height) of 4:3. This mode only makes sense for a hemispheric camera that is mounted to the ceiling.
-  **Panorama focus:** This display mode combines the panorama view (aspect ratio 8:3) with two smaller images (each with aspect ratio 4:3) in one large image.



## Selecting The Distortion Correction Mode

Move the slider  to the right until you see the desired view. This slider position will be stored automatically until you change it again.

## Panorama Correction

The distortion-corrected images of the different display modes can be further refined using the panorama correction. Move the  slider to the right to  and use the mouse to correct the image. To store the corrected setting, click on the  slider and hold it until the slider icon briefly appears in the center of the image.

## Browsing recordings for event images

When searching for event images, first select the image playback type:

- Event images: Only shows event images.
- Pre-event images: Shows only the first recorded image for each event.
- Highlighted images: Shows only the images, which had been marked as important before.

### Note

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

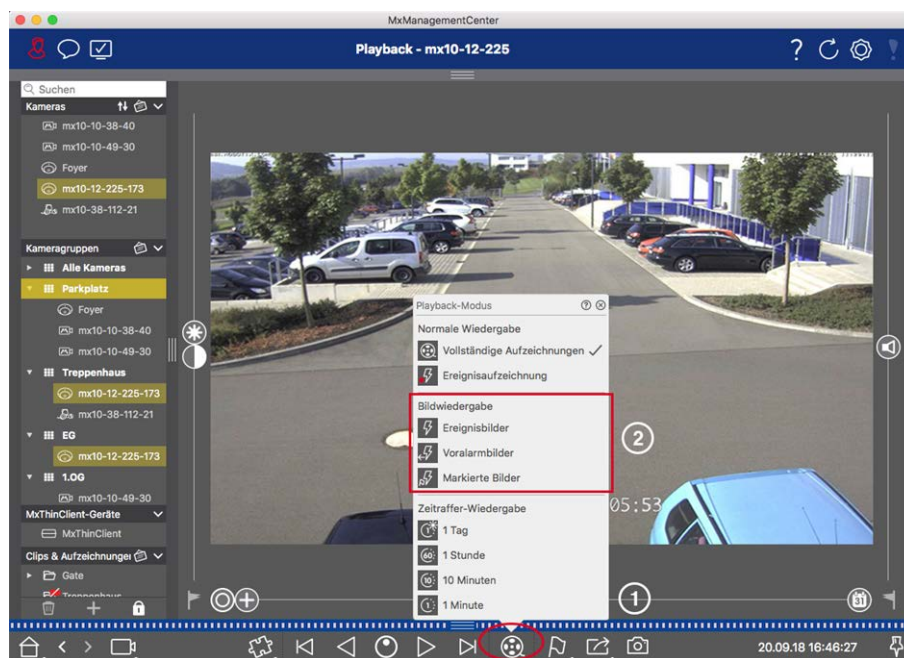





Fig. 11: Browsing recordings for event images

1. In the Playback view, select the Playback mode by right-clicking on  ① and selecting the desired mode ②.
2. Browse the recordings using the  and  buttons. Starting with the current event image, these buttons show the previous or next event image.

## Browsing recordings for a specific date and time

If you have set up a continuous recording for certain times and you want to check for events during those times, for example, you can limit the search to these times. You can search for events at a given time by using time leaps or time-lapse playback.

### Searching for a specific date and time

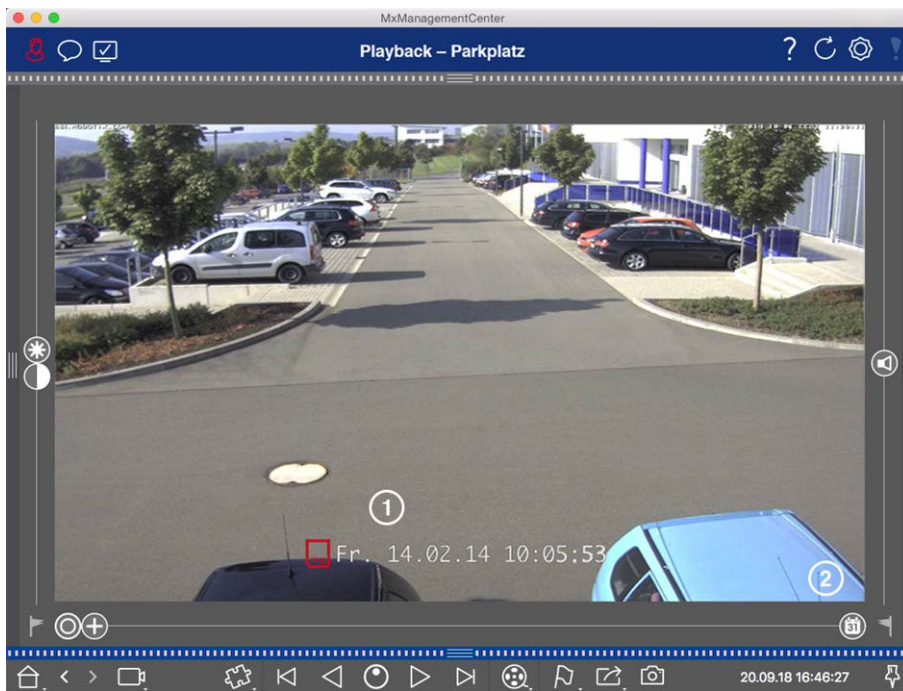


Fig. 12: Searching for a specific date and time

1. Click on Date/Time ① and enter the date and time to search for.
  2. The event image jumps to the event in the recordings that is closest to the specified date and time.
  3. Click on Playback ▶.
- or
1. Click on the **Calendar** slider ②. The date and time will be shown above the slider.
  2. Move the slider until you reach the date and time that is closest to the point in time you want to examine. The event image jumps to the event in the recordings with the specified date and time. If such a recording is not available, the event image jumps to the event that is closest to the specified point in time (in the direction of searching). In the latter case, the slider turns red and the time difference to the specified point in time is shown above the slider.
  3. Click on Playback ▶.

#### Note

The farther away you move the mouse pointer from the slider, the more precise your setting will be.

## Searching Several Cameras For Persons Or Objects

Scenario: Camera A is overlooking the gate and signals an event. The event image in the Alarm bar shows a delivery truck driving through the gate. You want to know if the truck has also passed the area monitored by camera B.


1. To do so, move the mouse pointer over the event image. Three icons are shown.
2. Open the Playback view mode by clicking on .
3. Play back the recording (end of recording) ①.



Fig. 13: Playback the recording

4. Drag&drop camera B from the camera bar into the Playback view.



5. The playback automatically selects the recording that follows the end of camera A's recording ②. You can continue this process for any number of cameras.

### Investigating Multiple Cameras For A Specific Point In Time

You want to know if other cameras have recorded something at a specific point in time:






1. Set the reference time using the Pin button ①.
2. Drag the cameras from the Camera bar ② one by one.

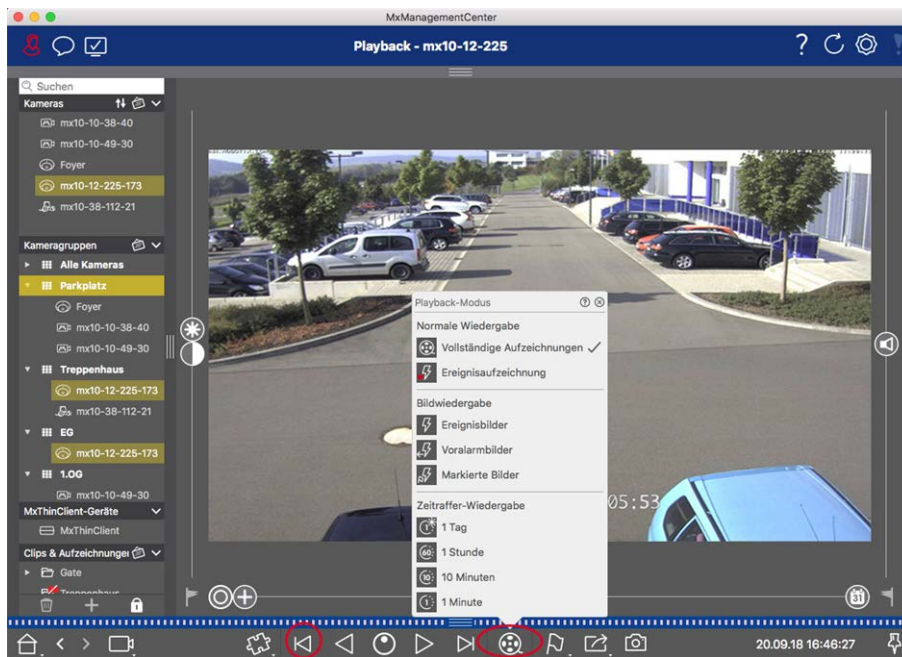




3. The application shows the event images of each camera that are closest to the specified point in time.

## Limiting The Search Range For An Incident


Scenario: Your camera monitors a parking lot from which a car had been stolen during the day. Follow these steps to locate the event as quickly as possible:

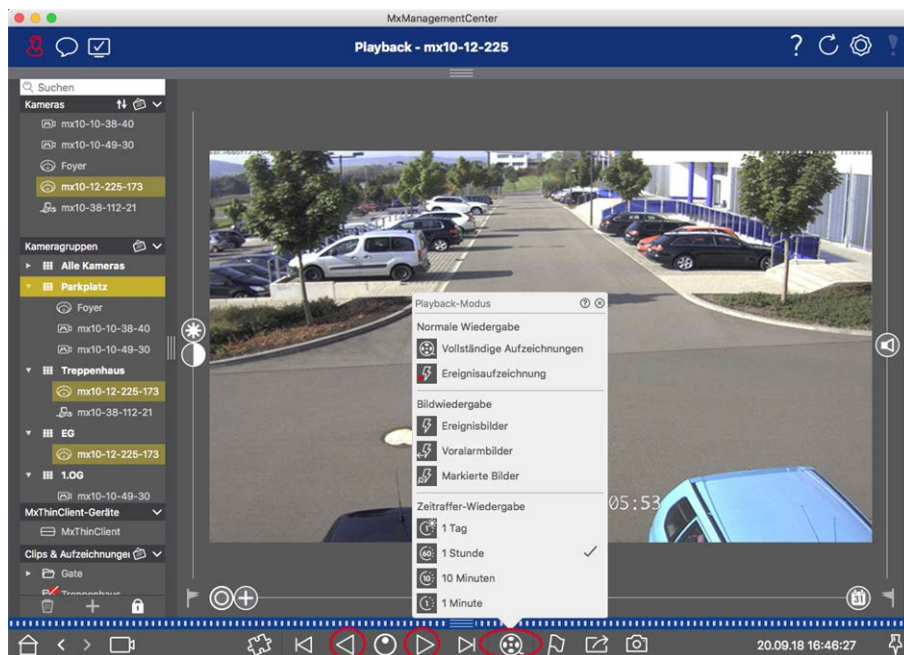
1. Start the Playback mode (right-click on ) and select an interval (e.g., 1 day )
2. Keep clicking on **Previous Image**  until the car can be seen again in the image.



3. Now select a shorter interval (e.g., 1 hour )
4. Keep clicking on **Next Image**  until the car has left the frame.
5. Keep on using shorter intervals until you have found the exact point in time of the incident.

### Note

You can also use the **Forward/Backward Playback**  /  buttons to play back using the same time leaps.



### Note

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

## Playing Back Recordings

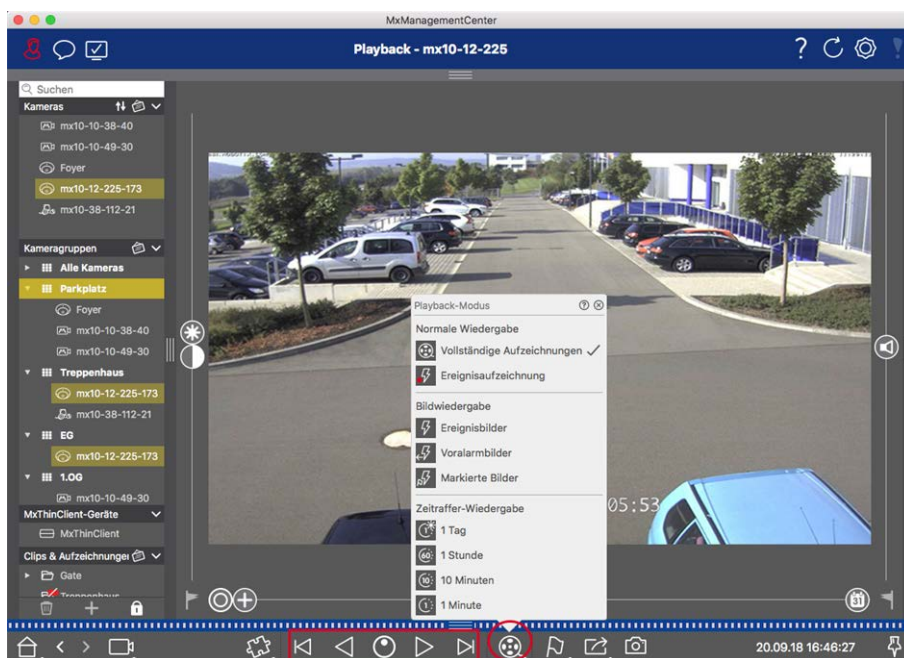
### Playing Clips

To play the clips, the play buttons and the playback mode are available in the Command bar of the Playback view. First set the desired mode for playing the recordings, such as event images only or with one hour time-lapse, in the **Playback mode**.
















Next, use the **Playback Buttons** to browse and play back the images one-by-one or continuously in backward or forward direction.

**Note:** As mentioned in [General Operation Of The Playback View For MOBOTIX MOVE And ONVIF Cameras](#), playback of recordings is limited when using MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. Recordings of these cameras can only be played forward. For an overview of how the camera functions differ, see [Camera Feature Overview](#).




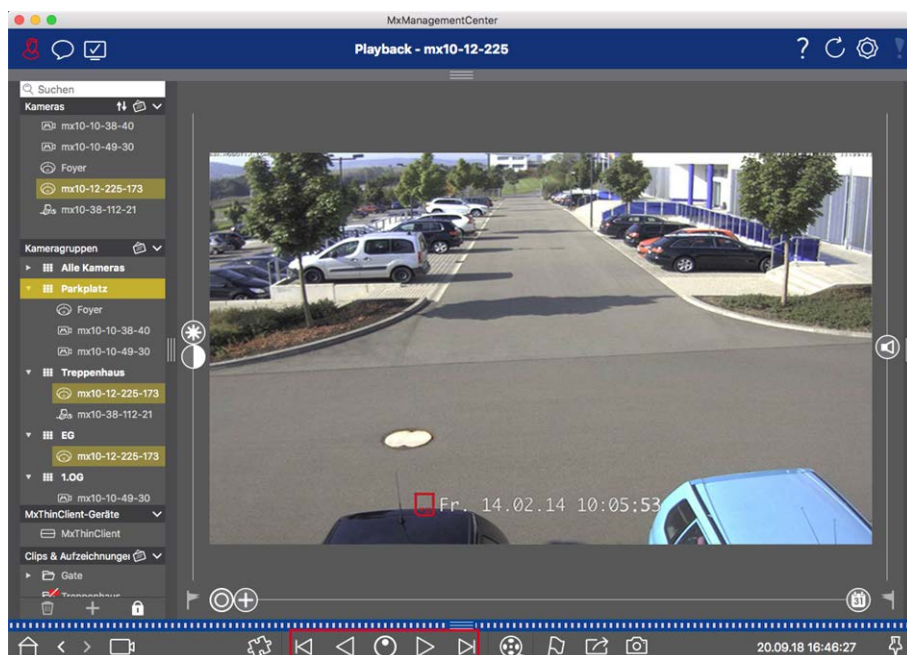


The following table summarizes the actions that you can perform with the playback buttons, depending on the playback mode:

Playback Mode		Playback Buttons	
	Complete Recordings		Jumps one image backward/forward.
			Plays back all recordings backward/forward.
	Event Recording		Jumps to the end/the start of the recorded sequence.
			Plays back until the start/the end of the recorded sequence has been reached.
	Event Images		Shows the previous/next image every time you click on the button.
	Pre-alarm Images		
	Highlighted Images		The previous/next images are shown automatically one after the other.
	<b>1 day</b> time lapse		
	<b>1 hour</b> time lapse		
	<b>10 minute</b> time lapse		
	<b>1-minute</b> time lapses		





## Setting The Playback Speed

The **Playback Speed** option  allows you to speed up or slow down the playback of a recording. This also applies if you play back a recording backward.



1. Click on **Playback Speed**. The background of the button turns dark gray.
2. To play the recording forward, left-click and hold the left mouse button and move the mouse pointer to the right. The further you move the mouse pointer down (to the right), the faster the playback speed.
3. To play the recording backward, left-click and hold the left mouse button and move the mouse pointer to the left. Again, the further you move the mouse pointer down (to the left), the faster the playback speed.

## Precise Positioning by Image

If you want to examine a scene very closely, you can view the recordings one image at a time. To do so, stop playback (click on  or ). Now use the two buttons  (forward) and  (backward) to navigate the images one by one.

## Exporting Recordings

Using the Playback view, you can export recorded video data from one camera, while the Grid Playback allows exporting from several cameras at once. Use the Export bar to combine several clips to one export. You can save individual images with the **Snapshot** function.

## Saving Snapshot Images

Snapshot images can be created in the Live and the Playback views for the displayed camera, and in the Grid view and Grid Playback for all displayed cameras.

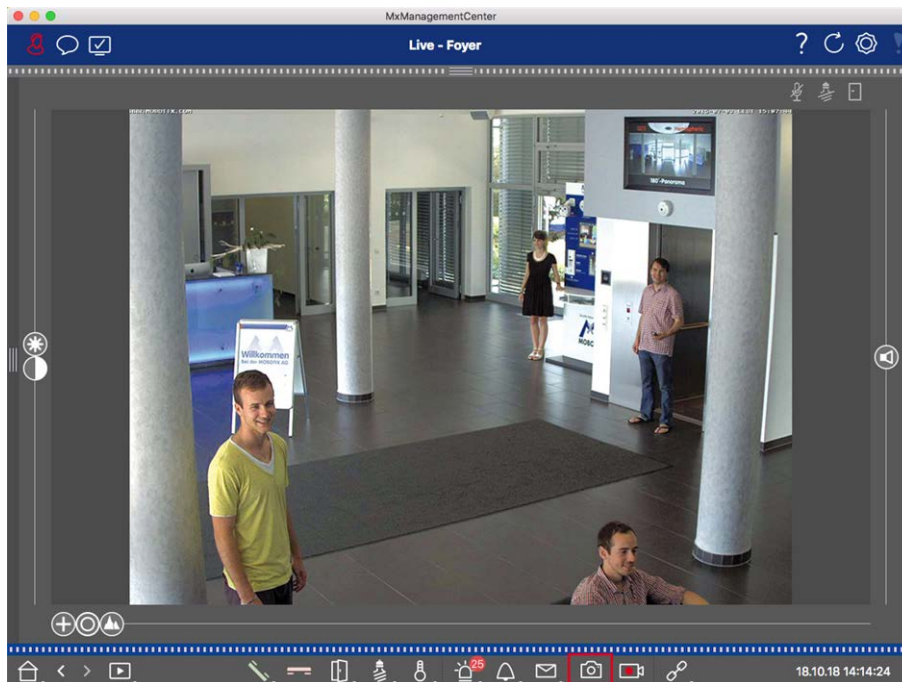



Fig. 14: Saving Snapshot Images



To do so, click on the **Snapshot**  button in the Command bar. By default, images are saved in the image folder of the user account. The destination path and the image settings for saved images can be selected via the **MxManagementCenter > Settings > Snapshot Images** (Mac) or **File > Settings > Snapshot Images** (Windows) menu item.

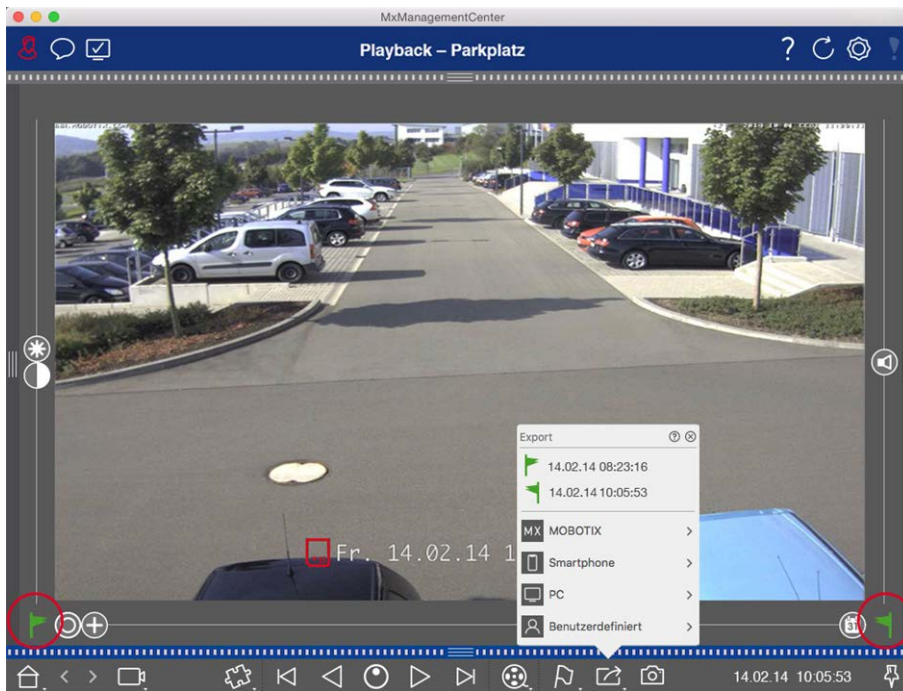
## Exporting Camera Recordings

The Playback view allows setting a time range for a recording (event recording or continuous recording) in order to select it for exporting.

1. Open the Playback view.
2. Drag the desired camera from the Camera bar or the Device bar.
3. Find the start of the relevant recording.
4. Specify the export range. There are two possibilities for this export:

### Select export range using visual markers:

1. Mark the start of the clip by clicking on the gray flag on the left .
2. Play the recording until you have reached the end of the clip you want to export. Mark the end of the clip by clicking on the gray flag on the right. Both flags are now green.
3. Click on **Export**  and select the export profile.

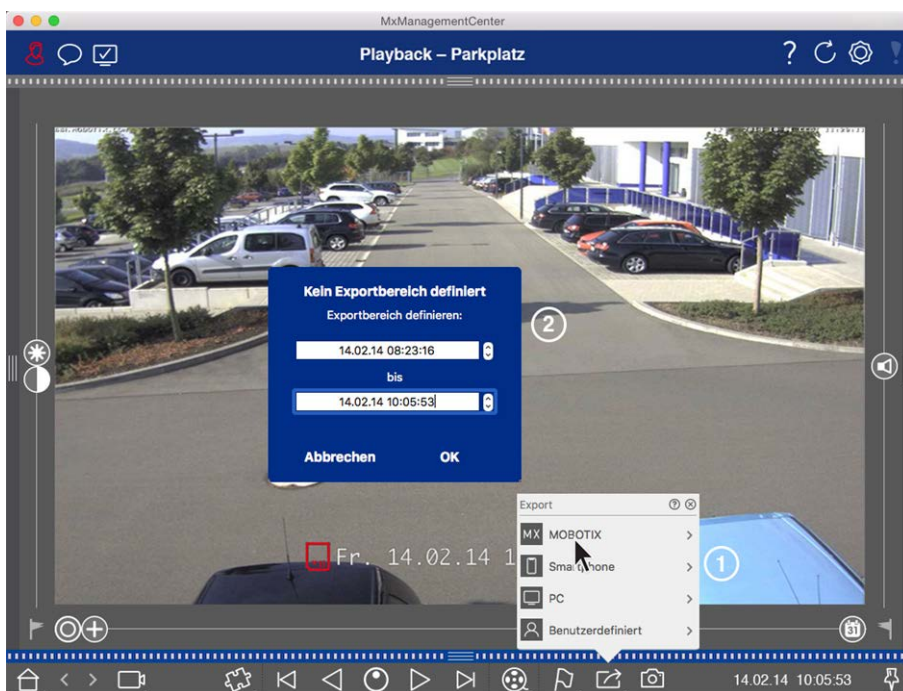


4. The Export dialog box appears. Select a target folder and enter a file name.

#### Manually capture export range:

First, make sure that no export area has yet been set using the "export flag." If an export area has already been defined, you can delete it. Do so by right-clicking on a flag and selecting **Delete Time Range**.

1. Click on **Export**. Then click on the desired export profile ①. The dialog box used for defining the export range appears.



2. Specify the export range ②.
3. Click on **OK** and then on **Save**.

**Note**




If you select the **Automatically Import After Export** checkbox in the Export dialog, the exported clip will be automatically added to the Camera bar and in the Device bar to the **Clips & Recordings** section.

## Exporting Camera Group Recordings

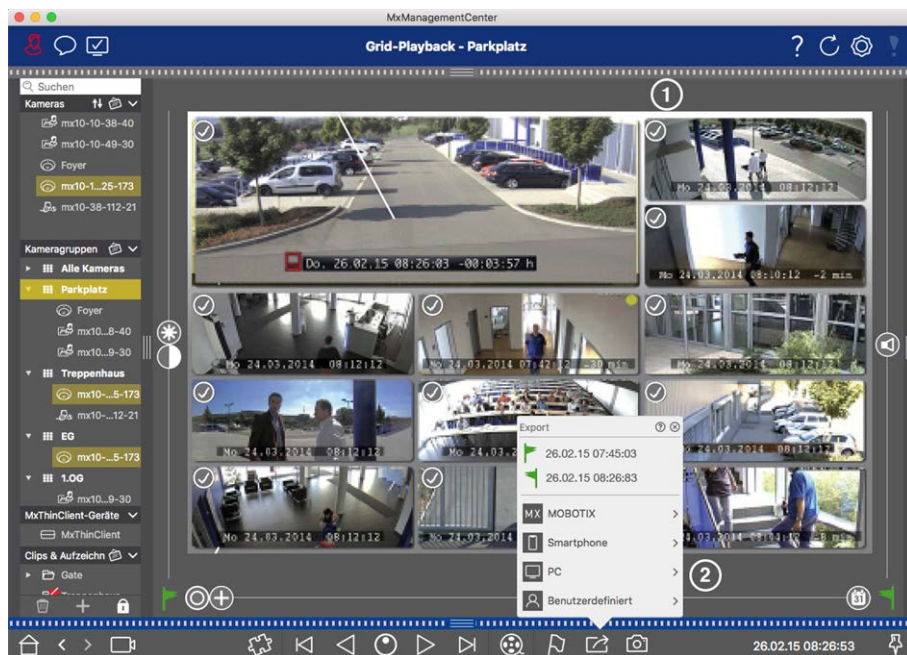
The Grid Playback allows for setting a time range for a recording (event or continuous recording) in order to select it for exporting from multiple cameras.

1. Open the Grid Playback.
2. Drag & drop the desired camera group from the Group bar or the Device bar.
3. Find the start of the relevant recording for the camera in the focus window. At the same, the search is extended to the other cameras in the group, and the recordings with the closest relevance to those in the focus window recording will be displayed in the tiles.
4. Specify the export range. There are two possibilities for this export:

**Select export range using visual markers:**

1. Mark the start of the clip by clicking on the gray flag on the left .
2. Play the recording until you have reached the end of the clip you want to export. Mark the end of the clip by clicking on the gray flag on the right. Both flags are now green.
3. Instead of exporting all cameras of this group, you can also select one or more cameras for exporting. To do so, right-click on **Export** . A circle appears on the camera images in the top left corner. Select the desired cameras by clicking on the corresponding circles ①.
4. Then click on **Export**  and select the export profile ②. The Export dialog box appears.







**Fig. 15: Select export range using visual markers**

5. Select a target folder and enter a file name.

### Manually capture export range:

Make sure that no export area has yet been set using the "export flag." If an export area has already been set, you can delete it. Do so by right-clicking on a flag and selecting **Delete Time Range**.

1. Before you define the export range, you can limit the selection if you do not want to export all of the recordings that appear in the tiles. To do so, right-click on **Export** . A circle appears on the tiles in the top left corner. Select the desired cameras by clicking on the corresponding circles ①.
2. Click on **Export**  and select the export profile ②. The dialog box used for defining the export range appears.



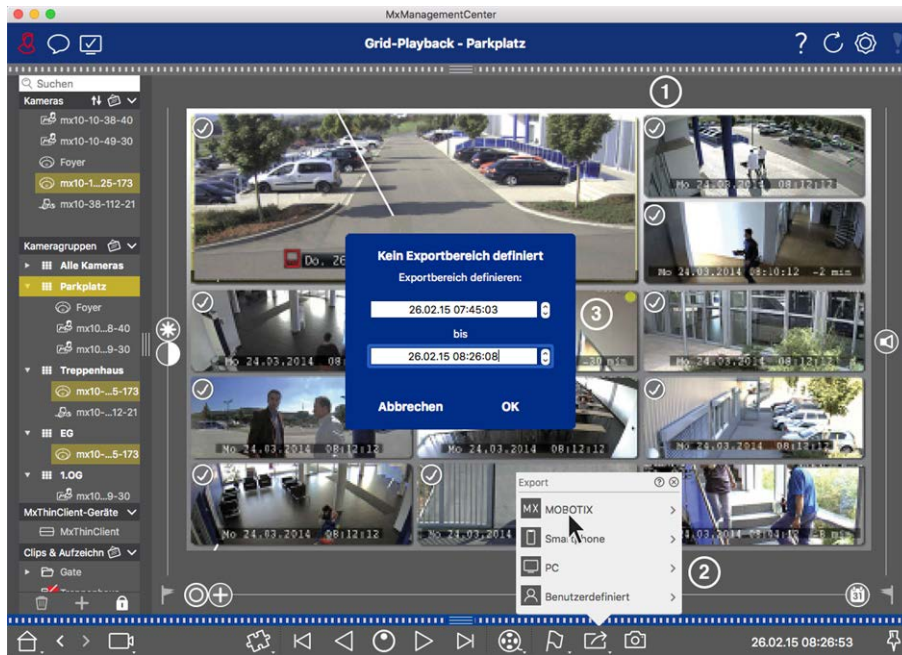


Fig. 16: Manually capture export range

3. Specify the export range ③.
4. Click on **OK** and then on **Save**.

**Note:** Automatic Import

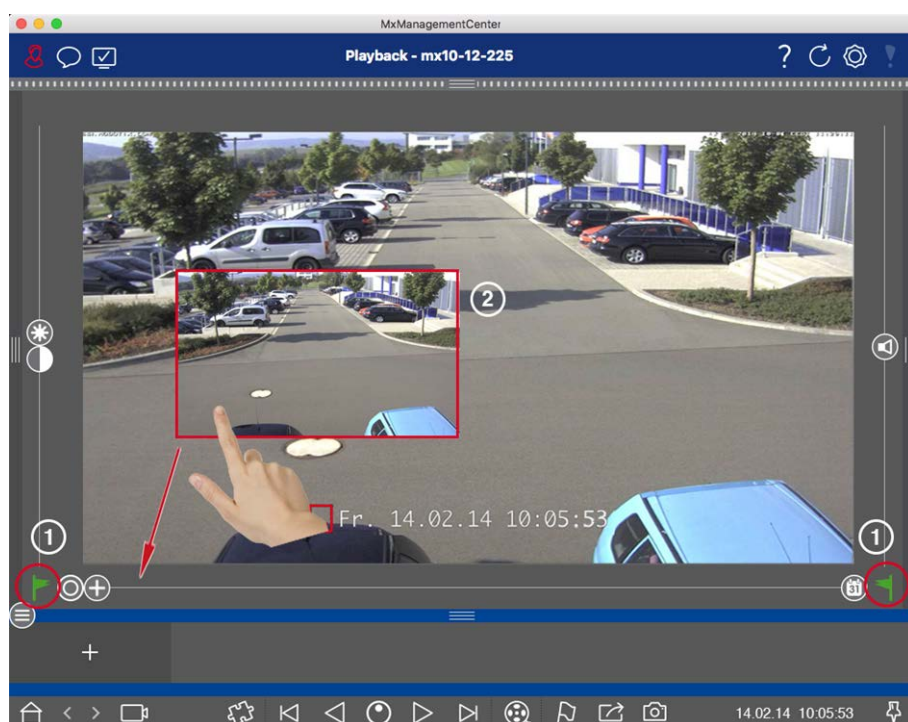
If you activate the **Automatically Import After Export** option, the exported clips are automatically added to the Group bar.

## Exporting Recordings From The Export Bar

The Export bar provides a quick and easy way to take camera recordings and MXG clips by dragging and dropping and create a list of recordings for subsequent exporting. From the bar, you can export recording time ranges as combined clips. You can add the clips in the Playback view, in Grid Playback, in the Research view and in the Retail view. After an export, the clips are not deleted automatically. It is deleted when the program is closed.

### Adding Clips for Exporting in the Playback View

1. Drag the desired camera or the desired clip from the camera bar or from the Device bar.
2. Find the recording you are interested in.



**Fig. 17: Adding Clips for Exporting in the Playback View**

3. Mark the start of the time range by clicking on the gray flag on the left . Play the recording until you have reached the end of the clip you want to export. Mark the end of the time range by clicking on the gray flag on the right . Both flags are now green ①.  
You can set the end marker first (gray flag on the right), then play the recording from the beginning so you can set the start marker (gray flag on the left) at the desired point.
4. Click on the image of the recording and maintain the position until you see a scaled-down image of the recording ②.
5. Drag this image to the Alarm bar (regardless of whether or not it is open). The Export bar will open automatically, allowing you to save the image there.


### Adding Clips for Exporting in Grid Playback

The Export bar in Grid Playback is useful for combining **sequential time ranges** of different cameras.

1. Drag the desired camera to the focus window in the grid and find the relevant recording.
2. Mark the start of the time range by clicking on the gray flag on the left . Play the recording until you have reached the end of the clip you want to export. Mark the end of the time range by clicking on the gray flag on the right . Both flags are now green.
3. Click on the image of the recording in the focus window and maintain the position until you see a scaled-down image. Drag this image to the Alarm bar (regardless of whether or not it is open). The Export bar will open automatically, allowing you to save the image there.



4. After you have set the end marker of the time range, the recordings of all other cameras will reposition to show the same time. Drag the camera with the next recording in the sequence of events into the focus window. Mark the start and the end of the clip as described above, then drag the recording into the Export bar.
5. Repeat these steps until you have added all recordings you want to export.

**You can also add time ranges from several cameras in the Export bar.**

1. Simply drag the desired camera group from the Group bar or from the Device bar and search for the relevant recording.
2. Mark the start and the end of the clip as described above. The recordings of the other cameras will reposition accordingly.
3. Right-click on **Export** . A selection box with a checkmark appears in the top left corner of the recordings. If you do not want to add the recording range of a specific camera to the list, uncheck the selection box for that camera.
4. Click on the image of the recording in the focus window and maintain the position until you see a scaled-down image. Drag this image to the Alarm bar (regardless of whether or not it is open). The Export bar will open automatically, allowing you to save the image there. The selected clips will be copied to the Export bar.
5. Repeat these steps until you have added all time ranges you want to export.


**Adding Clips for Exporting in the Research View**


In the Research view, you can add recorded event sequences to the list. The length of the event sequences is currently 10 seconds.

1. Set filters by camera, by group or by event type as needed.
2. Right-click on **Export** . A selection box appears on the event images in the top left corner. Select the desired events by clicking on the corresponding selection boxes.
3. Open the Export bar by clicking on the lower frame border of the open Alarm bar. Click on an event image and maintain the position until you see a scaled-down event image. Drag this image to the Export bar. The clips of all selected event images are added to the Export bar. (An alternative option is: In the Export bar, click on . The clips of all selected event images are added to the Export bar.)
4. If needed, you can set new filters and add more event images to the Export bar.

**Adding Clips for Exporting in the Smart Data View**

You can add clips for the individual Smart Data transactions to the Export bar. The default clip length is ten seconds on either side of the transaction time stamp, that is, for a total of 20 seconds.

1. Right-click on **Export** . A selection box appears on the preview images in the top left corner. Select the desired transactions by clicking on the corresponding selection boxes.

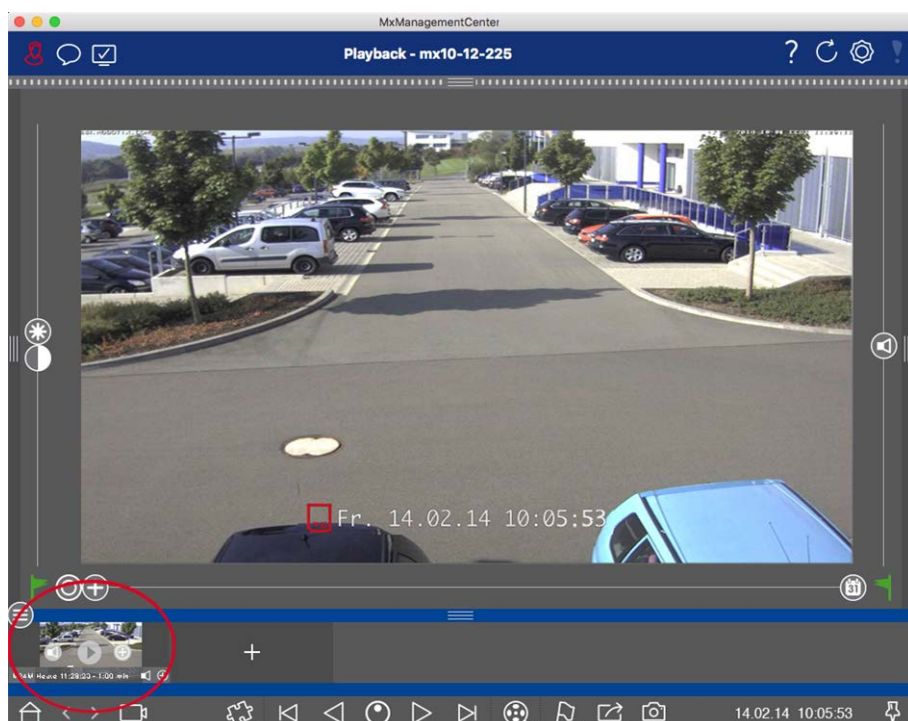
- Open the Export bar by clicking on the lower frame border of the open Alarm bar. Click on a preview image and maintain the position until you see a scaled-down preview image. Drag this image to the Export bar. The clips of all selected preview images are added to the Export bar. An alternative option is: In the Export bar, click on . The clips of all selected preview images are added to the Export bar.







You can also add clips for the individual preview images of the selected transaction to the Export bar:

- Drag the transaction preview image in the **Preview Image** section and drop it on the Export bar.

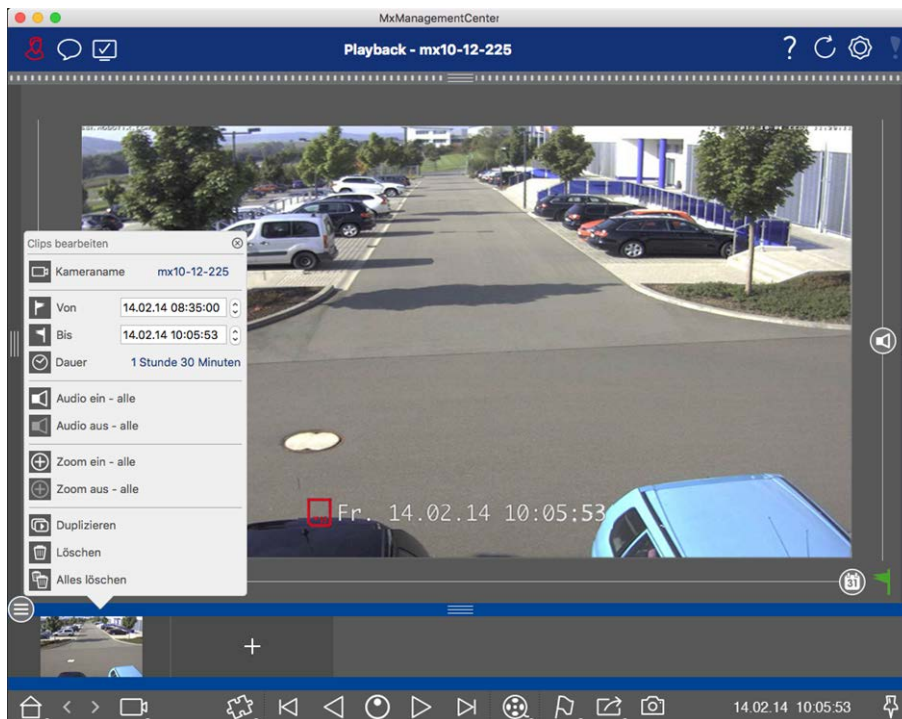
## Editing Clips

If you have added a recording to the Export bar for which you previously used distortion correction or zoom features during playback, you can choose to export the clip with or without zoom. Likewise, you can export the clip with or without audio. To do so, move the mouse pointer over the recording in the Export bar. Three icons appear:




- : Clip is exported with zoom.  
Click on  to export the clip without zoom. The icon is disabled.
- : By default, the clips are exported with audio (provided that audio had been recorded).  
To export without audio, click on . The icon is disabled.
- : Note that you can play back the individual clips directly in the Export bar before exporting.  
Click on  to do so.

Right-click on a clip to open a context menu with these functions: Manually adjust time range, activate/deactivate audio and zoom for all clips, duplicate a clip, delete one or all clips.



## Exporting Clips

Click on **Export** , then select MOBOTIX to export an MXG clip. Select a different profile to create an AVI, MP4 or MKV file. However, depending on the data source (e.g. MOBOTIX NAS) not all export profiles are available.

Select a destination path in the Export dialog and enter a file name. Activate the **Automatically Import After Export** checkbox in the file selection dialog to automatically add the MXG clips to the Export bar after exporting.

## Operate Door Stations

Door Stations can also be integrated and operated with the MxManagementCenter. For this purpose, Door Station-specific functions are provided in addition to the program functions for cameras.

### Note

Door Station functions are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see:

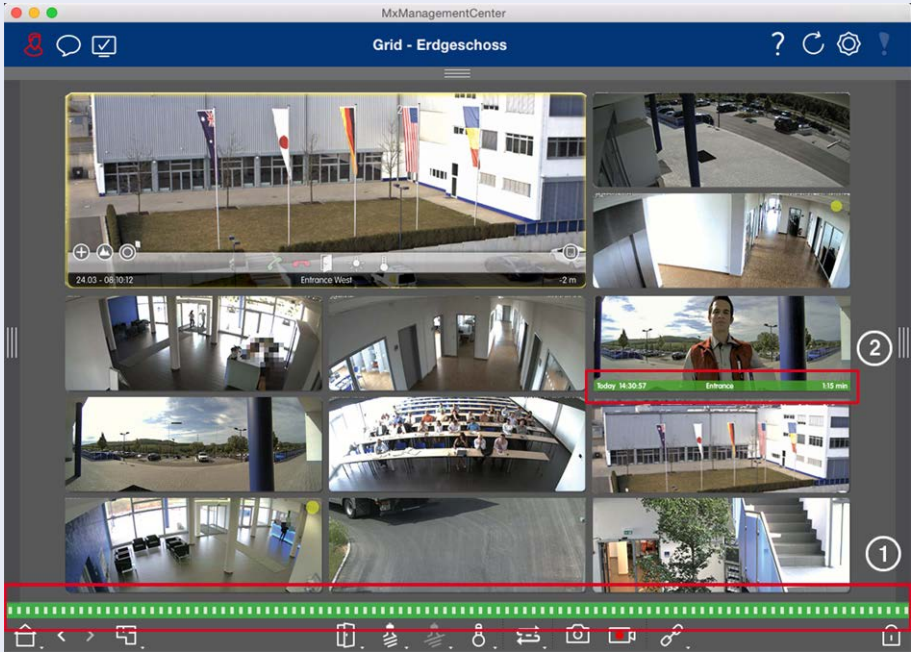
- [Camera Feature Overview, p. 8.](#)
- [Door Station Settings, p. 204](#)

## Bell Signaling


If someone rings the doorbell, it can be indicated in different places of the application.

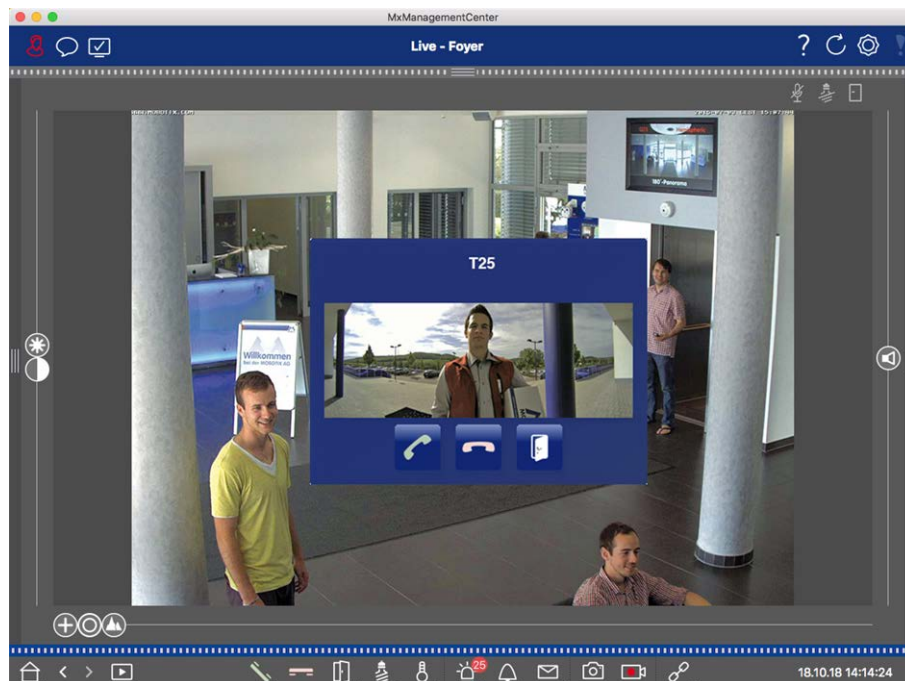


Where?	Explanation
Alarm bar and Alarm Info bar	A bell event is indicated by coloring the Alarm and Alarm info bar green. The prerequisite for this is that the Door Station bell events have been configured as <b>alarms</b> in the <b>Camera Configuration</b> dialog. The Alarm bar ① is located at the bottom of the MxManagementCenter and the Alarm Info bar ② below the camera image of the corresponding door camera.







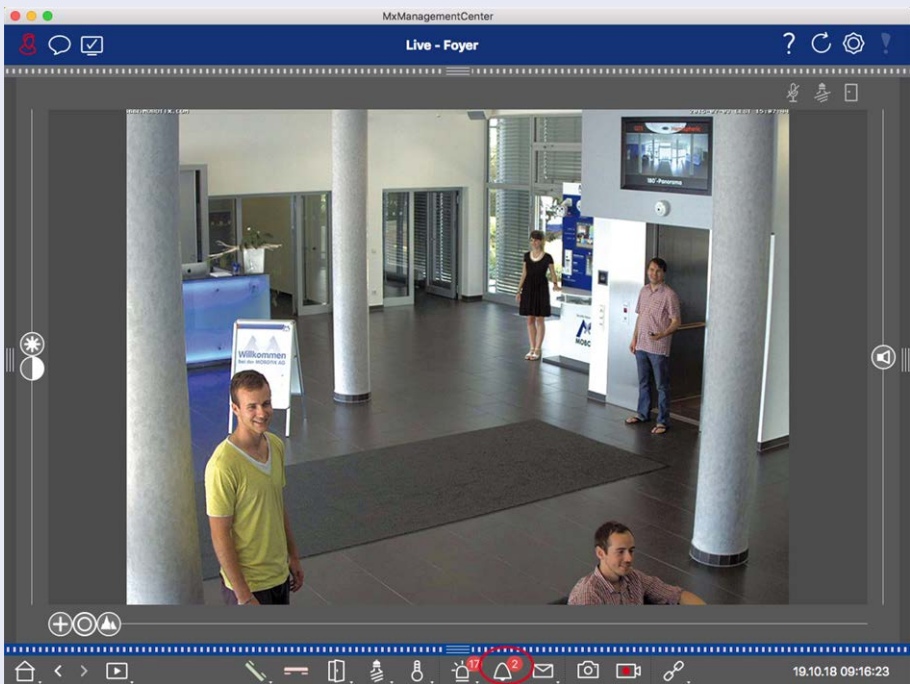
Where?	Explanation
Doorbell notification	When the bell is rung, a ringing notification is displayed, no matter which view you are in. The prerequisite for this is that the Door Station bell events were configured as alarms in the <b>Camera Configuration</b> dialog and that the <b>Notification</b>  was not deactivated in the header.



#### Note

The notification can be temporarily disabled by an administrator by clicking on **Notification**  in the application header.



Counter on the bell icon	The counter next to the bell icon  in the Live view is increased by one.
--------------------------	---

Where?	Explanation
	

## Setting Bell Signaling

Go to [Door Station Settings, p. 204](#) to find out which signaling options can be combined and where they can be configured.

## Open Door and Switch Lights

If the door camera has been set up properly, you can use MxMC to open the door and to switch the lights. To do this, use the  and  keys in the Live view Command bar and in the Command bar of the Grid view focus box.

## Checking System Security

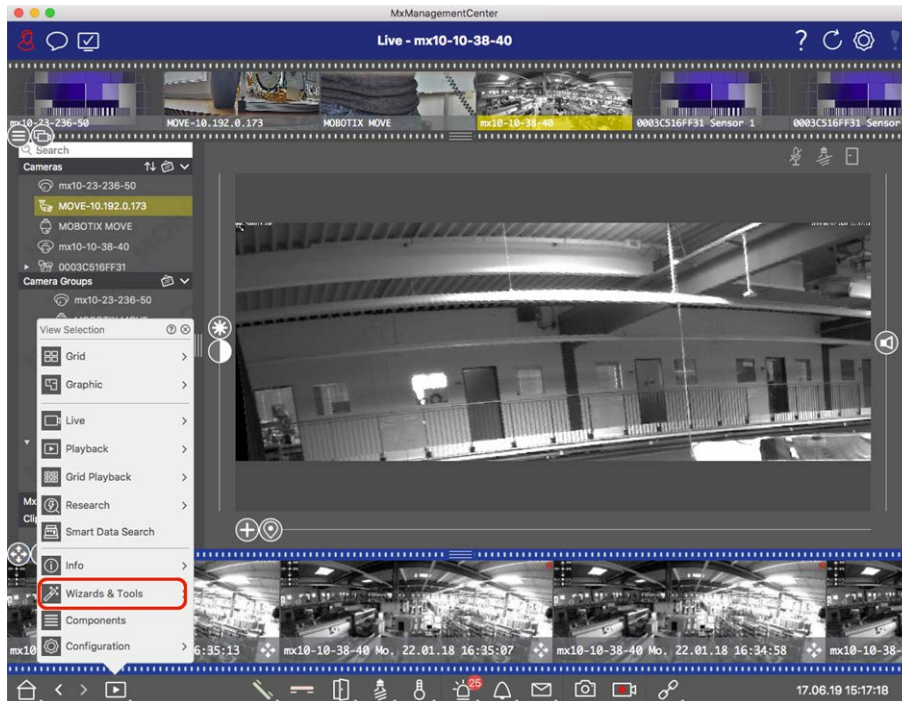
After completing the basic configuration of the system, you can check its security. The [Wizards & Tools, p. 256](#) view offers the **Secure System** wizard. It analyzes the security of the cameras and assesses their status based on common best practices. If test criteria are not met, possible measures to protect the cameras are provided.

### Note

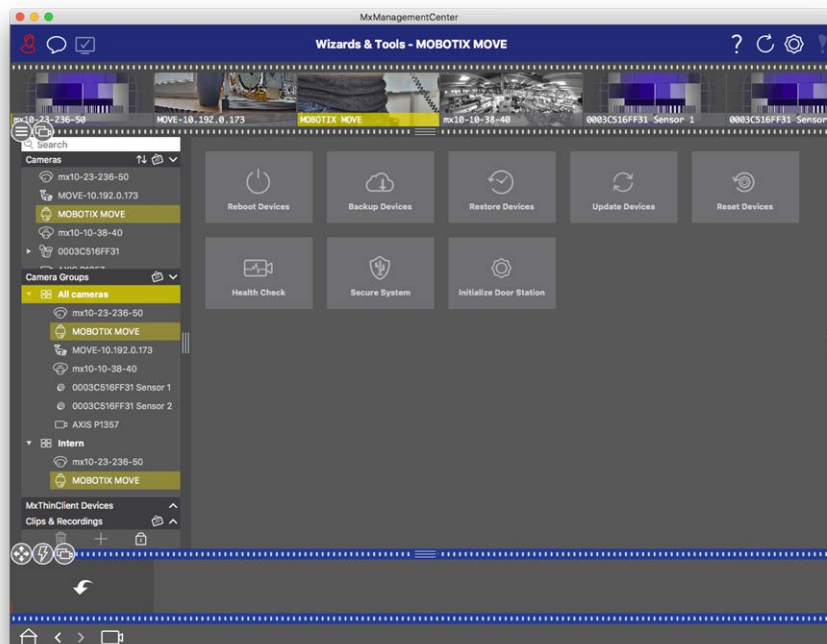
The system security check feature is not available for MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview, p. 8](#).

## Verifying Settings for System Security

1. To open the **Wizards & Tools** view, right-click on the navigation key in the Command bar. Select the **Wizards & Extras** view.








2. Select the desired camera or camera group in the Device bar or the Camera/Group bar.



3. Click **Secure System**. The following criteria are checked:


- Usage of the "meinsm" password with standard or ONVIF user accounts on MOBOTIX cameras. It is easy for cyber attackers to guess the standard "meinsm" password.
- Enabled **Public Access**: If Public Access is enabled, a number of different camera functions can be used without a password.
- Activated HTTP web server: It is possible for data, including user data such as passwords and images, to be transmitted via the network without encryption when HTTP is used.

The result of the check is displayed for each camera in the **Secure System** dialog. It will also show all cases in which cameras were not checked due to a connection error, for example.

Status	Explanation
 Not secured	There was at least one criterion that was listed as not secure.
 Software too old	Please check the camera software and update it, if necessary.
 Connection error	Check your network connection to the camera and perform the security check again.
 Not supported	The camera (s) cannot be analyzed or secured using the wizard.
 Secured	Camera is secure; no further action is necessary.

### Secure System

4. In the **Secure System** dialog, click on **Next**. Cameras resulting in a **Not secure** status are displayed together with whichever of the three criteria that were fulfilled as well as the measures that need to be taken to properly secure the cameras:

Criterion	Explanation
Password	<p>Changes the password of all user accounts on the cameras that use the standard “meinsm” password. It also include ONVIF users whose passwords have never been changed.</p> <p>Enter a new password and confirm it. A suitable password has at least eight characters. It can consist of lowercase and uppercase letters, digits and special characters (see ). If you set a password that does not meet these criteria, a red frame appears around the text field. The frame turns green once you have entered a valid password.</p> <p>The new password is automatically entered in the MxMC project data.</p>
SSL encryption	<p>Disables camera connections via unencrypted HTTP and configures the cameras to accept HTTPS connections only.</p> <p>The TCP port and the SSL setting will be automatically updated in the MxMC project data, if necessary.</p> <p>The TCP port will not be updated for cameras that are connected via a remote URL. For remote URL connections, you may need to change port forwarding in the router to the appropriate setting.</p> <p><b>Please note</b> that different services, such as network messaging etc., will no longer work when you disable HTTP.</p>
Public Access	Disables access that does not require password entry to the web interface and the APIs of the cameras.

- Click on **OK** in the dialog box. The selected security measures will be performed. The security status for the selected camera or camera group will be analyzed once again and the result for each camera is displayed.

## Working With The Grid View

The Grid view consists of a grid of live images and one focus window. This grid (tile) structure is ideal for getting a quick overview of **all cameras of a group**. You can drag the camera image that is most interesting to you onto the focus window. Use the controls at the bottom to operate the camera.

### Showing a group

To view another group, you can use the Device bar or the Group bar. To do this, either drag and drop the desired group from the Device bar into the display area or click on the desired group in the Group bar. The displayed group is indicated by a yellow bar in the Device bar as well as in the Group bar.



Fig. 18: Showing a group

## Working With The Focus Window

At the bottom of the focus window is a Command bar with controls that allow you to operate the **camera in the focus window**. If you move the mouse pointer over the Command bar, further controls are displayed.

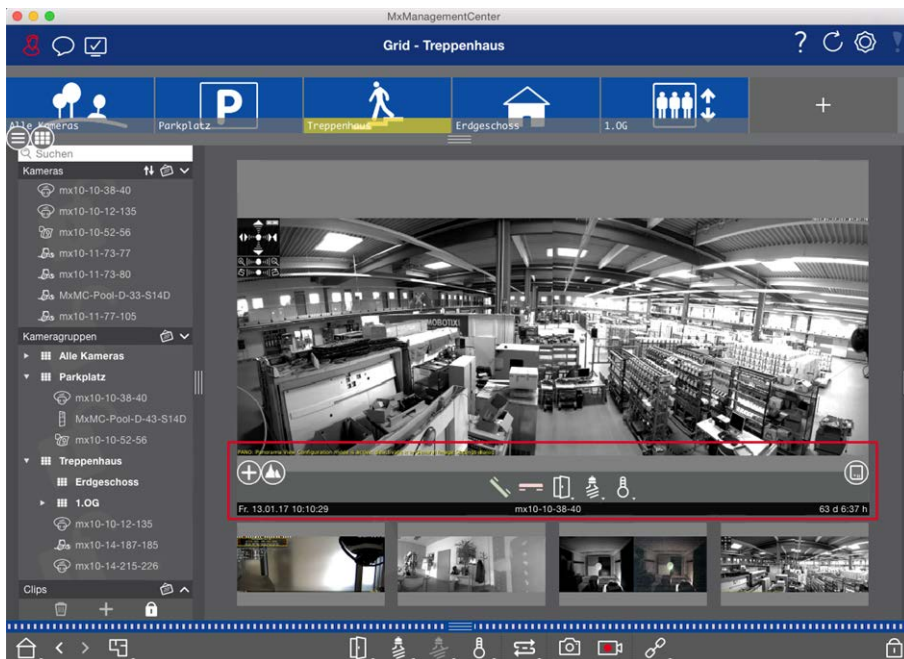




Fig. 19: Camera in a focus window











## Zooming And Moving Image Sections

Use the slider  to zoom. The zoomed image sections can then be moved with the mouse. These actions take place in the application. This means that only the image section of the current live image is modified. The camera will not move and therefore zooming will not affect the possible recording of the generated camera image.

1. Drag the slider  to zoom in on or out of the live image.
2. Move the image with the mouse to focus on individual image sections.

## Select predefined image sections.

To quickly focus on a specific image section, you can use one of the factory default image positions that are predefined in the camera.



- Overview , point of interest , preview  and detail view 
- Top , bottom , left , right 

Move the slider **Standard**  to the next position or until you have found a suitable position.


## Accept and end calls.

To talk to visitors at the door, click on . To end an audio connection, click on .


## Opening Doors And Switching Lights

If a camera is connected to a door station and has been configured accordingly, you can open the door by clicking on . If the camera is also connected to a light switch and configured accordingly, the light can be turned on and off by clicking on .

## Show Temperature

MOBOTIX cameras have a built-in temperature sensor that measures the temperature inside the housing. If an ExtIO module or an MX-GPS-Box is connected to the camera, you can also measure the ambient temperature of the module or the box and view it by clicking on .




## Executing Hyperlinks

If hyperlinks have been defined and configured, their function can be executed by clicking on .

## Camera Sequencer

If you want to see a different camera in the focus window, simply drag that camera to the focus window. Note that the camera sequencer can also switch cameras automatically.


### Instructions:

1. Click on the camera sequencer icon  to activate the automatic switching.
2. Right-click on  to change the following settings:
  - **Duration Slider:** Move the slider to the desired duration (1 sec to 60 sec) to show each camera.
  - **Autostart:** Once you switch to the Grid view, the sequencer starts automatically.
  - **Stop at event:** The sequencer stops when an event has occurred, allowing you to further investigate the situation. To start again, click on .
  - **Restart after confirmation:** Activate this option if you want to avoid having to restart the sequencer over and over again.

## Group Sequencer

If you want to display a different camera group in the focus window, drag and drop that camera group into the focus window. A grid with all cameras of the group will be displayed and each camera of the group will be shown sequentially in the grids focus window for a defined time. You can automate this camera group change with the group sequencer.

### Instructions:

1. Click on the group sequencer icon  to activate the group sequencer.
2. To change the sequencer settings right-click on :
  - **Duration:** set the duration to show each group. You can set a value between 1 sec and 60. The “Combined Sequencer” activates the group sequencer together with the camera sequencer (“Autostart” on the camera sequencer is not needed). The group sequencer waits until all cameras on a grid or graphic have been cycled before switching to the next group. When the “Combined Sequencer” is active then the camera sequencers “Stop at Event” and “Restart after Confirmation” also apply to the group sequencer.
  - **Autostart:** Once you switch to the Grid view, the group sequencer will start automatically.

## Switching group functions

At the bottom of the program window is a Command bar with controls that change depending on the selected view. In the Grid view, you can use the group buttons of the Command bar to control the functions of a camera group (Prerequisite: Group functions were assigned in the [Group Functions](#) dialog box). This means that you can switch on/off lights, open a door and make an announcement for a predefined camera of this group, regardless of the currently displayed camera. You can also assign the functions for switching on/off lights and opening doors to several cameras of this group, enabling you to switch on/off several lights or open several doors.

In addition, you can right-click on the group buttons to open the shortcut menu in order to control cameras

that are not part of the current group. Before you can do this, the cameras have to be set up accordingly, that is, they need to be connected to door openers/light contacts and have to be configured properly.

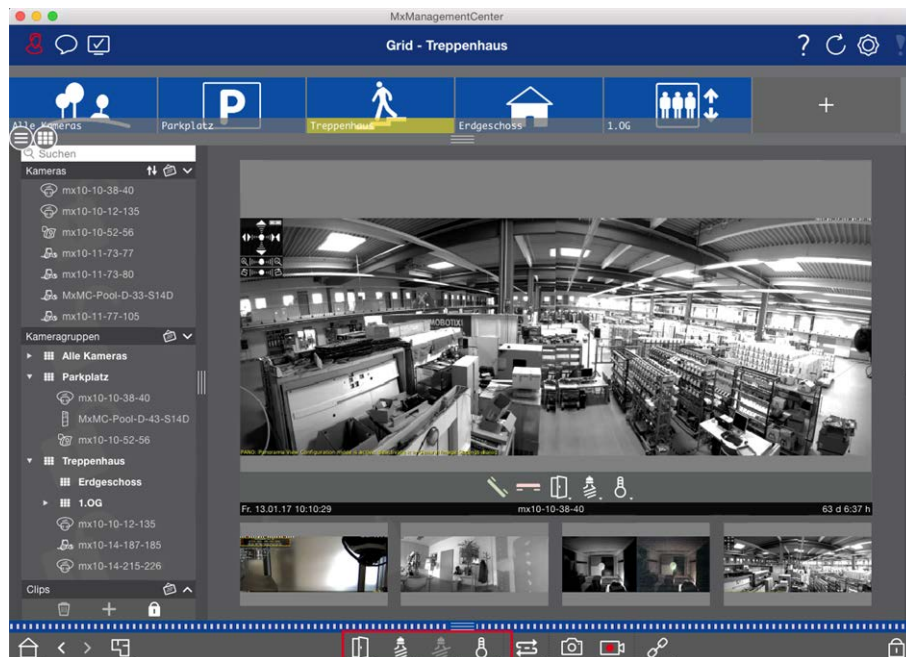


Fig. 20: Switching group functions

## Manually recording live images

In the Grid view as well as in the Live view, you can start manual recording at any time, such as when you observe a suspicious situation that should be recorded. While you keep track of the situation in the live image, the images are recorded and saved as an MXG file. The camera's live image that is in the focus window is always recorded. For this reason, live recording can also only be used in the Grid view when there is a focus window.

Users with administrator rights can specify where the clips are saved and how long the recordings can be in the [Preferences](#), p. 230 (Mac: menu: **MxManagementCenter > Preferences > Live Recorder**, Windows menu: **File > Settings > Live Recorder**).

### Note

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8.

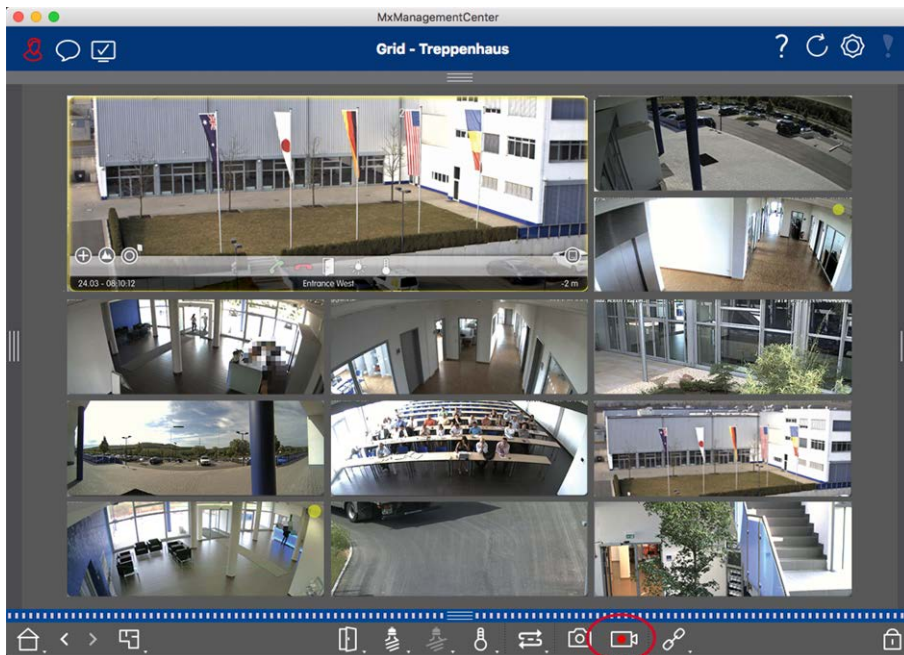




Fig. 21: Manually recording live images


## Starting And Stopping Recordings

To start recording, click on **Live Recorder** . Recording will stop automatically after the recording time set in the program settings has expired. Just before this time expires, a message will be displayed. You can stop the recording from within this message or extend the set period of time. To stop recording before the time expires, click on  again.

### Note

The recording ends automatically when switching to another view. However, changing the group within the Grid view will not result in an early termination of the recording, unless that group has no focus window. In the latter case, the recording will end.

## Play Clip

The live image data is stored in an MXG file at the location specified in Program Settings during recording. The clip file is automatically imported into the current project when the recording stops and the Device bar shows it alongside the  icon in the **Clips** section. You can click on the clip name to playback the \*MXG clip file via the Device bar.

# Program Structure and Operating Concept

## Program Structure

MxManagementCenter provides functions for different user groups:

- **System administrators (installers):**

This user group uses MxMC to build and configure a monitoring system that consists of the application itself, cameras, recorders and other components.

- **End users:**

These use the application for their monitoring tasks, such as live video surveillance, searches in and playback of recordings, video exports etc.

Despite these different tasks performed by the two user groups, the program structure and operating concept are largely the same.

## Operating Concept

### Program window

There are multiple views that allow the user groups to complete their tasks. These consist of a **Menu bar**, a main area in which most of the task is executed, four **bars** that can be opened and closed, a **Header bar** at the top and a **Command bar** at the bottom of the program window.

The bars, consisting of a [Device Bar, p. 51](#), a [Camera Bar and Camera Group Bar, p. 55](#) and an [Alarm Bar And Export Bar, p. 57](#), contain features for working with MxMC on a daily basis. The fourth bar contains the [The Histogram: Graphical Representation Of The Frequency Distribution Of Events, p. 185](#) or the [Smart Data-System, p. 187](#), which allows users to perform specific actions. In the Configuration view, this fourth bar also contains the Configuration bar. The [Configuring Basic Camera Settings, p. 95](#) provides functions for changing the settings of multiple cameras in a group without having to change the camera or camera group.

The Command bar at the bottom contains the icons and buttons relevant to the current view. The contents of the Header bar as well as the Menu bar are the same for all views.

#### Note

If the Menu bar is not visible under Windows, it can be displayed by pressing the Alt key.



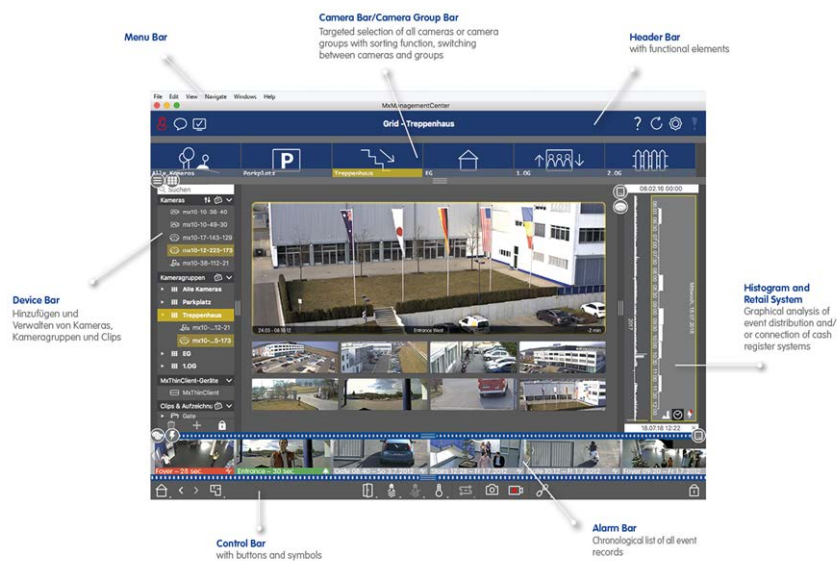









Fig. 22: Program window

MxMC can be operated on [Working With Multiple Monitors, p. 144](#). Double-click on a live image, for instance, to display it on a second monitor. If several monitors are connected, they are recognized and can be selected as required.

Controls and Buttons

Icons, sliders and buttons are available for working with the views.

Elements	Examples	Explanation
Icons	 	Icons are mainly used in the Graphic view. They are either assigned predefined functions or can be freely defined (hyperlinks). Icons can be freely placed in the Graphic view. Clicking on these buttons directly performs a function, for example, open a door. Icons used to control camera functions indicate their status, if available, such as "Door is locked" at the door icon of a Door Station.
Buttons	 	Buttons appear in many places in the application, including the Command bar or Header bar. Similar to the icons, clicking on the button performs a function directly. Buttons with a small white triangle at the bottom of the button indicate shortcut menus that provide additional options. The shortcut menus can be opened by right-clicking, long-clicking or clicking on the triangle.
Slider	 	Sliders are also used in many places for operation. Clicking & dragging a slider performs actions, such as scrolling through the last records. Available setting options can be listed and selected by clicking on the slider.

The name of the controls and buttons is displayed by moving the mouse pointer over it. Explanations with links to quick help are displayed when clicking the question mark icon  in the Header bar.

### Note

In some places in MxMC, multiple cameras can be selected at once. Do so by using **CMD + click** (Mac) or **CTRL + click** (Windows).

## Device Bar

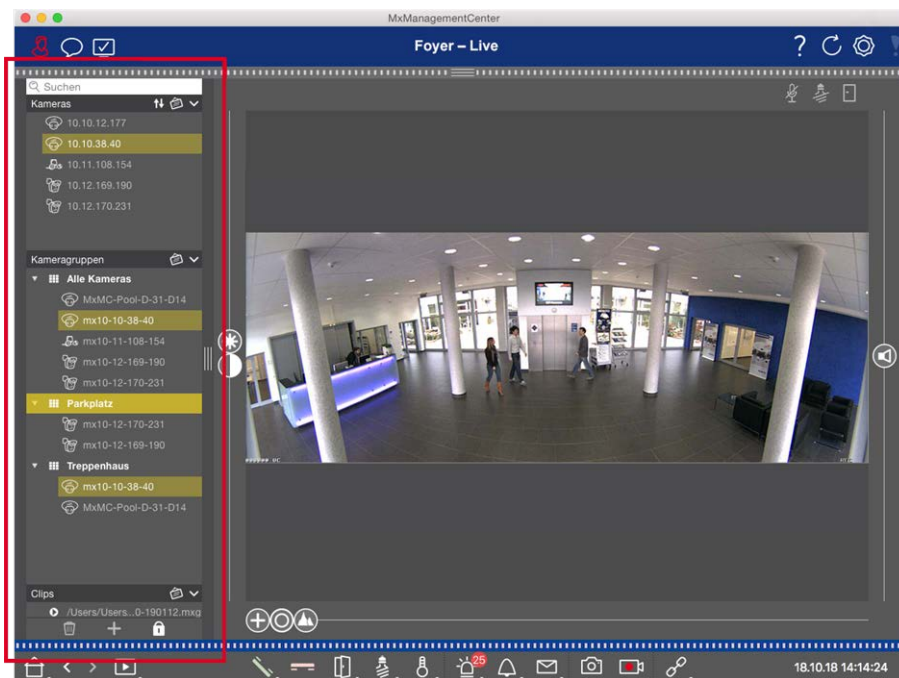





Fig. 23: Device Bar

The Device bar at the **left margin** of the MxManagementCenter is the central place for creating camera groups and for adding and grouping cameras and clips. Its tree structure design provides a quick overview of the contents and the composition of the individual projects by allowing you to open and close the individual branches and view the hierarchical structure.

## Adding Cameras, Creating Groups and Importing Clips


1. Open the edit mode at the bottom of the Device bar by clicking on .
2. Next, click on . The [Adding devices and sources, p. 87](#) dialog opens.

## Adding Cameras to a Camera Group




1. Open the edit mode at the bottom of the Device bar by clicking on .
2. Drag & drop the desired camera from the **Cameras** section to the appropriate group in the **Camera Group** section.

### Note

If you have assigned a camera to one group, you can copy this assignment to other groups by dragging the assignment from the first group to other groups.




3. Once you have assigned the cameras to the desired groups, you can deactivate the edit mode by clicking on .

## Setting Group Functions

1. Open the edit mode at the bottom of the Device bar by clicking on .
2. To do so, move the mouse pointer over the group name. Three icons appear. Click on .
3. The **Group Functions** dialog opens.
4. Assign the desired functions to the cameras by activating the respective checkboxes.
5. Once you have defined all group functions, you can deactivate the edit mode by clicking on .

## Deleting Cameras, Removing Cameras from Groups, Deleting Groups




### Deleting Cameras

1. Open the edit mode at the bottom of the Device bar by clicking on .
2. Drag the camera from the **Cameras** section to .
3. Once you have deleted the cameras, you can deactivate the edit mode by clicking on .




### Note

Deleting a camera from the **Cameras** section will also delete the group assignments of that camera.

### Removing Cameras from Groups

1. Open the edit mode at the bottom of the Device bar by clicking on .
2. Drag the camera from the **Camera Groups** section to .
3. Once you have deleted the cameras from the groups, you can deactivate the edit mode by clicking on .










## Deleting Groups

1. Open the edit mode at the bottom of the Device bar by clicking on .
2. Drag the camera group from the **Camera Groups** section to .
3. Next, activate the edit mode by clicking on .

## Working With the Device Bar







### Configure Screen

Various features support the customization of the Device bar or the arrangement of items in the Device bar.








Feature	Explanation
Opening/Closing Sections 	Click on  to close a section, click on  to open it again.
Moving Sections 	If you move the mouse over the upper part of the section, the  icon appears and the mouse pointer changes to the Move cursor. You can now click and drag the section up or down.
Setting Display Options 	You can select how the cameras are listed, i.e., by camera name, IP address, factory IP address or reference image. Note that you can set different display options for the <b>Cameras</b> and <b>Camera Groups</b> sections. For clips, you can choose to list the clips by name or by path. Click on  and select the desired display option.
Sorting The Cameras 	The Cameras section allows sorting the list. Click on  and select the desired sorting mode.

### Editing Project Data

Set favorites for display in the Camera/Group bar and change the names of cameras and groups.

Special Feature	Explanation
Selecting Favorites from Cameras and Groups 	<p>You can filter the displayed cameras in the <a href="#">Camera Bar and Camera Group Bar, p. 55</a> using different filter criteria (by favorites, for example). Before you can use favorites, however, you need to label the desired cameras and groups in the device bar as favorites.</p> <p>Activate the Edit mode by clicking on . Move the mouse pointer over the camera or group name. Several icons are shown. Click on . Next, deactivate the edit mode by clicking on .</p>
Editing Names	<p>Using the device bar, you can quickly modify the names of cameras and groups. Activate the Edit mode by clicking . Click on the camera or group name you want to change – it will turn yellow. Click again on the name and edit it as needed. Deactivate the edit mode by clicking on .</p>








Navigation: Targeted Selection of Views

Special Feature	Explanation
Selecting Views	<p>The Device bar allows for selecting a specific view for a group of cameras or one camera. Move the mouse pointer over the camera or group name. Different icons will appear depending on whether you have moved the mouse over a camera or a group name. Click on the icon of the view you want to use.</p> <p><b>Camera views</b></p> <ul style="list-style-type: none"><li> Live view</li><li> Playback view</li><li> Research view</li></ul> <p><b>Group views</b></p> <ul style="list-style-type: none"><li> Grid view</li><li> Graphic view</li><li> Grid Playback</li><li> further views (Research view, Info view)</li></ul>

Overview of the Different Camera Statuses

An icon next to the camera name or the camera IP address indicates the current status of the camera.



Icon	Explanation
	Camera is not active.
	Camera is not reachable.
	Wrong camera password.
	Privacy mode is active.
	Limited functionality (only live image access) due to old firmware (<4.0), old camera model (M/D/V12, M/D/Q22M) or proxy issue.
	Camera password does not grant administrative access.
	No license for this camera.

## Camera Bar and Camera Group Bar

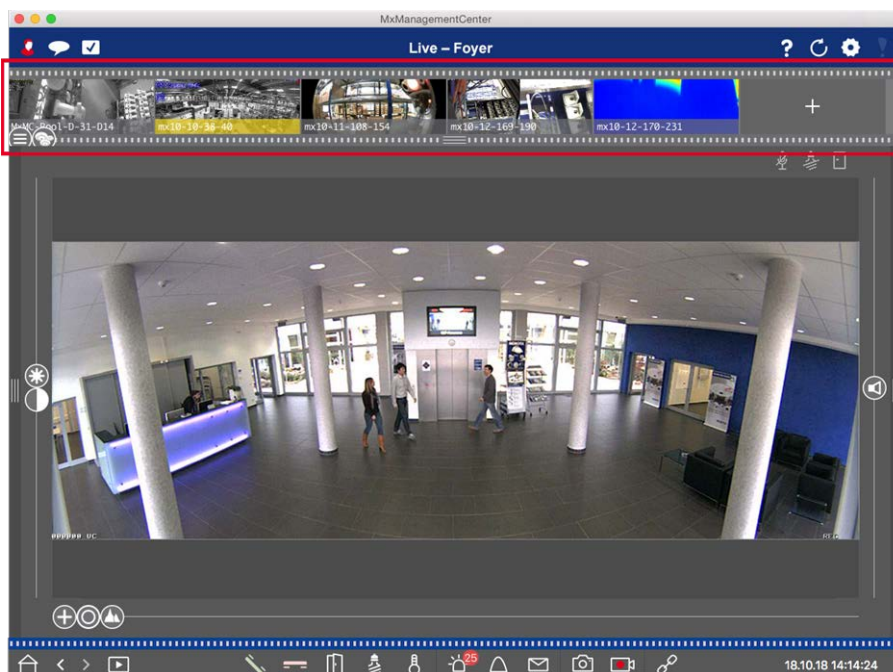


Fig. 24: The camera- and camera group bars

The Group or Camera bar at the **upper margin** of MxManagementCenter provides the means for quickly selecting individual cameras/camera groups or for switching views.


In addition, icons in the camera images of the camera bar indicate the current status of the corresponding camera:




The height of the bar and thus the size of the images can be increased to cover two lines. To do this, pull down the lower frame border until it locks into place.

## Camera Bar

The Camera bar displays the cameras with the image that was transferred from the camera when the camera was added. The camera name that was captured when the camera was added is shown in the gray Info bar at the bottom of the camera image.







## Sorting the Cameras

By default, the cameras are displayed according to the order in which they were added to the Device bar. In order to make it easier to locate single cameras, you can change this order and sort the cameras. Do so by moving the slider  on the lower frame border to the desired position:

-  unchanged order
-  alphabetical sorting
-  sorted by IP address

## Showing Camera States

The following camera states can be displayed in the camera image:

-  Camera is not active
-  Camera is not reachable.
-  Wrong camera password
-  Privacy mode is active
-  Limited functionality (only live image access) due to old firmware (<4.0), old camera model (M/D/V12, M/D/Q22M) or proxy issue.
-  Camera password does not grant administrator rights.

## Selecting Cameras

Select the desired camera either with a single click or drag and drop the camera into the display area. The Info bar of the selected camera turns yellow.

## Switching To The Group Or Camera Bar

By clicking on the **top** frame border of the bar, you can switch from the Camera bar with individual cameras to the Group bar for managing camera groups.

