Instruction manual
MTL industrial network solutions

May 2017
INM MTL RugiCAM-IP rev 4

CROUSE-HINDS SERIES

MTL RugiCAM-IP

Intrinsically Safe network camera and LED lighting unit

Powering Business Worldwide

DECLARATION OF CONFORMITY

A printed version of the Declaration of Conformity has been provided separately within the original shipment of goods. However, you can find a copy of the latest version at -

http://www.mtl-inst.com/certificates

MTL RugiCAM-IP Intrinsically Safe
Network camera and LED lighting unit

1 INTRODUCTION

1.1 Description

The RugiCAM-IP is an Intrinsically Safe IP Network Camera capable of producing high quality colour video images at up to 1920x1080p at 30fps.

The H.264 compression technique ensures optimal bandwidth usage of the Ethernet network and compatibility with all major video streaming players.

Optional LED lighting units are available to further enhance the cameras low light capability where needed. These are available as either White LED or Infra-Red (IR) LED types to suit the application, the IR type also having an ambient light sensor that can automatically switch the camera to IR night mode (monochrome) whilst also turning on all connected IR LED units.

The IP66 rated units are constructed from high quality anodised aluminium, powder coated steel or stainless steel to suit different applications and environments and contains a fully encapsulated camera (or LED) module. The resulting compact and cost effective solution is suited to many HD video monitoring and surveillance applications in and around the Hazardous Area.

The connections are made by multi-pin M12 plug and sockets on the rear of the unit. This allows easy installation and maintenance in the event of a damaged cable assembly.

2 FEATURES

- Resolution 1920x1080p, 1280x720, D1
- 1/2.8" SONY CMOS Sensor with Mega-Pixel 4mm f1.6 IR Lens
- H.264 Server with Adjustable Frame Rate - Controls Network Bandwidth Usage (30fps max)
- Micro-SD Card slot (internal) 32GB max – for local recording on trigger events
- 10/100 IS Ethernet Interface supports up to 100m Cat5e/Cat6 Connection
- Wi-Fi (optional) supporting 802.11 b/g/n standards at up to 150Mbps
- 12VDC IS Power Supply Input or PoExTM (Power over IS Ethernet)
- Plug & Socket Connections - shortens installation time
- Rugged IP66 rated Anodised Aluminium, Powder Coated Steel or Stainless Steel Enclosure suitable for harsh environments
- Compact dimensions (Camera W:87xH:79xD:165mm / LED W:87xH:79xD:105mm)
- Operating Temperature: -20ºC to +60ºC
- Intrinsically Safe 'Ex ia' Group I Mining M1 and Group IIB ATEX and IECEx Certified for Gas and Dust.
- Zone 1/ Zone 21 Mounting (Zone 0 / Zone 20 with a suitable Ex ia Power Supply)

NOTE
The unit is certified to operate safely at -40°C while the standard designed operating/storage range is -20°C to +60°C, the unit will function at -40°C. Some aspects of performance are not guaranteed by design at temperature below -20°C (e.g. Wi-Fi range), additionally possible issues with condensation or frosting of the glass window should be considered at low temperatures, both of these depend on the actual installation and environment and may not affect all applications.

3 CONNECTIONS

CAMERA UNIT CONNECTORS

12Vdc Power / RS485 **X1** 4 Pole M12 Connector (M)	**Wire Colour**	Description
1	Brown	RS485 - A
2	White	RS485 - B
3	Blue	+12Vdc
4	Black	0V

LED Interface **X2** 4 Pole M12 Connector (F)	**Wire Colour**	Description
1	Brown	LED IN
2	White	LED OUT
3	Blue	-
4	Black	0V

WiFi Antenna **X4** TNC Connector		Description
2.4GHz Antenna		-

Ethernet LAN **X5** 8 Pole M12 Connector	**Wire Colour**	Description	RJ45 Connector
1	ORG-WHT	Tx+	1
2	ORG	Tx-	2
3	GRN-WHT	Rx+	3
4	GRN	Rx-	6
5	BRN-WH	PoEx-	7
6	BRN	PoEx-	8
7	BLU-WHT	PoEx+	5
8	BLU	PoEx+	4
shield	screen	GND	shield

LED UNIT CONNECTORS

12Vdc Power **X1** 4 Pole M12 Connector (M)	**Wire Colour**	Description
1	Brown	-
2	White	-
3	Blue	+12Vdc
4	Black	0V

LED Interface (To Camera) **X2** 4 Pole M12 Connector (M)	**Wire Colour**	Description
1	Brown	LED OUT
2	White	LED IN
3	Blue	-
4	Black	0V

LED Interface (To Other LEDs) **X3** 4 Pole M12 Connector (F)	**Wire Colour**	Description
1	Brown	-
2	White	LED IN
3	Blue	-
4	Black	0V

NOTE
The cable core colours as shown in the diagrams above are for reference if using an MTL supplied cable assembly. Alternatively some cables may have black cores numbered 1-4 corresponding to the M12 connector pin #.

Camera Unit

LED Unit

4 INSTALLATION

The RugiCAM-IP is an Intrinsically Safe IP Network Camera capable of producing high quality colour video images at up to 1920x1080p at 30fps.

The H.264 compression technique ensure optimal bandwidth usage of the Ethernet network and compatibility with all major video streaming players.

Optional LED lighting units are available to further enhance the cameras low light capability where needed. These are available as either White LED or Infra-Red (IR) LED types to suit the application, the IR type also having an ambient light sensor that can automatically switch the camera to IR night mode (monochrome) whilst also turning on all connected IR LED units.

The IP66 rated units are constructed from high quality anodised aluminium, powder coated steel or stainless steel to suit different applications and environments and contains a fully encapsulated camera (or LED) module. The resulting compact and cost effective solution is suited to many HD video monitoring and surveillance applications in and around the Hazardous Area.

The connections are made by multi-pin M12 plug and sockets on the rear of the unit. This allows easy installation and maintenance in the event of a damaged cable assembly.

	WARNING!
⚠	This equipment must be installed, operated and maintained only be trained competent personnel and in accordance with all appropriate international, national and local standard codes of practice and site regulation for intrinsically safe apparatus and in accordance with the instructions contained here.

NOTE
Refer to certificate for ‘Special Conditions of Safe Use’

LED UNIT

- White led (colour temperature 6500k) unit. led angle 170degrees.
- IR led (wavelength 850nm) unit. led angle 120degrees
- Each led unit requires an is power supply on connector x1
- LEDconnector x2 connects to camera connector x2 (day/night control by led unit 1 sensor)
- Additional led units can be daisy-chained - led connector x3 connects to x2 on next led unit
- The first LED units integral photo-resistive sensor allows the camera to automatically switch to night mode (removes IR cut filter and sets monochrome b/w mode) at low light levels, camera then switches on all connected LED units. This depends on configuration to be set (section 5.4.5) using photo-resistive sensor mode.

LED Unit
(when used standalone - without camera)

- With just a 12v supply connected LED unit lights up (~300mA). Application could just switch the supply ON/OFF to control the light.
- If a link is fitted between pin IN to OUT then the light ON/OFF is controlled by its internal light sensor
- If control pin IN is driven high (2V - 5V) this turns the light OFF, driving low (0V) or open circuit this pin turns the light ON

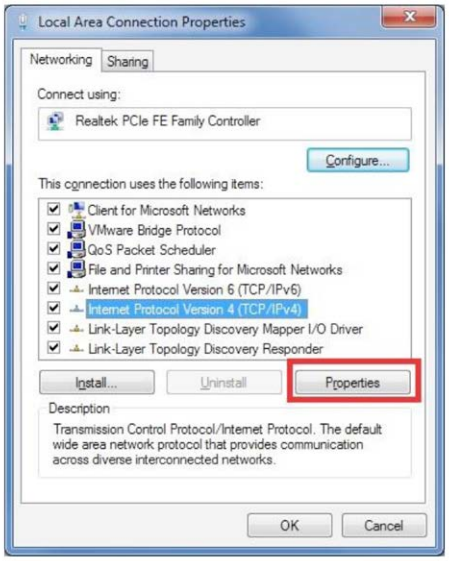
5 CONNECTING THE RUGICAM-IP TO A PC

5.1 Internet Explorer

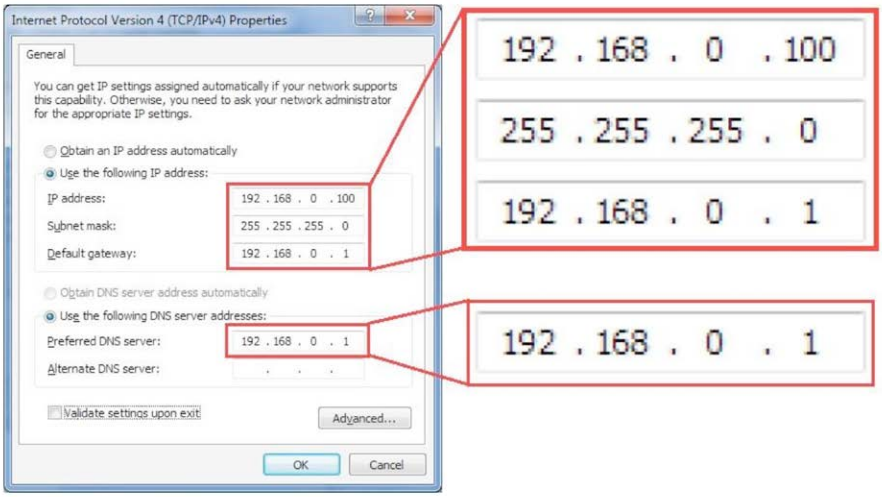
1. Connect IS power to the camera from a suitable IS power supply such as MTL 9492-PS-PLUS.
2. Connect the RugiCAM-IP to a PC with Ethernet cable via an IS isolator, such as MTL 9468-ET and power on the camera.

NOTE
Some older computers need a crossover cable if the NIC doesn't have automatic cable switching

3. On Windows 7, go to Control Panel\Network and Sharing Center; Click "Local Area Connection" and then click "Properties". On Windows XP, go to Control Panel\Network and Internet\Network Connections. Right click on the corresponding Network adapter and then click "Properties".
4. In Local Area Connection Properties, Click Internet Protocol Version 4 (TCP/ IPv4) Properties.



