

PRODUCT
MANUAL

ENGLISH

MOBOTIX HUB[®] interface

MANUAL VERSION 2.0/0219

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Product manual MOBOTIX HUB

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1 General information

1.1 PDF format

1.1.1 Supported viewer

The PDF manual can be used with the following viewers:

- ☒ Adobe Reader from version 6.0
- ☒ Foxit Reader from version 5.0

1.2 Info boxes



ATTENTION

This information box addresses all necessary configuration options and actions which will allow error-free operation. Also, this box will warn you if a certain configuration, option or entered value could lead to a malfunction of the application or a loss of data.



NOTE

This information box serves multiple purposes: It ranges from basic configuration tips to additional advice and comments on occasional settings and events.



GOOD TO KNOW

This information box provides background knowledge which helps to understand the basic principles behind different configurations and the application itself.

2. Overview

2.1 Intercom solutions by Commend

The Commend Intercom system is an open platform and in all respects provides full compatibility for third-party components. This enables us to create perfectly tailored turnkey solutions in cooperation with strong partners such as MOBOTIX HUB VMS Systems.

Commend provides an interface to MOBOTIX HUB, which enables the communication from the Intercom system to the MOBOTIX HUB VMS by sending TCP strings. The basic idea behind the TCP interface is to provide all kinds of Intercom features to trigger generic events in the MOBOTIX HUB system.

2.2 Video management MOBOTIX HUB

MOBOTIX has stood for high-end video systems since 1999. The revolutionary decentralized edge approach of the first MOBOTIX IP camera has already changed the industry from the ground up. In the tradition of this engineering art, we develop, produce, and program video systems and software for groundbreaking complete solutions.

MOBOTIX video solutions provide businesses and organizations with actionable data that improves operational efficiency and safety.

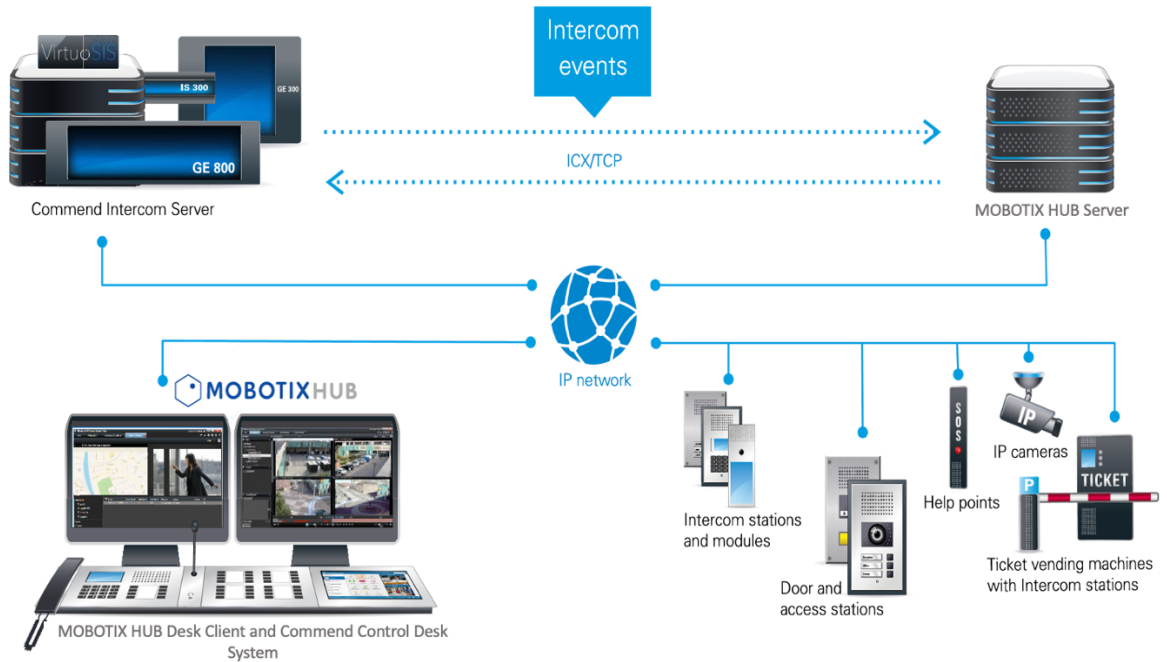
MOBOTIX HUB is an easy-to-use but powerful software designed with open architecture. This means that all MOBOTIX HUB are compatible with more IP cameras, encoders and digital video recorders than those of any other VMS manufacturer, giving you the freedom to mix and match.

