Safety Regulatory

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss. The precaution measures are divided into “Warnings” and “Cautions”

**Warnings**: Serious injury or death may be caused if any of these warnings is neglected.

**Cautions**: Injury or equipment damage may be caused if any of these cautions are neglected.

<table>
<thead>
<tr>
<th>Warnings: Please follow these safeguards to prevent injury or death.</th>
<th>Cautions: Please follow these safeguards to prevent potential injury or material damage.</th>
</tr>
</thead>
</table>

**Warnings**

- This installation must be conducted by a qualified service person and should strictly comply with the electrical safety regulations of the local region
- To avoid risk of fire and electric shock, do keep the product away from rain and moisture
- Do not touch components such as heat sinks, power regulators, and processors, which may be hot
- Source with DC 12V or PoE
- Please make sure the plug is firmly inserted into the power socket
- When the product is installed on a wall or ceiling, the device should be firmly fixed
- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera by yourself

**Cautions**

- Make sure that the power supply voltage is correct before using the camera
- Do not store or install the device in extremely hot or cold temperatures, dusty or damp locations, and do not expose it to high electromagnetic radiation
- Only use components and parts recommended by manufacturer
- Do not drop the camera or subject it to physical shock
- To prevent heat accumulation, do not block air circulation around the camera
- Laser beams may damage image sensors. The surface of image sensors
should not be exposed to where a laser beam equipment is used

- Use a blower to remove dust from the lens cover
- Use a soft, dry cloth to clean the surface of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes
- Save the package to ensure availability of shipping containers for future transportation

**EU Conformity Statement**

This product and - if applicable - the supplied accessories too are marked with “CE” and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2004/30/EC, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury(Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.
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1. Product Introduction

1.1 Introduction

Based on embedded Linux operation system, Milesight NVR Series manages and stores HD video data. It owns multi-disk management systems, front end HD device management system, HD video analysis system and high-capacity system for video. Also, it adopts the technology of high flow capacity data network transmitting & transmission, with multi-channel video decoding, to achieve functions like intelligent management, safe storage, HD decoding, etc.

1.2 Product Key Functions

Basic Information

- Milesight NVR Series includes NVR Series (Mini NVR 1000 Series, Pro NVR 5000 Series, Pro NVR 7000 Series, Pro NVR 8000 Series), and PoE NVR Series (Mini PoE NVR 1000 Series, PoE NVR 5000 Series and PoE NVR 7000 Series), which can work with Milesight network cameras and connect with third party network cameras that support ONVIF.

Monitoring

- Support HDMI video output, maximum to 3840*2160 resolution.
- Support PAL/NTSC adaptive video input.
- Support multiple screen displaying in live view.
- Support 1/4/8/9/12/14/16/32 screen live view, channel sequence is adjustable.
- Support quick menu and tool bar in live view.
- Support batch IP editing, setting camera’s video parameters and record schedule.
- Support live view group switch, manual switch and automatic patrol. The interval of automatic sequence is adjustable.
- Support motion detection and video loss alert.
- Support various PTZ protocols and PTZ operations such as preset, patrol, etc.
- Support central zoom in by clicking the mouse at arbitrary area.
- Support 3D positioning control for the PTZ Camera Series and Fisheye Camera Series.
- Support to set privacy mask of camera.
- Support OSD title and date configuration.
- Support instant playback.
- Support to set view to Original or Resize.

HDD Management

- Support hard disk and NAS storage.
- Support S.M.A.R.T technology.
- Support RAID and Group management.
- Support to set HDD property, including read-only and read/write.
- Support eSATA disk for recording or backup of NVR Pro 8000 Series.

**Recording/Snapshot and Playback**
- Support Transcoding for remote playback.
- Support General Playback, Event Playback, Tag Playback and Picture Playback.
- Support to tag and lock video.
- Support holiday schedule.
- Support recycle and non-recycle recording mode.
- Support 12 recording time periods with separate recording types.
- Support pre-record and post-record time setting for motion detection, alarm and smart event recording. And support pre-record setting for manual and schedule recording.
- Support recording/snapshot manually.
- Support digital zoom function at arbitrary area in playback.
- Support pause, rewind, fast play, slow play, skip forward and skip backward when playback, locating in progress bar by dragging the mouse.
- Support up to 128x fast forward playback.