5. Specify IP address and DNS server as in the screenshot below.
6. If necessary, wait for around 45 seconds for the IP Camera to boot up.



7. Open Internet Explorer, browse for the IP address of the Camera (http://192.168.0.168/).
8. You should see a login Window where you can enter the username and Password.

   User Name: admin
   Password: admin

9. If you run this camera at the first time, you may not be able to see the live video before you install ActiveX. Please refer to Appendix A to install the ActiveX control.

NOTE
The default IP address is static IP 192.168.0.168. You can change the static IP address or set network setting to DHCP in Web Interface.

5.2 Connecting RugiCAM-IP to a network

The IP Camera can also be connected to a network.

To connect the IP Camera to a network via a Router. Make sure the client PC with correct OS is also connected to the same network.

Connect the external Power to the IP Camera.

The router will assign an IP address to the IP Camera.

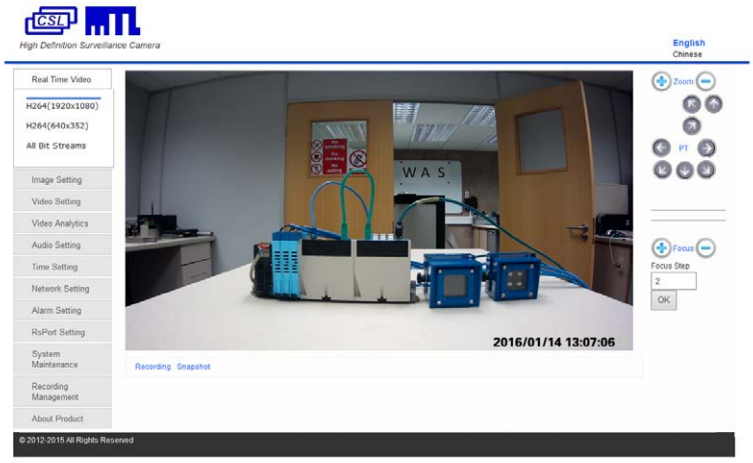
The IP Camera will show up on the PC as a UPnP device. UPnP device can be found in File Explorer>Network (left Pane)>Other Devices.

5.2.1 Accessing the video preview

To access the video preview, please follow the steps below:

1. Type the IP address into Internet Explorer (IE), and you will get asked for a username and password.

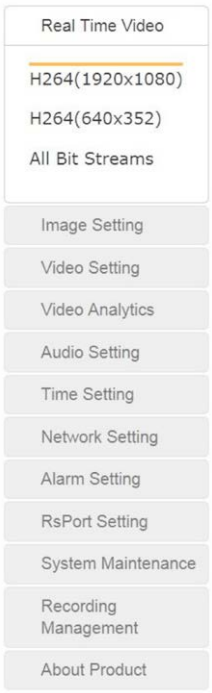
2. In order to complete the installation of the Control successfully through the browser, the version of IE must be upgraded to 6.0 or above.
3. Enter user Name: admin
4. Enter password: admin
5. Click "OK". You will the get to the video preview as show below



5.3 IE Interface Overview

The Window displays real-time video images, as shown in the picture above. The Client interface includes:

- Live video Preview.
- Navigation interface.
  As shown on the left side of the webpage above, shown in detail in the diagram below.



These Interfaces will be introduced in detail in the following sections.

- PTZ interface:
  (Not supported at present)

(Future Development)

- Zoom:
  Not supported.
- Focus:
  Not supported.
- PTZ:
  Not supported.

- Recording and Snapshot:

NOTE
When using the Recording function, please run IE as Administrator.

- Recording:
  Click the 'Recording' icon as shown below to start recording, the video will be saved to your PC; Click the 'Recording' icon again, the video recording will stop.

  A window will pop up to show the path of the saved video.

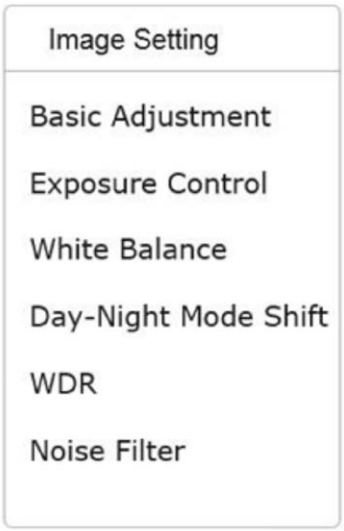
NOTE
You may have to search for the file location of the saved video, as it may be different to that stated, if permission for the location is denied by PC.

- Snapshot:

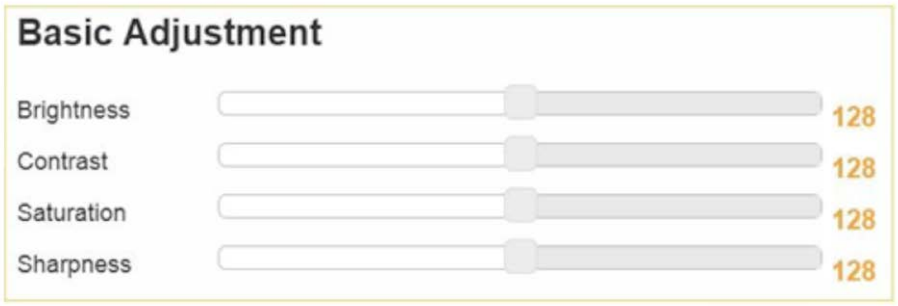
  Click the 'Snapshot' icon as shown below, you will capture an image.

5.4 Settings

5.4.1 Image Setting



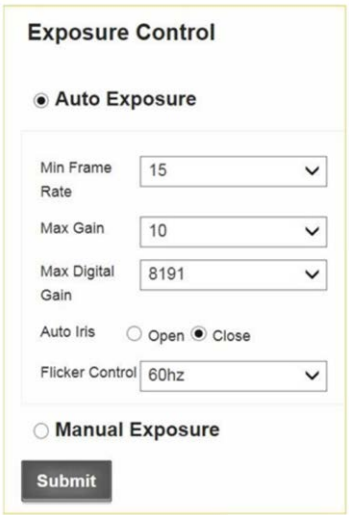
5.4.2 Basic Adjustment



- Brightness:
  Scroll bar to control brightness. (value ranges from 1 to 255)
- Contrast:
  Scroll bar to control contrast. (value ranges from 1 to 255)
- Saturation:
  Scroll bar to control saturation. (value ranges from 1 to 255)
- Sharpness:
  Scroll bar to control sharpness. (value ranges from 1 to 255

5.4.3 Exposure Control

- Auto Exposure:
  Click 'Auto Exposure' button to enable auto exposure



- Minimum Frame Rate:
  Use the pull-down list to choose the minimum frame rate.
  - 30
  - 25
  - 15
  - 8
  - 1

- Max Gain:
  Use the pull-down list to choose the maximum gain 1 ~ 10.

- Max Digital Gain:
  Use the pull-down list to choose the maximum digital gain.
    - 1024
    - 2048
    - 4096
    - 8191

- Auto Iris:
  Click to select auto iris 'Open' or 'Closed'.

- Flicker Control:
  Use the pull-down list to choose the anti-flicker frequency.
    - 60hz flicker
    - 50hz flicker

- Manual Exposure:
  Click 'Manual Exposure' button to enable manual exposure

- Exposure Time:
  Input manual exposure time as required.

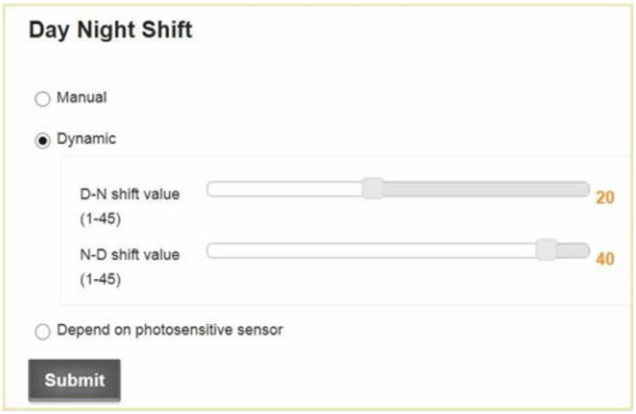
- Gain:
  Input exposure gain (1 ~ 10) as required.

5.4.4 White Balance

- White Balance
  Click 'Open' or 'Close' to select or deselect Auto White Balance

5.4.5 Day-Night Mode Shift:

- Day-Night Mode Shift:
  Click 'Manual' or the 'Dynamic' button to enable the required exposure method



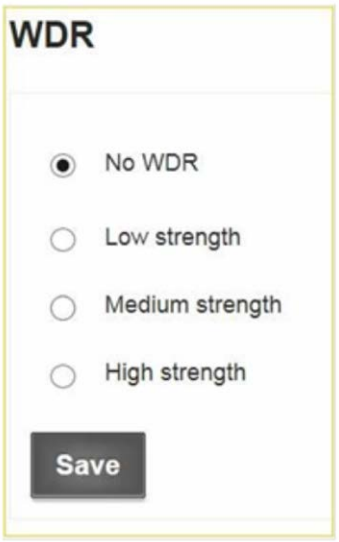
- Manual:
  The day/night mode can be set manually.
  - Day
  - Night

- Dynamic:
  The day/night mode can auto switch depending on the brightness.
  - Min Brightness (1- 45):
    when the brightness is lower than min, night mode will open.
  - Max Brightness (1- 45):
    when the brightness is higher than max, day mode will open.

- Depend on photosensitive sensor
  Click button to enable the 'Depend on photosensitive sensor' setting.
  - High When Day:
    There is a photosensitive chip located on the IR LED board, in low light conditions a signal will be sent to the CPU and the CPU will set the camera to night mode.
  - High When Night:
    There is a photosensitive chip located on the IR LED board, in nightime light conditions a signal will be sent to the CPU and the CPU will set the camera to night mode.

5.4.6 Wide Dynamic Range (WDR)

- WDR (Wide dynamic range):



WDR is intended to provide clear images even under backlighting conditions, where the intensity of illumination varies a lot. Click buttons to make appropriate selection.