Generic events allow you to trigger actions in the MOBOTIX HUB Event Server by sending simple commands via the IP network. The MOBOTIX HUB is able to analyse received TCP data packets, and automatically trigger predefined alarms, e.g. when a call is triggered in the Intercom system.

2.3 System overview

The interface and all components are fully IP-based. You only have to connect the Commend Intercom system and the MOBOTIX HUB Server to your network as shown in the "Example system overview".

The MOBOTIX HUB VMS system includes at least two software products, the MOBOTIX HUB Server and a MOBOTIX HUB Desk Client. These devices and the Commend Intercom Server have to be linked via a conventional LAN network connection.



Example system overview

2.3.1 MOBOTIX HUB Server

The MOBOTIX HUB Server is an advanced IP video management software (VMS) designed for medium and large multi-site installations. It is able to analyse received TCP data packets from the Commend Intercom Server.

2.3.2 MOBOTIX HUB Desk Client

The MOBOTIX HUB Desk Client has an adaptable user interface that can be optimised for individual operators' tasks and adjusted according to specific skills and authority levels. Advanced investigation software combined with an easy-to-navigate video timeline enables fast and accurate examination of incidents.

Key features

- ☐ **Alarm manager:** Single-point alarm function provides a clear and consolidated overview of security and system-related alarms and gives instant access to cameras for immediate detection of incidents.
- ☐ **Map function:** The multi-layered map function provides instant situational awareness and allows users to interactively access and control cameras, devices and other integrated systems.
- ☐ **Overlay buttons:** Intuitively control cameras, camera-integrated devices and other connected systems directly from the camera view, streamlining workflows and improving operator efficiency.

2.3.3 Intercom system

The Intercom system includes at least an Intercom Server and one control desk station. In most cases the control desk or the Intercom station is used in combination with a MOBOTIX HUB Desk Client ([see also "System overview" on page 5](#)).

If a call is triggered by one of the Intercom stations, the video stream from the appropriate IP camera is shown on the appropriate monitor, which is logically assigned to a control desk station. Commend's entire selection of camera-equipped call stations and add-on camera modules integrate smoothly with the MOBOTIX HUB video management software (VMS).

2.4 System requirements

To use a Commend Intercom system in combination with a MOBOTIX HUB Server, the following hard and software is required:

Commend:

- ☐ Intercom Server: GE 800, GE 300, IS 300, VirtuoSIS
- ☐ Feature licence: Lx-PRO3U
- ☐ Intercom Server software: min. PRO 800 3.1
- ☐ Configuration software: min. CCT 800 3.1
- ☐ Interface licence: L-IF-MILEST*
- ☐ IP interface card G8-IF/G3-IF/SIS-IF or GEP

MOBOTIX:

- ☐ MOBOTIX HUB version**:
L5, L4, L3
- ☐ MOBOTIX HUB Desk Client

Network:

- ☐ LAN /WAN Network

* To run a MOBOTIX HUB interface, no additional ICX licence is required.

** MOBOTIX HUB version must provide generic events via TCP/IP (check MOBOTIX HUB Product Comparison Chart).

3. System setup

In the following sections, the required configuration is described. After successful installation it is necessary to configure the network connection between Commend Intercom system and MOBOTIX HUB Server. Both systems have to be in the same network range.

3.1 MOBOTIX HUB

3.1.1 Installation

For installation of the MOBOTIX HUB Server and Desk Client, follow the instructions in the MOBOTIX HUB Administrator's Manual.

Download link: <https://www.mobotix.com/en/manuals>

3.1.2 Network configuration

To establish the network connection between the MOBOTIX HUB Server and VMS Video Client, follow the instructions in the respective documentation. Use the Generic Events tab ([see "Configure a generic event" on page 10](#)) to configure the necessary port for generic events.

☒ It is recommended to use "17800" as the generic event port.

3.2 Commend Intercom Server

3.2.1 Installation

Follow the steps below to install the Commend Intercom Server:

1. Start the Commend Intercom Server configuration software CCT 800.
2. Establish a connection to the Intercom Server.
 - ☒ Default IP address: 10.10.1.1
 - ☒ Subnet mask: 255.255.0.0

**NOTE:**

For detailed information, see manual "Intercom Server Configuration".