**Backup**
- Support N+1 Hot Spare.
- Support Common Backup, Event Backup and Picture Back in Retrieve interface.
- Support export video files or snapshot to USB and eSATA device.
- Support backup device maintenance and management.

**Alarm & Exception**
- Support motion detection configure and alarm.
- Support video loss alarm, alarm input and alarm output.
- Support smart event alarm, including Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering, Human Detection and People Counting.
- Support various alarm response such as audible warning, sending email, recording and on/off relay out.

**Network**
- Equipped with PoE ports for PoE cameras (only available for PoE NVR).
- Support remote search, playback and download of video files.
- Support remote acquiring and configuring of parameters.
- Support remote import and export of device parameters.
- Support P2P remote access.
- Support IPv4/IPv6, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, NTP, SNTP, SMTP, SNMP, UPnP.
- Support remote acquiring of device status, system log and alarm status.
- Support remote operate system maintenance by initialize hard disk, add NAS, upgrade firmware and auto reboot, etc.
- Support upload alarm and exceptions to remote host.
- Support remote manual start or stop of recording.
- Support remote manual start or stop of alarm output.
- Support remote BMP image capturing.
- Support remote PTZ control.
- Support keyboard control.
- Built-in WEB Server.

Other Functions

- Support multi-level user management, administrator can create multiple users with access rights.
- Support operating and configuring information import/export.
- Support auto reboot.
- Support CGI for Windows and Linux system.
## 2. Hardware

### 2.1 Panel Buttons

<table>
<thead>
<tr>
<th>Model</th>
<th>Hardware/Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4K H.265 Mini NVR 1000 Series</strong></td>
<td><img src="image" alt="Diagram of MS-N1009-UT" /></td>
</tr>
<tr>
<td><strong>MS-N1009-UT</strong> (Firmware version: 71.xx.xx.xx)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Hardware/Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4K H.265 Pro NVR 5000 Series</strong></td>
<td><img src="image" alt="Diagram of MS-N5008-UT/MS-N5016-UT" /></td>
</tr>
<tr>
<td><strong>MS-N5008-UT/MS-N5016-UT</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Hardware/Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4K H.265 Pro NVR 7000 Series</strong></td>
<td><img src="image" alt="Diagram of MS-N7016-UH/MS-N7032-UH" /></td>
</tr>
<tr>
<td><strong>MS-N7016-UH/MS-N7032-UH</strong></td>
<td></td>
</tr>
</tbody>
</table>
2.2 Using a USB Mouse

<table>
<thead>
<tr>
<th>Item</th>
<th>Click</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Button</td>
<td>Single-click</td>
<td>Live view: select the channel and show the toolbar of live view. Menu: select and confirm.</td>
</tr>
<tr>
<td></td>
<td>Double-click</td>
<td>Switch between single screen to multi-screen when in live view mode and playback mode.</td>
</tr>
<tr>
<td></td>
<td>Click and drag</td>
<td>(1) Control rotation direction in PTZ mode. (2) Set the target area in motion detection, smart event and privacy mask alarm settings. (3) Drag to set the digital zoom area. (4) Drag the channel and the time scroll bar.</td>
</tr>
<tr>
<td>Right Button</td>
<td>Single-click</td>
<td>Live view: shows pop-up menu. Menu: exit and go to Live View.</td>
</tr>
<tr>
<td>Scroll-wheel</td>
<td>Scroll up</td>
<td>Scroll up the page.</td>
</tr>
<tr>
<td></td>
<td>Scroll down</td>
<td>Scroll down the page.</td>
</tr>
</tbody>
</table>
2.3 Hard Disk Installation

2.3.1 MS-N7000 series Hard Disk Installation

Step 1. Unscrew the back and both sides’ screws to open the upper lid.
Step 2. Install the hard disks into NVR with screws shown in below pictures. (SATA Slots of hard disk should be toward inside NVR.)
Step 3. Join the power and data connectors to corresponding hard disk.
2.3.2 MS-N8000 series Hard Disk Installation

Step1. Unscrew the back and both sides’ screws to open the upper lid.
Step2. Uninstall the upper hard disk panel.
Step3. Install the hard disks into NVR with screws shown in below pictures.(SATA slots of hard disks should be toward inside NVR)
Step4. Join the power connectors to corresponding hard disks.(Install lower hard disk panel before upper one)
Step5. Join the data connectors to corresponding hard disk.(Check the connection by below sequence)
Note:
1. The SATA slots are in SHORT HALF side and the SATA slot toward inside NVR.
2. The data connector sequence of MS-N7000 series is different from MS-N8000 series'.
3. Local Operation

3.1 Wizard Setting

By default, the Setup Wizard will start once the NVR has been loaded. You can click check-box to turn off the Wizard when startup.