- No WDR
- Low strength
- Medium strength
- High strength

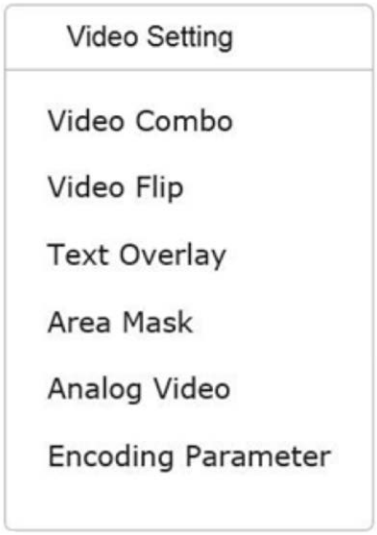
5.4.7 Noise Filter (Not supported)

2d and 3D noise filters reduce noise interference.

Click buttons to make appropriate selections

- 2D Filter: Close / Open
- 3D Filter: Close / Open

5.5 Video Setting



5.5.1 Video Combo

- Main stream

- Resolution:
  Use the pull-down list to choose Resolution.
  - 1080p: 1920x1080
  - 720p: 1280x720
  - D1: 704x576

- Framerate:
  Use the pull-down list to choose Frame Rate .
  - 1~30

- Image Quality:
  Use the pull-down list to choose Image Quality.
  - High
  - Medium High
  - Medium
  - Medium Low
  - Low
  - Very Low

- Rate Control:
  Use the pull-down list to choose Rate Control.
  - VBR
  - CBR

- Max Bit-rate:
  Use the pull-down list to choose Max Bit Rate Control.
  - 5M
  - 4M
  - 3M
  - 2M

- Sub stream

- Enable Sub stream:
  After Enable Sub stream, go to “Live video” and click the stream name to refresh it, you will get two stream names.

Click "All Bit Streams", you will get two live videos on the interface.

- Resolution:
  - D1: 704x576
  - VGA: 640x352
  - QVGA: 320x192

- Framerate:
  Use the pull-down list to choose Framerate.
  - 30
  - 25
  - 16
  - 8
  - 1

- Image Quality:
  Use the pull-down list to choose Image Quality.
  - High
  - Medium High
  - Medium
  - Medium Low
  - Low
  - Very Low

- Rate Control:
  Use the pull-down list to choose Rate Control.
  - VBR
  - CBR

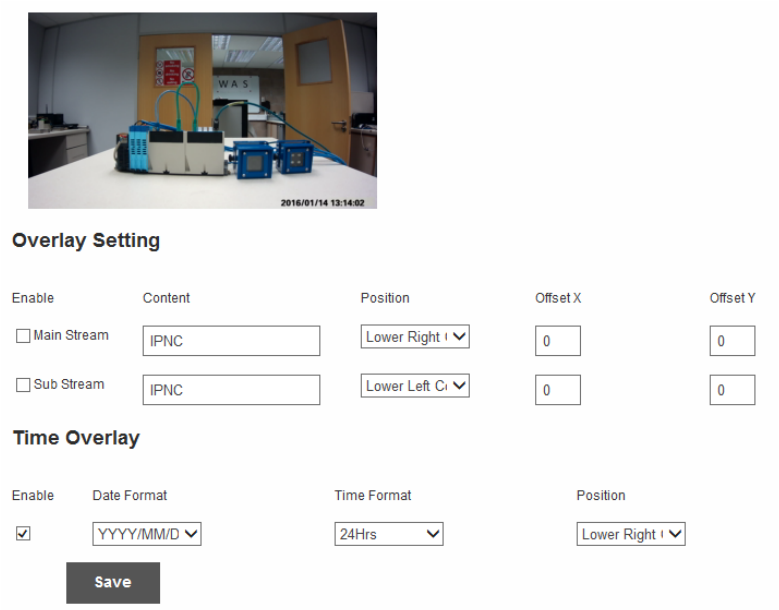
- Max Bit-rate:
  Use the pull-down list to choose Max Bit Rate.
  - 2M
  - 1M
  - 512kB

5.5.2 Video Flip

Click buttons to make appropriate selection.

- Off
- Horizontal
- Vertical
- Both

5.5.3 Text Overlay



Click check box to make the appropriate selection.

- Main Stream overlay:
  - Enable
  - Text
- Position:
  Use the pull-down list to choose Position.
  - Lower-left corner
  - Lower-right corner
  - Upper-left corner
  - Upper-right corner
- Offset X
  Enter the appropriate offset setting.
- Offset Y
  Enter the appropriate offset setting.

Click check box to make the appropriate selection.

- Sub Stream overlay:
  - Enable
  - Text
- Position:
  - Lower-left corner
  - Lower-right corner
  - Upper-left corner
  - Upper-right corner
- Offset X
  Enter the appropriate offset setting.
- Offset Y
  Enter the appropriate offset setting.

- Time overlay:

Click the Enable check box.

- Date Format:
  Use the pull-down list to choose Date Format.
  - YYYY/MM/DD
  - MM/DD/YYYY
  - DD/MM/YYYY

- Time Format:
  Use the pull-down list to choose Time Format.
  - 12 Hrs
  - 24 Hrs

- Position:
  Use the pull-down list to choose Position.
  - Lower-left corner
  - Lower-right corner
  - Upper-left corner
  - Upper-right corner

5.5.4 Area Mask

There are two ways to select the area mask. Quick select and Value input select Up to 4 area masks can be set on the video.

- Quick select:
  1 Click "Enable" check box and click "Edit" on the right.
  2 Drag mouse on the video to select the area mask.
  3 Click "Apply".

- Value input select:
  1 Click "Enable" check box.
  2 Input the values of X, Y, Width and Height, then click "Edit".
  3 Click "Apply".

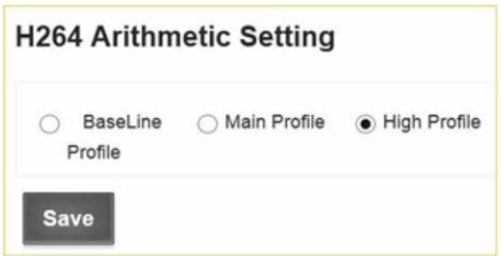
- Clean area mask:
  1 Click "Edit" of the area mask you want to remove.
  2 Click "Reset".
  3 Click "Apply".

5.5.5 Analog Video

Not applicable

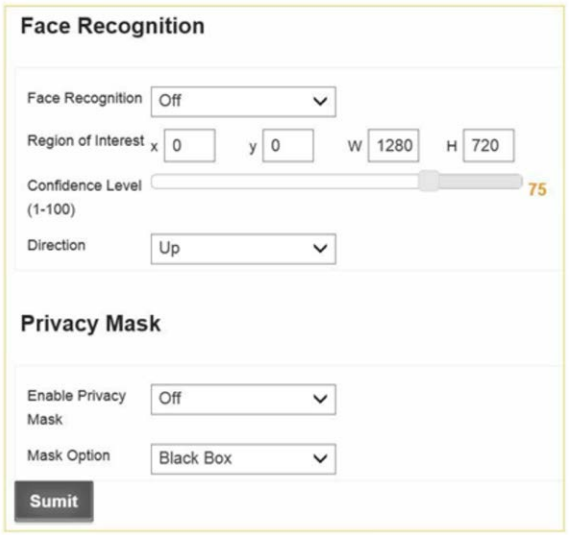
5.5.6 Encoding Parameter

Select a Profile, click check box to select and save the selected profile.



- BaseLine Profile
- Main Profile
- High Profile

5.6 Video Analytics



5.6.1 Face Recognition (Optional):

Use the pull-down list to choose Face Recognition options.

- Off
- Detect
- Enhanced Detect

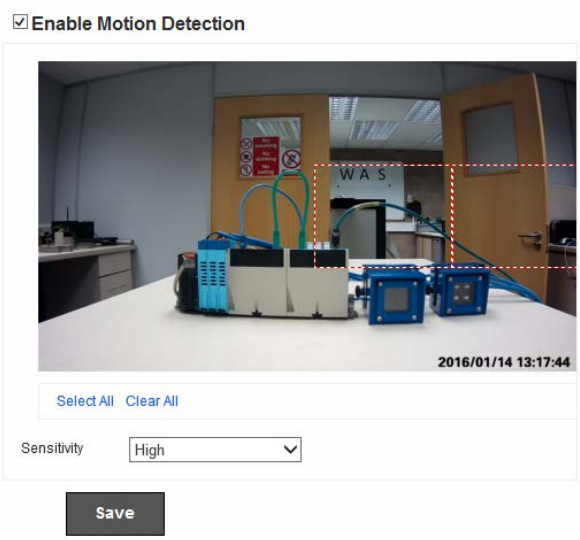
- Region of Interest (ROI):
  - X: Enter the x-axis value of the starting pixel for ROI
  - Y: Enter the y-axis value of the starting pixel for ROI
  - W: Enter the width of the ROI
  - H: Enter the height of the ROI

- Confidence Level:
  Use the slide bar list to adjust the accuracy of the face detection algorithm. The value ranges from 1 (lowest) to 100 (highest). The default value is 75.

- Direction:
  Use the pull-down list to choose Direction options.
  - Up
  - Left
  - Right

- Privacy Mask:
  Use the pull-down list to choose Privacy Mask options.
  - Enable Privacy Mask: OFF/ON
  - Mask Option: Choose privacy mask pattern.
    The default value is Black Box.

5.6.2 Motion Detection



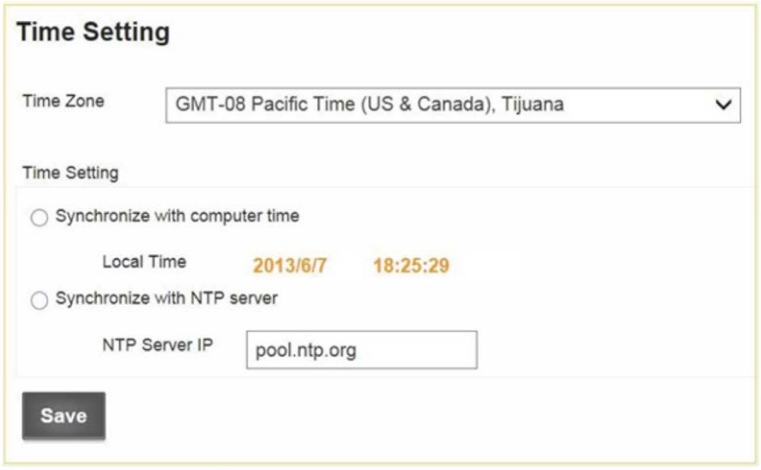
  - Click on the video interface or click "Select All" to select region of interest.
  - Click "Clear All" to clear the region of interest.