3.2.2 Network configuration - Commend Intercom Server Setup

Follow the steps below to configure the Commend Intercom Server:

1. Start the Commend Intercom Server configuration software CCT 800 and establish a connection to the Intercom Server.
2. Select the interface for the TCP/IP connection to the MOBOTIX HUB Server. It is possible to use the interface on the GEP card or the interface on an interface card G3/G8/SIS-IF.

3.2.3 IP card definition

To connect the Intercom system to the network, it is necessary to define appropriate IP addresses for the GEP card and NET card. If you want to use an interface card for the connection to the MOBOTIX HUB Server it is also necessary to define an IP address for the IF card.

Follow the steps below to define the appropriate IP addresses for the GEP, NET and IF card:

1. Go to: **Project > IP- Settings > tab Common**
2. Define **Card IP address** and **Subnet mask** for the GEP card, NET card and IF card

Common		Extended Settings		NET-Firewall					
I/S-P	Description	Card IP Address	Subnet mask	Router IP Address	VLAN - ID	MAC - Address	Uplink		
1/0-12 G8-GEP	GEP LAN1-0	10.10.1.1	255.255.0.0	0.0.0.0	0	00:0C:AB:A0:00:81			
1/2-- G8-IF-4		10.10.1.2	255.255.0.0	0.0.0.0	0	00:0C:AB:95:09:26			
1/NET-1 G8-NET-WAN-8	NET D1FO	10.10.1.241	255.255.0.0	0.0.0.0	0	00:0C:AB:84:00:01	Autonegotiation		

CCT 800: Define IP addresses

3. Go to: **Intercom Server > Send**
The settings become active when the configuration is sent to the Intercom Server.

3.2.4 Software licence activation

It is required to assign the licence L-IF-MILEST to the respective interface on the GEP card or on the respective interface card SIS/G3/G8-IF.

The licensing procedure is described in the manual “**Intercom Server Configuration**”.

3.3 Interface configuration

3.3.1 Define an interface at the Intercom Server

To connect to the MOBOTIX HUB Server, it is necessary to define an interface at the Command Intercom Server.

Follow the steps below to establish the interface connection:

1. Go to: **Project > Interfaces > Data interfaces > tab TCP/IP.**

RS232		TCP/IP		Masking of ICX messages		Video switcher				
I/S-P	Call number	Description	Type of connection	Local port	Remote IP Address	Remote port	Idle interval	Idle response time	Length ICX - messages	
1/0-10 G8-GEP	D109	ICX 1-0/03	ICX	18000	0.0.0.0	0	1 Minute(s)	2 Second(s)	Call number based	
1/0-11 G8-GEP	D10A	CCT 1-0/04	ICX	17000	0.0.0.0	0	1 Minute(s)	2 Second(s)	Call number based	
1/2-1 G8-IF-4	D120	Milestone Interface	Milestone XProtect		10.10.1.84	17800	1 Minute(s)	2 Second(s)	Always long	
1/2-2 G8-IF-4	D121	ICX 1-2/02	No connection	0	0.0.0.0	0	1 Minute(s)	2 Second(s)	Call number based	
1/2-3 G8-IF-4	D122	ICX 1-2/03	No connection	0	0.0.0.0	0	1 Minute(s)	2 Second(s)	Call number based	
1/2-4 G8-IF-4	D123	ICX 1-2/04	No connection	0	0.0.0.0	0	1 Minute(s)	2 Second(s)	Call number based	

CCT 800: Define data interface

2. Select the interface on the GEP card or on the IF card for the connection to the MOBOTIX HUB Server.
 - ☐ **Call number:** It is recommended to use the default call number of the selected interface.
 - ☐ **Description:** Use this field for an interface description as shown in the screenshot. ☐
 - Type of connection:** Select “MOBOTIX HUB”.
 - ☐ **Local port:** The MOBOTIX HUB Interface does not need a local port setting.
 - ☐ **Remote IP address:** Set the IP address of the MOBOTIX HUB Server.
 - ☐ **Remote port:** Configure the port number that is set in the MOBOTIX HUB Server (default: 17800).
 - ☐ **Idle interval:** Connection state is checked within this time interval (recommended: 1 minute).
 - ☐ **Idle response time:** Communication timeout (recommended: 2 seconds).
 - ☐ **Length ICX - messages:** Configure the length of the ICX messages to “Always long”.