The Setup Wizard will guide you to complete important settings, which makes NVR more user-friendly.

**Step1. Set password to active admin account.**

**Note:**
1. Only the NVR firmware version xx.9.0.3 or above supports activation function.
2. Password must be 8 to 32 characters long.
3. Password must contain at least one number and one letter.
Step 2. Set security questions which are used for resetting password.
10 questions are provided, you can select any one to set answer. Beside, customized question is available.
If you skip this step, you can also set it again in Setting -> User interface.

Note:
Only the NVR firmware version xx.9.0.3 or above supports.

Step 3. Date and time setting.
Select the Time Zone and date via NTP or you can set date and time manually.

Input the IP Address, Subnet Mask, Gateway and Preferred DNS Server.
PoE NIC IPv4 Address option is only for PoE NVR Series.
Step 5. Camera Management.
Search all the cameras in LAN by filtering Protocol and IP Range. Select cameras and click **Add** to add them to NVR.

**Note:**
1. It can auto detect cameras that connected to PoE ports (only for PoE NVR).
2. If camera status shows inactive, please click **Activate** to active it first.

Step 6. Record
The user can start all channels recording by clicking **Record**.
**Step 7. Login**
Input the user name and password to login the system.

If you forget the password, click to reset password.

**Note:** Only the NVR firmware version xx.9.0.3 or above supports password reset if you forget it.
3.2 Live View

3.2.1 Live View

Main Menu and Tool Bar can pop up and hide automatically at the right side or bottom of the interface.

Note: Tool Bar won’t be hidden if there is event notification.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="lock_icon.png" alt="Lock/Unlock" /></td>
<td>Lock/Unlock the tool bar</td>
<td><img src="one_screen_layout_icon.png" alt="One screen layout" /></td>
<td>One screen layout</td>
</tr>
<tr>
<td><img src="four_screen_layout_icon.png" alt="4 screen layout" /></td>
<td>4 screen layout</td>
<td><img src="eight_screen_layout_icon.png" alt="8 screens layout" /></td>
<td>8 screens layout</td>
</tr>
<tr>
<td><img src="one_plus_seven_screen_layout_icon.png" alt="1+7 screens layout" /></td>
<td>1+7 screens layout</td>
<td><img src="nine_screen_layout_icon.png" alt="9 screens layout" /></td>
<td>9 screens layout</td>
</tr>
<tr>
<td><img src="sixteen_screen_layout_icon.png" alt="16 screens layout" /></td>
<td>16 screens layout</td>
<td><img src="thirty_two_screen_layout_icon.png" alt="32 screens layout" /></td>
<td>32 screens layout</td>
</tr>
<tr>
<td><img src="select_screen_layout_icon.png" alt="Select other screen layouts" /></td>
<td>Select other screen layouts</td>
<td><img src="start_recording_icon.png" alt="Start all channels recording" /></td>
<td>Start all channels recording</td>
</tr>
<tr>
<td><img src="stop_recording_icon.png" alt="Stop all channels recording" /></td>
<td>Stop all channels recording</td>
<td><img src="adjust_image_icon.png" alt="Adjust image in proportion" /></td>
<td>Adjust image in proportion</td>
</tr>
<tr>
<td><img src="display_settings_icon.png" alt="Display settings" /></td>
<td>Display settings</td>
<td><img src="sequence_icon.png" alt="Sequence" /></td>
<td>Sequence</td>
</tr>
</tbody>
</table>

Note:
Start all channels recording, Stop all channels recording, Adjust image in proportion and Display settings are for all displaying channels.
There are multiple icons on each channel displayed in live view, indicating different status of the...
channel.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>📺</td>
<td>It indicates video loss</td>
</tr>
<tr>
<td>📺</td>
<td>It indicates motion detection alarm</td>
</tr>
<tr>
<td>🔴</td>
<td>It indicates that the current channel is recording.</td>
</tr>
<tr>
<td>🚨</td>
<td>It indicates exception alarm</td>
</tr>
<tr>
<td>🚨</td>
<td>It indicates smart event alarm</td>
</tr>
</tbody>
</table>

Right click in the Live View and the quick operation menu pops up.