## Group or Camera Bar

The Group bar displays the camera groups with the reference image or icon configured in the camera management section (see [Setting Up Camera Groups, p. 89](#)). The name that was entered when creating the

camera group is shown at the bottom of the reference image or icon.

## Sorting The Camera Group Display

The camera groups are displayed according to the order in which they were added to the Device bar. You can change this order and sort the camera groups alphabetically.

To do this, move the slider  on the lower frame border until the slider indicates alphabetical sorting: .

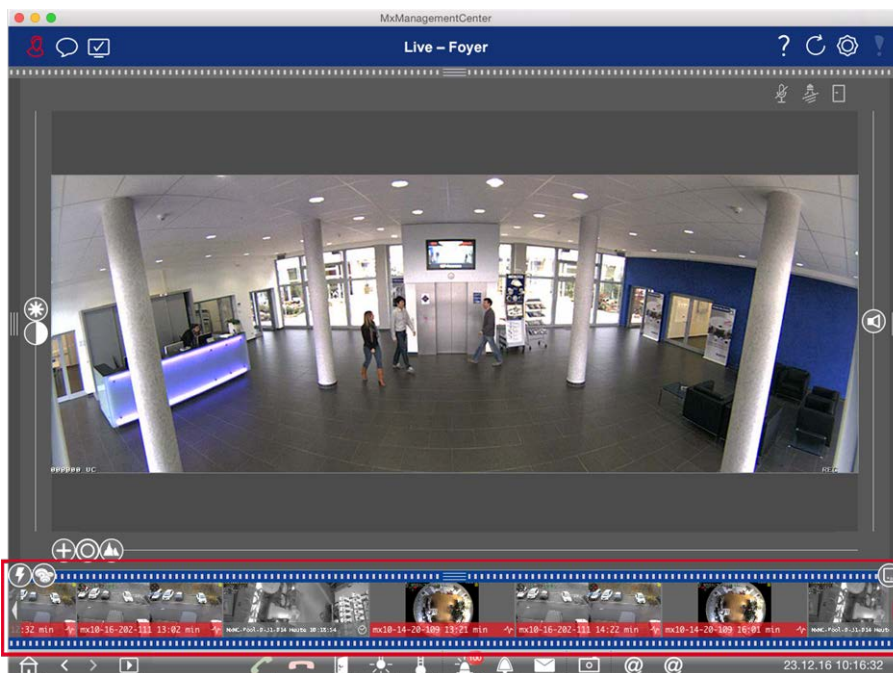
## Select a camera group

Click on the desired camera group. The Info bar of the selected camera group turns yellow.

## Switching To The Camera Bar

Click on the **upper** frame border of the bar to change from the Group bar with camera groups to the Camera bar for managing individual cameras.

## Alarm Bar And Export Bar





The bar at the **bottom** of the MxManagementCenter contains the Alarm and Export bar. The Alarm bar turns red when there is an unacknowledged alarm event. This happens only if the **Alarms** option has been activated in the [Camera Configuration](#) dialog box and if the event types responsible for triggering an alarm have been activated.

Clicking on the bottom frame border of the open Alarm bar will take you from the Alarm bar to the Export bar. Using drag & drop, the [Export bar](#) provides a quick and easy way to collect recordings for subsequent exporting.

## Alarm Bar






















### Recognizing and Acknowledging New Alarms

If the bar is hidden, new alerts will be indicated by a red frame border . If the bar is open, the Info bar of the event image turns red. A ringing at the door bell will color the bar in green .



To acknowledge a new alarm, right-click on the event image and select **Confirm**. To acknowledge all new alarms at once, select **Confirm All**.

### Filtering the Display of Alarm Images

The alarm images in the Alarm bar are sorted chronologically. You can filter the event images by camera, by group or by event type. There are two sliders for this purpose: the **group/camera slider** and the **event type slider**. To set the filter, move the sliders until you see the desired results:

- **Group/Camera:** Group , camera 
- **Event Type:** All , MxActivitySensor , Video Motion Sensor , Behavioral Detection , Shock Detector , Illumination , Microphone , PIR Sensor , Temperature , Internal Events , MxMessageSystem , Meta Events , Signal Input Events , Time Events , Bell Events , Voice Mailbox Messages , Door Station Events , RFID Rejected , PIN Rejected .

### Playing Back Recordings

- You can play back the recording associated with an alarm directly from the Alarm bar (instant playback). To do so, move the mouse pointer over the alarm image. Three icons appear. Click on .
- To play back the alarm in the Playback view, move the mouse pointer over the alarm image. Click on  to switch to the Playback view.





### Deactivating Alarms

You can use the **Camera Configuration** dialog box or the Alarm bar to deactivate alarms.

- Deactivating alarms for a specific camera and event type:  
Right-click on the desired alarm image and select **Deactivate As Alarm**.
- Disable alarms for all event types of a camera:  
Right-click on an alarm image and select **Deactivate All Alarms of This Camera**.

### Export Bar

The Export bar can be opened in all views, and clips that have already been added can be edited in the bar. To do so, right-click on a clip. A shortcut menu with the following functions opens:

- : Manually adjusting the time range
- : Turning audio and PTZ on or off for all clips
- : Duplicating a clip
- : Deleting one or all clips

You can add the clips [to be exported](#) in the Playback view, in Grid Playback and in the Research view. Note that the Export bar will not be deleted automatically after exporting, but only when closing the application.

## MxMC Views

The basic structure of the views is always the same. Each view, however, contains additional elements corresponding to the respective functional area. The following views are available:

- [The Grid View, p. 59](#)
- [The Graphic View, p. 60](#)
- [The Live View, p. 61](#)
- [The Playback View, p. 62](#)
- [The Grid Playback, p. 63](#)
- [The Research View, p. 64](#)
- [The Smart Data View, p. 64](#)
- [The Components View, p. 65](#)
- [The AI Camera Apps View, p. 66](#)
- [The Info View, p. 67](#)
- [The Wizards & Tools view, p. 68](#)
- [Configuration: Overview, p. 285](#)

## The Grid View

The Grid view consists of a **grid** of live images and a **focus window**. This grid display is ideal for getting a quick overview of all cameras of a group. You can drag the camera image that is most interesting to you onto the focus window. Use the controls at the bottom to operate the camera.

You will always notice when a camera registers an event, regardless of whether or not the camera is in the current group. The alarm info bar at the bottom of the camera's live image signals an event within the group. The alarm info bar at the bottom of the Grid view shows the events of all attached cameras. To investigate the event, simply drag the live image from the Grid view, or the event image from the alarm bar, into the focus window.





Fig. 25: The Grid View

## The Graphic View

You can define a **floor plan** (ground plan) in the Graphic view and place the cameras or camera groups according to their actual positions. The icon of the corresponding camera turns red in case of an alarm (or green upon a bell event). Move the mouse pointer over the camera icon to show the live image of the triggering camera, allowing you to quickly monitor the situation.

You can use the **group buttons** of the Command bar to switch on/off the lights of several cameras at once, to open several doors or to make an announcement over several speakers for one or more cameras of the group, regardless of the displayed camera. In addition, you can right-click on the group buttons and open the shortcut menu to control cameras that are not part of the current group.

To make work easier, you can drag elements from the Command bar onto the floor plan and operate them directly in the floor plan by clicking on them.




In case you want to monitor the live images of cameras of other camera groups in the Graphic view, you can temporarily drag these live images onto the floor plan.



Fig. 26: The Graphic View

## The Live View

The Live view allows you to control the live images of **individual** cameras. This includes switching various functions, e.g., opening doors or switching lights.

In order to better recognize objects in an image area, the live image in the Live view can be zoomed and image areas can be moved (PTZ). To facilitate quick loading of these image sections, several image positions are already configured for loading using the slider  in the Live view. On Dual cameras, the program also shows the  slider. Use this slider to show the live images of either the right, the left or both image sensors. When showing the live images of hemispheric cameras, you can select different display modes (slider ). You can also make settings for the Door Station cameras in the Live view (e.g., voice mailbox announcements).

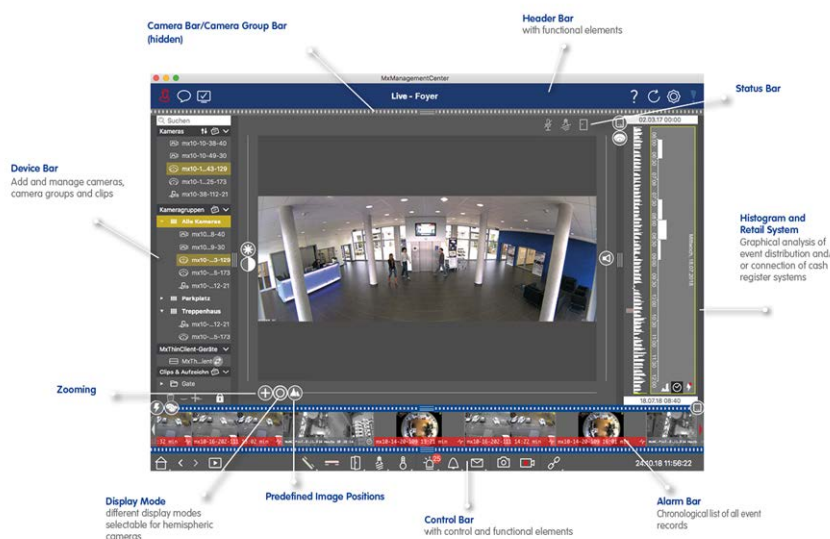





Fig. 27: The Live View

## The Playback View

The Playback view provides a quick and easy way to search for recordings and play back found sequences. There are various options available. The way that you search depends on whether you want to search the recordings for specific events, or if you want to search for events at specific times.

When searching **for events**, select a suitable playback mode  (e.g. event images only) and start playback  (backward or forward) or use the  (previous/next image) buttons to jump through the sequences. When looking for incidents at specific **points in time**, you can search for a specific time or you can perform a search using "time leaps" and time-lapse playback. Furthermore, it is possible to play back any date and time and store that point in time so that the recordings of other cameras can be quickly searched for events at that time.

The recordings can be played back forward or backward at different speeds, which makes it easier to search for individual events.



Fig. 28: Playback View

## The Grid Playback

If a camera registers an event and you want to know if and what other cameras in that camera group were recording at that time, you can use Grid Playback to view the recordings of multiple cameras synchronously. The camera in the focus window is the lead camera. So, if you are browsing the recordings on this camera to find events or specific situations or if you are playing back recordings, the other cameras will follow the leading camera as soon as playback is paused. The program always shows the event images that are closest to the time stamp of the leading camera. If the time of the other cameras differs from the leading camera, the difference will be displayed at the lower border of the event images.

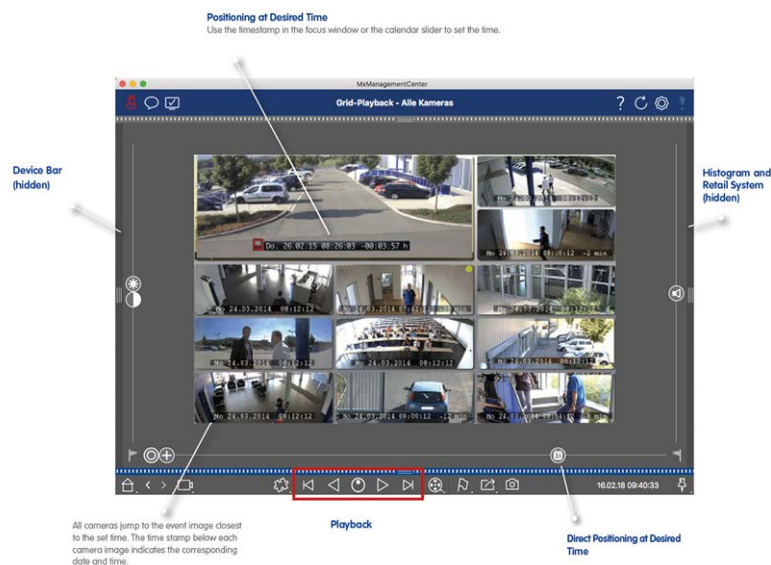


Fig. 29: The Grid Playback

## The Research View

Use the Research view to search all recorded event images at once. You can filter the results by event type, that is, by bell events or by motion events to get a quick overview. Or you can reduce the results to the event you have marked as "important" in the Playback view. The search results are displayed as preview images with camera name, times tamp and type of event trigger. Note that you can play back the recording for an event directly from the event image (**Instant Playback**). Double-click on the event image to open the Playback view and to start playing back the recording. Recorded clips can be assembled in MxMC in the export list for export.



Fig. 30: The Research View

## The Smart Data View

With the MOBOTIX Smart Data System, transaction data, for example from POS systems, can be linked to the video recordings of transactions in MxMC. This enables conspicuous activities to be found and checked quickly. The Smart Data Bar and the Smart Data View are available for searching and analyzing transactions. In the Smart Data View, you can perform a detailed search. Advanced search options and complete video documentation assist you in maintaining a comprehensive overview of, for example, POS systems, video-based license plate recognition or access control systems.



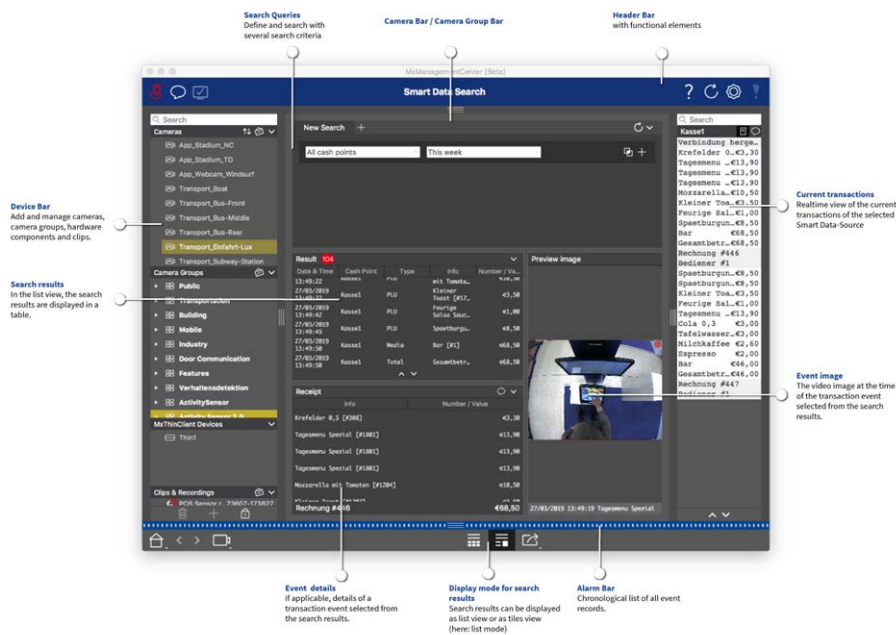
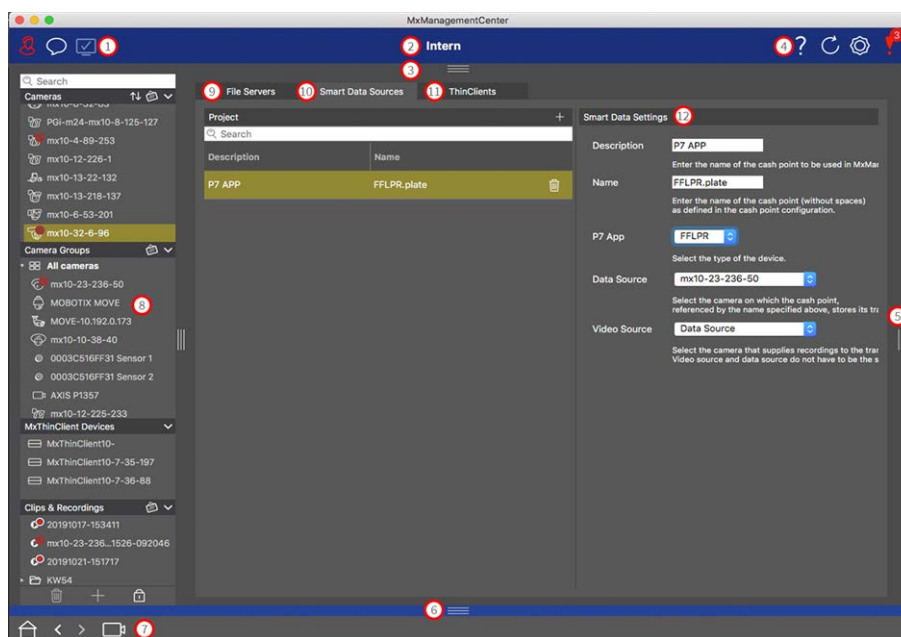


Fig. 31: The Smart Data View

## The Components View

In the Component View, you can manage the following components:

- **File Servers** that are used to store video recordings.
- **Smart Data Sources** (license required) from which you can read transaction data, e.g. from MOBOTIX P7 Apps (no license required), POS systems or license plate recognition systems.
- **MxThinClients**, which allow you to display live images from MOBOTIX cameras on a monitor or TV set with HDMI connection.



**Fig. 32: The Components View**

- ① User Management, p. 227 / Notifications / Bandwidth
- ② Header Bar
- ③ Camera Bar and Camera Group Bar, p. 55
- ④ Context Help / Update / Network Environments, p. 210 / Connection Monitoring
- ⑤ Smart Data Bar
- ⑥ Histogram Bar
- ⑦ Home View / Previous View / Next View / Select View
- ⑧ Device Bar, p. 51
- ⑨ File Server Settings, p. 245
- ⑩ Smart Data Settings, p. 250
- ⑪ MxThinClient Settings, p. 254
- ⑫ Settings Area for File Server Settings, p. 245, Smart Data Settings, p. 250, and MxThinClient Settings, p. 254

## The AI Camera Apps View

The AI Camera Apps view you can display the AI Apps Web GUI within MxMC to configure the corresponding AI App or to open the Apps Dashboard for statistical and analytical purposes.

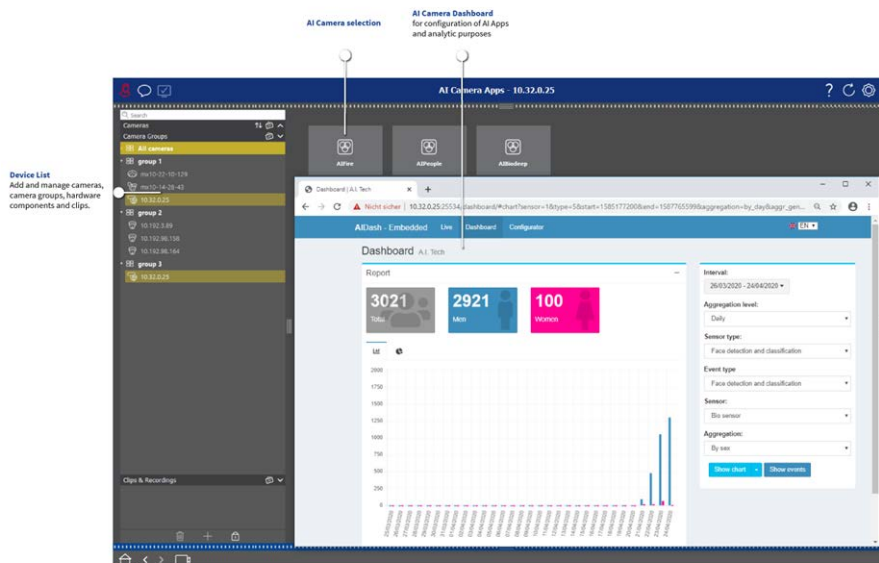


Fig. 33: The AI Camera Apps View

## The Info View

You can add an information page to every camera group in order to show special instructions for operating this camera group or instructions for a notification chain in case of an alarm, for example. To show the information in the Info view, you can compile the information and save it in a PDF or JPG file and then load the file in the **Group Management** dialog box.

If you want to show up-to-date information that is presented on a web server, you also do this in the Info view. Simply activate the edit mode and pull the URL into the Info view.

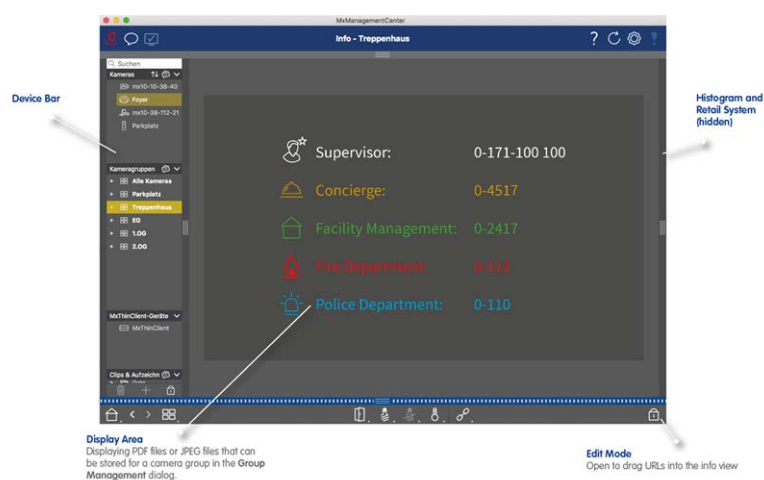


Fig. 34: The Info View

## The Wizards & Tools view

The **Wizards & Tools** view is only available to administrators. The options provided by this view can either be executed for individual cameras or camera groups. Select the camera or camera group in the Camera/Group bar or in the Device bar and then execute the desired feature.

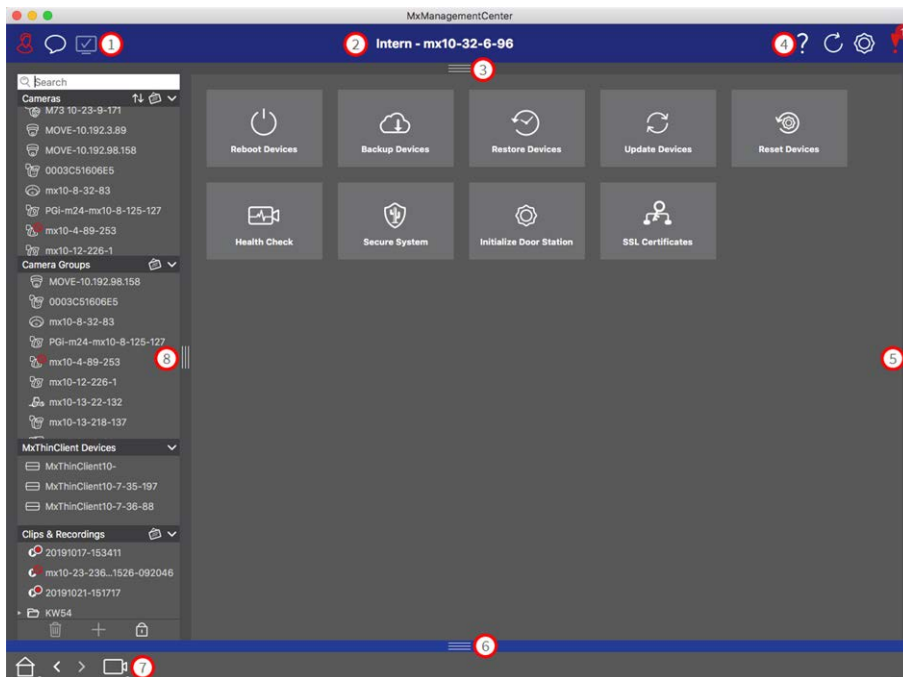


Fig. 35: The Wizards & Tools view

- ① [User Management](#), p. 227 / [Notifications](#) / [Bandwidth](#)
- ② Header Bar
- ③ [Camera Bar and Camera Group Bar](#), p. 55
- ④ Context Help / [Update](#) / [Network Environments](#), p. 210 / [Connection Monitoring](#)
- ⑤ [Smart Data Bar](#)
- ⑥ [Histogram Bar](#)
- ⑦ [Home View](#) / [Previous View](#) / [Next View](#) / [Select View](#)
- ⑧ [Device Bar](#), p. 51
- ⑨ [Wizards & Tools](#), p. 256

## Configuration: Overview

The Configuration view you to directly access and make settings for MOBOTIXcameras. In general, the view is divided into a **Basic Settings** section and an **Advanced Configuration** section containing **Configuration Groups**.

The controls at the bottom can be used for actions such as storing the changed settings permanently or

resetting the parameter values to their factory settings.

The settings are made for one camera at a time. The Configuration bar on the right margin also offers the possibility to change the settings of several cameras of a group simultaneously without having to change the camera or the camera group.

### Note

The Configuration view is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8.

## Structure of the camera configuration view

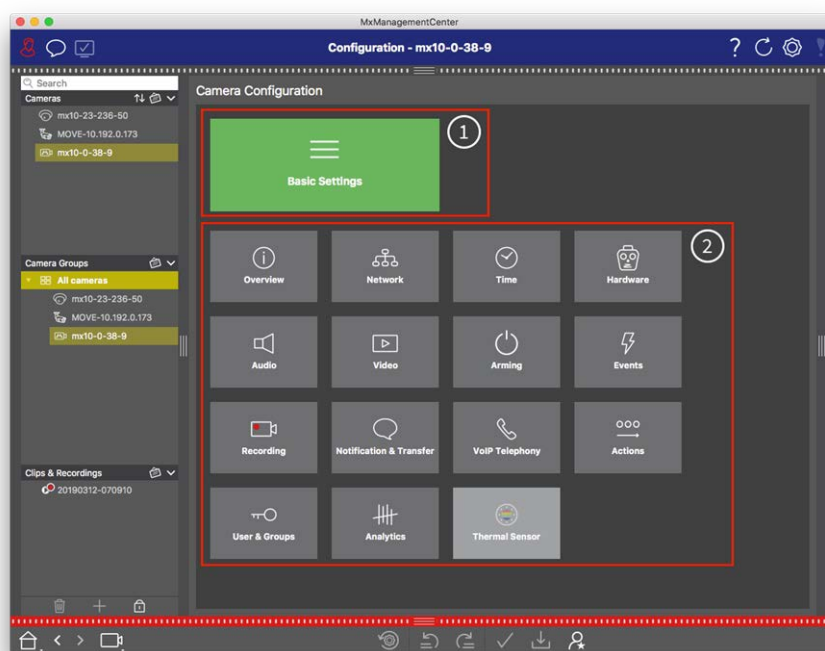


Fig. 36: Structure of the camera configuration view

## Basic Settings

The Basic Settings ① contain basic configuration settings that are important for the setup of cameras and camera system. The Basic Settings include the following areas:

- General Settings,
- Network,
- Time,
- Image Settings,
- MxActivitySensor and Recording.

The parameters of the respective topic areas are grouped in tabs. For information about each tab, see [Configuring Basic Camera Settings](#), p. 95.

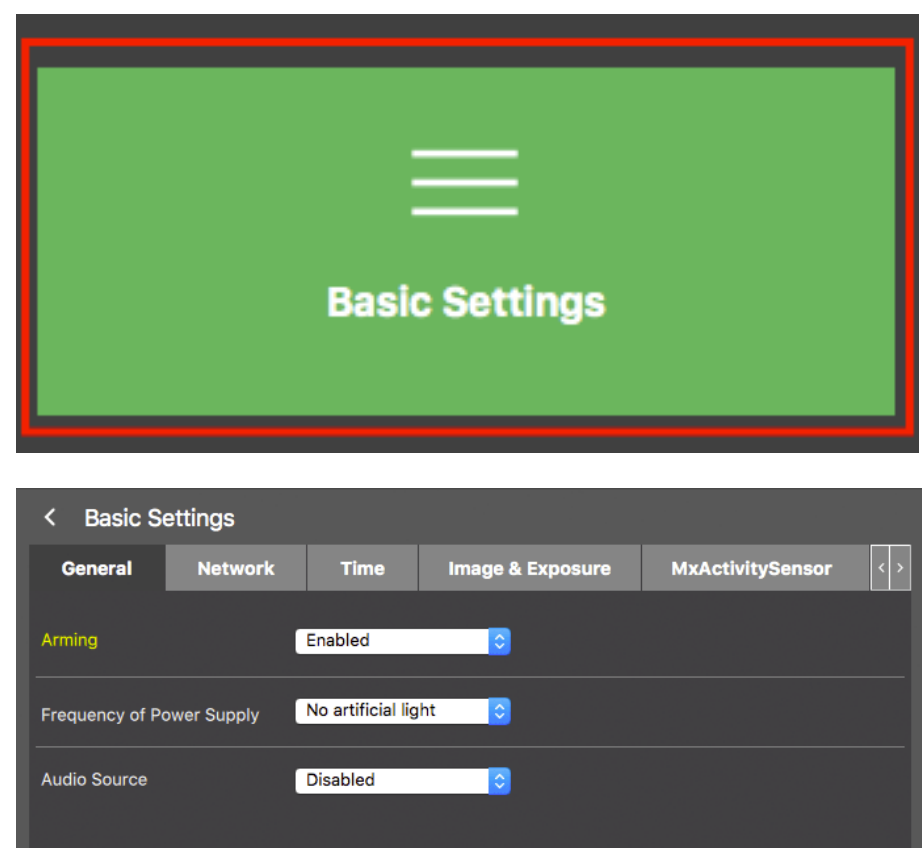


Fig. 37: Basic settings

### Advanced Configuration (license required)

The available configuration parameters are thematically grouped in tiles. The Advanced Configuration tiles ② are only visible if the required license key has been installed, otherwise only the basic settings are available. Clicking on a tile opens the topic area and tabs for the associated sub-topics. Some of the topics contain graphical configuration items, such as those for defining exposure windows or detection areas. For more information on how to operate these configuration items see [Graphical Operation](#), p. 292.

Extensive information on the setting options and parameters of the individual subject areas are currently available only via the help pages of the camera. You can access the camera help table of contents directly from MxMC by pressing **CMD+Shift+H** (Mac) / **CTRL+Shift+H** (Windows).



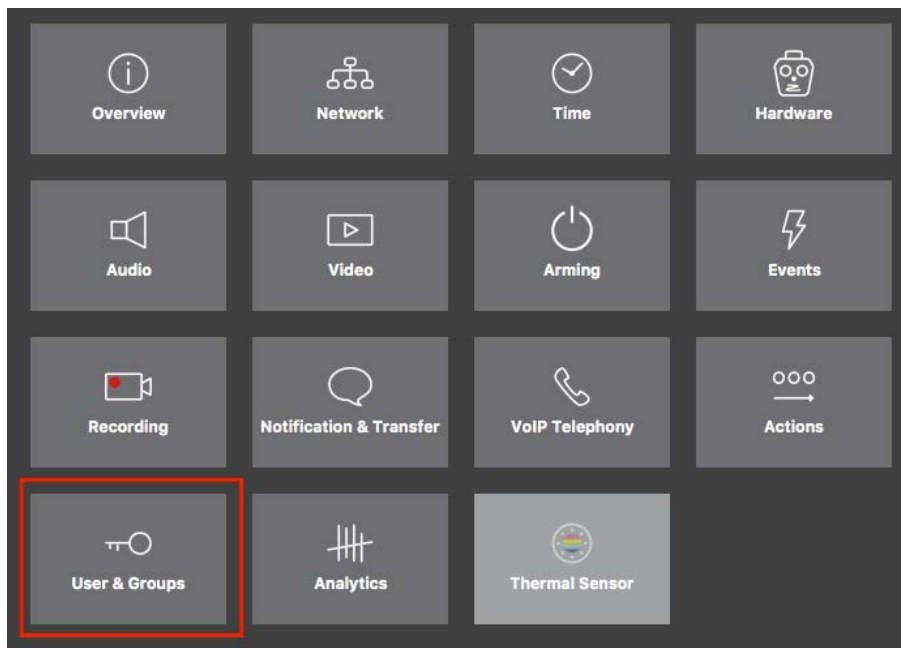
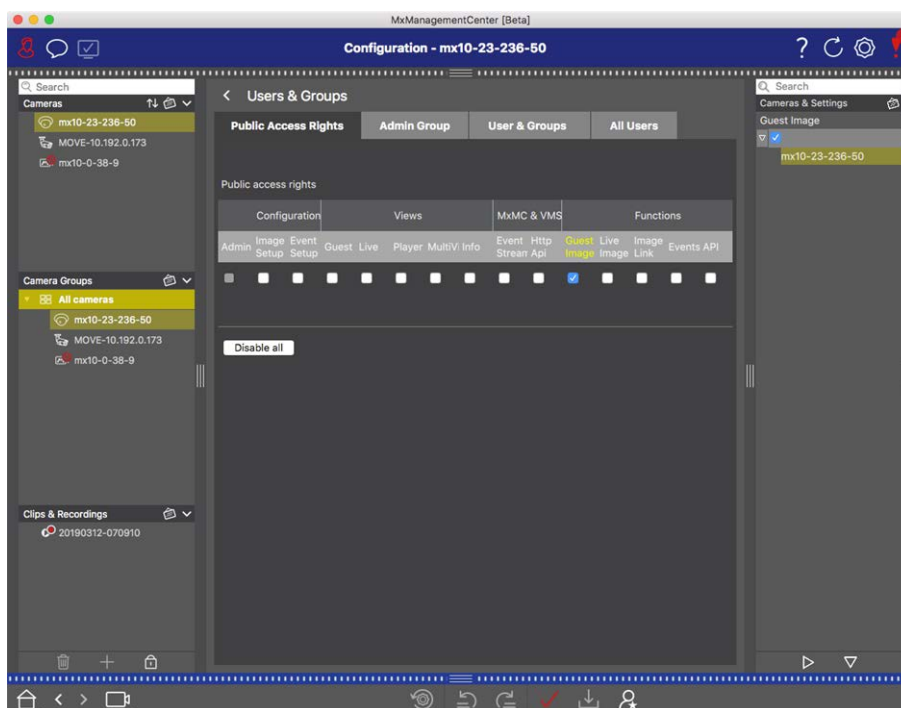


Fig. 38: Advanced Configuration



Advanced Configuration - Users and Groups

## Configuring Advanced Settings

### Caution

By modifying **User Settings**, you can loose access to your cameras. Make sure you do not delete or move user or passwords you do not know!

1. Click on the respective tab to open the corresponding topic area.
2. Make your settings as required by topic.

#### Note

Clicking on the relevant topic area in the table opens an information page for the individual topic areas of the Advanced Configuration settings.

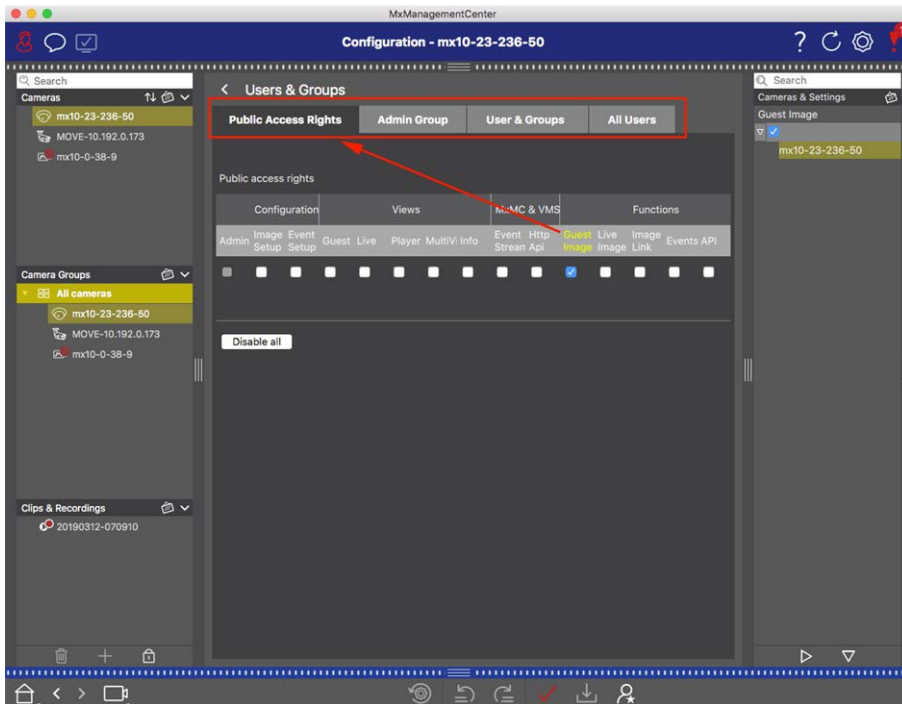


Fig. 39: Advanced Configuration - Users and Groups

## Applying and saving changed settings

#### Warning

By modifying **User Settings**, you can loose access to your cameras. Make sure you do not delete or move user or passwords you do not know!

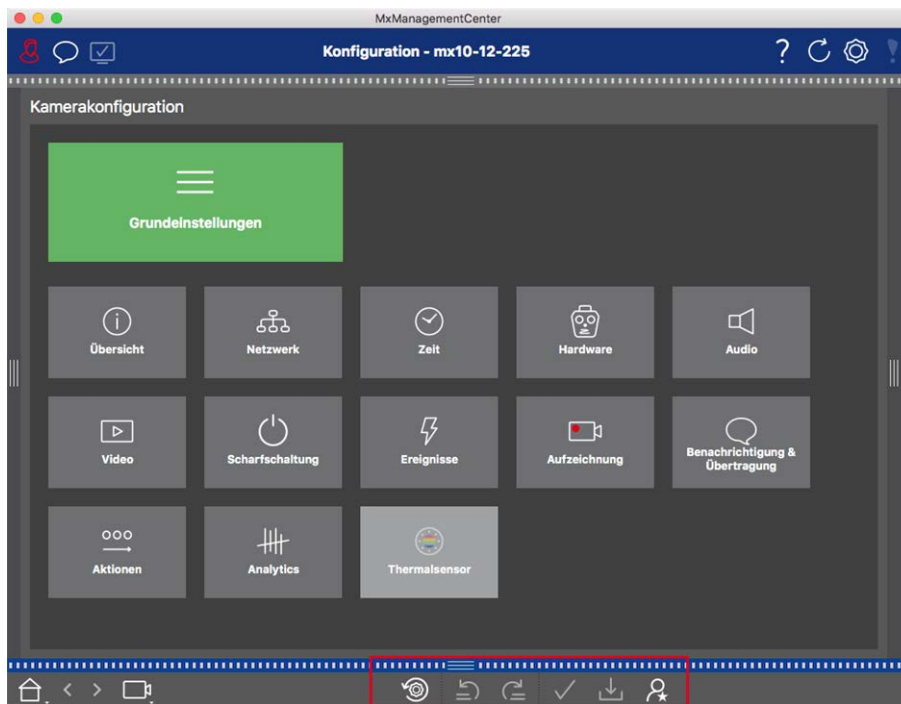


Fig. 40: Applying and saving changed settings

You can use the controls at the bottom of the view to permanently save changed settings or to reset the parameter values to factory settings, among other things:

### Resetting To Factory Settings


Click on  to reset all parameters for the current camera tab to the factory settings.

### Undo/Redo Last Change


Click on  to undo the last change. Click on  to redo the change you previously undid.

### Apply Changes


You can make changes by pressing Enter or selecting the new value in the Configuration view. The changes made here are not automatically adopted because it could potentially cause problems with the network settings.

When a value is changed, the checkmark in the Command bar turns red, indicating that the change has not been implemented yet. Click  to make this change.


### Saving Configurations

If parameter values are changed, the **Store Configuration**  icon turns red in the Command bar. Initially, changes are always temporarily stored in the camera. To ensure that the current settings are also used after

the next restart, the changes must be saved permanently.

1. To do so, click on **Store configuration** . The program opens a system prompt. In the prompt, click on **Store**.
2. If you do not want to keep the changes, click on **Discard**. This discards the changes and restores the last permanently saved overall configuration.

## Expert Settings

Various sections of the configuration provide additional settings that can be used to change parameters that are not necessary for the daily work with MxMC. Note that these settings have been combined as expert settings in the different sections. Click on  to open the expert settings.

## Changing Parameter Values For Multiple Cameras In The Configuration Bar

### Warning

By modifying **User Settings**, you can loose access to your cameras. Make sure you do not delete or move user or passwords you do not know!

You can enter parameters for a **single** camera in the Configuration view. You can use the Configuration bar to check which parameter values are available for the other cameras in the group. There you can also change the settings of one or **multiple** cameras in the group without having to switch to a different camera or camera group.

### Checking parameter values of other cameras in the group

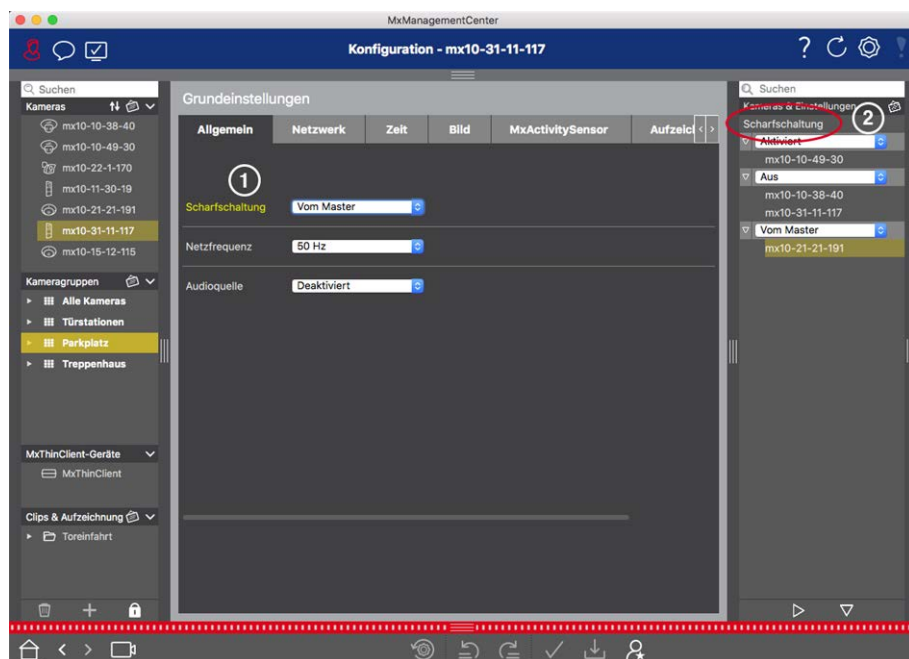


Fig. 41: Checking parameter values of other cameras in the group

### Example: Check arming for multiple cameras

1. Click on the relevant parameter name ①.
2. It turns yellow and the Configuration bar shows all values associated with this parameter that were defined for cameras in this group ②.

### Changing a value for one camera or for multiple cameras

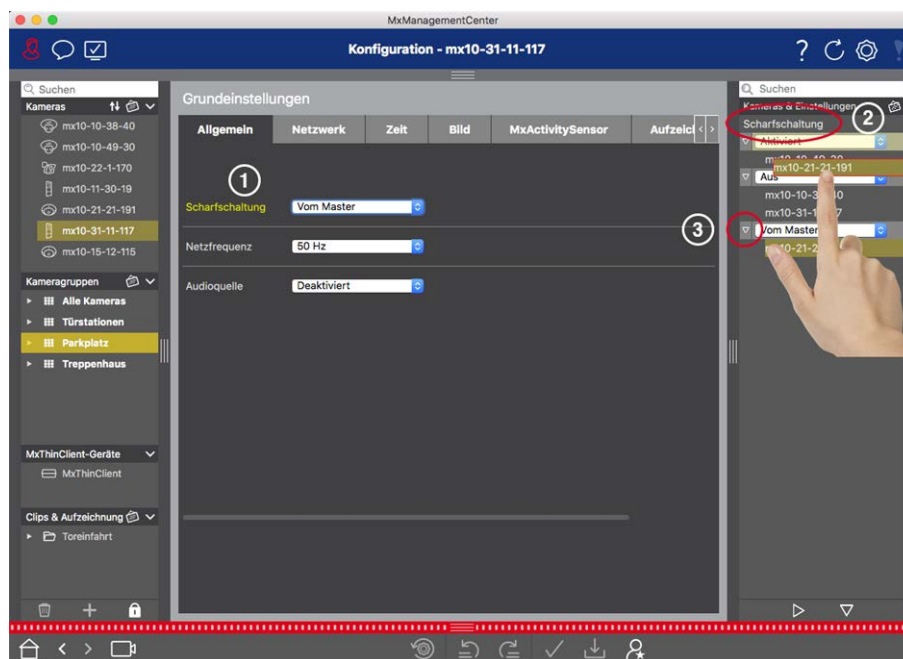


Fig. 42: Changing a value for one camera or for multiple cameras

### Example: Change a value using the Configuration bar

1. Click the appropriate parameter name in the Configuration view ①. It turns yellow and the Configuration bar shows all values associated with this parameter for this group ②. The cameras for which this value is set are assigned to the individual values.
2. Highlight the desired camera and drag it onto the parameter value you want to set. The destination area turns yellow.
3. If the same value is set for several cameras and you want to change this value, click on the parameter selection field in the Configuration bar ③. Then select the desired value.





# Setup

Setting up a MxManagementCenter-based video surveillance system can be costly and will usually be done by an administrator / system installer. This section addresses **administrators** and **system installers** and provides an overview of the tasks that must be performed to efficiently set up a system.

However, not all of these tasks are mandatory for a basic installation (see [Basic Installation: Overview, p. 77](#)).

Step	Explanation
<a href="#">Adding Cameras, p. 78</a>	Integrate cameras with the Welcome wizard or in the Device bar Set alarm filters Set up recording paths
<a href="#">Setting Up Camera Groups, p. 89</a>	Create camera groups Add cameras to groups Define group functions
<a href="#">Adding Users, p. 93</a>	Create users Assign permissions
<a href="#">Configuring Basic Camera Settings, p. 95</a>	General settings Network Time Image settings MxActivitySensor Recording
<a href="#">Checking System Security, p. 258</a>	Verify system security settings Secure the system
<a href="#">Backing Up And Exporting, p. 123</a>	Save the settings made
<a href="#">Import Existing Project, p. 117</a>	Import an MxControlCenter file (INI file) Import an MxEasy file (NDB file)

## Basic Installation: Overview

The **Setup** section describes the steps required to set up a system. For a basic installation, however, not all the steps shown are mandatory. The following list gives an overview of the most important steps of a basic installation.

Step	Explanation
<a href="#">Adding Cameras, p. 78</a>	<p>When starting MxMC for the first time, the <b>Welcome Wizard</b> opens and automatically starts searching for MOBOTIX cameras. Cameras in the local network are automatically detected and listed.</p> <p>Cameras can also be added in the <b>Device bar</b>. Cameras that are in the local network are also automatically detected and listed here. Cameras outside the local network need to be added manually (see <a href="#">Adding devices and sources, p. 87</a>).</p>
<a href="#">Setting Up Camera Groups, p. 89</a>	<p>Create camera groups to group your cameras. By organizing in groups, entire surveillance areas are always recognizable at a glance.</p> <p>Assign the cameras to the desired groups.</p> <p>Set the layout for the Grid view and Graphic view.</p>
<a href="#">Adding Users, p. 93</a>	<p>After you have added the cameras and organized them into groups, create the users and any other administrators and set their access permissions.</p>
<a href="#">MxMC Licensing, p. 276</a>	<p>Industry-specific solutions and special functions, such as the integration of cash point systems, are subject to licensing. To be able to use them, the purchased licenses must be activated.</p>
<a href="#">Configuring Basic Camera Settings, p. 95</a>	<p>Make sure that the main arming option has been activated (see <a href="#">Basic Camera Settings: General Settings, p. 100</a>). Synchronize the time (see <a href="#">Basic Camera Settings: Time, p. 102</a>), arm the recording (see <a href="#">Basic Camera Settings: Recordings, p. 107</a>) and specify a recording destination if necessary (see <a href="#">Adding Cameras, p. 78</a>).</p>
<a href="#">Checking System Security, p. 258</a>	<p>After completing the basic configuration of the system, you can check its security.</p>
<a href="#">Backing Up And Exporting, p. 123</a>	<p>Finally, you should save your settings. (You can save the settings locally as a project file.) The Device Backup function can be used to save the settings across the entire system.</p>


## Adding cameras, devices and sources

This section describes the necessary steps to add and configure cameras, devices and other sources.

### Adding Cameras

The cameras and Door Stations can either be integrated with the Welcome wizard or added to the Device bar. These cameras also include MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface.

## Integrating cameras with the Welcome Wizard

When starting MxMC for the first time, the Welcome wizard opens and automatically starts searching for cameras. The number of found cameras is shown next to the Add button . This number is updated automatically if the number of MOBOTIX cameras on the network has changed (i.e., by connecting new/disconnecting existing cameras).

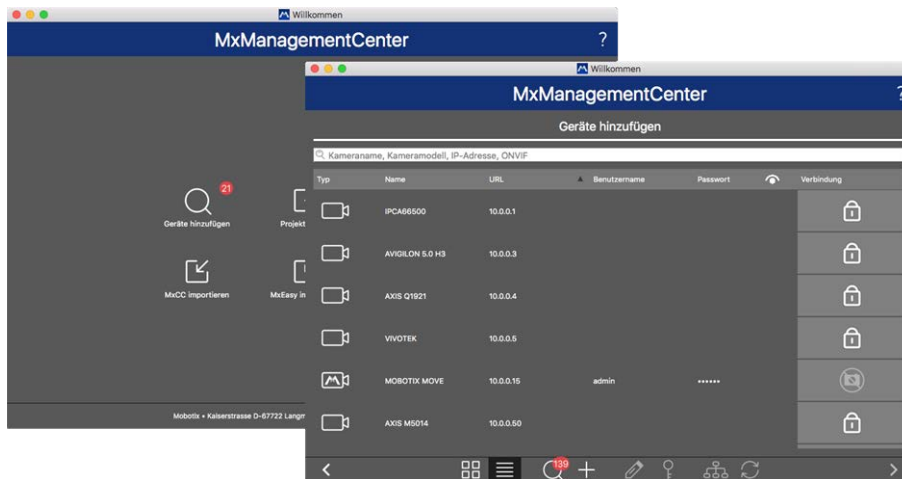













Fig. 43: Integrating cameras with the Welcome Wizard


- Click on **Add Devices** .
 

All found cameras are displayed either in a list or as tiles. Whether the cameras are displayed in a list or as tiles is determined by clicking on either the **tiles**  or **list**  button.
- The respective camera status is automatically tested and displayed:
  -  = The camera cannot be interacted with under the found or entered IP address.
  -  = The camera is in a different network than the computer.
  -  = The camera firmware is not up to date.
  -  = The camera is password protected.
  -  = Incorrect user data was entered.
  -  = Preview image not available.
- Select the cameras you would like to integrate.
  - If some of the selected cameras are password protected, click on **Change Camera Access**  and enter the user name and password.
  - If some of the selected cameras are not in the correct network, click on **Edit Network Settings** . Here you can choose whether the IP address is automatically determined or whether a fixed IP address is used.

- **Determining an IP Address Automatically:** If your computer automatically gets its IP address from a DHCP server (e.g., DSL router), then it also makes sense to have the system determine the camera's IP address automatically. To do so, enable the **Get IP Address Automatically** option.
- **Using a Fixed IP Address:** If you have assigned a fixed IP address to your computer, you will probably prefer to assign a fixed IP address to the camera as well. To do so, enter the IP address and the subnet mask.

4. Click on **Apply** and wait for the cameras to be reconfigured.

#### Note

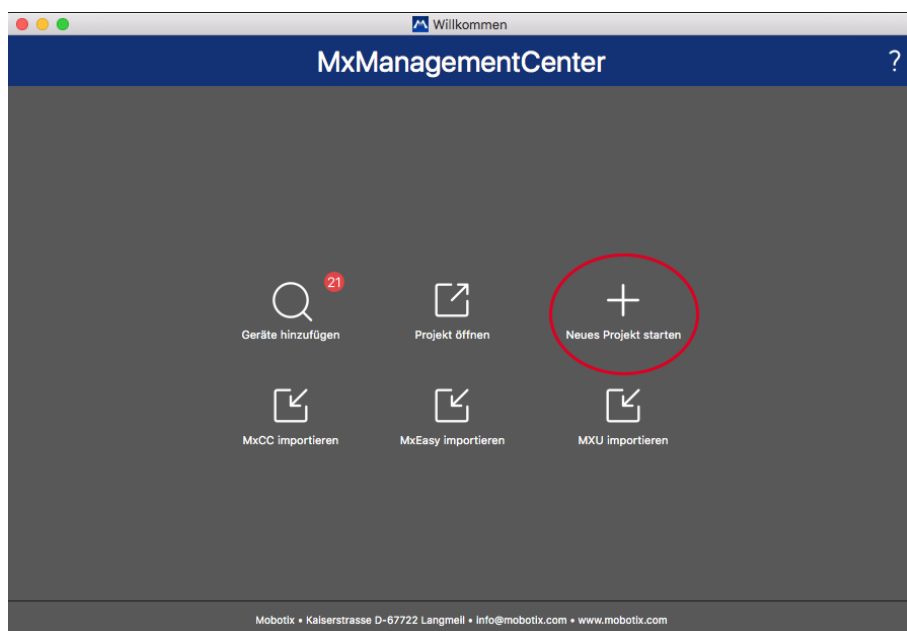
If the  icon is displayed instead of the preview image, the camera could not be reconfigured due to incorrect user data. In this case, correct the user data and try again.

5. The number of selected cameras is shown near the **Next Page** button. Go to the next page.

6. Click on **Done**. The selected cameras are now integrated.


**Note:** Clicking on **Start New Project** opens the application directly, and you can add the cameras using the Device bar.

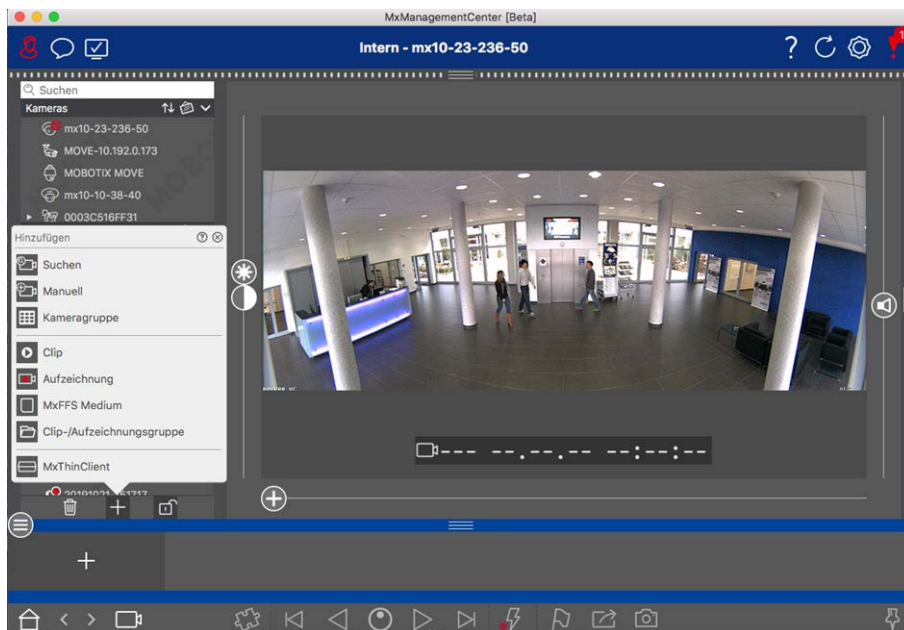
## Adding cameras via the Device Bar





**Fig. 44: Adding cameras via the Device Bar**

The first time you start MxMC, the Welcome wizard automatically opens, allowing you to add your cameras and Door Stations. These can also be added using the Device bar. If you prefer to use the Device bar instead of the Welcome wizard, click on **Start New Project** in the dialog. This opens MxMC directly in live view, and the Device bar is open.


1. Open the edit mode at the bottom of the Device bar by clicking on .
2. Next, click on . The **Add and Import** dialog opens.



-  **Adding Cameras In The Local Network**  
All cameras and Door Stations in the local network can be detected and displayed automatically.
-  **Adding Cameras Manually**  
Cameras outside of the local network (for example, on the Internet) need to be added manually.

## Capturing the data of many cameras

The authentication data used by MxMC as well as the environment settings can be changed in one step for many cameras in the **Multi-Camera Configuration** dialog.

1. To do this, open the edit mode in the Device bar by clicking on .
2. Select the cameras as needed.  
Mac: **CMD + click**, Windows: **CTRL + click**
3. Right-click on one of the selected cameras. The Multi-Camera Configuration dialog opens (see [Multi-Camera Configuration](#), p. 226).

## Setting Alarm Filters



### Note

For MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-compatible interface, there is no alarm function available and you can thus neither activate background monitoring nor set alarm filters. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8 .

Events that lead to an alarm will change the background color of the Alarm bar, Alarm Info bar (see [Alarm Bar And Export Bar](#), p. 57 and [Alarm Processing](#), p. 148 ) and other UI items to red. You can set the event types that trigger a signal for specific cameras in the **Camera Configuration** dialog.

## Setup

### Adding cameras, devices and sources

1. To open the Device bar, click on  at the bottom of the bar.
2. Then either right-click on individual cameras or click on the  icon, which is shown when you position the mouse pointer over the camera name.
3. Click on **Alarms** to adjust the settings to your needs. The **Alarm Events** dialog opens.

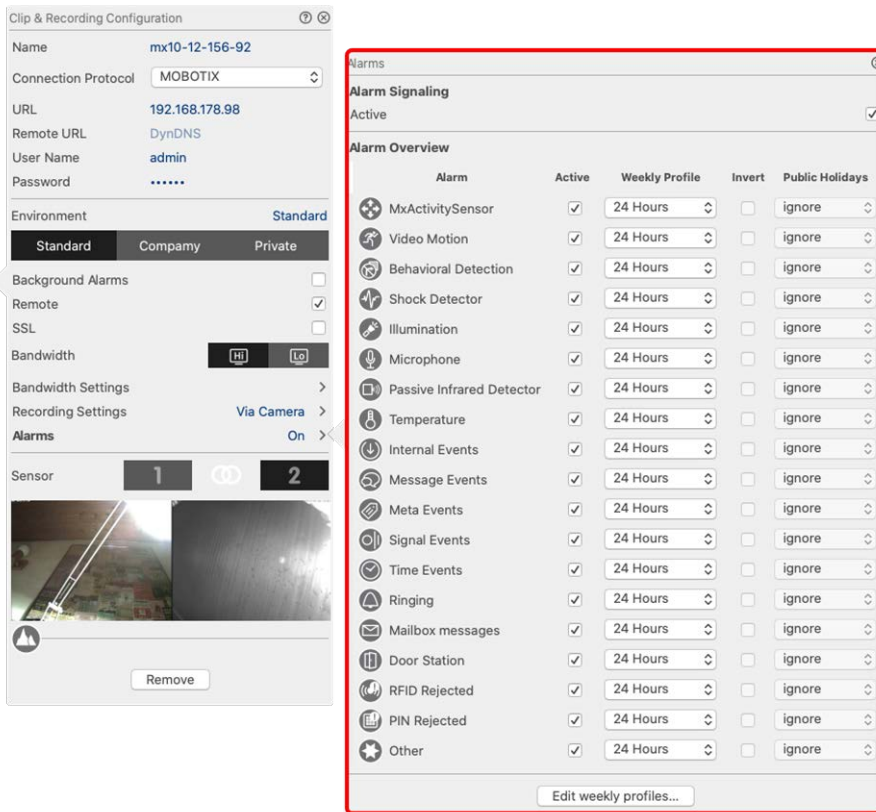




Fig. 45: Setting Alarm Filters

4. Make sure that the **Alarms** option has been activated.
5. Select the event types that should create an alarm.



6. In addition, you can select a weekly profile for every event type that should trigger an alarm. As long as no other weekly profile has been selected, the setting is valid from Monday 00:00 to Sunday 24:00.
- Click on **Edit weekly profiles** to create new weekly profiles. The **Weekly Profiles** dialog opens. Several predefined profiles are available, such as the **Weekend** profile (Saturday 00:00 to Sunday 24:00).
  - To add a profile, click on . Enter a description. Next, highlight the desired active times in the table using the mouse. You can resize an active time block by clicking on the time block and then moving the borders accordingly. It is also possible to move a block. Click on the block to select it, then drag the block to the new position. To delete a time block, click on .

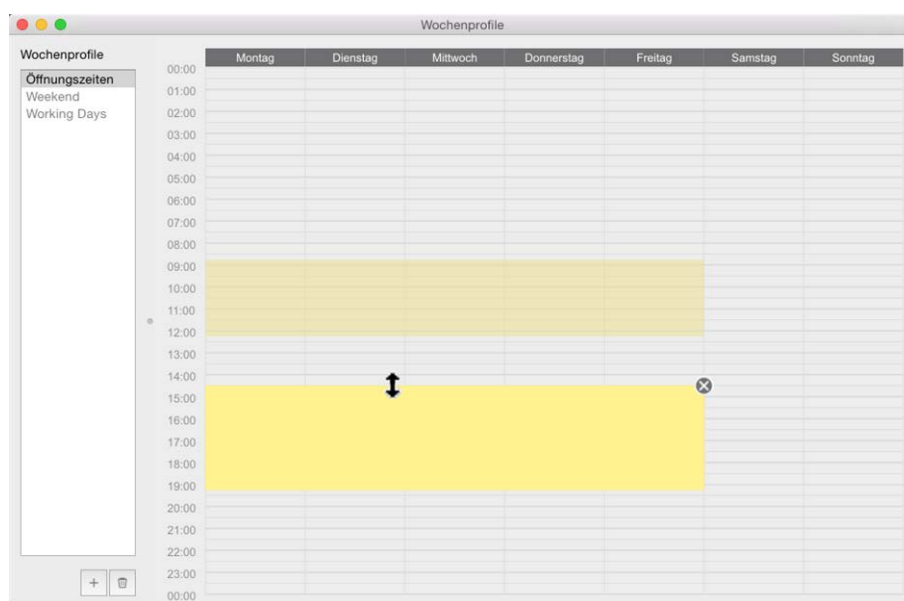


Fig. 46: Alarm Filter profiles

7. You can change the description of an existing profile. Right-click on the name and overwrite it.
8. To select a weekly profile, click on the **Weekly Profile** drop down list next to the event type and select the desired profile.
9. Click on the calendar icon to easily invert the settings of the weekly profile. For example, if you have created a profile with opening hours and would like to activate the alarms for the closing times, click on the **Invert weekly profile** checkbox and the profile is used in inverted fashion.

## Setting Up Recording Paths

The program can access the stored recordings using the following methods: Access to recordings via the camera (remote playback) or to a local directory where the recordings are stored or directly to a file server.

When accessing via the camera (MOBOTIX camera), no further settings are required. If you want to access the recordings directly (**file server** or **local directory**), you need to define recordings paths and assign these to the cameras. Direct access offers the advantage of an extremely fast playback speed (up to 60x).

#### Note

Recordings of MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface can only be saved on MOBOTIX NAS. To do this, first configure the MOBOTIX NAS and then set up the recording path in MxMC.

## Defining the Recording Path

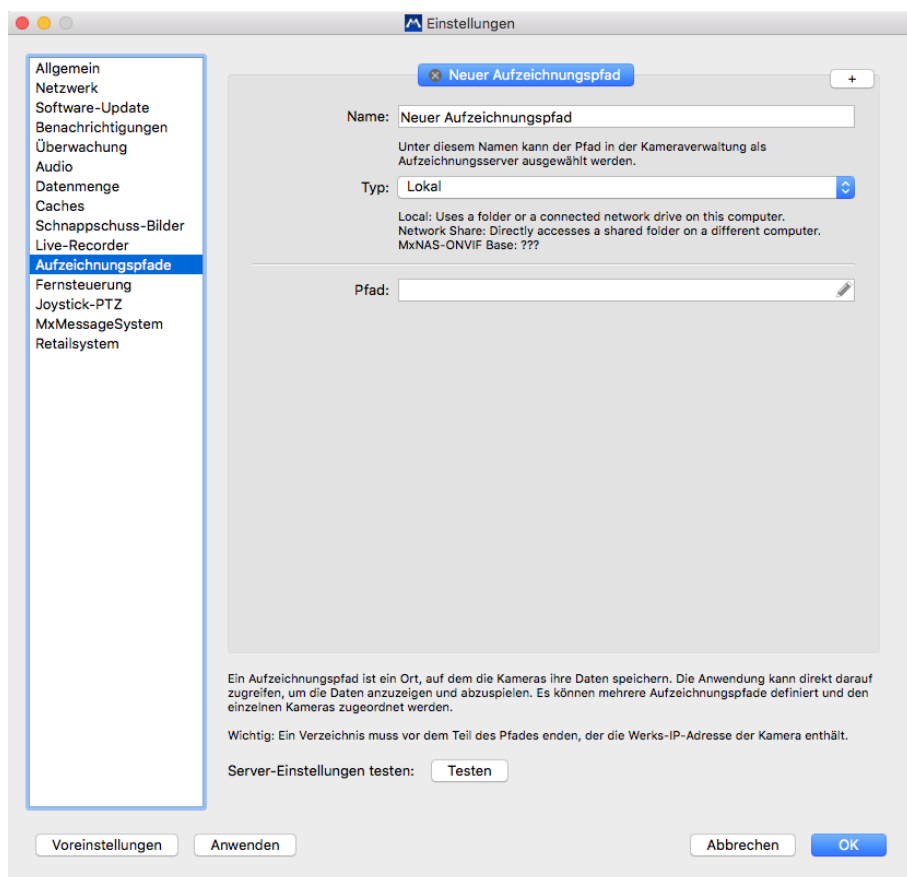


Fig. 47: Defining the Recording Path

1. Open **Settings** in the **MxManagementCenter > Settings > Recording Paths** (Mac) or **File > Settings > Recording Paths** (Windows) menu.
2. Click on "+" and enter the desired name. Under this name, the path can be selected as the recording path in the **Camera Configuration** dialog.

3. Select the type:

■ **Local**

Contains a local folder on this computer or on a connected network drive. You can either enter the folder path manually, drag & drop a folder to the input field or select the local or linked folder.

**Path:** You must select the path that contains the recording folders created by the camera.

■ **Network Share**

The program directly accesses a shared folder on a file server. In this case, you need to enter the computer, the folder and the access data.

**File Server (IP):** IP address or DNS name of the file server with the share.

**Directory:** Name of the share on the file server.

Important: Make sure that the path ends before the folder containing the factory IP address of the camera.

**User Name/Password:** Access data for the network share.

■ **MOBOTIX NAS**

Data is accessed directly on a shared folder on a MOBOTIX NAS.

**File Server (IP):** IP address or DNS name and port of the MOBOTIX NAS.

**Directory:** Name of the share on the MOBOTIX NAS.

Important: Make sure that the path ends before the folder containing the factory IP address of the camera.

**User Name/Password:** Access data for the MOBOTIX NAS.

■ **MOBOTIX NAS (ONVIF)**

The ONVIF recordings are accessed on a MOBOTIX NAS.

**File Server (IP):** IP address or DNS name of the file server.

**User Name/Password:** Access data for the file server.

## Assigning recording paths to the cameras

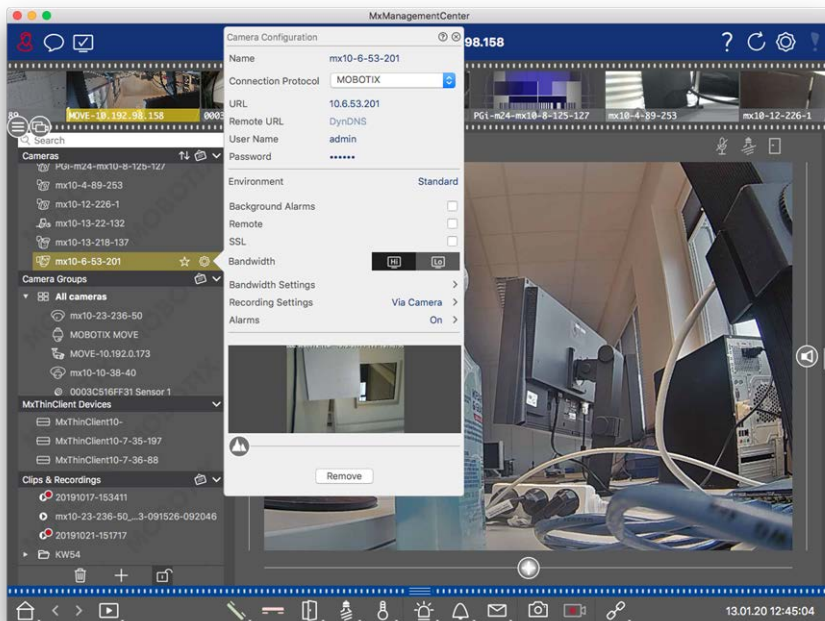




Fig. 48: Assigning recording paths to the cameras

1. Open the **Camera Configuration** dialog in the Device bar. To do so, click on  at the bottom of the bar.
2. Then either right-click on individual cameras or click on the  icon, which is shown when you position the mouse pointer over the camera name.
3. Select the appropriate **recording path** in the recording settings. The following options are available:
  - **Via camera:** When accessing via the camera (MOBOTIX camera), no further settings are required.
  - **Local Path:** Set the appropriate recording format: Use **MxFFS**, if the recordings have been stored in an MxFFS archive. Use **MxFileServer**, if the recordings have been stored in the classic MOBOTIX folder/file structure. Then enter the local directory in the **Device Directory** text box.

### Note:

Click on the pen icon in the text field to open a file selection dialog.

- **File Server:** If file server access is used, MxMC searches the specified file server path for sub folders with the corresponding recordings. Once the search has been completed, you can select the folder for this camera in the **Device Directory** selection box.
- **MOBOTIX NAS:** When accessing a MOBOTIX NAS, select the appropriate camera IP in the **Device Directory** selection box.

## Adding devices and sources

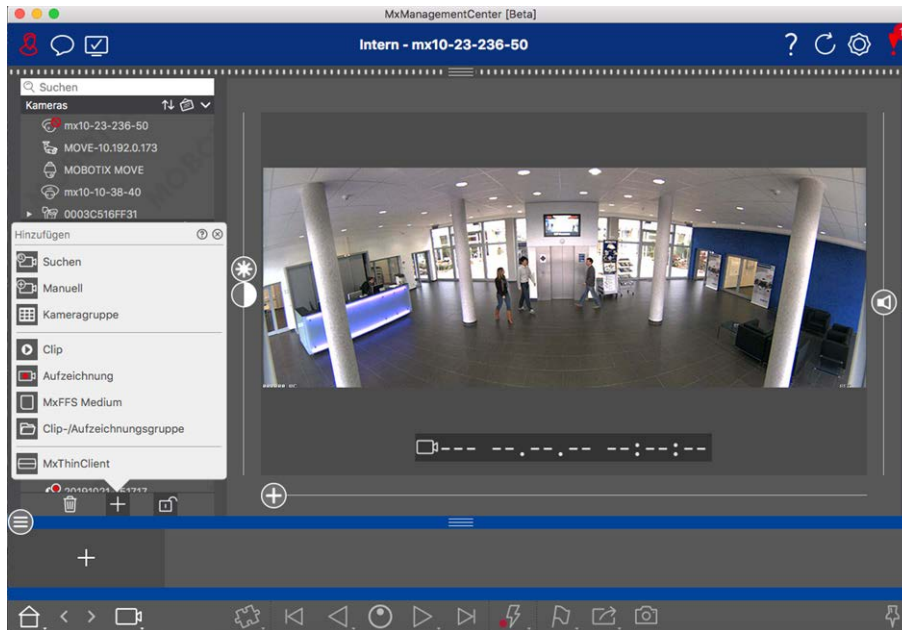







Fig. 49: Adding devices and sources

Select the desired action:

### Adding Cameras in the Local Network

All cameras and door stations in the local network are detected automatically.

1. Click on . The Welcome wizard opens and lists all cameras that were found on the local network.
2. Select the camera you want to add (use **CMD-click** on a Mac or **CTRL-click** on Windows to select several cameras).
3. Specify a user name and a password. Click on  to do so. When multiple cameras have been selected, all of these cameras will get this user name and password.
4. Click on  and then on **Finish**. All new cameras are shown in the device bar in the **Cameras** section and you can already see the live images of the cameras.
5. You should now complete the data for the individual cameras. Open the **Camera Configuration** dialog for this purpose. To open the dialog box, you can either right-click onto individual cameras or you click on the  icon, which is shown if you position the mouse pointer over the camera name. The Camera Configuration dialog opens (see [Camera Configuration](#), p. 216).
6. Close the dialog once you have completely filled in the camera data in the **Camera Configuration** dialog. Then deactivate the edit mode of the device bar by clicking on .



### Adding Cameras Manually

Cameras outside of the local network (for example, on the Internet) need to be added manually.



## Setup

### Adding cameras, devices and sources


---

1. Click on . The **Camera Configuration** dialog opens.
2. Enter the camera access data:  
*Name:* Enter a descriptive camera name.  
*URL:* IP address of the camera.  
*Remote URL:* To access the camera from outside of the local network, you can enter the corresponding external address of the camera (such as a DynDNS name). Make sure that you also activate the **Remote** option.  
*User name, password:* Enter the user name and password of the camera.
3. Complete the network data and set up alarm notification as described in [Camera Configuration, p. 216](#).
4. Close the dialog once you have completely filled in the data in the **Camera Configuration** dialog. Then deactivate the edit mode of the device bar by clicking on .

## Creating Camera Groups

1. To create a camera group, click on . The **Group Configuration** dialog opens.
2. Fill in the data as described in [Setting Up Camera Groups, p. 89](#).
3. Close the dialog once you have completely filled in the data in the **Group Configuration** dialog. Then deactivate the edit mode of the device bar by clicking on .

## Importing Clips

You can use MxMC to play back exported MxPEG clips. Click on  to do so. The **Load Clips** dialog opens: Select the desired MXG file and click on **Open**. The clip appears in the device bar in the **Clips** section.

## Importing recordings

This function allows you to add storage paths generated by MOBOTIX cameras.

1. Click **Recordings**.
2. Select the desired directory with the camera's recording structure and click **Open**.

The recordings are displayed in the Device Bar in the **Clips & Recordings** section.

## MxFFS Medium

This function allows you to access a MOBOTIX storage device connected to the USB port with recordings in MxFFS format.

### Note:

To be able to read MxFFS media, you must start MxManagementCenter with administrator rights (see [Integrating MOBOTIX Storage Devices, p. 190](#)). Without administrator rights, the storage medium will not be recognized.

1. Click **MxFFS Medium**.
2. Select the desired directory and click **Open**.

The recordings in MxFFS-Format are displayed in the Device Bar in the **Clips & Recordings** section.



## Creating Clips-/ Recording groups

Clips and recordings can be organized into groups.

1. Click Create Clips / Recording Group.
2. Specify a name for the group.
3. Move the desired clips and recordings into the group.

## Connecting MxThinClients

Edit the MxThinClient setting here. The MxThinClient is a compact solution for displaying the live image of a MOBOTIX camera on a monitor or TV set with HDMI connection.

### **Name**

Enter the name for the MxThinClient here.

### **URL**

Enter the URL or IP address of the ThinClient.

### **User Name**

Enter the user name of the MxThinClient user here.

### **Password**

Enter the password of the ThinClient user here.

### **Display resolution**

Select the resolution of the camera image to be displayed on the monitor of the MxThinClient.

### **Camera display**

Select here how long the assigned camera image should be displayed on the monitor of the ThinClient. After the selected time period the ThinClient will display the configured setting (e. g. sequences, still images etc.).

MxThinClients can also be added via the Component view (see [The Components View](#), p. 65).

## Setting Up Camera Groups

You can combine individual cameras into camera groups. For example, you can combine all cameras situated on the same floor in one group. This allows checking on entire surveillance areas at one glance and – in case of an alarm, you are quicker to access the relevant cameras.

## Creating camera groups

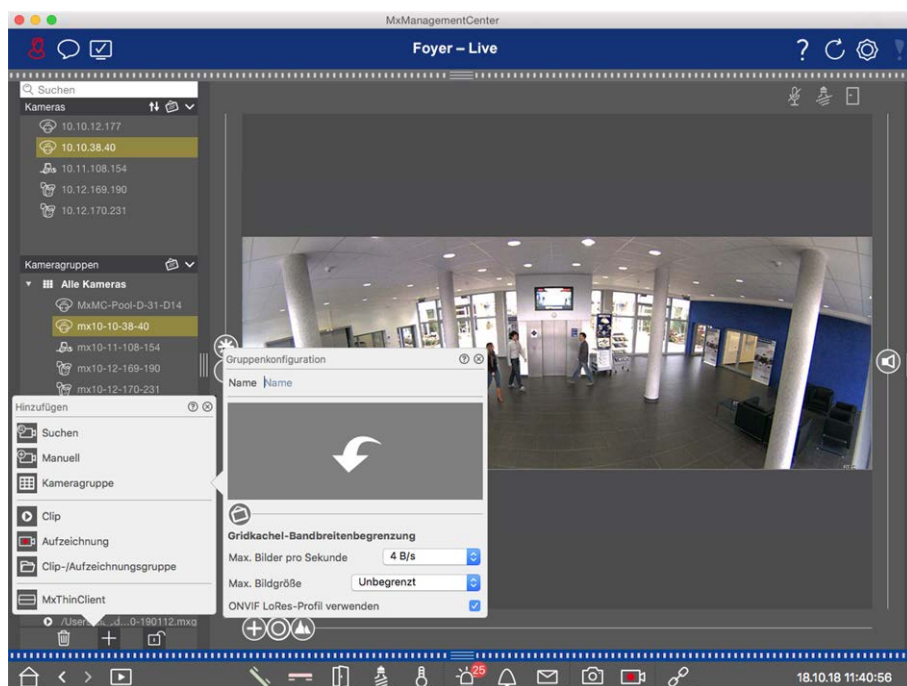












Fig. 50: Creating camera groups

1. Open the edit mode in the Device bar by clicking on  at the bottom of the bar. Next, click on . The **Add and Import** dialog opens.
2. Click on . The **Group Configuration** dialog opens.
3. Enter a group name and – if desired – add an image or an icon that will be used to represent the group in the group bar later on. To do so, click on the gray field and select one of the predefined icons. If you want to use one of your own images, click on **Custom**.
4. Add a **background image**: Move the slider  to the right until you reach the  position. Click on the arrow in the gray field and select the file with the background image (for example, ground or floor plan).
5. You can add an **information page** to a camera group in order to show special instructions for this camera group, for example. Move the slider  to the right until you reach the  position. Click on the arrow in the gray field and select the file you want to use.
6. **Grid Tiles Bandwidth Limits**: If a very large number of cameras is displayed in the Grid view, the performance may decline. To avoid this, you can limit the frame rate of the live images within the grid frames. Note that this limit does not apply to the camera displayed in the focus window.  
**Use ONVIF LoRes Profile**: Use this checkbox to limit the frame rate for MOBOTIX MOVE cameras and for third-party cameras that provide an ONVIF S-compatible interface. If the checkbox is enabled, the settings for the live images in the tiles captured in the **Bandwidth Settings** as the LoRes profile for these cameras will be used.
7. Close the dialog once you have completely filled in the data in the dialog. Then deactivate the edit mode of the device bar by clicking on .

## Adding Cameras to a Camera Group


After you have added cameras and created camera groups, you now should assign cameras to the proper groups.

1. Open the edit mode in the Device bar by clicking on  at the bottom of the bar.
2. Drag and drop the corresponding camera to the desired group.
3. Once you have assigned the cameras to the desired groups, you can deactivate the edit mode by clicking on .

## Setting the Group View layout

To view and work with camera groups, there are two views available: the Grid view (grouping the cameras by any criteria in raster form) and the Graphics view (realistic arrangement of the cameras on a graphic background). For each camera group you have the option of defining the Grid view grid layout and positioning the cameras on the background image (e.g., building plan) in the Graphics view as desired.

### Note

If you have created a group and have not added any cameras yet, the application will show the icon  in the Group and Device bar.

### Setting the layout for the Grid View

When you first open the Grid view after you have created a camera group, the cameras belonging to the group are displayed in the following grid layout by default:

- The aspect ratio of the camera images is 4:3.
- The Grid view is in auto grid mode. In auto grid mode, MxMC always tries to distribute the available space as well as possible according to the specified camera image format, the size of the focus window and the number of cameras. If you change the size of the window, the grid layout adapts automatically.
- The focus box displays the camera that is in the Device bar at the top of the group.
- The focus window size is twice as large as that of the camera images.