» The settings become active when the configuration is sent to the Intercom Server.



NOTE: Define a control desk - Assign an ICX interface

For the data connection to the MOBOTIX HUB interface it is recommended to define a control desk and assign an ICX interface.

3.3.2 Define a control desk function

Follow the steps below to define a control desk function:

1. Go to: **Project > Subscriber > Control Desks > tab Buzzer**
2. Right-click on a subscriber with feature level D
3. Click on **Add control desk function**. The subscriber gets control desk privileges.

Buzzer	IP/RS232 - ICX	Call conversion	Tone generator for Buzzer	Transfer parameters	Extended Settings	Call distribution - day	Call distribution - night
I/S-P	Call numb...	Description	Buzzer-mode	Buzzer during conversation Nor...	Buzzer during conversation E...		
1/1-1	G8-GED-4D	101	Station 101	<input type="checkbox"/>	<input type="checkbox"/>		
1/1-2	G8-GED-4D	102	Station 102	<input type="checkbox"/>	<input type="checkbox"/>		
1/1-3	G8-GED-4D	103	Station 103	<input type="checkbox"/>	<input type="checkbox"/>		
1/1-4	G8-GED-4D	104	Station 104	<input type="checkbox"/>	<input type="checkbox"/>		

CCT 800: Add control desk function

4. Go to **Project > Subscriber > Control Desks > tab IP/RS232 - ICX**
5. In the drop-down list **ICX 1 connection**, select the previously configured "MOBOTIX HUB Interface"

Buzzer	IP/RS232 - ICX	Call conversion	Tone generator for Buzzer	Transfer parameters	Extended Settings	Call distribution - day	Call distribution - night
I/S-P	Call numb...	Description	ICX 1 connection	ICX 2 Connection			
1/1-1	G8-GED-4D	101	Station 101	----	Configure	----	Configure
1/1-2	G8-GED-4D	102	Station 102	----			
1/1-3	G8-GED-4D	103	Station 103	----			
1/1-4	G8-GED-4D	104	Station 104	----			

CCT 800: Select MOBOTIX HUB Interface connection

6. Send the configuration to the Intercom Server.
 - » The control desk generates all corresponding ICX messages within the Intercom system and forwards it to the MOBOTIX HUB server via the configured interface connection.

4. Generic events

Generic events allow triggering actions in the MOBOTIX HUB Server by receiving simple ICX-based strings from the Commend Intercom Server. The MOBOTIX HUB Server is able to analyse received TCP data packets and trigger predefined alarms. The ICX strings and the appropriate alarms are defined as generic events.

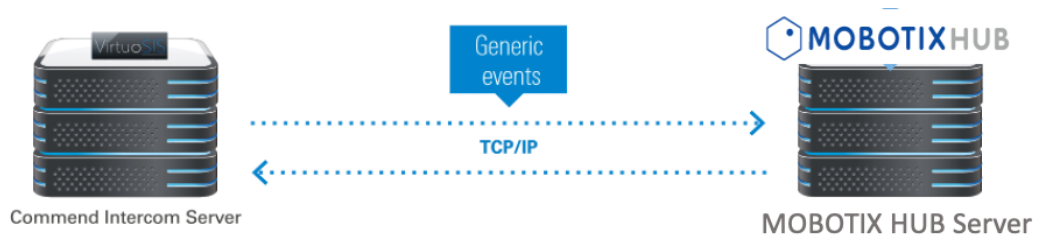


Illustration of TCP data transmissions

4.1 Configuration

4.1.1 Configure a generic event

Follow these steps to define a generic event on the MOBOTIX HUB Server:

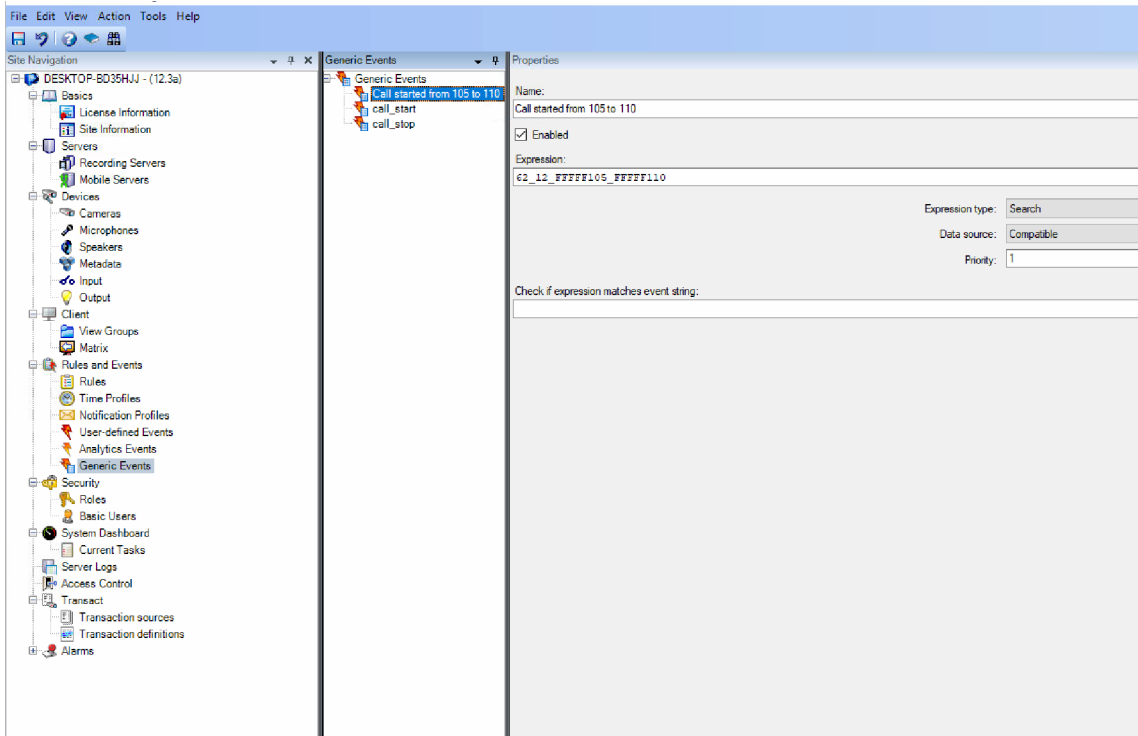
1. Open the MOBOTIX HUB Management Client.
2. Go to: **Tools > Options...**
3. Open the tab **Generic Events**.
4. Enter the port number of the MOBOTIX HUB Server in the field **Port** (default: 17800).
5. Enter the IP address of the GEP card, NET card and IF card in the list **Allowed external IPv4 addresses** (see [“Network configuration- Commend Intercom Server Setup”](#) on page 7).

The screenshot shows the 'Options' dialog box with the 'Generic Events' tab selected. On the left, under 'Generic events', there is a list of data sources with 'Compatible' selected. Below this list are 'New' and 'Delete' buttons. On the right, under 'Selected data source', the 'Name' is 'Compatible', 'Enabled' is checked, and there is a 'Reset' button. The 'Port' is set to 17800. There are dropdown menus for 'TCP and UDP' (set to 'TCP and UDP') and 'IPv4'. Below these are fields for 'Separator bytes' and 'Echo all bytes' (set to 'Echo all bytes'). There is also a 'Western European (Windows)' dropdown and a 'Show all' checkbox. At the bottom, there are two lists: 'Allowed external IPv4 addresses' containing '10.10.1.12' and an empty 'Allowed external IPv6 addresses' list. At the very bottom of the dialog are 'Help', 'OK', and 'Cancel' buttons.

MOBOTIX HUB Management Client: Generic Events tab

6. Click on **OK**.
7. Go to: **Rules and Events > Generic Events**
8. Right-click on **Generic Events**
9. Select **Add new...**
10. In the field **Name**, enter the event name.

11. Click on **OK**.
12. In the field **Expression**, define the triggering ICX messages.



MOBOTIX HUB Management Client: Generic Events Properties

Message format:

Every configured ICX message has to be translated into the following message format:

- TA_TY_PARAM1_PARAM2
 - TA: TASK (2 digits)
 - TY: TYPE (2 digits)
 - PARAM1: (8 digits)*
 - PARAM2: (8 digits)*
- *leading empty digits filled with F

Example:

Message example of a conversation from Intercom station 105 to 110:
62_12_FFFFF105_FFFFF110

Conditions:

It is possible to use operators such as “(“)”, **“AND”** or **“OR”** to combine and link several ICX messages for events.