<table>
<thead>
<tr>
<th>Item</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menu</td>
<td>Display Main Menu</td>
</tr>
<tr>
<td>Single Screen</td>
<td>The selected channel will be full screen. You could go back to previous screen layout by double clicking the channel</td>
</tr>
<tr>
<td>Sub Screen Ctrl</td>
<td>Switch to sub screen to operate (Only for Pro NVR 8000 Series)</td>
</tr>
<tr>
<td>Multi Screen</td>
<td>Switch to multiple screen layouts</td>
</tr>
<tr>
<td>Display Info</td>
<td>Show channel information, including Camera Number, Bit Rate, Frame Rate and Frame Size</td>
</tr>
<tr>
<td>Previous Screen</td>
<td>Switch to previous screen</td>
</tr>
<tr>
<td>Next Screen</td>
<td>Switch to next screen</td>
</tr>
<tr>
<td>Logout</td>
<td>Log out current user account</td>
</tr>
</tbody>
</table>
Quick Operation for single channel

In live view interface, left click the channel, the quick menu will appear.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎥</td>
<td>Manually record</td>
<td>📷</td>
<td>Image Configure</td>
</tr>
<tr>
<td>🔍</td>
<td>PTZ control</td>
<td>📈</td>
<td>Original/Resize the image</td>
</tr>
<tr>
<td>🎧</td>
<td>Audio on/off</td>
<td>🔍</td>
<td>Digital zoom</td>
</tr>
<tr>
<td>📸</td>
<td>Snapshot manually</td>
<td>❌</td>
<td>Instant Playback</td>
</tr>
<tr>
<td>📸</td>
<td>Fisheye Mode</td>
<td>❌</td>
<td>Close menu</td>
</tr>
</tbody>
</table>

**Fisheye Mode:**

Click 📸 to enter Fisheye Mode, which will full screen fisheye channel. You can set installation modes and display modes for the camera on the Fisheye tool bar.

**Installation Mode:** Ceiling Mount/ Wall Mount/ Table Mount

**Display Mode:** Original Fisheye View/ 360° Panorama View/ Two 180° Panorama Views/ Four Regional Views/ One Original Fisheye View and Three Regional Views/ One 360° Panorama View and Three Regional Views

Select a fisheye channel(except for the original view), and click 🔍 to enter PTZ Mode. You can operate PTZ, Preset and Patrol of this channel separately.
**Note:**
Only for Milesight Fisheye Camera in Bundle-Stream Mode.

**PTZ Mode:**
Click 🔄 to enter PTZ mode, and the selected channel will be full screen.

You can do PTZ, Preset, Patrol and Pattern operation in the PTZ panel. Meanwhile, there are three icons in the tool bar. The descriptions are as below.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔒</td>
<td>Lock/Unlock the tool bar</td>
<td>🌐</td>
<td>Enable/Disable 3D positioning</td>
</tr>
<tr>
<td>📌</td>
<td>Show/Hide the PTZ control panel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Event Notification:**
There is a ⚠️ in live view bottom tool bar when exception alarm is triggered. You can click it and check alarm details.

Also, you can select which alarm notification you want to get by click Settings.
3.2.2 Layout

**Step 1.** Select a layout format.

![Layout Configuration](image)

**Step 2.** Set desired channels.

Click to close a channel. Select a window and then select a desired channel to add in.

Click to save the settings or click to reset the layout.
3.3 Playback

Playback supports to playback video according to recorded time and to play recorded video files in specified time period. Synchronous playback of multi-channel is supported.

3.3.1 General Playback

Step 1. Select General Playback as playback type.

Step 2. Select Stream Type.
Primary Stream and Secondary Stream are available.