- Sensitivity:
  Use the pull-down list to choose Sensitivity options.
  - Low
  - Medium
  - High

NOTE
See "5.10.1 Alarm Inputs" for information on how to enable motion detection alarm.

5.7 Audio Setting (Not Supported)

5.8 Time Setting

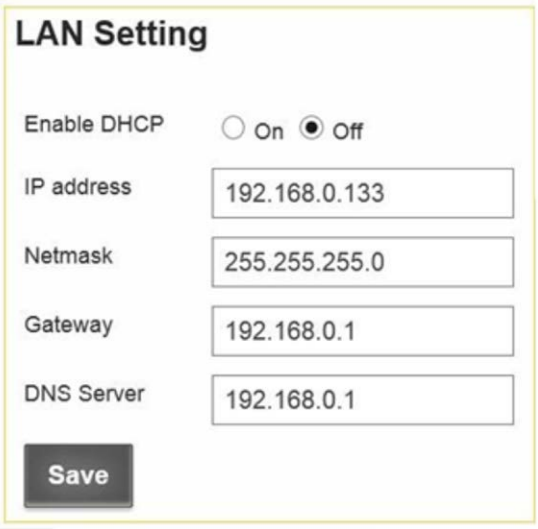


- Time Zone:
  Use the pull-down list to choose required Time Zone.

- Time Setting:
  Click buttons to make the appropriate selection.
  - Synchronize with computer time.
  - Synchronize with SNTP server.

5.9 Network Setting

5.9.1 LAN Setting



- Enable DHCP:
  Click buttons to make the appropriate DHCP selection.
  - On
  - Off

- IP address:
  If you disable DHCP, you can set static IP address.
- Netmask
- Gateway
- DNS Server

5.9.2 WIFI Access

- Enable WIFI:
  Click buttons to make the appropriate WIFI selection.
  - On
  - Off
- SSID:
  Use the pull-down list to choose your wireless network.
- Password:
  Enter the password for your wireless network.

5.9.3 WIFI Setting

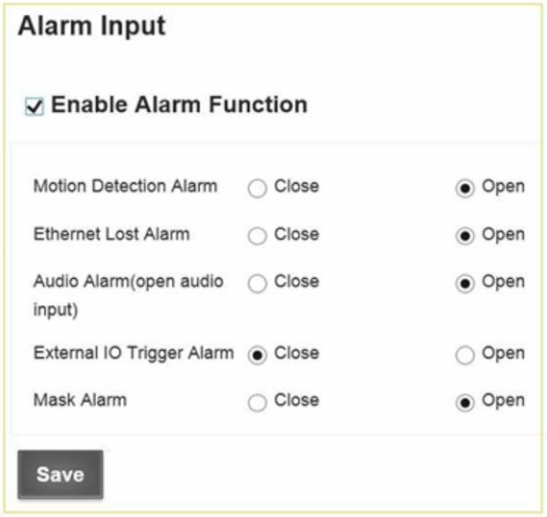
- Enable DHCP:
  Click buttons to make the appropriate DHCP selection.
  - On
  - Off
- IP address:
  If you disable DHCP, you can set static IP address.
- Netmask
- Gateway
- DNS Server

5.9.4 Streaming Media

- Specify Address : ON/OFF
- Service Address : IP address

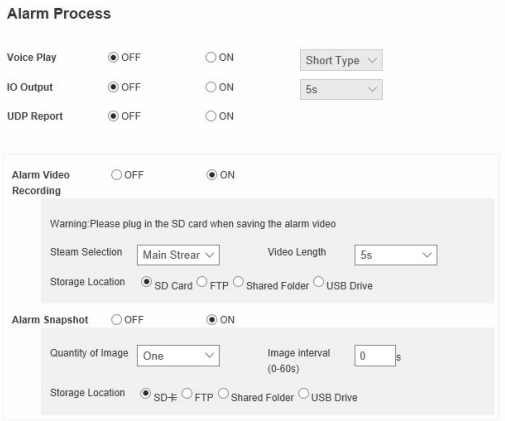
5.10 Alarm Setting

5.10.1 Alarm Input



- **Enable Alarm:** check tick box to Enable Alarm Function
- **Motion Detection:** Close/Open
- **Ethernet Lost Alarm:** Close/Open
- **Audio Alarm:** Close/Open (Not supported)
- **External Triggers:** Close/Open (Not supported)
- **Mask Alarm:** Close/Open

5.10.2 Alarm Action



- **Voice Play: (Not supported)**

  OFF/ON
  Use the pull-down list to select

  - Short Type
  - Long Type

- **IO Output: (Not supported)**

  OFF/ON

  - 5 s
  - 10 s
  - always

- **UDP report:**
  OFF/ON

- **Alarm Video Recording:**
  OFF/ON

- **Stream Selection:**
  Use the pull-down list to select

  - Main Stream
  - Sub Stream

- **Video Length:**
  Use the pull-down list to select

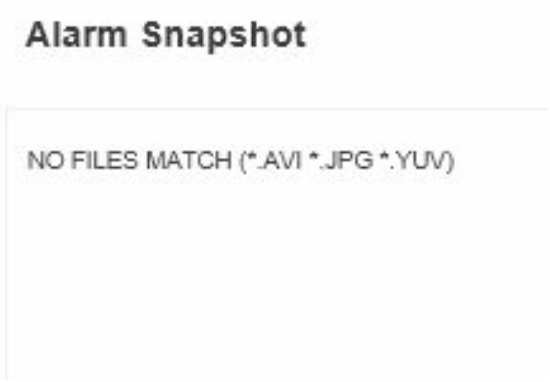
  - 5s
  - 10s
  - 30s

Storage Location: SD Card/FTP/Shared Folder/ USB Drive

- Alarm snapshot:
  OFF/ON
- Quantity of Image:
  Use the pull-down list to select
  - One
  - Two
  - Three

5.10.3 Alarm video

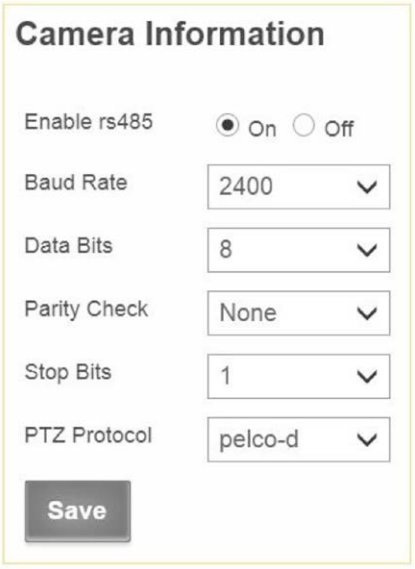
5.10.4 Alarm snapshot



5.11 RsPort - (Not used at present)

5.11.1 RsPort Setting

- Enable RS485: select On/Off



- Baud Rate

  Use the pull-down list to select options

  - 19200
  - 9600
  - 4800
  - 2400
  - 1200

- Data Bit

  Use the pull-down list to select options

  - 8
  - 7
  - 6
  - 5

- Parity Check

  Use the pull-down list to select options

  - None
  - Odd
  - Even
  - Space

- Stop Bits

  Use the pull-down list to select options

  - 1
  - 2

- PTZ Protocol

  Use the pull-down list to select options

  - Pelco-d
  - Pelco-e
  - User-Defined

5.12 System Maintenance

5.12.1 Device Upgrade

5.12.2 Restart Device

Click “Restart” button to restart camera

5.12.3 Restore to factory settings

Click “Submit” button to reset the camera

5.12.4 Event Log

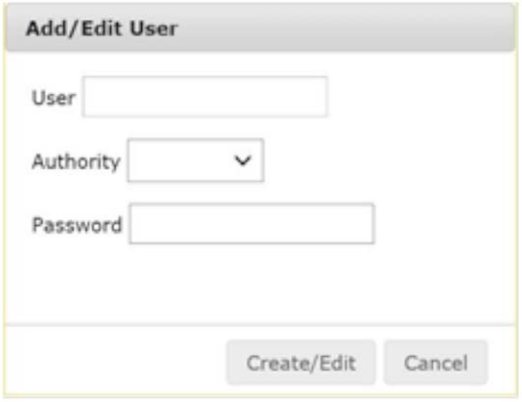
You can check the system log in this section

5.12.5 SNMP Setting

- Function On/Off: Enable/Disable
- Server IP
- Port
- Interval

5.12.6 Edit User

- **Add new user:** Click "Add new user", you will get following window.