Expression type:

Choose an expression type:

- Search:** Is positive if the received TCP string contains the event message expression.
- Match:** Is positive if the received TCP string is exactly the same as the event message expression.

For detailed information about ICX messages, see manual **“ICX Protocol”**.

4.1.2 Add alarms to a generic event

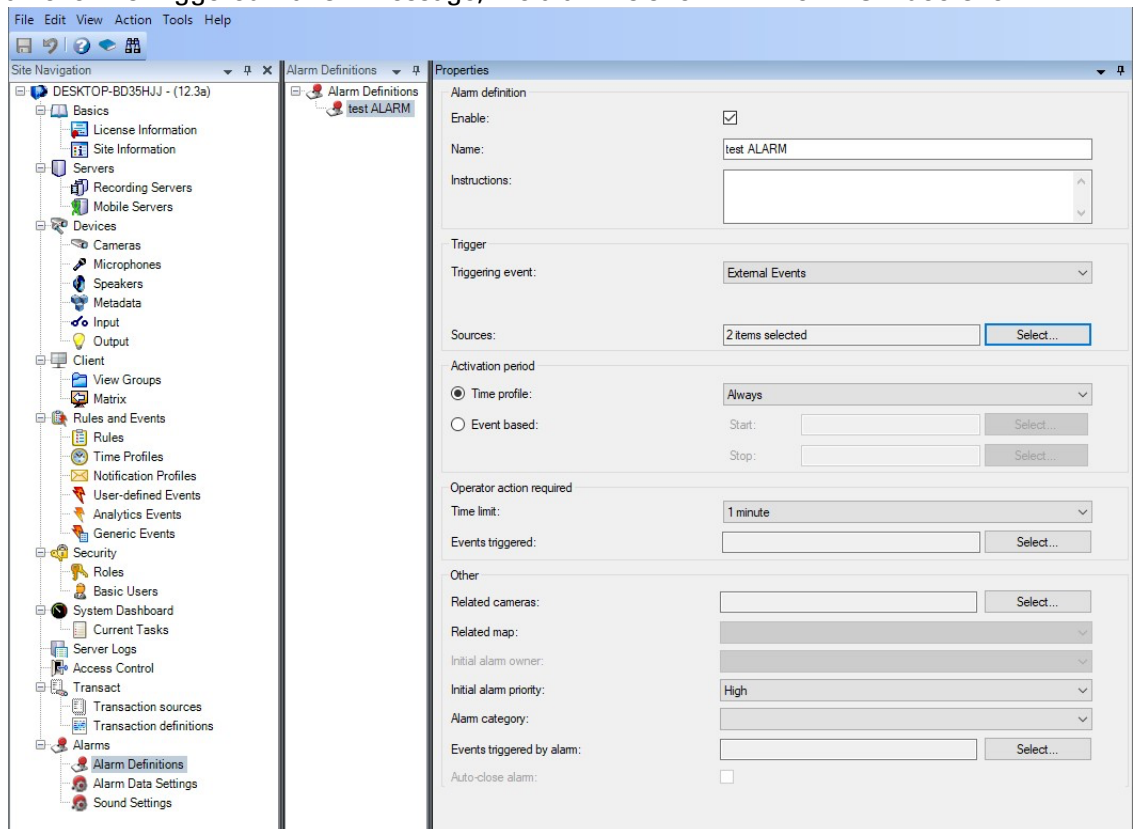


NOTE

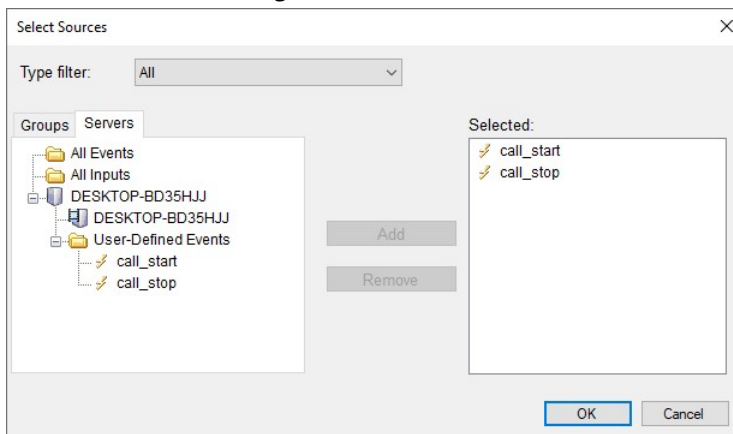
Alarms can be displayed in the alarm dialogue on the Desk Client. The configuration has to be done in the MOBOTIX HUB Management Client.