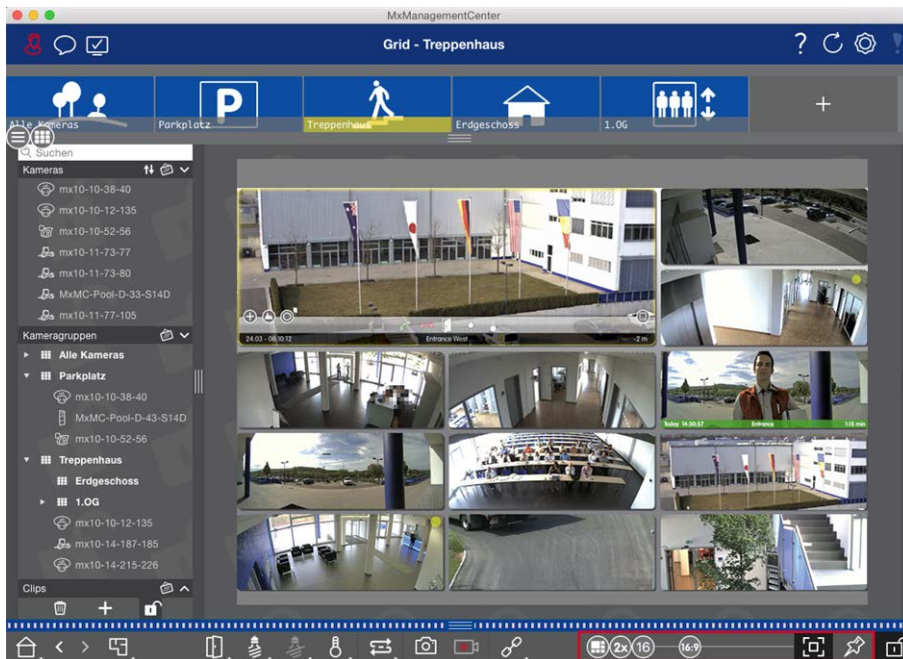








Fig. 51: Setting the layout for the Grid View

- To change the format of the camera images or the size of the focus window, open the edit mode by clicking on  in the Command bar. The following sliders for adjusting the grid layout appear at the bottom of the bar:
  -  = Format of the camera images and the focus window (4:3, 16:9, 8:3)
  -  = Size of the focus window (1x, 2x, ..., 8x the size of the camera images)
  -  = Maximum number of cameras
- Move the sliders to the desired settings. To close the edit mode, click on .

See also: [Group Views, p. 197](#)

### Configuring the Graph View layout

When you open the Graphic view for the first time after creating a camera group, all cameras in that group are listed at the right margin of the previously defined background image with a camera icon .

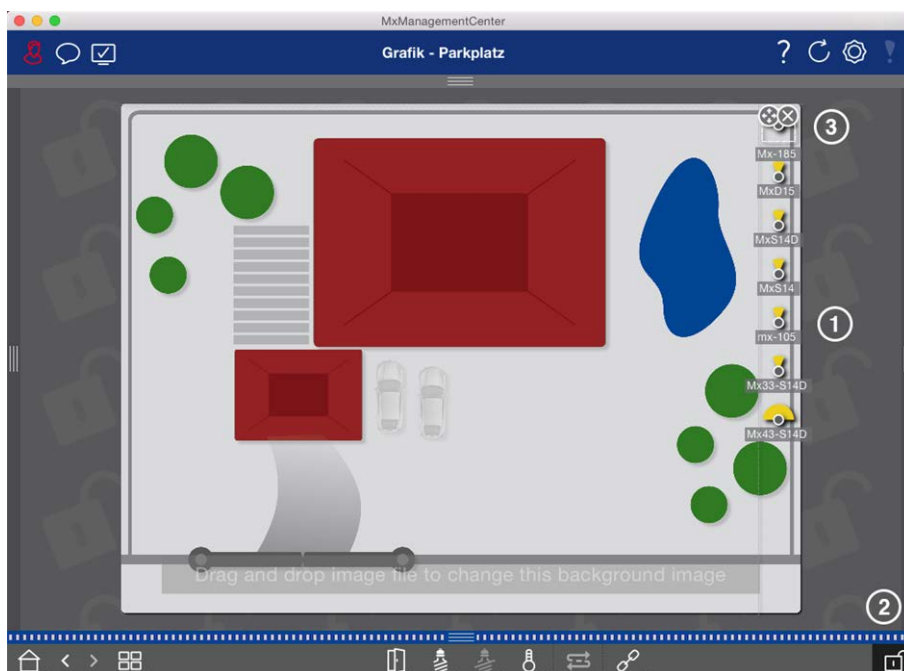





Fig. 52: Configuring the Graph View layout

1. To arrange the cameras according to their actual positions on the background image, open the edit mode by clicking on .
2. To do so, move the mouse pointer over the camera icon. Two icons are shown.
3. Click on  and drag the camera icon to the desired location.
4. Click on  to save the changes.

See also: [Group Views](#), p. 197

## Adding Users

After you have added the cameras and organized them into groups, set up users and any other administrators, if required. Users and administrators are set up in the **User Management**. You set up access permissions at the same time. You can assign rights for users depending on the specific functions they need, whereas an administrator possesses all rights.

See also: [User Management](#), p. 227

### Creating Users or Administrators

Open the **User Management** by clicking on  in the Header bar. Next, click on **Add** .

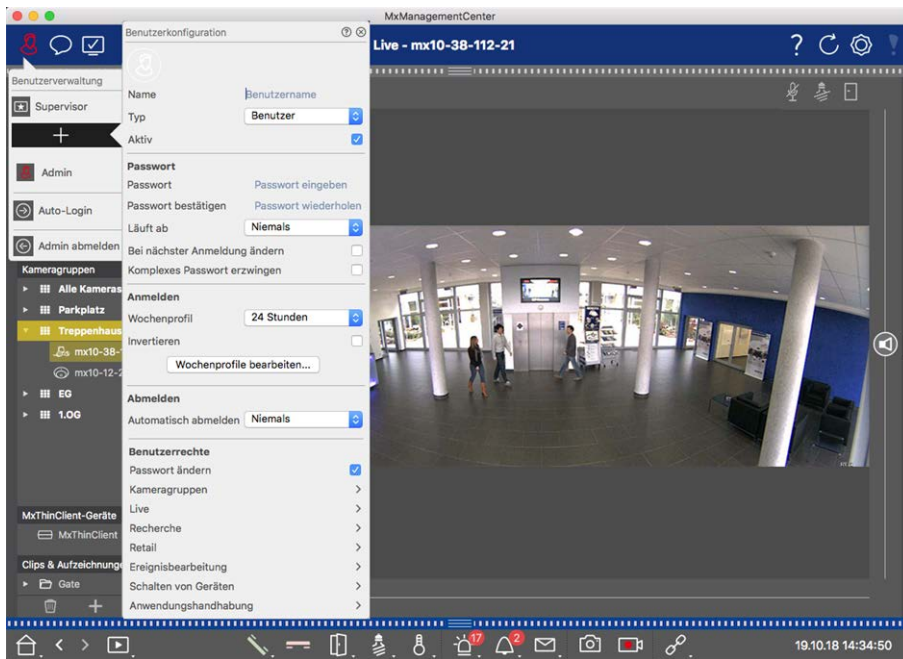


Fig. 53: Creating Users or Administrators

### User type and user name

1. Enter the corresponding user name.
2. Select the desired user type: user or administrator.

The user type is set to **User** by default. The sections **Weekly profiles** and **User rights** are available for users, in contrast to administrators. All other settings apply to both user types and will be used in the following description; however, reference will only be made to **User**.

3. Use the **Active** option to enable the new user immediately or later on.

### Password

1. Enter a password and confirm it.
2. Use the **Expires** option if you want to require the user to change the password at regular intervals.
3. If the user is to change the original password upon the next login, select the **Force change on next login** option.

**Note:** Activating this option automatically gives the user the "Change Password" right, even if it had been disabled before.

4. The **Force Complex Password** option ensures that users can only set secure passwords.

A secure password has at least eight characters, consists of lowercase and uppercase letters, including at least one special character, one digit and one character. Furthermore, it cannot be one of the last thirteen passwords used on this user account. If you are trying to set a password that does not meet the criteria, a red frame around the text field will appear.

### Log in





1. You can establish a specific setting for time ranges in a weekly profile for users who can only access MxMC at specific times. This section is not displayed when creating an administrator because the administrator always has all rights and access to MxMC.



Click on **Edit weekly profiles** to create a weekly profile. The **Weekly Profiles** dialog opens with the options **Weekly profiles** and **Holidays**.

### Weekly profiles

There are two predefined profiles available from the beginning: the **Weekend profile** (Saturday 00:00 to Sunday 24:00) and the **Working days** profile (Monday 00:00 to Friday 24:00).

- To add a profile, click on . Enter a description. Highlight the desired active times in the table. You can resize an active time block by clicking on the time block and then moving the borders accordingly. It is also possible to move a block. Click on the block to select it, then drag the block to the new position. To delete a time block, select one first and then click on .
- You can change the description of an existing profile. Double-click on the name and overwrite it.

### Holidays

- To add a holiday, select the date, check "Repeat annually" if required and click on .
- To delete a holiday, select it and click  existing profile.

2. Close the dialog box to finish editing the weekly profiles. You can then use the new (or modified) weekly profile in user management. To do so, click on the Weekly Profile box and select the desired profile.

#### Note

24 hours is set by default. In this example, the user always has access to MxMC.

3. Click on the calendar icon to easily invert the settings of the weekly profile. For example, if you have created a profile with access on the weekend and would like to activate the alarms for working days, click on the Invert checkbox and the profile is used in inverted fashion.

### Log out

In addition, you can specify after how many minutes of inactivity this user will be automatically logged out.

## Setting Up Access Rights

Every user has all user rights initially. Deactivate the rights that should not be available for a specific user in the **User Rights** section. This section is not displayed when creating an administrator because the administrator always has all rights.

# Configuring Basic Camera Settings

MxMC offers the possibility to adjust settings directly on the cameras. Some of the configuration options are summarized in the Configuration view under the green **Basic Settings** tile. This area includes all topics that are important or necessary for commissioning. Unlike "Advanced Features," the basic camera settings do not require a license and are therefore always available.

## Setup

### Configuring Basic Camera Settings

#### Note

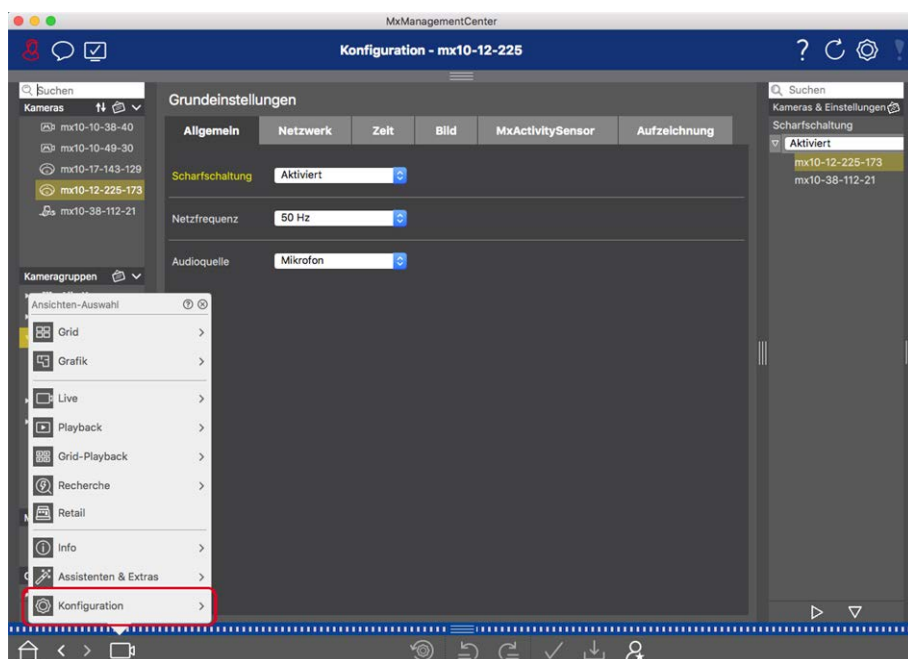
MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compliant interface cannot be configured using MxMC. For an overview of how the camera functions differ (see [Camera Feature Overview](#), p. 8).

## Opening Basic Settings

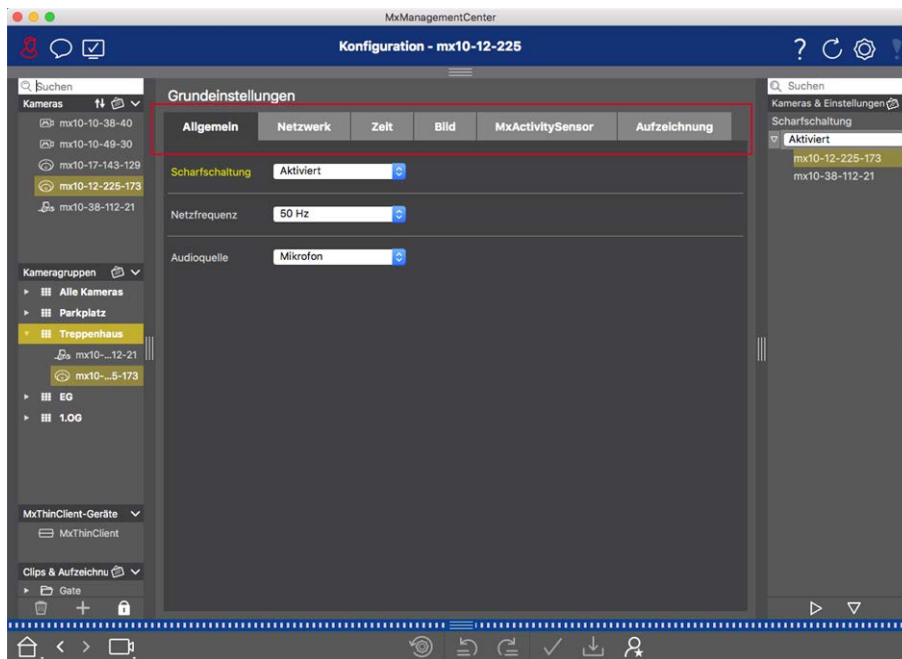
1. Open the Configuration view by right-clicking on the navigation key in the Command bar. Select the Configuration view.

#### Note

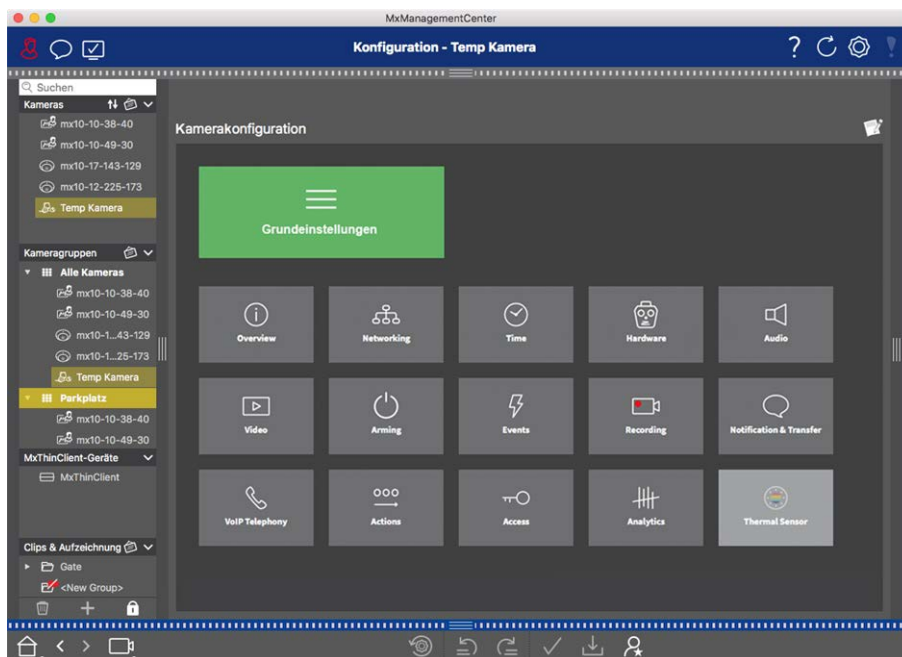
When opening this view, the system always loads the configuration of a camera group.



2. If you did not purchase a license to use "Advanced Features," the **Basic Settings** section is opened by default.



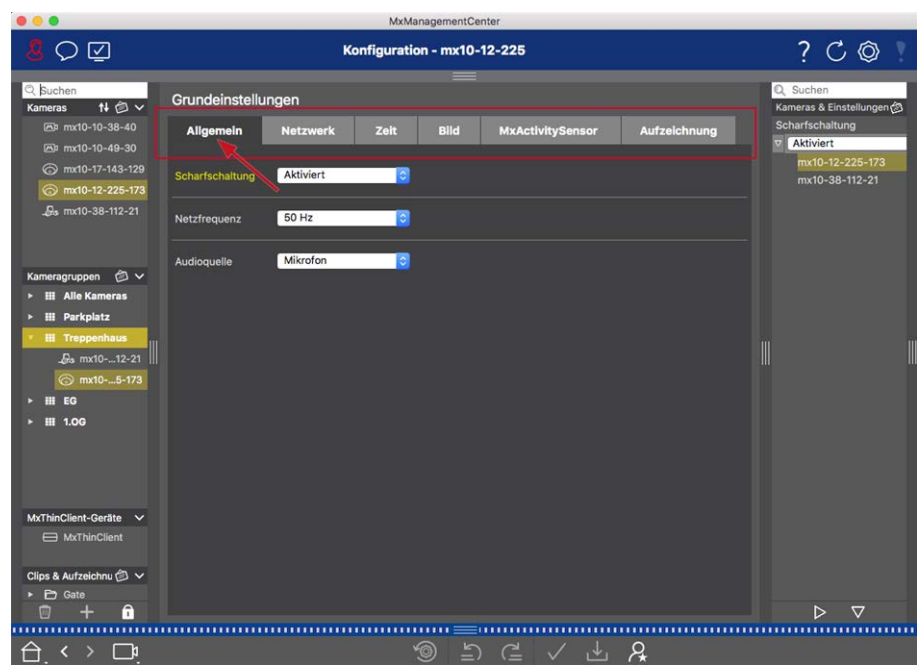
3. If you have purchased an "Advanced Features" license, the Configuration view entry page will open. Click on the **Basic Settings** tile.



## Configuring Basic Settings

1. Click on the respective tab to open the corresponding topic area.
2. Make your settings as required by topic.

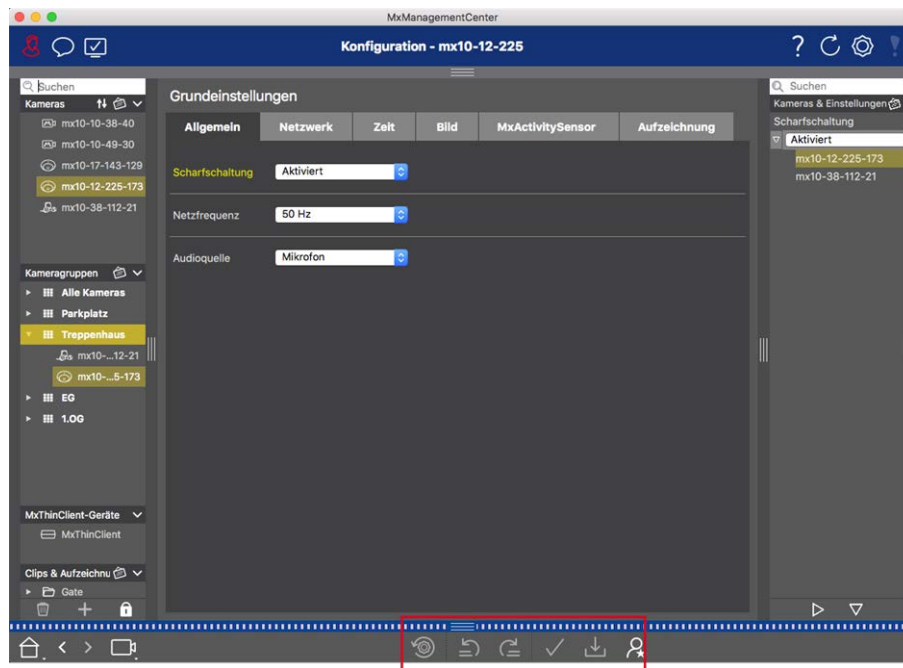
More detailed information on editing the settings can be found in the table below. Clicking on the relevant topic area in the table opens an information page for the individual topic areas of the basic settings.





Default setting	Associated Parameters
<a href="#">Basic Camera Settings: General Settings, p. 100</a>	Arming, Frequency of power supply, Audio source
<a href="#">Basic Camera Settings: Network, p. 112</a>	Internal host name, BOOTP/DHCP, Second IP address
<a href="#">Basic Camera Settings: Time, p. 102</a>	Automatically synchronize using a time server, Do not adjust automatically
<a href="#">Basic Camera Settings: Image settings, p. 103</a>	Image size, JPEG quality, Camera selection, Display mode, Installation, Exposure window, Exposure program, Max. exposure time
<a href="#">Basic Camera Settings: MxActivitySensor, p. 111</a>	Active, Profile name, Event dead time, Edit detection area
<a href="#">Basic Camera Settings: Recordings, p. 107</a>	Arming, Recording mode

## Applying And Saving Changed Settings


The controls at the bottom of the configuration view can be used to perform actions such as permanently storing the changed settings or to reset the parameter values to their factory settings.




## Applying Changes


Normally, the changes in the Configuration view take effect when you type or select the new value. The changes made here are not automatically adopted because they could potentially cause problems with the **Network Settings**. Instead, the **Apply Changes**  icon in the Command bar turns red, indicating that the change is not yet in effect. To apply your changes, click on .

## Storing the Configuration

If parameter values are changed, the **Store Configuration** icon  turns red in the Command bar. Changes to the configuration are always stored in the camera temporarily. To ensure that the current settings are also used after the next restart, the changes must be saved permanently.

1. Click on **Store Configuration** . The program opens a system prompt. In the prompt, click on **Store**.
2. If you do not want to keep the changes, click on Discard. This discards the changes and restores the last permanently saved overall configuration.

## Resetting to Factory Settings

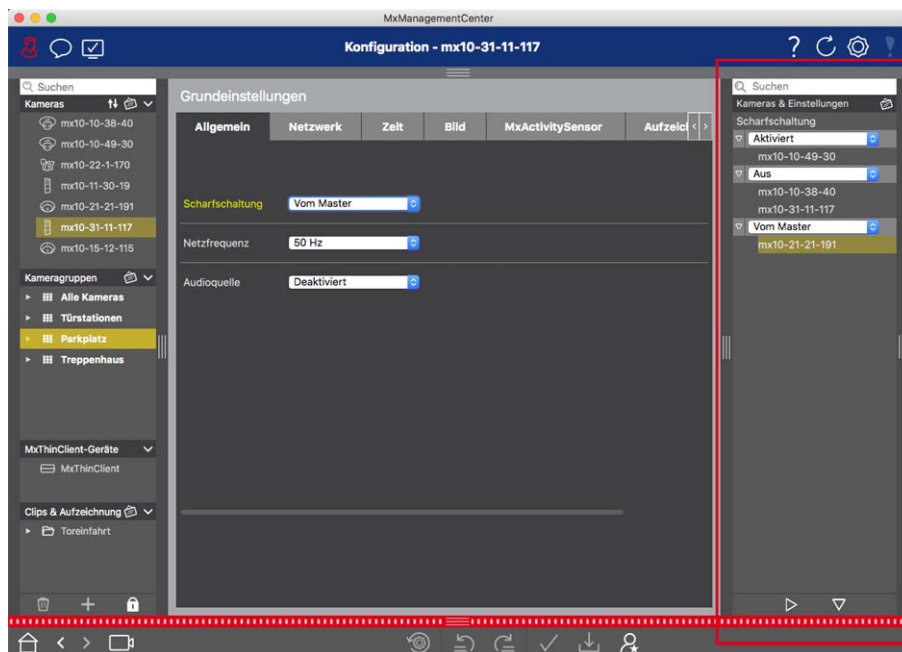
The parameter values of the opened tab can be reset to the factory default settings. Click on  to do so.

## Undoing or Repeating Changes

Click on  to undo the last change. Click on  to repeat the last change.

## Changing Parameter Values for Multiple Cameras in the Configuration Bar

The Configuration bar on the right margin offers the possibility to change the settings of several cameras of a group without having to change the camera or the camera group.



### Changing the Value for a Camera

1. If the Configuration bar is not already open, open it by clicking on the right margin in the application.
2. Click on the desired parameter name in the Basic Settings. It turns yellow and the Configuration bar shows all values associated with this parameter for this group. The cameras for which this value is set are assigned to the individual values.
3. Highlight the desired camera and drag it onto the parameter value you want to set. The destination area turns yellow.

### Changing a Value for Multiple Cameras

If the same value is set for several cameras and you want to change this value, click on the parameter selection field in the Configuration bar. Then change the parameter value for the cameras configured the same way at once.

## Basic Camera Settings: General Settings

The general topics on operating the cameras are found in the general settings.



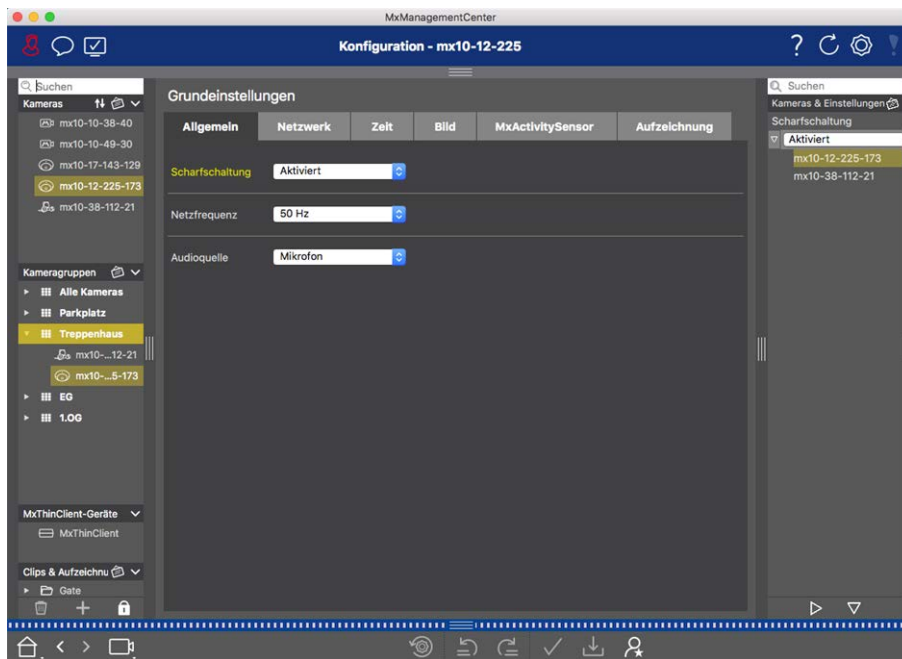


Fig. 54: Camera Settings: General Settings

## Arming

The main arming feature needs to be activated in order to process events, execute actions and notifications and record images and audio data.

Parameter	Explanation
Activated	The camera is always armed.
Off	The camera is not armed: no image storage, actions or messages.
CS	Arming is controlled via a custom signal that needs to be previously configured on the camera. The camera can use a signal input, for example, as the main switch for arming by using the custom signal.
From master	The camera is armed only when the master camera is armed.
See also:	<ul style="list-style-type: none"> <li>■ <a href="#">Recording</a></li> <li>■ <a href="#">MxActivitySensor</a></li> </ul>

## Frequency of Power Supply

If the camera's exposure control is not matched to the frequency of the power supply, sources of artificial lighting may lead to image interference. This parameter sets the camera to the power supply frequency of the respective country to prevent interference.

## Setup

### Configuring Basic Camera Settings

Parameter	Explanation
No artificial light	If the camera is used in daylight conditions (rather than with artificial lighting), you can also use the <b>No artificial light</b> setting.
50 Hz	The factory default setting for Europe is 50 Hz.
60 Hz	Set the power supply frequency to 60 Hz for Canada, the U.S. and Japan.

## Audio Source

Select the desired audio source. It is also possible to integrate an external audio source in addition to using the camera's microphone. The audio source is used for two-way communication and recording audio data, for example.

## Basic Camera Settings: Time

The date and time can be manually set, adopted from the computer, or continuously synchronized through a time server. If you use a time server, the clock can be synchronized using a time server over the Internet, a time server service in the local network or another MOBOTIX camera. In this case, the camera's time server must first be set in the camera web UI Admin menu (**Admin Menu > Camera Administration > Time & Date > Use Camera as Time Server**).

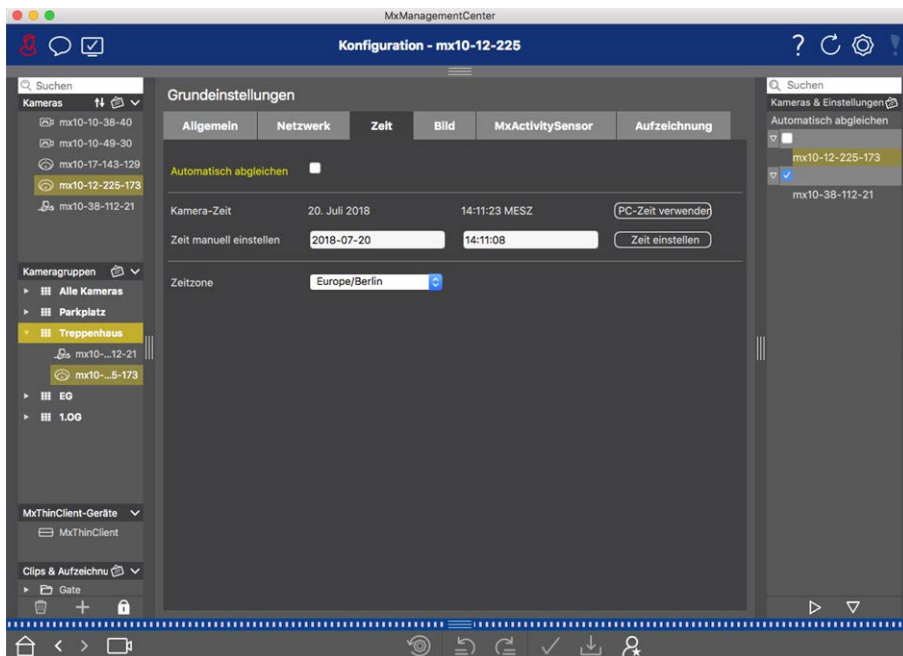


Fig. 55: Basic Camera Settings: Time

## Automatically Synchronize Using a Time Server

Two protocols are available for synchronizing the camera using a time server: NTP and Time Protocol.

Parameter	Explanation
Time Server and Time Server Address	<ul style="list-style-type: none"> <li>■ <b>NTP:</b> With this protocol, the camera continuously synchronizes with one or more NTP time servers. If the <b>NTP</b> protocol has been selected, you can enter up to five time servers under <b>Time server address</b>. These servers must support the protocol specified in RFC 1305. A green dot to the right of the time server address indicates that the time server is accessible and offers an NTP service. It can take a moment for the camera to connect to the time server and the dot to turn green.</li> <li>■ <b>Time Protocol:</b> With this protocol, the camera synchronizes every six hours (and when it is rebooted). If <b>Time Protocol (RFC 868)</b> is selected, enter the <b>Time server address</b> in this box. The server must support the protocol specified in RFC 868.</li> </ul>
Current Time	Display time of the current camera
Time Zone	Select the correct time zone for the camera location.

## Do not adjust automatically

Deactivate automatic synchronization if the date and time are set automatically or if they are adopted from the computer.

Parameter	Explanation
Current Time	Display time of the current camera If the camera's time deviates from the computer's time, click on <b>Use PC time</b> to adopt the computer's time.
Set time manually	Capture the desired data to manually set the date and time and click on <b>Set time</b> to confirm the entry.
Time Zone	Select the correct time zone for the camera location.

## Basic Camera Settings: Image settings

To display the camera live images, you can set camera views, image and exposure settings in this tab and create and edit custom exposure windows directly in the live image.

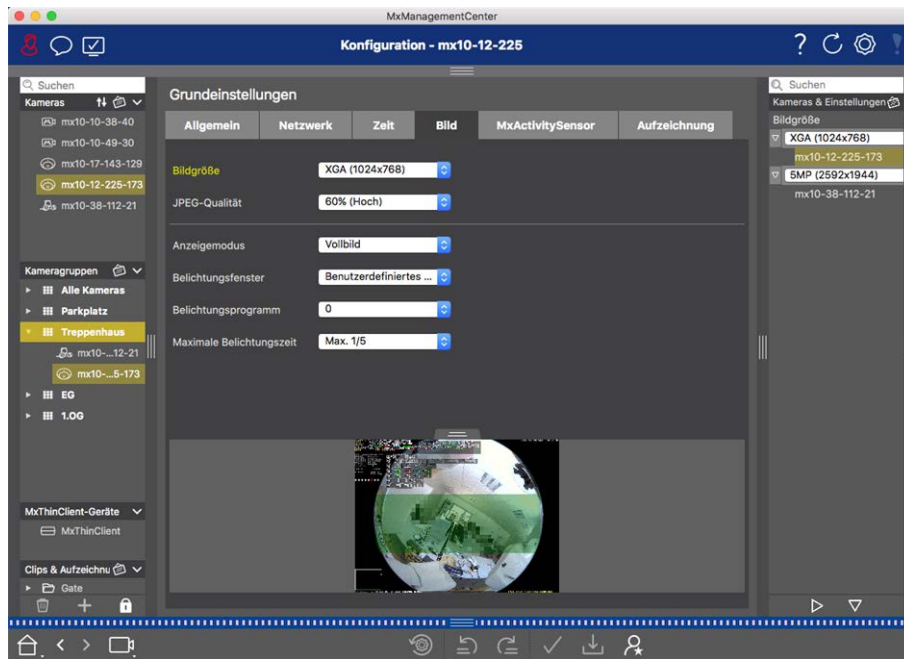


Fig. 56: Image settings

## JPEG quality

The JPEG quality influences both the image quality as well as the file size of the JPEG and MxPEG files generated by the camera.

Using a compression of 60% (default) will usually deliver good-quality images that are suitable for most purposes. If the value is lower than 20%, you can see pixelation within the image. For values higher than 70%, differences to the uncompressed original image are hardly visible. The file size, however, may increase to more than 100 kB (for a 640x480 pixel image).

## Camera selection

On Dual cameras, select the image sensor to use when displaying the images: right image sensor, left image sensor, both image sensors or automatic day/night switching. When configuring the image settings for both sensors, first select the sensor you want to configure using the left or right checkbox in the live image preview window and enter the settings you want.

## Display mode

There are various display modes available depending on the camera model.

### All Cameras Except Hemispheric Models

- **Full image:** The entire live image from the camera is displayed.
- **Lens correction:** This option displays a portion of the live camera image (with lens correction). This option is only available for L22 lenses, provided that the camera configuration is adjusted accordingly.
- **Picture-in-Picture:** This option displays a small image from one camera sensor inset in the large image of the other. This setting is available on MOBOTIX Dual models only.

- **Picture in Zoom:** This option displays a small version of the entire live camera image in the lower right corner of the large live camera image. This way, the entire image is visible even when the live image is zoomed.
- **Event in Picture:** This option displays a small version of the latest event image in the lower right corner of the large live camera image.

### Hemispheric Models

- **Full image:** The entire (distorted) full image of the image sensor is displayed.
- **Normal:** A corrected image is displayed. This image can be panned and tilted. This is the factory default setting for hemispheric cameras.
- **Surround:** This option shows four image sections (one for each cardinal direction: N, E, S, W) in one joint view. Note that you can use PTZ actions to modify all four views independently from one another.
- **Panorama:** This option shows the distortion-corrected image of an entire room (corrected 180° panorama view) from the left to the right wall. The aspect ratio (width to height) is 8:3.
- **Panorama focus:** This display mode combines the panorama view (aspect ratio 8:3) with two smaller images (each with aspect ratio 4:3) in one large image.
- **Double panorama:** This mode shows a panorama view for the North half of the image and a second panorama view of the South half of the image using an aspect ratio (width to height) of 4:3. This view only makes sense for the ceiling-mounted MOBOTIX Hemispheric model. Both partial views (North and South) can be changed independently of each other using PTZ commands.

## Installation

You can set the mounting position of a MOBOTIX Hemispheric camera: wall, ceiling or floor. The mounting positions are set separately for the left and right lenses for cameras with two active image sensors.

## Exposure window

It is set to ensure the proper exposure/brightness for the live camera image.

### Custom


Creating And Editing Custom Exposure Windows Select the **Custom** option and then click on the window in the live image preview.


Action	Explanation
Create exposure windows	Draw a window using the mouse pointer.
Move exposure windows	Left-click on the exposure window and move it to the desired position.


## Setup

### Configuring Basic Camera Settings

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**Modify exposure windows** Move the mouse pointer over one of the white "handles" until the  icon is displayed. Left-click with the mouse and drag the window making it larger or smaller.

**Delete exposure windows** Click .

**Exclude areas from exposure metering** Pull open a window of the appropriate size at the position that should be excluded from exposure metering. Click in the window and keep the mouse button depressed until two icons appear. Click on  to determine the exclusion window. The window turns red.

---

### Visible image area

This setting enables you to use the current visible image section as the exposure window.

#### Predefined

You can use a number of predefined exposure windows: When you select the corresponding window, it will be displayed in the live image for review. A predefined exposure window is always applied to the full-image area, that is, the entire image of the sensor.

1. **Full image:** Entire area of the image.
2. **Quarter:** An exposure window at the image center that covers a quarter of the viewable image area.
3. **Center:** One exposure window at the image center.
4. **Spot:** One small exposure window at the image center.
5. **Top:** One horizontal exposure window at the top of the image.
6. **Center:** One horizontal exposure window at the image center.
7. **Bottom:** One horizontal exposure window at the bottom of the image.
8. **Right:** One vertical exposure window at the right border of the image.
9. **Vertical:** One vertical exposure window at the image center.
10. **Left:** One vertical exposure window at the left border of the image.
11. **Right AND left:** Two vertical exposure windows at the left and right borders of the image.

## Exposure program

These parameters influence the balance between an exposure time that is as short as possible and hardware aperture that is as small as possible. The objective is to reach a fair compromise between clear images of moving objects (short exposure time, high amplification) and as little image noise as possible (long exposure time, low amplification).

- **0:** Default program.
- **Negative:** The programs will reduce exposure times to decrease motion blurring; could increase image noise.
- **Positive:** The programs will increase exposure times to reduce image noise; exposure in very bright environments is not impacted.

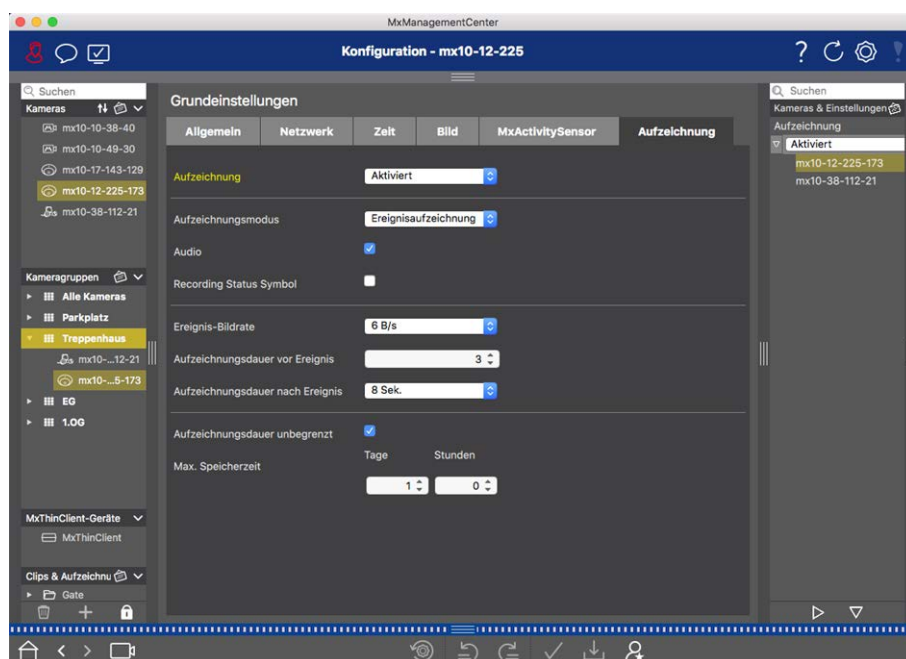


## Maximum exposure time

This parameter determines the longest exposure time used by the camera. This setting enables you to either avoid motion blurring as lighting conditions decrease, or even specifically allow it. Select shorter maximum exposure times if you do not want motion blurring. You can use a longer maximum exposure time (max. of  $1/1 = 1$  second, for example) if you want the camera to produce images with good exposure (with motion blurring), even in low light situations.

## Basic Camera Settings: Recordings

In this tab, the most important recording settings can be made, such as selecting the recording mode or setting the recording speed.



## Arming

The arming feature for event control handles camera recording. However, the [main arming of the camera](#) needs to be activated in order to make the recordings in the first place.

Parameter	Explanation
Off	The recording feature is deactivated. No further parameters will be displayed.
Activated	The recording features of the camera are activated (default setting).
CS	The recording is activated by a custom signal (CS).
From master	The recording feature of the camera will only be enabled if recording has also been activated on the master camera.

#### **Recording mode**

You can select the type of recording for events and story images. The availability of the parameters will depend on the recording mode you select.

Recording Type	Parameter
Snapshot Recording	<p>This option will save individual pre- and post-alarm images (JPEG images), but without sound.</p> <p><b>Snap shot interval</b></p> <p>This option determines the amount of time between the individual pre-alarm and post-alarm images. You can set values from zero to ten minutes (max.).</p> <p><b>Pre-alarm images</b></p> <p>Number of the image that are recorded before the event.</p> <p><b>Post-alarm images</b></p> <p>Number of the image that are recorded after the event.</p> <p><b>Unlimited time to keep</b></p> <p>The time to keep is set to <b>unlimited</b> by default. You can select a <b>maximum time to keep</b>, expressed in hours and days, if you deactivate this option.</p> <p>The maximum value for time to keep indicates how long images and video clips need to be stored.</p>

Recording Type	Parameter
Event recording	<p>This option stores clip files for every event using the MxPEG codec with variable frame rate and optional audio data.</p> <p><b>Record audio data</b></p> <p>If available in the camera, audio data can also be recorded. Set this option to <b>active</b> to enable audio recording.</p> <p><b>Event frame rate</b></p> <p>Recording speed in frames per second (fps).</p> <p><b>Recording time before event</b></p> <p>Time (in seconds) to include in recorded stream before an event has occurred.</p> <p><b>Recording time after event</b></p> <p>Time (in seconds or minutes) to include in recorded stream after an event has occurred.</p> <p><b>Unlimited time to keep</b></p> <p>The time to keep is set to <b>unlimited</b> by default. You can select a <b>maximum time to keep</b>, expressed in hours and days, if you deactivate this option.</p> <p>The maximum value for time to keep indicates how long images and video clips need to be stored.</p>
Continuous Recording	<p>Continually saves video and (optionally) audio data as MxPEG clips.</p> <p><b>Record audio data</b></p> <p>Similar to Event Recording, audio data from the camera be recorded with the same quality, regardless of the frame rate. Set this option to <b>active</b> to activate the microphone.</p> <p><b>Frame rate</b></p> <p>Recording speed for continuous recording.</p>

Recording Type	Parameter
	<p><b>Unlimited time to keep</b></p> <p>The time to keep is set to <b>unlimited</b> by default. You can select a <b>maximum time to keep</b>, expressed in hours and days, if you deactivate this option.</p> <p>The maximum value for time to keep indicates how long images and video clips need to be stored.</p>

## Basic Camera Settings: MxActivitySensor

The MxActivitySensor is a camera-internal video motion detector that can identify direction of motion detection and object size while blocking out any undesired interference (such as trees swaying in the wind) when detecting motion. By default, a MOBOTIX camera ships with a predefined MxActivitySensor profile.

You can activate and deactivate this profile in this tab, change the name of the profile, adjust the event dead time, change the detection range and define new areas.

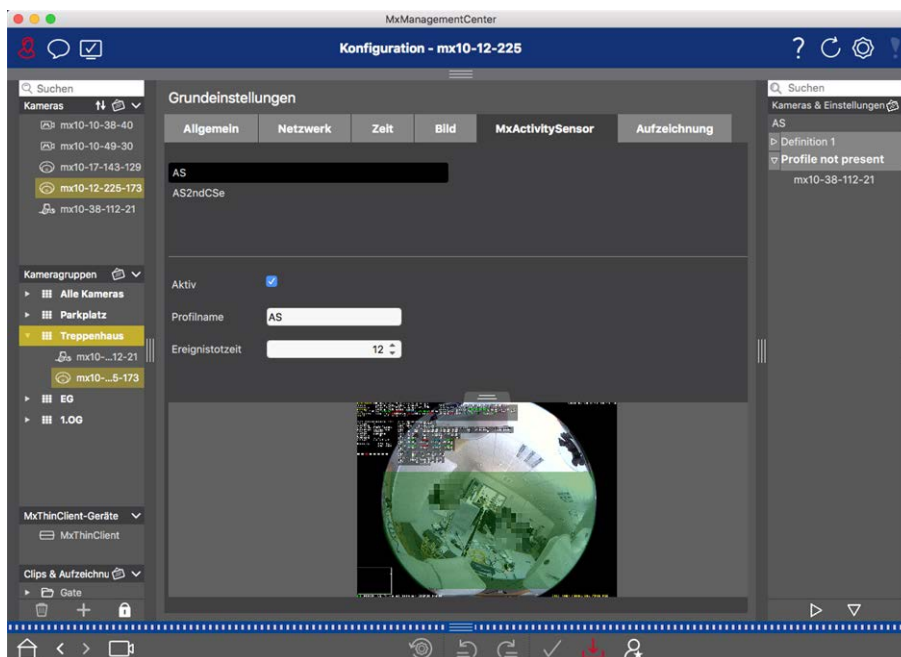


Fig. 57: The MxActivitySensor

### Active

The MxActivitySensor profile is also activated when the [Arming](#) feature is enabled in the general settings.

### Profile name

You can change the preset profile name.

### Event Dead Time

The event dead time defines a period of time (0–3600 sec.) after an event during which no new events from the same profile are detected. By defining an event dead time you can avoid, for example, that a complex







Setup

Configuring Basic Camera Settings


action (person walks through the active image area) triggers multiple events. You can adjust the preset event dead time (5 sec.).

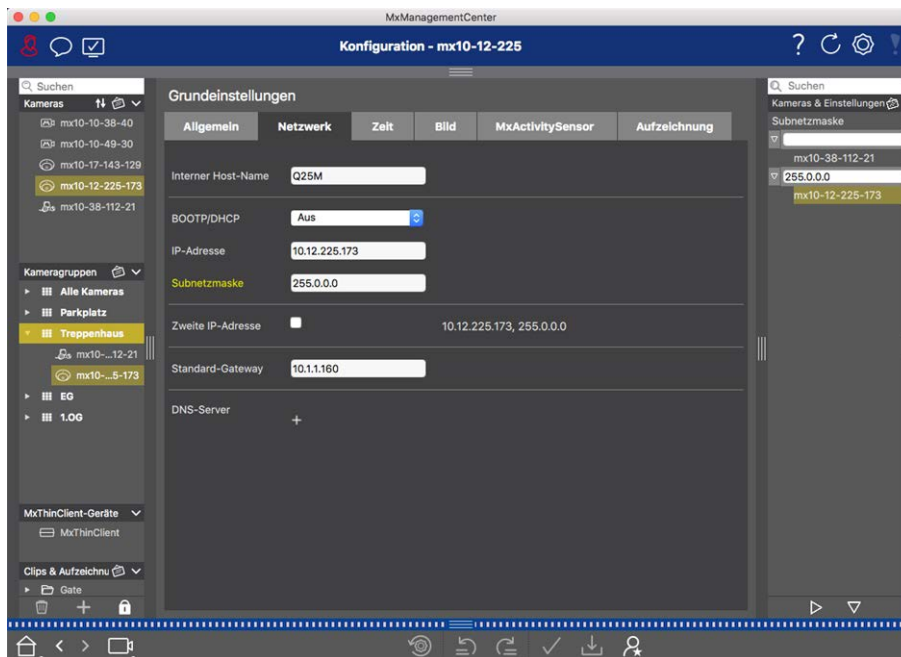
Edit detection area

Proceed as follows to adjust the default detection area or to define additional image areas:  
Click on the green detection area in the live image preview.

Action	Explanation
Change shape of detection area	Position the mouse pointer on one of the white "handles" until the  icon is displayed. Click and hold the left mouse button and drag the frame to make the detection area larger or smaller.
Move detection area	Left-click on the detection area and move it to the desired position.
Rotate detection area	Click on  and, while holding the mouse button down, rotate the detection area clockwise or counterclockwise.
Change shape of detection area	Switch to polygon mode by clicking on  . You will see white corner points on the corners. Drag the corner points to the desired position. You can insert new corner points by right-clicking on the white line or in the detection area. Right-click on a dot to delete a corner point. Then click on  .
Deleting a Detection Window	Click on  .
Create a detection window	Use the mouse to pull open a new window in an area that is not yet covered by another window.
Exclude area from analysis	Pull open a window of the appropriate size at the position that should be excluded from the analysis. Click in the window and keep the mouse button depressed until two icons appear. Click on  to determine the exclusion window. The window turns red.

Basic Camera Settings: Network

Your network interface settings determine how the camera can communicate with the “outside” world and how the camera can be accessed from outside of the local network. When changing parameter values, please note that the changed values are not automatically applied as in the other tabs of the Configuration view. For changes to take effect, you must click on  in the Command bar.



## Internal host name

The host name is the unique camera name in the network under which it is accessible.

## BOOTP/DHCP

BOOTP and DHCP are protocols with which IP addresses can be managed in a network and automatically assigned. The camera can use them to automatically obtain its network configuration.

Parameter	Explanation
-----------	-------------

Off	<p>The camera's network configuration is manually established. Enter the appropriate information in the <b>IP address</b> and <b>subnet mask</b> boxes and, if necessary, change the standard route or gateway and the DNS server.</p> <p><b>IP Address:</b> You can access the camera in the network via its IP address. Ask your network administrator which IP address is available.</p> <p><b>Subnet Mask::</b> A matching subnet mask needs to be entered for the IP address in order for computers to be able to communicate in a network. Again, it is your network administrator who will tell you which subnet mask to use.</p> <p><b>Default Gateway:</b> The gateway acts a relay between individual networks and it coordinates the data traffic between these networks. Enter the IP address of the gateway that should be used.</p> <p><b>DNS Server:</b> A Domain Name Service (DNS) resolves computer names to IP addresses. If you have a DNS on your network, you can specify up to three IP addresses of DNS servers. This is only necessary if you want to address computers using their name instead of their IP address for other configurations (FTP, email).</p>
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On client mode	Use BOOTP/DHCP to set the IP address and network configuration automatically. The gateways and the default route are automatically determined via BOOTP/DHCP and configured.
On server mode	<p>This camera provides DHCP service to clients on the local network. The IP address of the camera will be <b>192.168.0.19</b> with subnet mask <b>255.255.255.0</b> by default.</p> <p><b>Default Gateway:</b> Enter the IP address of the gateway that should be used.</p> <p><b>DNS Server:</b> A Domain Name Service (DNS) resolves computer names to IP addresses. If you have a DNS on your network, you can specify up to three IP addresses of DNS servers. This is only necessary if you want to address computers using their name instead of their IP address for other configurations (FTP, email).</p>

Additional IP address

The camera can manage two different network configurations. If you enable this checkbox, the factory default IP address and the subnet mask will also be used, ensuring that the camera remains accessible at all times.

# Checking System Security

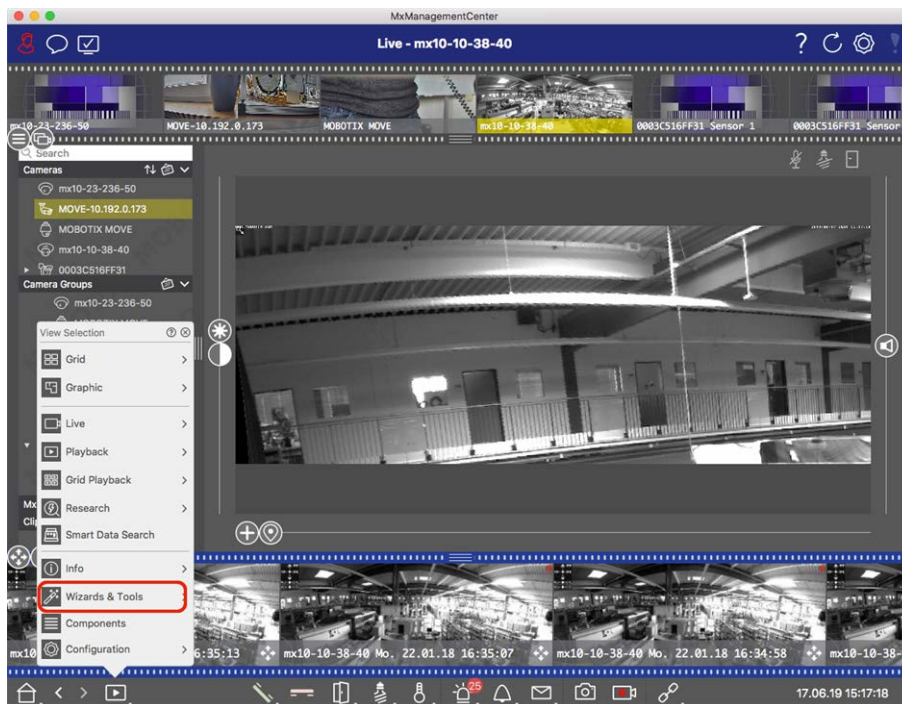
After completing the basic configuration of the system, you can check its security. The [Wizards & Tools, p. 256](#) view offers the **Secure System** wizard. It analyzes the security of the cameras and assesses their status based on common best practices. If test criteria are not met, possible measures to protect the cameras are provided.

**Note**

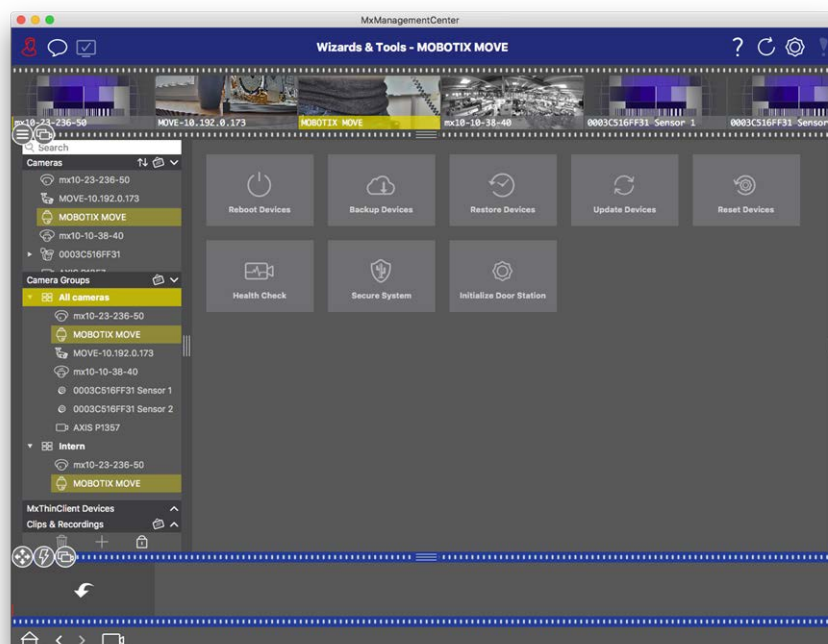
The system security check feature is not available for MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview, p. 8](#).

## Verifying Settings for System Security

1. To open the **Wizards & Tools** view, right-click on the navigation key in the Command bar. Select the **Wizards & Extras** view.








2. Select the desired camera or camera group in the Device bar or the Camera/Group bar.



3. Click **Secure System**. The following criteria are checked:
  - Usage of the "meinsm" password with standard or ONVIF user accounts on MOBOTIX cameras. It is easy for cyber attackers to guess the standard "meinsm" password.


- Enabled **Public Access**: If Public Access is enabled, a number of different camera functions can be used without a password.
- Activated HTTP web server: It is possible for data, including user data such as passwords and images, to be transmitted via the network without encryption when HTTP is used.

The result of the check is displayed for each camera in the **Secure System** dialog. It will also show all cases in which cameras were not checked due to a connection error, for example.

Status	Explanation
 Not secured	There was at least one criterion that was listed as not secure.
 Software too old	Please check the camera software and update it, if necessary.
 Connection error	Check your network connection to the camera and perform the security check again.
 Not supported	The camera (s) cannot be analyzed or secured using the wizard.
 Secured	Camera is secure; no further action is necessary.

## Secure System

4. In the **Secure System** dialog, click on **Next**. Cameras resulting in a **Not secure** status are displayed together with whichever of the three criteria that were fulfilled as well as the measures that need to be taken to properly secure the cameras:

Criterion	Explanation
Password	<p>Changes the password of all user accounts on the cameras that use the standard “meinsm” password. It also include ONVIF users whose passwords have never been changed.</p> <p>Enter a new password and confirm it. A suitable password has at least eight characters. It can consist of lowercase and uppercase letters, digits and special characters (see ). If you set a password that does not meet these criteria, a red frame appears around the text field. The frame turns green once you have entered a valid password.</p> <p>The new password is automatically entered in the MxMC project data.</p>
SSL encryption	<p>Disables camera connections via unencrypted HTTP and configures the cameras to accept HTTPs connections only.</p> <p>The TCP port and the SSL setting will be automatically updated in the MxMC project data, if necessary.</p> <p>The TCP port will not be updated for cameras that are connected via a remote URL. For remote URL connections, you may need to change port forwarding in the router to the appropriate setting.</p> <p><b>Please note</b> that different services, such as network messaging etc., will no longer work when you disable HTTP.</p>
Public Access	<p>Disables access that does not require password entry to the web interface and the APIs of the cameras.</p>

- Click on **OK** in the dialog box. The selected security measures will be performed. The security status for the selected camera or camera group will be analyzed once again and the result for each camera is displayed.

## Import Existing Project

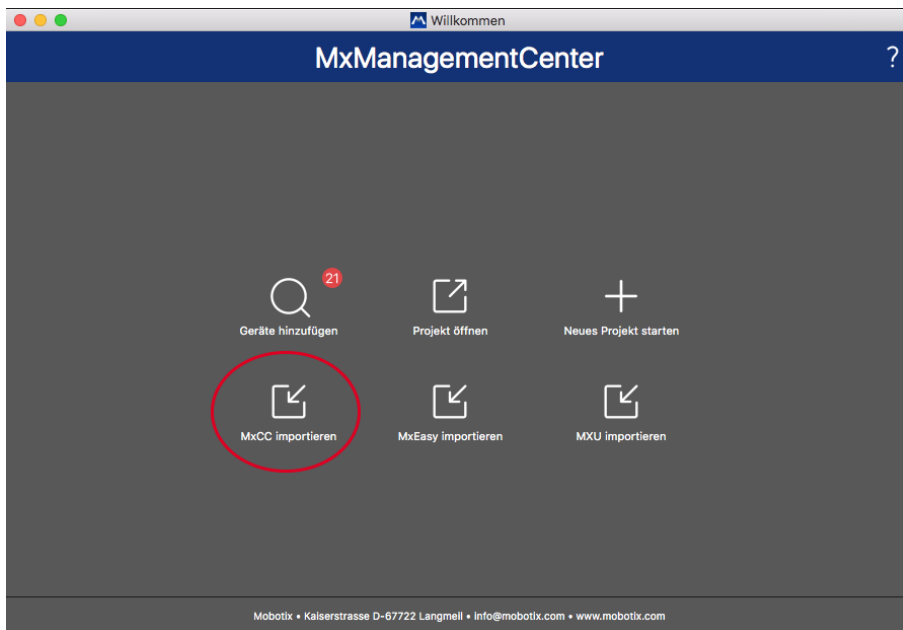
If you have already used MxControlCenter or MxEasy, you can import an existing **MxControlCenter.ini** file from the MxControlCenter or the **MxEasy.ndb** camera list from an MxEasy installation. In both cases, the cameras already integrated in the MxControlCenter (MxCC) or MxEasy are automatically transferred to the MxManagementCenter with their access data.

Furthermore, it is possible to quickly integrate a large number of cameras and camera groups into MxMC using a manually created list in MXU format. You need to adhere to specific rules for the format when creating the list in order to correctly export the contents of the MXU file.

### Importing configurations from MxControlCenter

When importing an MxCC file, the following is taken into account:

- The layouts defined in MxCC are created as groups in MxMC.
- The background layouts from MxCC, including the background graphics and definitions of the camera symbols, are transferred to the Graphic view of the associated group.
- If a global password has been assigned, this will be entered for all cameras that do not have a user name.
- For each hyperlink used, a softbutton is created in MxMC.
- Furthermore, the tree structure from MxCC is shown in the Device bar and file servers configured in MxCC are created in the MxMC settings.



**Fig. 58: Importing configurations from MxControlCenter**

1. Open the **Welcome Wizard** from the **File > Welcome** menu.
2. Click on **Import MxCC**. Decide if the current project should be saved.
3. Import the desired INI file.

## Importing Configurations From MxEasy

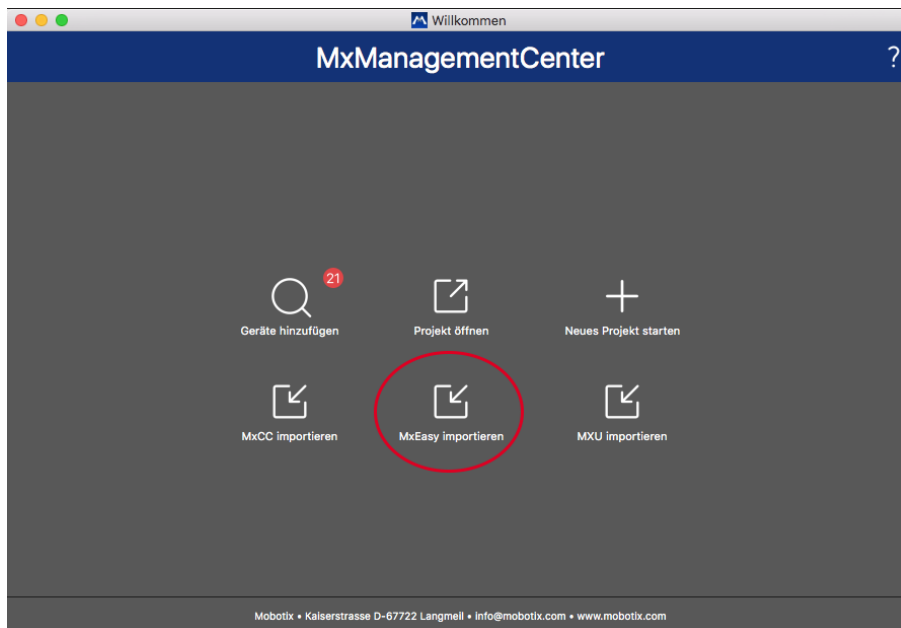


Fig. 59: Importing Configurations From MxEasy

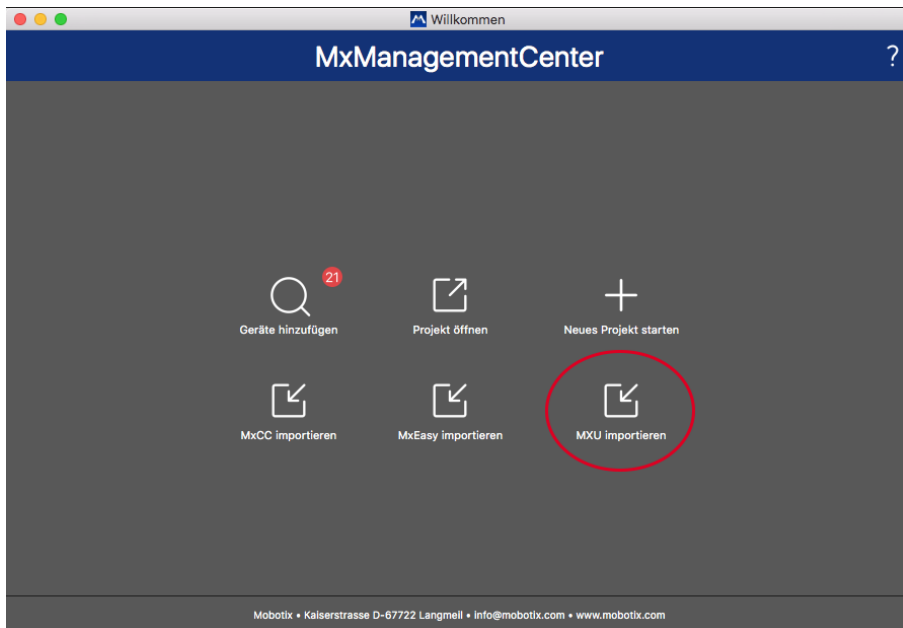
1. Open the **Welcome Wizard** from the **File > Welcome** menu.
2. Click on **Import MxEasy**. Decide if the current project should be saved.
3. Import the desired NDB file.

## Importing MXU Files

Using a manually created list in .MXU format, you can quickly add a large number of cameras and camera groups. You need to adhere to various formatting rules when creating the list in order to correctly export the contents of the MXU file (see [Creating MXU Files for Imports](#), p. 120).

### Important

This list does not replace the project import, during which program settings, such as settings for the cameras and camera groups with assigned layouts, are imported.



1. Click on **Import MXU** to import cameras and camera groups in the Welcome wizard. You can save the existing project, if necessary.
2. Open the MXU file.
3. Decide whether the cameras and groups from the MXU file should replace the entire configuration or they should be only added.

## Creating MXU Files for Imports

You can quickly add a large number of cameras and camera groups to the MxMC using an MXU file. There are several format specifications that need to be followed when generating such an MXU file.

### Format for Simple Imports

It needs to adhere to the following format for a simple import of cameras:

- Unformatted UTF-8 text
- One or more camera lines with the following structure:  
Name<TAB>IP<TAB>Username<TAB>Password<CR LF/LF>
- Elements in a camera line need to use **TABs** as separators.
- Line breaks are either **CR LF** (Windows) or **LF** (UNIX).
- Comment lines are preceded by a **//**.
- Camera names need to be unique and cameras using the same name will not be added more than once.



**Example:**

Main Entrance	10.6.37.25	admin	meinsm
Side Entrance	10.6.15.206	admin	meinsm
Entrance Gate	10.6.23.132	admin	meinsm

## Format for Advanced Imports

**Expanded Format**

The file needs to use the following format for the advanced import of cameras, groups, clips and settings for graphics and grid view:

- First line always #EXTMXU
- Any additional commands must start with #EXT. Parameters use “:” as separators.

**Example:** #EXTGROUP:Doorstations

**Commands for advanced imports**

#EXTMXU	Marker to indicate the beginning of the file
#EXTGROUP:name:f:r:icon:map:info	Group “name” is created and all further cameras will be added to this group.  f: Large focus window (0=0x, 1=1x, 2=2x ...)  r: Tile ratio (0=4:3, 1=HD, 2=8:3)  icon: If numeric, index of the internal group icons; otherwise, file name corresponding to the *.mxu file.  map: File name of the background image  info: File name of the information page
#EXTGROUP:	All further cameras will not be added to a group if no name is specified (unless “All cameras”).
#EXTCLIP:clipMXG	Camera demo clip is added. Clips need to be stored in the same directory as the *.mxu file.
#EXTMXPEG:name:clipMXG	MxPEG clip with “name” is added. This references the absolute path of the MXG file.
#EXTCURRENTCAMERA:name	Select camera.
#EXTCURRENTGROUP:name	Select group.

## Setup

### Import Existing Project

---

#EXTSUBGROUPS:name	The following groups (each with the name in a line) are added to the group “name” as a subgroup.
--------------------	--

#EXTINFO:Comment	Comment line.
------------------	---------------

#EXTEND	End of file, all further lines are ignored.
---------	---

### Example:

#### Note

To enable SSL, add **https://** in front of the camera URLs.

```
#EXTMXU
// To enable SSL, add "https://" in front of the camera URLs
https://10.3.31.125      admin    meinsm
https://10.3.31.126      admin    meinsm
#EXTGROUP:Doorstations:2:2:2
Main Entrance          10.6.37.25      admin    meinsm
Side Entrance          10.6.15.206     admin    meinsm

#EXTGROUP:Indoor:2:2:3
Building East           https://10.3.31.251  admin    meinsm
Building West           https://10.7.25.186  admin    meinsm
Staircase               https://10.6.115.57  admin    meinsm
Canteen                 https://10.12.32.65  admin    meinsm

#EXTGROUP:Outdoor:2:2:4
Parking Visitors        10.5.46.39      admin    meinsm
Parking Employees       10.10.231.107    admin    meinsm

#EXTGROUP:Dual Cams:2:2:10
Checkout1               10.10.106.26     admin    meinsm
Checkout2               10.10.152.225     admin    meinsm
Checkout3               10.13.242.195     admin    meinsm

#EXTGROUP:Faststreams:2:0:11
Ground Floor            10.2.2.169       admin    meinsm
Second Floor            10.2.104.130      admin    meinsm
Third Floor             10.3.11.51        admin    meinsm
Elevator                10.3.209.198      admin    meinsm
```

```
#EXTGROUP:Clips:2:2:groupIcon.png:groupMap.jpg
#EXTCLIP:FiremanMXG
#EXTCLIP:PoleMXG

#EXTCURRENTCAMERA:Main Entrance
#EXTCURRENTGROUP:Doorstations

#EXTEND
```

## Backing Up And Exporting

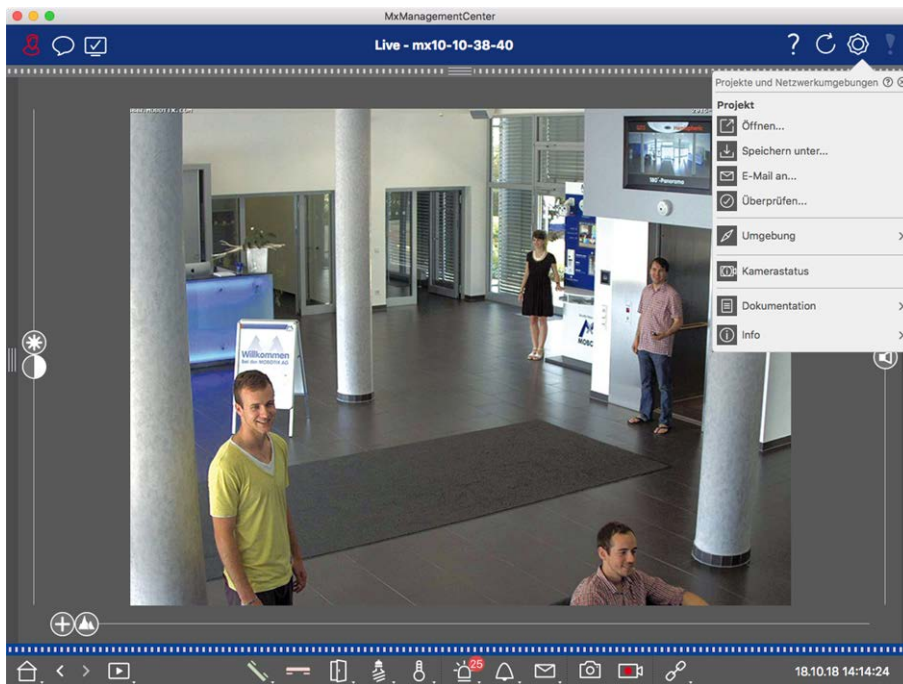
Once the system has been set up to add all the cameras, organize the cameras into groups, create the users, set their access permissions and verify system security, you should save the settings as a project. Everything is saved, except for settings that are only relevant for the local installation, such as the Remote Control port. Secured system settings can be e-mailed directly from the application. You can also include the encrypted access data for each camera (user name and password). When opening the project in MxMC, these access data will be used automatically. If you do not supply the access data, the user name and password will have to be entered manually for each camera.

You can quickly export a tabular overview of all cameras and camera groups from MxMC and save it in MXU file format. The table lists the cameras with their IP addresses and the camera groups with the associated cameras.

Furthermore, you can export project data to easily import them in the MOBOTIX LIVE App.

### Saving projects

1. Click on  in the Header bar. The **Projects and Network Environments** dialog opens.
2. Click on **Save As**  and complete the dialog.



## Providing projects via email

In the header bar, click on **Projects and Environments**  and then on **Email to** . This will generate a project file which will be transferred to the mail program as an attachment within a new e-mail.

### Note

A properly configured email client is required for this purpose.

## Export MXU File

You can conveniently add large numbers of cameras, camera groups, devices and recordings/clips in MxMC using a list in MXU format. To create an MXU file based on the current project data, proceed as follows:

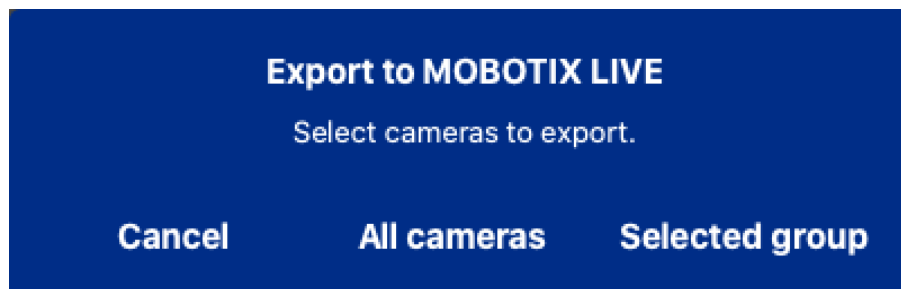
1. Select **File > Export MXU...** from the Menu bar.
2. Click on **Save**. The table is saved as an MXU file.

## Export project data for MOBOTIX LIVE App

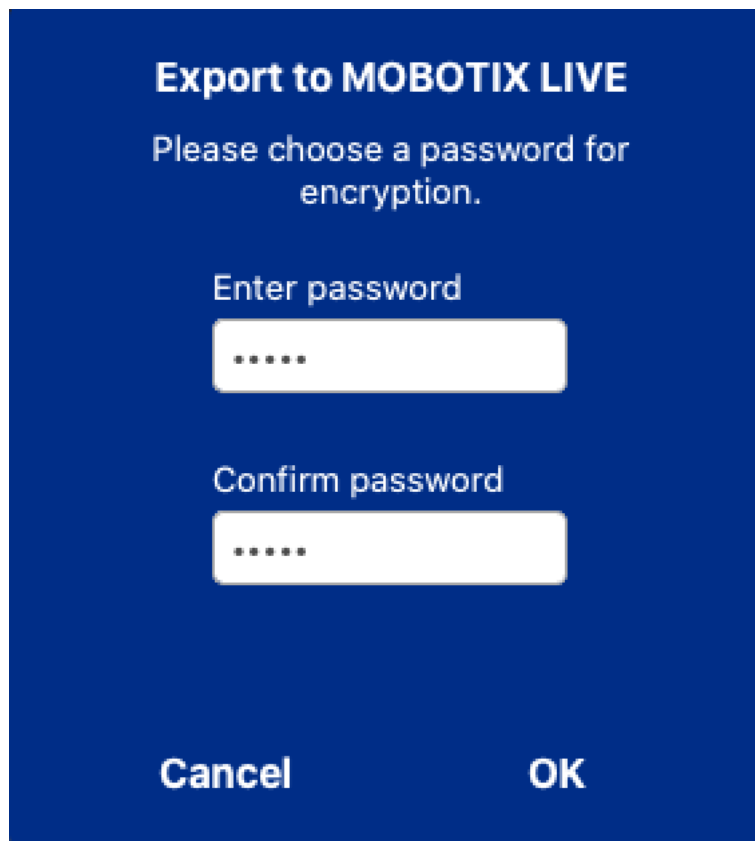
To export project data for the MOBOTIX LIVE App proceed as follows:

1. Optionally select a specific camera group to export.
2. In the menu, select **File > Export to MOBOTIX Live**.

- Click on **All Cameras** or **Selected group**.



- Enter and confirm a password for encryption of the export data and click **OK**.



- Specify a storage location and save the export file.



# Using The Application

This section is for **users**. It provides assistance with daily MxMC operation, from monitoring one or more cameras to searching records.

Areas	Topics
Live Surveillance	<a href="#">Working with the Live view</a>
	<a href="#">Working with the Grid view</a>
	<a href="#">Working with the Graphic view</a>
	<a href="#">Using Door Stations</a>
	<a href="#">Working with multiple monitors</a>
	<a href="#">Working in different network environments</a>
Alarm Processing	<a href="#">Alarm notification</a>
	<a href="#">Setting up alarm notification</a>
	<a href="#">Filtering alarm images</a>
	<a href="#">Playing back alarm recordings</a>
Searching in MxMC	<a href="#">Searching and playing back in the research view</a>
	<a href="#">Searching and playing back in the grid playback</a>
	<a href="#">Searching and playing back in the search view</a>
	<a href="#">Searching and playing back door events</a>
	<a href="#">Exporting recordings</a>
	<a href="#">Special search features</a>

## Live surveillance

The section describes basic scenarios and options of live surveillance.

### Working With The Live View

The Live view allows you to control the live images of individual cameras. This also includes switching various functions, e.g, opening doors or switching lights.

## Showing Cameras

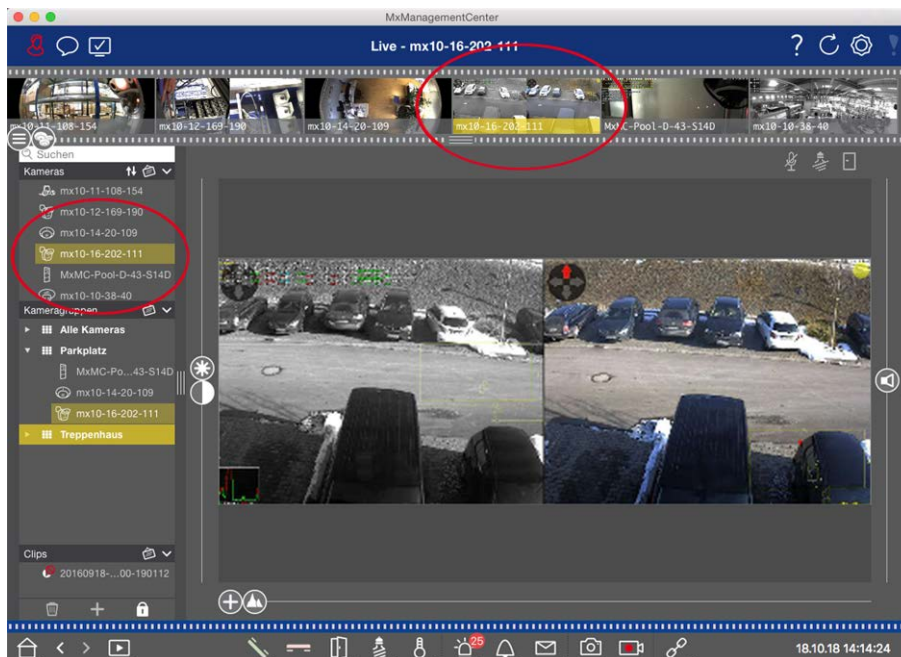


Fig. 60: Showing cameras

To view a camera, you can use the Device or Camera bar. To do this, either drag and drop the desired camera from the Device bar into the display area or click on the desired camera in the Camera bar. The displayed camera is marked with a yellow bar in the Device bar as well as in the Camera bar.

## Customizing Image Settings

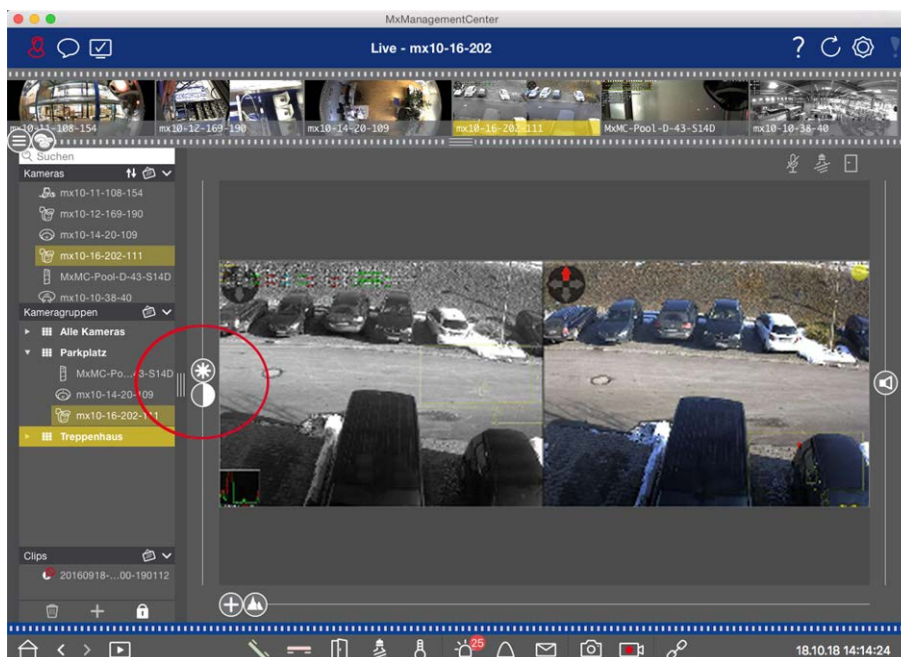




Fig. 61: Customizing image settings

Use the **Brightness**  and **Contrast**  controls to adjust the image display of the displayed camera to the current environment.



## Using The Application

### Live surveillance

Move the corresponding slider upwards or downwards. The new settings are stored automatically for the current camera. The default values can be restored by double-clicking on the corresponding slider.