- **User:** Enter the new user name

- Authority

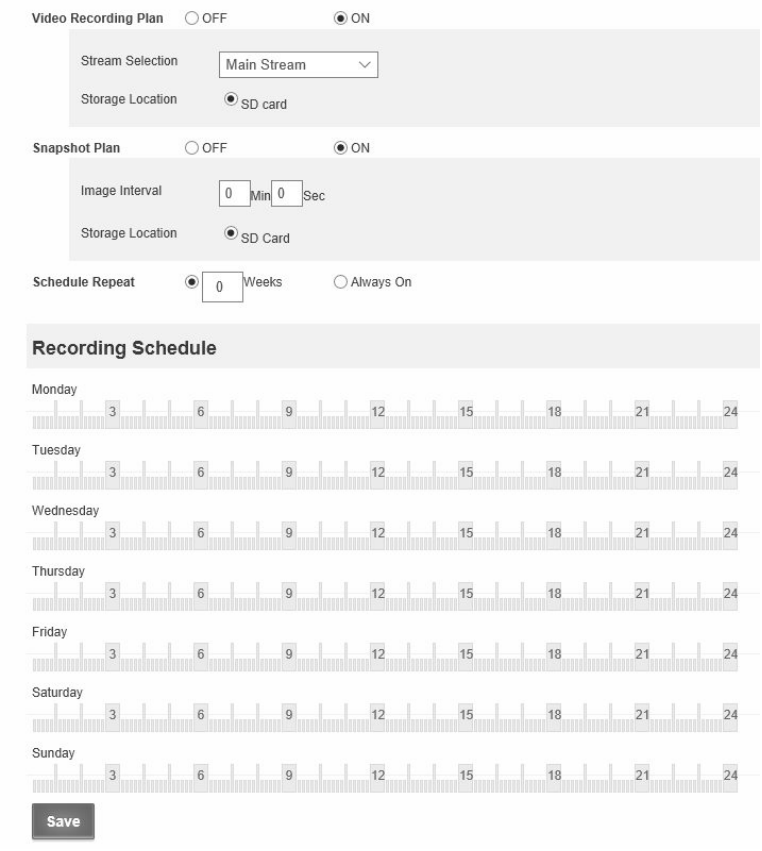
  Use the pull-down list to select options

  - Admin
  - Operator
  - Viewer

- **Password:** Enter the password of new user
  - **Edit User:** Click "Edit" to edit user
  - **Delete User:** Click "Delete" to delete user

5.13 Recording Management

5.13.1 Recording Schedule



- SD Storage:
  OFF / ON

  Use the pull-down list to select options

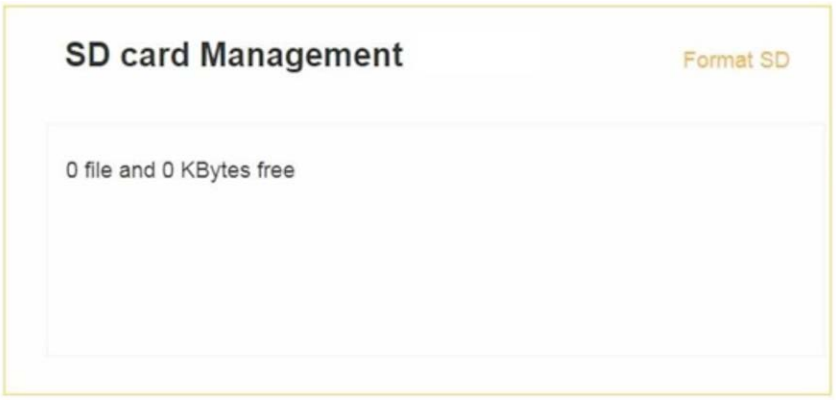
  - Image
  - Video

- Snapshot Plan:
  OFF / ON

5.13.2 Alarm Videos

5.13.3 Alarm Snapshot

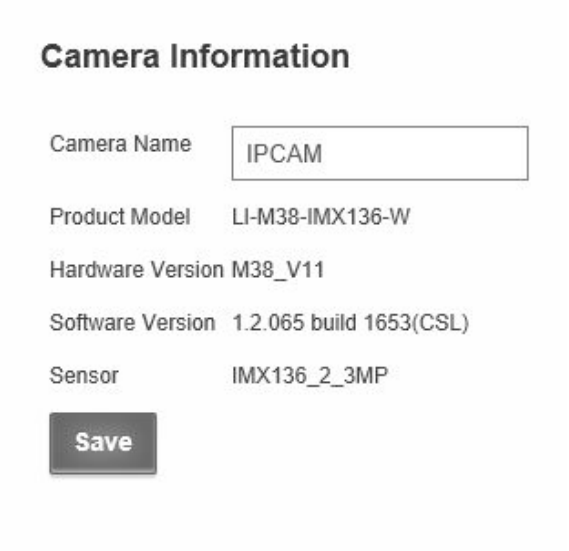
5.13.4 SD Management



After plugging in the SD card, you can manage or format the SD card in this interface.

5.14 About Product

5.14.1 Camera Information



- Camera Name
- Product Model
- Hardware Version
- Software Version
- Sensor

6 MECHANICAL DETAILS

All values are approximate.

Camera Unit

Width	Height	Depth	Weight
87mm	79mm	165mm	AA* = 1.5Kg CS* = 3.5Kg

LED Lighting Unit

Width	Height	Depth	Weight
87mm	79mm	105mm	AA* = 1.5Kg CS* = 3.5Kg

*Enclosure Material

AA = Anodised Aluminium

CS = Coated / Painted Steel

7 ENVIRONMENTAL

Operating Temperature	-20°C…+60°C
Storage Temperature	-20°C…+60°C
Humidity	0…95% RH, non-condensing
Ingress Protection	IP66

NOTE
The MTL RugiCAM-IP Camera unit and LED Lighting unit are certified for use in an ambient temperature of -40°C to +60°C, the reduced operating range specified in the above table (Environmental) is guaranteed by design; operation over the full certified range should only be undertaken after careful consideration and in agreement with the manufacturer.

8 WASTE REMOVAL INFORMATION

The electronic equipment within must not be treated as general waste. By ensuring that this product is disposed of correctly you will be helping to prevent potentially negative consequences for the environment and human health, which could otherwise be caused by incorrect waste handling of this product.

For more detailed information about take-back and equipment recycling please contact your local Eaton MTL representative.

9 MAINTENANCE

No routine maintenance is required other than cleaning the glass window.

Any damage that may affect the safe operation of the unit, e.g. – damage to the enclosure, glass window, connectors or cables should be corrected by replacing the unit / part / cable with manufacturer approved spares. There are no user serviceable parts inside and to maintain dust/water seals the unit should not be disassembled by the end user other than to access the SD card if required.

All screws must be fitted to ensure the integrity of the sealing O-rings.

NOTE
The complete Camera/LED sub-assembly is encapsulated

10 CERTIFICATION

Ex ia I Ma, Category M1

Ex ia IIB T4 Ga

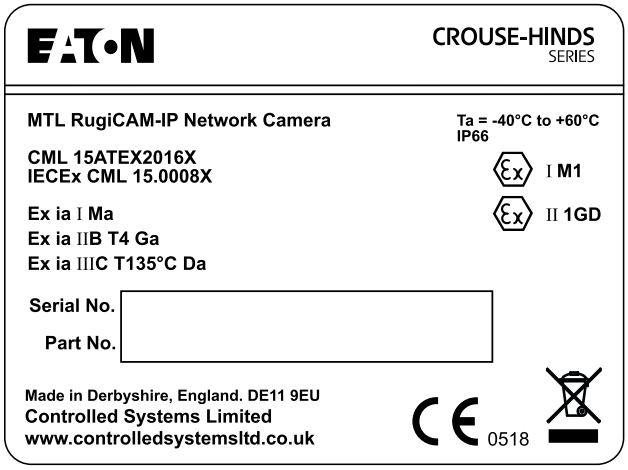
Ex ia IIIC T135°C Da

CML 15ATEX2016X

IECEx CML 15.0008X

See certificates for further information.

10.1 Marking Details



Part No.	9456-ET-xx	IP Camera
Part No.	9459-ET-xx	IP WiFi Camera
Part No.	9457-IR-xx	IR LED Unit
Part No.	9457-WH-xx	White LED Unit
Part No.	9457-GR-xx	Green LED Unit
Part No.	9457-RD-xx	Red LED Unit

xx relates to the enclosure material
AA = Anodised Aluminium
CS = Coated/Painted Steel

11 ORDERING INFORMATION

Camera and LED Units

9456-ET-AA	IP-CAMERA – ALUMINIUM ENCLOSURE
9459-ET-AA	IP-CAMERA (WITH WIFI) – ALUMINIUM ENCLOSURE
9457-IR-AA	IR LED UNIT – ALUMINIUM ENCLOSURE
9457-WH-AA	WHITE LED UNIT – ALUMINIUM ENCLOSURE
9457-GR-AA	GREEN LED UNIT – ALUMINIUM ENCLOSURE*
9457-RD-AA	RED LED UNIT – ALUMINIUM ENCLOSURE*

* Subject to MOQ

9456-ET-CS	IP-CAMERA – STEEL ENCLOSURE
9459-ET-CS	IP-CAMERA (WITH WIFI) – STEEL ENCLOSURE
9457-IR-CS	IR LED UNIT – STEEL ENCLOSURE
9457-WH-CS	WHITE LED UNIT – STEEL ENCLOSURE
9457-GR-CS	GREEN LED UNIT – STEEL ENCLOSURE*
9457-RD-CS	RED LED UNIT – STEEL ENCLOSURE*

* Subject to MOQ

Accessories

9409-ET5	Camera Ethernet Cat6a Cable 5m (M12 connector 8-pole ⇐RJ45)
9409-PWR5	Camera/LED Power Cable 5m (M12 connector 4-pole ⇐Free end)
9409-LED06	LED-Camera Link Cable 0.6m (M12 connector 4-pole ⇐M12 connector 4-pole)

Note: The Red and Green LED units are intended for use in other applications – e.g.: Stop/Go Indication for zones and areas etc.

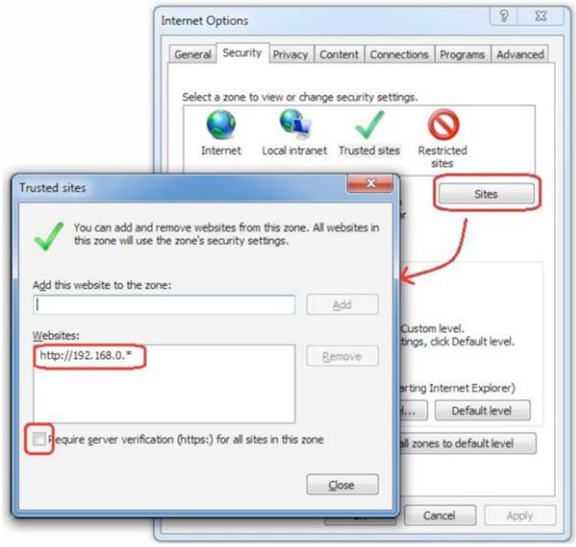
12 APPENDIX A -

Install Active-X add-on to the IE Interface

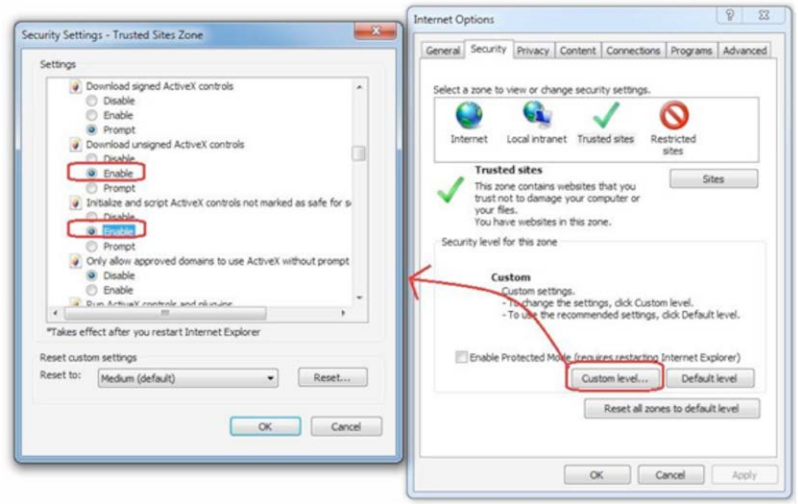
Open IE, Go to Internet Options **Security** Trusted sites.