Follow the steps below to add alarms to a generic event.

1. Go to: **Alarms > Alarm Definitions**
2. Right-click on **Alarm Definitions**.
3. Select **Add New...**
4. Configure the Alarm Definitions (**Name, Triggering event, Events triggered, Sources**). When an event is triggered via ICX message, the alarm is shown in the VMS Video Client.



MOBOTIX HUB Management Client: Alarm Definitions Properties



MOBOTIX HUB Management Client: Select Sources

WS camera integration

5. WS camera integration



NOTE: Assign cameras and maps

In the Alarm Definitions dialogue, it is also possible to assign cameras and maps to a generic event. When the event is triggered, the associated camera or map is shown in the Desk Client.

MOBOTIX HUB comes with full support of Commend cameras and camera-equipped Intercom stations. The network configuration of the WS cameras has to be carried out via the Commend configuration software IP Station Config.

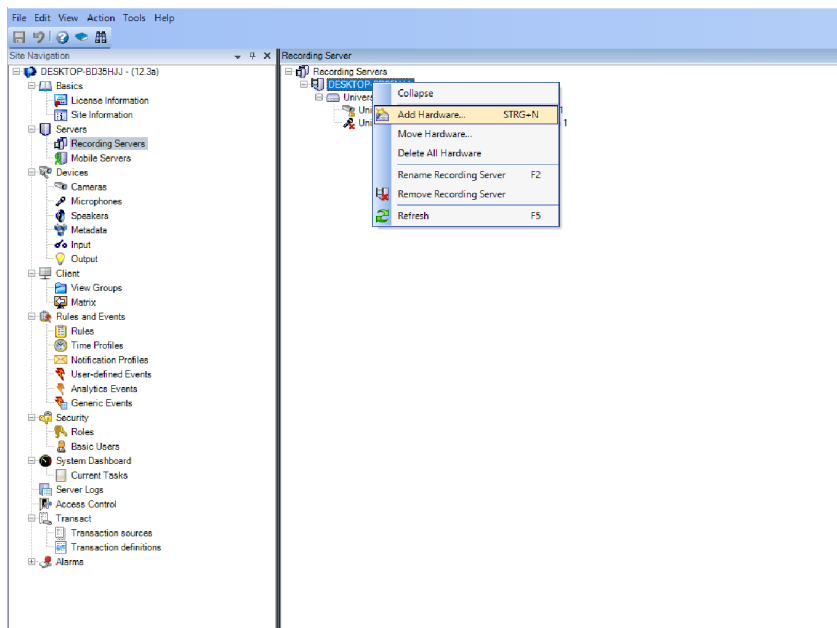
5.1 Configuration

The following section describes how to add a WS camera. For adding an Intercom station equipped with an Axis camera, use the auto discovery feature to detect and configure it.

5.1.1 Add a WS camera to an MOBOTIX HUB Server

Follow these steps to add a WS camera to a MOBOTIX HUB Server:

1. Open the MOBOTIX HUB Management Client.
2. Go to: **Servers > Recording Servers**
3. Right-click on the recording server.
4. Select **Add Hardware**.