#### Note:

Adjusting the image settings does not have any effect on the camera settings. These will not be changed

## Performing PTZ Actions

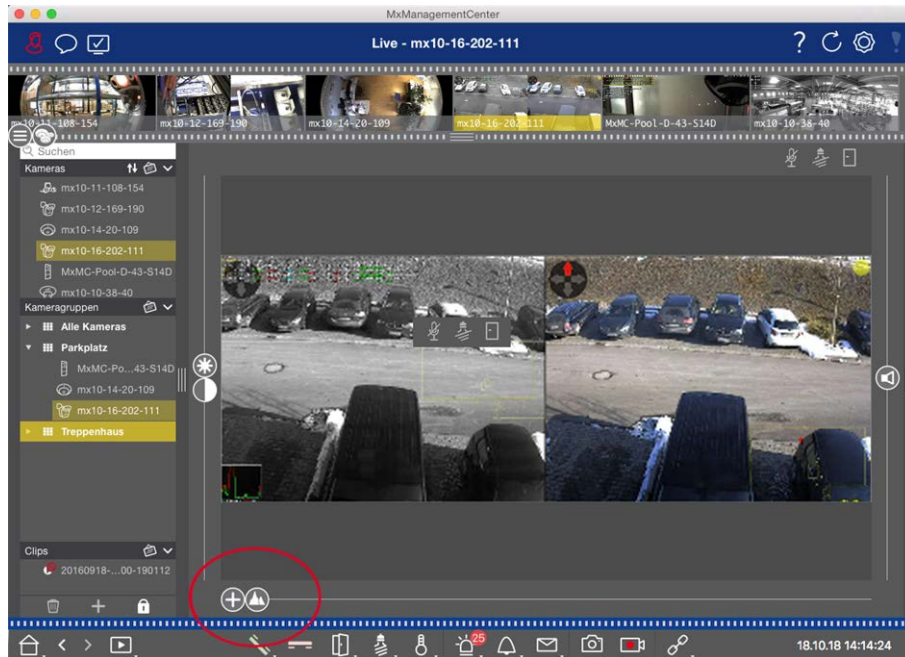


Fig. 62: Performing PTZ actions

#### Note

On a secondary monitor, a single camera image can only be zoomed with the mouse wheel or panned with the mouse button pressed down. PTZ controls are only available on the MxMC main screen or on the secondary monitor in Grid View.

To better identify objects in an image section, you can zoom the live image and move the resulting image area around (PTZ). To facilitate quick loading of these image sections, several image positions are already pre-configured for loading using the slider (▲).

The program also shows the (◀▶) slider on Dual cameras. Use this slider to show the live images of either the right, the left or both image sensors.

When showing the live images of hemispheric cameras, you can configure different display modes (slider (⦿)).

## Zooming and Moving Image Sections

You can zoom using the slider (⊕) or the mouse wheel. Zooming with the slider takes place only on the computer. This means that only the image section of the current live image is modified.

To see other image sections, you can move the live image using the mouse.









If you want to execute the PTZ actions on the camera, you can also switch to camera PTZ. In this case, the PTZ actions are applied to the camera's live image and also influence the recordings (but only if the camera does not record the full image). To use this feature, click on the slider (⊕) and keep it pressed until it starts


flashing. You can now adjust the zoom level as needed. To store the setting, click again on the slider and keep it pressed until the slider stops flashing.

## Selecting and Adjusting Image Sections

### Selecting Image Sections

To quickly focus on a specific image section, you can use one of the factory default image positions that are predefined in the camera.




- Preview , detail , overview  and point of interest 
- Top , bottom , left , right 

The camera will then move to the selected position. Note that the PTZ actions are executed on the camera and also influence the recordings (only if the camera does not record the full image). Move the  slider to the next position or until you have found a suitable position.

### Adjusting Image Sections

You can adjust the pre-defined image positions of the factory default. Select a position and modify it as needed. Keep the slider on this position until it flashes once. The new image section has been stored.



## Choosing a Sensor





If you want to show the live images of only the right or the left image sensor, you can move the  slider to the right to  (left sensor) or further to the right to  (right sensor).


## Correcting The Distortion Of Hemispherical Images

When showing the live images of hemispheric cameras or cameras with the lenses L12/B016, L23/B036, L25/B041, you can select different display modes. This requires that you enabled **OpenGL** in the settings (Mac: **MxManagementCenter > Settings > General** menu; Windows: **File > Settings > General** menu). In order to get naturally-looking images, the camera will automatically correct the distortion in these modes. This distortion correction can be refined even further when using the panorama correction. The selection of a display mode is always done locally and thus does not influence the camera settings. However, the selection is also applied to the other program views. When selecting a display mode in the live view for a specific camera, this mode is also applied if the camera shows up in the focus window of the Grid view as well as in the live images of the Graphic view. Consequently, the alarm images in the Alarm bar and in the Research view are also shown in the selected display mode.




### Selecting The Distortion Correction Mode

-  **Full image:** Shows the entire (distorted) full image.
-  **Normal:** Shows a distortion-corrected image and allows executing PTZ actions.

-  **Panorama:** Shows the entire distortion-corrected image (corrected 180° panorama) from the left to the right border. The aspect ratio (width to height) is 8:3.
-  **Surround:** This option shows four image sections (one for each cardinal direction: N, E, S, W) in one joint view. Note that you can use PTZ actions to modify all four views independently from one another.
-  **Double panorama:** This mode shows a panorama view for the North half of the image and a second panorama view of the South half of the image using an aspect ratio (width to height) of 4:3. This mode makes sense for a hemispheric camera that is mounted to the ceiling. It can be subsequently customized to use local PTZ.
-  **Panorama focus:** This display mode combines the panorama view (aspect ratio 8:3) with two smaller images (each with aspect ratio 4:3) in one large image.

To select a mode, move the slider  to the right until you reach the desired position. This slider position will be stored automatically until you change it again.

### Panorama Correction

The distortion-corrected images of the different display modes can be further refined. For example, if the image in Panorama mode is not centered, you may see a trapezoidal distortion. The panorama correction allows adjusting the skewed (vertical) lines of the image to produce a more naturally-looking image. To do so, move the  slider to the right to  and use the mouse to correct the image. To store the corrected setting, click on the  slider and hold it until the slider icon briefly appears in the center of the image.

## Status Display

The Status bar displays different states by means of icons. The status displays always refer to the displayed camera. This gives you an up-to-date overview, e.g., showing you at a glance whether a door has been closed again or is still open.

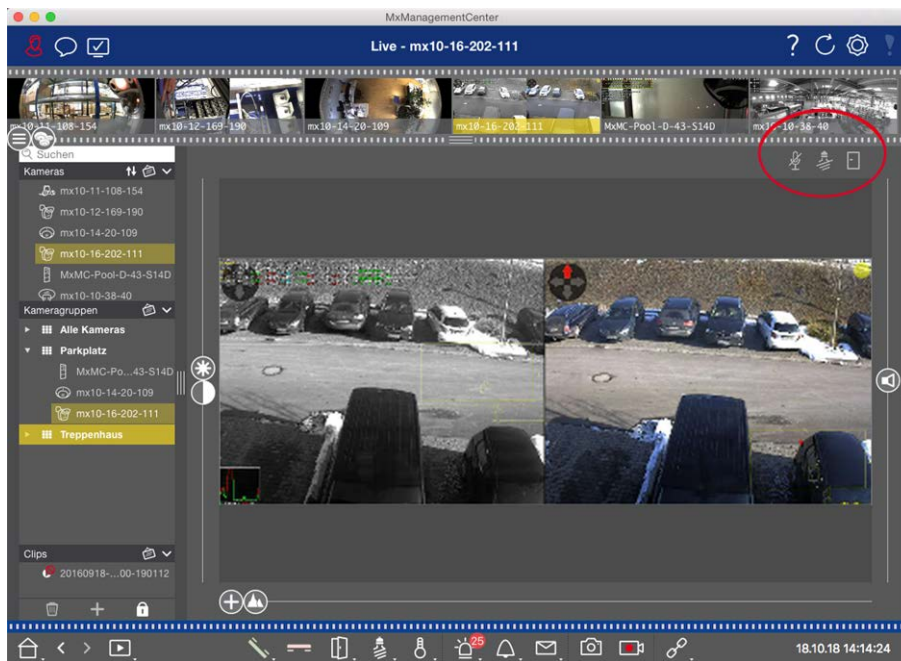








Fig. 63: Status display




#### Door Status Display

-  = door is closed.
-  = door is open.
-  = door is locked.
-  = door lock switch is locked, but the door is open!

#### Light Status Display

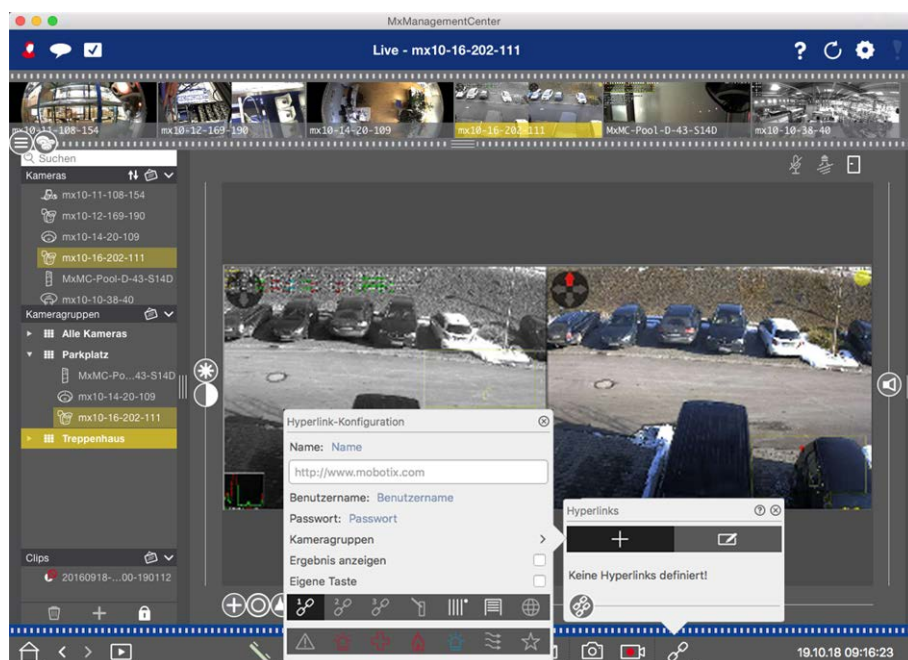
-  = light is off.
-  = icon is lit: Lights are on, needs to be switched off manually.

#### Microphone Status Display

-  = microphone is switched off, no announcement possible.
-  = microphone is on, announcements are possible.
-  = microphone connection is blocked, possibly because a connection has been established to a different remote station.


## Switching additional devices via hyperlink

Hyperlinks can be used to switch additional devices or to send HTTP requests. When defining hyperlinks, you can select an individual button icon for the hyperlink (there are several pre-defined icons to choose from) or set one button from which to run all hyperlinks.



**Fig. 64: Switching additional devices via hyperlink**

To define a hyperlink, right-click on  and then on .

In case you did not assign an icon for the individual hyperlinks, they will be combined under one .

To execute such a hyperlink, click on  and then on the name of the desired hyperlink.

## Manually recording live images


In the Live view as well as in the Grid view, you can start manual recording at any time, such as when you observe a suspicious situation that should be recorded. While you keep track of the situation in the live image, the images are recorded and saved as a MXG file.

Users with administrator rights can specify where the clips are saved and how long the recordings can be in the [Program Settings](#) (Mac: **MxManagementCenter** > **Preferences** > **Live Recorder** menu, Windows: **File** > **Settings** > **Live Recorder** menu).

### Notes:

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

Audio can only be recorded with the Live Recorder under these conditions:

- Audio transmission must be activated on the camera side.
- In the Live View of MxManagementCenter, the audio connection must be activated by clicking on .

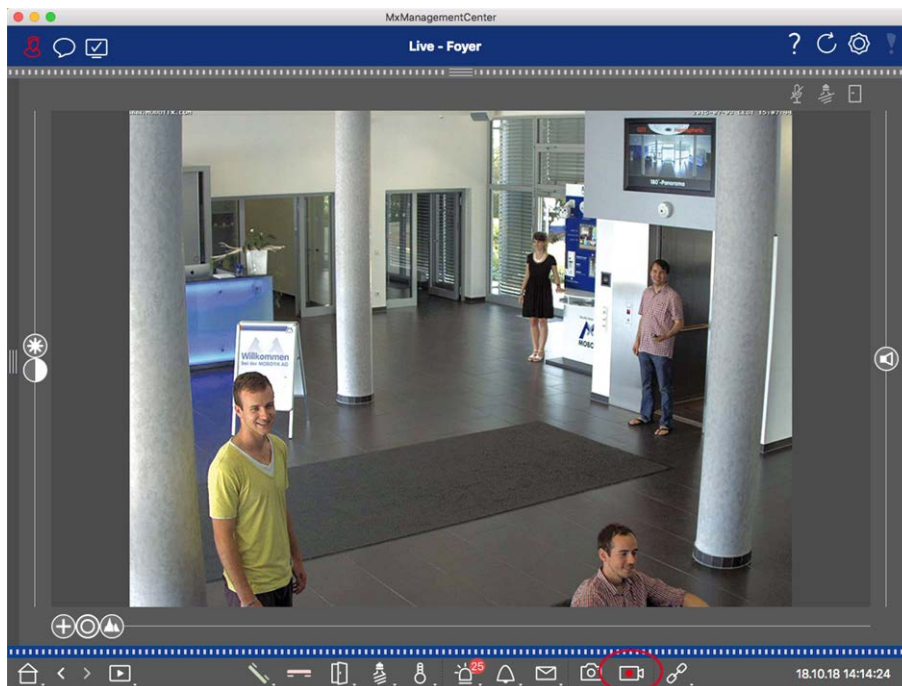




Fig. 65: Manually recording live images


## Starting And Stopping Recordings

To start recording, click on **Live Recorder** . Recording will stop automatically after the recording time set in the program settings has expired. Just before this time expires, a message will be displayed. You can stop the recording from within this message or extend the set period of time. To stop recording before the time expires, click on  again.

### Note

If you change the view, the recording is automatically stopped. However, a camera change within the Live view does not stop the recording.

## Play Clip

The live image data is stored in a MXG file at the location specified in Program Settings during recording. The clip file is automatically imported into the current project when the recording stops and the Device bar shows it alongside the  icon in the **Clips** section. You can click on the clip name to playback the MXG clip file via the Device bar.

## Working With The Grid View

The Grid view consists of a grid of live images and one focus window. This grid (tile) structure is ideal for getting a quick overview of **all cameras of a group**. You can drag the camera image that is most interesting to you onto the focus window. Use the controls at the bottom to operate the camera.



### Showing a group

To view another group, you can use the Device bar or the Group bar. To do this, either drag and drop the desired group from the Device bar into the display area or click on the desired group in the Group bar. The displayed group is indicated by a yellow bar in the Device bar as well as in the Group bar.

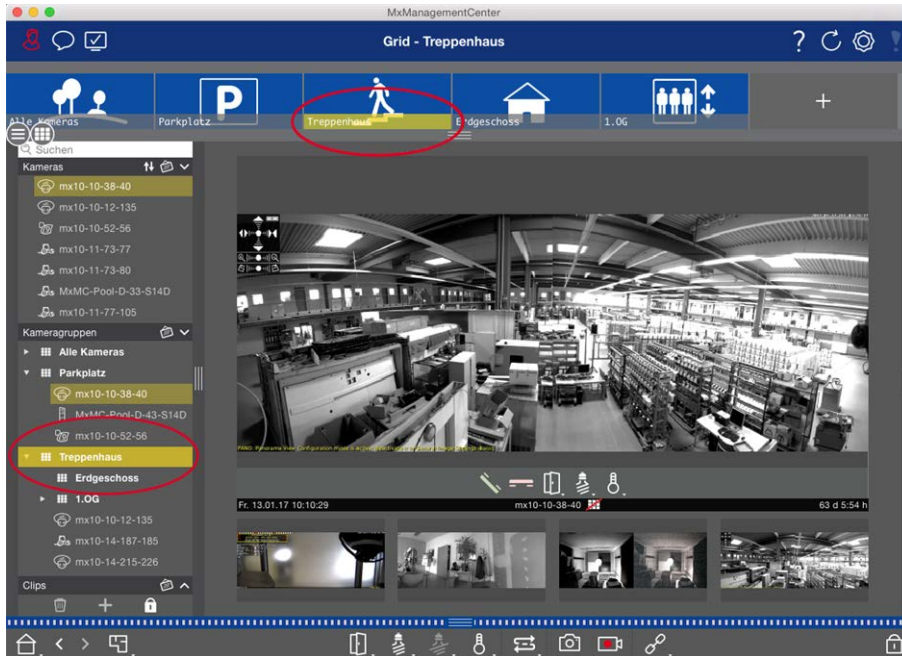


Fig. 66: Showing a group

### Working With The Focus Window

At the bottom of the focus window is a Command bar with controls that allow you to operate the **camera in the focus window**. If you move the mouse pointer over the Command bar, further controls are displayed.

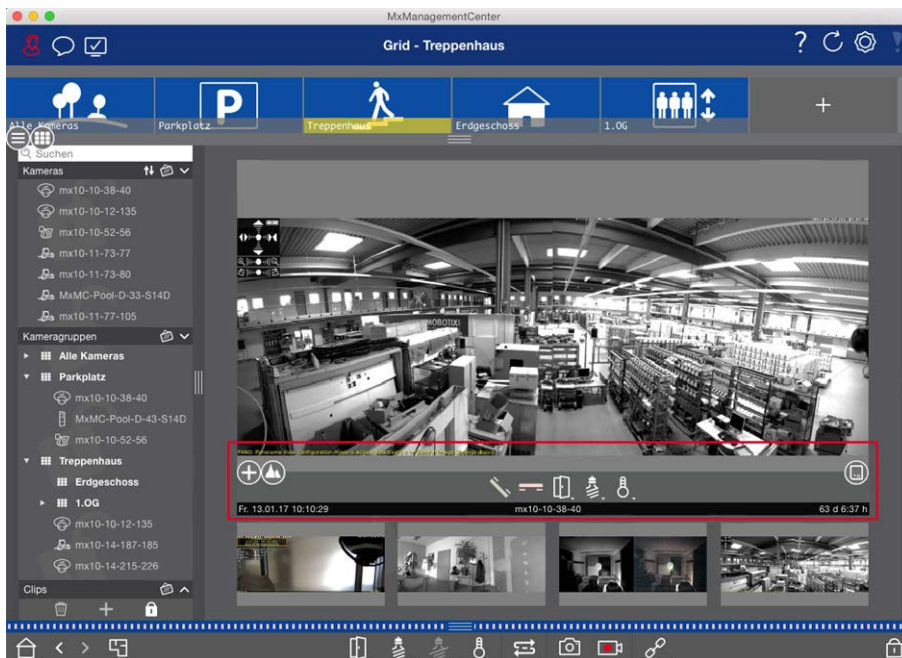




Fig. 67: Camera in a focus window











## Zooming And Moving Image Sections

Use the slider  to zoom. The zoomed image sections can then be moved with the mouse. These actions take place in the application. This means that only the image section of the current live image is modified. The camera will not move and therefore zooming will not affect the possible recording of the generated camera image.

1. Drag the slider  to zoom in on or out of the live image.
2. Move the image with the mouse to focus on individual image sections.

## Select predefined image sections.

To quickly focus on a specific image section, you can use one of the factory default image positions that are predefined in the camera.



- Overview , point of interest , preview  and detail view 
- Top , bottom , left , right 

Move the slider **Standard**  to the next position or until you have found a suitable position.


## Accept and end calls.

To talk to visitors at the door, click on . To end an audio connection, click on .


## Opening Doors And Switching Lights

If a camera is connected to a door station and has been configured accordingly, you can open the door by clicking on . If the camera is also connected to a light switch and configured accordingly, the light can be turned on and off by clicking on .

## Show Temperature

MOBOTIX cameras have a built-in temperature sensor that measures the temperature inside the housing. If an ExtIO module or an MX-GPS-Box is connected to the camera, you can also measure the ambient temperature of the module or the box and view it by clicking on .




## Executing Hyperlinks

If hyperlinks have been defined and configured, their function can be executed by clicking on .

### Camera Sequencer

If you want to see a different camera in the focus window, simply drag that camera to the focus window. Note that the camera sequencer can also switch cameras automatically.


#### Instructions:

1. Click on the camera sequencer icon  to activate the automatic switching.
2. Right-click on  to change the following settings:
  - **Duration Slider:** Move the slider to the desired duration (1 sec to 60 sec) to show each camera.
  - **Autostart:** Once you switch to the Grid view, the sequencer starts automatically.
  - **Stop at event:** The sequencer stops when an event has occurred, allowing you to further investigate the situation. To start again, click on .
  - **Restart after confirmation:** Activate this option if you want to avoid having to restart the sequencer over and over again.

### Group Sequencer

If you want to display a different camera group in the focus window, drag and drop that camera group into the focus window. A grid with all cameras of the group will be displayed and each camera of the group will be shown sequentially in the grids focus window for a defined time. You can automate this camera group change with the group sequencer.

#### Instructions:

1. Click on the group sequencer icon  to activate the group sequencer.
2. To change the sequencer settings right-click on :
  - **Duration:** set the duration to show each group. You can set a value between 1 sec and 60. The “Combined Sequencer” activates the group sequencer together with the camera sequencer (“Autostart” on the camera sequencer is not needed). The group sequencer waits until all cameras on a grid or graphic have been cycled before switching to the next group. When the “Combined Sequencer” is active then the camera sequencers “Stop at Event” and “Restart after Confirmation” also apply to the group sequencer.
  - **Autostart:** Once you switch to the Grid view, the group sequencer will start automatically.

## Switching group functions

At the bottom of the program window is a Command bar with controls that change depending on the selected view. In the Grid view, you can use the group buttons of the Command bar to control the functions of a camera group (Prerequisite: Group functions were assigned in the [Group Functions](#) dialog box). This means that you can switch on/off lights, open a door and make an announcement for a predefined camera of this group, regardless of the currently displayed camera. You can also assign the functions for switching on/off lights and opening doors to several cameras of this group, enabling you to switch on/off several lights or open several doors.

In addition, you can right-click on the group buttons to open the shortcut menu in order to control cameras

that are not part of the current group. Before you can do this, the cameras have to be set up accordingly, that is, they need to be connected to door openers/light contacts and have to be configured properly.

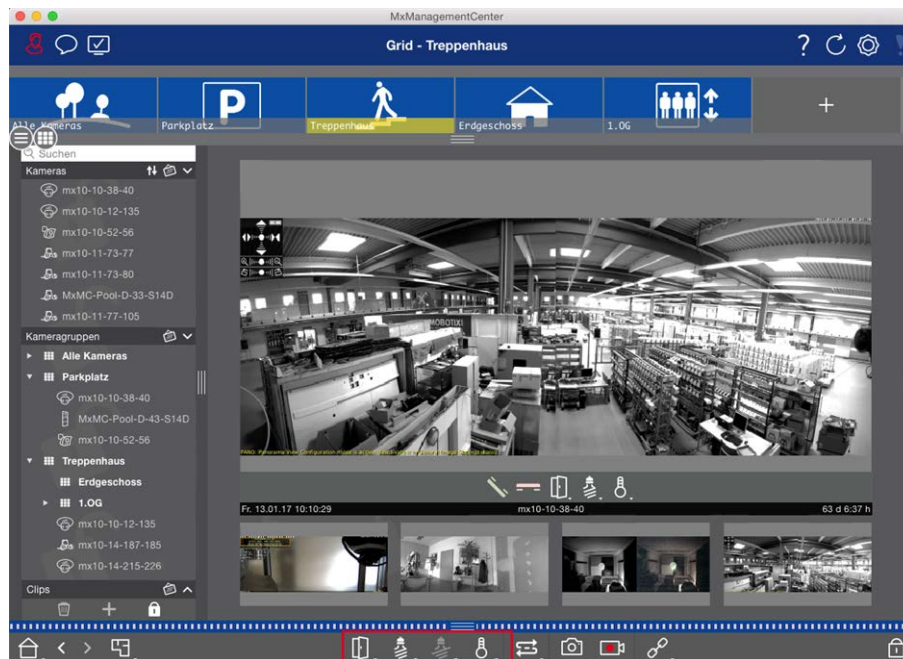


Fig. 68: Switching group functions

## Manually recording live images

In the Grid view as well as in the Live view, you can start manual recording at any time, such as when you observe a suspicious situation that should be recorded. While you keep track of the situation in the live image, the images are recorded and saved as an MXG file. The camera's live image that is in the focus window is always recorded. For this reason, live recording can also only be used in the Grid view when there is a focus window.

Users with administrator rights can specify where the clips are saved and how long the recordings can be in the [Preferences](#), p. 230 (Mac: menu: **MxManagementCenter > Preferences > Live Recorder**, Windows menu: **File > Settings > Live Recorder**).

### Note

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8.

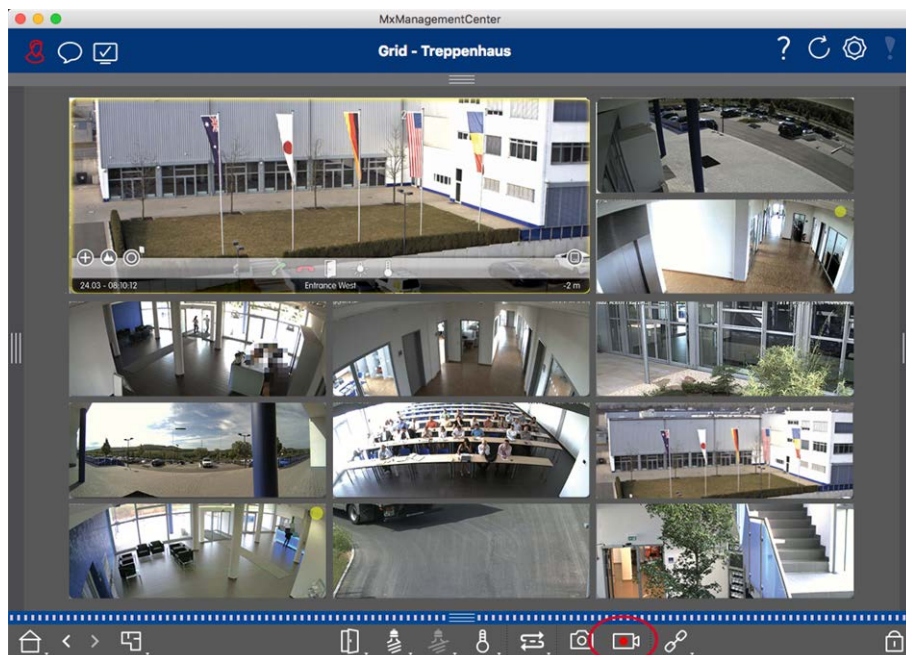




Fig. 69: Manually recording live images


### Starting And Stopping Recordings

To start recording, click on **Live Recorder** . Recording will stop automatically after the recording time set in the program settings has expired. Just before this time expires, a message will be displayed. You can stop the recording from within this message or extend the set period of time. To stop recording before the time expires, click on  again.

#### Note

The recording ends automatically when switching to another view. However, changing the group within the Grid view will not result in an early termination of the recording, unless that group has no focus window. In the latter case, the recording will end.

### Play Clip

The live image data is stored in an MXG file at the location specified in Program Settings during recording. The clip file is automatically imported into the current project when the recording stops and the Device bar shows it alongside the  icon in the **Clips** section. You can click on the clip name to playback the \*MXG clip file via the Device bar.

## Working With the Graphic View

You can define a **floor plan** (ground plan) in the Graphic view and place the cameras or camera groups according to their actual positions. The icon of the corresponding camera turns red in case of an alarm (or

green upon a bell event). A simple click is enough to show the current live image of the triggering camera, allowing you to quickly check the situation.

## Temporarily showing the live image of a camera

To temporarily display the live image of a camera, move the mouse pointer over the camera icon. In addition, the live image of another camera group can also be displayed in the Graphic view. Drag & drop the desired camera from the Camera bar onto the floor plan. When changing the view, the live image disappears.




## Automatically display all live images of a group

To keep track of all live images in the current group, you can activate the camera sequencer or the group sequencer. When the sequencer is activated, all live images of the camera group are displayed one after another in a small window. You can move this window to any location and enlarge it or make it smaller.

### Camera Sequencer

If you want to see a different camera in the focus window, simply drag that camera to the focus window. Note that the camera sequencer can also switch cameras automatically.


#### Instructions:

1. Click on the camera sequencer icon  to activate the automatic switching.
2. Right-click on  to change the following settings:
  - **Duration Slider:** Move the slider to the desired duration (1 sec to 60 sec) to show each camera.
  - **Autostart:** Once you switch to the Grid view, the sequencer starts automatically.
  - **Stop at event:** The sequencer stops when an event has occurred, allowing you to further investigate the situation. To start again, click on .
  - **Restart after confirmation:** Activate this option if you want to avoid having to restart the sequencer over and over again.

### Group Sequencer

If you want to display a different camera group in the focus window, drag and drop that camera group into the focus window. A grid with all cameras of the group will be displayed and each camera of the group will be shown sequentially in the grid's focus window for a defined time. You can automate this camera group change with the group sequencer.

#### Instructions:

1. Click on the group sequencer icon  to activate the group sequencer.
2. To change the sequencer settings right-click on :

- **Duration:** set the duration to show each group. You can set a value between 1 sec and 60. The “Combined Sequencer” activates the group sequencer together with the camera sequencer (“Autostart” on the camera sequencer is not needed). The group sequencer waits until all cameras on a grid or graphic have been cycled before switching to the next group. When the “Combined Sequencer” is active then the camera sequencers “Stop at Event” and “Restart after Confirmation” also apply to the group sequencer.
- **Autostart:** Once you switch to the Grid view, the group sequencer will start automatically.

## Switching group functions

At the bottom of the program window is a Command bar with controls that change depending on the selected view. In the Graphic view, you can use the group buttons of the Command bar to control the functions of a camera group (Prerequisite: Group functions were assigned in the [Group Functions](#) dialog box). This means that you can switch on/off lights, open a door and make an announcement for a predefined camera of this group, regardless of the currently displayed camera. You can also assign the functions for switching on/off lights and opening doors to several cameras of this group, enabling you to switch on/off several lights or open several doors.

In addition, you can right-click on the group buttons to open the shortcut menu in order to control cameras that are not part of the current group. Before you can do this, the cameras have to be set up accordingly, that is, they need to be connected to door openers/light contacts and have to be configured properly.

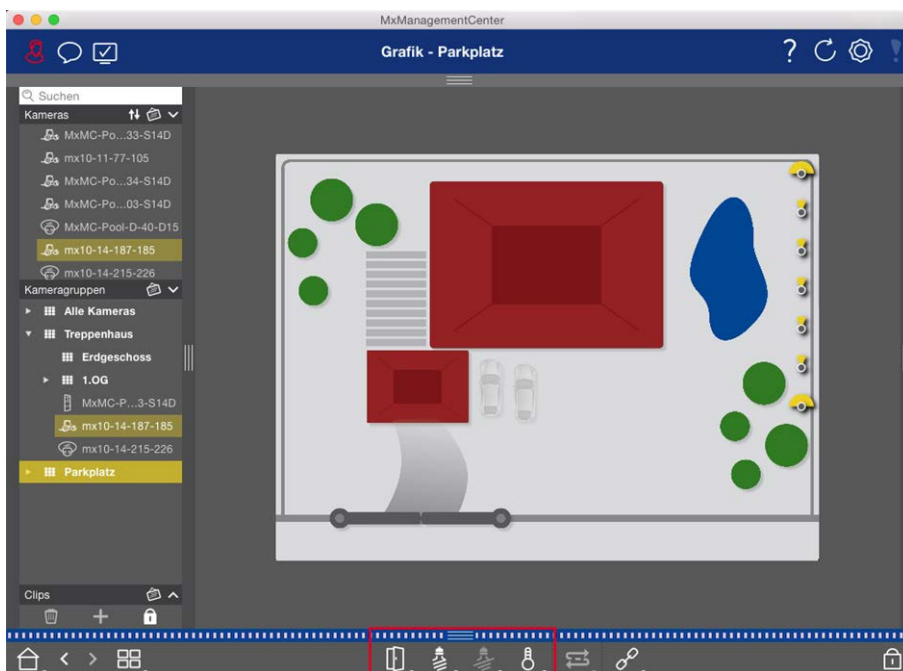


Fig. 70: Switching group functions

## Operate Door Stations

Door Stations can also be integrated and operated with the MxManagementCenter. For this purpose, Door Station-specific functions are provided in addition to the program functions for cameras.

**Note**

Door Station functions are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see:

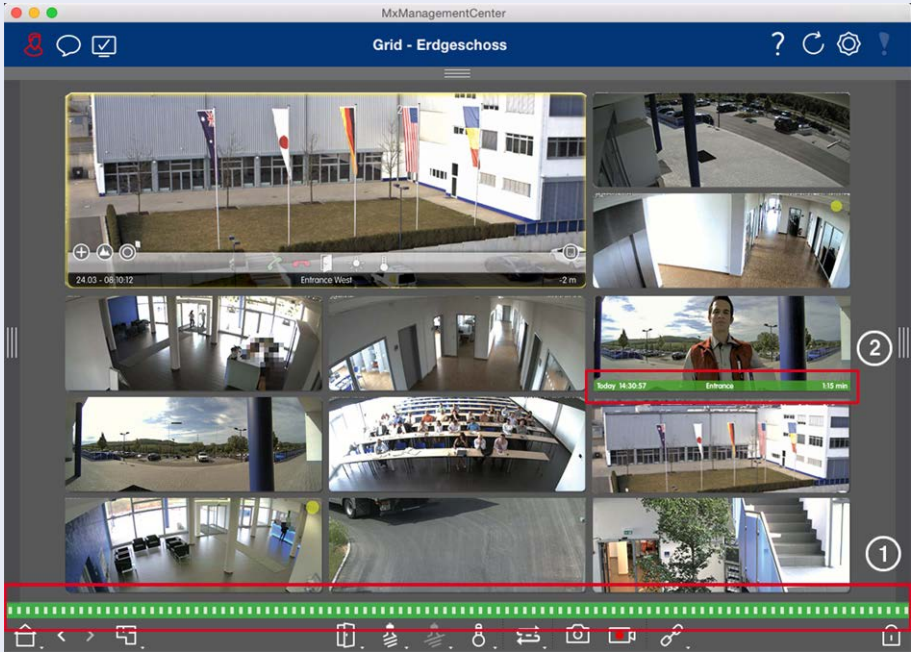
- [Camera Feature Overview, p. 8.](#)
- [Door Station Settings, p. 204](#)


## Bell Signaling

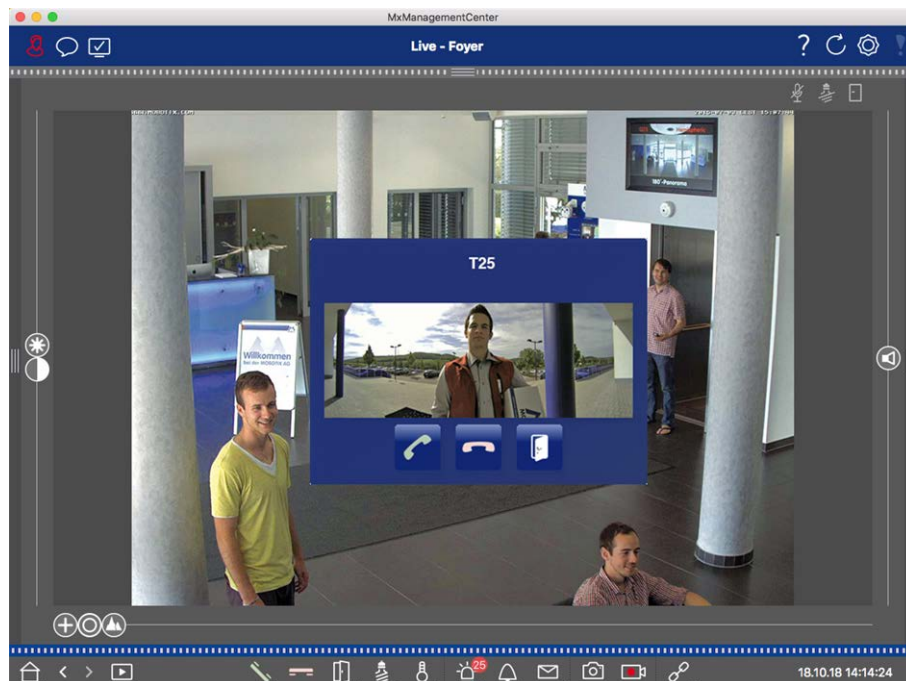
If someone rings the doorbell, it can be indicated in different places of the application.




Where?	Explanation
Alarm bar and Alarm Info bar	A bell event is indicated by coloring the Alarm and Alarm info bar green. The prerequisite for this is that the Door Station bell events have been configured as <b>alarms</b> in the <b>Camera Configuration</b> dialog. The Alarm bar ① is located at the bottom of the MxManagementCenter and the Alarm Info bar ② below the camera image of the corresponding door camera.




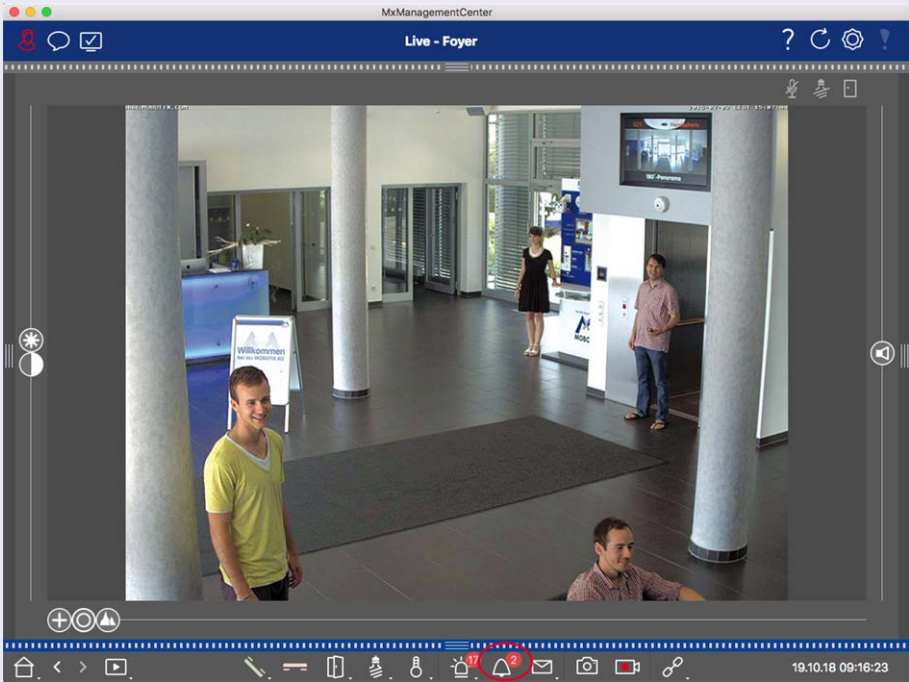
Where?	Explanation
Doorbell notification	When the bell is rung, a ringing notification is displayed, no matter which view you are in. The prerequisite for this is that the Door Station bell events were configured as alarms in the <b>Camera Configuration</b> dialog and that the <b>Notification</b>  was not deactivated in the header.



#### Note

The notification can be temporarily disabled by an administrator by clicking on **Notification**  in the application header.



Counter on the bell icon	The counter next to the bell icon  in the Live view is increased by one.
--------------------------	---

Where?	Explanation
	

### Setting Bell Signaling

Go to [Door Station Settings](#), p. 204 to find out which signaling options can be combined and where they can be configured.

## Open Door and Switch Lights

If the door camera has been set up properly, you can use MxMC to open the door and to switch the lights. To do this, use the  and  keys in the Live view Command bar and in the Command bar of the Grid view focus box.

## Working With Multiple Monitors

MxManagementCenter supports the use of multiple monitors. Camera live images can be displayed on monitors directly connected to the computer running MxMC. Camera live images can also be switched to additional display devices using an MxThinClient.

## Displaying Live Images On Monitors Connected To The Computer

If several monitors are connected to the computer running MxMC, the live images of individual cameras can be displayed by double-clicking on the different monitors. To do so, double-click either:

- on a camera image in the Camera bar
- on an event image in the Alarm bar

- on a camera image in the Grid view
- or on a camera icon in the Graphic view

and select the monitor on which you want to view the live image.

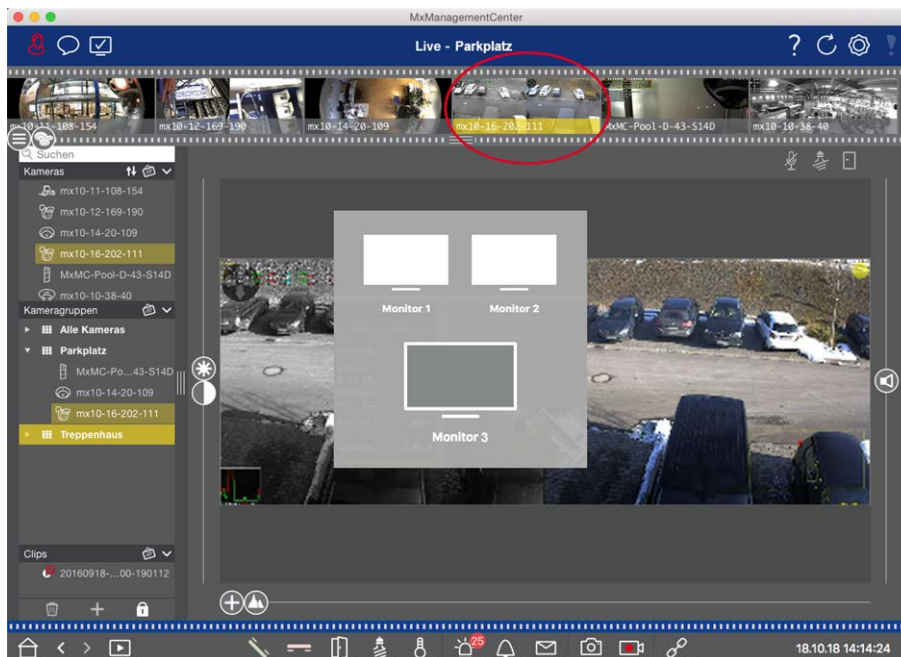


Fig. 71: Displaying Live Images On Monitors Connected To The Computer

## Using MxThinClient To Display Live Images On Additional Monitors

As far as MxMC is concerned, any number of monitors can be connected and operated. However, the number is limited by the graphics card installed in the computer. By using one or more MxThinClient devices, you can increase the number of display devices available for MxMC. This allows you, for example, to switch to additional display devices (monitors or TV sets) by double-clicking on the camera live images from MxMC.



### Note

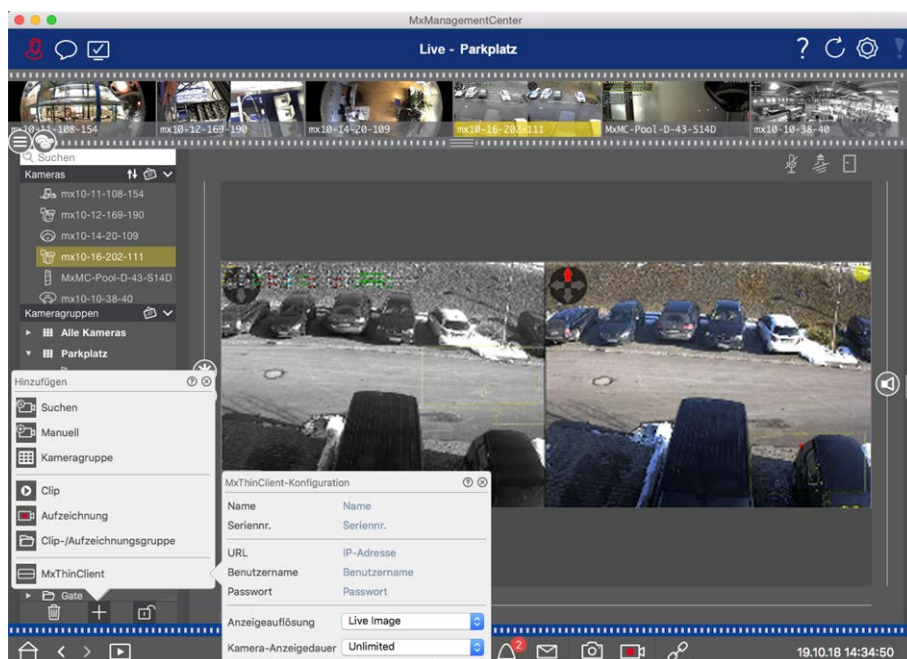
MxThinClient devices are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8.

### Adding a MxThinClient


1. The MxMessageSystem needs to be activated in the [Preferences](#), p. 230 because the camera live images are connected via this system (Mac: **MxManagementCenter > Settings > MxMessageSystem**; Windows: **File > Settings > MxMessageSystem**). Also, make sure that the same parameters are set as in the MxThinClient.

Furthermore, you must make sure that MxThinClient and the computer running MxMC use the same time server.


- Open the edit mode in the Device bar by clicking on  at the bottom of the bar. Next, click on . The **Add and Import** dialog opens.




**Fig. 72: Adding a MxThinClient**

- Click on . The **MxThinClient Configuration** dialog box opens.
- Enter a name for the MxThinClient that will be shown in the Device bar. You can freely select the name.
- Use the **URL** option to enter the current IP address or DNS domain name.
- Under **Serial Number** you need to enter the factory IP address printed on the MxThinClient housing. Remember that you need to enter the number correctly because it represents the address at which the MxThinClient is accessed in the MxMessageSystem.
- Enter the user name and password you used when installing the MxThinClient.
- Select the resolution that the camera's live image uses when data is sent to the additional display unit. If you select a resolution that is not supported by the display device, the message **Resolution Not Supported** is shown on the display of the display device. In this case, select a lower display resolution.
- Select how long the live camera image will be displayed before the MxThinClient will continue to run in the configured mode.

If you select **Unlimited** for the display length, the camera's live image is displayed until the MxThinClient receives a new command, such as when an event is triggered based on an event-controlled setting.

If you want to stop the display of the camera's live image before the set display length elapses, click on the  icon. It appears when you move the mouse pointer over the name of the MxThinClient in the Device bar.



10. Close the dialog box. Then deactivate the edit mode of the device bar by clicking on .

## Using MxThinClient

To switch a live camera image to an additional display device, either double-click on the desired camera image or drag and drop the camera image to the appropriate MxThinClient in the **MxThinClient** section of the Device bar.

### Notes

The **MxThinClient** section is only visible in the Device bar if a MxThinClient has been integrated. You need to possess administrator rights to add, manage or delete an MxThinClient.

## Working In Different Network Environments

Using MxManagementCenter, you can access cameras from different locations. For example, you can monitor the cameras at home over the local area network (LAN) or while on the move via a pre-configured DynDNS access over the Internet.

See also: [Network Environments](#)

## Selecting an Environment

If you want to access the cameras from a different location (different network), select the corresponding previously [created environment](#). Switching to a different environment causes the network address data for connecting to the cameras to be switched automatically.

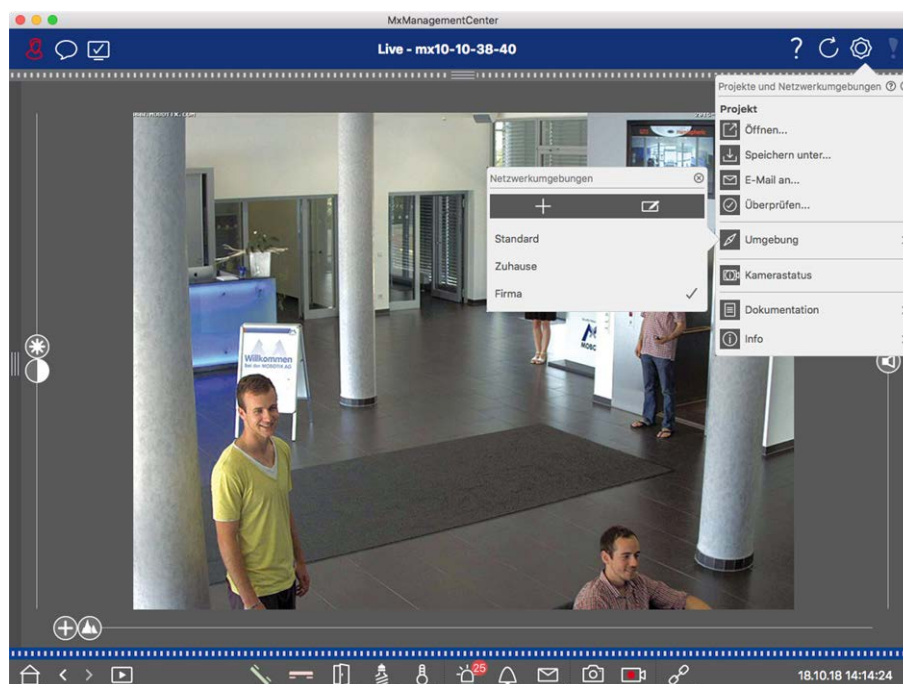







Fig. 73: Selecting an Environment

1. Right-click on  in the Header bar. The **Projects and Network Environments** dialog opens.
2. Click on **Environment**.
3. Select the desired environment.

## Temporarily Adjusting the Bandwidth

By assigning a bandwidth to an environment, you can specify how the images are pulled from the cameras given different connection speeds. This basically controls how the images can be displayed for live viewing and event research. Selecting a bandwidth thus also controls the image quality. Note that you can temporarily overwrite the bandwidth setting without actually changing the camera setting.

1. Click on  in the Header bar. The **Bandwidth Mode** dialog opens.
2. Select the desired setting:
  -  HiRes: The images are transferred using the settings made in the camera.
  -  LoRes: Images are delivered at the frame rate, resolution and image quality as defined in the [Program Settings](#) for LoRes.
  -  Unchanged: Use this to return to the original setting of the camera.

# Alarm Processing

An important component of a video management system is the alarm function. It allows you to specify which events lead to alarms and how you are notified in the event of an alarm. In addition, you can define the alerting behavior for individual time periods in weekly profiles.

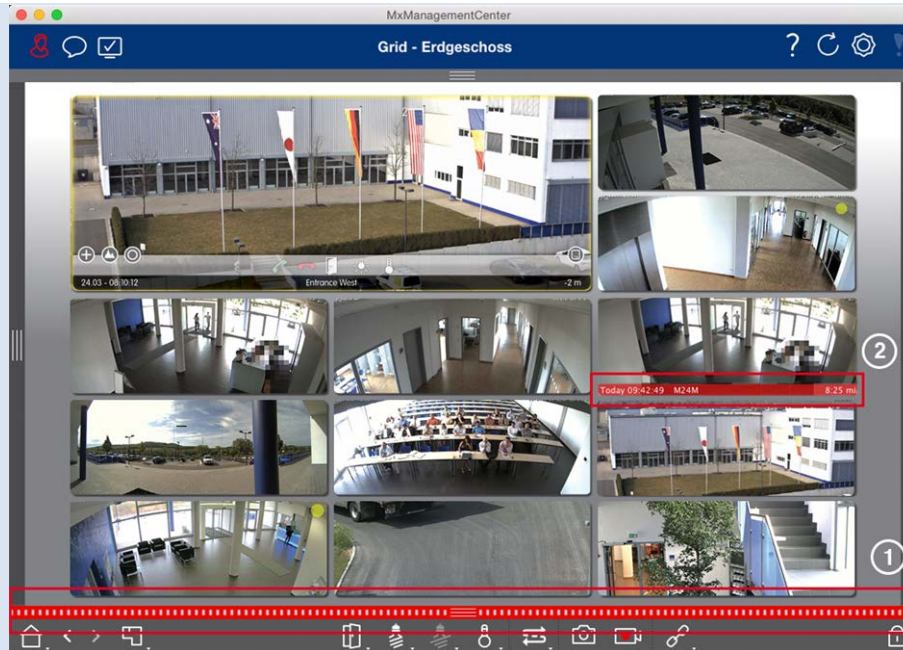
**Note:** Alarm processing functions are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

## Alarm Notification

Alarm-triggering events can be signaled at various points in the application.

Where?	Explanation
Alarm bar and Alarm Info bar	If alarm notification has been activated in the <b>Camera Configuration</b> , the Alarm and Alarm Info bars will turn red and will inform you about the events that triggered the alert (green when a bell is rung). The Alarm bar ① is located at the bottom of the MxManagementCenter and the Alarm Info bar ② below the camera image of the corresponding camera.

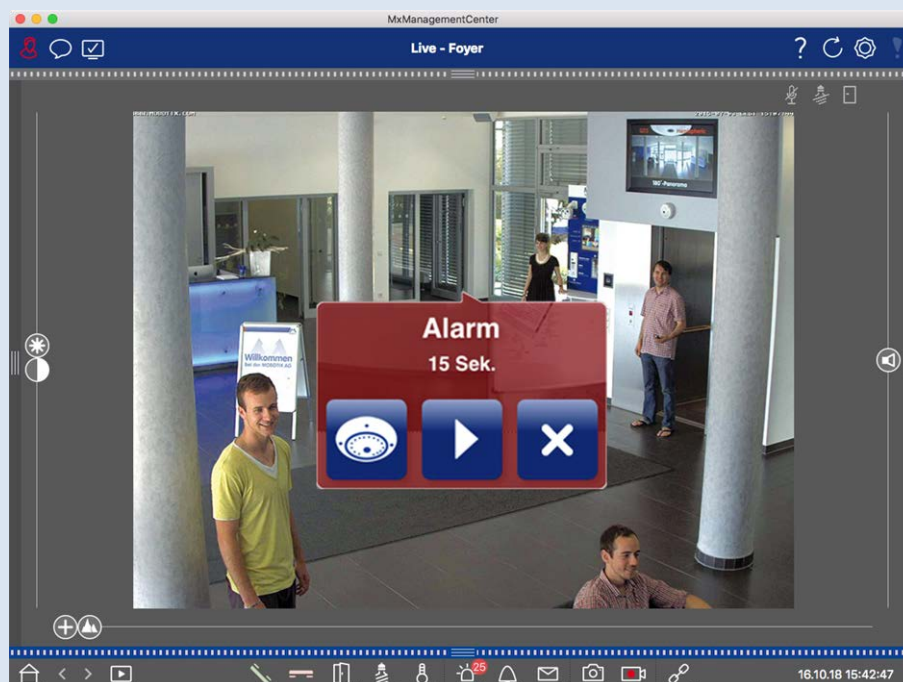




#### Alarm Notification

In addition, you can choose to receive an alarm message and an alarm sound.

This requires the alarm notification option to be enabled in the **Camera Configuration** dialog and the **Alarms** checkbox to be set in the **Notifications** section (Mac: **MxManagementCenter > Settings** menu, Windows: **File > Settings** ) menu.



#### Camera icon and group icon in the Graphic

When a camera detects an alarm, the corresponding camera icon turns red ② or green (bell event). You can take a quick glance at the situation observed by the camera by showing a small live image (move mouse pointer over the icon) or by showing a live image on a second monitor, if available (double-click on the camera icon). If you positioned an additional camera group on the background image (floor plan), the cam-

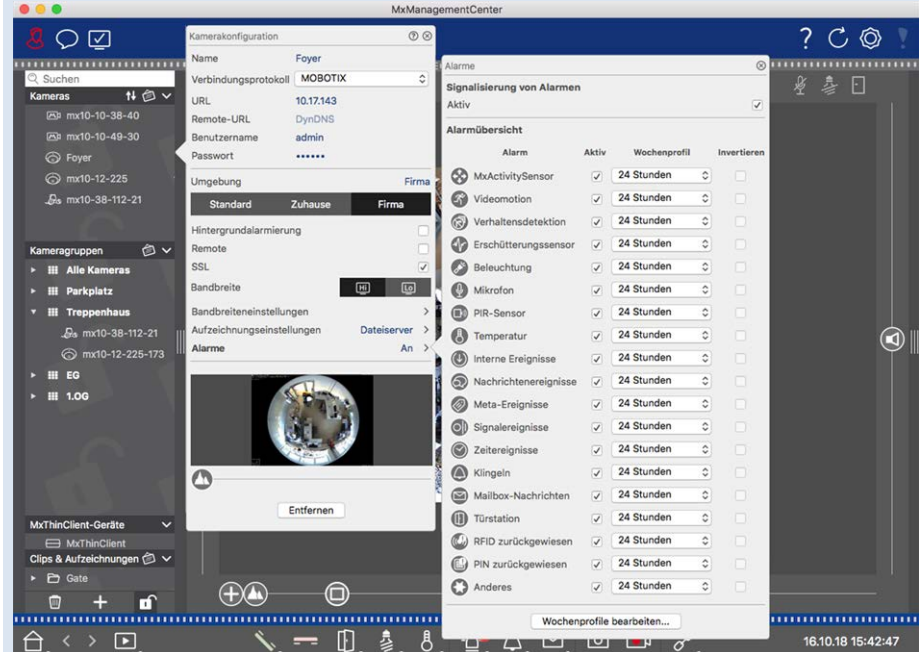
view


era group turns red ② or green when a camera in this camera group registers an alarm-triggering event.



Setting Up Alarm Notification

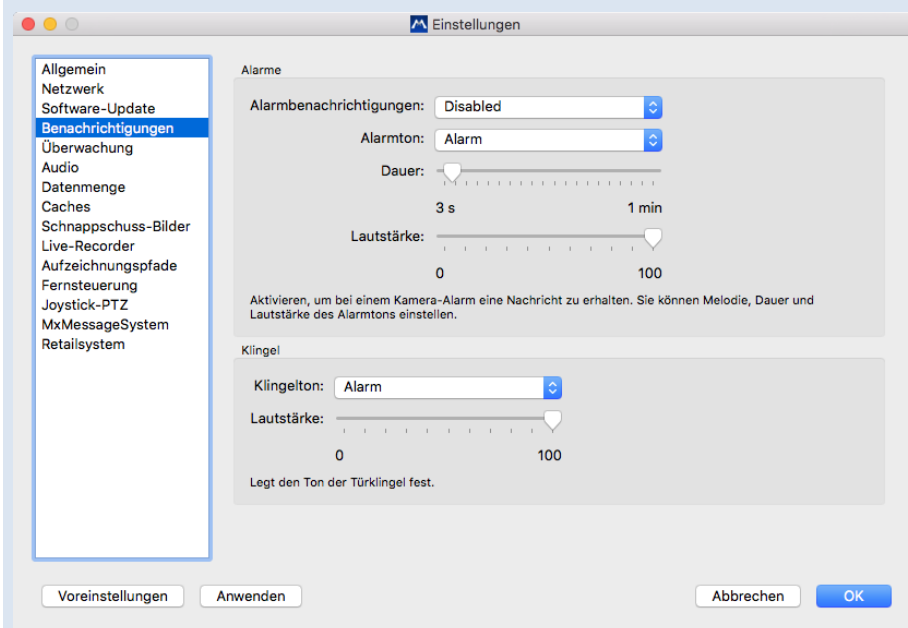
The following table describes where and how the notification options can be set.

Notifications	Settings
Alarm bar, Alarm Info bar	<div>For an alarm to be signaled in the Alarm bar and the Alarm Info bar, you must activate alarm notification for each camera and select the events that will trigger an alarm.</div> <div></div>

1. To do so, open the **Camera Configuration** dialog box by right-clicking on the corresponding camera in the Camera bar.  
Another option is to open the dialog box in the Device bar by clicking on  and then right-clicking on the corresponding camera.
2. Click on **Alarms**, enable alarm notification and set the events that should trigger an alarm.

### Alarm Notification

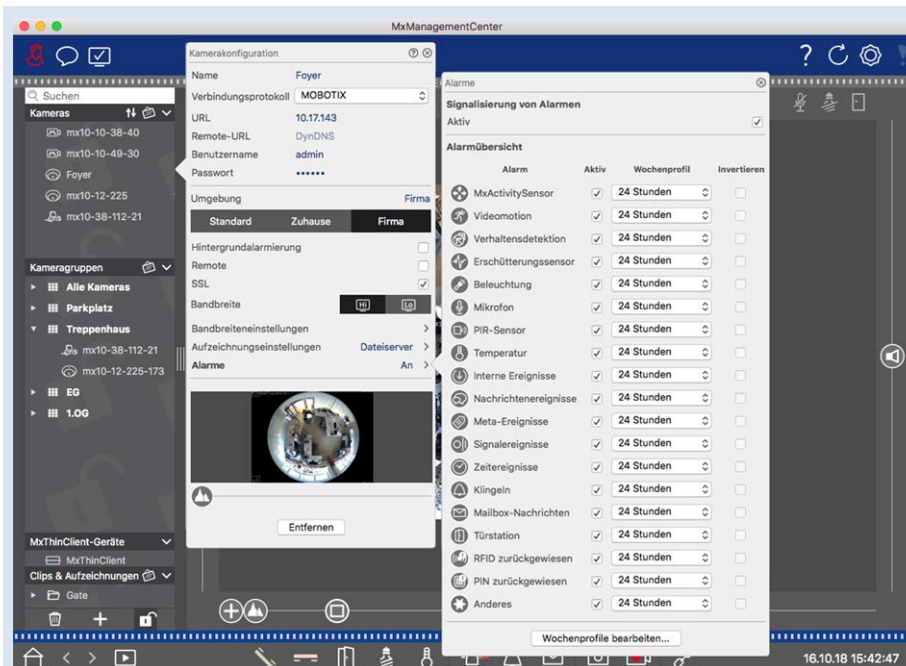
In addition to signaling in the Alarm bar and Alarm Info bar, you can set up a visual and audible alert. Do so by navigating to the notifications (Mac: **MxManagementCenter > Settings** menu, Windows: **File > Settings** menu), selecting the **Alarms** option and then selecting the alarm sound, alarm duration and volume.




### Camera icon and group icon in the Graphic view

In order for the camera icon and group icon to turn red or green in the Graphics view when an alarm event occurs, the same settings must be made as for notification in the [Alarm bar](#) and [Alarm Info bar](#).

### Setting time ranges for alarms



In addition, you can select a weekly profile for every event type that should trigger an alarm.

1. To do so, open the **Camera Configuration** dialog box by right-clicking on the corresponding camera in the Camera bar.  
Another option is to open the dialog box in the Device bar by clicking on  and then right-clicking on the corresponding camera.
2. Make sure that the **Alarms** option has been activated.
3. As long as no other weekly profile has been selected, the setting is valid from Monday 00:00 to Sunday 24:00.
4. Click on **Edit weekly profiles** to create a weekly profile for an event type. See also [Setting Alarm Filters](#) for information on how to create and select a weekly profile.

## Filtering Alarm Images

All Alarm images are displayed in the Alarm bar and in the Research view. To get a quick overview, you can filter the display of images according to different criteria.

**Filtering Alarm Images In The Alarm Bar** ("Filtering The Display Of Alarm Images" section):

The alarm images in the Alarm bar are sorted chronologically. You can filter the display of alarm images by camera, group, event type, and confirmation status.

**Filtering the Research view by event types:**

All event images of the selected cameras are shown in chronological order. You can filter the view according to event types.

## Playing Back Alarm Recordings

You can play the recording of an alarm directly in the **Alarm bar** ("Playing Back Recordings" section) or directly in the **Research view**.

# Researching in MxMC

This section describes basic research functions of MxMC.

## Searching And Playing Back In Playback View

Recorded clips cannot only be played in the player, but they can also be searched. The way that you search depends on whether you want to search for specific events within the recorded clips or whether you want to search for events at specific times.

### General Playback View controls

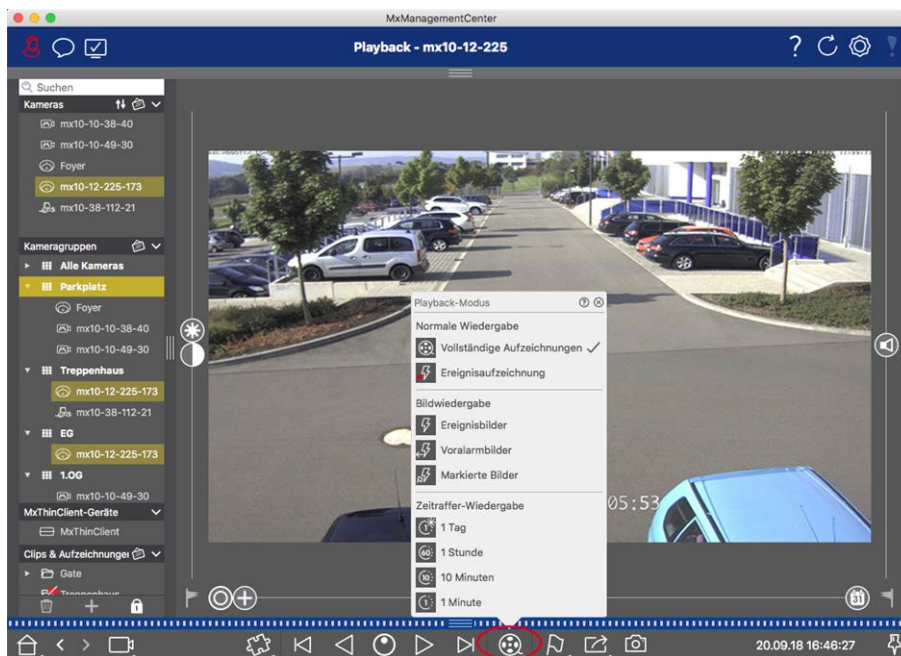







Fig. 74: General playback view controls

To search and play back recordings, first activate **Playback** mode  or select the date and time and then use the **Previous/Next Image** buttons  , to browse the recordings; alternatively, you can start the playback using the **Forward/Backward Playback** buttons  . Hold the **Forward/Backward Playback** to select a playback speed between 0.5 times and maximum.



## General operation of the Playback View for MOBOTIX MOVE and ONVIF cameras

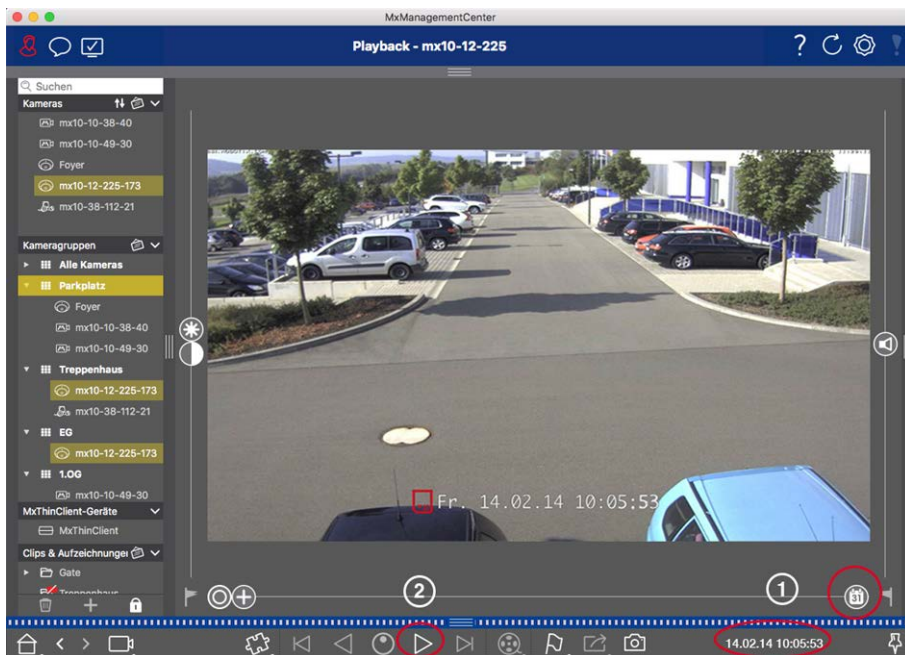


Fig. 75: General operation of the Playback View for MOBOTIX MOVE and ONVIF cameras

### Note

All playback capabilities are supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For these cameras, recordings can only be played forward.

Therefore, first select Date/Time ①, and then start playback using **Forward Playback** ②.

## Performing PTZ actions in recordings

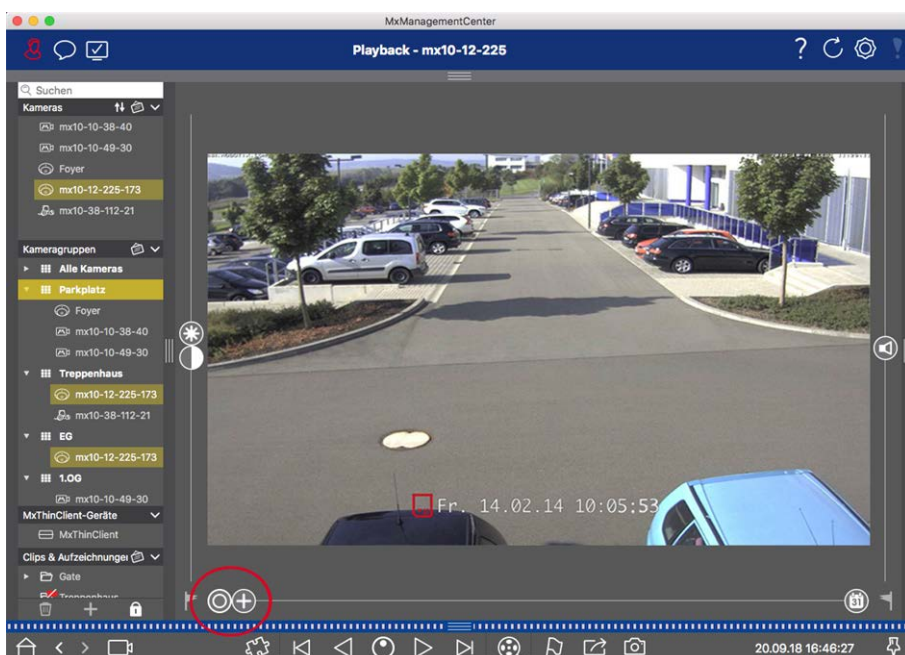





Fig. 76: Performing PTZ actions in recordings

#### Note




On a secondary monitor, a single camera image can only be zoomed with the mouse wheel or panned with the mouse button pressed down. PTZ controls are only available on the MxMC main screen or on the secondary monitor in Grid View.

You can zoom and move the visible image area not only in live images but also in recorded images (PTZ). This enables you to examine specific image areas more closely while the recorded video stream is playing back. On Dual cameras, the program also shows the  slider. Use this slider to show the images of either the right, the left or both image sensors. When playing back the recordings of hemispheric cameras, you can set different display modes .

## Zooming and moving image sections







You can zoom using the slider  or the mouse wheel. To see other image areas, you can move the recorded image using the mouse.

## Choosing a sensor

On Dual cameras, you can opt to see the recordings of the right, the left or both image sensors. To do so, move the  slider to the right to  (left sensor) or further to the right to  (right sensor).


## Subsequent distortion correction of hemispherical images

When showing recorded images of hemispheric cameras or cameras with the lenses L12/B016, L23/B036, L25/B041, you can select different display modes. In order to get naturally-looking images, the camera will automatically correct the distortion in these modes. This distortion correction can be refined even further when using the panorama correction. Note that this type of correction only takes place locally. This means that the distortion correction of the recorded images only takes place on this computer. The stored recordings (from the camera or a file server) are not influenced in any way.




-  **Full image:** Shows the entire (distorted) full image.
-  **Normal:** Shows a distortion-corrected image and allows executing PTZ actions.
-  **Panorama:** This option shows the distortion-corrected image of an entire room (corrected 180° panorama view) from the left to the right wall. The aspect ratio (width to height) is 8:3.
-  **Surround:** This option shows four image sections (one for each cardinal direction: N, E, S, W) in one joint view. Note that you can use PTZ actions to modify all four views independently from one another.
-  **Double panorama:** This mode shows a panorama view for the North half of the image and a second panorama view of the South half of the image using an aspect ratio (width to height) of 4:3. This mode only makes sense for a hemispheric camera that is mounted to the ceiling.
-  **Panorama focus:** This display mode combines the panorama view (aspect ratio 8:3) with two smaller images (each with aspect ratio 4:3) in one large image.



## Selecting The Distortion Correction Mode

Move the slider  to the right until you see the desired view. This slider position will be stored automatically until you change it again.

## Panorama Correction

The distortion-corrected images of the different display modes can be further refined using the panorama correction. Move the  slider to the right to  and use the mouse to correct the image. To store the corrected setting, click on the  slider and hold it until the slider icon briefly appears in the center of the image.

## Browsing recordings for event images

When searching for event images, first select the image playback type:

- Event images: Only shows event images.
- Pre-event images: Shows only the first recorded image for each event.
- Highlighted images: Shows only the images, which had been marked as important before.

### Note

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

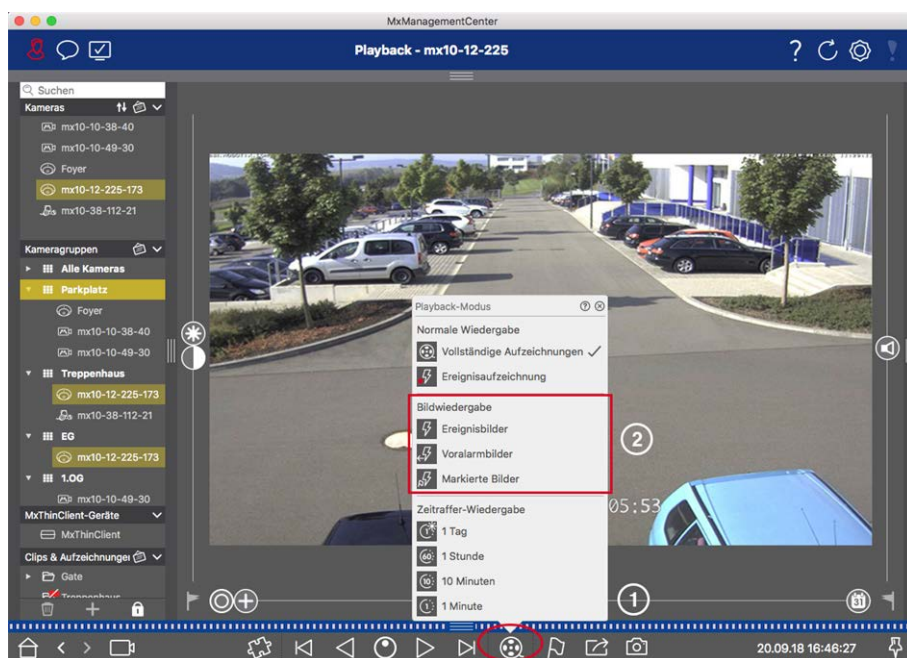





Fig. 77: Browsing recordings for event images

1. In the Playback view, select the Playback mode by right-clicking on  ① and selecting the desired mode ②.
2. Browse the recordings using the  and  buttons. Starting with the current event image, these buttons show the previous or next event image.

## Browsing recordings for a specific date and time

If you have set up a continuous recording for certain times and you want to check for events during those times, for example, you can limit the search to these times. You can search for events at a given time by using time leaps or time-lapse playback.

### Searching for a specific date and time

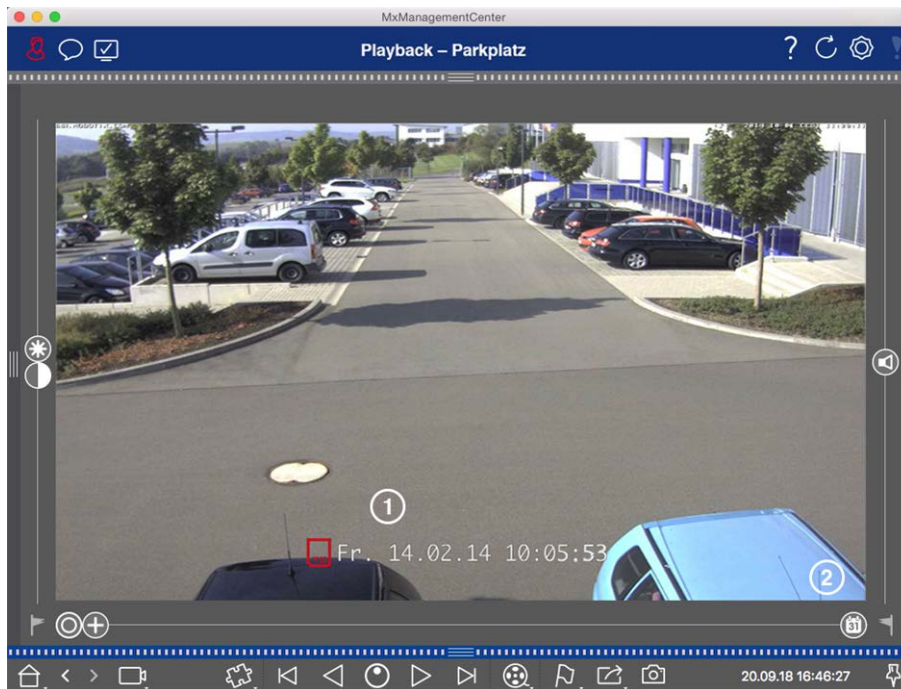




Fig. 78: Searching for a specific date and time


1. Click on Date/Time ① and enter the date and time to search for.
  2. The event image jumps to the event in the recordings that is closest to the specified date and time.
  3. Click on Playback .
- or
1. Click on the **Calendar** slider ②. The date and time will be shown above the slider.
  2. Move the slider until you reach the date and time that is closest to the point in time you want to examine. The event image jumps to the event in the recordings with the specified date and time. If such a recording is not available, the event image jumps to the event that is closest to the specified point in time (in the direction of searching). In the latter case, the slider turns read the time difference to the specified point in time is shown above the slider.
  3. Click on Playback .

#### Note

The farther away you move the mouse pointer from the slider, the more precise your setting will be.

#### Searching Several Cameras For Persons Or Objects

Scenario: Camera A is overlooking the gate and signals an event. The event image in the Alarm bar shows a delivery truck driving through the gate. You want to know if the truck has also passed the area monitored by camera B.

1. To do so, move the mouse pointer over the event image. Three icons are shown.
2. Open the Playback view mode by clicking on .
3. Play back the recording (end of recording) ①.



**Fig. 79: Playback the recording**

4. Drag&drop camera B from the camera bar into the Playback view.



5. The playback automatically selects the recording that follows the end of camera A's recording ②. You can continue this process for any number of cameras.

### Investigating Multiple Cameras For A Specific Point In Time

You want to know if other cameras have recorded something at a specific point in time:






1. Set the reference time using the Pin button ①.
2. Drag the cameras from the Camera bar ② one by one.

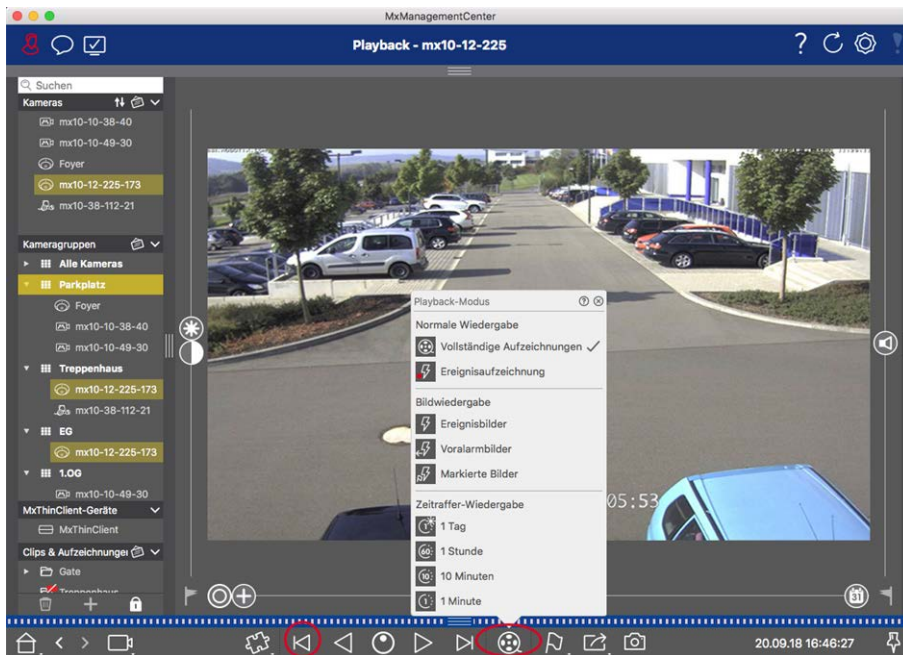




3. The application shows the event images of each camera that are closest to the specified point in time.

## Limiting The Search Range For An Incident


Scenario: Your camera monitors a parking lot from which a car had been stolen during the day. Follow these steps to locate the event as quickly as possible:

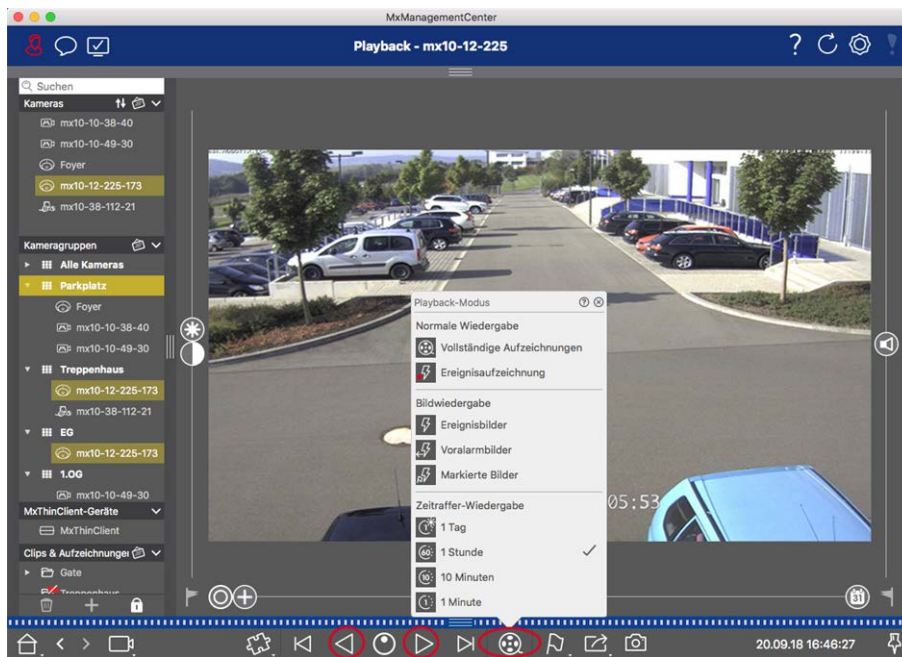
1. Start the Playback mode (right-click on ) and select an interval (e.g., 1 day )
2. Keep clicking on **Previous Image**  until the car can be seen again in the image.