Click Sites, uncheck Require server verification (https:) for all sites in this zone and add the IP address of camera to Websites.

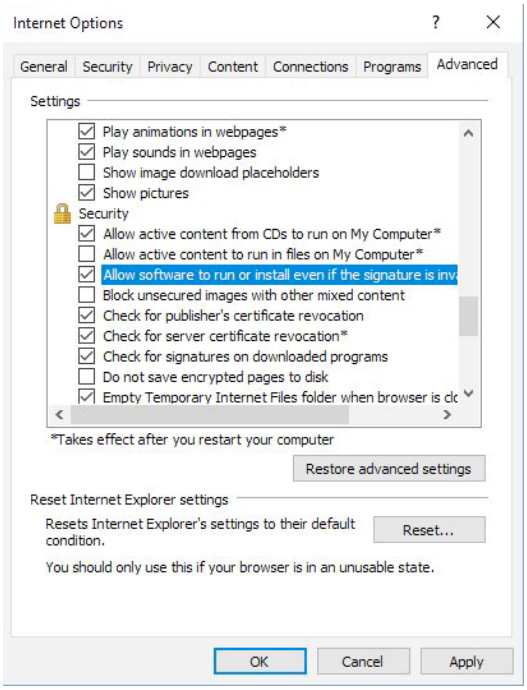
For example: http://192.168.0.*



Click Custom level, enable Download unsigned ActiveX controls and Initialize and script ActiveX controls not marked as safe for scripting.



under Advanced tab, tick the setting "Allow software to run or install even if the signature is invalid"



On IE interface (after login), reload the page

If you get a message above, click Install.

After installation of the ActiveX control, you will see the live video

13 APPENDIX B -

How to use WIFI

1. For the first time you use the WIFI function, you need to enter IE interface with network cable and go to Network Setting > WIFI Access to enable the WIFI. Then select the WIFI ID and enter password.

   Click Save, the camera will reboot.

2. After the camera boots up, you can get the IP address from the serial log screen (the WIFI IP address is behind the IP address from network cable) or the UPnP device.

NOTE
Please make sure the camera module and your PC (which access the camera via WIFI) are in the same network (wifi router)

3. You can also set the static IP of WIFI.

   Go to **WIFI Settings**.

   Select Static IP, enter the static IP address and click submit.

   The IP camera will reboot in next step. After the camera boots up, the static IP address can be used to open the IE interface.

Select IP Address, enter the IP address, and click save.

The IP camera will reboot . After the camera boots up, the static IP address can be used to open the IE interface.

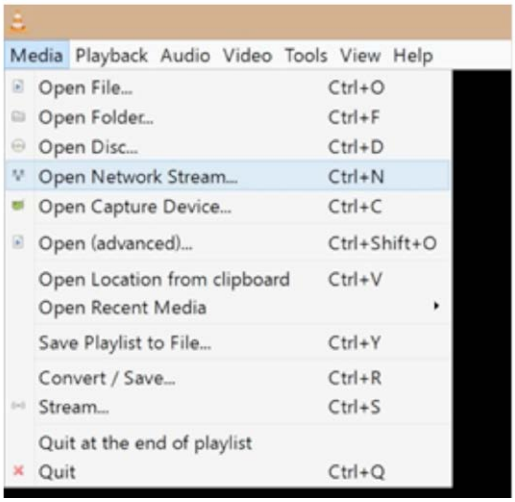
14 APPENDIX C -

Streaming video via RTSP on VLC

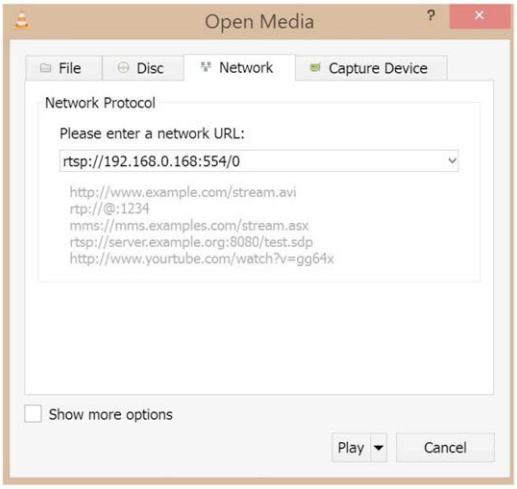
Open VLC media player.

Click the Media tab.

Open Network Stream.



In the next window, enter the URL rtsp://<IP_address>:554/0 for main stream or rtsp://<IP_address>:554/1 for sub stream, then click Play, you will get the video



15 APPENDIX D - MILESTONE XPROTECT SURVEILLANCE SOFTWARE

Milestone XProtect is a surveillance software program. You can try it free for 30 days and need to purchase a license if you wish to keep using it.

This guide just briefly illustrates the procedure to run a RugiCAM-IP camera with Milestone XProtect. If you want more information, please refer to the user guide of Milestone XProtect, which will come with the software you download with the link below.

15.1 Download Milestone Protect

Please use the following link to download Milestone XProtect

https://www.milestonesys.com/our-products/xprotect-software-suite/xprotect-enterprise/

There are different versions in the download list, and we use the Milestone XProtect Enterprise in this user guide.

Install Milestone XProtect

15.2 Run Milestone XProtect

After installation, you will get two icons on your desktop **(Milestone XProtect Management Application and Milestone XProtect Smart Client).**

Run Management Application

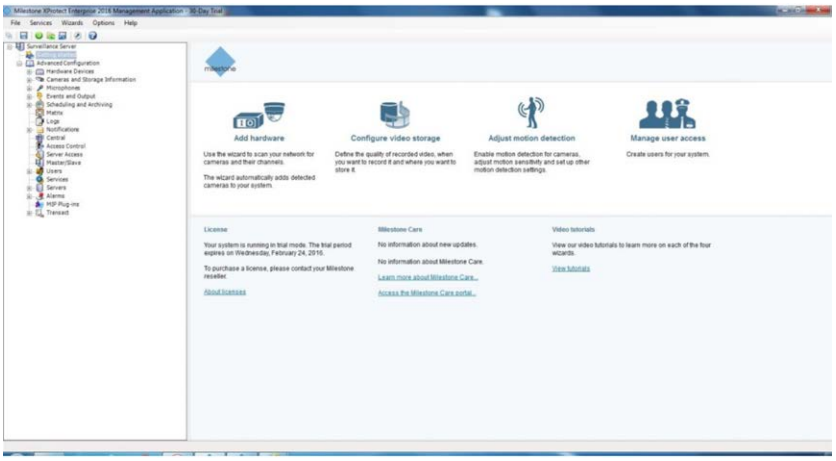
Open Milestone XProtect Management Application.

15.3 Add Hardware Device

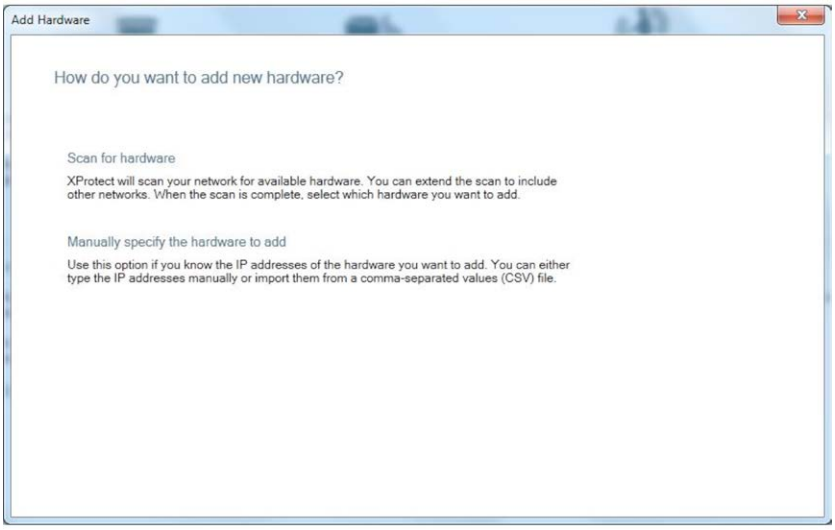
When you get the interface, click **Add Hardware Device.**

NOTE
Before this step, the IP camera must be running.