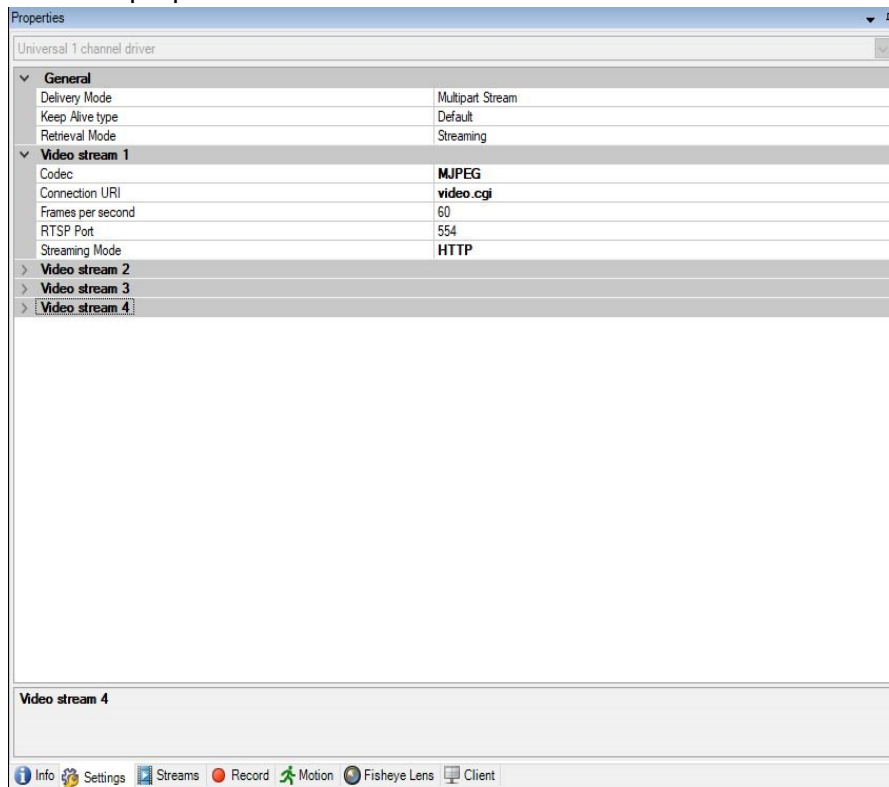


MOBOTIX HUB Management Client: Add Hardware

5. Select **Manual**.
6. Click on **Next**.
7. Activate the **Include** checkbox.
8. Enter the **User Name** and **Password** of the WS camera.
9. Select **Universal > Universal 1 channel driver**.
10. Click on **Next**.
11. Enter the **IP Address** and **Port** of the WS camera.
12. (Optional) Click on **Add** to add more cameras.
13. Click on **Next**.
14. Click on **Next**.

WS camera integration

15. Click on **Next**.
16. Click on **Next**.
17. Select a group.
18. Click on **Finish** to show the new device in the system overview.
19. Go to: **Servers > Recording Servers**
20. Click on the WS camera.
21. In the Properties window, click on the **Settings** tab.
22. Set video properties as shown in the screenshot:



MOBOTIX HUB Management Client: Properties

23. Go to: **File > Save** to save any changes.

6. Desk Client

The MOBOTIX HUB Desk Client provides access to surveillance systems. The MOBOTIX HUB Desk Client must be installed locally on the computer. In the MOBOTIX HUB Desk Client window, it is possible to view live video in the Live tab of the MOBOTIX HUB Desk Client and recorded video in the Playback tab. When the Live tab is selected, the MOBOTIX HUB Desk Client connects to the surveillance system server and displays live video from cameras in the selected view.

If the computer has more than one physical display attached, it is possible to send individual views to separate windows and watch more than one view at a time.

6.1 Alarm manager

The **Alarm manager** tab is either displayed or hidden depending on the settings defined by your surveillance system setup.

6.1.1 The alarm list

The alarm list displays incoming alarms by default, with the most recent alarms at the top of the list. Alarms or events that have video associated with them are listed with an icon. To preview a still image from the time of the alarm or event, place the mouse over the icon. To view recorded video from the camera associated with the alarm or event, select the alarm or event in the list to display it in the **Alarm** preview.

6.1.2 Alarms on maps

If your alarm handling view contains one or more map positions, you can view alarms on the maps too. Maps display alarms based on the geographical location of the camera, server or other device triggering the alarms, which allows you to instantly see where the alarm originates from. You can right-click and acknowledge, disable, or suppress the alarm directly on the map.

Camera elements display video in thumbnail format when you move your mouse over it. When used together with alarms, the graphical elements on the maps display white circles around them if alarms occur.

7. Technical support

For more information about our products and services visit:

www.commend.com

For downloads of MOBOTIX HUB software visit:

[**MOBOTIX Software Download**](#)

For further infos about the MBOTIX HUB and Partner Integration check the MOBOTIX Community:

[**MOBOTIX Community - Section HUB**](#)