3. Now select a shorter interval (e.g., 1 hour )
4. Keep clicking on **Next Image**  until the car has left the frame.
5. Keep on using shorter intervals until you have found the exact point in time of the incident.

### Note

You can also use the **Forward/Backward Playback**  /  buttons to play back using the same time leaps.



## Note

This feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

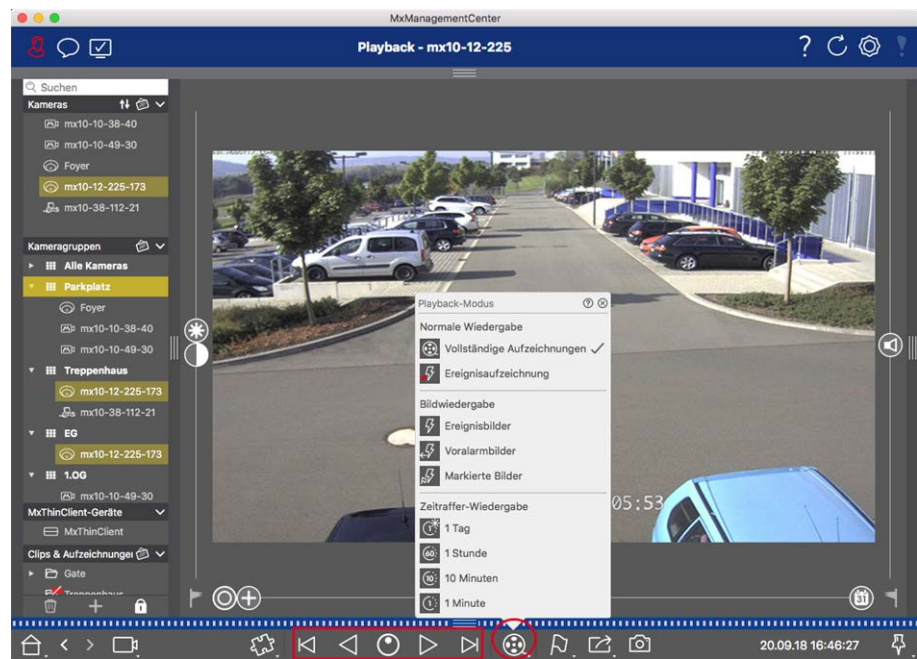
## Playing Back Recordings

### Playing Clips
















To play the clips, the play buttons and the playback mode are available in the Command bar of the Playback view. First set the desired mode for playing the recordings, such as event images only or with one hour time-lapse, in the **Playback mode**.

Next, use the **Playback Buttons** to browse and play back the images one-by-one or continuously in backward or forward direction.

**Note:** As mentioned in [General Operation Of The Playback View For MOBOTIX MOVE And ONVIF Cameras](#), playback of recordings is limited when using MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. Recordings of these cameras can only be played forward. For an overview of how the camera functions differ, see [Camera Feature Overview](#).




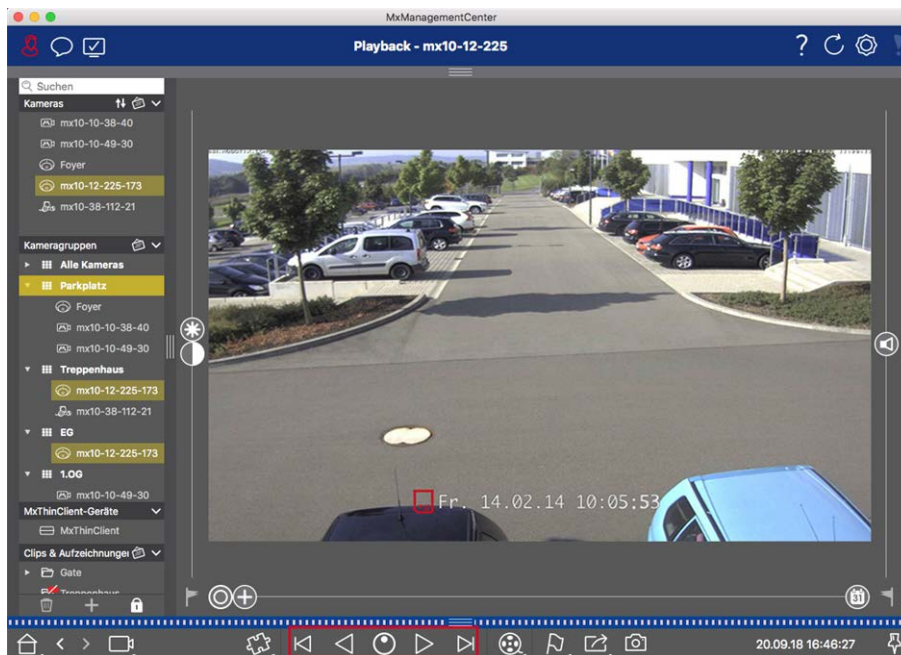
The following table summarizes the actions that you can perform with the playback buttons, depending on the playback mode:

Playback Mode	Playback Buttons
 Complete Recordings	 Jumps one image backward/forward.
	 Plays back all recordings backward/forward.
 Event Recording	 Jumps to the end/the start of the recorded sequence.
	 Plays back until the start/the end of the recorded sequence has been reached.
 Event Images	 Shows the previous/next image every time you click on the button.
 Pre-alarm Images	
 Highlighted Images	 The previous/next images are shown automatically one after the other.
 <b>1 day</b> time lapse	
 <b>1 hour</b> time lapse	
 <b>10 minute</b> time lapse	
 <b>1-minute</b> time lapses	







## Setting The Playback Speed

The **Playback Speed** option  allows you to speed up or slow down the playback of a recording. This also applies if you play back a recording backward.



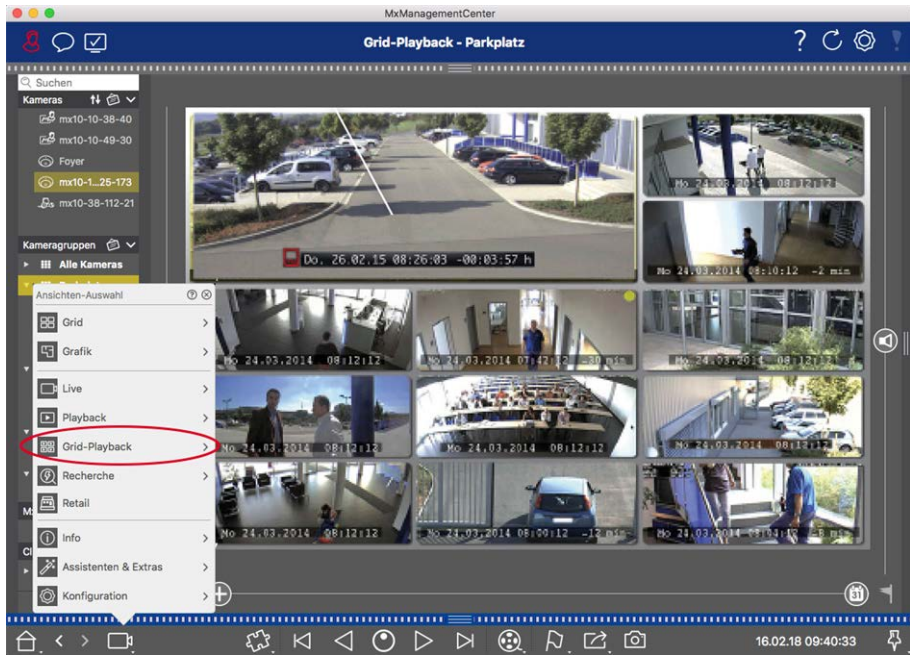
1. Click on **Playback Speed**. The background of the button turns dark gray.
2. To play the recording forward, left-click and hold the left mouse button and move the mouse pointer to the right. The further you move the mouse pointer down (to the right), the faster the playback speed.
3. To play the recording backward, left-click and hold the left mouse button and move the mouse pointer to the left. Again, the further you move the mouse pointer down (to the left), the faster the playback speed.

## Precise Positioning by Image

If you want to examine a scene very closely, you can view the recordings one image at a time. To do so, stop playback (click on  or ). Now use the two buttons  (forward) and  (backward) to navigate the images one by one.

## Searching And Playing Back In The Grid Playback

If a camera registers an event and you want to know if and what other cameras in that camera group were recording at that time, you can use Grid Playback to view the recordings of multiple cameras synchronously. The camera in the focus window is the lead camera. So, if you are browsing the recordings on this camera to find events or specific situations or if you are playing back recordings, the other cameras will follow the leading camera as soon as playback is paused. The program always shows the event images that are closest to the time stamp of the leading camera. If the time of the other cameras differs from the leading camera, the difference will be displayed at the lower border of the event images.



**Fig. 80: Grid Playback**

1. Open Grid Playback by right-clicking on the Navigation button and selecting Grid Playback.
2. Drag the desired camera group from the group bar.



3. Use the time stamp in the focus window ① or the calendar slider ② to set the time.
4. All cameras jump to the event image that is closest to the specified point in time. The time stamp beneath each camera image shows the time and date of the image. The difference to the reference time is shown at the right.

### Note

You can also use the Grid Playback by dragging a group onto the Playback view. The original camera will be shown in the focus window.

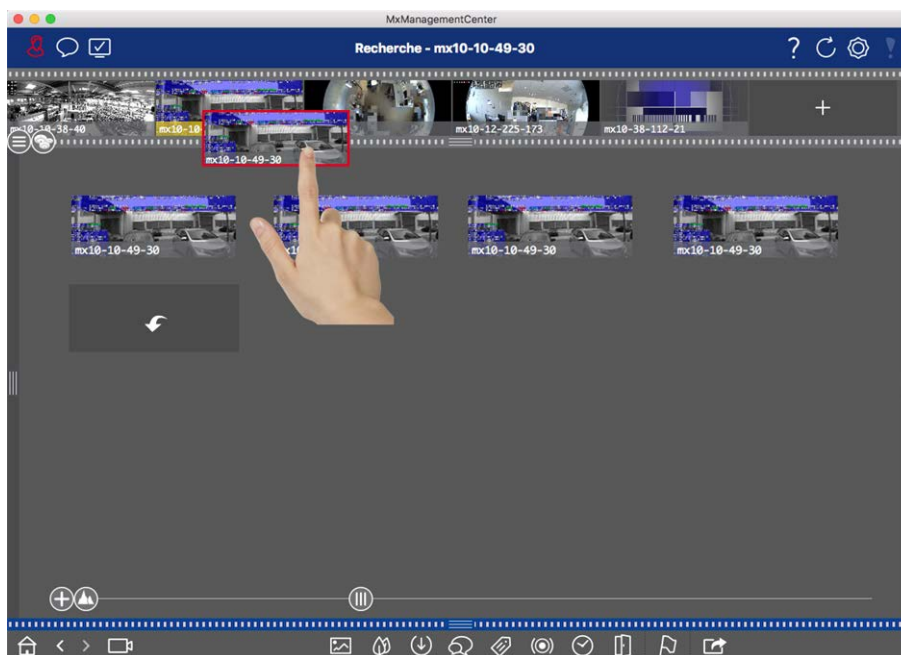
## Searching And Playing Back In The Research View

Use the Research view to search all recorded event images at once. You can filter the results by event type, that is, by bell events or by motion events to get a quick overview. Or you can reduce the results to the event you have marked as "important" in the Playback view. The search results are displayed as preview images including camera name, time stamp and type of event trigger. Note that you can play back the recording to an event directly from the event image. Double-click on the event image to open the Playback view and to start playing back the recording.

### Note:

The Research view is not available for MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8.

## Displaying Camera Event Images




**Fig. 81: Displaying camera event images**

Open the Camera bar by clicking on the upper gray frame border. Drag and drop the camera image of the desired camera into the image area of the view. The event images of this camera are displayed.

Another option is to: You can also drag and drop the desired camera image from the Device bar.

### Loading Additional Event Images

Sometimes, the number of recordings of a camera is quite large. In such a case, loading all event images

would take very long. To avoid this, only the latest events are loaded by default. However, you can manually load the remaining images. Click on **Load More**  to do so.

## Displaying Camera Group Event Images



**Fig. 82: Displaying camera group event images**

Open the Group or Camera bar by clicking on the upper gray frame border. Click on the frame border again to switch to the camera Group view. Drag&drop the icon image of the desired camera group into the display area of the view. The event images of the individual cameras in the camera group are displayed. Another option is to drag and drop the desired camera group from the Device bar.

## Filtering By Event Types

Initially, the event images of the selected cameras are sorted by time. You can filter the view according to event types.



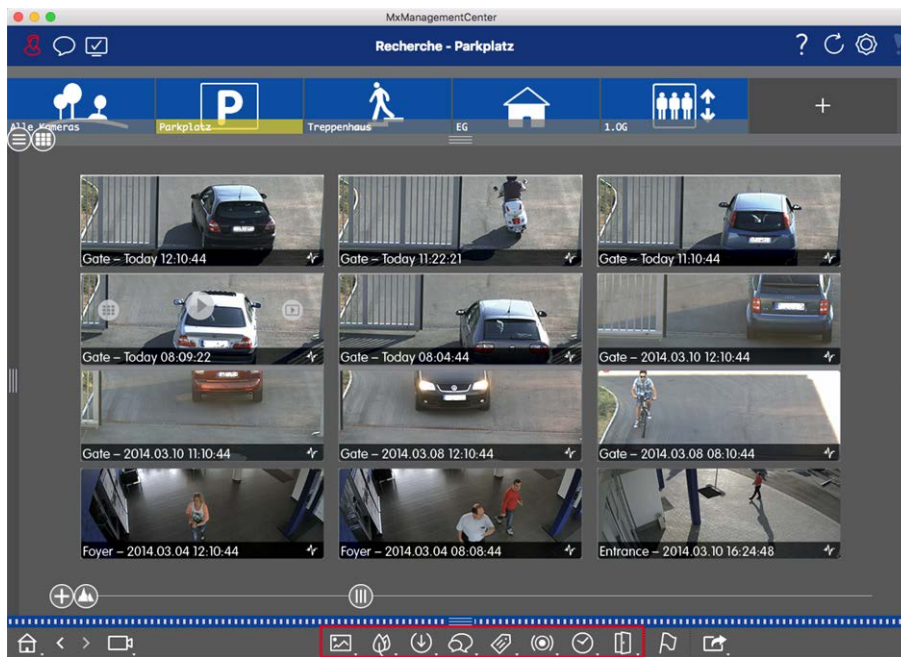










Fig. 83: Filtering by event types

Open the dialog for the respective event type by right-clicking on the corresponding icon in the Command bar. Then select one or more events. The display of events is filtered according to the selection.


Event Types	Subcategories	Explanation
<b>Image Analysis Events</b> 	MxActivitySensor	Triggered by continuous movement of people or objects in certain image areas.
	Video Motion Sensor	Triggered by movements in predefined motion windows.
	Behavioral Detection	The sensor reacts to different behavior profiles of the tracked objects in the image. Triggered by deviations from the recorded behavioral profiles.
<b>Environment Events</b> 	Shock Detector	Triggered by shocks on the camera (e.g., vandalism).
	Illumination	Triggered by exceeding or falling below the specified illumination.
	Microphone	Triggered by exceeding the set volume of the sounds picked up by the microphone.
	PIR Sensor	The passive infrared sensor registers objects with a heat signature moving within the sensor area. Triggered by exceeding the set threshold.
	Temperature	Triggered by exceeding or falling below certain temperature thresholds.

<b>Internal Events</b> 	Action Group Termination	Triggered by the completed execution of an action group.
	Custom Signal State	Triggered by state changes of user-defined signals.
	Recording	Triggered by state changes of the recording (start, end, etc.).
<b>News Events</b> 	IP Receive	Triggered by receiving a network message via TCP/IP.
	MxMessageSystem	Triggered by receiving a message from the MxMessageSystem via the MxBus or from the network.
<b>Meta Events</b> 	Event Counter	Triggered by the quantitative evaluation of other events.
	Logical AND Event	Triggered by the simultaneous occurrence of multiple events.
	Event Logic	Triggered by the order of occurrence of events.
<b>Signal Events</b> 	Signal Input	The camera's signal inputs can trigger events. For example, you can connect the door bell with the signal input so that an event is triggered when the bell is rung.
	User Click	Triggered by clicking on the <b>User Click</b> softbutton.
<b>Time Events</b> 	Periodic Event	Triggered by periodically recurring events.
	Random Event	Triggered by a random time with a predefined expected frequency.
	Time Task Event	Triggers at fixed points in time.
<b>Door Station Events</b> 	Ring event	Triggered by activation of the door bell.
	Mailbox Message	Triggered by leaving a voice mailbox message.
	Door Station Events	Triggered by opening the door.
	RFID Card Rejected	Triggered by the use of an invalid RFID card.

PIN denied


Triggered by entering a wrong PIN.

## Marking Events

When browsing event images, you can right-click on an image to mark the event as "important." The same applies to events that you have marked as "important"  in the Playback view or in the Alarm bar: You can view them as a collection in the Research view.

## Playing Back Events

### Instant Playback:

You can watch the recording of an event directly in the event image (instant playback). To do so, move the mouse pointer over the image. Three icons appear. Click on  to start the playback.

#### Note:

A click into the image after starting the playback opens the recording in full screen mode in the current program window.

### Playback View:

You can also play back the recording in the Playback view. To do so, move the mouse pointer over the event image. Click on  to switch to the Playback view.

## Searching And Playing Back Door Events

Door Station-specific events and recordings can be searched for and played back with MxMC, just like all other events and recordings. However, there are some small differences, which are discussed in more detail below.

#### Note

Door Station functions are not supported by MOBOTIX MOVE cameras and third-party cameras that provide ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

## Watching and Playing Doorbell Recordings

### Bell Settings

If there were visitors ringing in your absence, you will see this by checking the counter near the Bell Settings

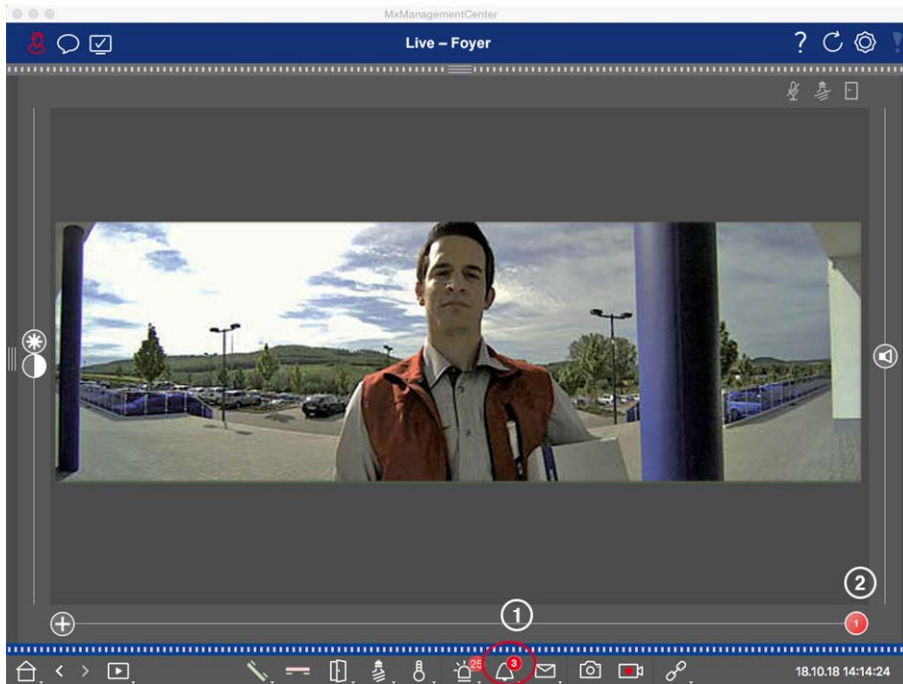


① in the Live view.

#### Note

The number displayed in the counter depends on the filter settings configured in the Alarm bar.





1. Click on to see who has rung. Instead of the live image, the event image for the last bell activation is displayed, and a red slider with the number "1" is displayed on the right side of the multislider ②.
2. If there are several doorbell recordings, click on the red slider and drag it to the left until the next higher number is displayed in the slider. At the same time, the event image also changes to the image of the previous bell activation.
3. To play the respective doorbell recording, click on again. The view switches to the Playback view. Click on . The recording is played back.

### Alarm Bar


A missed bell activation is also indicated by a green Alarm bar. This only happens if the **Alarms** option has been enabled for the corresponding cameras in the **Camera Configuration** dialog and if the bell event has been selected as an alarm triggering event. When the Alarm bar is opened, a green bar below the event image indicates a missed bell activation. You can watch the recording of the missed bell activation directly in the Alarm bar using the **Instant Playback** function.

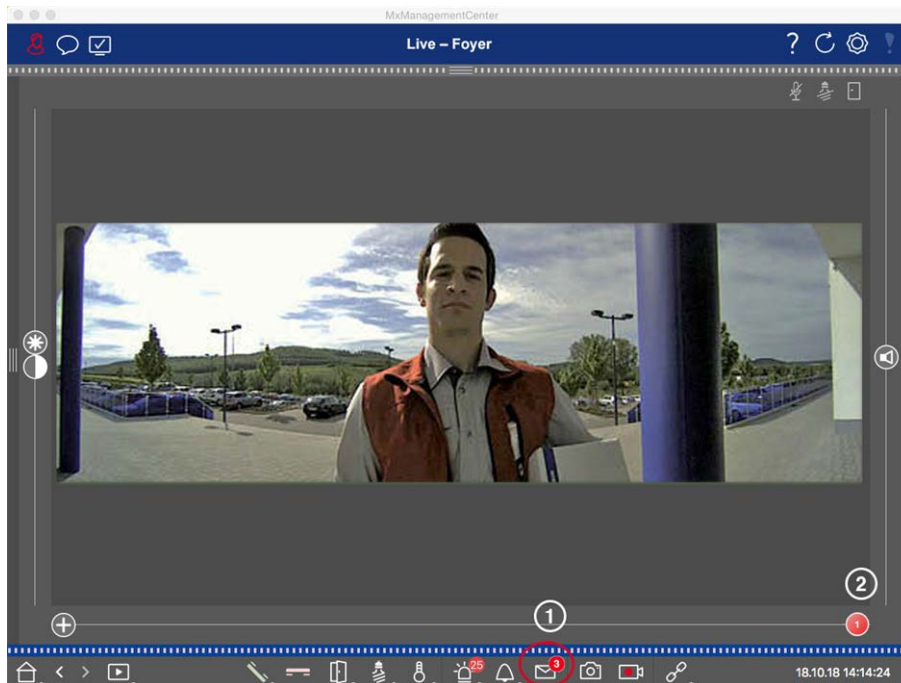





1. To do so, move the mouse pointer over the event image. Three icons appear. Click on . The recording is played back directly in the Alarm bar.
2. You can also jump from the Alarm bar directly to the recording in the Playback view and play it back without having to search for it there. To do this, move the mouse pointer over the event image once again and click on .

## Viewing and Listening to Voice Mailbox Messages



### Voice Mailbox Messages

If visitors have left messages in your absence, this is indicated by the counter next to the voice mailbox messages  ① in the Live view.



1. Click on  to see who left a message. Instead of the live image, the event image for the last message is displayed, and a red slider with the number "1" is displayed on the right side of the multislider ②.
2. If there are several messages, click on the red slider and drag it to the left until the next higher number is displayed in the slider. At the same time, the event image also changes to the image of the previous message.
3. To play and listen to the respective message, click on  again. The view switches to the Playback view. Click on . The recording is played back.

### Alarm Bar

A voice mailbox message is also signaled to you in the Alarm bar by turning red, and the new event image is marked with the  icon. This only happens if the **Alarms** option has been enabled for the corresponding cameras in the **Camera Configuration** dialog and if the voice mailbox message has been selected as an alarm triggering event. To play back the message, move the mouse pointer over the event image. Three icons appear. Click on . The message is played directly in the Alarm bar.



## Searching and Playing Back Door Events

Like all events, door-specific events (e.g., attempts to open a door with an invalid PIN) can also be searched and played back. Various options are available: [Playback View](#), [Grid Playback](#) and [Research View](#).

## Exporting Recordings

Using the Playback view, you can export recorded video data from one camera, while the Grid Playback allows exporting from several cameras at once. Use the Export bar to combine several clips to one export. You can save individual images with the **Snapshot** function.

## Saving Snapshot Images

Snapshot images can be created in the Live and the Playback views for the displayed camera, and in the Grid view and Grid Playback for all displayed cameras.

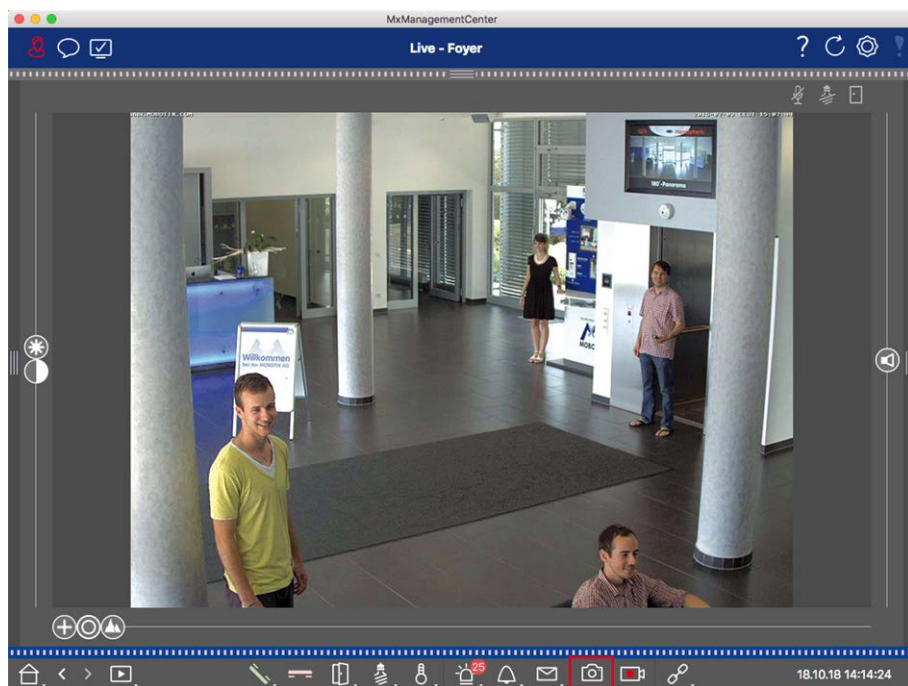



Fig. 84: Saving Snapshot Images



To do so, click on the **Snapshot**  button in the Command bar. By default, images are saved in the image folder of the user account. The destination path and the image settings for saved images can be selected via the **MxManagementCenter > Settings > Snapshot Images** (Mac) or **File > Settings > Snapshot Images** (Windows) menu item.

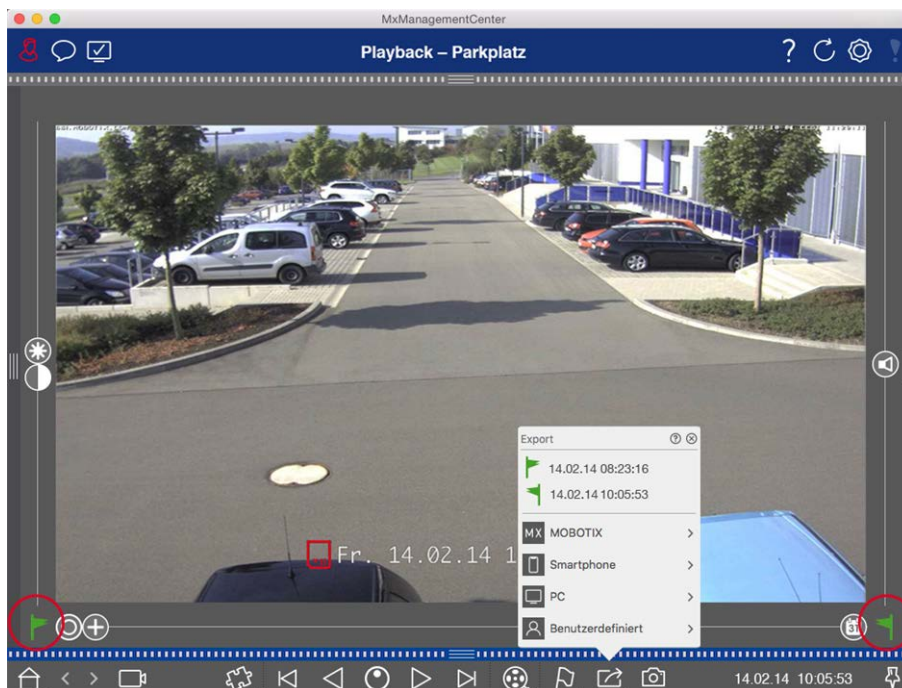
## Exporting Camera Recordings

The Playback view allows setting a time range for a recording (event recording or continuous recording) in order to select it for exporting.

1. Open the Playback view.
2. Drag the desired camera from the Camera bar or the Device bar.
3. Find the start of the relevant recording.
4. Specify the export range. There are two possibilities for this export:

#### Select export range using visual markers:


1. Mark the start of the clip by clicking on the gray flag on the left .
2. Play the recording until you have reached the end of the clip you want to export. Mark the end of the clip by clicking on the gray flag on the right. Both flags are now green.
3. Click on **Export**  and select the export profile.

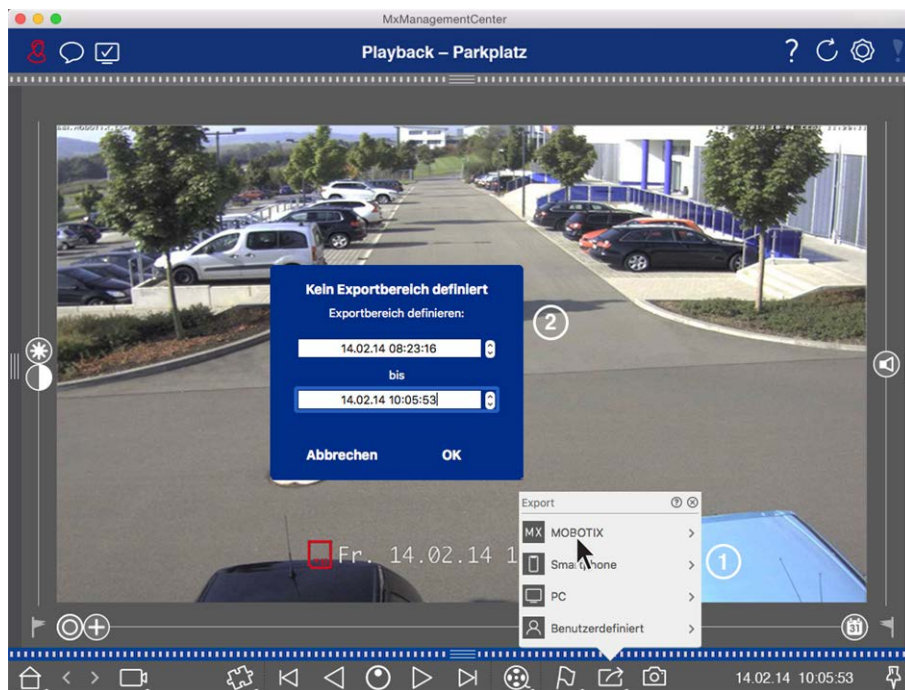


4. The Export dialog box appears. Select a target folder and enter a file name.

#### Manually capture export range:

First, make sure that no export area has yet been set using the "export flag." If an export area has already been defined, you can delete it. Do so by right-clicking on a flag and selecting **Delete Time Range**.

1. Click on **Export** . Then click on the desired export profile ①. The dialog box used for defining the export range appears.



2. Specify the export range ②.
3. Click on **OK** and then on **Save**.

#### Note


If you select the **Automatically Import After Export** checkbox in the Export dialog, the exported clip will be automatically added to the Camera bar and in the Device bar to the **Clips & Recordings** section.

## Exporting Camera Group Recordings



The Grid Playback allows for setting a time range for a recording (event or continuous recording) in order to select it for exporting from multiple cameras.

1. Open the Grid Playback.
2. Drag & drop the desired camera group from the Group bar or the Device bar.
3. Find the start of the relevant recording for the camera in the focus window. At the same, the search is extended to the other cameras in the group, and the recordings with the closest relevance to those in the focus window recording will be displayed in the tiles.
4. Specify the export range. There are two possibilities for this export:

#### Select export range using visual markers:

1. Mark the start of the clip by clicking on the gray flag on the left .
2. Play the recording until you have reached the end of the clip you want to export. Mark the end of the clip by clicking on the gray flag on the right. Both flags are now green.



3. Instead of exporting all cameras of this group, you can also select one or more cameras for exporting. To do so, right-click on **Export** . A circle appears on the camera images in the top left corner. Select the desired cameras by clicking on the corresponding circles ①.
4. Then click on **Export**  and select the export profile ②. The Export dialog box appears.

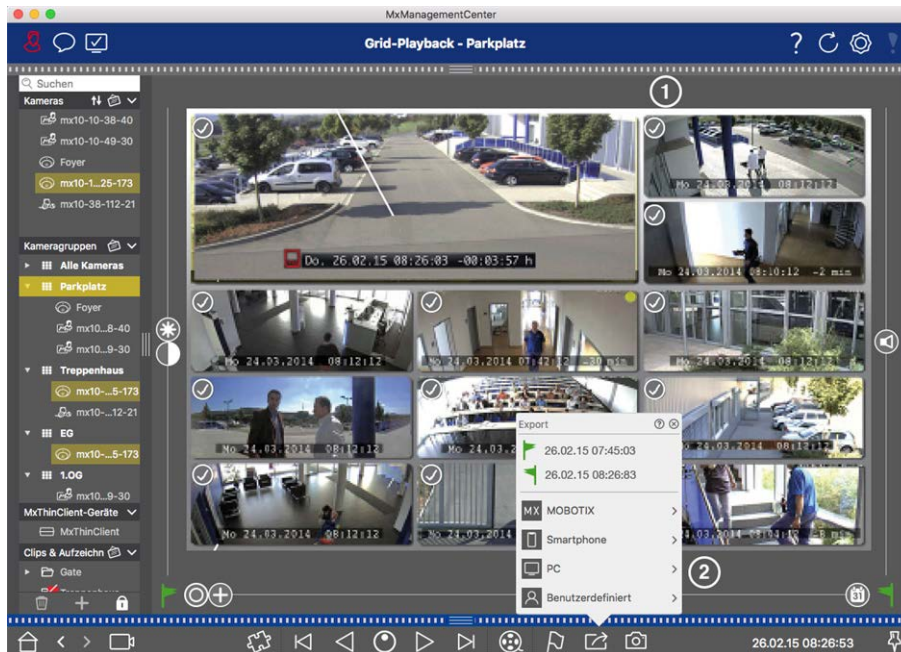




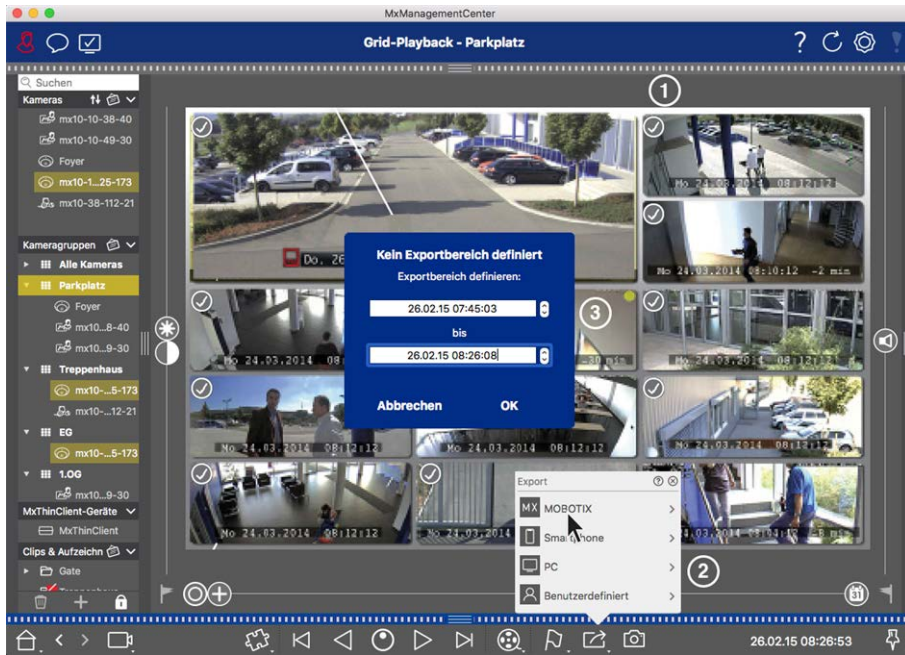
Fig. 85: Select export range using visual markers

5. Select a target folder and enter a file name.

### Manually capture export range:

Make sure that no export area has yet been set using the "export flag." If an export area has already been set, you can delete it. Do so by right-clicking on a flag and selecting **Delete Time Range**.

1. Before you define the export range, you can limit the selection if you do not want to export all of the recordings that appear in the tiles. To do so, right-click on **Export** . A circle appears on the tiles in the top left corner. Select the desired cameras by clicking on the corresponding circles ①.
2. Click on **Export**  and select the export profile ②. The dialog box used for defining the export range appears.



**Fig. 86: Manually capture export range**

3. Specify the export range ③.
4. Click on **OK** and then on **Save**.

### Note: Automatic Import

If you activate the **Automatically Import After Export** option, the exported clips are automatically added to the Group bar.

## Exporting Recordings From The Export Bar

The Export bar provides a quick and easy way to take camera recordings and MXG clips by dragging and dropping and create a list of recordings for subsequent exporting. From the bar, you can export recording time ranges as combined clips. You can add the clips in the Playback view, in Grid Playback, in the Research view and in the Retail view. After an export, the clips are not deleted automatically. It is deleted when the program is closed.

### Adding Clips for Exporting in the Playback View

1. Drag the desired camera or the desired clip from the camera bar or from the Device bar.
2. Find the recording you are interested in.



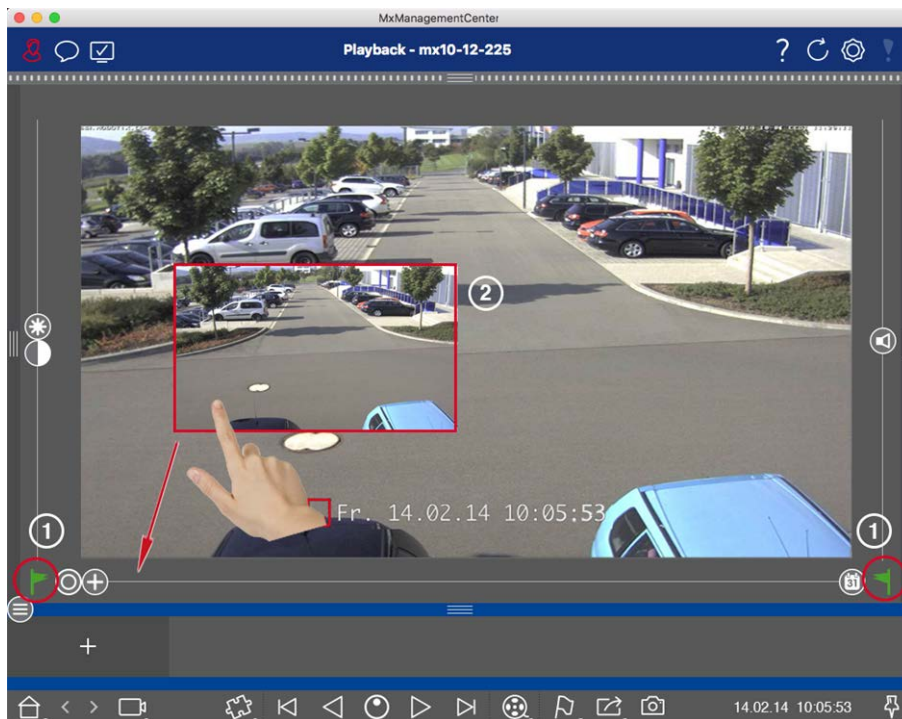






Fig. 87: Adding Clips for Exporting in the Playback View

3. Mark the start of the time range by clicking on the gray flag on the left . Play the recording until you have reached the end of the clip you want to export. Mark the end of the time range by clicking on the gray flag on the right . Both flags are now green ①.  
You can set the end marker first (gray flag on the right), then play the recording from the beginning so you can set the start marker (gray flag on the left) at the desired point.
4. Click on the image of the recording and maintain the position until you see a scaled-down image of the recording ②.
5. Drag this image to the Alarm bar (regardless of whether or not it is open). The Export bar will open automatically, allowing you to save the image there.


### Adding Clips for Exporting in Grid Playback

The Export bar in Grid Playback is useful for combining **sequential time ranges** of different cameras.

1. Drag the desired camera to the focus window in the grid and find the relevant recording.
2. Mark the start of the time range by clicking on the gray flag on the left . Play the recording until you have reached the end of the clip you want to export. Mark the end of the time range by clicking on the gray flag on the right . Both flags are now green.
3. Click on the image of the recording in the focus window and maintain the position until you see a scaled-down image. Drag this image to the Alarm bar (regardless of whether or not it is open). The Export bar will open automatically, allowing you to save the image there.



4. After you have set the end marker of the time range, the recordings of all other cameras will reposition to show the same time. Drag the camera with the next recording in the sequence of events into the focus window. Mark the start and the end of the clip as described above, then drag the recording into the Export bar.
5. Repeat these steps until you have added all recordings you want to export.

#### **You can also add time ranges from several cameras in the Export bar.**

1. Simply drag the desired camera group from the Group bar or from the Device bar and search for the relevant recording.
2. Mark the start and the end of the clip as described above. The recordings of the other cameras will reposition accordingly.
3. Right-click on **Export** . A selection box with a checkmark appears in the top left corner of the recordings. If you do not want to add the recording range of a specific camera to the list, uncheck the selection box for that camera.
4. Click on the image of the recording in the focus window and maintain the position until you see a scaled-down image. Drag this image to the Alarm bar (regardless of whether or not it is open). The Export bar will open automatically, allowing you to save the image there. The selected clips will be copied to the Export bar.
5. Repeat these steps until you have added all time ranges you want to export.


#### **Adding Clips for Exporting in the Research View**


In the Research view, you can add recorded event sequences to the list. The length of the event sequences is currently 10 seconds.

1. Set filters by camera, by group or by event type as needed.
2. Right-click on **Export** . A selection box appears on the event images in the top left corner. Select the desired events by clicking on the corresponding selection boxes.
3. Open the Export bar by clicking on the lower frame border of the open Alarm bar. Click on an event image and maintain the position until you see a scaled-down event image. Drag this image to the Export bar. The clips of all selected event images are added to the Export bar. (An alternative option is: In the Export bar, click on . The clips of all selected event images are added to the Export bar.)
4. If needed, you can set new filters and add more event images to the Export bar.

#### **Adding Clips for Exporting in the Smart Data View**

You can add clips for the individual Smart Data transactions to the Export bar. The default clip length is ten seconds on either side of the transaction time stamp, that is, for a total of 20 seconds.

1. Right-click on **Export** . A selection box appears on the preview images in the top left corner. Select the desired transactions by clicking on the corresponding selection boxes.

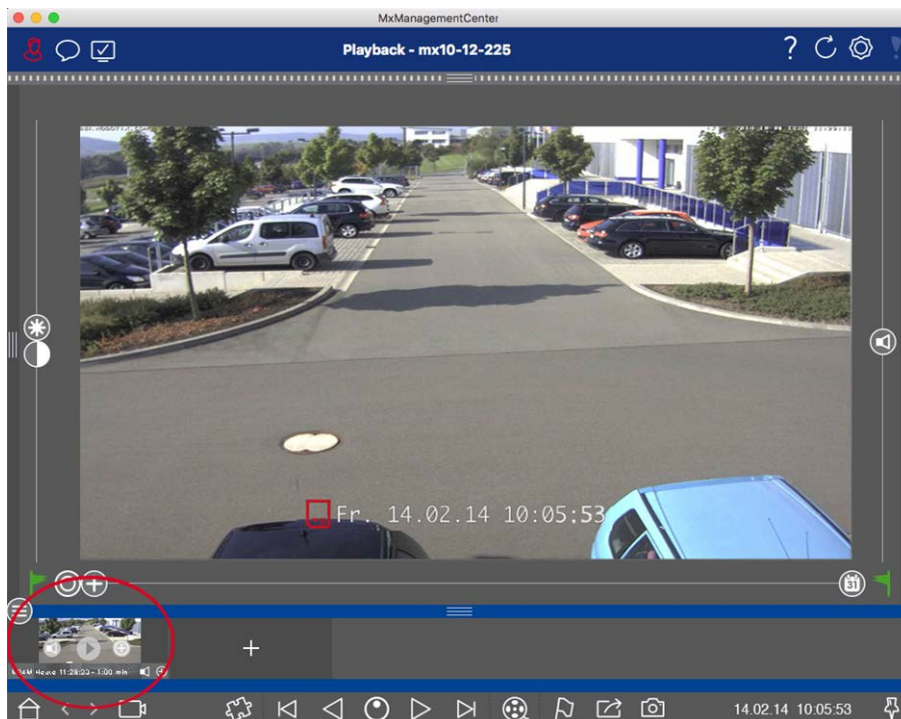
2. Open the Export bar by clicking on the lower frame border of the open Alarm bar. Click on a preview image and maintain the position until you see a scaled-down preview image. Drag this image to the Export bar. The clips of all selected preview images are added to the Export bar. An alternative option is: In the Export bar, click on . The clips of all selected preview images are added to the Export bar.







You can also add clips for the individual preview images of the selected transaction to the Export bar:

1. Drag the transaction preview image in the **Preview Image** section and drop it on the Export bar.

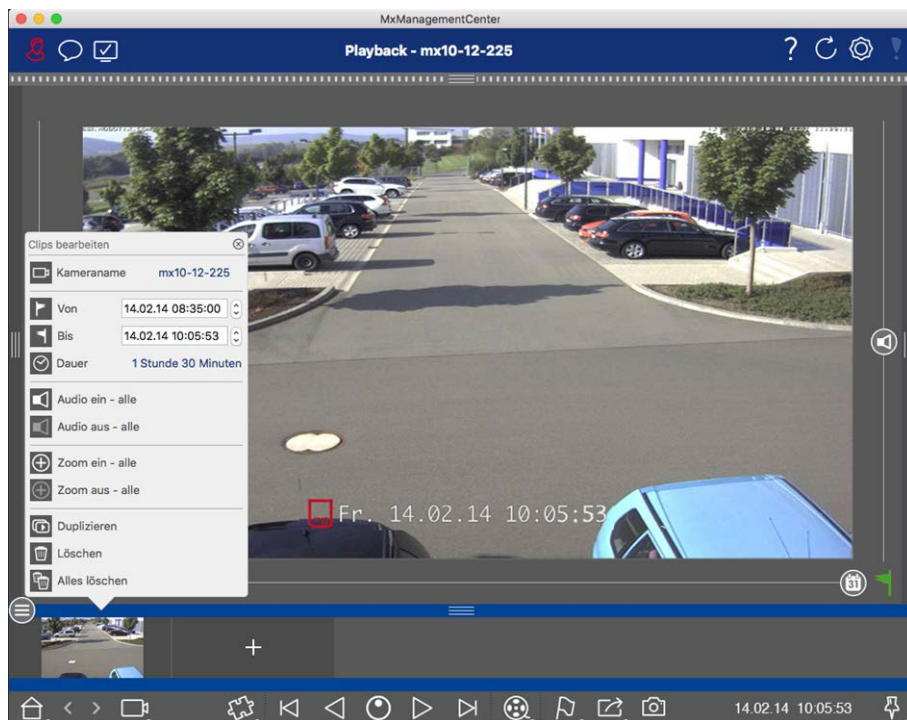
## Editing Clips

If you have added a recording to the Export bar for which you previously used distortion correction or zoom features during playback, you can choose to export the clip with or without zoom. Likewise, you can export the clip with or without audio. To do so, move the mouse pointer over the recording in the Export bar. Three icons appear:




- : Clip is exported with zoom.  
Click on  to export the clip without zoom. The icon is disabled.
- : By default, the clips are exported with audio (provided that audio had been recorded).  
To export without audio, click on . The icon is disabled.
- : Note that you can play back the individual clips directly in the Export bar before exporting.  
Click on  to do so.

Right-click on a clip to open a context menu with these functions: Manually adjust time range, activate/deactivate audio and zoom for all clips, duplicate a clip, delete one or all clips.



## Exporting Clips

Click on **Export** , then select MOBOTIX to export an MXG clip. Select a different profile to create an AVI, MP4 or MKV file. However, depending on the data source (e.g. MOBOTIX NAS) not all export profiles are available.

Select a destination path in the Export dialog and enter a file name. Activate the **Automatically Import After Export** checkbox in the file selection dialog to automatically add the MXG clips to the Export bar after exporting.


## Special Search Functions

There are several special functions available for searching records.

### Note:

These special features are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

## Searching With Post Video Motion Detection (Post VM)

Post video motion detection (Post VM) is added to MxMC by default as a plug in. [Searching With Post Video Motion Detection \(Post VM\)](#), p. 182 allows searching recordings for changes in one or more image areas of a camera. To open the function, right-click in the Playback view or in the Grid Playback on the plug in button  in the Command bar and then select **Post Video Motion Detection**

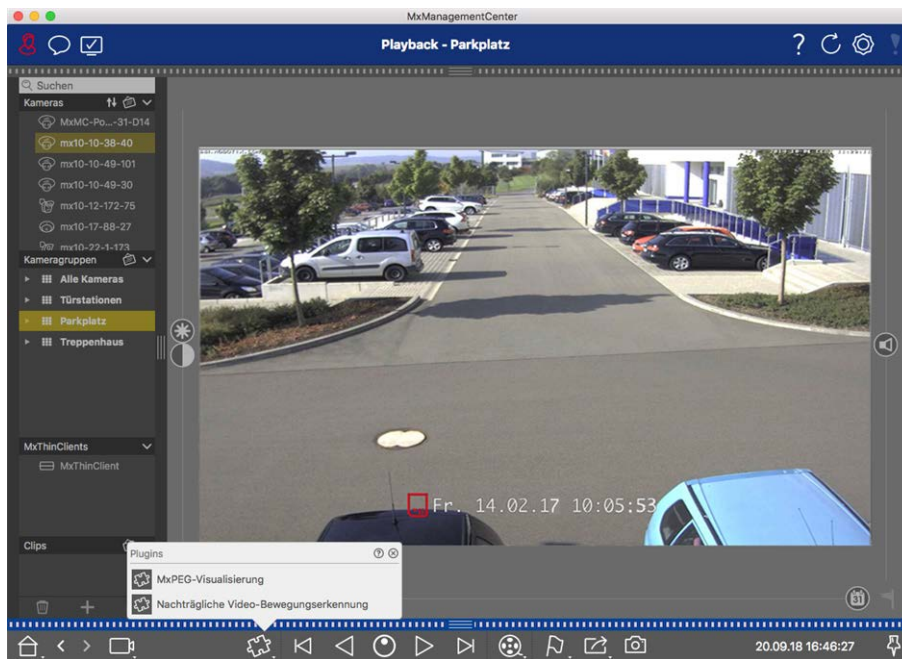


Fig. 88: Post video motion detection

## Histogram: Graphical Representation of the Frequency Distribution of Events

The histogram in the Histogram bar illustrates the distribution of the event frequency and thus provides a quick overview of the events of one or more cameras. Open the Histogram bar by clicking on the dark gray border on the **right margin** of the MxMC (see [The Histogram: Graphical Representation Of The Frequency Distribution Of Events](#), p. 185).

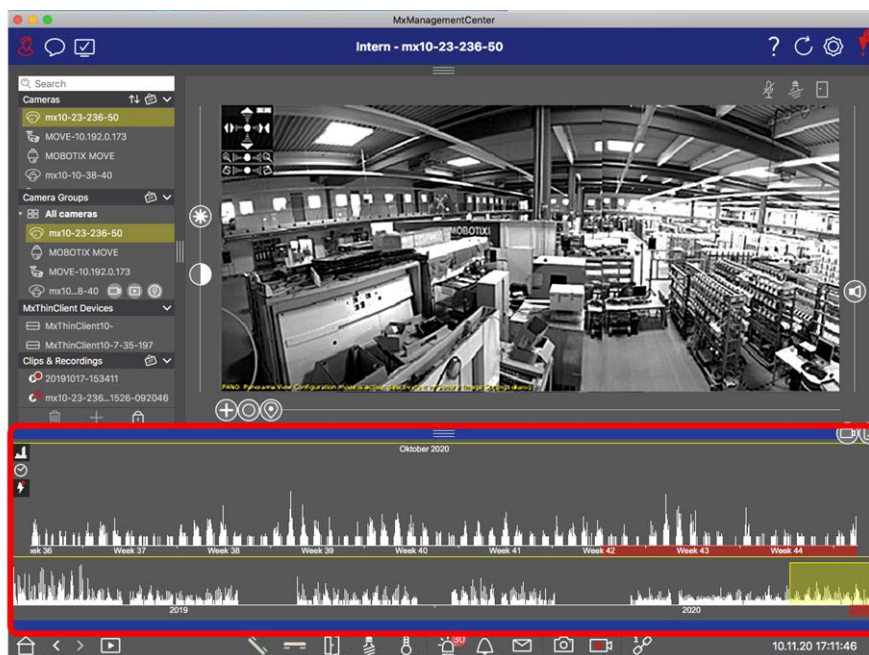


Fig. 89: Histogram bar



## Smart Data-System: Transaction data in combination with video surveillance

With the MOBOTIX Smart Data System, transactions in MxMC can be linked to the video recordings made at the time of the transactions. It enables you to quickly find and review any suspicious activities. This makes it easy to find and review suspicious activity (see [Smart Data-System](#), p. 187).

### Note:

In order to use the MOBOTIX Smart Data System, you must purchase a Smart Data License.

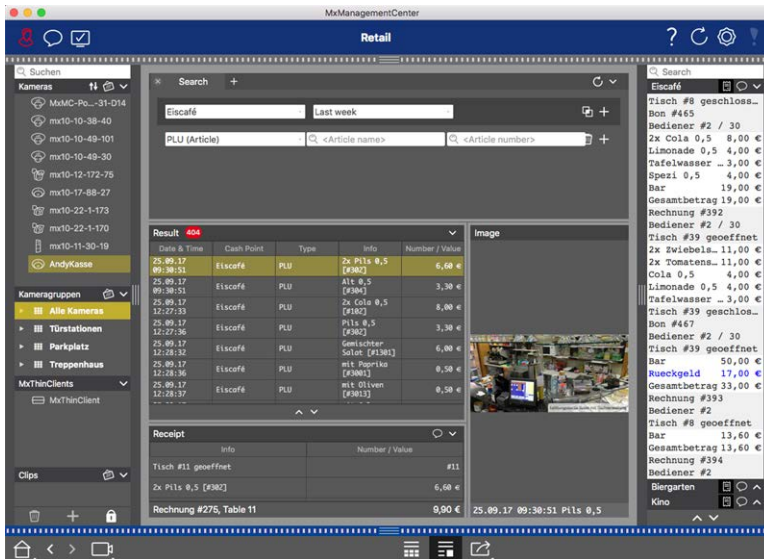



Fig. 90: Smart Data System

## Searching With Post Video Motion Detection (Post VM)

The post video motion detection allows searching recordings for changes in one or more image areas of a camera. This is done with the help of “motion windows.”

### Creating motion windows

1. Open the context menu of the plug in by right-clicking on . Select **Post Video Motion detection**. The dialog for setting up the post VM settings opens.

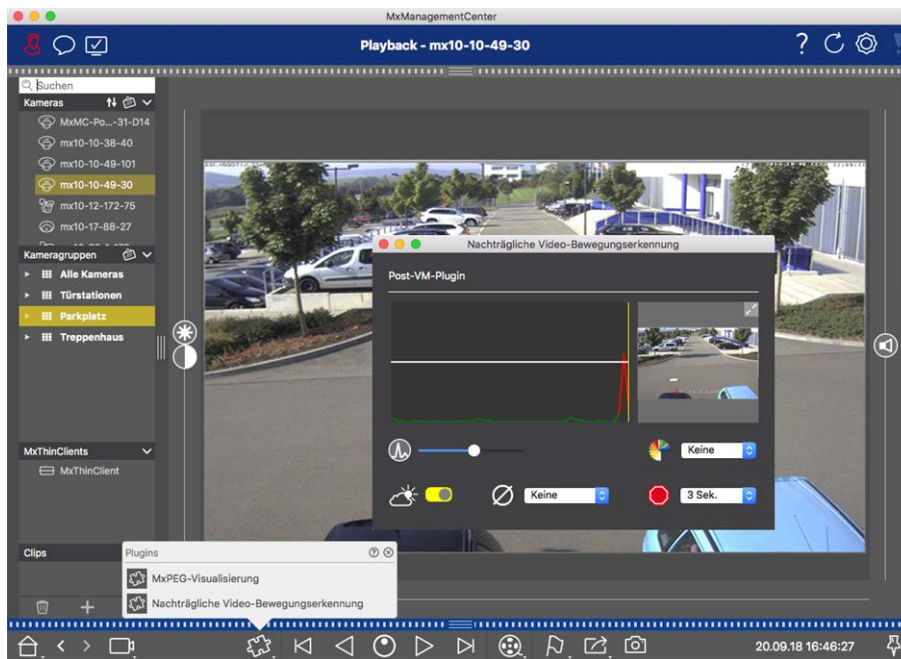






Fig. 91: Creating motion windows

2. Click on  in the image area on the right-hand side of the settings dialog. A new window with a pre-defined video motion window opens.
3. You can execute the following commands:
  - Modify the size of the video motion window: By moving the sides or the corners of the window.
  - Create additional video motion windows: Draw a new window with the mouse.
  - Duplicate a video motion window: Click on .
  - Delete a video motion window: Click on .
  - Deactivate a video motion window: Click on .

To close the editor window, click on  in the top right corner of the window.

## Setting the trigger conditions

The Post VM window provides options for setting different parameters that influence the motion detection results.





Fig. 92: Setting the trigger conditions

- **Trigger level:** (White bar in diagram)  
Controls the trigger threshold of the video motion windows. Move the bar to the bottom to recognize a movement if only a few pixels change from one image to the next. Move the bar to the top to recognize a movement only if many pixels change.
- **Sensitivity:**  
This setting controls how large the change of each pixel in a video motion window must be to count as movement. Together with a low threshold value, this setting can be used to fine-tune video motion detection. If you move the slider to the right, the detection sensitivity increases, i.e., even smaller changes will trigger the detection.
- **Correct Changes in Illumination:**  
Activate this option to avoid false alarms, such as when lighting conditions change rapidly (for example, from sun to a cloudy sky).
- **Deadtime:**  
This sets the amount of time after the last detected post video motion event, during which pixel changes in a video motion window are ignored.
- **Median Value:**  
Enter a long duration (2.0 sec., for example) to improve the detection of slow movements.  
**Note:** Setting a value that is too high can lead to smears in the preview window.
- **Color Filter:**  
Select a color to limit the motion detection to a specific range or colors. The Post VM event will trigger if this color changes during post video motion detection.

## Searching for changes in Video Motion Windows

Once you have defined the video motion windows and have set the trigger conditions, you can search the recordings for changes in the video motion windows. Use the playback buttons in the command bar at the bottom.

It is best to use the **Backward/Forward playback** ⏮ ⏭ buttons when searching continuous recordings. For searching in event images, use the **Previous/Next image** ⏮ ⏭ buttons. If MxMC detects a change within a video motion window, the frame of that window turns red and the search stops.

## The Histogram: Graphical Representation Of The Frequency Distribution Of Events

The histogram illustrates the **distribution of event frequency** and thus provides a quick overview of the events of one or more cameras.

### Opening The Histogram Bar

To open the Histogram bar, click on the dark gray ribbon on the right margin of MxMC. To begin with, the histogram always shows the entire range of the events logged by the camera.

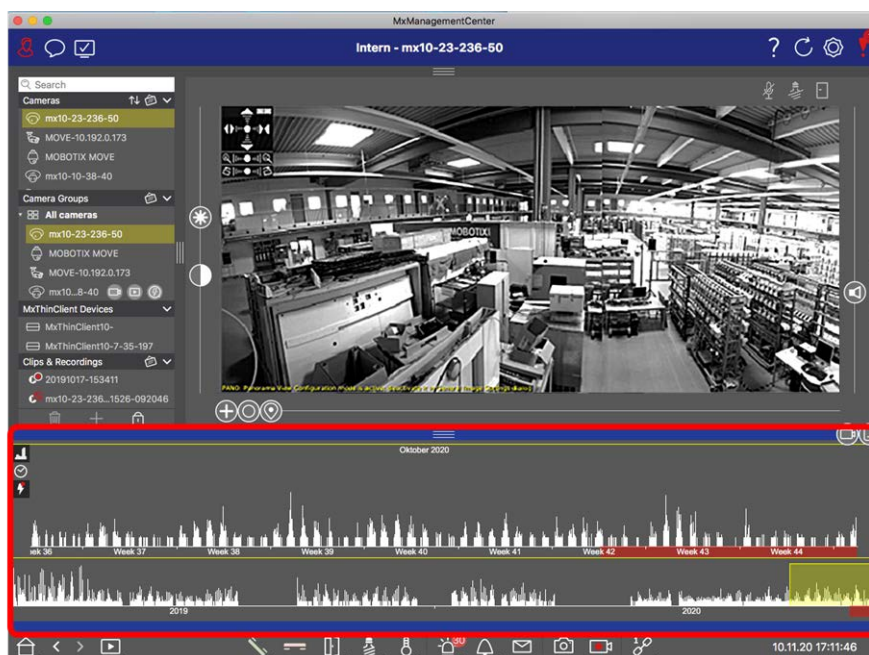



Fig. 93: Opening the histogram bar


## Working With The Histogram

### Structure Of The Histogram

The histogram is split into the overview area on the top and the zoomed area of the selected range below.

The yellow scroll bar in the overview area shows the range that is displayed in the zoomed area. Click on  to set the displayed time range in the zoomed area (for example, six hours or one day). If you have set the

zoomed area to  "Custom," you can modify the displayed time range by dragging the edges of the scroll bar.

If you want to see only events in the zoomed area that have triggered recordings, click on . The pink area indicates the time range for which recordings exist for the logged events.

#### Note

The range of logged events may reach farther back than the recordings.

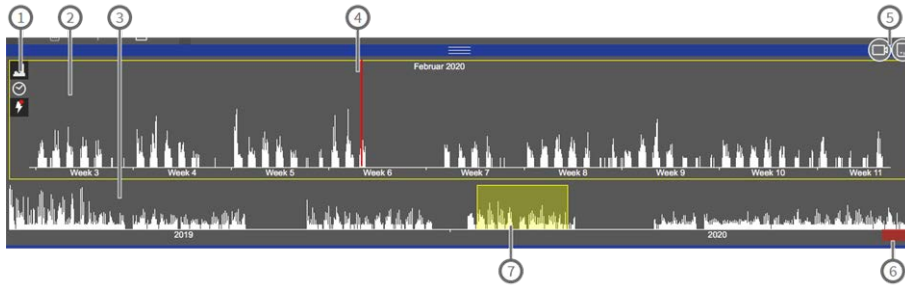





Fig. 94: Histogram bar in detail



#### User interface elements in the histogram

- ①:  Resolution of zoomed area (high / low),  set zoom range (custom or pre-defined), 
- ②: Zoomed area
- ③: Overview area
- ④: Current time marker
- ⑤: Event type and camera / camera group
- ⑥: Time range with recordings
- ⑦: Time range in zoomed area




#### Displayed Time Range

The timestamps at the top and bottom of the histogram show the first and the last of the available events logged by the camera, respectively. You can change this range manually. A small cross at the left of the time range indicates that it has been changed manually. Click on the cross to reset the timestamps to their original values.














#### Filter Feature

You can filter the display by camera, by group or by event type. There two sliders for this purpose: the group/camera slider  and the event type slider . To set the filters, move the sliders until you see the desired results. The following filters are available:


##### ■ Camera filter

-  all cameras
-  cameras from the current group
-  current camera

#### ■ Event filter

-  MxActivitySensor events
-  video motion events
-  PIR events
-  microphone events
-  signal input events
-  temperature events
-  illumination events
-  bell events
-  voice mailbox messages
-  Door Station events
-  RFID rejected
-  PIN rejected
-  all event types

### Distribution Of Frequency

The length of the bars indicates the frequency of logged events per time unit. Click on  to examine the distribution of frequency for a specific point in time in more detail. The display switches to a higher resolution. For more detailed information on a specific point in time with a high event frequency, click on the related spot in the zoomed area or the overview area. In the Playback view, a red marker is also displayed to indicate the current position.

## Smart Data-System

With the MOBOTIX Smart Data System, transaction data can be linked to the video recordings made at the time of the transactions. Smart Data source can be e.g. MOBOTIX P7 Apps (no license required) or general Smart Data sources (license required) like POS systems or license plate recognition systems.

The Smart Data System enables you to quickly find and review any suspicious activities. The Smart Data Bar and the [The Smart Data View, p. 64](#) are available for searching and analyzing transactions. The **Smart Data Bar** provides a direct overview of the most recent transactions (from the last 24 hours) and for this reason it is convenient to use it for reviews and searches.

Smart Data Sources can be added and configured in the [The Components View, p. 65](#).

## Overview of recent transactions in the Smart Data Bar

The Smart Data Bar provides a direct overview of the most recent transactions (from the last 24 hours) and for this reason it is convenient to use it for reviews and searches.

## Opening the Smart Data Bar

The Smart Data Bar is available in all views. To open the Smart Data Bar, click on the right frame border of the application. The Histogram bar will appear. Click on the frame border again to switch to the Smart Data Bar. You can also open it from the menu (**View > Smart Data Bar**).

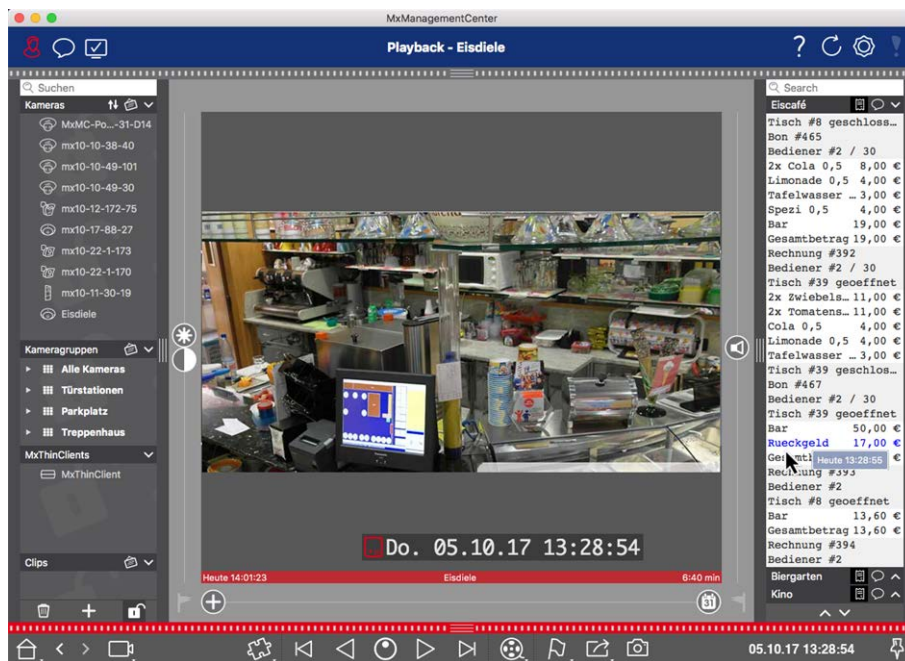




Fig. 95: Smart Data view

## Using the Smart Data Bar

If a Smart Data Source, e.g. a cashpoint is transmitting new data to the camera, the Smart Data Bar is automatically updated. It enables live surveillance of the cash point and of the retail data of a camera. You can group transactions that belong together and display them.

- **Displayed time range:** The Smart Data Bar only contains the data from the last 24 hours. You can search data that is older than 24 hours in the [Smart Data-System, p. 187](#).
- **Search feature/Filter feature:** You can filter the entries for each cash point's camera by search term. The hits are highlighted in yellow. You can jump to the next/previous search result using the two arrows on the lower edge.
- **Do not show system transactions:** By default, the Smart Data Bar shows all transaction that are stored on the corresponding camera. Some of the transactions, e.g. from a cash point, show purchases and events that are directly associated with the purchases, such as the "Total sum." Other transactions show only administrative events, such as when the cashier logs on. Click on  to enable/disable display of system transactions.
- **Do not group receipts (for VECTRON cashpoints only):** Transactions are grouped by receipt number or purchase by default. Individual sales can be grouped if the cash point signals the conclusion of the transactions by creating a receipt number. Counter sales can be grouped by counter if the counter is settled in the cash point system. Click on  to disable display by groups. The data will be reloaded.
- **Playback transactions:** Open the Playback view by double-clicking on a transaction line. The transaction will be played back.

## Detailed search and analysis in the Smart Data View

You can search and filter data of one or more Smart Data cameras in the Smart Data View.

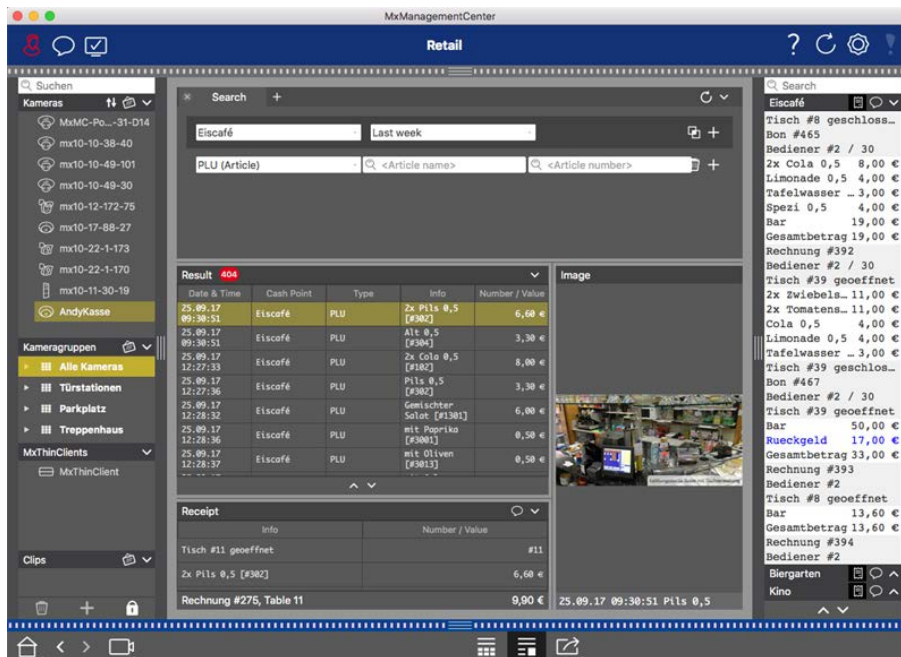


Fig. 96: Searching in Smart Data view

## Defining Search Queries

You can define and store several search queries. Enter a name for each search. The search query will be automatically saved every time the search criteria are changed. This also happens when individual search parameters and terms are changed.


1. By default there is one search query already. Click on the tab and enter the desired name.
2. Select the desired Smart Data Source. You can select more than one or even all Smart Data Sources for a search query.
3. Specify the period of time for the search. You can also enter a period of time that allows you to enter any start and end time stamp, in addition to a series of preset time windows (including “today”).
4. You define the search criteria to limit the scope of the search once you have selected the Smart Data Sources and defined the period of time for the search. Click on **+** to do so. A new line will be inserted. The individual criteria can be linked using **AND** or **OR**. The logical search operators can only be applied to all search criteria at the same time. Select **+** to link the search criteria using **AND** and **+** to link them using **OR**.

**Note** that the search criteria apply only at the level of individual line items, such as a search for a total of > 100 and < 150. For the time being, it is not possible to apply the search to all the line items of a report, for example, finding a specific item linked to a total amount of > 100.


5. Click on **-** to delete a search criterion.
6. Click on **+** to define further search queries, in addition to the most recent search query. Enter a name and repeat steps 1–5.





## Deleting Search Queries

Click on  to the left of the name for the search query to delete a search query.

## Reloading Searches

A new search is performed on the transaction data on the camera with the filter when the search query is reloaded. The search results are displayed again. Click on  to reload a search query.

## Displaying Search Results

The search results are displayed with preview images in a [list](#) with a detailed display of the cash point data or in [tiles](#), depending on the selected display format from the Command bar (List view  or Tile view .

## Integrating MOBOTIX Storage Devices

With MxManagementCenter, you can access a MOBOTIX storage device connected to the USB port with recordings in MxFFS format (see [Adding Devices and Sources](#)). To do this, MxManagementCenter must be started with administrator rights. Without administrator rights, the storage medium will not be recognized.

**Note:** To remove an SD card from a MOBOTIX camera, refer to the camera manual.

## MAC

The following procedure assumes that the logged on user is allowed to manage the computer or has the required administrator privileges. Otherwise, contact your system administrator.

1. Connect the MOBOTIX storage device with a USB port to your MAC.
2. Start the **Terminal App** (e.g. via the spotlight search with CMD+space key).

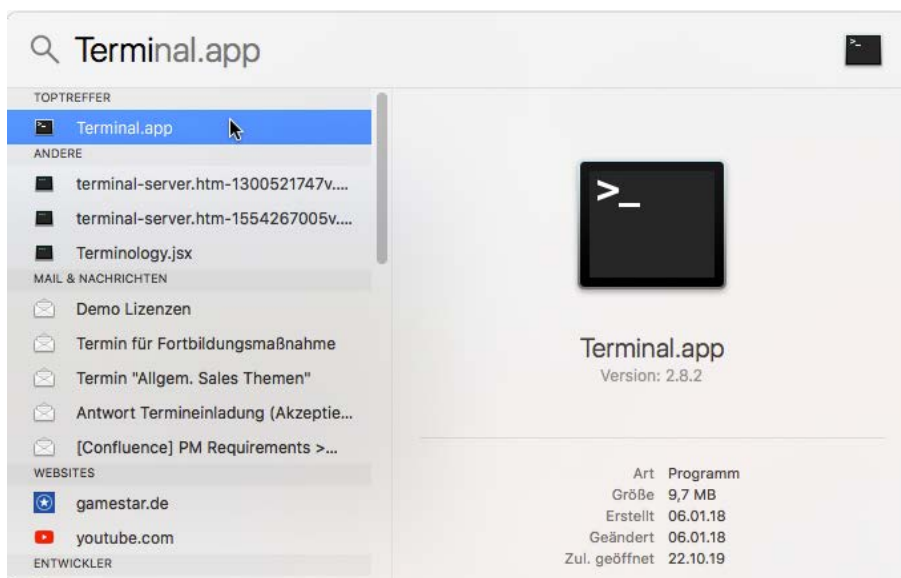
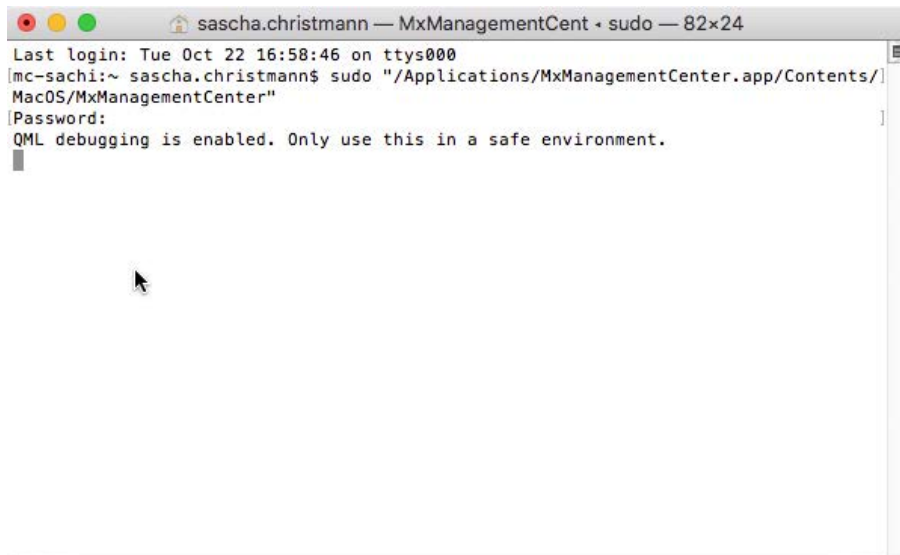


Fig. 97: Starting the Terminal App



3. Enter the following command line: **sudo "/Applications/MxManagementCenter.app/Contents/MacOS/MxManagementCenter"**. Confirm with ENTER.
4. Enter the password for the current user. Confirm with ENTER.

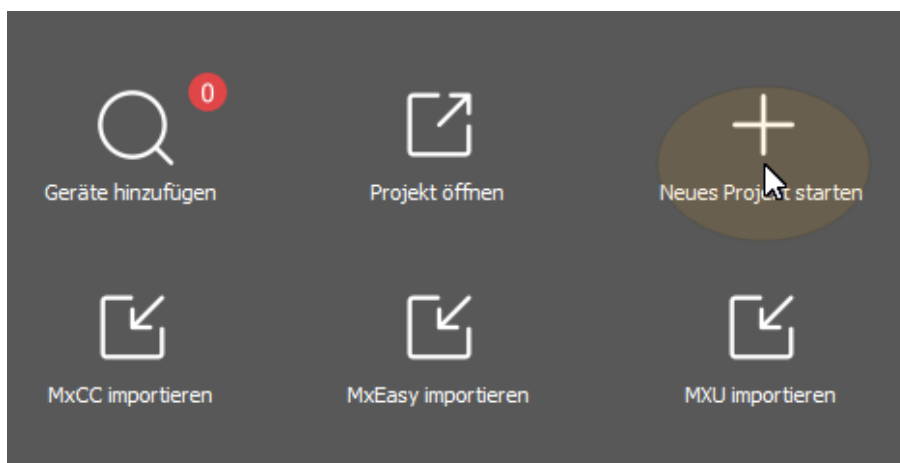


```
sascha.christmann — MxManagementCent • sudo — 82x24
Last login: Tue Oct 22 16:58:46 on ttys000
[mc-sachi:~ sascha.christmann$ sudo "/Applications/MxManagementCenter.app/Contents/MacOS/MxManagementCenter"
Password:
QML debugging is enabled. Only use this in a safe environment.
```


Terminal

**MxManagementCenter starts with the administrator profile and is not yet configured, as with a new installation.**

4. Start a new project.



MxMC in administrator profile

5. Open the editing mode by clicking on  at the bottom of the device bar.

6. Click **+**. The **Add and Import** menu opens.

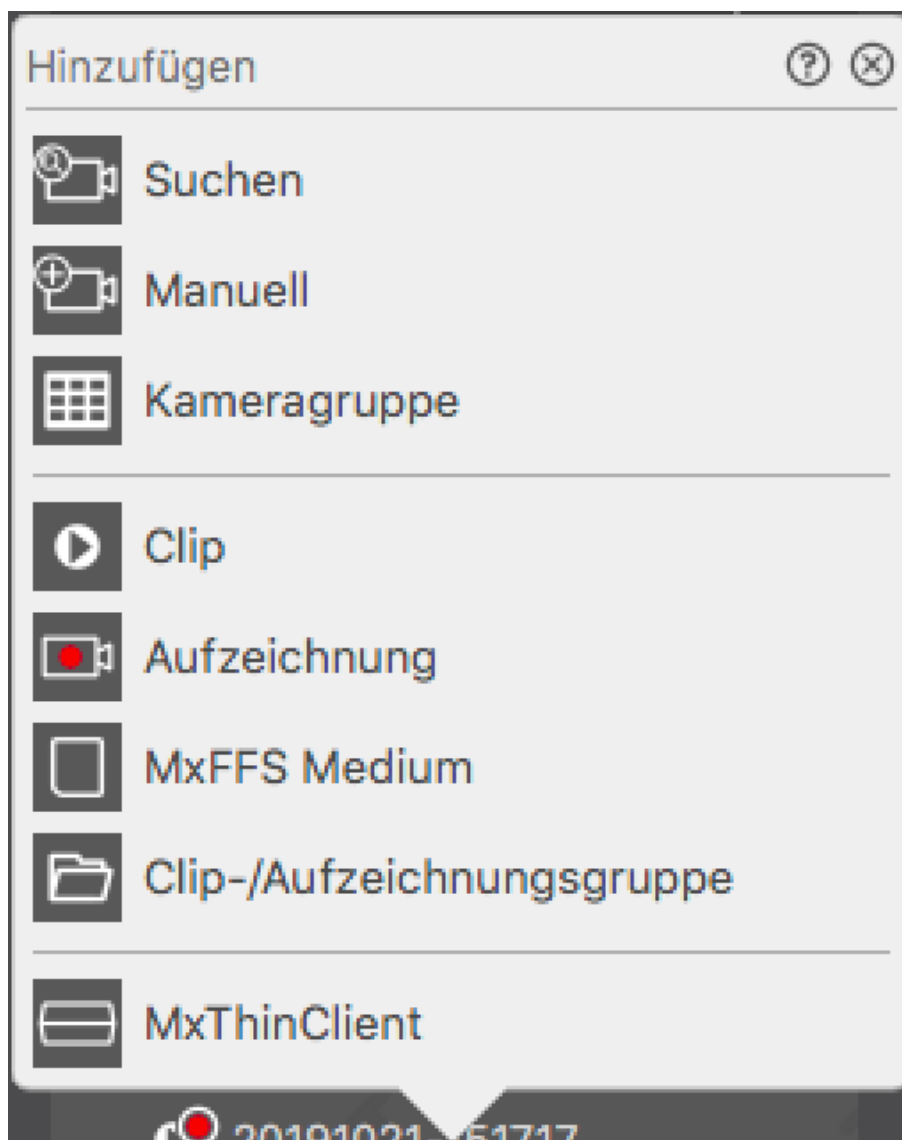


Fig. 98: Add / Import menu

7. Click **MxFFS Medium**. The USB ports are searched for storage media that contain recordings in MxFFS format.

**Note:**

This process can take several minutes for data carriers with large storage volumes.