Step 3. Select channel.
Select channels you want to do playback. User can click \( \text{Select Max} \) to select maximum channel for playback, 9 channels for Milesight Mini (PoE) NVR Series while 16 channels for other NVR. Layout of playback will be automatically adjusted according to the amount of the selected channels.

**Step4. Select date.**

The day with blue letters means that there are record files.

**Video Playback Tool Bar Description**

Every channel got their own file bar, and there is only one file bar matching with the selected channel. The tool bar can display multiple types record. It shows that in this record period what kind of event has happened. The symbolic meaning of each color is:

- **Blue**—General
**Red --- Event**
And take this bar above as an example, it means that there is continuously recording in this period.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>🕵️‍♂️</td>
<td>Digital zoom</td>
<td>📸</td>
<td>Snapshot</td>
</tr>
<tr>
<td>🎤</td>
<td>Audio on</td>
<td>🎤</td>
<td>Audio off</td>
</tr>
<tr>
<td>⏺️</td>
<td>Speed down</td>
<td>⏺️</td>
<td>Speed up</td>
</tr>
<tr>
<td>⏺️</td>
<td>Step reverse</td>
<td>⏺️</td>
<td>Step forward</td>
</tr>
<tr>
<td>⏺️</td>
<td>Rewind</td>
<td>⏺️</td>
<td>Play</td>
</tr>
<tr>
<td>⏺️</td>
<td>Stop</td>
<td>⏺️</td>
<td>Pause</td>
</tr>
<tr>
<td>🕔</td>
<td>Timeline cutting</td>
<td>🕔</td>
<td>Lock video file</td>
</tr>
<tr>
<td>📎</td>
<td>Quick tag</td>
<td>📎</td>
<td>Custom tag</td>
</tr>
<tr>
<td>📖</td>
<td>File Management</td>
<td>📖</td>
<td>Zoom in timebar</td>
</tr>
<tr>
<td>⏺️</td>
<td>Zoom out timebar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Lock Video:** Once the video is locked, the whole file where the video located won’t be overwritten. You can also change the lock status in Retrieve interface.

**Tag Video:** Quick Tag and Custom Tag are available for tag operation in Playback interface. You can backup video via tag in Retrieve interface or do tag playback in Playback interface.
3.3.2 Event Playback

**Step 1. Select Event Playback as playback type.**

- Event Playback
- General Playback
- Event Playback
- Tag Playback
- Picture Playback

**Step 2. Select Stream Type.**
Primary Stream and Secondary Stream are available.

**Step 3. Select channel.**
Select channels you want to do playback. Layout of playback will be automatically adjusted according to the amount of the selected channels.
Step 4. Select Event Type.

Step 5: Select Start Time and End Time, click to search the record.

Step 6: It would list all videos after clicking . Set pre playback and post playback time, then play the video by clicking .

Video Playback Tool Bar Description are the same as General Playback.
3.3.3 Tag Playback

Step 1. Select Tag Playback as playback type.

Step 2. Select Stream Type.
Primary Stream and Secondary Stream are available.

Step 3. Select channel.
Select channels you want to do playback. Layout of playback will be automatically adjusted according to the amount of the selected channels.
Step 4. Input tag name or any key words of tag.

Step 5: Select Start Time and End Time.

Step 6: It would list all tagged video after clicking Search. Set pre playback and post playback time, then play the tag video by clicking Play.

Video Playback Tool Bar Description are the same as General Playback.

3.3.4 File Management

It would list all the operation you did this time until exit the Playback interface. Operation includes clip video, snapshot, lock file and tag. Besides, you can export clipped video, playback snapshot and locked file to USB drives and eSATA.
Take clip video as example.

Step 1. Cut recorded files.

Select the channel and date you want to backup, then select the time at timeline and click , then drag the timeline to select the start time and end time of video.

Step 2. Click to save the clipped video.

Step 3. Click to pop up File Management interface. Select the video you clipped and click to export video.

Step 4. Select the device to storage exported video and then click .

www.milesight.com
**Note:**
You can also directly format and create new folder of storage device here. **There is an information promoted showing the export progress.**

**Note:**
The download time of files depends on the time length of video you want to backup.

### 3.3.5 Picture Playback

**Step1. Select Picture Playback as playback type.**
Step 2. Select channel.

Step 3. Select Snapshot type, including Live View Snapshot and Playback Snapshot.