Then you will get the following window:

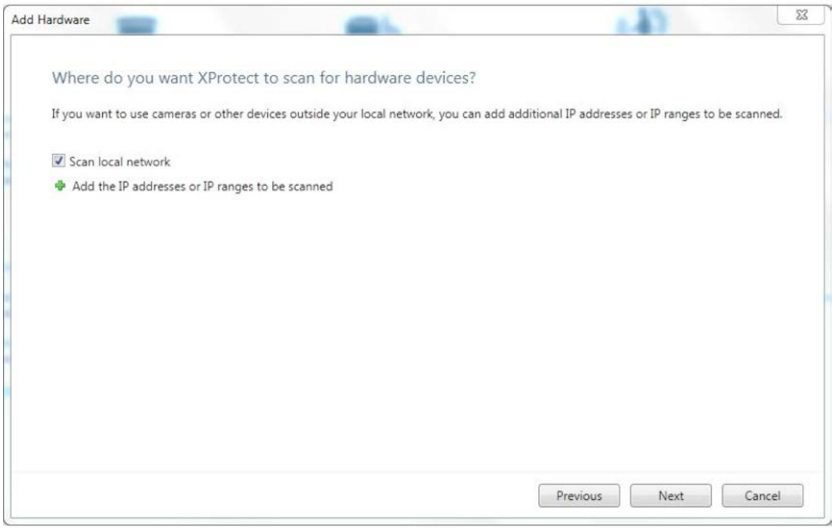


Select and click **Scan for Hardware.**

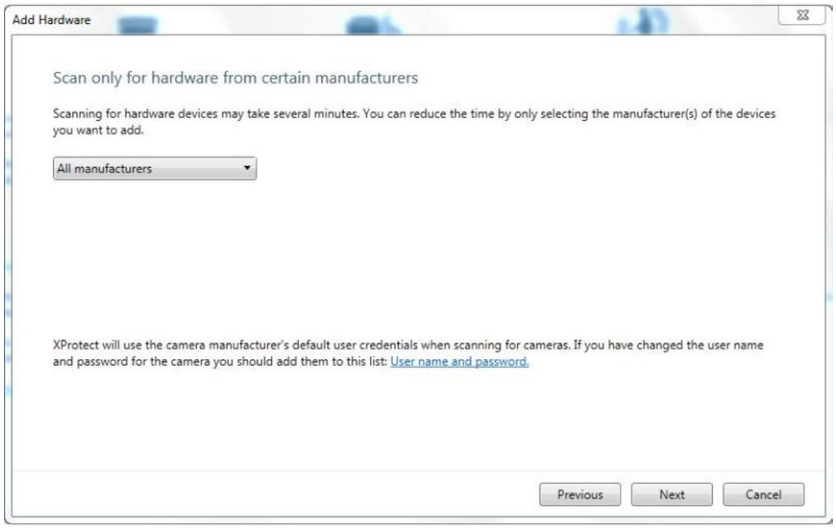


NOTE
Please refer to the user guide of Milestone XProtect if you want to use other ways to add hardware device.

Select Scan local network and click **next.**

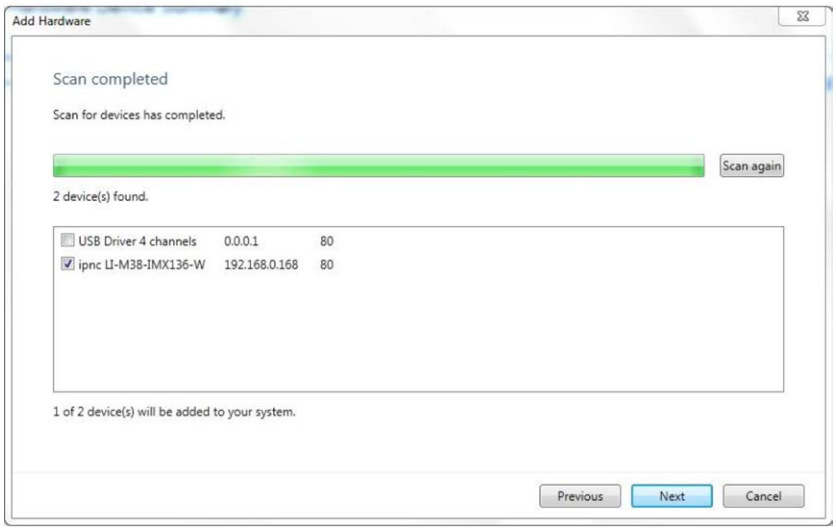


Select all manufacturers (default), then click **Next.**

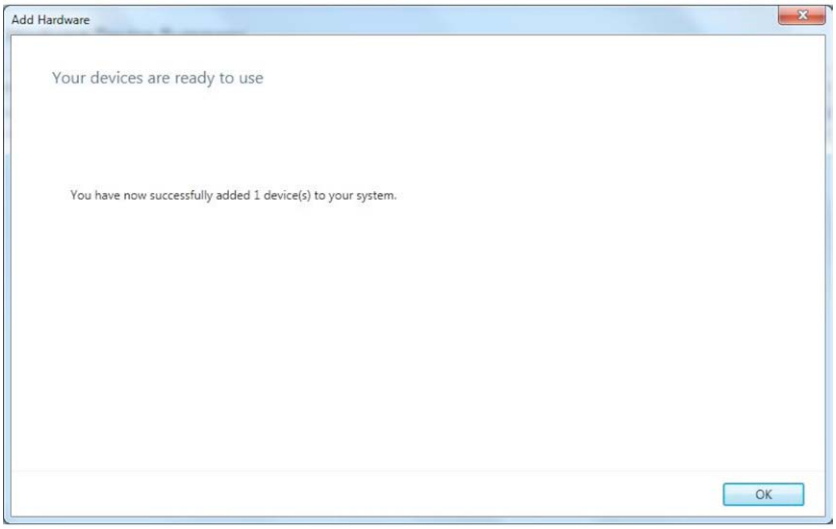


NOTE
If the auto-scan cannot get the device, please click Rescan to scan it again, or you can also use other ways in last window to get the device.

Select **LI-M38 Camera** and deselect the USB Driver and click **next.**

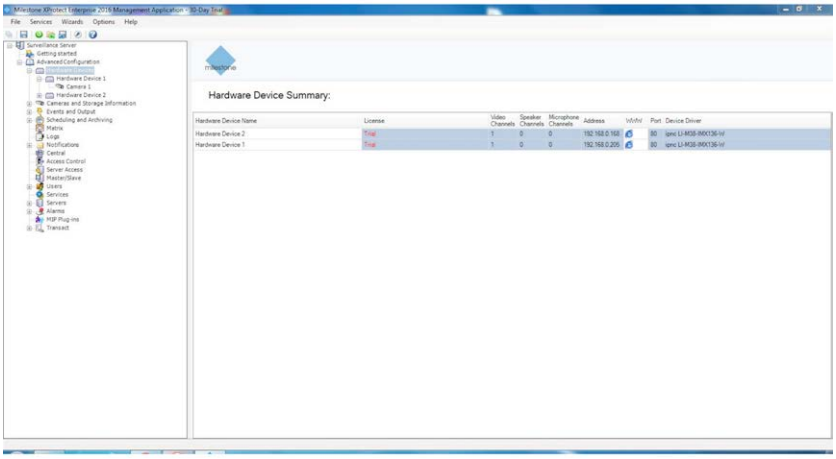


The following screen appears:



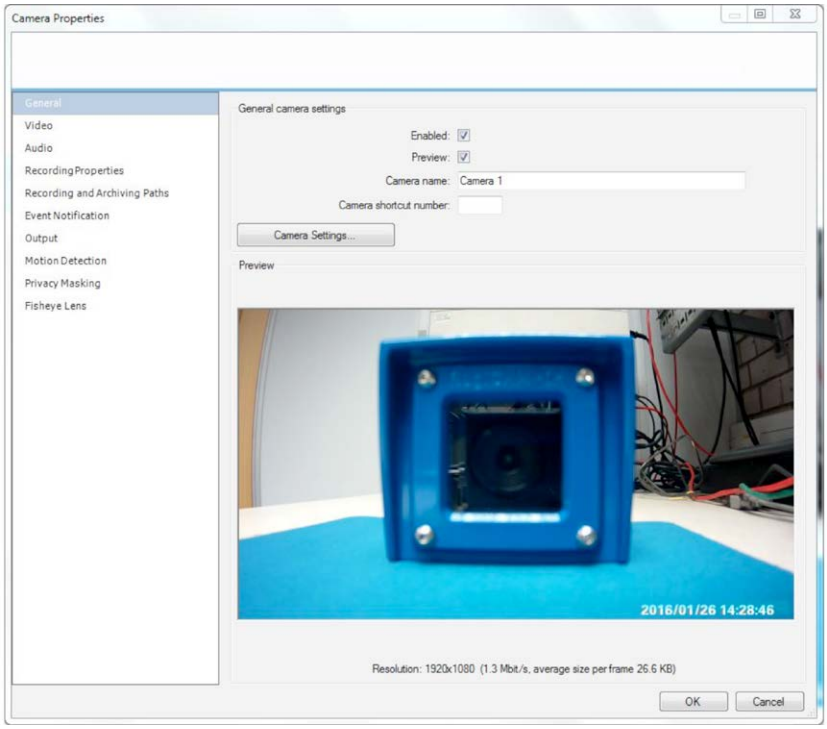
click **OK.**

The following screen appears:



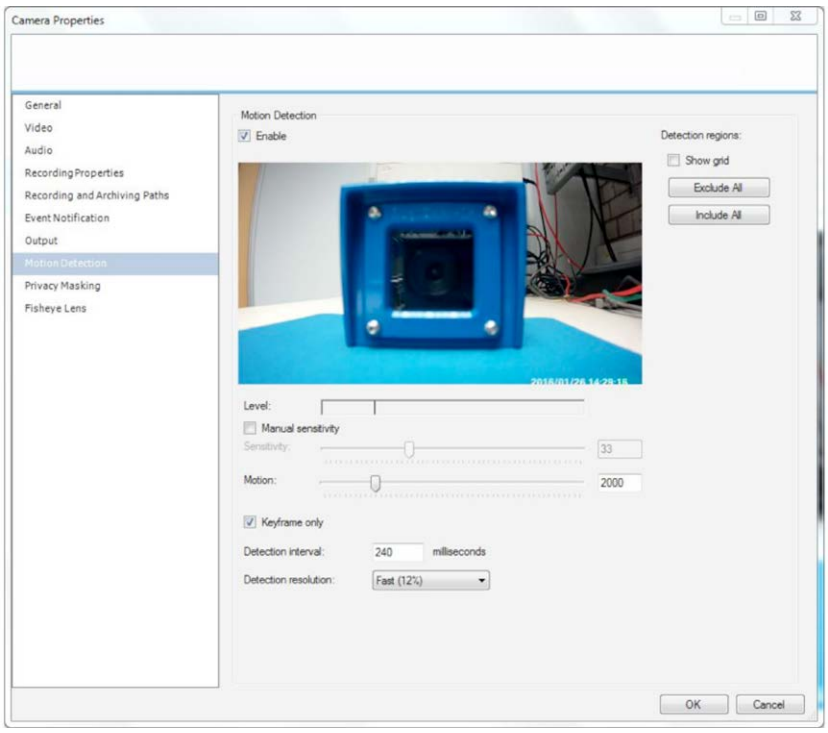
From the left panel click on **Hardware Device 1** and then select **camera 1.** The folowing screen appears:

Select Open to select Camera properties and the following screen appears:



15.4 Manage the functions

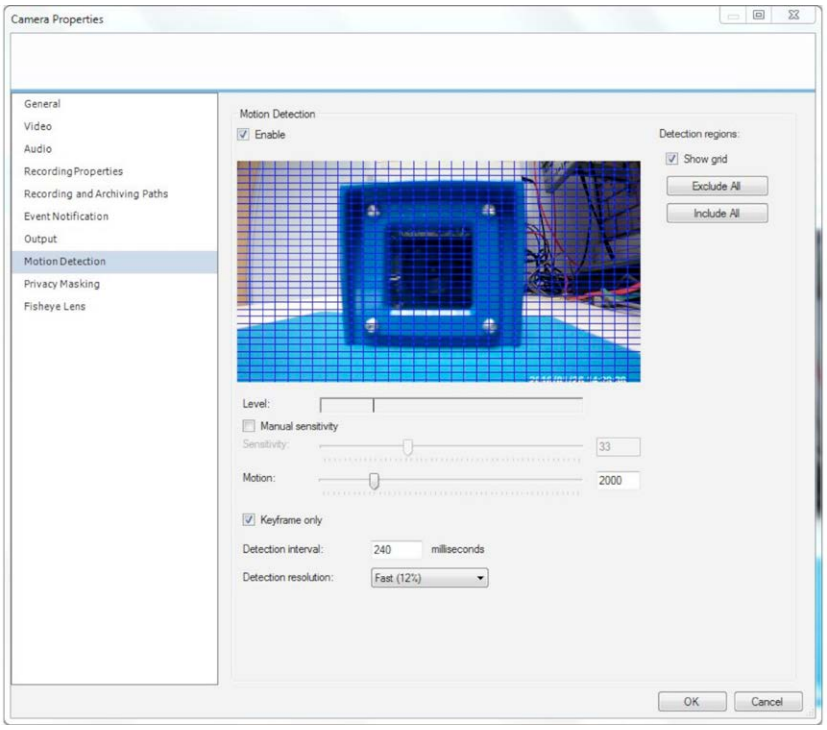
Motion Detction can be selected as shown below:



Sensitivity and **Motion** can be used to adjust the **level.**

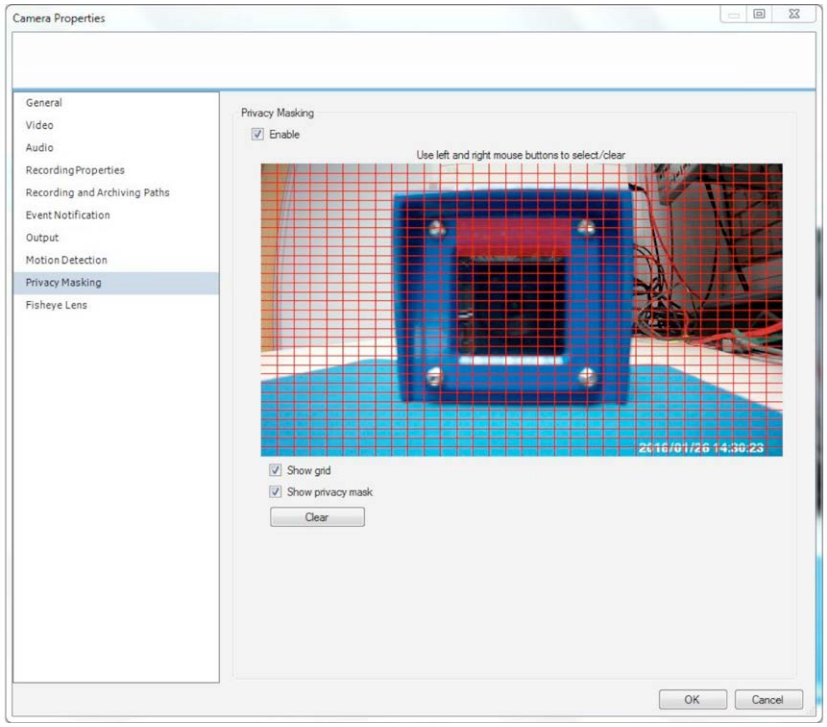
When the green bar is over the line, the video from the camera will be recorded.

You can also check **Show grid** to set the detection regions.



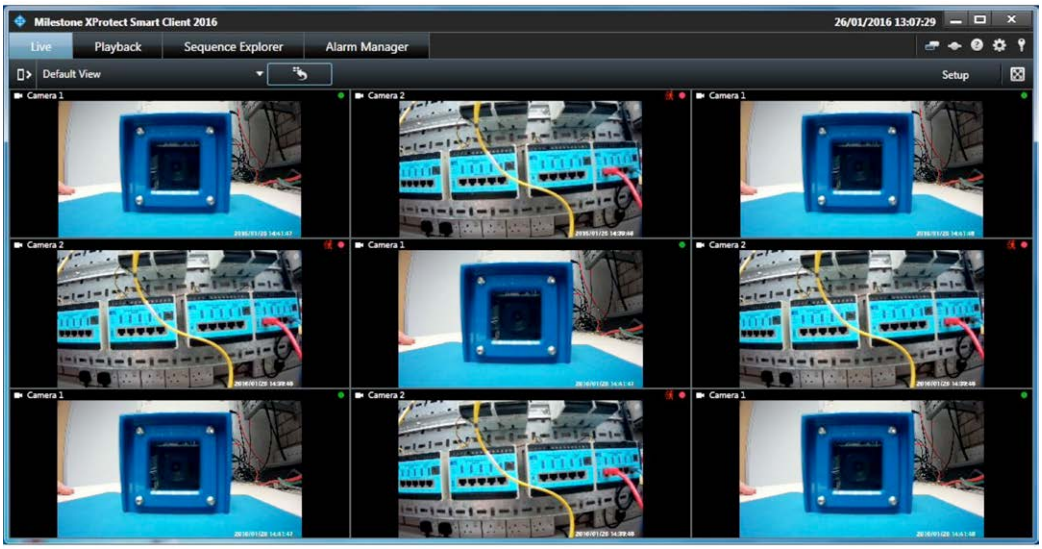
Set Privacy Masking

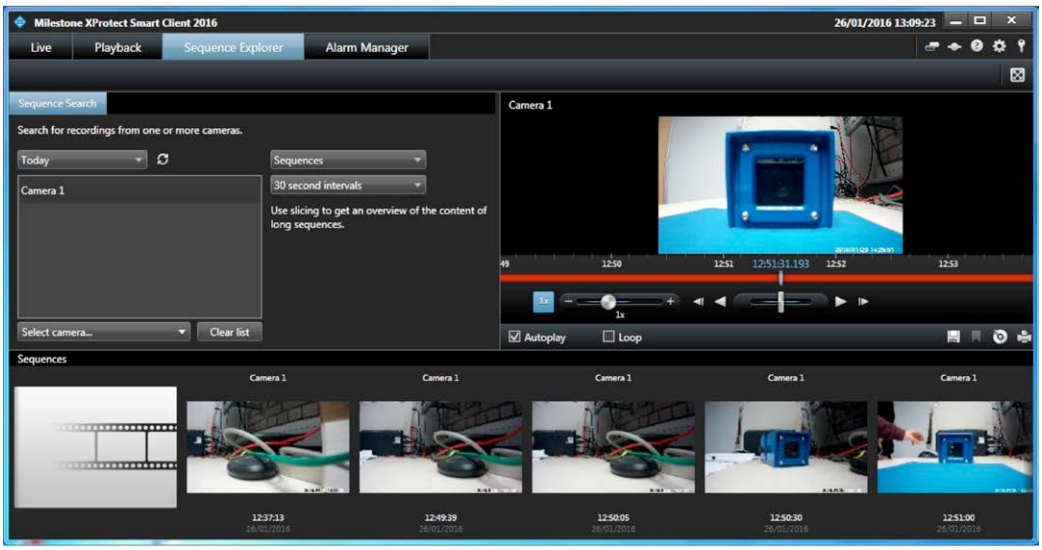
The blocks you select will be a black area in video you get from camera. After you set the properties, click **OK** to save it.



15.5 Open Milestone XProtect Smart Client

This allows you to view all cameras and view recorded video.





NOTE
If you want to know more about the functions and settings, please refer to the user guide of Milestone XProtect.

16 GLOSSARY OF TERMS

- **Alert:** An alert can be in the form of an e-mail or an ftp upload of an image, that occurs when a sensor is triggered, or motion is detected.
- **AVI:** Audio Video Interleaved. A Windows multimedia video format from Microsoft.
- **CIF:** Common Interface Format. A standard video resolution format used in video conferencing. CIF resolution is 352x288 and bit rate is 36.5 Mbps (at 30fps).
- **DHCP:** Dynamic Host Configuration Protocol. A system by which each piece of equipment on a network is allocated an address IP dynamically.
- **Ethernet:** The most widely used local area network (LAN) access method, defined by the IEEE as the 802.3 standard.
- **FTP:** File Transfer Protocol. A standard protocol designed for transferring files over a TCP/IP net-work.
- **IP:** Internet Protocol. The network layer protocol in the TCP/IP communications protocol suite (the "IP" in TCP/IP). IP contains a network address and allows messages to be routed to a different network or subnet.
- **LED:** Light Emitting Diode. A semiconductor device that emits light when a voltage is applied.
- **Motion detection:** Camera function that causes an alert to be triggered when movement is detected in the field of view.
- **Protocol:** Standards governing the transmission and reception of data.
- **Resolution:** Screen resolution is expressed as a matrix of dots. For example, the VGA resolution of 640x480 means 640 dots (pixels) across each of the 480 lines.
- **RJ-45:** Registered Jack 45. RJ-45 type connections are used in Ethernet devices.
- **SNTP:** Simple Network Time Protocol. A protocol that allows devices to update internal clocks using a standard source available on a network.
- **Static IP address:** A static IP address that is assigned manually and never changes.
- **TCP/IP:** Transmission Control Protocol/Internet Protocol. A communications protocol developed under contract from the U.S.
- **VGA:** Video Graphic Array. The video display standard for the PC.

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