## Windows

The following procedure assumes that the logged on user is allowed to manage the computer or has the required administrator privileges. Otherwise, contact your system administrator.

1. Connect the MOBOTIX storage device with a USB port to your MAC.
2. Right-click the executable file or a shortcut of the MxManagementCenter.

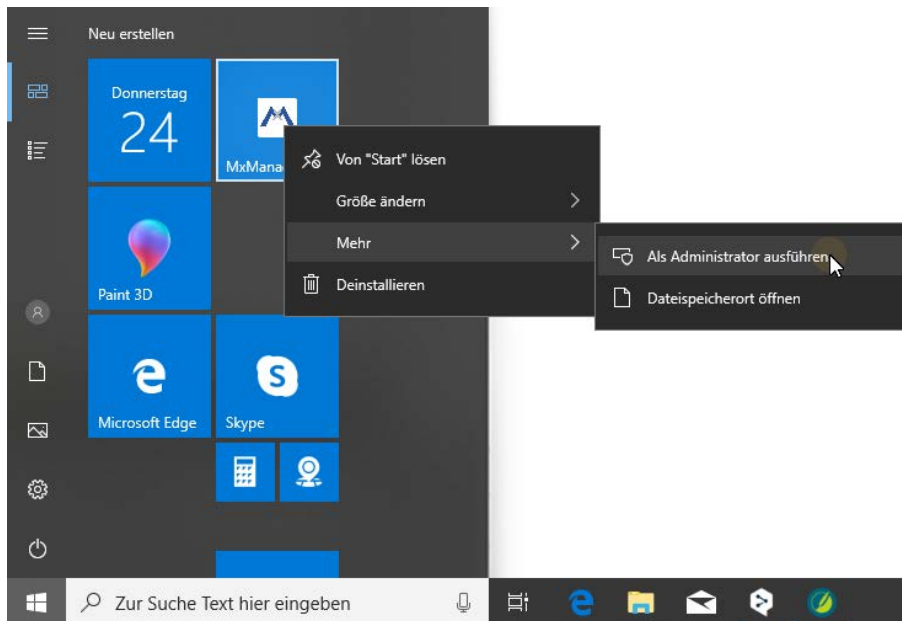


Fig. 99: Windows start menu

3. If necessary, activate the User Account Control query with **Yes**.

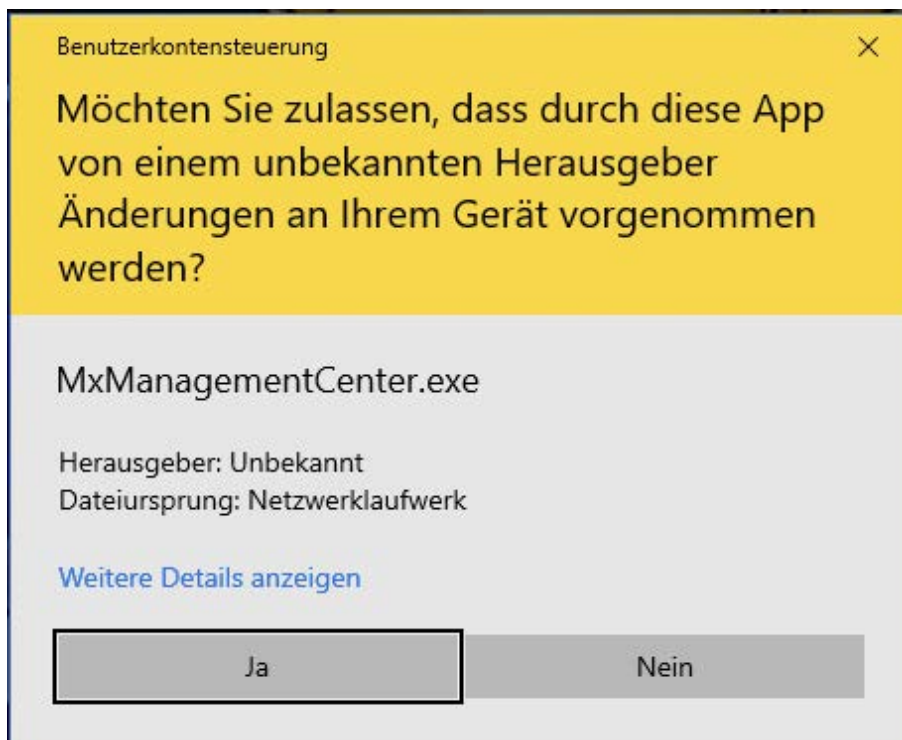
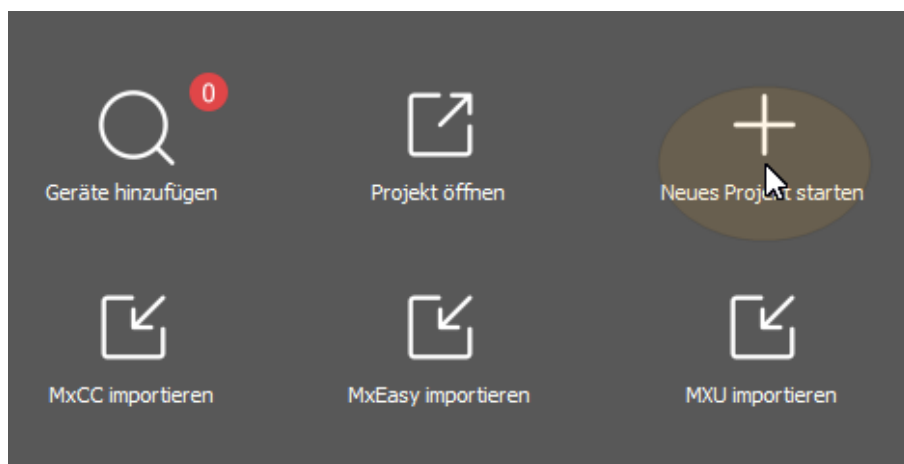


Fig. 100: Windows User Account control

MxManagementCenter starts with the administrator profile and is not yet configured, as with a new installation.

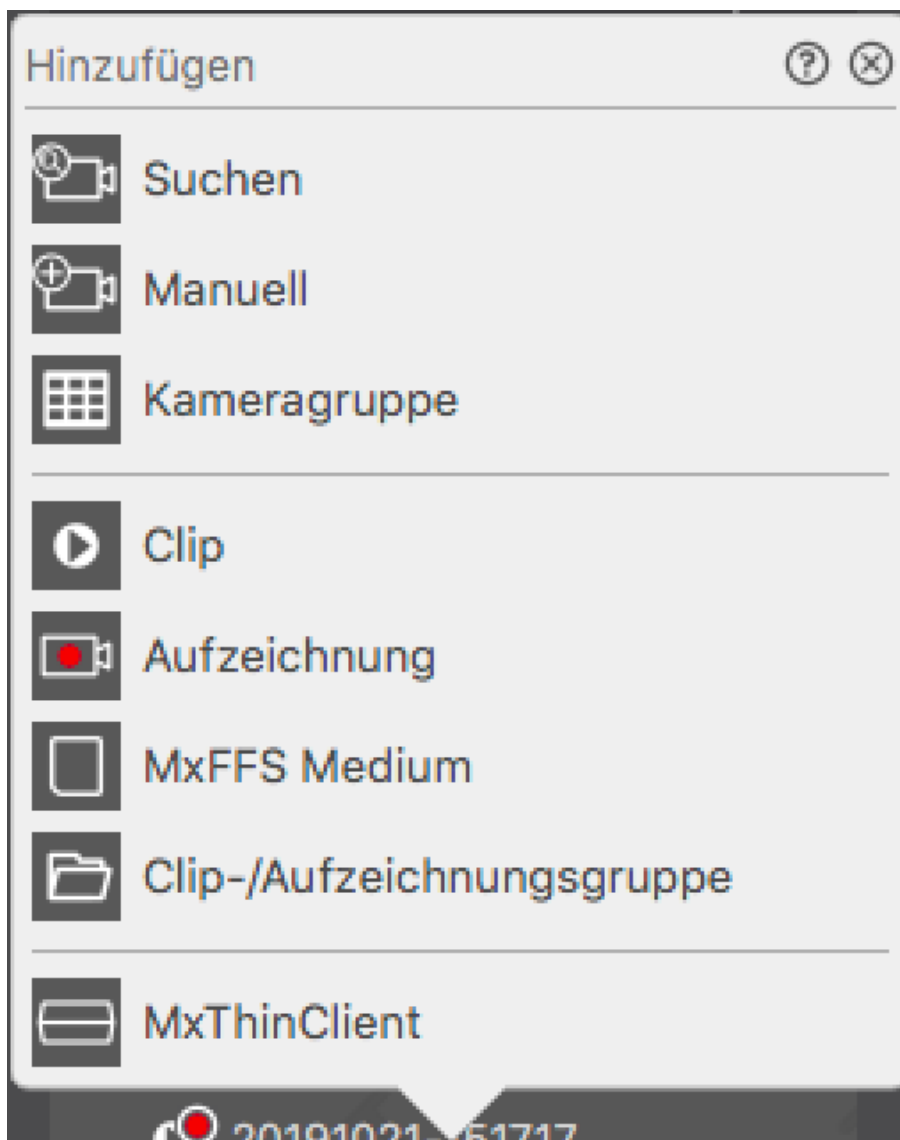
4. Start a new project.



MxMC in administrator profile

5. Open the editing mode by clicking on  at the bottom of the device bar.

6. Click . The **Add and Import** menu opens.



Add / Import menu

7. Click **MxFFS Medium**. The USB ports are searched for storage media that contain recordings in MxFFS format.

**Note**

This process can take several minutes for data carriers with large storage volumes.





# Management


This section addresses **administrators** who manage a system using MxMC.

Topics	Explanation
<a href="#">Group Views, p. 197</a>	Editing the layout of the Grid view, editing the layout of the Graphic view, assigning group functions, storing information for a camera group, limiting the frame rate of live images
<a href="#">Door Station Settings, p. 204</a>	Bell settings, voice mailbox settings
<a href="#">Network Environments, p. 210</a>	Create and manage environments, customize network data for each environment
<a href="#">Cameras And Camera Groups, p. 212</a>	Manage cameras, manage camera groups, integrate and manage third-party cameras
<a href="#">User Management, p. 227</a>	General user rights, manage user rights
<a href="#">Preferences, p. 230</a>	General settings, network, software update, notifications, monitoring, audio, data volume, caches, snapshot images, live recorders, remote control, joystick PTZ, MxMessageSystem
<a href="#">Checking System Security, p. 258</a>	Maintenance functions, security functions
<a href="#">License Management</a>	Activate licenses, manage licenses

## Group Views

After the initial installation, adjustments of the group views may be necessary. This section contains information about more detailed Grid and Graphic view configurations as well as general group parameters.

## Editing the Grid View layout

When creating the camera groups, the Grid layout - the grid in which the cameras are arranged - is created based on default values that can be customized. To do so, click  in the Command bar or in the Device bar. The Command bar then displays several controls for configuring the grid layout.

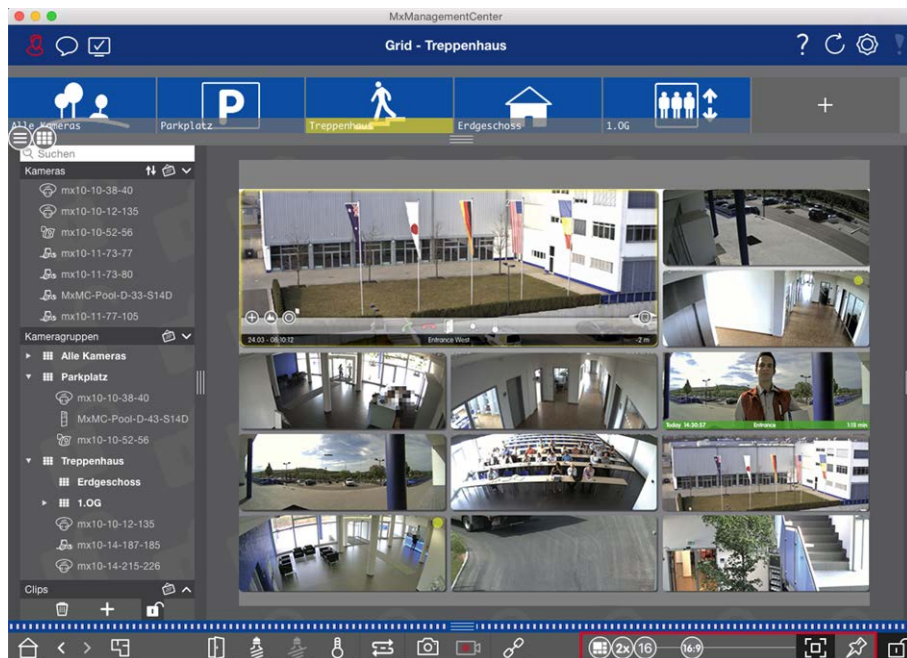






Fig. 101: Editing the Grid View layout

As a first step, before you change the format of the camera images or the size of the focus window, decide whether the grid layout should automatically adjust when you resize the window, or whether you want to manually define the size of the tiles and their position.




### Using Auto Grid Mode

The auto grid mode  is used by default. In auto grid mode, MxMC always tries to distribute the available space as well as possible according to the specified aspect ratio of cameras images (4:3, 16:9, 8:3), the size of the focus window and the number of cameras. This causes the grid layout to **automatically** adapt to any changes. In auto grid mode, the following sliders are available for changing the grid layout:



-  = Format of the camera images and the focus window (4:3, 16:9, 8:3)
-  = Size of the focus window (1x, 2x, ..., 8x the size of the camera images)
-  = Maximum number of cameras

Move the sliders to the desired settings. To close the edit mode, click on .

### Selecting manual mode


In manual mode , you set the size of the individual tiles and their position based on the selected format of the camera images (4:3, 16:9, 8:3). In contrast to auto grid mode, the layout is not adjusted automatically in manual mode. To switch from auto grid mode to manual mode, move the slider  to the right until you reach the position . The following sliders are available in manual mode:




- 8:3 = Format of the camera images and the focus window (4:3, 16:9, 8:3)
- 16 = Maximum number of cameras

1. Move the sliders to the desired settings.
2. To move a tile to a different position, move the mouse pointer over the tile. Click on  and drag the tile onto the desired position. For better orientation, a blue frame indicates the target position.
3. To set the size of a tile based on the selected format, move the mouse pointer over the border of the tile until a double arrow is shown. Drag the tile to the desired size.
4. To close the edit mode, click on .

## Editing the Graphic View layout

### Changing the camera position on the background image

In the Graphic view, you can define background images such as a floor plan or a plan layout. You can then arrange the cameras of the group on these according to their actual position. When opening the Graphic view of a camera group for the first time, all cameras of the group are shown as an icon  at the right-hand margin of the background image ①.

To adjust the position of the cameras, open the edit mode ② by clicking on . Move the mouse pointer over the camera image. Two icons are shown ③. Click on  and drag the camera icon to the desired location. To close the edit mode, click on . When you exit the edit mode, the changed settings are saved automatically.

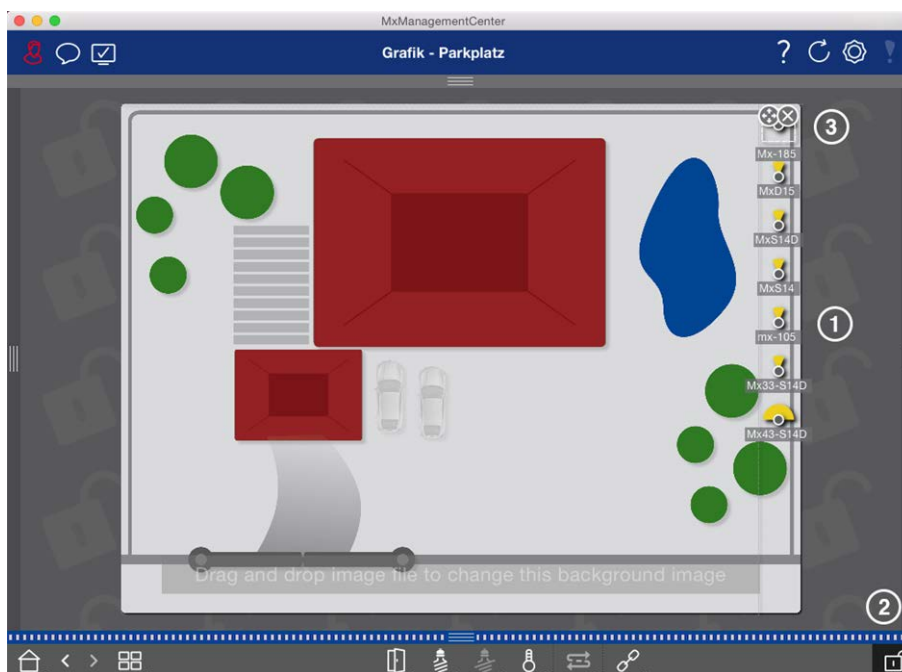




Fig. 102: Changing the camera position on the background image

### Editing camera icons

You can change the icon size and rotate the icons to reflect the viewing direction and the angle of view of the cameras.

Open the edit mode ① by clicking on . Move the mouse pointer over the camera image. A dotted line in

the shape of a square is shown around the camera icon. To make the camera icon larger or smaller, click on the right or bottom left corner of the square and pull it inwards or outwards ②. To change the orientation of the camera icon, hover the mouse pointer over the icon until a hand is displayed. Hold down the mouse button and turn the camera icon around its own axis until you are satisfied with the orientation. To close the edit mode, click on . When you exit the edit mode, the changed settings are saved automatically.

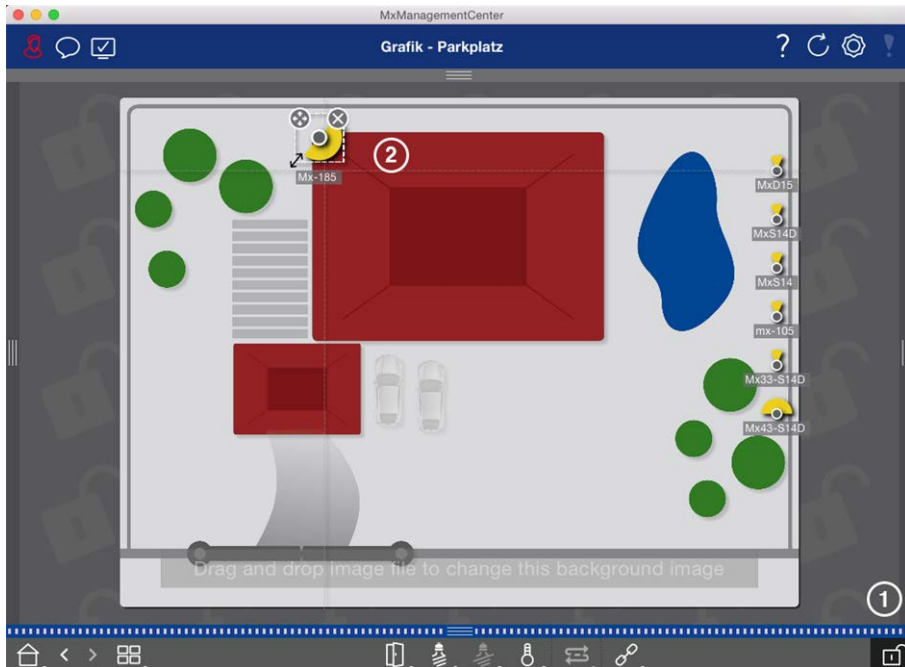




Fig. 103: Editing camera icons

#### Dragging additional camera groups onto the background image

You can position additional camera groups on the background image (floor plan) of a camera group. If a camera of an added camera group detects an event and the Background Alarm has been enabled for this camera, the camera group icon turns red or green (bell event). Click on the group icon to open the Grid view of the camera group.



Fig. 104: Dragging additional camera group onto the background image



Open the edit mode  and drag the desired camera group(s) from the Group or Camera bar onto the floor plan. To close the edit mode, click on . When you exit the edit mode, the changed settings are saved automatically.

### Positioning controls on the background image

The Command bar at the bottom of the Graphic view contains several controls. If a camera has been set up to control a light, for example, you can switch the lights of this camera in the Graphic view. You can drag these controls onto the background image (floor plan) and simply click on them to execute the corresponding function for easier operation later on.



Fig. 105: Positioning controls on the background image

Open the edit mode . To open the shortcut menu, right-click on the desired operating function. Then drag the control to the floor plan with the mouse pointer. To close the edit mode, click on . When you exit the edit mode, the changed settings are saved automatically.

## Assigning group functions

### Note

Group functions are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview, p. 8](#).

In the Grid, Graphic and Info view, you can use group functions to turn on a light, open a door, or make an announcement for one camera in the currently selected group.

In addition, the **Switch Light** and **Open Door** group functions can be assigned to multiple cameras, so you can switch multiple lights or open multiple doors at once with a single click.

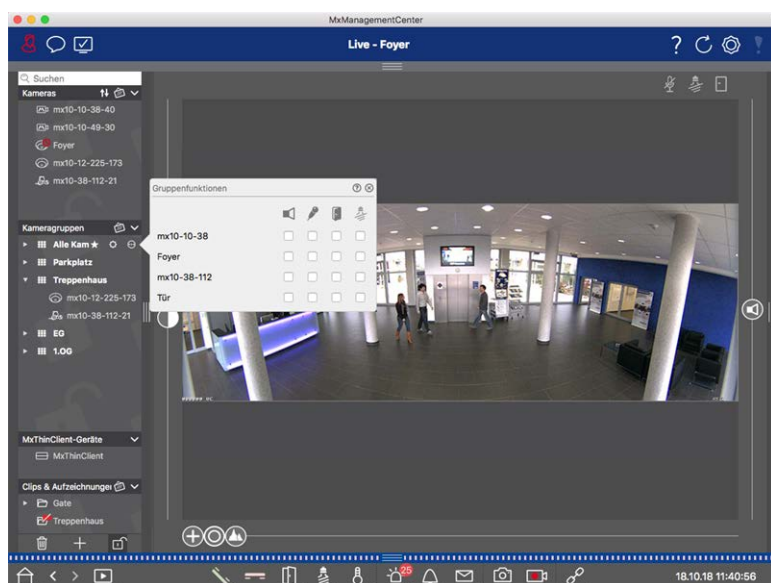










Fig. 106: Assigning group functions

Proceed as follows to assign group functions:

1. Open the edit mode in the Device bar by clicking on  at the bottom of the bar.
2. To do so, move the mouse pointer over the group name. Three icons appear. Click on . The **Group Functions** dialog opens.
3. Assign the desired functions to the cameras by activating the respective checkboxes.
4. Once you have defined all group functions, you can deactivate the edit mode by clicking on .

## Adding Information For A Camera Group

You can assign an information page to a camera group in order to show special instructions for this camera group, for example.

1. Open the edit mode in the Device bar by clicking on  at the bottom of the bar. Next, click on  and then on . The **Group Configuration** dialog opens.
2. Move the slider  to the right until you reach the  position.
3. Click on the arrow in the gray field and select the file you want to use.

## Limiting the frame rate of live images

If a very large number of cameras is displayed in the Grid view, the performance may decline. To avoid this, you can limit the frame rate of the live images within the tiles. Note that this limit does not apply to the camera displayed in the focus window.

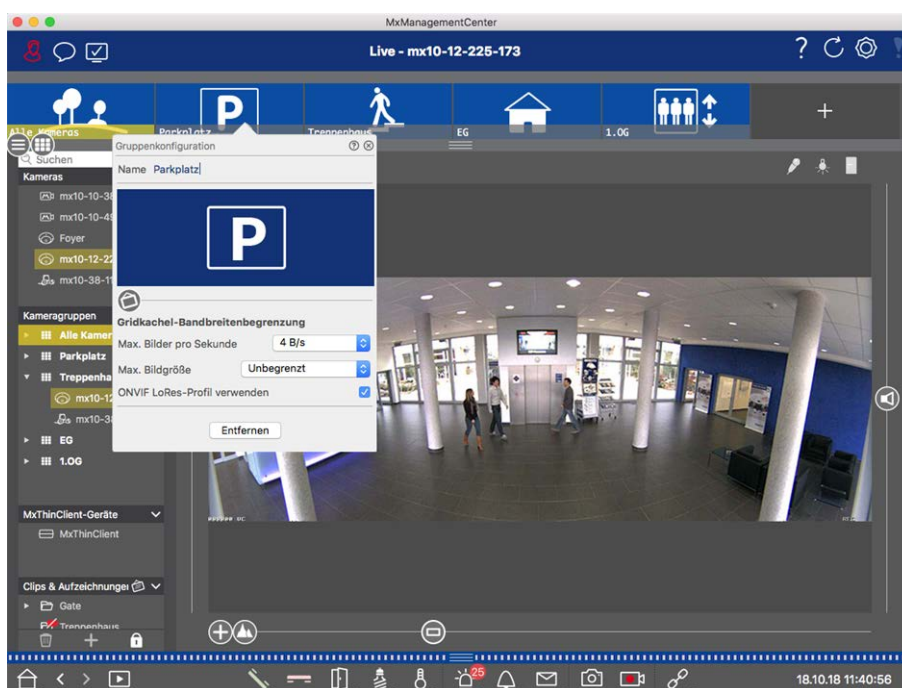


Fig. 107: Limiting the frame rate of live images

1. Open the Group or Camera bar by clicking on the upper gray frame border. Click on the frame border again to switch to the camera Group view.
2. Right-click on the group icon and select the maximum number of frames per second and the maximum image size.
3. **Use ONVIF LoRes Profile:** Use this checkbox to limit the frame rate for MOBOTIX MOVE cameras and for third-party cameras that provide an ONVIF S-compatible interface. If the checkbox is enabled, the settings for the live images in the tiles captured in the **Bandwidth Settings** as the LoRes profile for these cameras will be used.



# Door Station Settings

There are several ways that MxMC can respond to ringing and mailbox notifications. Here you will find information on how to set these notification options.

## Note

Door Station functions are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ (see [Camera Feature Overview](#), p. 8).

## See also:

- [Operate Door Stations](#), p. 140
- [Door Station Wizard](#), p. 272

## Bell Settings

### Setting the ring tone

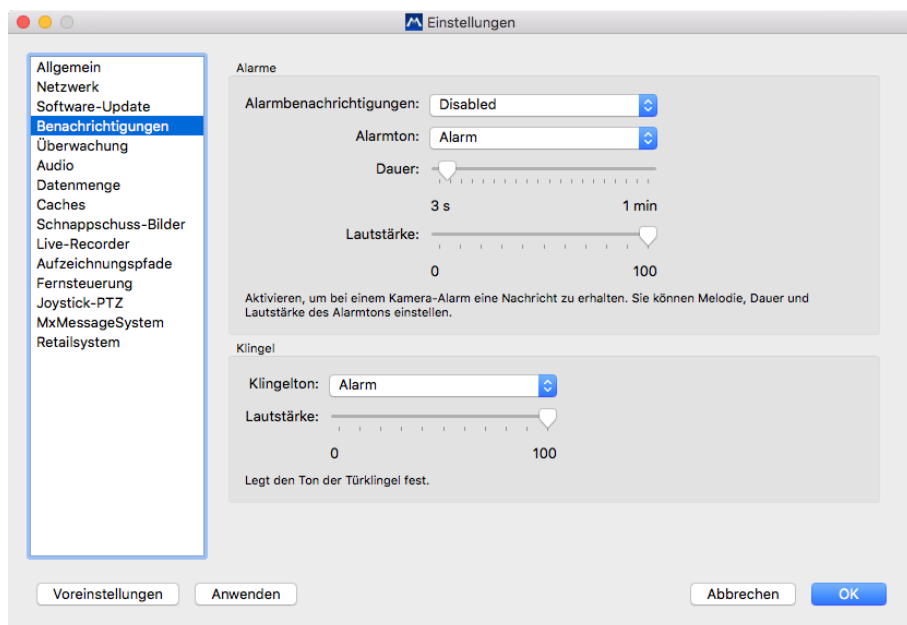


Fig. 108: Setting the ring tone

1. Open **Settings** in the **MxManagementCenter > Settings** (Mac) or **File > Settings** (Windows) menu and click on **Notifications**.
2. Select the desired ring tone and adjust the volume.

## Setting bell signaling

When a bell is rung, this can be indicated in different locations in MxManagementCenter. Consult the following table to learn which signaling options can be combined and where they can be configured.

### Note

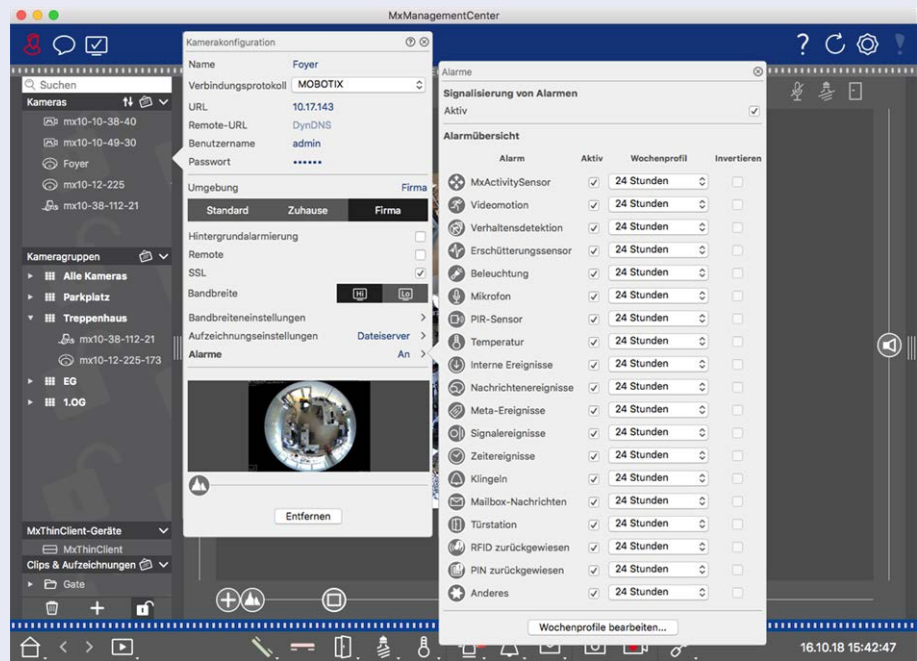
The alarm signaling must be activated in the camera settings, a bell profile must be set up and the correct bell profile must be selected in MxMC for bell notification to work.


Notifications

Settings

Alarm bar, Alarm info bar, doorbell notification, counter on the bell icon in the Live view

You need to configure the alarm notification for the doorbell ringing to be indicated at these places.




- To do so, open the **Camera Configuration** dialog box by right-clicking on the corresponding camera in the Camera bar.  
Another option is to open the dialog box in the Device bar by clicking on  and then right-clicking on the corresponding camera.
- Click **Alarms** and activate the Alarm notification and the doorbell ringing.

Ring tone off


You can switch off the ring tone of the signaling by setting its volume to "0" (see [Setting The Ring Tone](#)).

Counter on the bell icon only

Deactivate doorbell ringing in the **Alarms** dialog box and only the counter on the bell icon will increase by one each time.

- To do so, open the **Camera Configuration** dialog box by right-clicking on the corresponding camera in the Camera bar.  
Another option is to open the dialog box in the Device bar by clicking on  and then right-clicking on the corresponding camera.
- Click **Alarms** and deactivate doorbell ringing.

Completely off

Disable the **Bell** checkbox in the **Bell Settings**  to switch off the bell completely (see [Turning Off The Bell Completely](#)).

## Selecting a bell profile

A bell profile basically controls the reaction if someone is ringing at the door station. The camera provides several predefined bell profiles.

Profile	Explanation
No phone ring	MxMC and all other remote stations will not react, i.e., you will not notice if someone is ringing (neither visually nor by sound).
Ringing	You will hear if someone rings the doorbell. The visitor cannot leave a message.
Ring and Mail-box	You will hear if someone rings the doorbell. If no configured remote station reacts within a given period of time, the Door Station plays back a previously recorded announcement and the visitor can leave a message.
Voice Mailbox	After ringing, the Door Station immediately plays back an announcement and the visitor can leave a message.
Announcement only	After ringing, the Door Station immediately plays back an announcement. The visitor cannot leave a message.

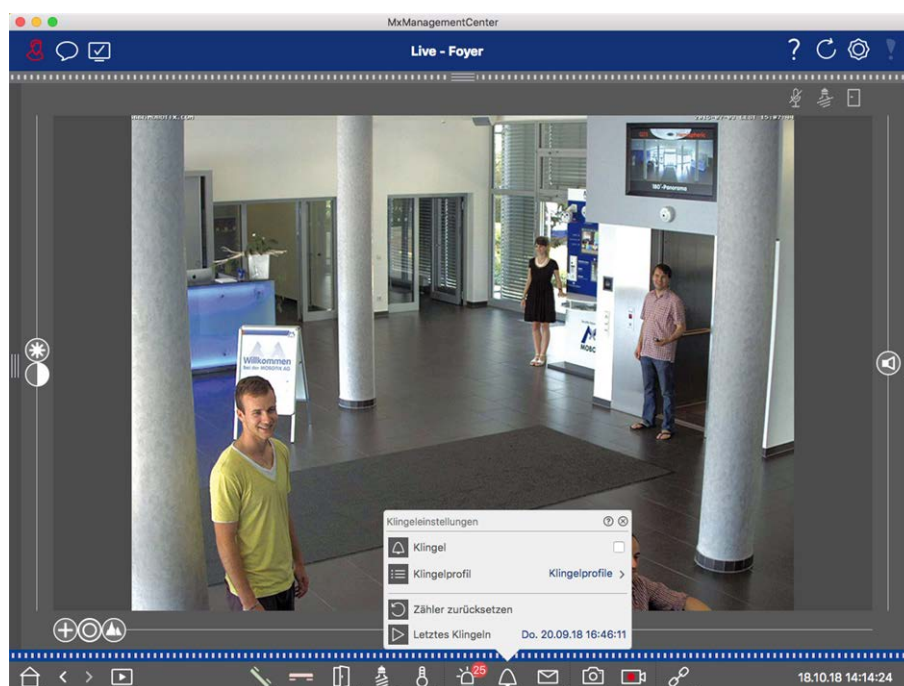






Fig. 109: Selecting a bell profile

1. Switch to the Live view of the Door Station.
2. In the Live view, right-click on the **Bell** icon  to open the **Bell Settings**.
3. Click on **Bell Profile** and select the profile you want from the list.

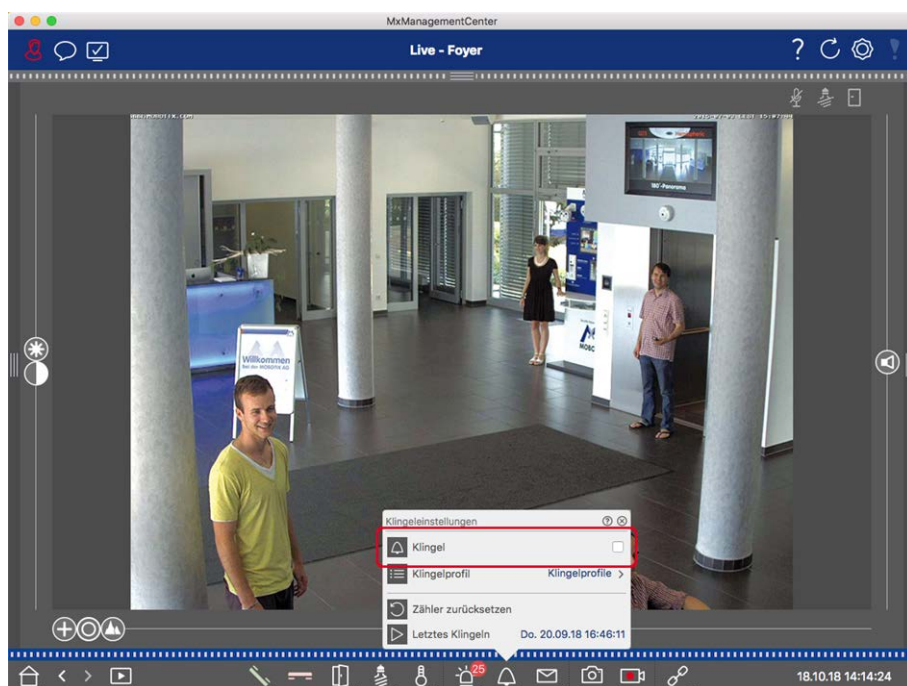
### Resetting the ringing counter

The counter next to the bell icon  in the Live view is incremented each time the doorbell is rung, regardless of whether or not you react to the ringing. Resetting the counter will help in recognizing if you have missed a ringing, which is why you are encouraged to regularly reset the counter. Once you have reset the counter, you will be informed how long ago the last reset took place.

1. Switch to the Live view of the Door Station.
2. In the Live view, right-click on the **Bell** icon  to open the **Bell Settings**.
3. Click on **Reset Counter**.
4. The counter has been reset and is no longer shown next to the **Bell Settings**  button.

### Turn bell off completely

If you do not want to be disturbed by the doorbell, you can deactivate a specific bell or contact number. This means that ringing is neither signaled at any of the remote stations, nor is the "ringing counter" increased. In this case, you will not be informed about missed visitors and visitors will not be able to leave any messages.



**Fig. 110: Turn bell off completely**

1. In the Live view, right-click on the **Bell** icon  to open the **Bell Settings**.
2. Disable the **Bell** checkbox.

## Mailbox settings

### Selecting a voice mailbox

Depending on the installed options and the configuration of the Door Station, you may have several bell buttons or – in case a MOBOTIX Keypad module has been installed – several contact numbers. Each of these bells or contact numbers has its own mailbox. The corresponding mailboxes are presented in the list (below the name of the bell).

#### Note

All settings made in the **Mailbox** function always apply to the selected mailbox. This also means that the new messages counter only applies to this mailbox. To get the messages and recordings of a different mailbox, select that mailbox first.

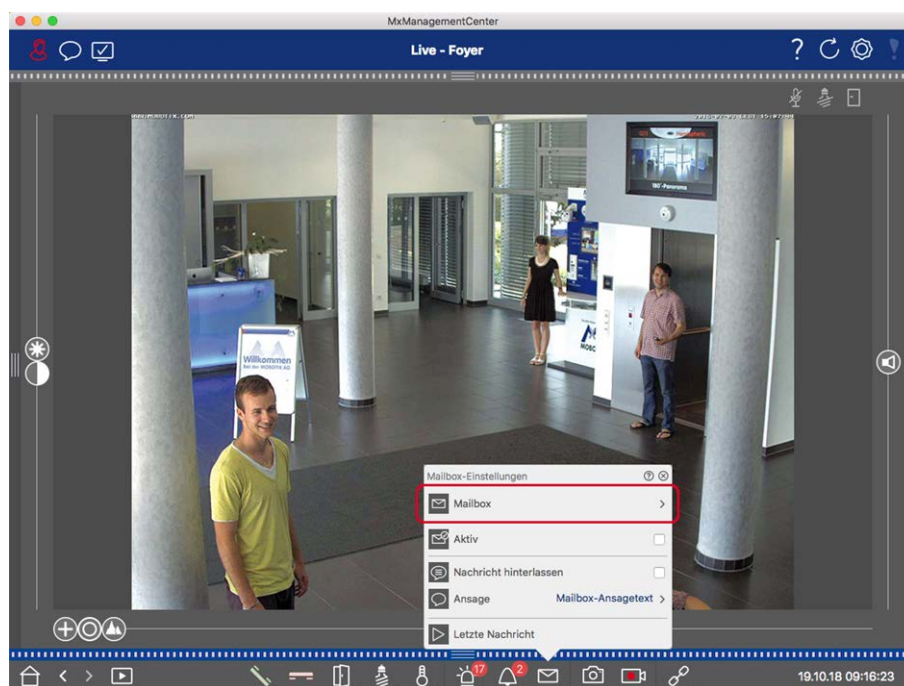


Fig. 111: Selecting a voice mailbox

1. In the Live view, right-click on the **Voice Mailbox** icon  to open the **Mailbox Settings**.
2. Click on **Voice Mailbox** to select the desired mailbox from the list.

You can select a bell profile for each voice mailbox. For instructions on how to do this, see [Selecting A Bell Profile](#).

### Activating The Voice Mailbox And Selecting A Welcome Message

1. Enable the **Active** checkbox.
2. Click on the **Announcement** button. Select the announcement to be played to the visitor.

## Enabling the Message



If visitors should be allowed to leave a message, activate the **Leave Message** option.

# Network Environments

Using MxManagementCenter, you can access cameras from different locations. For example, you can monitor the cameras at home over the local area network (LAN) or while on the move via a pre-configured DynDNS access over the Internet. These two methods require the use of different network access data. To avoid having to change the network access data every time, you can set up different network environments for the corresponding network access data in MxManagementCenter. Switching to a different environment causes the network address data for connecting to the cameras to be switched automatically (see [Working In Different Network Environments](#), p. 147).

## Creating and Managing Environments

### Creating environments

1. Click on  in the Header bar. The **Projects and Network Environments** dialog opens.
2. Click on **Environment** and then on . This adds an environment with the name "New Environment". Assign a suitable name.

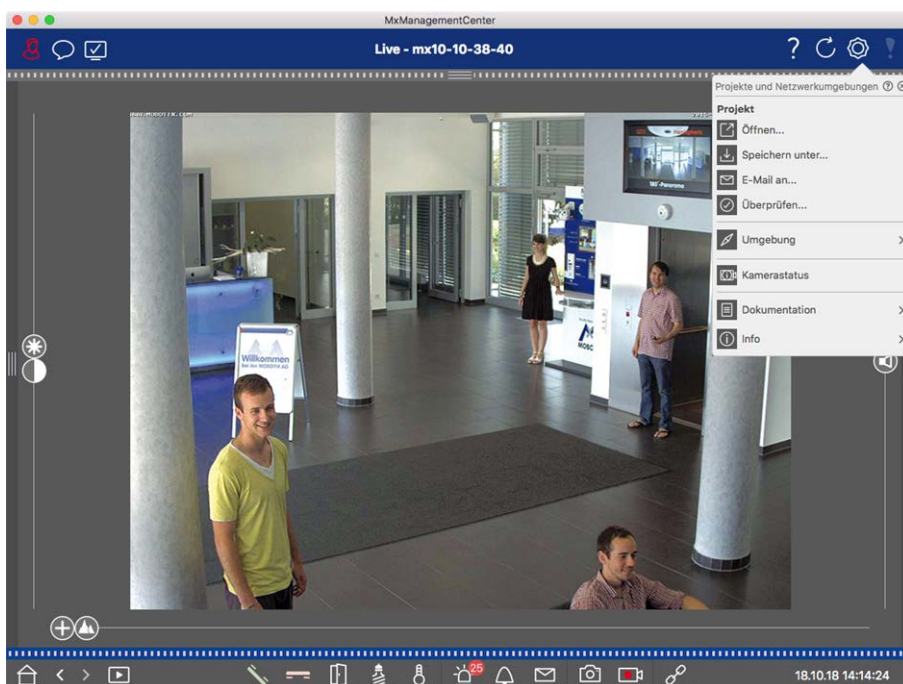




Fig. 112: Creating environments



## Changing names and deleting environments

1. Open the **Network Environments** dialog box.
2. Editing names: Click on . Highlight the name and overwrite it.
3. Deleting environments: Click on  next to the environment you want to delete. Click on the red **Delete** box to the right of the environment.

## Configuring network data for each environment

1. To set network data, open the **Camera Configuration** dialog. To do this, either right-click on the individual cameras in the Camera bar or open the Edit mode in the Device bar and right-click on the individual cameras. The **Camera Configuration** dialog opens.
2. Environment: Shows the current network environment. After starting the program for the first time, it shows the standard environment. All existing network environments are shown in the blue bar. Click on the environment you want to use. Next, perform the required network settings for this environment.
  - *Background alarm calls*: Specify whether a permanent event stream connection to the camera should be established in the selected environment or not. You can deactivate this option if a permanent event stream connection is not required or even unwanted (when using MxMC in low-bandwidth networks, for example). If this option has been **deactivated**, the application will only open an event stream connection if necessary, such as for showing the live stream of the camera or recordings via the camera. In this case, alarms will only show for this camera, while the connection has been established.
  - *Remote*: Only activate this option if you want to access the camera from a remote location (e.g., via DynDNS).
  - *SSL*: If you rather want to use an encrypted connection for the selected environment, activate this option (recommended setting). Note that HTTPS needs to be activated on the camera (in the browser in **Admin Menu > Network Configuration > Web Server > HTTPS Settings**).
  - *Bandwidth*: Select the bandwidth to use for this environment:
    - HiRes: The images are transferred using the settings made in the camera.
    - LoRes: Images are delivered at the frame rate, resolution and image quality as defined in the [Preferences](#), p. 230 for LoRes.

# Camera configuration

This section describes basic options to configure cameras.

## Cameras And Camera Groups

Here you will find information on the administration of cameras and camera groups. This includes topics such as changing the network data of a camera or exchanging cameras between camera groups.

### Note

Administrator rights are required to perform these administrative functions.

## Managing cameras

### Editing camera data

To change a camera's access data and network data, open the [Camera Configuration, p. 216](#) dialog.

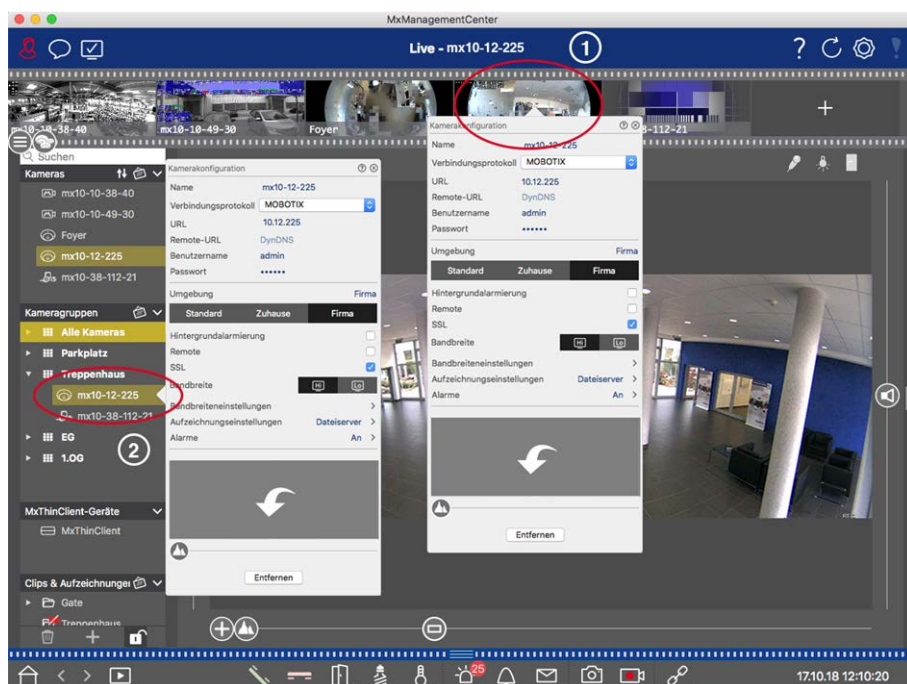



Fig. 113: Editing camera data

1. To do this, either right-click on the desired camera in the Camera bar ① or open the edit mode in the Device bar and right-click on the corresponding camera ②. The **Camera Configuration** dialog opens.
2. Edit the data as desired.

### Editing Camera Data Of Multiple Cameras

In the **Multi-Camera Configuration** dialog, you can change the authentication data used by MxMC as well as the environment settings of multiple cameras in one step.

1. To do this, open the edit mode in the Device bar by clicking on .
2. Select the cameras as needed.  
Mac: **CMD + click**, Windows: **CTRL + click**
3. Right-click on one of the selected cameras. The [Multi-Camera Configuration, p. 226](#) dialog opens.

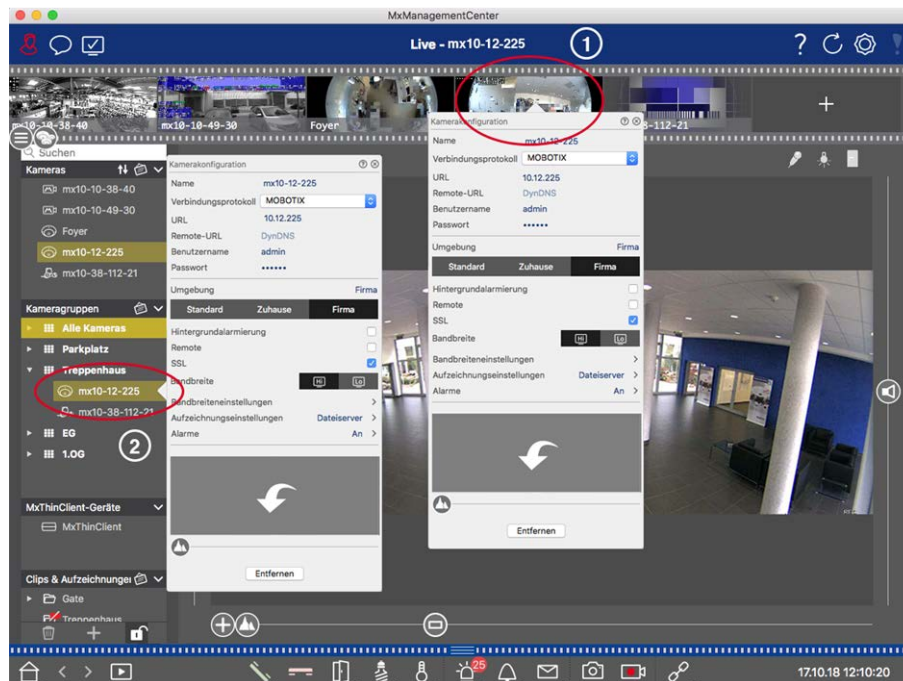
## Activating / Deactivating camera background alarms

### Note

Background alarms are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ (see [Camera Feature Overview](#), p. 8).

An activated option means that the application maintains an active event stream connection to the camera, regardless of whether or not MxMC is showing the live stream. Using the event stream connection, the cameras will send event information to MxMC, which will show them as alarms depending on the settings (see [Adding Cameras](#), p. 78). You can deactivate this option if a permanent event stream connection is not required or even unwanted (due to high system loads on systems with very many cameras or when using MxMC in low-bandwidth networks, for example).

If this option has been deactivated, the application will only open an event stream connection if necessary, such as when MxMC shows the live stream of the camera or recordings via the camera. In this case, alarms will only show for this camera, while the connection has been established. This option is deactivated by factory default.



1. To open the **Camera Configuration** dialog, either right-click on the corresponding camera in the Camera bar ① or open the edit mode in the Device bar and right-click on the corresponding camera ②. The **Camera Configuration** dialog opens.
2. De-/activate the **Background Alarms** function.

## Deleting cameras

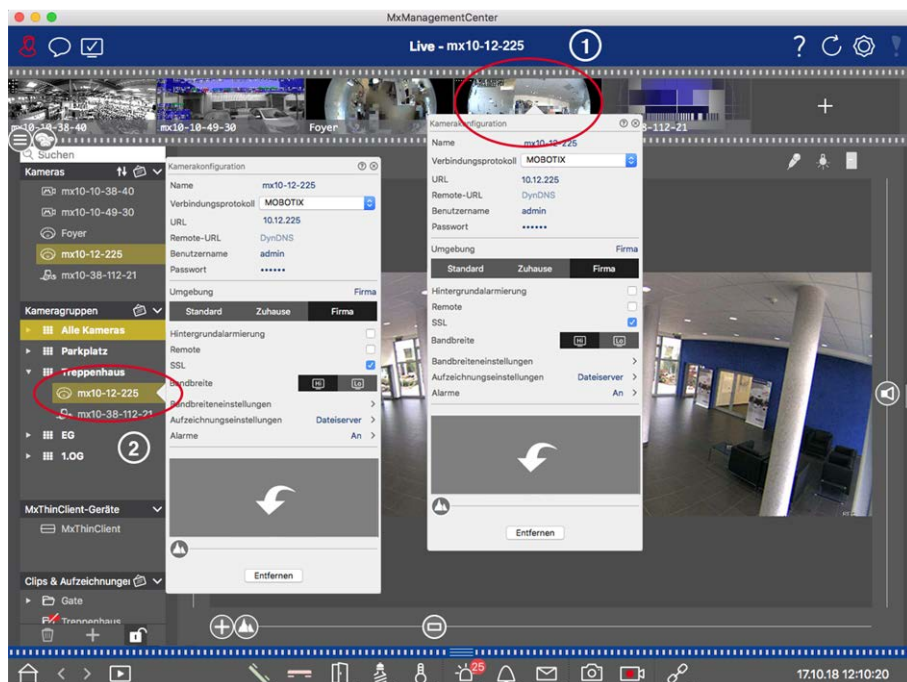




Fig. 114: Deleting cameras

1. Open the **Camera Configuration** dialog by right-clicking on the corresponding camera in the Camera bar ① or open the edit mode in the Device bar and right-click on the corresponding camera ②. The **Camera Configuration** dialog opens.
2. Click on **Remove**.

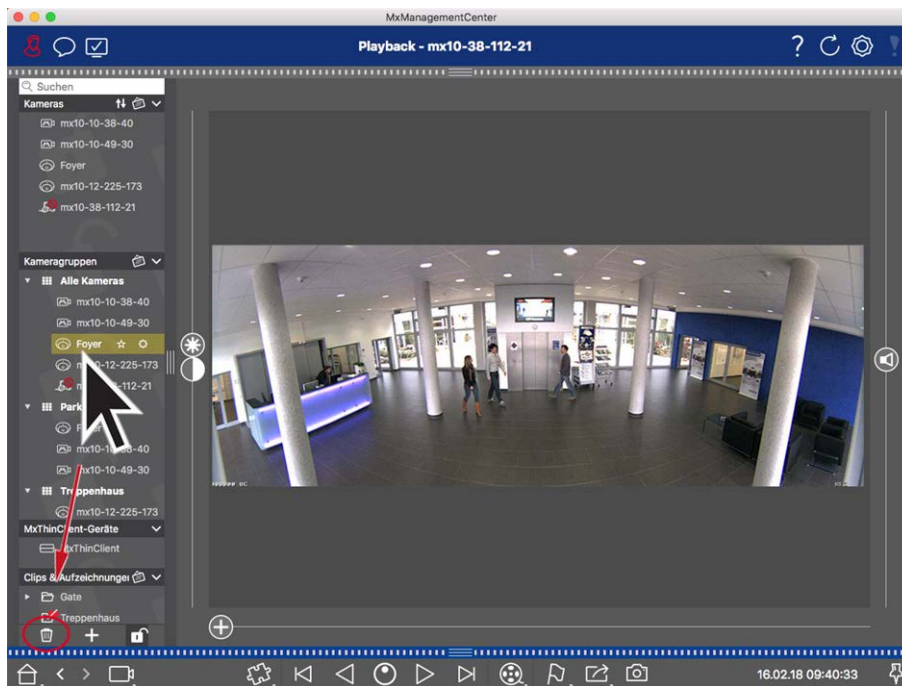
## Managing Camera Groups

### Moving cameras between Camera Groups




The Device bar lets you quickly drag and drop cameras from one group to another.

1. In the Device bar, open the edit mode by clicking on  and then drag and drop the cameras as desired.
2. Close the Edit mode by clicking .

## Removing cameras from a Camera Group



**Fig. 115: Removing cameras from a Camera Group**

1. Open the edit mode in the Device bar by clicking on .
2. Drag and drop the camera from the appropriate group to .
3. Once you have deleted the cameras from the groups, you can deactivate the edit mode by clicking on .

## Deleting Camera Groups

Deleting a camera group will not delete the cameras that are assigned to the group.

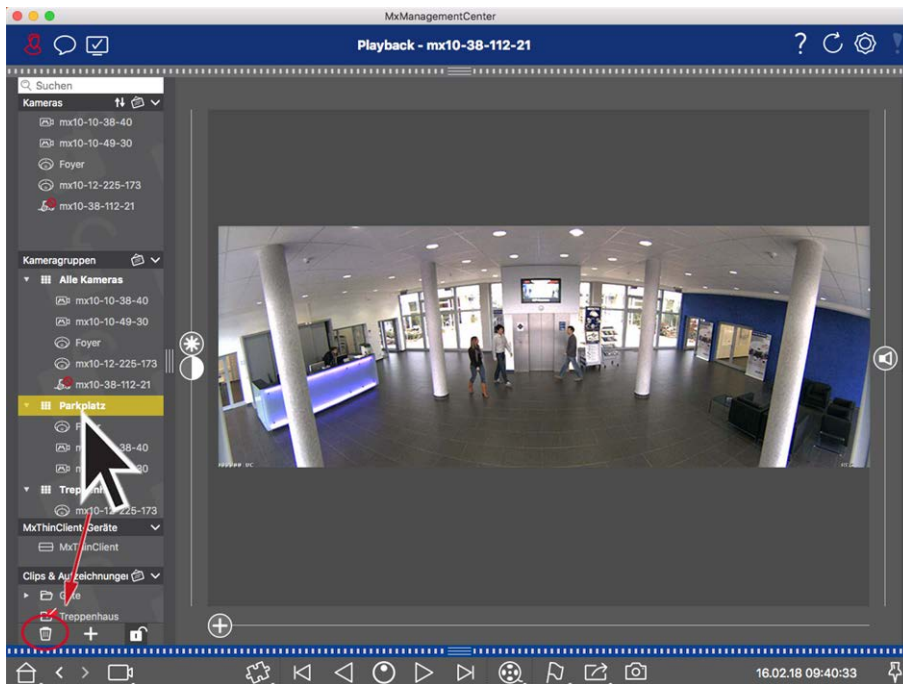





Fig. 116: Deleting Camera Groups

1. Activate the Edit mode by clicking .
2. Drag a group from the corresponding section to .
3. Next, activate the edit mode by clicking on .

## Camera Configuration

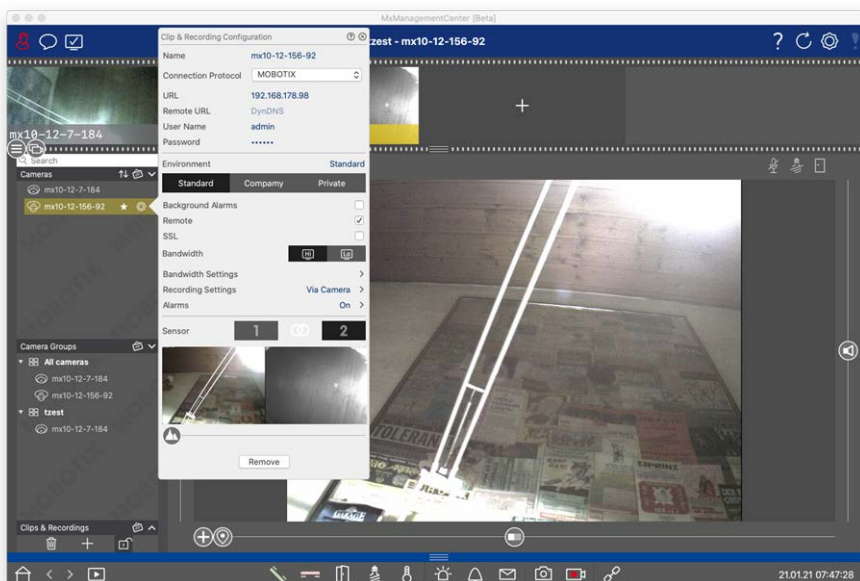
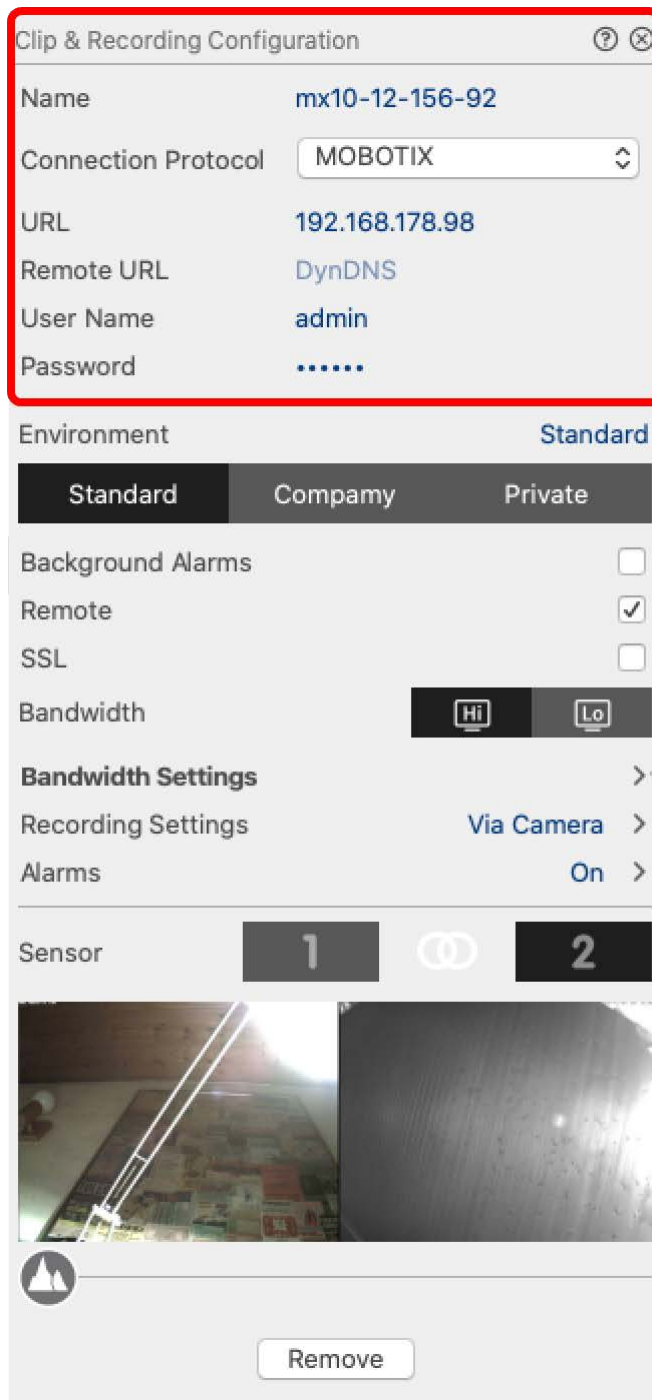


Fig. 117: Camera Configuration



After you have added the cameras, you should enter the remaining camera data. Even when the system is up an running, you may have to make some changes. Open the **Camera Configuration** dialog to enter and edit the camera data.

## Camera Access Data Configuration



Clip & Recording Configuration

Name: mx10-12-156-92

Connection Protocol: MOBOTIX

URL: 192.168.178.98

Remote URL: DynDNS

User Name: admin

Password: .....

Environment: Standard

Standard Compamy Private

Background Alarms ☐

Remote ☒

SSL ☐

Bandwidth: Hi Lo

Bandwidth Settings ><

Recording Settings: Via Camera >

Alarms: On >

Sensor: 1 2

Remove

Fig. 118: Camera access data configuration

**Name:** The camera name is displayed automatically. If required, you can enter an individual name for each camera.



**Connection Protocol:** In order for MxMC to be able to establish a connection to the camera, a suitable connection protocol must be selected depending on the available interface of the camera manufacturer. If you have integrated the camera with the Welcome wizard, the corresponding protocol is used automatically. When manually adding the camera, select the appropriate protocol. The following protocols are available:

- **MOBOTIX:** Select this protocol to establish a connection to a MOBOTIX IoT camera.
- **MOBOTIX with Pelco-D:** The requirements to use Pelco-D protocol are:
  - MOBOTIX IoT Camera with MxBus or MxBus Module RS232
  - A PT Head with Pelco-D support
  - The serial interface must be activated and configured in the camera software (for the parameter settings see the cameras reference manual the documentation of the pan and tilt head)
- **MOBOTIX MOVE:** Select this protocol to establish a connection to a MOBOTIX MOVE camera.
- **ONVIF:** Select this protocol to connect to an ONVIF compatible camera.
- **Axis PTZ:** Select this protocol to connect to a camera with Axis PTZ control.

**URL:** The IP address is either discovered automatically via Bonjour or it has been entered manually.

**Remote URL:** You can enter the corresponding external address of the camera (such as a DynDNS name) when adding it to access the camera from outside the local network. Please note: Before you can access the camera from outside of the local network, you need to activate the **Remote** option.

**User name, password:** Access data that had been entered when adding the camera.

## Environment Settings

Clip & Recording Configuration

Name  
mx10-12-156-92

Connection Protocol  
MOBOTIX

URL  
192.168.178.98

Remote URL  
DynDNS

User Name  
admin

Password  
.....

Environment

Standard

Standard

Company

Private

Background Alarms

Remote

SSL

Bandwidth

Hi

Lo

Bandwidth Settings

Recording Settings

Alarms

Via Camera

On

Sensor

1

2



Remove

Fig. 119: Camera network environment configuration

**Environment:** Shows the current network environment. After starting the program for the first time, it shows the standard environment. All existing network environments are shown in the blue bar. Click on the environment you want to use. Next, enter the network settings you want to use for this environment. To define environments, see [Network Environments](#), p. 210.

**Background Alarms:** An **activated** option means that the application maintains an active event stream connection to the camera, regardless of whether or not MxMC is showing the live stream.

Using the event stream connection, the cameras will send event information to MxMC, which will show them as alarms depending on the settings (see [Adding Cameras, p. 78](#)). You can deactivate this option if a permanent event stream connection is not required or even unwanted (e.g. due to high system loads on systems with very many cameras or when using MxMC in low-bandwidth networks).

If this option has been **deactivated**, the application will only open an event stream connection if necessary, such as when MxMC shows the live stream of the camera or recordings via the camera. In this case, alarms will only show for this camera, while the connection has been established. This option is deactivated by factory default.

#### Note

This option is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

**Remote: Activate** this option if you want to access the camera from a remote location (via DynDNS).

**SSL:** Activate this option if you want to use an encrypted connection to the camera. By default, the connection between MxMC and the camera is not encrypted. Note that HTTPS needs to be activated on the camera (in the browser in **Admin Menu > Network Configuration > Web Server > HTTPS Settings**).

#### Note

This option is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

**Bandwidth:** Select whether you want to get the images from the camera in **HiRes** or **LoRes** by default. The values (frame rate, image size and image quality) used for HiRes and LoRes connections are set in section **Bandwidth Settings** for MOBOTIX IoT Cameras and in section **Connection Settings** for MOBOTIX MOVE cameras.

## Bandwidth Settings (MOBOTIX Cameras)

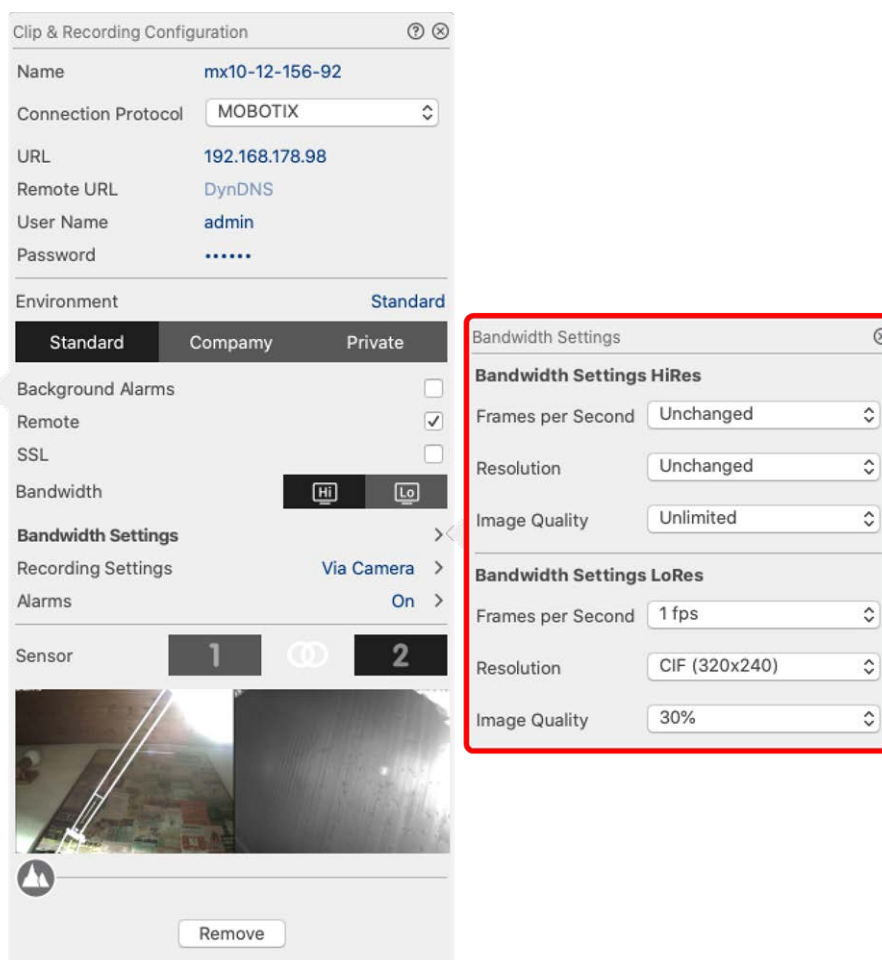


Fig. 120: Bandwidth Settings (MOBOTIX Cameras)

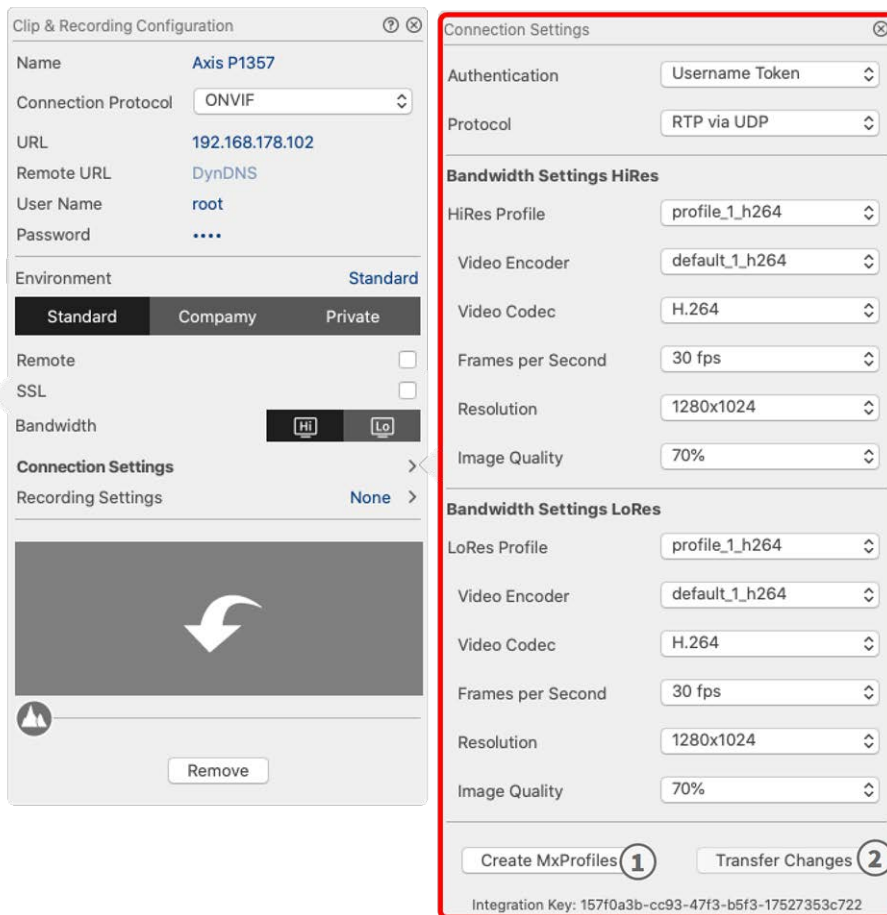
To specify the bandwidth settings for HiRes and LowRes video profiles, you can set the following values:

- frame rate in **Frames per Second**
- **Resolution**
- **Image Quality**

## Connection Settings (MOBOTIX MOVE/ONVIF Cameras)

### Note

In contrast to bandwidth settings of MOBOTIX cameras, changes to the media profiles of MOBOTIX MOVE / ONVIF cameras are made directly on the cameras. Therefore, these changes affect all applications that use these profiles.



**Fig. 121: Connection Settings (MOBOTIX MOVE/ONVIF Cameras)**

You can specify:

**Authentication** method: Select between

- Username Token
- Digest

To specify the bandwidth settings for HiRes and LowRes video profiles, you can set the following values

- **HiRes/LoRes Profile**, which is defined as ONVIF profile on the camera:
- **Video Encoder** profile
- **Video codec**
- frame rate in **Frames per Second**
- **Resolution**
- **Image Quality**

Click on **Create MxProfile** ① to create a profile, which is optimized for a MOBOTIX environment of the camera. By default, MxManagementCenter creates two profiles named **MxHiQuality** for HiRes and **MxLoQuality** for LoRes.

Click on **Transfer changes** ② to transfer changes on the loaded profiles to the camera.

## Recording settings

Saved recordings can be accessed in a variety of ways, depending on the connection protocol.

### With MOBOTIX cameras:

- **Via camera (MOBOTIX cameras):** The camera is handling access to the recordings.
- **Via recording path:** The camera is handling access to the recordings via a previously defined recording path. Recording paths can be defined in the program settings (Mac: **MxManagementCenter > Settings > Recording Paths**; Windows: **File > Settings > Recording Paths**).
- **Via a local directory:** Local path (recordings are accessed on the local computer).

### With MOBOTIX MOVE / ONVIF cameras:

- **Via MOBOTIX NAS:** Access to recordings via a previously defined MOBOTIX NAS. Access data can be defined in the program settings (Mac: **MxManagementCenter > Settings > Recording Paths**; Windows: **File > Settings > Recording Paths**).

Click on **Recording settings** to adjust the settings to your needs. This opens another dialog box.

1. Choose the desired recording path:

#### Access via the camera:

No further settings are necessary.

#### Access via recording path:

- Select the corresponding recording path and set the corresponding recording format: Use **MxFFS** if the recordings have been stored in an MxFFS archive. Use **MxFileServer** if the recordings have been stored in the classic MOBOTIX folder/file structure.
- MxMC searches for the corresponding recordings in the subdirectories of the predefined file server path. Once the search has been completed, you can select the folder for this camera in the **Device Directory** selection box.

#### Access via local directory:

- Select the **Local path** option and set the corresponding recording format:
  - Enter the file path in the **Local path** text box.
- Note:** Click on the pen icon in the text field to open a file selection dialog.

#### Access via MOBOTIX NAS:

- Select the appropriate MOBOTIX NAS and then select the appropriate device directory based on the displayed IP addresses.

2. Close the dialog box. The settings will be saved automatically when you close the dialog box.

## Setting up and changing Alarm Notification

### Note

The alarm feature is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF-S-compatible interface. For an overview of how the camera functions differ (see [Camera Feature Overview, p. 8](#)).

- **Alarm Bar** turns red or green (door bell), the alarm images are shown in the Alarm bar.
- **Alarm Info Bar** turns red or green (door bell) in the live images.
- **Alarm Settings** allow setting up visual and sound notifications for alerting (Mac: **MxManagementCenter > Settings**, Windows: **File > Settings**).

- Clip & Recording Configuration

Name

mx10-12-156-92

Connection Protocol

MOBOTIX

URL

192.168.178.98

Remote URL

DynDNS

User Name

admin

Password

.....

Environment

Standard

Standard

Company

Private

Background Alarms

☐

Remote

☒

SSL

☐

Bandwidth

Hi

Lo

Bandwidth Settings

>

Recording Settings

Via Camera

>

Alarms

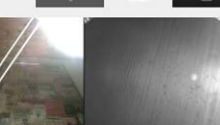
On

>

Sensor

1

2



Remove

Alarms



Alarm Signaling

Active

Alarm Overview


Alarm	Active	Weekly Profile	Invert	Public Holidays
MxActivitySensor	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Video Motion	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Behavioral Detection	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Shock Detector	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Illumination	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Microphone	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Passive Infrared Detector	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Temperature	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Internal Events	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Message Events	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Meta Events	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Signal Events	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Time Events	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Ringing	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Mailbox messages	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Door Station	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
RFID Rejected	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
PIN Rejected	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore
Other	<input checked="" type="checkbox"/>	24 Hours	<input type="checkbox"/>	ignore

Edit weekly profiles...

2. Activate **Alarm Signaling**.
3. Select the event types that should trigger an alarm.
4. In addition, you can select a weekly profile for every event type that should trigger an alarm. As long as no other weekly profile has been selected, the setting is valid from Monday 00:00 to Sunday 24:00.
  - To create new weekly profiles, click on . The **Weekly Profiles** dialog opens. Several predefined profiles are available, such as the **Weekend** profile (Saturday 00:00 to Sunday 24:00).
  - To add a profile, click on . Enter a description. Highlight the desired active times in the table. You can resize an active time block by clicking on the time block and then moving the borders accordingly. It is also possible to move a block. Click on the block to select it, then drag the block to the new



position. To delete a time block, click on .

- You can change the description of an existing profile. Right-click on the name and overwrite it.
5. To select a weekly profile, click on the **Weekly Profile** dropdown list next to the event type and highlight the desired profile. The calendar icon turns white.
  6. To easily invert the settings of the weekly profile, simply click on the calendar icon. For example, if you have created a profile with opening hours and would like to activate the alarms for the closing times, click on the calendar icon  to invert the profile. The icon turns red.

## Sensor Settings (MOBOTIX Cameras)

Clip & Recording Configuration

Name

mx10-12-156-92

Connection Protocol

MOBOTIX

URL

192.168.178.98

Remote URL

DynDNS

User Name

admin

Password

.....

Environment

Standard

Standard

Company

Private

Background Alarms

☐

Remote

☒

SSL

☐

Bandwidth

Hi

Lo

Bandwidth Settings

><

Recording Settings

Via Camera >

Alarms

On >

Sensor

1

2

1

1

2

3

Remove

Fig. 123: Sensor Settings (MOBOTIX Cameras)


**Note**

The sensor settings are available only for MOBOTIX Cameras with two optical sensors.

You can specify how the sensors are to be integrated in MxManagementCenter.







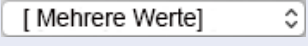
- Click on sensor 1 or 2 ①, to edit the sensor name.
- Click on the Merge Sensors icon ② to combine both sensors as one single camera to be integrated into MxMC.
- Click on the Merged Sensor icon ② to release the combination of both sensors. Each sensor will be integrated as individually configurable camera in MxMC.
- Click into the Preview field ③ to set the recent video frame as preview image for the selected sensor.

## Multi-Camera Configuration

The **Multi-Camera Configuration** dialog box allows changing authentication data used by MxMC and the environment settings of many cameras in one step. When opening the dialog, the application shows the current settings of the cameras. The field is labeled with "multiple values" or a minus sign is shown in the  checkbox if one option has several different settings.

### Meaning of the setting options

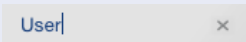


The meaning of the entries can vary depending on the field type. The following table therefore gives a brief overview of the possible entries per field type and their meaning.