Step 4: Select Start Time and End Time.

Step 5: It would list all snapshot after clicking .

Click to play the selected picture, or click to auto play pictures.

Note:

You can export picture by clicking or .
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### 3.4 Retrieve

#### 3.4.1 Common Backup

Support to search out record file according to different stream type, record type and file type you set.
Step 1: Set the search condition and click to search video.

Step 2: Select the file you want to backup and click . Also, you can click to backup all recorded videos.

In Common Backup interface, play, lock and unlock video are supported. Click to play and to lock. Once the video is locked, the whole file where the video located won’t be overwritten.

3.4.2 Event Backup

Support to search out and backup picture according to event type. The event type includes Motion Detection, Alarm Input, Alarm Output and Smart Event.
Step 1: Set the search condition and click to search video.

Step 2: Select the file you want to backup and click . Also, you can click to backup all recorded video.

In Event Backup interface, you can click to play the video.
3.4.3 Picture Backup

Support to search out and backup picture according to picture type. The picture type includes All, Live View Snapshot and Playback Snapshot.

Step1: Set the search condition and click **Search** to search snapshot.

Step2: Select the file you want to backup and click **Backup**. Also, you can click **Backup All** to backup all recorded videos.

3.5 Camera Settings

Before configuration, please ensure that the camera is connected to the same network as your
NVR and that the network setting for your NVR is properly set.

3.5.1 Camera Management

Step 1. Add camera.
Method 1. Add camera through Device Search interface. ‘Settings’ → ‘Camera’ → ‘Device Search’.

1. Select IP Range, NIC and Protocol, which includes ALL, ONVIF and MSSP.

2. Click search button to search cameras at the same LAN with NVR.
3. Select one channel, click **Add** button, input password and click **Add** button to finish

4. Check [ ] to batch adding the network cameras if they are with the same password, you can choose TCP or UDP transport protocol for it. Click **OK** to finish batch adding

**MSSP:** You can search out all Milesight camera which has different network segment in the LAN.

**Note:**

The steps for adding the **third party PoE cameras** plugged into Milesight PoE NVR:

1. Set camera’s IP segment to the same as NVR PoE NIC before plugging to PoE NVR;
2. Select PoE for NIC in Device Search interface, click **Search** to search out cameras;
3. Select cameras and click **Add** to add them.

**Method2.** Add camera through camera management interface. ‘Settings’ \(\rightarrow\) ‘Camera’ \(\rightarrow\) ‘Camera Management’.
Select channel ID, input complete information, then click [Add] button.

There are three protocols available for camera connection:

- **ONVIF**: You can add any ONVIF IP cameras with ONVIF protocols.

- **RTSP**: You can add any IP cameras with RTSP protocol streams (Port: 554). It needs you to input complete resource path of the IP camera to add it. Take Milesight device for example, the resource path of main stream is “rtsp://IP:port/main” and secondary stream is “rtsp://IP:port/sub”.

- **MSSP**: You can add Milesight cameras which are in the same LAN with MSSP protocol.
Step 2. Check the connection status.
After adding the IP channels, click Refresh button on Camera Management interface, then Connected appears under Status. If it doesn’t appear, you need to check if the network is connected or whether the user name or password is correct or not.

Step 3. Configure camera.
Configure one camera

After successfully adding the camera, click to re-edit the channel info.

Select Parameters page to re-edit parameters of this channel. Click [OK] to save the configuration.
**Batch configuring camera**

Click , select multiple channels and set parameters of cameras.

![Batch configuring camera](image)

**Step 4. Delete camera.**

You can delete this channel by clicking , or you can select multiple devices and then click to delete.

![Delete camera](image)

**Step 5. Configure PoE Channel (Only for PoE NVR)**

1. Connect Milesight camera to PoE port, it will detect the camera automatically.
2. If the camera's password is the same with NVR admin password, it will be successfully authenticated and be changed into the same network segment with internal NIC IPv4 address, then the camera will be connected successfully.
3. If the camera's password is different with NVR admin password, the PoE channel will show disconnect status. You need to input the camera's password by clicking to realize authentication (you can also multi-select the devices and then click this button). Then the camera will be changed into the same network segment with internal NIC IPv4 address and will be successfully connected. In next time, NVR will use the password you input to authenticate this camera when you re-plug it.
3.5.2 Device Search

Select Protocol and NIC, then set the IP range, and click **Search** to quickly search the IP devices that support selected protocol at the same LAN with NVR.