Field type	Current status
	All cameras have the user name <b>admin</b> .
	The cameras have different user names.
	This settings has been activated for all cameras.
	This settings has been deactivated for all cameras.
	The cameras have different settings.
	"HiRes" has been set as bandwidth setting for all cameras.
	The cameras have different values.

## Editing Settings

The fields and settings in the **Multi-Camera Configuration** dialog are much the same as those in the **Camera Configuration** dialog. One difference is the way settings are edited. Therefore, only the editing will be explained here. For more information about the general meaning of the settings, see the [Entering And Editing Camera Access Data](#) help topic instead.

Unlike the **Camera Configuration** dialog, the **Multi-Camera Configuration** dialog allows you to reset settings that have not yet been saved. Depending on the field type, you can use different methods.

Field type	Explanation
	If you change the text box of a setting, such as <b>User name</b> , a small cross appears on the right-hand side. Click on the cross to reset the entry to its original value.
	When closing the dialog, the previous setting will be restored.
	If you select <b>Several Values</b> in a selection box, closing the dialog will restore the previous setting.

## Notes on the settings

When processing the following fields, these special features must be observed:

### ■ Recording path:

Local path: The **Local Path** option can be selected for all cameras. Note that you will need to enter the paths **individually for each camera** in the **Camera Configuration** dialog (see *Recording Path* in [Entering and Editing Network Data](#)).

Recording path: If you select a recording path (see *Recording Path* in [Entering and Editing Network Data](#)), MxMC automatically searches the device directory for each camera. The search has been completed if the progress bar is replaced by **OK**. If you close the dialog beforehand, you will have to enter the device directory for each camera in the **Camera Configuration** dialog.

### ■ Alarms:

The **Alarms** option activates or deactivates the alarm notification for all cameras. Note that you will have to set the alarm settings for the event types individually for each camera. Use the **Camera Configuration** dialog to do this (see [Setting up and Changing Alarm Notification](#)).

# User Management

The user management in the application header allows for the centralized management of user data and access rights (see also: [Adding Users](#), p. 93).

## Managing users

Open the User Management in the application header by clicking on .

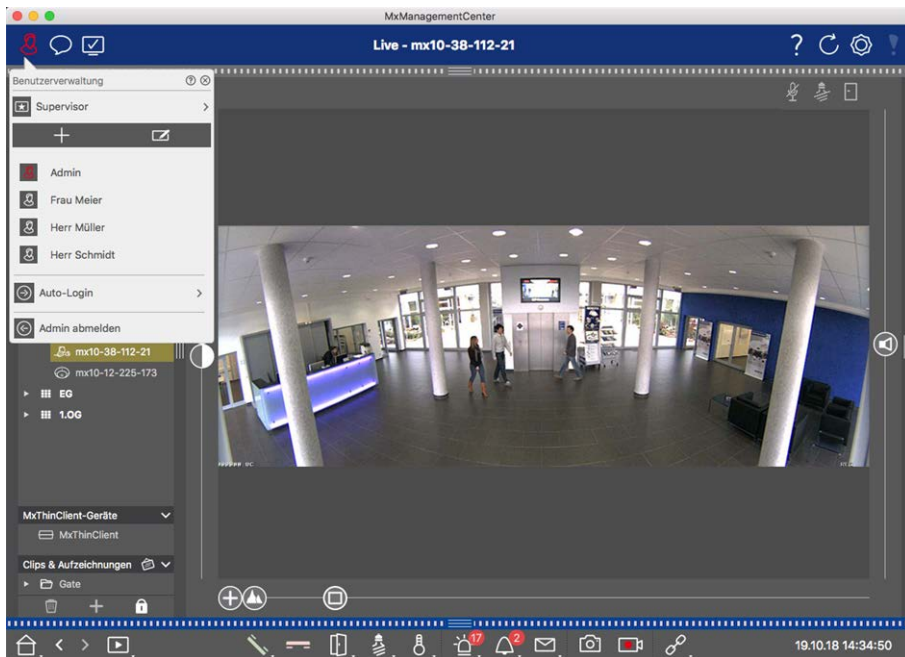


Fig. 124: Managing users

## Deactivating users

If - for security reasons - you want to prevent a particular user from logging in, you can deactivate that user. This prevents the user from logging in, but all settings remain in the system. To do this, select the user and deactivate the **Active** option.

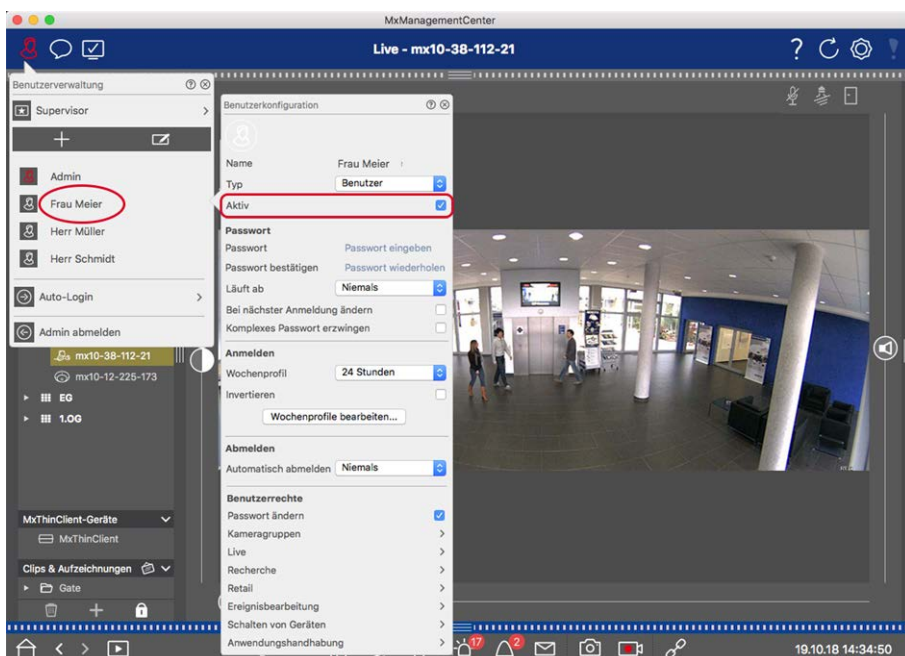


Fig. 125: Deactivating users

## Deleting Users

Click on  and then on  next to the user you want to remove.

## Changing access rights

Click on the user whose settings you want to edit. Then configure the user rights by enabling or disabling the corresponding rights in the **User Rights** section.

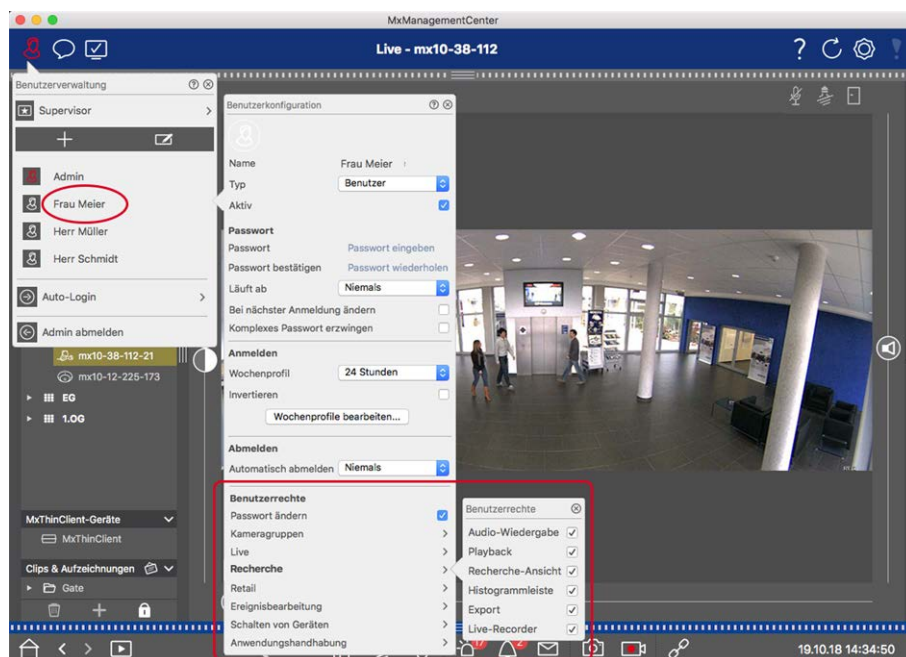


Fig. 126: Changing access rights

## Temporarily assigning supervisor passwords to functions

Certain situations may require users to execute functions for which they usually do not have access rights. These functions can be made available temporarily using a supervisor password.

1. Click on **Supervisor**  to protect functions with a supervisor password.

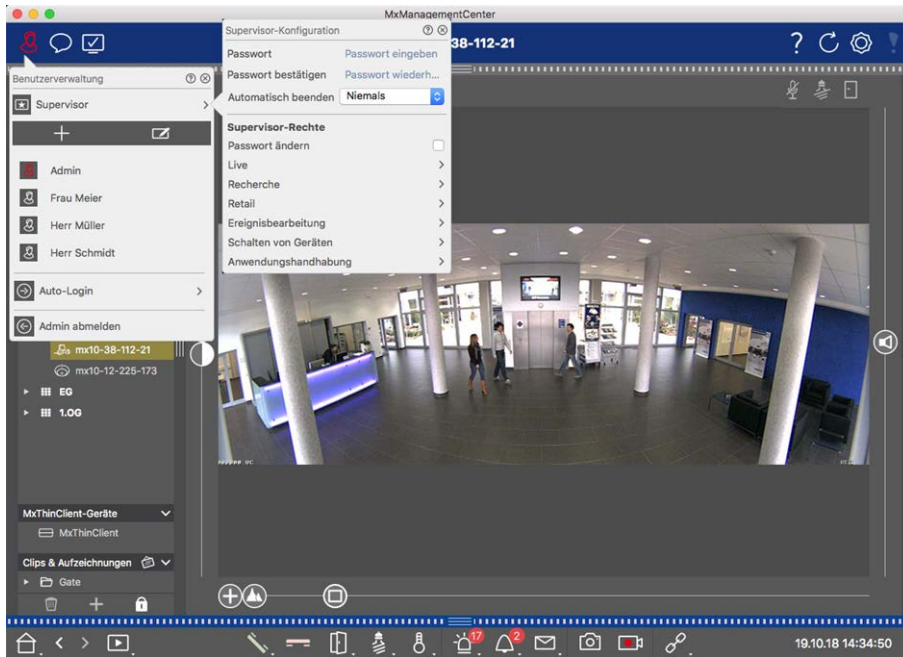


Fig. 127: Temporarily assigning supervisor passwords to functions

2. In addition, you can specify after how many minutes of inactivity this user will be logged out automatically.

#### Note

While a recording is being played back in Playback view or in Grid Playback, MxMC does not automatically terminate the supervisor mode after the specified period of time.

3. Select the functions that can be accessed after entering the password.

## Preferences

General program settings for MxManagementCenter can be changed in menu **MxManagementCenter > Preferences** (Mac) or **File > Preferences** (Windows). Settings can be edited in the following sections:

## General

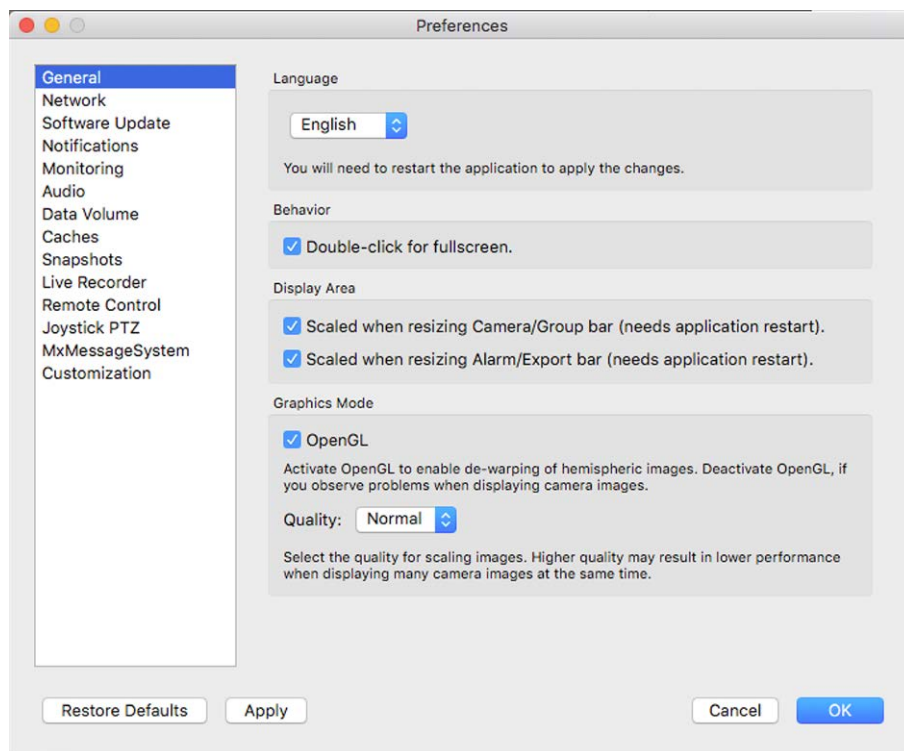


Fig. 128: General Settings

**Language:** Sets the program language. You may have to restart the software in order to apply your change.

**Behavior:** Deactivate this option to prevent that a double-click triggers the full-screen view on the main monitor or on other monitors.

**Display Area:** If you are working with the Camera/Group bars or the Alarm/Export bars, you can change the width of the bars. Use this option to automatically resize the display area in such a case.

**Graphics Mode:** If you want to correct hemispheric images, make sure that this option has been activated. A prerequisite for using this feature is a graphics card with OpenGL V2.1 support, since it performs the actual distortion correction of transferred hemispheric images. Deactivate OpenGL if your graphics card does not support this mode or if you experience problems when displaying the camera images.



Network

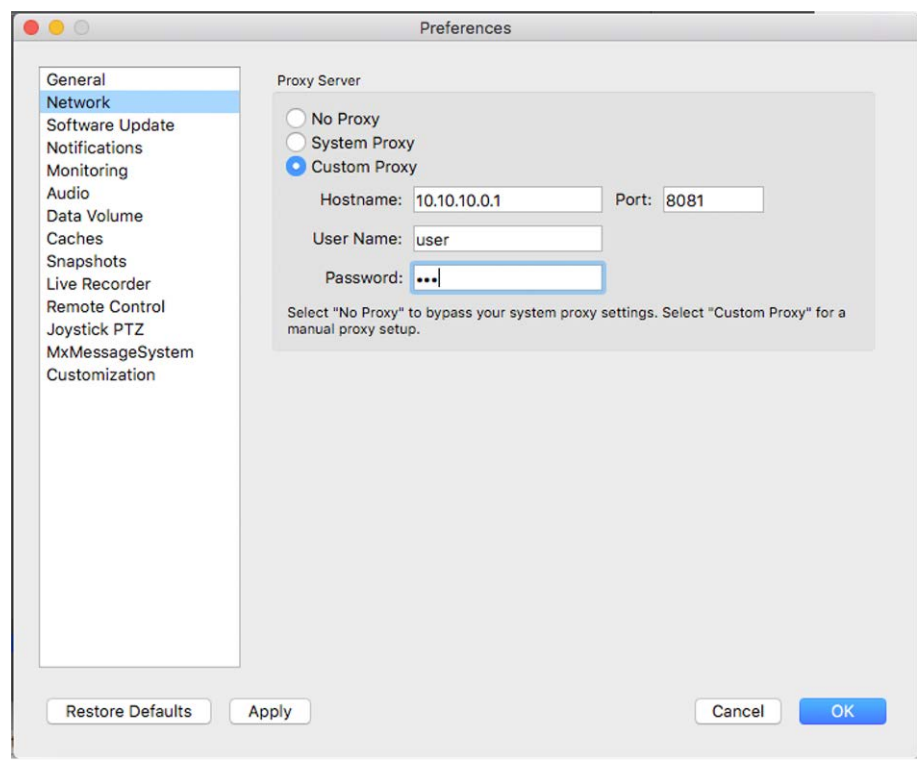


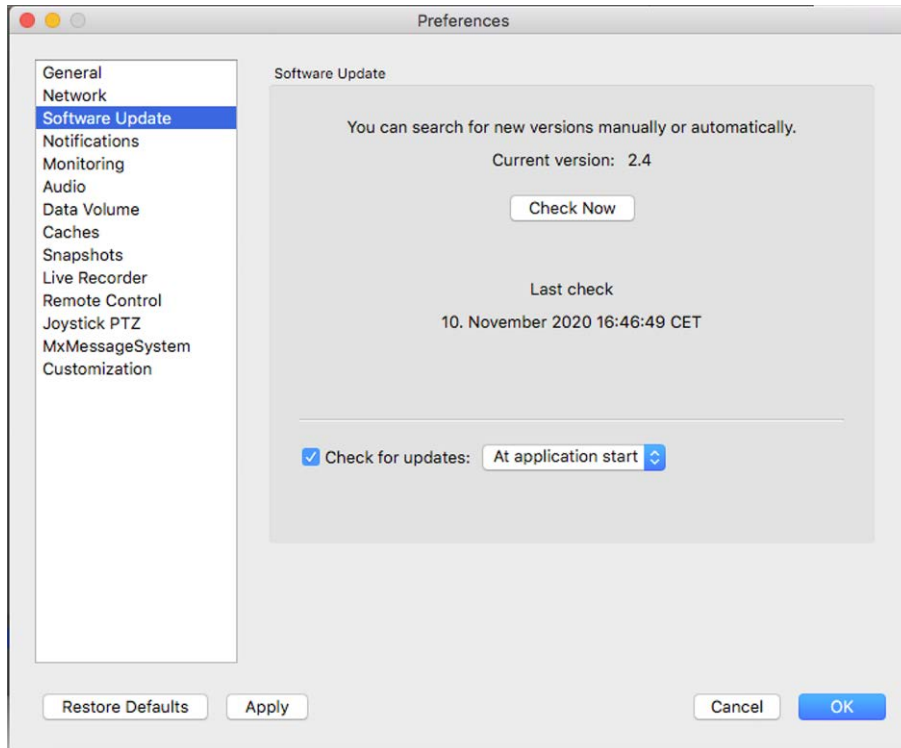
Fig. 129: Network

**Proxy Server:** Select the desired proxy here.

**No Proxy,** a direct connection will be established.

**System Proxy** will apply the proxy settings of the system, including the exceptions defined.

## Software Update



**Fig. 130: Software Update**

MxMC can use the update feature to automatically search for new program versions. To do this, check the **Check for Updates** checkbox and set the polling interval. The update function requires an Internet connection.

The search for new versions can also be performed manually. To do so, click on **Search Now**. If a new program version is available, you will see this here.

Notifications

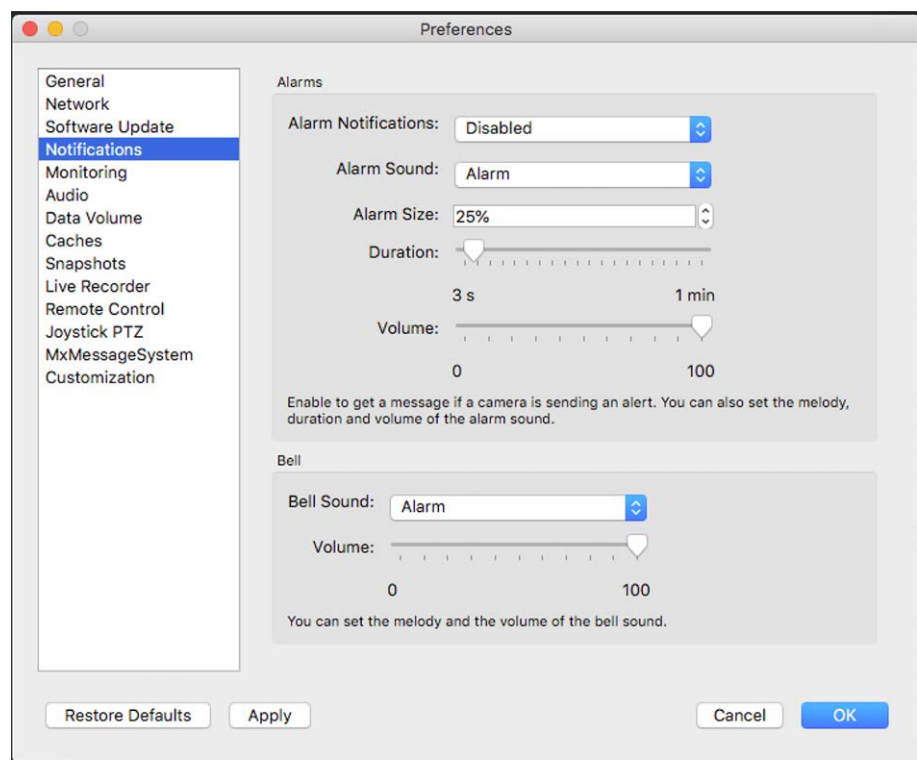


Fig. 131: Notifications

**Alarms:** In addition to the event notifications in the Alarm bar or the Alarm Info bar, you can set up an alarm notification and/or alarm sound that signals new alarms. Enable **Alarm Notifications** to receive an alert. Select the desired alarm sound and set its duration and volume.

**Bell:** When the bell is rung, a ringing notification is displayed. Select the desired ring tone for the notification and adjust its volume using this option (see [Operate Door Stations](#), p. 140).

## Monitoring

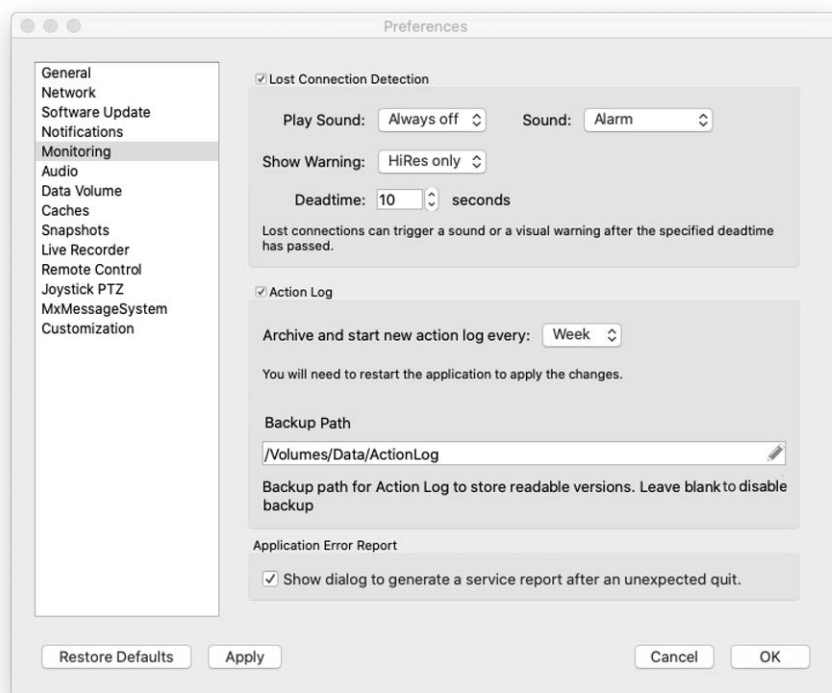


Fig. 132: Monitoring

**Lost Connections:** If the connection to a camera is lost (e.g., due to a network failure or changed camera access data), the application can send a warning.

This is where you configure the warning. Activate the **Lost Connection Detection** checkbox and specify how you want MxMC to react if the connection to a camera is lost.

- **Play Sound:** Select whether a warning sound should be played. With the **HiRes only** option, the warning sound is only played if the related camera is in HiRes mode (see [Camera Configuration, p. 216](#)).
- **Sound:** Select a sound to be played on connection loss.
- **Show Warning:** Select whether a warning should be displayed or not. With the **HiRes only** option, the warning is only displayed if the related camera is in HiRes mode (see [Camera Configuration, p. 216](#)).
- **Deadtime:** Define how long the connection must be interrupted before a warning is triggered.

**Action Log:** MxMC can log any action, such as starting playback or export actions, activating the sound, etc. This means that you can log all user actions and thus deliver the entire chain of events for legal purposes. After enabling this feature, you must restart the application for the activation to take effect. The action log can be accessed from the menu **File > Action Log**.

- **Archive and start new action log every:** specify the interval at which the action log is to be archived and a new log is to be created.
- **Backup Path:** Optionally specify a backup path to store the action log in PDF and CSV format and as encrypted MXL format. Leave the path blank to disable backup.

**Application Error Report:** After an unexpected program termination, a service report is usually created. If you do not want this, uncheck the **Show Dialog** checkbox.

## Audio

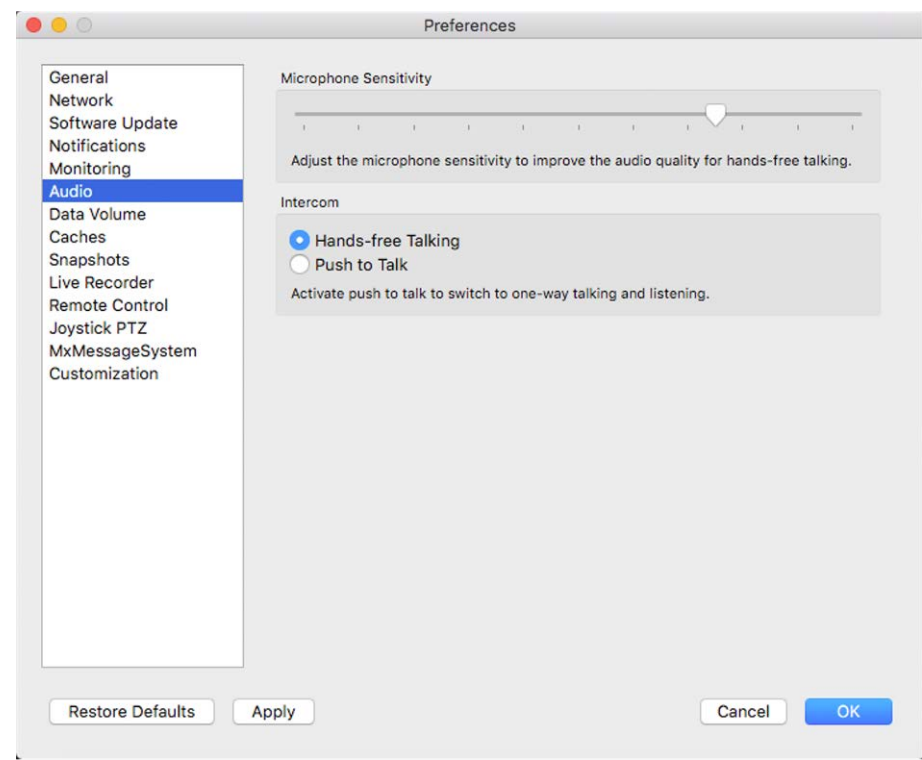


Fig. 133: Audio

Use the slider to set the sensitivity for recording the sound from the camera microphone. The default setting has been optimized for Intercom connections and should only be touched in very noisy or very quiet door station surroundings.

### Hands-Free Talking and Push to Talk

The **Hands-Free Talking** option is activated by default. If the surroundings are very noisy or if intercom problems persist, you should try to use the **Push to Talk** option.

## Data Volume

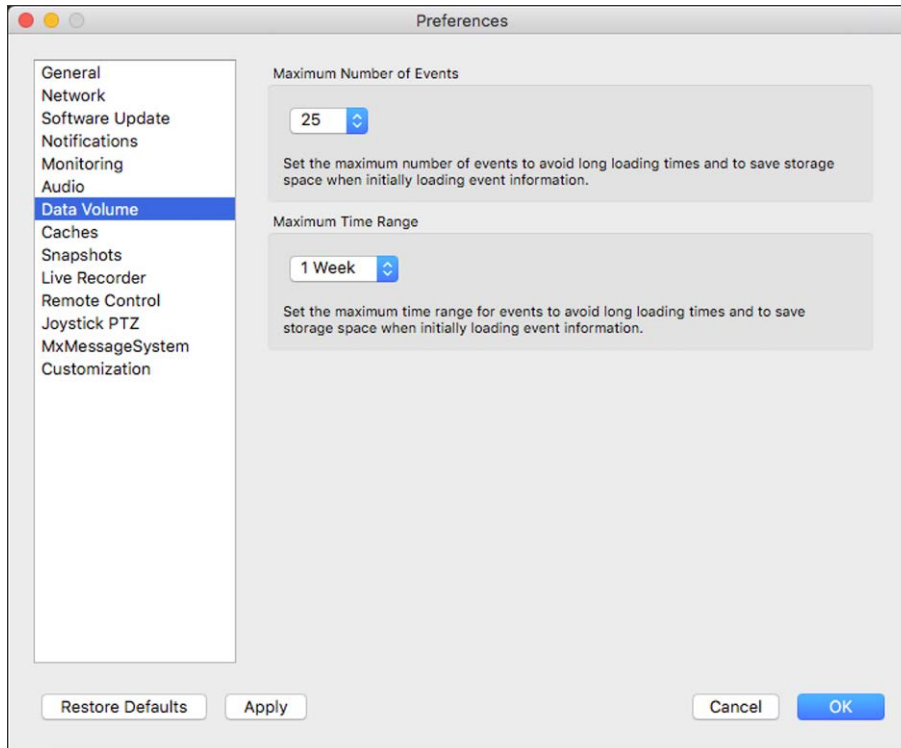


Fig. 134: Data Volume

**Maximum Number of Events/Maximum Time Range:** The number of events and the time range are controlling how far into the past MxMC will look for event information after the next launch of the application. The settings apply to the event counter in **Live View** and the event preview images in **Events View**. This avoids long loading times and saves storage space when initially loading the event information.

## Caches

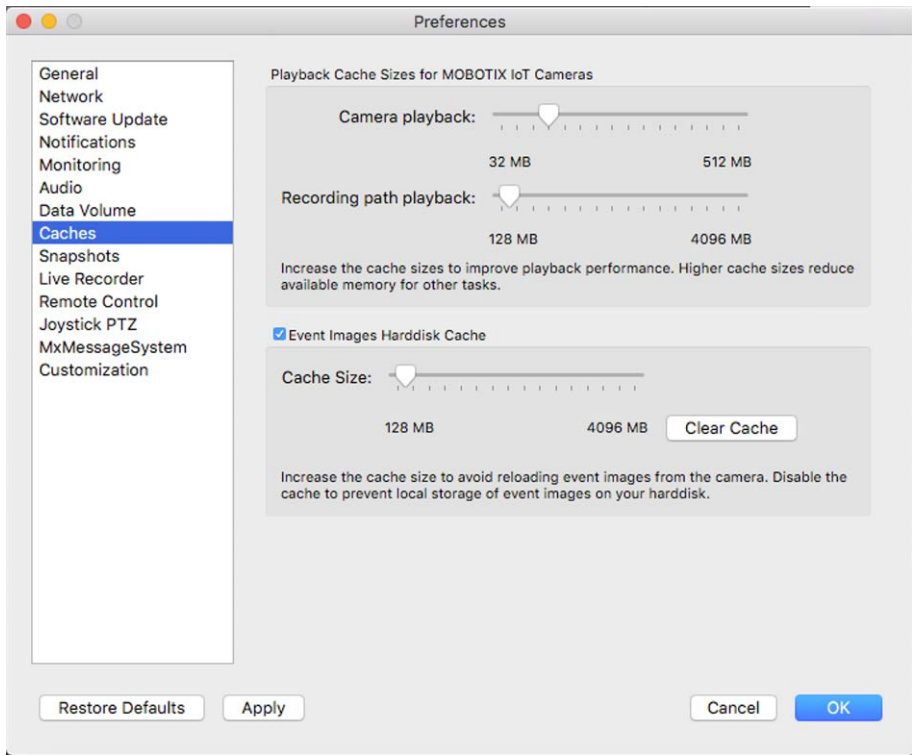


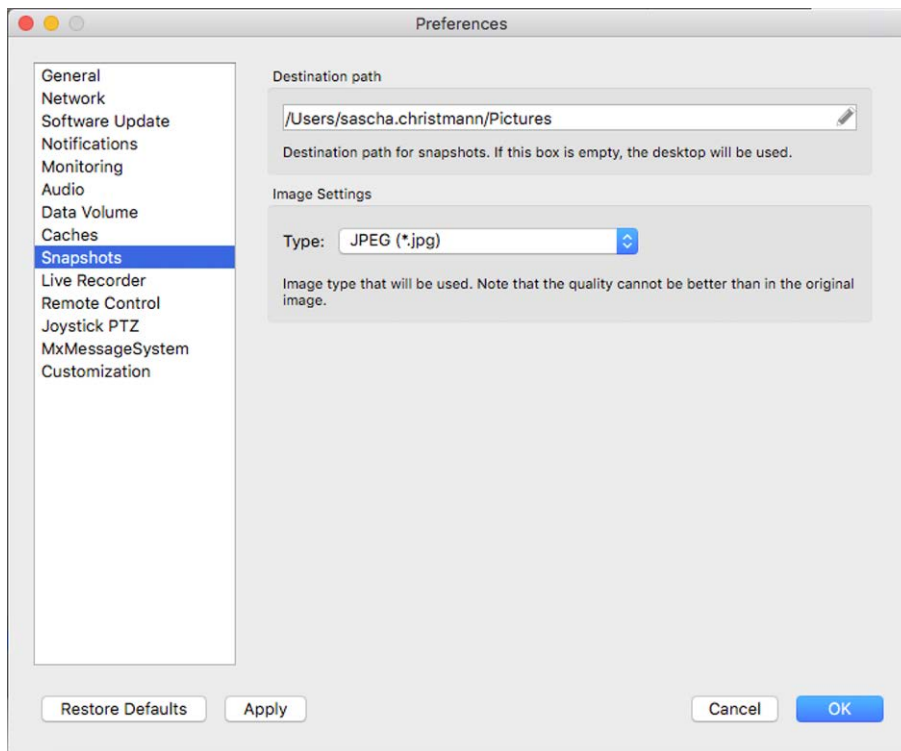
Fig. 135: Caches

**Recording Path Cache Sizes:** To improve playback performance, you can set the internal cache sizes for playback here. This applies to both playback via the camera and playback from a file server. Please be aware that the cache size set here will reduce the available RAM for other processes, which in turn can influence the performance of other applications.

**Event Images Harddisk Cache:** To load event images faster and reduce network load, you can increase the disk cache for event images. If you do not want the system to save event images to disk, clear the **Event Images Harddisk Cache** checkbox.



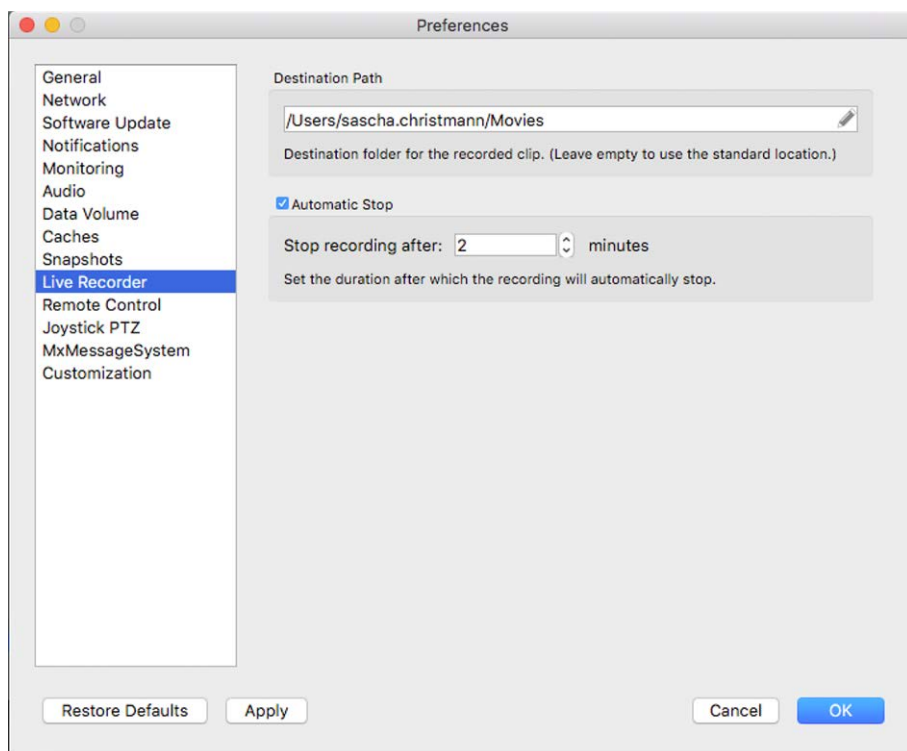
## Snapshot Images



**Fig. 136: Snapshot Images**

You can save individual camera images as snapshot files. These settings control the location and the quality of the snapshot images stored by MxMC. If you do not specify a folder, the files will be created on the desktop.

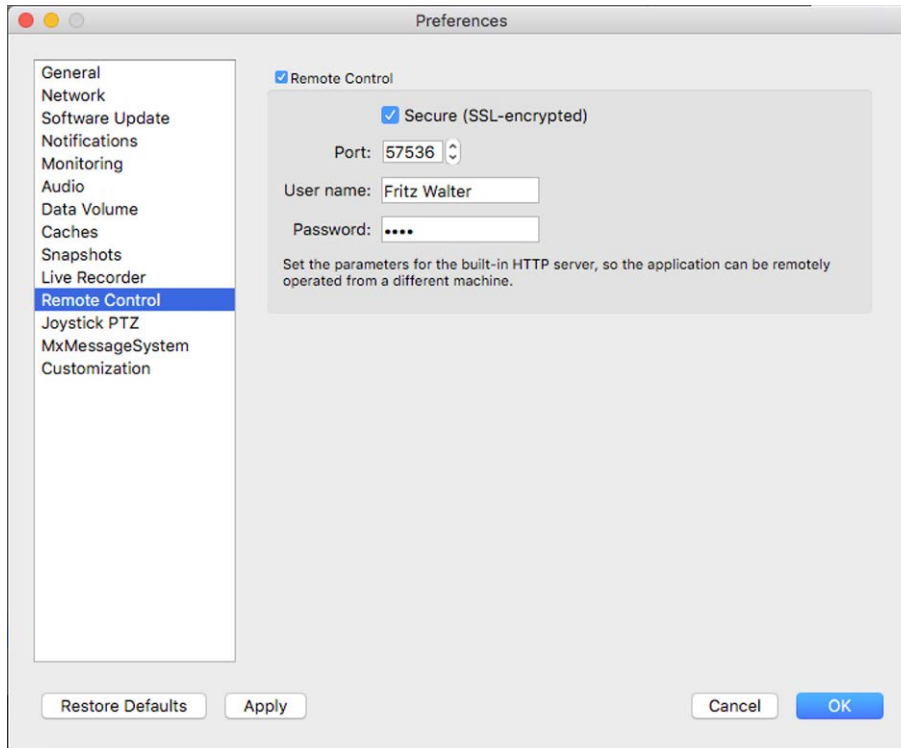
## Live Recorder



**Fig. 137: Live Recorder**

If you observe a suspicious situation that you want to record, you can start a manual recording in Live view as well as in Grid view. While you keep track of the situation in the live image, the images are recorded and saved as an MXG file. Here you can configure where the clips are stored and how long they are recorded. If you do not specify a folder, an MXG file will be created on the desktop.

## Remote Control



**Fig. 138: Remote Control**

MxMC can be remote-controlled from other programs using HTTP requests. Activate this feature and set a proper port if you want to use this feature. Click on one of the example links to see a list of executable commands.

## Joystick PTZ

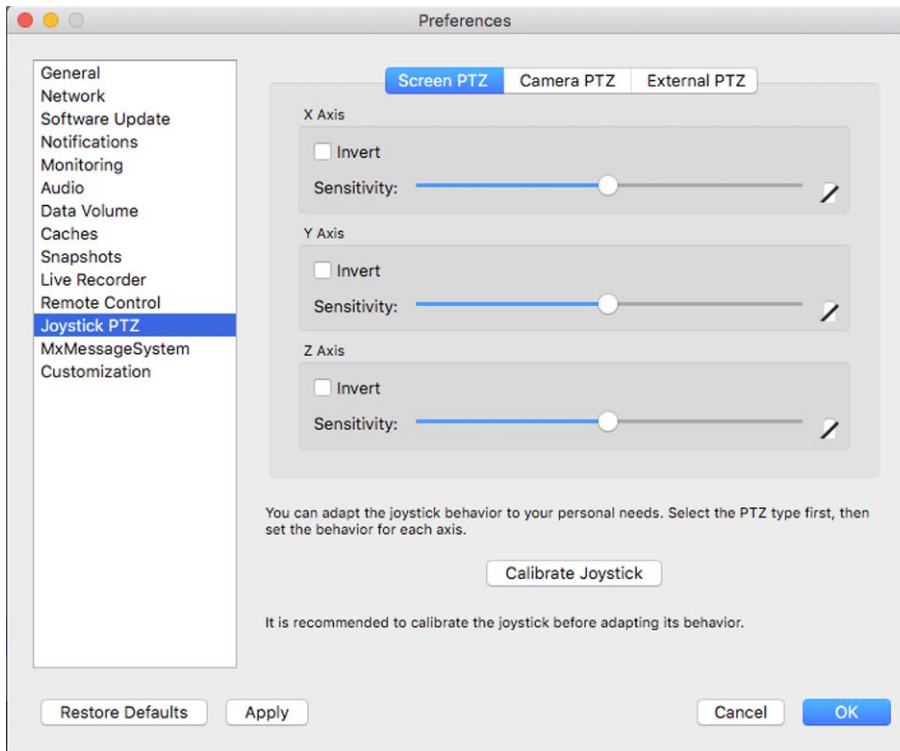


Fig. 139: Joystick PTZ

You can adapt the joystick behavior to your personal requirements. Start by setting the PTZ type, then set the behavior for each axis.

### PTZ Type

- **Screen PTZ:** The PTZ actions are taking place in the application. This means that only the visible image section of the current live image is modified. Any zooming does not influence the recordings of the current camera image that may be taking place.
- **Camera PTZ:** Zooming actions are executed on the camera and also influence the recordings unless you are recording in full-image mode.
- **External PTZ:** If you are using the camera of a different manufacturer, you can set its joystick behavior in this dialog.

### Axes

- **X Axis:** Horizontal movement
- **Y Axis:** Vertical movement
- **Z Axis:** Zooming


### Invert

Use this option to invert the joystick actions for that axis.

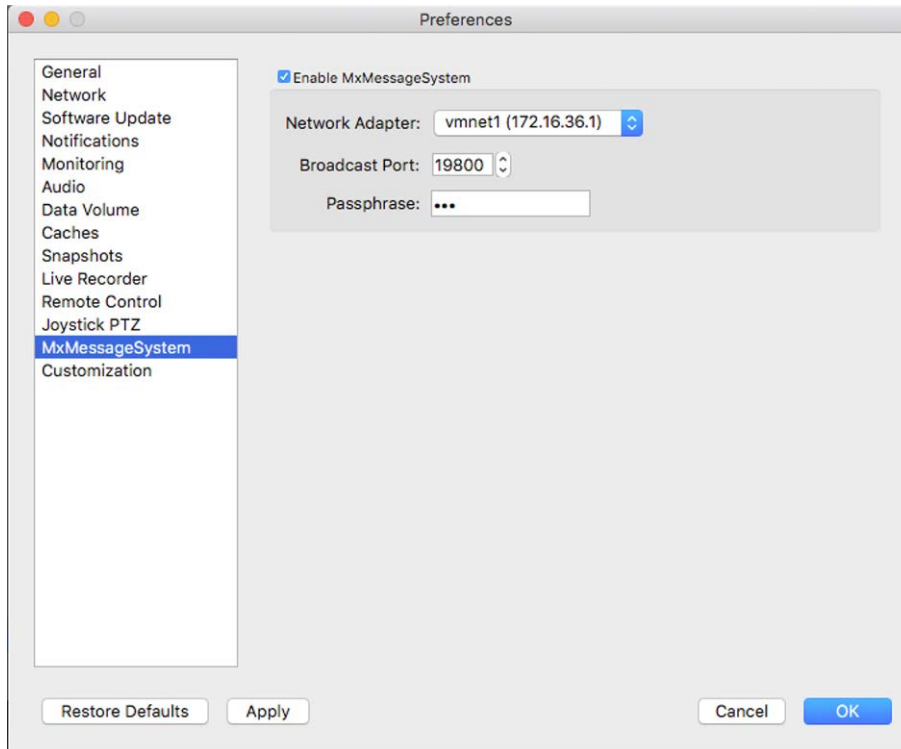
### Sensitivity

If the PTZ actions are reacting too slowly, you can increase the sensitivity. If the reactions are too fast, reduce the sensitivity.

## Progression

Click on the  button to change the progression of the joystick movements. The default setting is linear progression.

## MxMessageSystem



**Fig. 140: MxMessageSystem**

This setting is currently required for the MxThinClient. Since the live camera images are switched to the MxThinClient via the MxMessageSystem, you must first activate the MxMessageSystem here. Make sure that the same parameters are set as in the MxThinClient.

## Customization

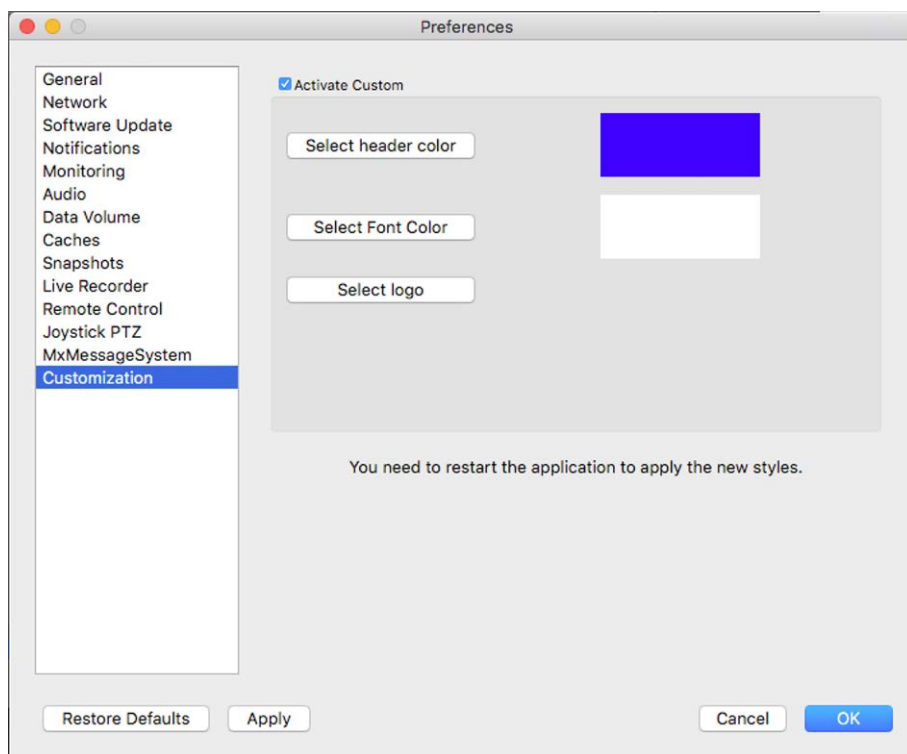


Fig. 141: Customization

This setting enables you to adapt MxMC optically to your needs. You can freely select the primary color of the headers and the font displayed there. You also can add an individual logo.

**Select header color:** Click to select an individual header color.

**Select font color:** Click to select an individual font color.

**Select logo:** Click to select a graphic file to be displayed as individual logo in the header. Possible file formats are .JPG, .PNG, .GIF

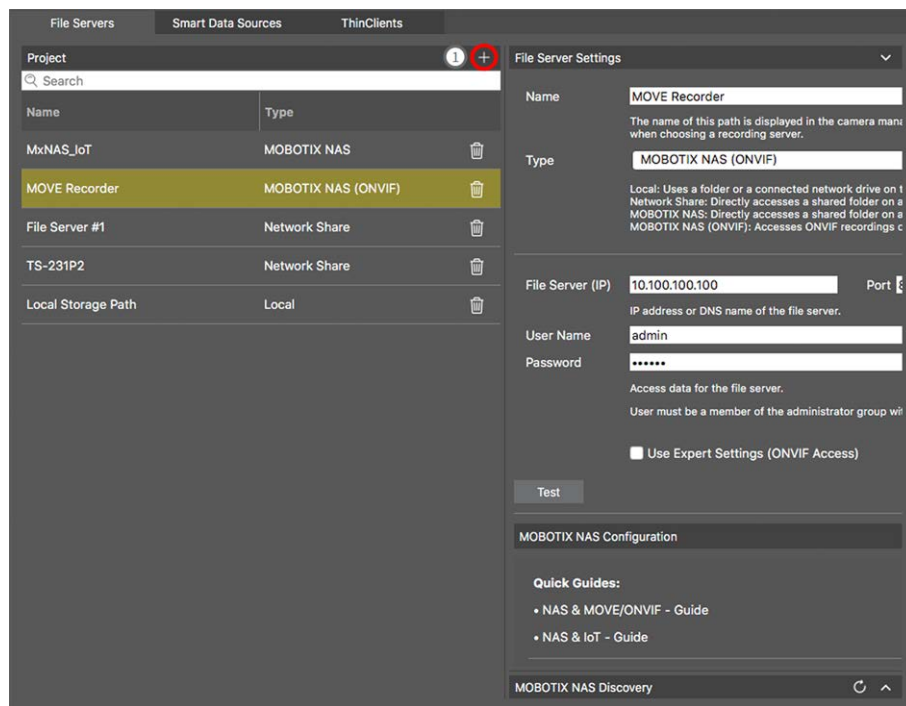
## Components Settings

In the Component View, you can manage the following components:


- **File Servers** that are used to store video recordings (see [File Server Settings, p. 245](#)).
- **Smart Data Sources** (license required for general sources) from which you can read transaction data, e.g. from MOBOTIX P7 Apps (no license required), POS systems or license plate recognition systems (see [Smart Data Settings, p. 250](#)).
- **MxThinClients**, which allow you to display live images from MOBOTIX cameras on a monitor or TV set with HDMI connection (see [MxThinClient Settings, p. 254](#)).

## File Server Settings

Stored images can be accessed in two ways: Access via the camera or directly to a file server where the recordings are stored. If access is to be direct, you can create recording paths here that can be assigned to the cameras. (See [Camera Configuration](#), p. 216).



## Adding a File Server

1. Click the  icon ① and select a File Server type.
2. Configure the file server in the Settings area ②.

## Configuring File Servers

### Name:

Enter a name for the file server here. Use this name to select the path in the Camera Configuration dialog as recording path.

### Type:

- **Local:** Contains a local folder on this computer or on a connected network drive. You can either enter the folder path manually, drag&drop a folder to the text box or select the folder.
- **Network Share:** The program directly accesses a shared folder on a file server. In this case, you need to enter the computer, the folder and the access data.
- **MOBOTIX NAS:** Data is accessed directly on a shared folder on a MOBOTIX NAS.
- **MOBOTIX NAS (ONVIF):** The ONVIF recordings are accessed by the QVR Pro video management software, which must be installed on a MOBOTIX NAS.



## Local

File Server Settings

Name

Local Storage Path

The name of this path is displayed in the camera management when choosing a recording server.

Type

Local

Local: Uses a folder or a connected network drive on this computer.  
Network Share: Directly accesses a shared folder on a different computer.  
MOBOTIX NAS: Directly accesses a shared folder on a MOBOTIX NAS.  
MOBOTIX NAS (ONVIF): Accesses ONVIF recordings on a MOBOTIX NAS.

Path

/storage

Test

**Path:**

you must select the path that contains the recording folders created by the camera.

## Network Share

File Server Settings

Name

File Server #1

The name of this path is displayed in the camera management when choosing a recording server.

Type

Network Share

Local: Uses a folder or a connected network drive on this computer.  
Network Share: Directly accesses a shared folder on a different computer.  
MOBOTIX NAS: Directly accesses a shared folder on a MOBOTIX NAS.  
MOBOTIX NAS (ONVIF): Accesses ONVIF recordings on a MOBOTIX NAS.

File Server (IP)

10.0.0.11

IP address or DNS name of the computer with the share.

Directory

RECORDINGS

Name of the share on the computer.

User Name

MRX

Password

...

Access data for the network share.

Test

**File Server (IP):** IP address or DNS name of the file server with the share.

**Directory:** Name of the share on the file server.

**Note**

Make sure that the path ends before the folder containing the factory IP address of the camera.

**User Name/Password:** Access data for the network share.

## MOBOTIX NAS

Data is accessed directly on a shared folder on a MOBOTIX NAS.

File Server Settings

Name

MxNAS\_IoT

The name of this path is displayed in the camera management when choosing a recording server.

Type

MOBOTIX NAS

Local: Uses a folder or a connected network drive on this computer.  
Network Share: Directly accesses a shared folder on a different computer.  
MOBOTIX NAS: Directly accesses a shared folder on a MOBOTIX NAS.  
MOBOTIX NAS (ONVIF): Accesses ONVIF recordings on a MOBOTIX NAS.

File Server (IP)

10.100.100.100

IP address or DNS name of the computer with the share.

Directory

recordmxiot

Name of the share on the computer.

User Name

admin

Password

.....

Access data for the network share.

Test

**File Server (IP):** IP address or DNS name and port of the MOBOTIX NAS.

**Directory:** Name of the share on the MOBOTIX NAS.

#### Note

Make sure that the path ends before the folder containing the factory IP address of the camera.

**User Name/Password:** Access data for the MOBOTIX NAS.

## MOBOTIX NAS (ONVIF)

The ONVIF recordings are accessed by the QVR Pro video management software, which must be installed on a MOBOTIX NAS.

File Server Settings

Name

MOVE Recorder

The name of this path is displayed in the camera management when choosing a recording server.

Type

MOBOTIX NAS (ONVIF)

Local: Uses a folder or a connected network drive on this computer.  
Network Share: Directly accesses a shared folder on a different computer.  
MOBOTIX NAS: Directly accesses a shared folder on a MOBOTIX NAS.  
MOBOTIX NAS (ONVIF): Accesses ONVIF recordings on a MOBOTIX NAS.

File Server (IP)

10.100.100.100

Port

8080

☐ Use SSL

IP address or DNS name of the file server.

User Name

admin

Password

\*\*\*\*\*

Access data for the file server.  
User must be a member of the administrator group with full rights of the MOBOTIX NAS!

☒ Use Expert Settings (ONVIF Access)

File Server (IP)

10.100.100.100

Port

10260

☐ Use SSL

IP address or DNS name of the file server.

User Name

admin

Password

\*\*\*\*\*

Access data for the file server.

Test

Fig. 142: MOBOTIX NAS settings

**File Server (IP):** IP address or DNS name of the file server.

**User Name/Password:** Access data for the file server.

**Use Expert settings (ONVIF access):** If special access data are required for ONVIF access, enter them here.

## MOBOTIX NAS Configuration

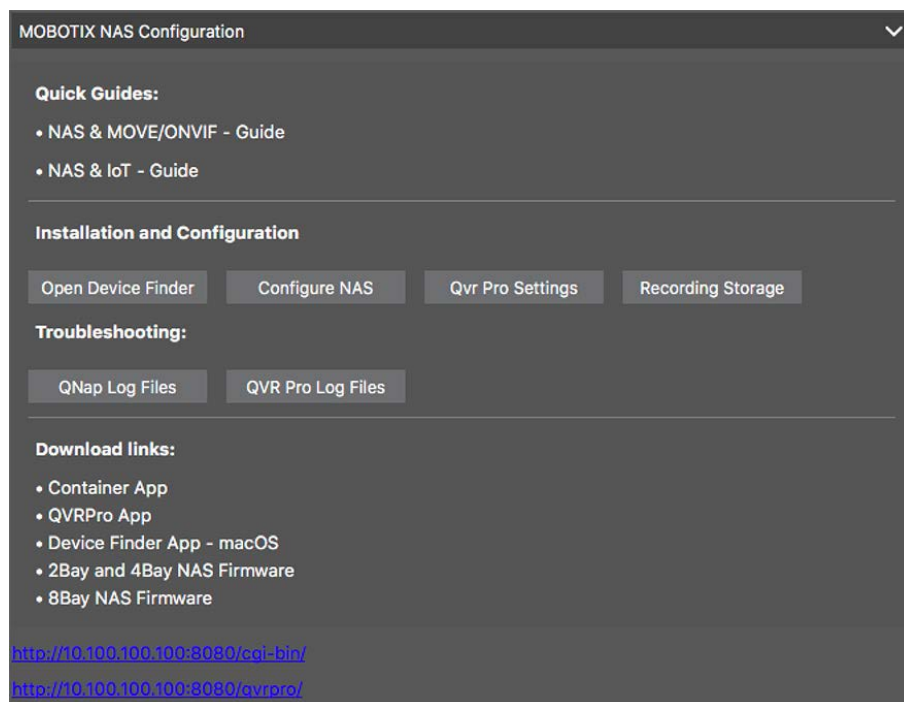


Fig. 143: MOBOTIX NAS Configuration

The following functions are available for configuring and maintaining a **MOBOTIX NAS** or **MOBOTIX NAS** (ONVIF) system.

### Quick Guides

Links to download installation or configuration manuals for MOBOTIX NAS systems

### Installation and Configuration

- **Open Device Finder:**  
The Device Finder finds MOBOTIX NAS systems in the network, making initial configuration easy.
- **Configure NAS:**  
Opens the web interface of the MOBOTIX NAS system with which you can configure the NAS device.
- **QVR Pro Settings:**  
Opens the web interface of the video management software QVR Pro. This software must be installed on the MOBOTIX NAS system first.
- **Recording Storage Space:**  
Opens the web interface of the MOBOTIX NAS system with the interface for setting up the storage space for video recordings.
- **Troubleshooting:**  
Here you can download the log files of the MOBOTIX NAS system or the QVR Pro software.

■ **Download links:**

Links to useful resources for installation, configuration and maintenance.

**Container App:** You need the Container App to install the QVR Pro App on a MOBOTIX NAS system.

**QVR Pro App:** The software for managing recordings from MOBOTIX MOVE or ONVIF cameras on a MOBOTIX NAS system.

**Device Finder App - macOS:** Use the Device Finder App to find MOBOTIX NAS systems in the network.

**2Bay and 4Bay NAS Firmware:** The latest firmware for your MOBOTIX NAS system.

**8Bay NAS Firmware:** The latest firmware for your MOBOTIX NAS system.

## Smart Data Settings

With the MOBOTIX Smart Data System, transaction data, for example from POS systems, can be linked to the video recordings of transactions in MxMC.

### Note

A license is required to activate the general Smart Data interface from which you can read transaction data, e.g. from POS systems or third party license plate recognition systems.

No license is required to use Smart Data from MOBOTIX P7 Apps.

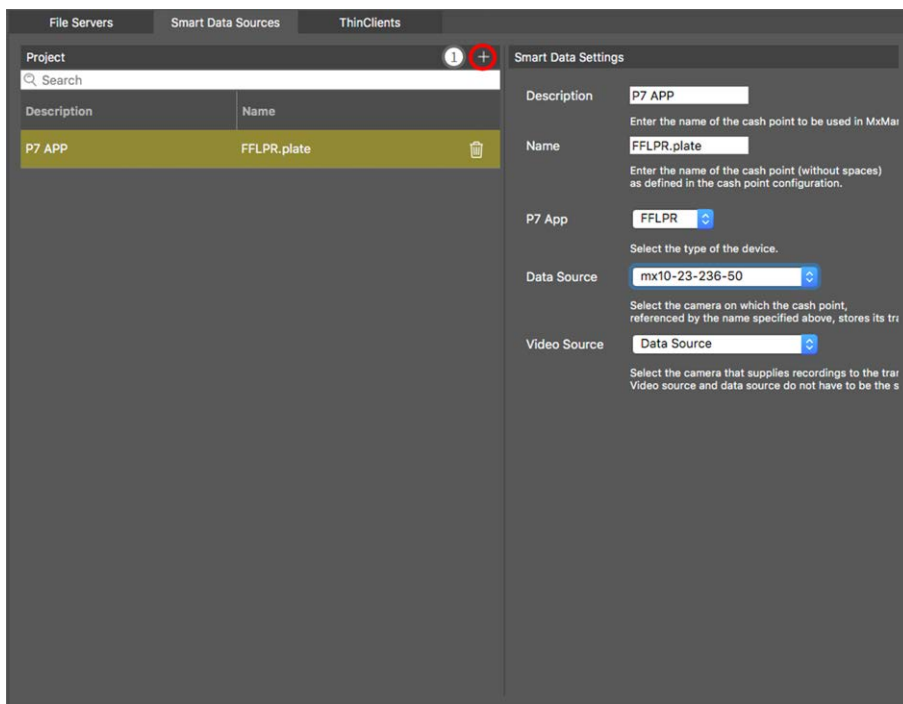



Fig. 144: Smart Data settings

## Adding a Smart Data Source

1. Click the  icon ① and select a Smart Data type.
2. Configure the Smart Data Source the Settings area ②.

## Configure General Smart Data Sources (license required)

Edit the Smart Data sources here (e.g. POS systems or license plate recognition systems).

Fig. 145: Settings for general Smart Data sources

- **Description**

Enter a meaningful name for the Smart Data Source here. Under this name, the source can be identified and selected in the MxMC for research.

- **Name**

Enter the name (without spaces) for the Smart Data Source exactly as it was assigned in its configuration (also without spaces).

- **Smart Data Type**

Select the type of Smart Data device here.

- **Data Source**

Select the camera in which the Smart Data source (identified by the name given above) stores its transaction data.

- **Video Source**

Select the camera that provides recordings for the transaction data. The video source and the data source do not have to be identical.

## Configure P7 Apps as Smart Data Sources (no license required)

Edit the P7 Apps as Smart Data sources here.

Smart Data Settings

Description

P7 APP

Enter the name of the cash point to be used in MxMar

Name

FFLPR.plate

Enter the name of the cash point (without spaces) as defined in the cash point configuration.

P7 App

FFLPR

Select the type of the device.

Data Source

mx10-23-236-50

Select the camera on which the cash point, referenced by the name specified above, stores its tr:

Video Source

Data Source

Select the camera that supplies recordings to the trar  
Video source and data source do not have to be the s

Fig. 146: Settings for general Smart Data sources



## Note

The minimum firmware version on the MOBOTIX IoT Camera is 7.1.2.24.

Follow these steps in the camera user interface to prepare the camera to run properly with the Smart Data interface of MxMC:

1. Go to *Admin Menu > Smart Data Configuration* and click *Add Smart Data source*.
2. Enter the specific identifier for a P7 App:  
**Vaxtor:** VaxALPR.plate  
**FF Group:** FFLPR.plate  
**Visage:** VT\_Face.face
3. Click *Set*.
4. Store and reboot the camera.
5. Go to *Setup Menu > General Event Settings* and enable *Arming*.
6. Click *Set*.
7. Go to *Setup Menu > Recording* and select:  
**Arming** = Enabled  
**Recording (REC)** = Continuous Recording, 2 fps
8. Click *Set*.
9. Go to *Setup Menu > Certified App Settings* and check "Active"
10. Click "Set"-button

### ■ Description

Enter a meaningful name for the P7 App as Smart Data Source here. Under this name, the source can be identified and selected in the MxMC for research.

### ■ Name

Enter the name (without spaces) for the Smart Data Source exactly as assigned in its configuration on the camera.

### ■ Smart Data Typ

Select the type of Smart Data device here.

### ■ Data Source

Select the camera in which the Smart Data source (identified by the name given above) stores its transaction data.

### ■ Video Source

Select the camera that provides recordings for the transaction data. The video source and the data source do not have to be identical.

# MxThinClient Settings

MxThinClient devices allow displaying live images from MOBOTIX cameras on a monitor or TV set with HDMI connection.

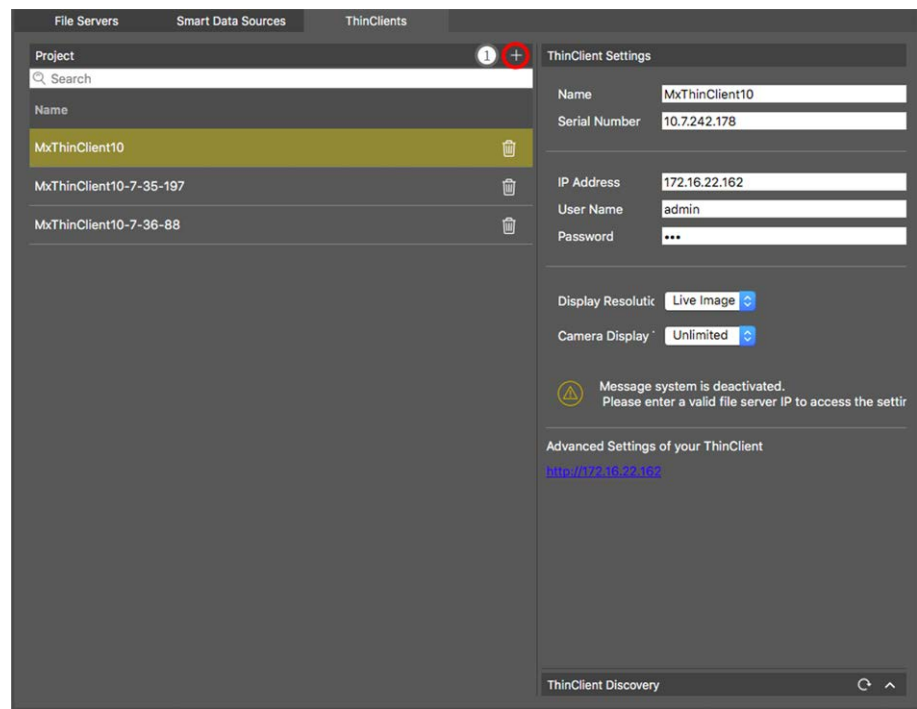


Fig. 147: MxThinClient settings

## Adding a MxThinClient

1. Click the **+** icon ① .
2. Configure the MxThinClient in the Settings section ②.

## MxThinClient Settings

Edit the MxThinClient settings here.

ThinClient Settings

Name

MxThinClient10

Serial Number

10.7.242.178

IP Address

172.16.22.162

User Name

admin

Password


...

Display Resolutic

Live Image

Camera Display

Unlimited

 Message system is deactivated.  
Please enter a valid file server IP to access the settir

Advanced Settings of your ThinClient

<http://172.16.22.162>

ThinClient Discovery



 

Fig. 148: MxThinClient settings

#### Name

Enter the name for the MxThinClient (no spaces).

#### URL

Enter the URL or IP address of the MxThinClient.

#### User Name

Enter the user name of the MxThinClient user here.

#### Password

Enter the password of the ThinClient user here.

#### Display resolution

Select the resolution of the camera image to be displayed on the monitor of the MxThinClient.

#### Camera display

Select here how long the assigned camera image should be displayed on the monitor of the ThinClient. After the selected time period the ThinClient will display the configured setting (e. g. sequences, still images etc.).

## Wizards & Tools

MxMC provides cross-system maintenance and security features, such as creating backup copies of current camera configurations or checking and improving system security. This section provides an overview of the currently available system functions.

#### Note

The system functions described below are not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#).

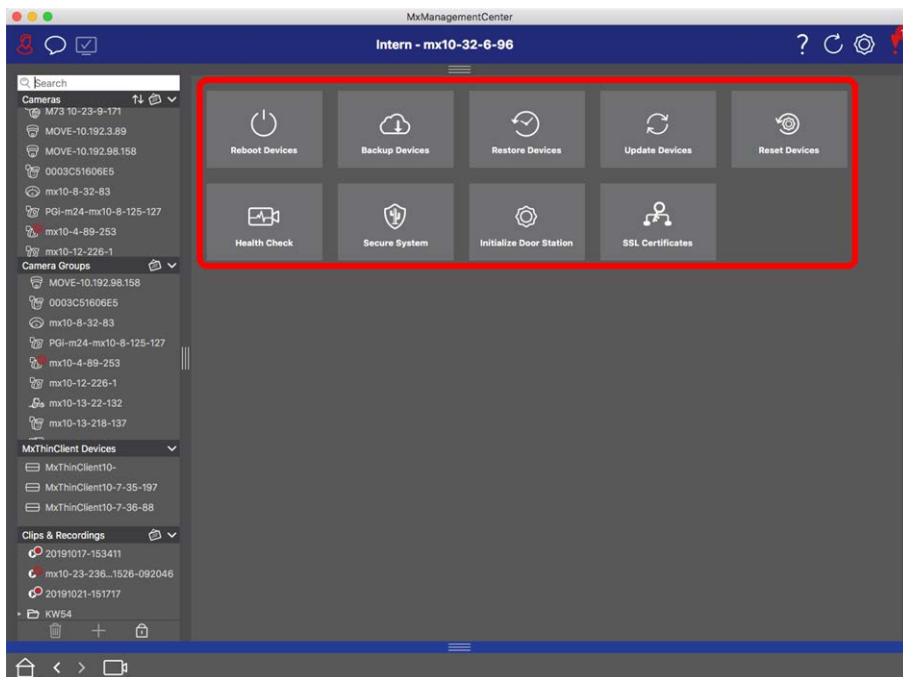


Fig. 149: Wizards & Tools

1. To open the **Wizards & Tools** view, right-click on the navigation key in the Command bar and select **Wizards & Tools**.

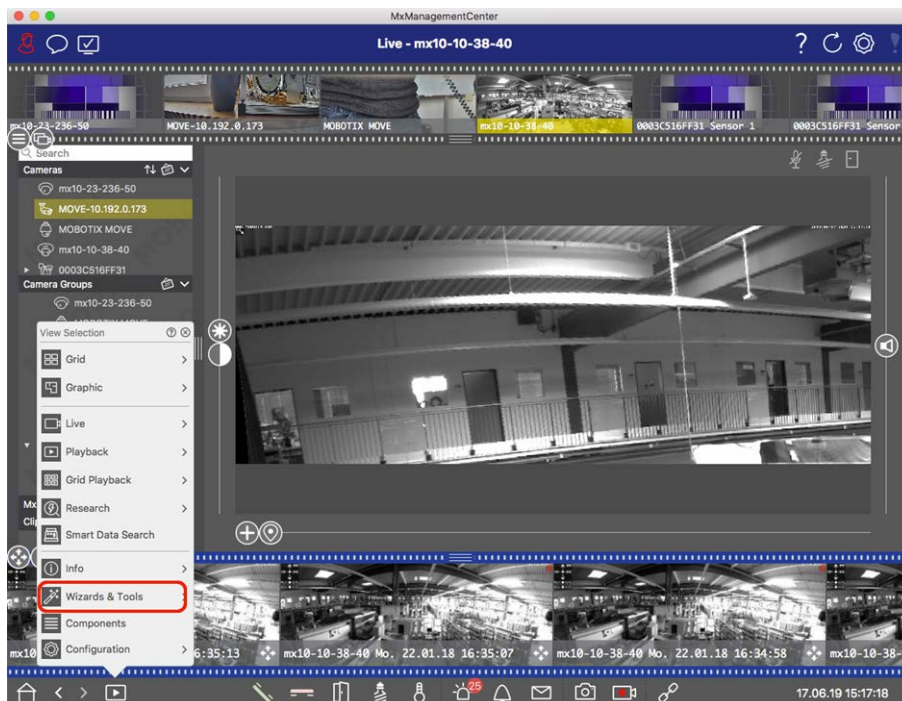


Fig. 150: Opening Wizard & Tools View

2. Select the related camera or camera group in the Device bar or the Camera/Group bar.
3. Select the desired function:

## Maintenance Functions

### Reboot Devices

When it is required to reboot a device, for example to fix network issues. Click **Reboot Devices** to do so. You can determine which cameras are rebooted from the current selection of cameras or camera groups.

### Back Up Devices

The current configuration of cameras or the cameras of one group are saved when you click **Backup Devices**. You can enter a name for each backup. The name should be meaningful enough enabling you to quickly select the desired configuration when you want to restore a configuration later on.

### Restore Devices

The configurations you save when using Backup Devices can be used to restore a configuration, for example, if a camera is no longer operational due to a problem with a configuration. Click on **Restore Devices** and select the desired configuration.

### Update Devices

You can apply a software version to a larger number of cameras at one time. Download the desired software version from the MOBOTIX download directory: [www.mobotix.com](http://www.mobotix.com) > **Support** > **Download Center** > **Marketing & Documentation**. Next, click **Update Devices** and open the \*.mpl file. The new software will be uploaded to the cameras. The cameras will automatically reboot when the update is complete.

#### Attention

The software you select to install must be compatible with all cameras in the group. Otherwise, the update cannot be performed.

#### Reset Devices

Click **Reset Devices** in order to reset one or more cameras to the factory settings. In the process, you can select whether or not security settings (user names and passwords) and network settings should be reset, as well. The cameras will then automatically reboot.

#### Note

Project data will not be automatically updated when you reset the camera(s) to factory settings. You will need to update them manually.

## Security Functions

#### Secure System

This feature helps administrators when securing camera systems. It shows them exposed points of attack and prevents unauthorized or unencrypted access to cameras.

To check system security and secure the system, see [Checking System Security, p. 258](#).

#### Health Check

A MOBOTIX camera independently checks its system status permanently. The results of this check are available in the **Wizards & Tools** view by using the **Health Check** function.

Also see [Health Check, p. 261](#).

#### SSL Certificates

SSL is the standard technology for securing an Internet connection by encrypting the data sent between a website and a browser (or between two servers). This function allows an administrator to upload or create a SSL certificate to the selected cameras.

Also see [Managing SSL Certificates, p. 262](#).

## Initialize Door Station

The door station wizard will guide you through the basic configuration steps of the selected door station.

Also see [Door Station Wizard, p. 272](#).

## Checking System Security

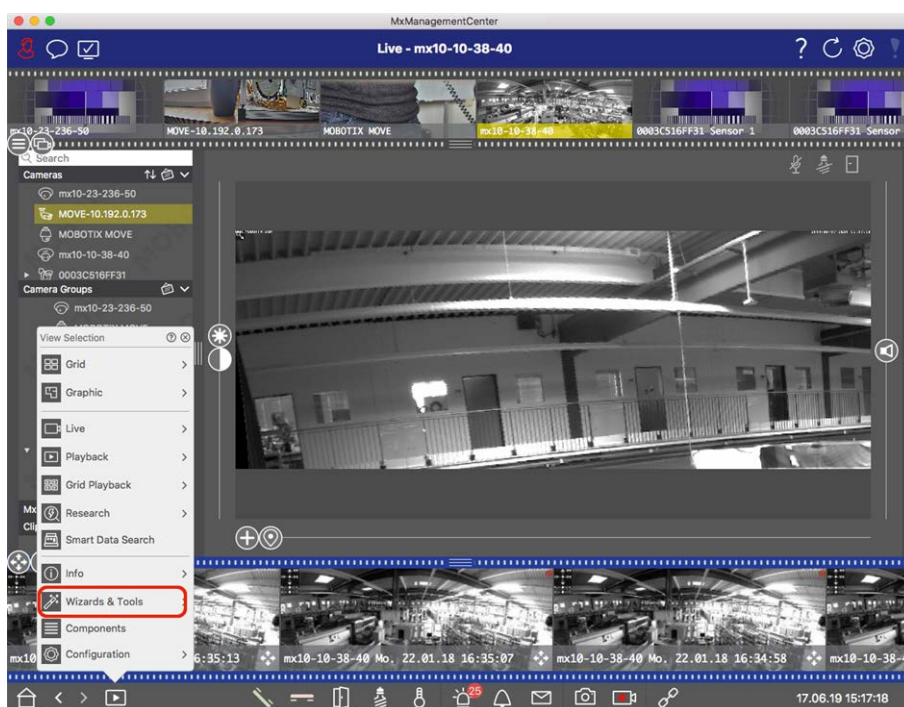
After completing the basic configuration of the system, you can check its security. The **Wizards & Tools, p. 256** view offers the **Secure System** wizard. It analyzes the security of the cameras and assesses their status based on common best practices. If test criteria are not met, possible measures to protect the cameras are provided.

**Note**

The system security check feature is not available for MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview](#), p. 8.

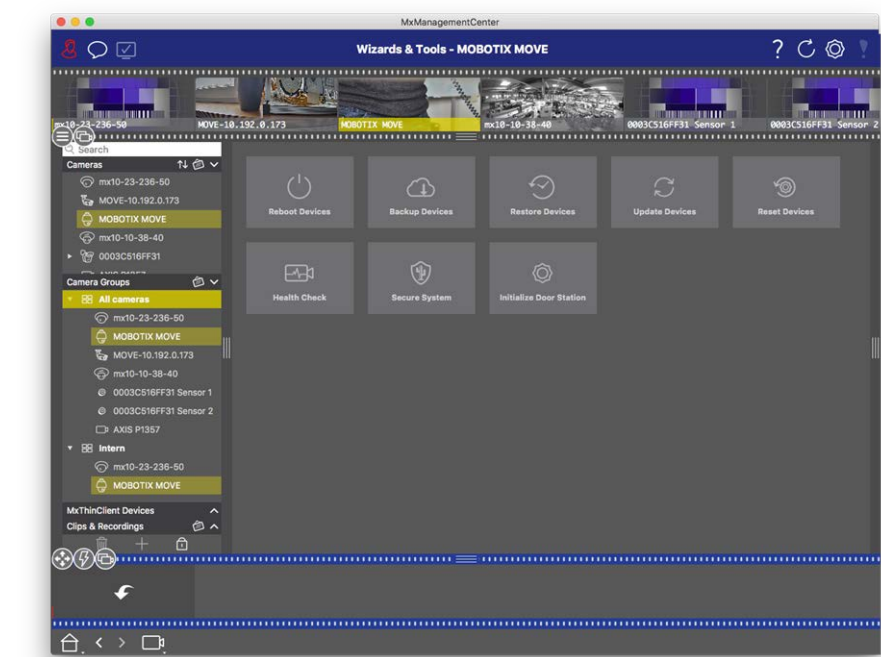
## Verifying Settings for System Security

1. To open the **Wizards & Tools** view, right-click on the navigation key in the Command bar. Select the **Wizards & Extras** view.



2. Select the desired camera or camera group in the Device bar or the Camera/Group bar.






3. Click **Secure System**. The following criteria are checked:
- Usage of the "meinsm" password with standard or ONVIF user accounts on MOBOTIX cameras. It is easy for cyber attackers to guess the standard "meinsm" password.
  - Enabled **Public Access**: If Public Access is enabled, a number of different camera functions can be used without a password.
  - Activated HTTP web server: It is possible for data, including user data such as passwords and images, to be transmitted via the network without encryption when HTTP is used.

The result of the check is displayed for each camera in the **Secure System** dialog. It will also show all cases in which cameras were not checked due to a connection error, for example.

Status	Explanation
⚠ Not secured	There was at least one criterion that was listed as not secure.
🔄 Software too old	Please check the camera software and update it, if necessary.
❌ Connection error	Check your network connection to the camera and perform the security check again.
❗ Not supported	The camera (s) cannot be analyzed or secured using the wizard.
✅ Secured	Camera is secure; no further action is necessary.

## Secure System

4. In the **Secure System** dialog, click on **Next**. Cameras resulting in a **Not secure** status are displayed together with whichever of the three criteria that were fulfilled as well as the measures that need to be taken to properly secure the cameras:

Criterion	Explanation
Password	<p>Changes the password of all user accounts on the cameras that use the standard “meinsm” password. It also include ONVIF users whose passwords have never been changed.</p> <p>Enter a new password and confirm it. A suitable password has at least eight characters. It can consist of lowercase and uppercase letters, digits and special characters (see ). If you set a password that does not meet these criteria, a red frame appears around the text field. The frame turns green once you have entered a valid password.</p> <p>The new password is automatically entered in the MxMC project data.</p>
SSL encryption	<p>Disables camera connections via unencrypted HTTP and configures the cameras to accept HTTPs connections only.</p> <p>The TCP port and the SSL setting will be automatically updated in the MxMC project data, if necessary.</p> <p>The TCP port will not be updated for cameras that are connected via a remote URL. For remote URL connections, you may need to change port forwarding in the router to the appropriate setting.</p> <p><b>Please note</b> that different services, such as network messaging etc., will no longer work when you disable HTTP.</p>
Public Access	<p>Disables access that does not require password entry to the web interface and the APIs of the cameras.</p>

5. Click on **OK** in the dialog box. The selected security measures will be performed. The security status for the selected camera or camera group will be analyzed once again and the result for each camera is displayed.

## Health Check

A MOBOTIX camera independently checks its system status permanently. The results of the health check are available in the **Wizards & Tools, p. 256** view.