If the camera status shows Inactive, please select camera and click **Activate** to active it first before adding to NVR.

Besides, you can select channels and click **IP Edit** to batch editing their IP information.
3.5.3 PTZ Configuration

**Advanced**

Choose a channel and set the PTZ parameters. Besides, you can click to copy the same configuration to other channels.

![PTZ Configuration page](image)

**Note:**

1. Settings for a PTZ camera must be configured before it can be used. Make sure that the PTZ and RS-485 of the NVR are connected properly.
2. The PTZ protocol and address of IP channel must be consistent with those of the PTZ decoder.

**Configuration**

**[Preset]**

Preset can be set to move your PTZ camera to a desired preset position. The preset position is the preparation for Patrol.

**Step1.** Use the PTZ direction key to rotate the position of preset. Then choose a preset number and click to save a preset position.
Step 2. Choose a preset number and click [delete] to delete the preset position.

Step 3. Choose a preset number and click [check] to check the preset position.

**[Patrol]**

The camera will patrol according to the preset positions. The total time and patrol speed of the path is variable.

Step 1. Select a path. Up to 8 paths could be set.

Step 2. Click [add] to add preset position (up to 48 positions could be added). Set the parameters of preset positions, including preset position number, scan time and scan speed, then click [OK].
Step 3. Select a preset position, click ![image] and select ![image] in the dialog box to delete it.

Step 4. Click ![image] to preview the path patrol. Click ![image] to stop.

Step 5. Click ![image] and select ![image] in the dialog box to delete all preset positions of the path patrol.

**Note:**
1. The preset positions decide the patrol path, which will run according to numerical order of the preset positions.
2. Scan time is how long the patrol stays on the preset position.
3. Scan speed is the rotate speed of speed dome from one preset position to the next.

**[Pattern]**

The camera will patrol back and forth in a constant speed. There is only one start point and one end point.

**Step 1. Select a pattern and click ![image]. Up to 4 patterns could be set.**

**Step 2. Drag the mouse or click 8 direction keys by mouse to rotate PTZ.**
Step 3. Click 📦 to save the PTZ movement patterns.
Step 4. Click 🔁 to preview the pattern. Click ▪ to stop.

[PTZ Operation]

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### 3.5.4 Privacy Mask

Milesight NVR supports to set privacy mask. It is used to cover some privacy area which is not proper to appear on monitor.
You can add a privacy mask by following steps:

**Step1.** Select channel and enable privacy mask.
**Step2.** Set the privacy mask type and drag the mouse to select the area which is privacy on the live window. You can add **4 areas** at most.
**Step3.** Copy the privacy area to the other channels by clicking the “Copy” button on the bottom of the windows.
**Step4.** Select “Save” to save the settings.

### 3.5.5 OSD configuration

You can set OSD (On Screen Display) on NVR, and the OSD will be synchronized to Camera.

**Step1.** Select channel.
**Step2.** Select Video Stream, including All Streams, Primary Stream and Secondary Stream.
**Step3.** Enable video title and timestamp.

**Show Video Title:** Enable it and the video title will be shown on screen.
Title Position: Set the position for the video title: Top-Left or Top-Right.

Date Position: Set the position for the date: Top-Left, Top-Right, Bottom-Left or Bottom-Right.

Date Format: Set format for date: YYYY-MM-DD, MM/DD/YY or DD/MM/YYYY.

Step 4. Copy the OSD settings to the other channels by clicking the “Copy” button on the bottom of the windows.

Step 5. Select “Apply” to save the settings.

3.5.6 Image Enhancement

You can set Image Enhancement on NVR, and the configuration will be synchronized to Camera.

Step 1. Select channel.

Step 2. Set the configuration.

Day/Night Mode: Set the Day/Night mode for the channel.

Day to Night Value: Set the Minimum illumination intensity to trigger Night Mode.