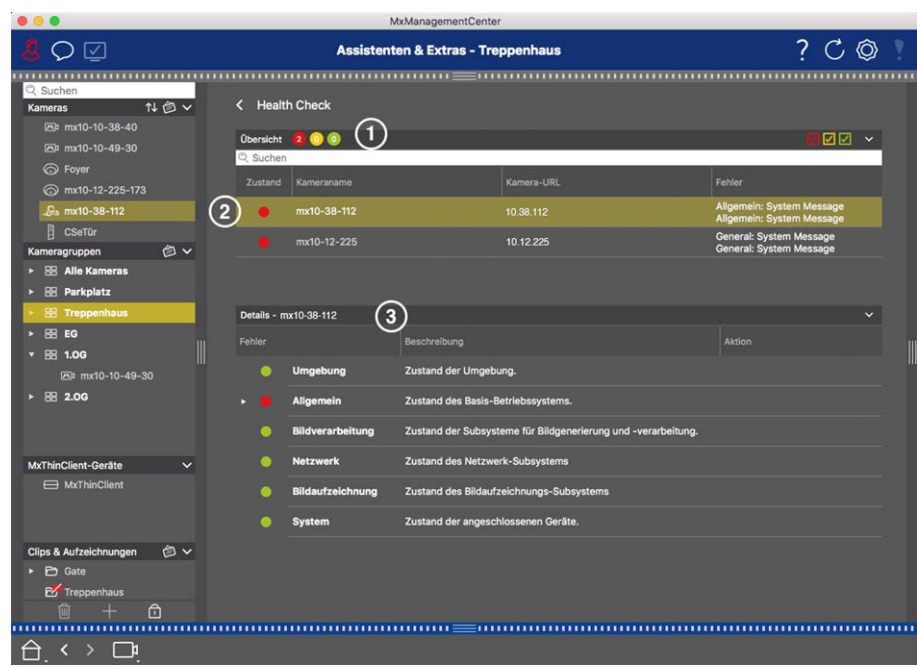


Fig. 151: Health Check

- 1. Click on **Health Check**.
- 2. The camera-internal checking data is now queried and listed in tabular form.

The Health Check dialog provides a overview of the proper operation or functional status of your MOBOTIX cameras. The Health Check is divided into two areas:

Area	Explanation
Overview	<p>Summary of the examined areas of the polled cameras by means of a color-coded system status report:</p> <p><b>Red = error</b> at least one functional area signals an error condition.</p> <p><b>Orange = Warning</b> one or more functional areas signal a warning.</p> <p><b>Green = OK</b> all functional areas are working properly.</p> <p>The overview area shows how many of the polled cameras are in an error state or warning state ①. The table lines indicate the system health for each camera, including a summary of the error messages and warnings for each scanned area ②.</p>
Details	<p>Detailed listing of the system state of the camera in the checked areas, which is displayed by clicking on the Camera bar in the overview area ③.</p>

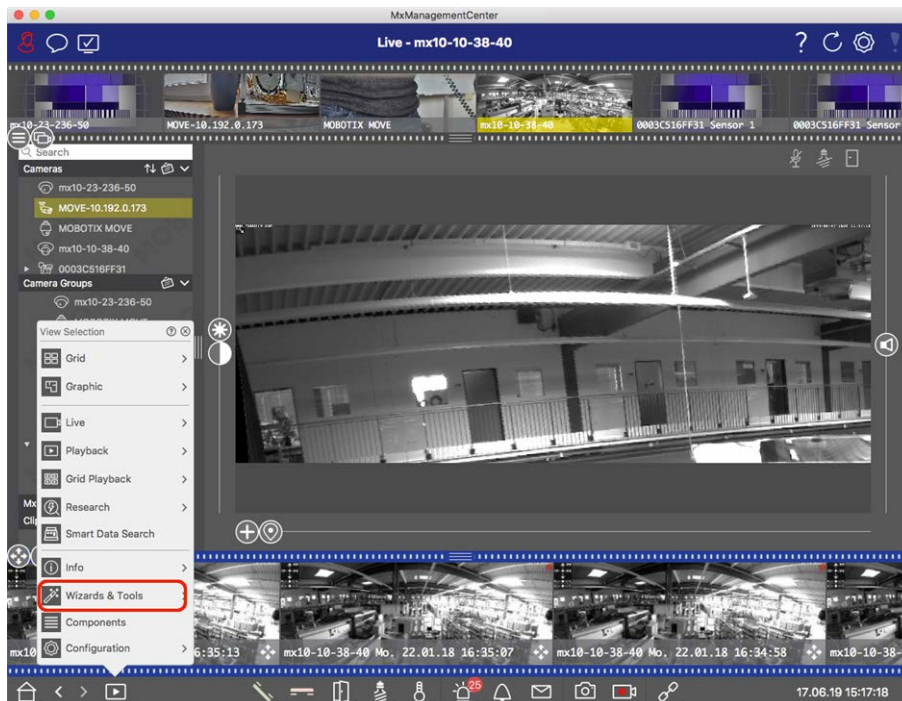
## Managing SSL Certificates

SSL is the standard technology for securing an Internet connection by encrypting the data sent between a website and a browser (or between any two computers). This function allows an administrator to upload or

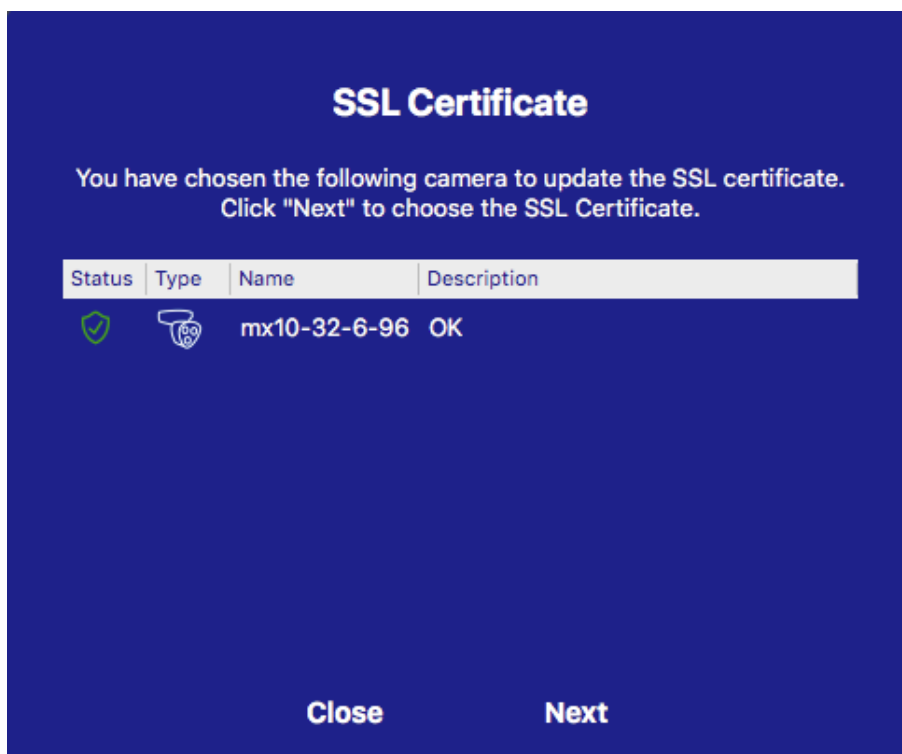
create an SSL certificate to the selected cameras.

## Upload an SSL certificate to a camera

1. Open the **Wizards & Tools** view, right-click on the navigation key in the Command bar.



2. Select the desired camera or camera group in the Device bar or the Camera/Group bar.
3. Click **SSL Certificates**. The SSL Certificate Wizard appears:



4. If the status of the camera is OK click **Next**.
5. Click **Upload** to upload an existing SSL Root Certificate including the private key.



**Do you want to upload or create a certificate authority?**

**Close** **Create** **Upload**


6. Select an existing certificate, the private key and enter the certificate password.

**Upload Certificate Authority**


**Select Certificate**

**Select Private Key**



**Enter Password**



**Verify data**

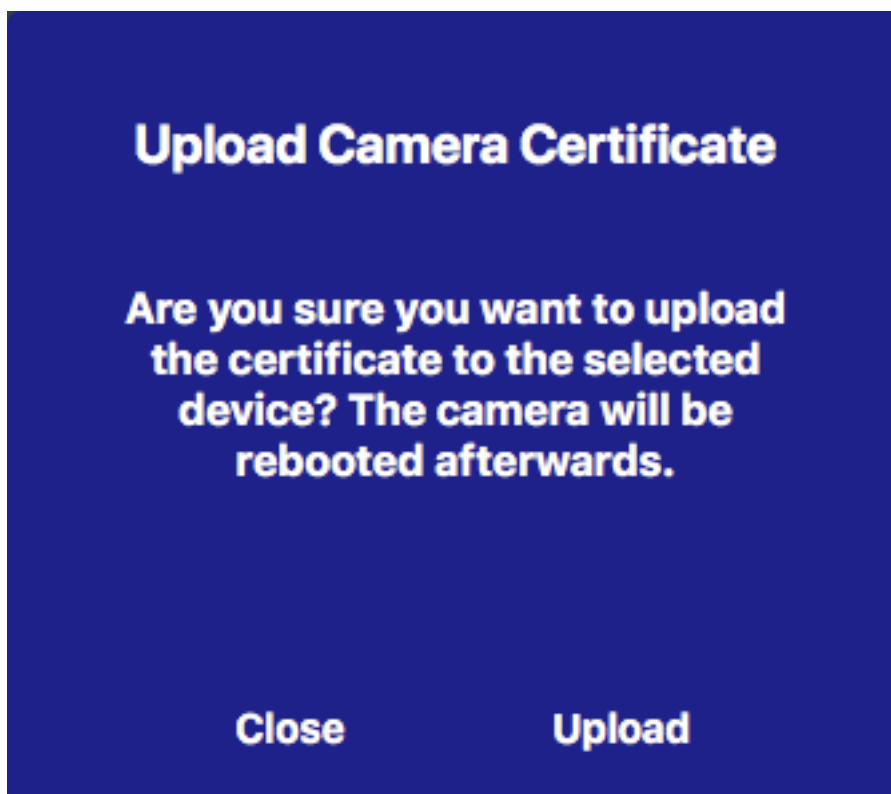
**Close** **Next**

7. Click **Verify Data**. If data verification was successful click **Next**.

**Note**

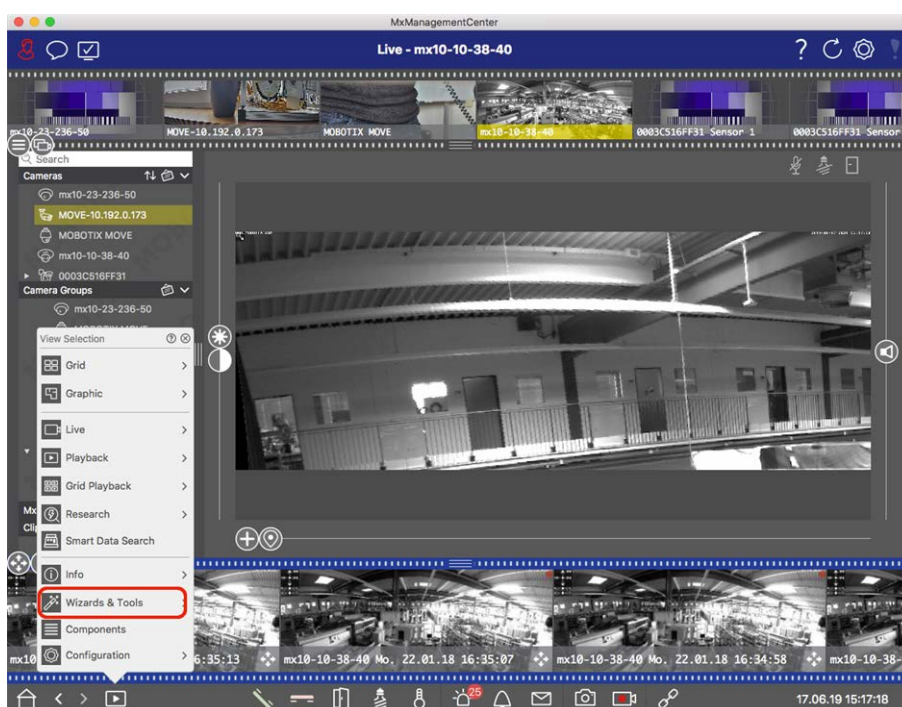
If data verification fails check your certificate.

- Click **Upload**. A summary of successful uploads or errors appears and the camera will be rebooted. See [Summary about successful uploads and errors](#), p. 270.

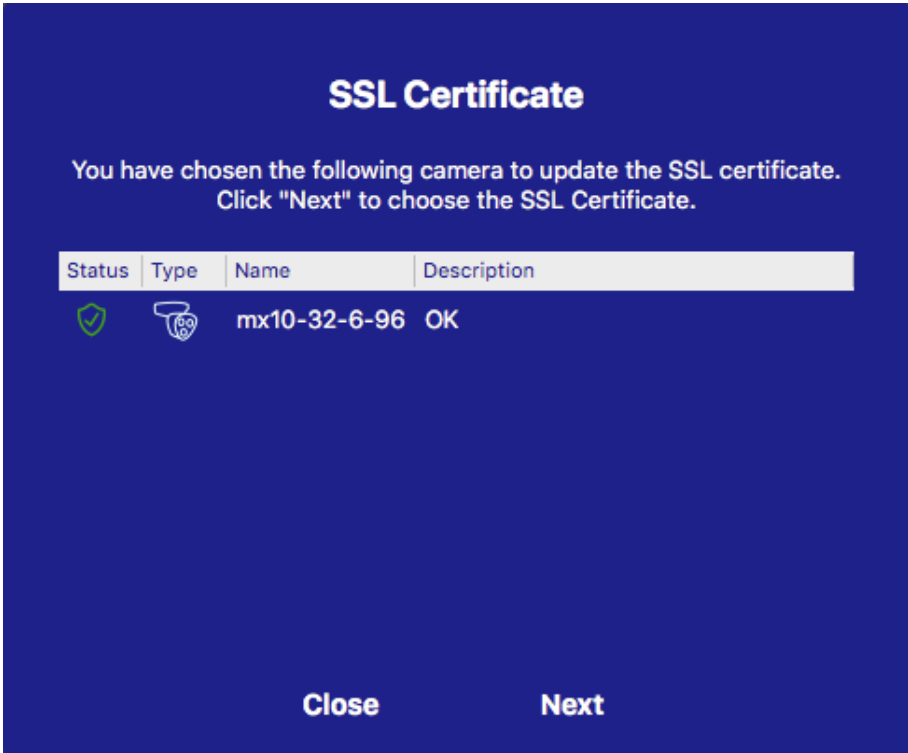


## Generate a SSL certificate

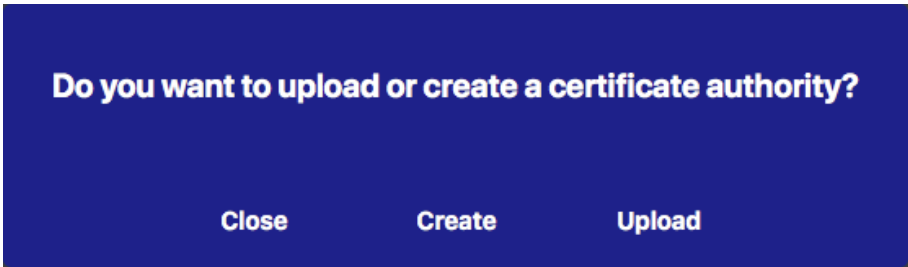
- Open the **Wizards & Tools** view, right-click on the navigation key in the Command bar. Select the **Wizards & Extras** view.



- 2. Select the desired camera or camera group in the Device bar or the Camera/Group bar.
- 3. Click **SSL Certificates**. The SSL Certificate Wizard appears:

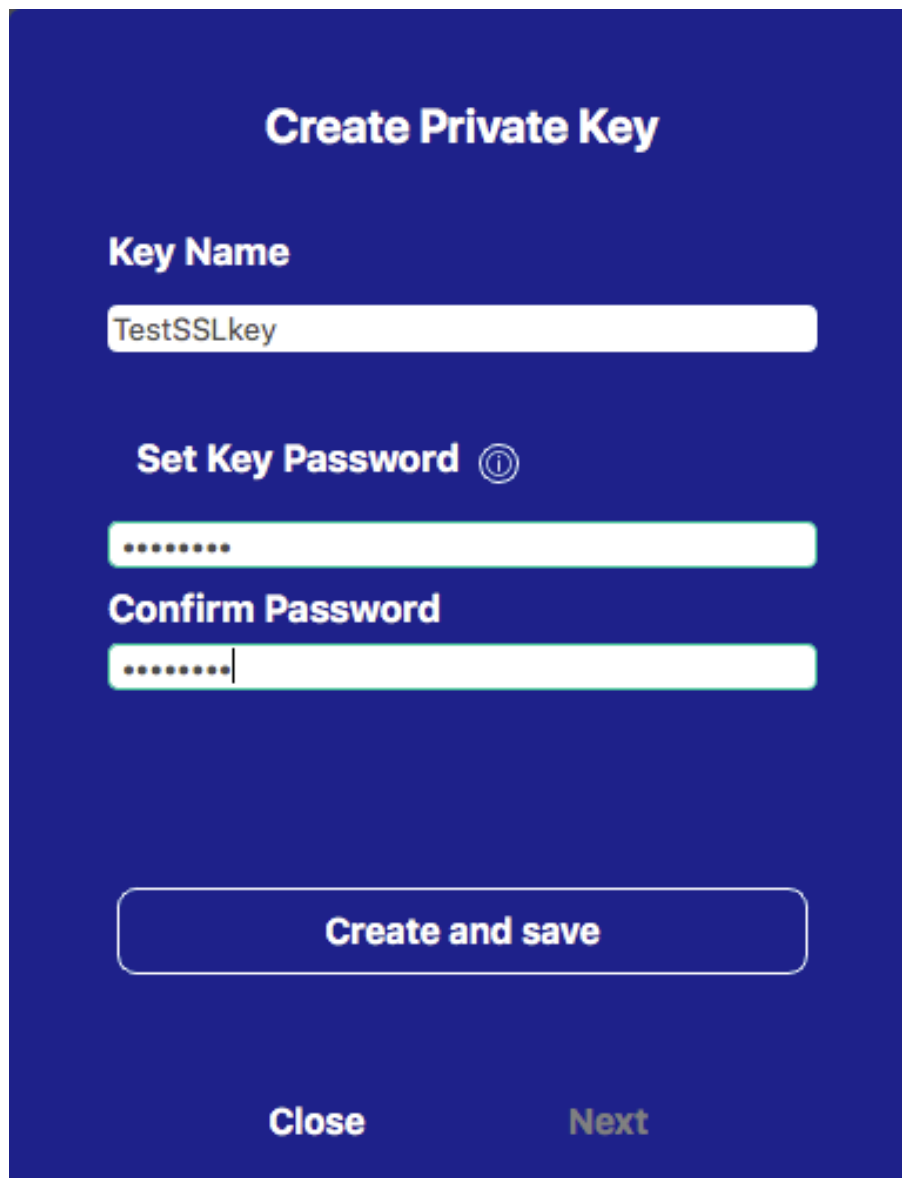


- 4. If the status of the camera is OK click **Next**.
- 5. Click **Create** to create a new SSL Root Certificate including private key.





6. Enter a **Key Name** and a **Key Password** for the private key and click **Create and Save**.



The image shows a 'Create Private Key' dialog box with a dark blue background. At the top, the title 'Create Private Key' is displayed in white. Below the title, there are three input fields. The first is labeled 'Key Name' and contains the text 'TestSSLkey'. The second is labeled 'Set Key Password' with an information icon and contains a series of dots. The third is labeled 'Confirm Password' and also contains a series of dots. Below these fields is a large button labeled 'Create and save'. At the bottom of the dialog, there are two buttons: 'Close' and 'Next'.

7. After saving the private key click **Next**. The dialog **Create Certificate Authority** appears.

8. Fill out at least the mandatory fields and click **Generate Cert.**

Create Certificate Authority

Common Name\*

testRootCertificate

Country  
(2 letter code)

DE

State

RLP

Locality

Langmeil

Organization

MOBOTIX AG

Unit

Team Technical Docu

Email-Adress

testemail@mobotix.com

Validity Duration\* \*\*  
(in days)

3650

\* : Field is mandatory!

\*\* : Validity Duration has to be equal or greater than 397 days.

ATTENTION

If there are other MxMCs in your project, save the certificate now and distribute it!

All data correct! Certificate Authority was created.

Generate Cert

Backup Cert

Close

Next

- Optionally you can create a backup of the SSL certificate. When clicking on **Backup Cert**, you can select a directory to save the certificate file.

**Note**

A backup of your certificate is recommended, e.g., if you need to distribute it on other MxManagementCenter installations within your project.

- Click **Next**.
- Enter the certificate password you defined in [Enter a Key Name and a Key Password for the private key](#) and click [Create and Save](#), p. 267.

**Upload Certificate Authority**

**Select Certificate**

werkstatt/SSL-Certificates/testRootCertificate.0

**Select Private Key**

)/werkstatt/SSL-Certificates/testPrivateKey.pem

**Enter Password**

.....

**Verify data**

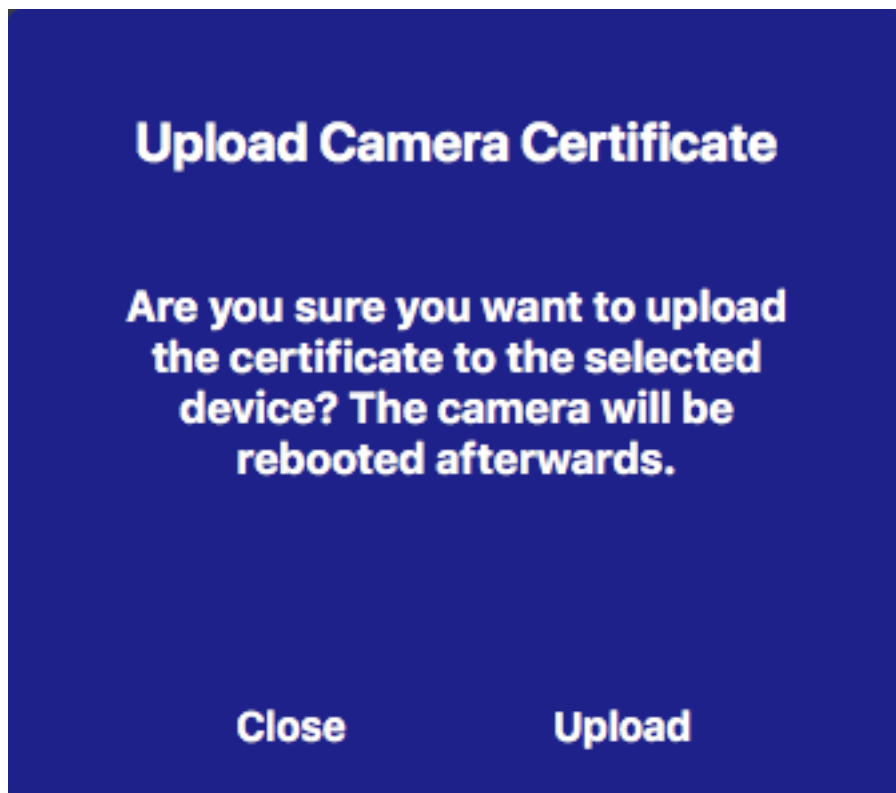
**Close** **Next**

- Click **Verify Data**. If data verification was successful click **Next**.

**Note**

If data verification fails check your certificate.

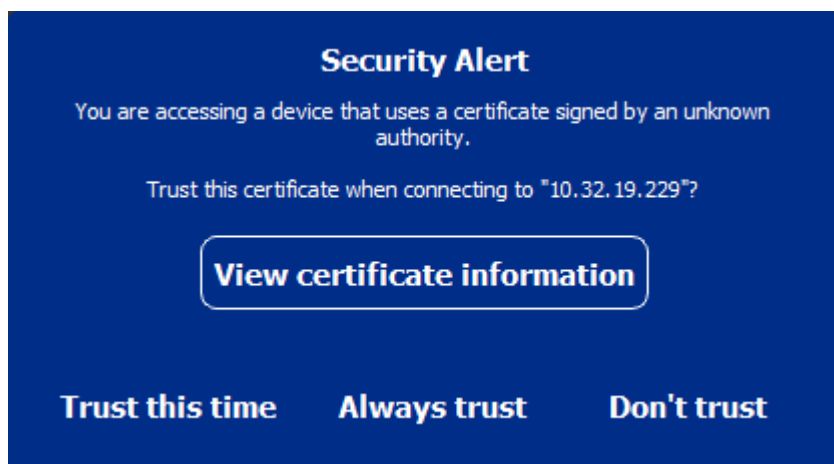
13. Click **Upload**. A summary of successful uploads or errors appears and the camera will be rebooted. See [Summary about successful uploads and errors](#), p. 270.



## Summary about successful uploads and errors

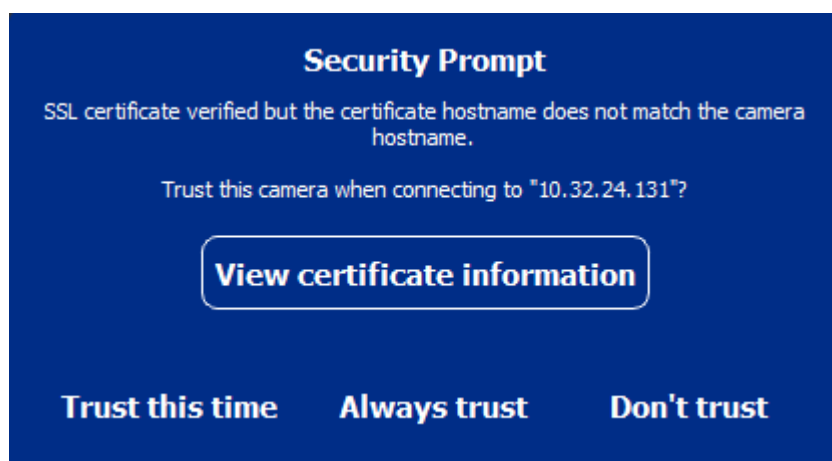
### The certificate could not be verified

There is no matching root certificate in MxMC's "Certificates" folder.



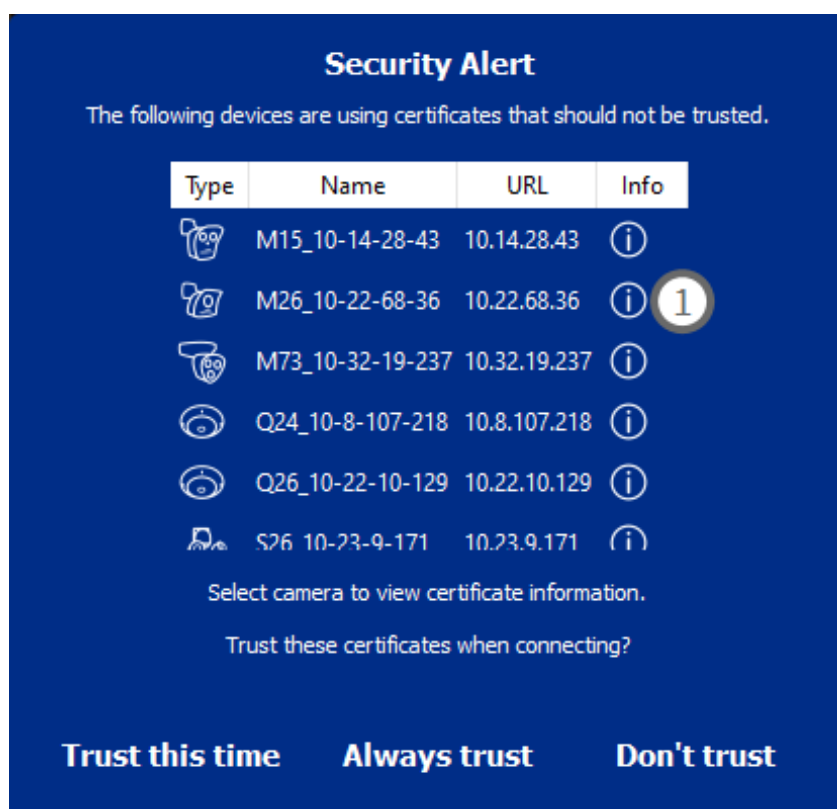
### The certificate hostname does not match the camera hostname

This can happen if the camera still has the MOBOTIX factory certificate but is connected using a different hostname than the factory-supplied one.



#### Four or more cameras report SSL errors.

When four or more camera connections report SSL errors at the same time a list of untrusted cameras is shown.



## Display the SSL certificate information

If an SSL error occurs it is now possible to display detailed certificate information.

Certificate information

Field	Value
Hostname(s)	10.22.10.30,
Common Name	mx10-22-10-30
Country	DE
Issuer Name	MX-ProduktionSubCA-1
Locality	
Organisation	MOBOTIX AG
Organisation Unit	MX-PKI
State	Rheinland-Pfalz
Email-Adress	
Valid from	2016-12-23T20:34:55Z
Valid to	2036-12-18T20:34:55Z
Duration	7300 days

Close

SSL error on one camera

1. Click **View certificate information**.

List of multiple cameras with SSL errors

1. Select a camera in the camera list.
2. Click on the exclamation mark icon on the right ①. The related certificate information appears.

Door Station Wizard

The Door Station wizard will guide you through the basic configuration of a selected door station.

Also see:

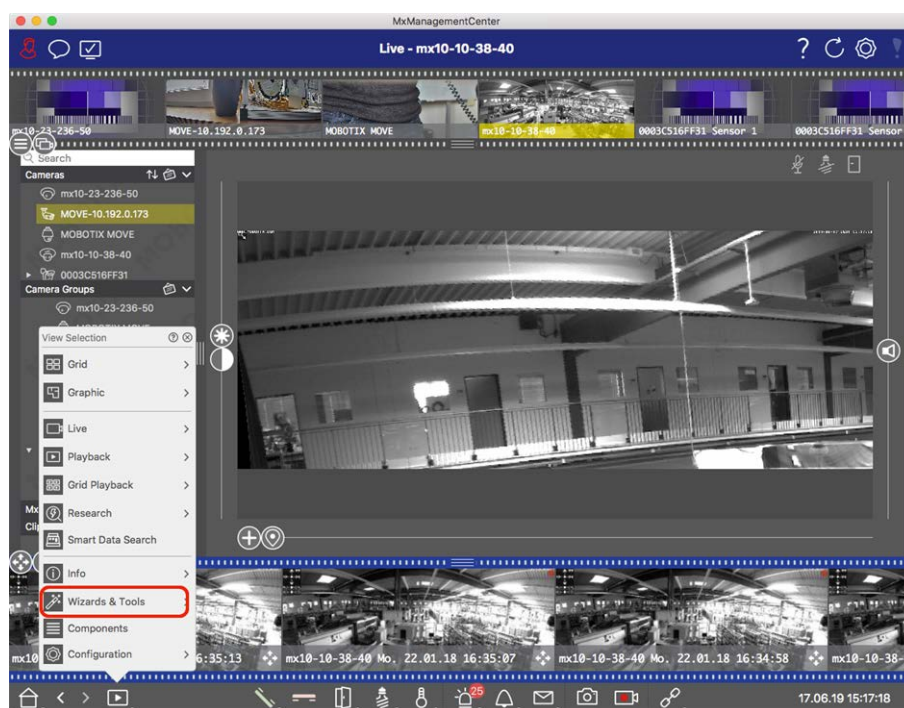
- Door Station Settings, p. 204
- Operate Door Stations, p. 140

## Basic requirements

- Make sure that the devices run the latest software otherwise the configuration could fail.
- Additional door stations (including S1x, S2x cameras) to be configured must be listed in the **Device Bar**.
- Apply the default password "meinsm" to all door stations. To do so, you can use the **Secure System Wizard**.
- Apply the default password "meinsm" to MxDisplay devices to be configured.

## Step by step

1. To open the **Wizards & Tools** view, right-click on the navigation key in the Command bar. Select the **Wizards & Extras** view.



2. Select the related door station (camera) Device bar or the Camera/Group bar and click **Initialize Door Station**. The Door Station Wizard starts up.



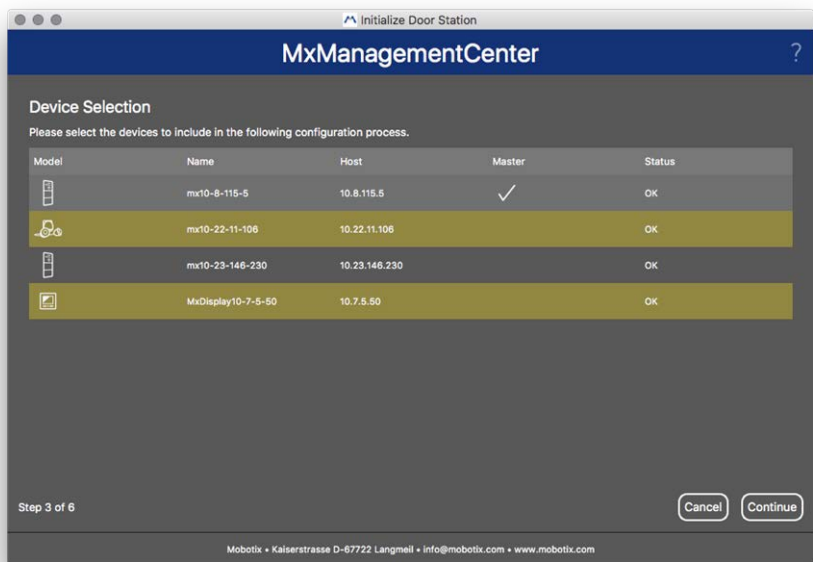
3. Read the introduction text and make sure you meet the basic requirements for the further configuration. Click **Continue**.



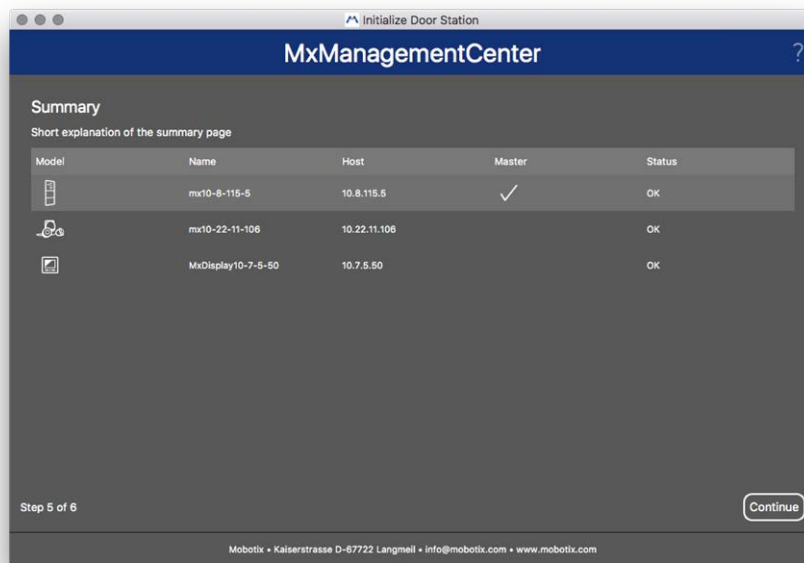
4. Select the devices you want to configure and click **Continue**. The Selected devices will be configured. This can take while.

**Note:**

Only devices with suitable software can be selected. The Master door station cannot be deselected.

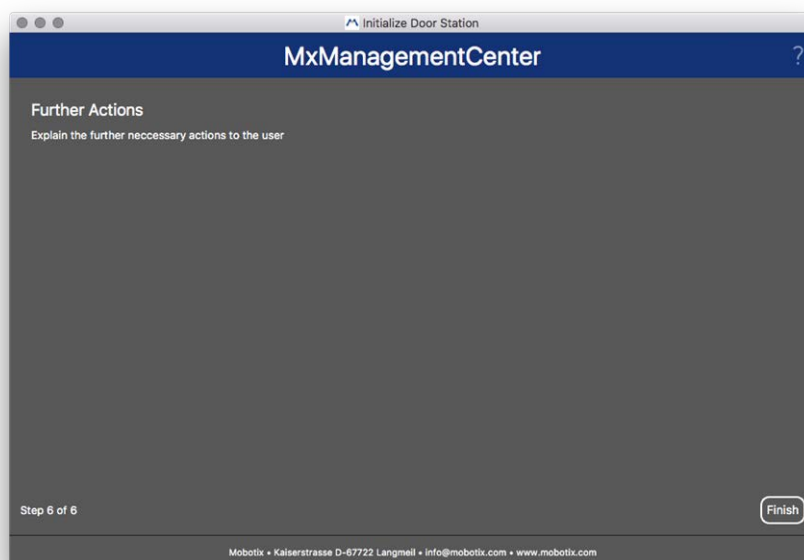


5. Check the summary of the configured devices and click **Continue**.



6. Follow the next remaining configuration steps and click **Finish**.

- Initialization of door station RFID module
- Add MxBell as remote Station
- Define all relationships between addresses and remote stations
- Configure I/O-wiring
- Final configuration of all door station (cameras)
- Setup MxDisplay



# Licensing

Activation or purchase of a license is required to use certain features. This includes licenses for the following features:

- **Smart Data:** industry-specific solutions and special features, such as integration with POS systems.
- **H.264 De-/Encoder:** for displaying and exporting videos in H.264 format.
- **Cameras from third-party manufacturers:** Integrate cameras from other manufacturers than MOBOTIX.
- **Advanced Config:** Collection of functions for simplified configuration of cameras.

For license activation see [MxMC Licensing, p. 276](#).

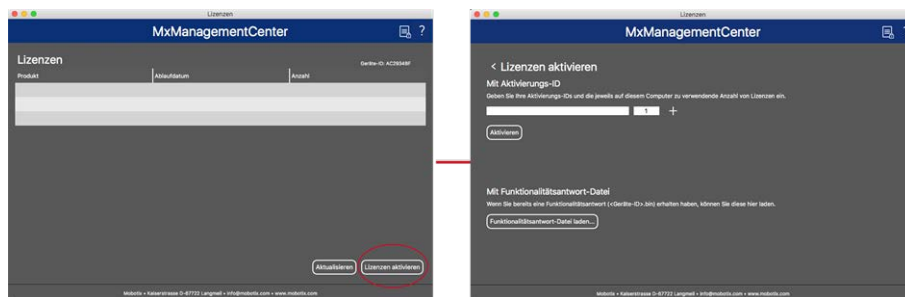
For camera models from the MOBOTIX M73 series there is the possibility to use apps. Apps, for example, offer extended functions for image analysis which may be supported by algorithms of artificial intelligence. Various apps are pre-installed on the camera and must be activated for use with a valid license key (see [Camera App Licensing, p. 278](#)).

## MxMC Licensing

### Activate licenses

After purchasing and receiving the activation IDs, enable them in MxMC as follows:

1. Open the License Management (**Window > Licenses** menu item) and click on **Activate Licenses**.



Activate license

2. Enter a valid activation ID and establish the number of licenses that will be installed on this computer.
3. Click on **+** if you want to license an additional product. Enter the corresponding activation ID in the new line and enter the number of desired licenses.
4. Click on **🗑** to delete a line.

- When you are finished entering all activation IDs, click on **Activate**. MxMC connects to the license server for activation. It needs to establish an Internet connection.

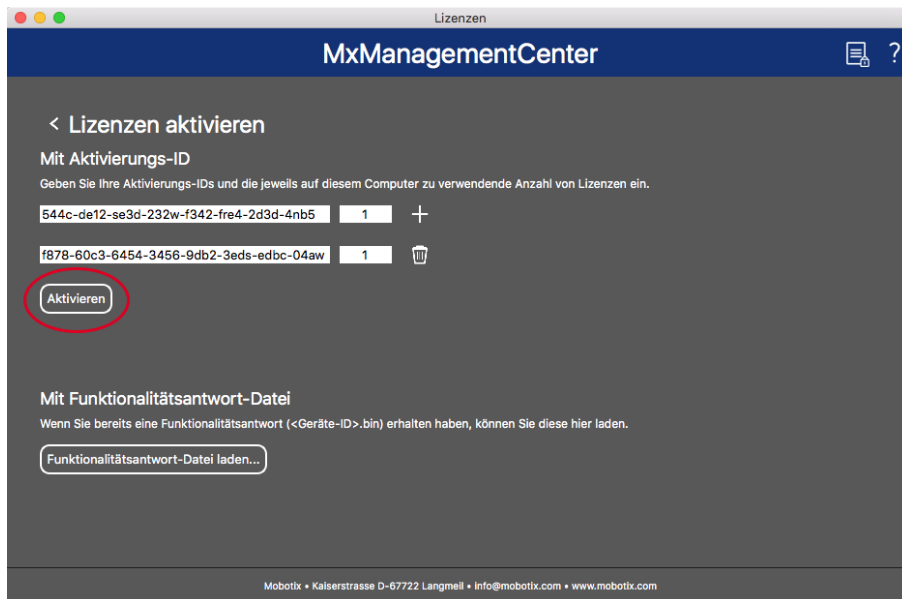




Fig. 152: Entering license key

#### ■ Successful activation

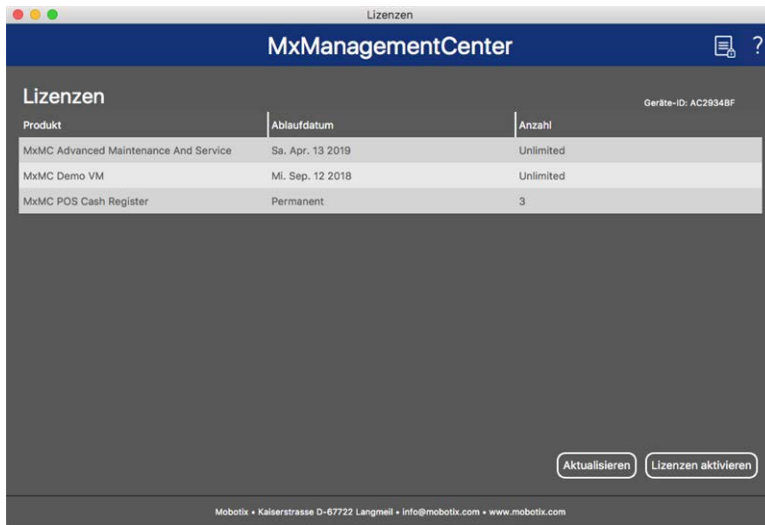
If the activation was successful, you will need to sign in again to apply the changes. Alternatively, you can also return to **License Management** .

#### ■ Activation failed (no Internet connection)

MxMC connects to the license server for activation. It needs to establish an Internet connection. An error message appears if there is no Internet connection. It will then save an offline request file (\*.lic). This file enables the partner/installer from whom you purchased the licenses to generate a functionality response (.bin file) on the license server. If you have received such a response, open the **Activate Licenses** window (**Window > Licenses > Activate Licenses** menu). Click on **Load Functionality Response File**.

Once you have loaded the functionality response file, you will need to log back in to apply the changes. Alternatively, you can also return to **License Management** .

## Managing Licenses



**Fig. 153: Managing licenses**

You can view a list of all licenses that have been activated on this computer in License management. To open the License Management, click on **Window > Licenses** in the Menu bar.

Designation	Explanation
Product	Name of the licensed function.
Expiration date	This column indicates whether the license is temporary and when the licensing period may end.
Number	Number of licenses that were purchased for a product.
Device ID	Unique identifier that is determined by MxMC for the used device. Note the device ID and keep it accessible if you should run into any problems during licensing.

### Synchronizing licenses with the server

When launching the program, it does not automatically compare the licenses on the computer with the license server. For this reason, you need to click on **Update** to reload the licenses from the server.

### Updating licenses

To update temporary licenses, click on **Activate Licenses**. The dialog box used for updating/activating licenses is shown.

#### Note:

You need administrator rights to synchronize and update licenses.

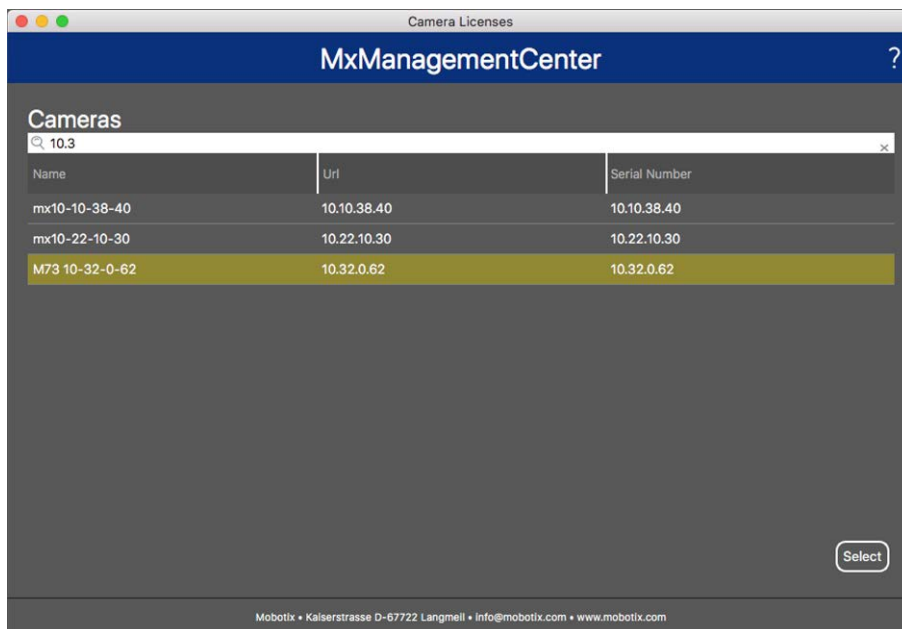
## Camera App Licensing

For camera models from the MOBOTIX M73 series there is the possibility to use apps. Apps, for example, offer extended functions for image analysis which may be supported by algorithms of artificial intelligence. Various apps are pre-installed on the camera and must be activated for use with a valid license key.

## Online-Activation

After receiving the activation IDs, activate them in MxMC as follows:

1. Select from the menu **Window > Camera App Licenses**.
2. Select the camera on which you want to license apps and click **Select**.



3. An overview of the licenses installed on the camera may be displayed. Click **Activate License**.

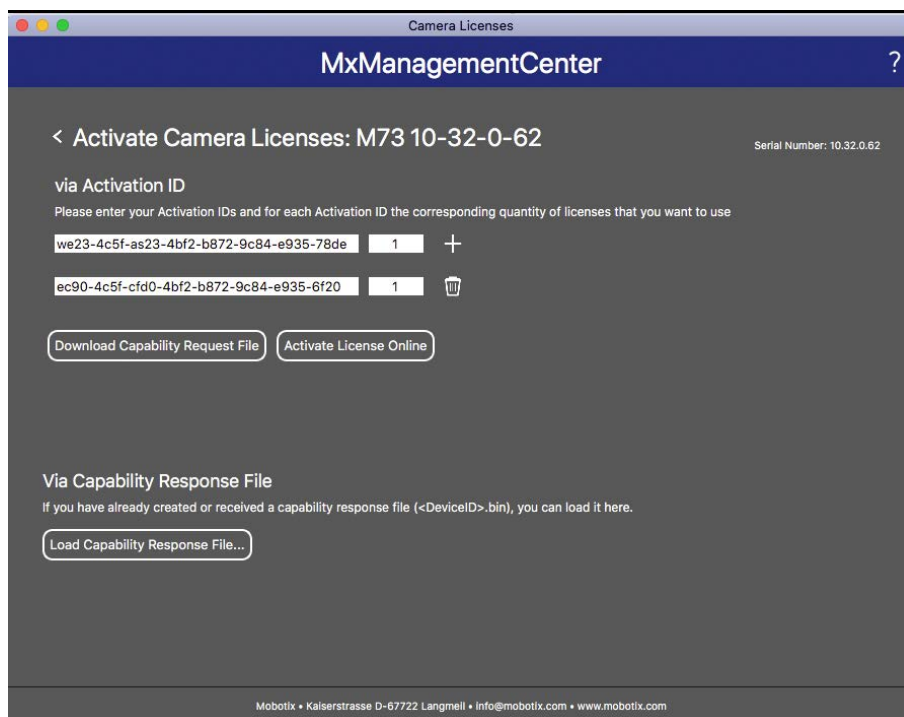


### Note

If necessary, correct the time set on the camera.

4. Enter a valid Activation ID and specify the number of licenses to install on this computer.
5. If you want to license another product, click on **+**. In the new row, enter the appropriate Activation ID and the number of licenses you want.
6. If necessary, click **🗑** to remove a line.

7. When you have entered all Activation IDs, click **Activate License Online**. During activation, MxMC connects to the license server. This requires an Internet connection.



### Successful activation

After successful activation, a new log in is required to apply the changes. Alternatively, you can return to license management. <

### Failed activation (missing internet connection)

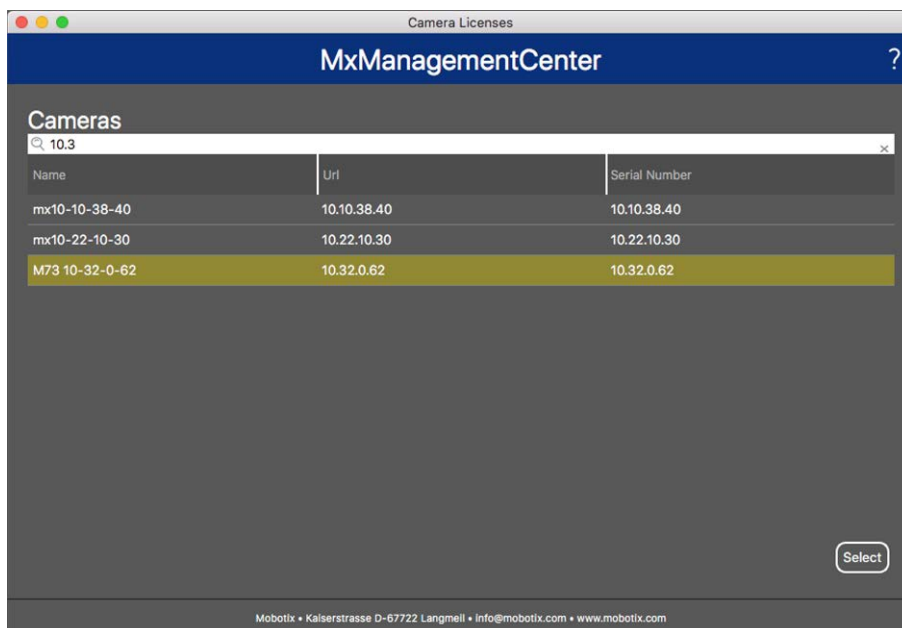
If the license server cannot be reached, e.g. due to a missing internet connection, apps can also be activated offline (see [Offline activation](#)).

## Offline-Activation

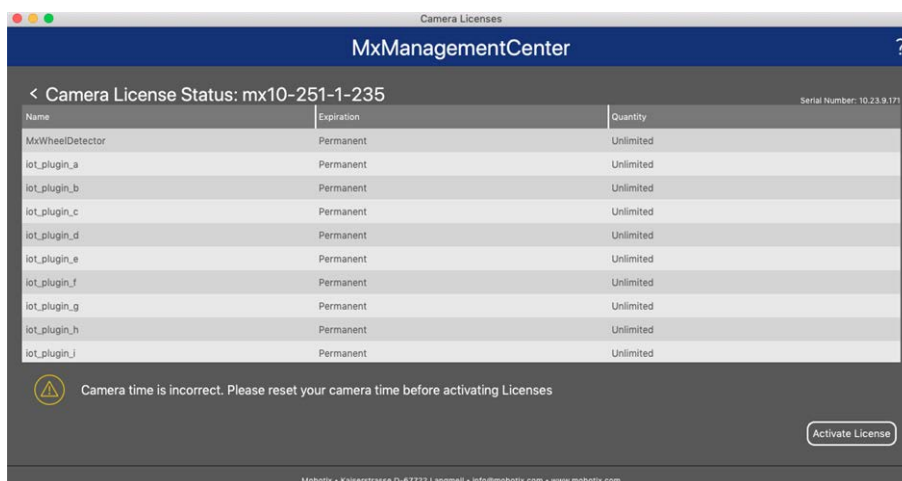
For offline activation, the partner/installer from whom you purchased the licenses can generate a capability response (bin file) on the license server to activate their licenses.



1. Select from the menu **Window > Camera App Licenses**.
2. Select the camera on which you want to license apps and click **Select**.



3. An overview of the licenses installed on the camera may be displayed. Click **Activate License**.

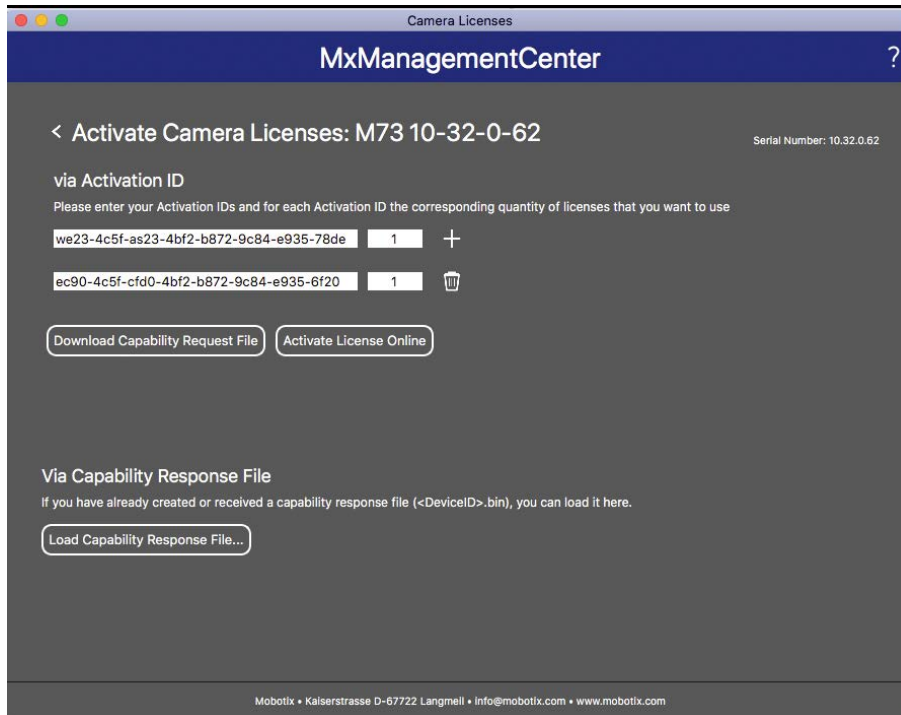


#### Note:

If necessary, correct the time set on the camera.


4. Enter a valid Activation ID and specify the number of licenses to install on this computer.
5. If you want to license another product, click on **+**. In the new row, enter the appropriate Activation ID and the number of licenses you want.
6. If necessary, click **🗑** to remove a line.

7. When you have entered all Activation IDs, click **Download Capability Request File** (.lic). and send it to your partner/installer. This file allows the partner/installer from whom you purchased the licenses to generate a capability response file (.bin ) on the license server.



8. Click Load **Capability Response File** and follow the instructions.

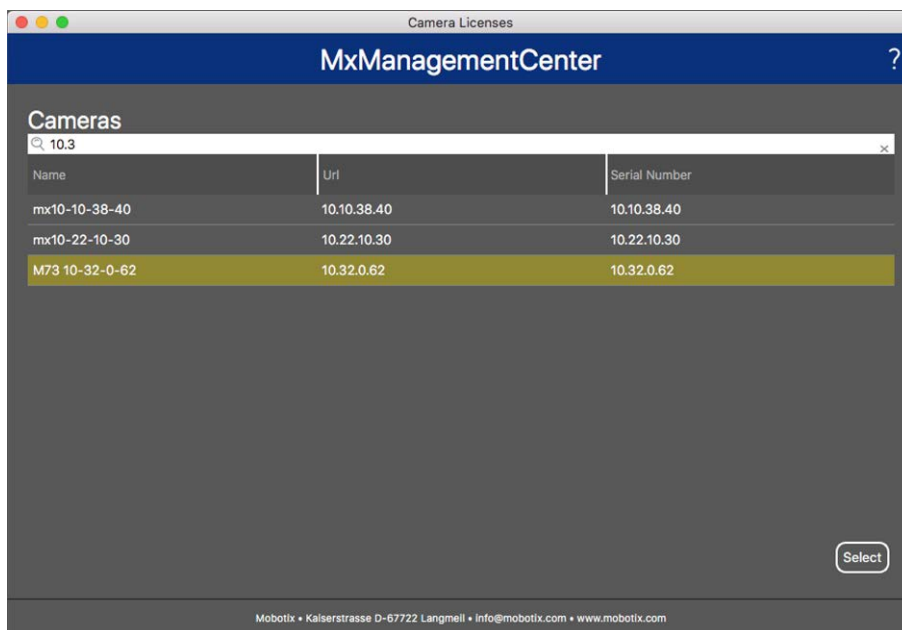
### Successful activation

After successful activation, a new login is required to apply the changes. Alternatively, you can return to license management .

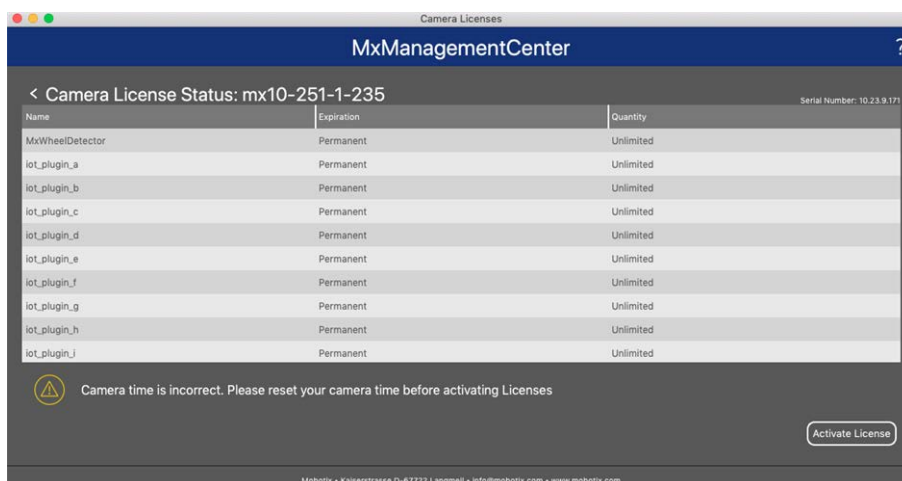
## Manage licenses

In the license management screen, you get a tabular overview of all licenses that have been activated for a camera.

1. Select from the menu **Window > Camera App Licenses**.
2. Select the camera on which you want to license apps and click **Select**.



3. An overview of the licenses installed on the camera may be displayed.



Field name	Explanation
Name	Name of the licensed app.
Product	The feature of the licensed app
Expiration	the time limit of the license
Quantity	Number of licenses purchased for a product.
Serial number	Unique identification determined by MxMC for the device used. If problems occur during licensing, please have the device ID ready.

#### Synchronize licenses with server

When the program starts, there is no automatic comparison of licenses between the computer and the license server. Therefore, click on Update to reload the licenses from the server.

#### Update licenses

to update temporary licenses, click Activate Licenses. The dialog for updating/activating licenses opens.

##### Note

You need administrator rights to synchronize and update licenses.



# System Configuration

MxManagementCenter now allows you to configure MOBOTIX cameras directly. This section addresses **administrators** and **system installers**. It provides an overview of the operation of the Configuration view and the Configuration bar and provides information on how to operate the graphical elements.

Topics	Explanation
<a href="#">Configuration: Overview, p. 285</a>	Overview of the structure and working with the Configuration view and the Configuration bar
<a href="#">Graphical Operation, p. 292</a>	Explanations of how to operate the graphical configuration elements.

---

## Configuration: Overview

The Configuration view you to directly access and make settings for MOBOTIXcameras. In general, the view is divided into a **Basic Settings** section and an **Advanced Configuration** section containing **Configuration Groups**.

The controls at the bottom can be used for actions such as storing the changed settings permanently or resetting the parameter values to their factory settings.

The settings are made for one camera at a time. The Configuration bar on the right margin also offers the possibility to change the settings of several cameras of a group simultaneously without having to change the camera or the camera group.

### Note

The Configuration view is not supported by MOBOTIX MOVE cameras and third-party cameras that provide an ONVIF S-compatible interface. For an overview of how the camera functions differ, see [Camera Feature Overview, p. 8](#).

## Structure of the camera configuration view

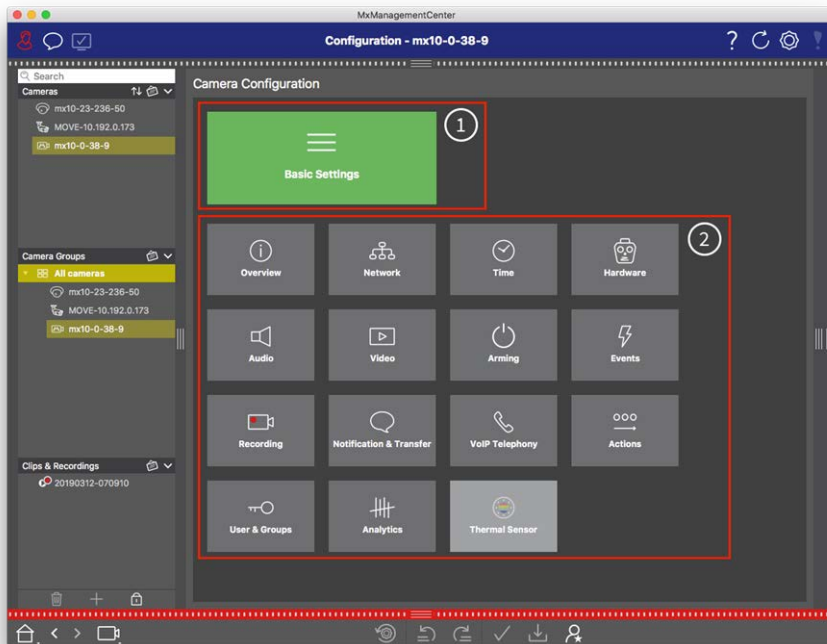


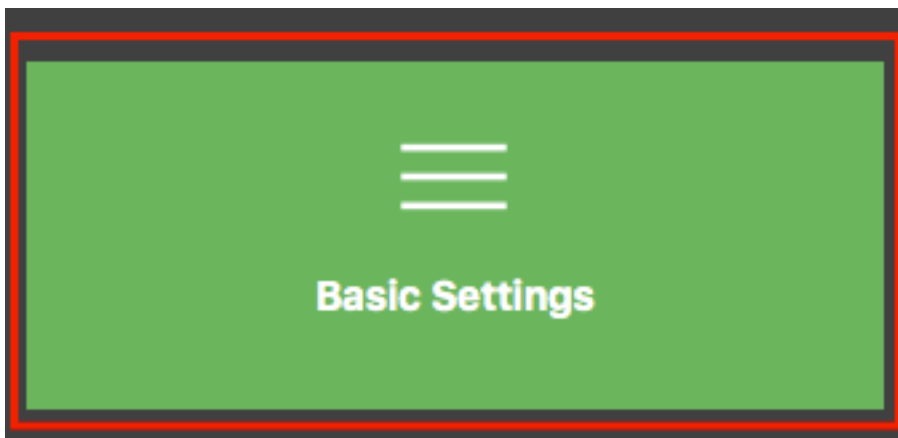
Fig. 154: Structure of the camera configuration view

### Basic Settings

The Basic Settings ① contain basic configuration settings that are important for the setup of cameras and camera system. The Basic Settings include the following areas:

- General Settings,
- Network,
- Time,
- Image Settings,
- MxActivitySensor and Recording.

The parameters of the respective topic areas are grouped in tabs. For information about each tab, see [Configuring Basic Camera Settings, p. 95](#).



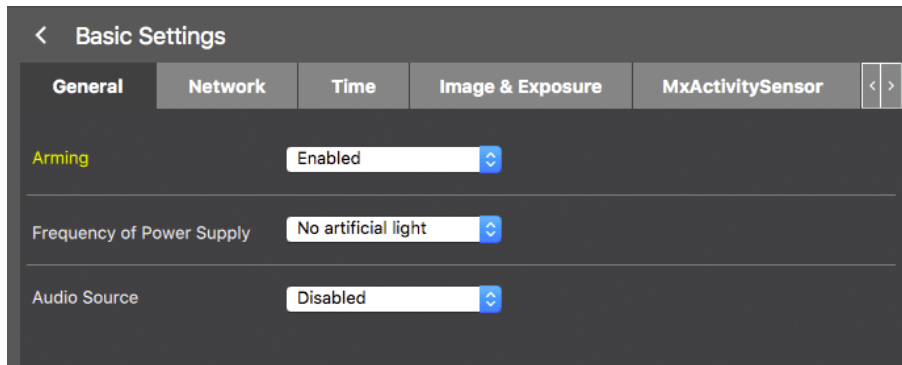


Fig. 155: Basic settings

## Advanced Configuration (license required)

The available configuration parameters are thematically grouped in tiles. The Advanced Configuration tiles ② are only visible if the required license key has been installed, otherwise only the basic settings are available. Clicking on a tile opens the topic area and tabs for the associated sub-topics.

Some of the topics contain graphical configuration items, such as those for defining exposure windows or detection areas. For more information on how to operate these configuration items see [Graphical Operation](#), p. 292.

Extensive information on the setting options and parameters of the individual subject areas are currently available only via the help pages of the camera. You can access the camera help table of contents directly from MxMC by pressing **CMD+Shift+H** (Mac) / **CTRL+Shift+H** (Windows).

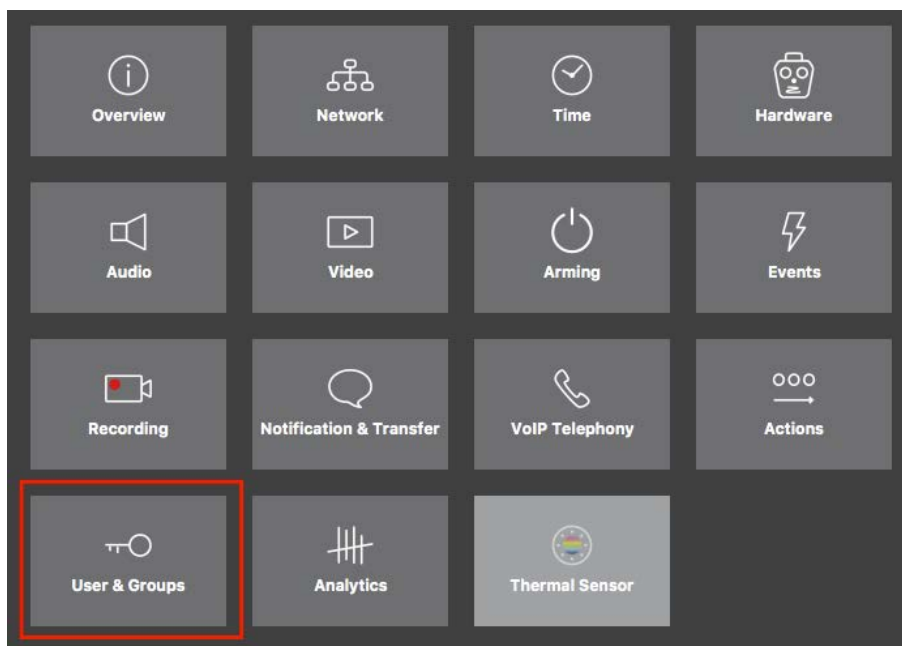
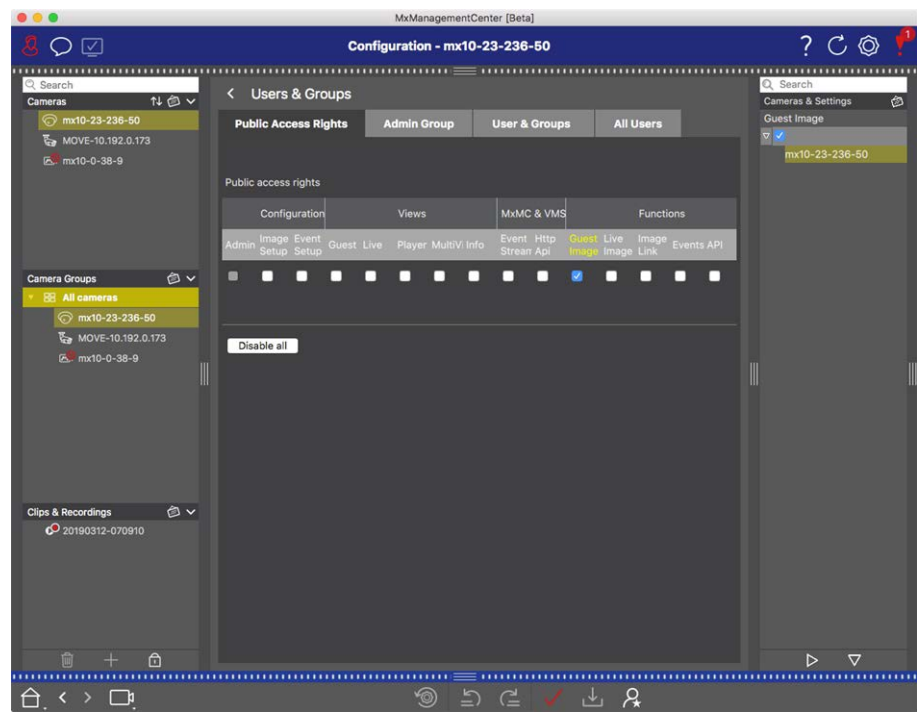


Fig. 156: Advanced Configuration





Advanced Configuration - Users and Groups

Configuring Advanced Settings

**Caution**

By modifying **User Settings**, you can loose access to your cameras. Make sure you do not delete or move user or passwords you do not know!

- 1. Click on the respective tab to open the corresponding topic area.
- 2. Make your settings as required by topic.

**Note**

Clicking on the relevant topic area in the table opens an information page for the individual topic areas of the Advanced Configuration settings.

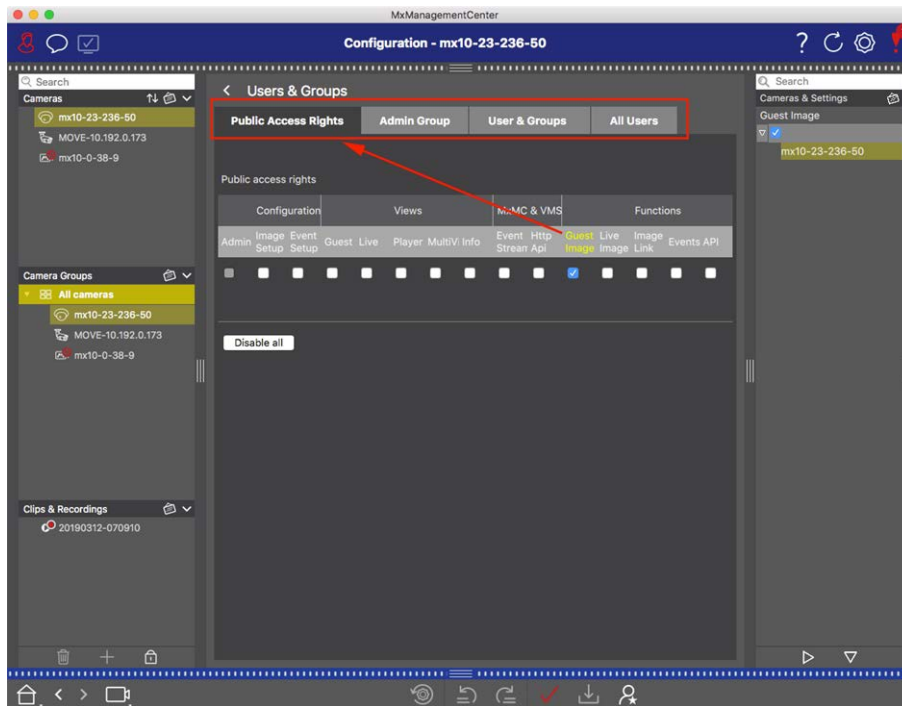


Fig. 157: Advanced Configuration - Users and Groups

## Applying and saving changed settings

### Warning

By modifying **User Settings**, you can loose access to your cameras. Make sure you do not delete or move user or passwords you do not know!

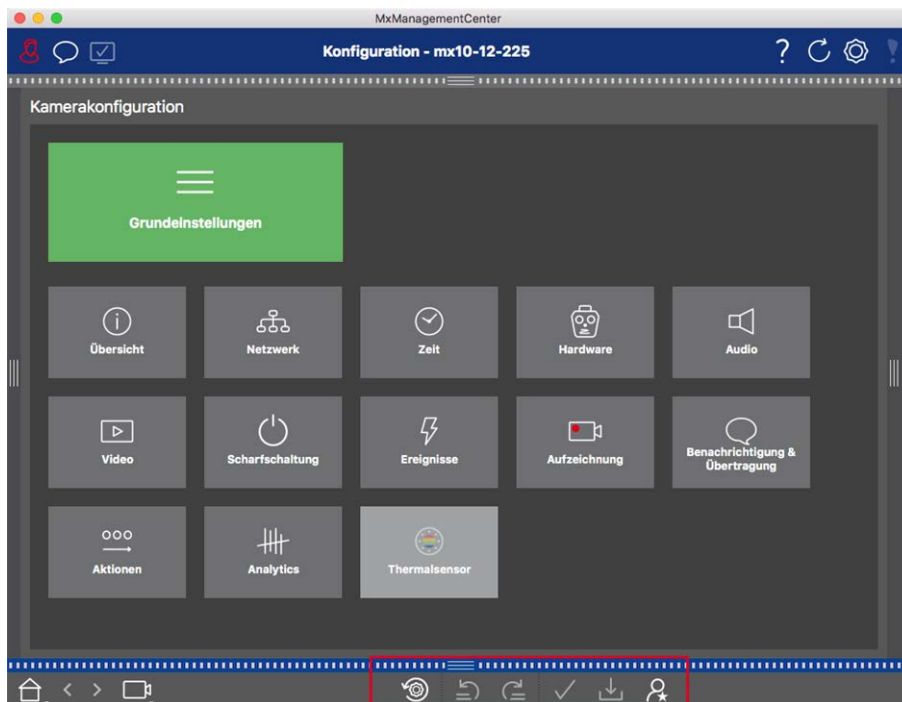



Fig. 158: Applying and saving changed settings

You can use the controls at the bottom of the view to permanently save changed settings or to reset the parameter values to factory settings, among other things:

### Resetting To Factory Settings


Click on  to reset all parameters for the current camera tab to the factory settings.

### Undo/Redo Last Change


Click on  to undo the last change. Click on  to redo the change you previously undid.


### Apply Changes

You can make changes by pressing Enter or selecting the new value in the Configuration view. The changes made here are not automatically adopted because it could potentially cause problems with the network settings.


When a value is changed, the checkmark in the Command bar turns red, indicating that the change has not been implemented yet. Click  to make this change.

### Saving Configurations

If parameter values are changed, the **Store Configuration**  icon turns red in the Command bar. Initially, changes are always temporarily stored in the camera. To ensure that the current settings are also used after the next restart, the changes must be saved permanently.

1. To do so, click on **Store configuration** . The program opens a system prompt. In the prompt, click on **Store**.
2. If you do not want to keep the changes, click on **Discard**. This discards the changes and restores the last permanently saved overall configuration.

### Expert Settings

Various sections of the configuration provide additional settings that can be used to change parameters that are not necessary for the daily work with MxMC. Note that these settings have been combined as expert settings in the different sections. Click on  to open the expert settings.

## Changing Parameter Values For Multiple Cameras In The Configuration Bar

#### Warning

By modifying **User Settings**, you can lose access to your cameras. Make sure you do not delete or move user or passwords you do not know!

You can enter parameters for a **single** camera in the Configuration view. You can use the Configuration bar to check which parameter values are available for the other cameras in the group. There you can also change the settings of one or **multiple** cameras in the group without having to switch to a different camera or camera group.

## Checking parameter values of other cameras in the group

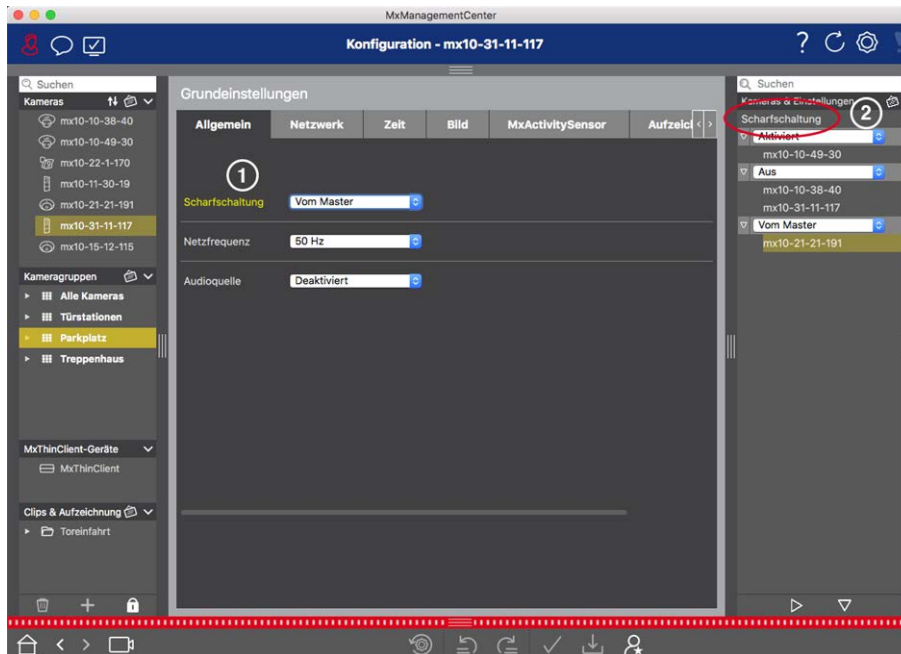


Fig. 159: Checking parameter values of other cameras in the group

### Example: Check arming for multiple cameras

1. Click on the relevant parameter name ①.
2. It turns yellow and the Configuration bar shows all values associated with this parameter that were defined for cameras in this group ②.

### Changing a value for one camera or for multiple cameras

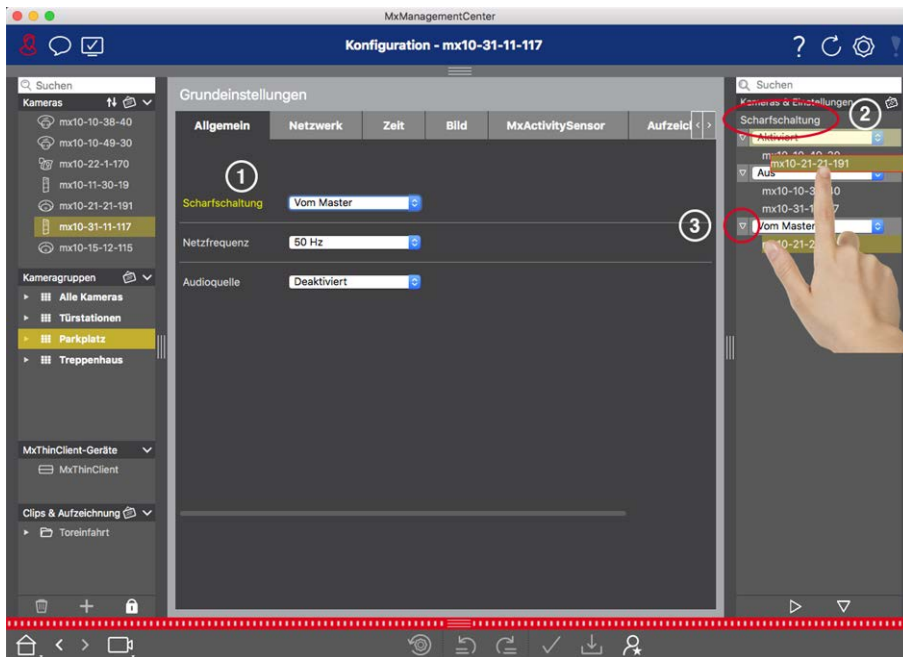


Fig. 160: Changing a value for one camera or for multiple cameras







#### Example: Change a value using the Configuration bar

1. Click the appropriate parameter name in the Configuration view ①. It turns yellow and the Configuration bar shows all values associated with this parameter for this group ②. The cameras for which this value is set are assigned to the individual values.
2. Highlight the desired camera and drag it onto the parameter value you want to set. The destination area turns yellow.
3. If the same value is set for several cameras and you want to change this value, click on the parameter selection field in the Configuration bar ③. Then select the desired value.

## Graphical Operation

### Graphical window definition

In the configuration, graphical elements such as exposure windows and detection areas can now be easily edited with the mouse. The processing of these graphic elements is subject to a uniform operating concept, which is explained in the following table.

Action	Explanation
Create exposure/detection window	Draw a window using the mouse pointer.
Move the exposure window/detection area	Left-click on the exposure window / detection area and move it to the desired position.
Change the exposure window/detection area	Move the mouse pointer over one of the white "handles" until the  icon is displayed. Left-click with the mouse and drag the window making it larger or smaller.
Rotate the exposure window/detection area	Click on  and, while holding the mouse button down, rotate the green area clockwise or counterclockwise.
Change the shape of the exposure window/detection area	Switch to polygon mode by clicking on  . You will see white corner points on the corners. Drag the corner points to the desired position. You can insert new corner points by right-clicking on the white line or in the green area. Right-click on a dot to delete a corner point. Then click on  .
Delete exposure/detection window	Click on  .
Exclude area from analysis	Pull open a window of the appropriate size at the position that should be excluded from the analysis. Click in the window and keep the mouse button depressed until two icons appear. Click on  to determine the exclusion window. The window turns red.

**Note**

The processing status of graphical window elements is indicated by a yellow or a green window color. If a window is yellow, it cannot be edited. An example of this are predefined exposure windows. On the other hand, green windows, such as custom exposure windows, can be graphically edited.