Night to Day Value: Set the Maximum illumination intensity to trigger Day Mode.

IR Light Sensor Value: Shows the current value of IR light sensor.
**Power Line Frequency:** 50Hz and 60Hz are available.

**Corridor Mode:** Set corridor mode.

**Image Rotation:** Set image rotation.

**IR Balance Mode:** Turn on to avoid IR overexposure.

**White Balance:** Choose a white balance mode for the channel.

**Digital Anti-fog Mode:** Set the Anti-fog function on and off.

**WDR/HLC:** Click to configure Wide Dynamic Range or High Light Control.

**Step 3.** Copy the image settings to other channels by clicking Copy on the bottom of the windows.

**Step 4.** Select Apply to save the settings.

### 3.6 Storage

**Preparation for Record**

**Step 1.** Ensure your NVR has been installed and the HDD has been initialized, please check it on “Storage” -> “Disk” interface.

**Step 2.** Ensure that the HDD has sufficient storage space.

Enable [Recycle Mode] in the case of insufficient capacity of storage device on Storage -> Disk Management -> Advanced Settings interface.
3.6.1 Record Schedule

Step 1. Select channel.
Step 2. Set record schedule.
Method 1: Click **Edit** to edit schedule. Select Day, Record Type and Time to finish editing.

Method 2: Select operation type: Continuous, Event (Motion and Alarm) or Erase. Then drag a square in the time table to set record effective time. It is convenient for you to set or clear all corresponding schedule by clicking **Select All** or **Clear All**.
Step 3. Click **Copy** to copy the same record configuration to other channels.

**Batch Settings**

Step 1. Click **Batch Settings** to enter Batch Settings interface.
Step 2. Select channels and click **Start Record** to start always record.
Step 3. Select channels and click **Stop Record** to stop record.
3.6.2 Record Settings

**General Settings**
Make general configuration for selected channels. Click \[Copy\] to copy the same configuration to other channels.

**Channel:** Select the channel which will be set.

**Pre Record:** Event pre-record duration time. It will start recording before the event is triggered.

**Post Record:** Event post-record duration time. It will keep recording after the event is over.

**Audio Record:** Select to record audio or not.

**Record Stream Type:** Select Main stream or sub stream for record. Primary+Secondary Stream is available for NVR model ends with T only.

**Due Time:** Set the due time of recording files, 1~120days or unlimit are available.

![Image of Record Settings]

**Advanced Settings**
Enable or disable Recycle Mode for all storage device.
3.6.3 Disk

**Network Disk**

NAS (Network-Attached Storage) should be available within the network and properly configured to store the recorded files and snapshots. You can click and then input corresponded NAS information to add NAS.

**Note:**

1. NAS with NFS format is the only type for network disk adding.
2. It’s recommended to use Hard Disk rather than Network Disk.

Select a storage device and click **initialize** to initialize it, edit the Property by clicking **.**

After that the storage device will be ready.
HDD Type: RAID means RAID, NAS means network attached storage while LOCAL means normal disk mode.

3.6.4 RAID

RAID (Redundant Array of Independent Disks) is a storage technology that combines multiple disk drive components into a logical unit. A RAID setup stores data over multiple hard disk drives to provide enough redundancy so that data can be recovered if one disk fails.
Step1. Enable RAID. NVR will reboot after enabling.
Step2. Select HDD and click Create or Quick Create to create a new array. New array will be available after a while.

**Hot Spare**: A disk can be used as the hot spare for any array created in the system.

**Rebuild**: When the array is in Degraded status, the device can start rebuilding the array automatically with the hot spare disk to ensure the high security and reliability of the data.

**Note:**
1. RAID only available for 4K H.265 NVR 7000/8000 Series and 4K H.265 PoE NVR 7000 Series.
2. RAID capacity can not larger than 16TB.
3. Quick Create only for RAID5.
3.6.5 Group

You can divide disks into different groups, which is able to storage different channels’ recorded files into different groups.

Step 1. Enable Group.

Step 2. Switch to Disk interface. Click and set the group number of every disk.

Note:
You can add 16 groups at most.

Step 3. Select group and channels which you want to record into this group.
3.7 Event

3.7.1 Motion Detection

**Step 1. Enable Motion Detection.**
Select channel, Sensitivity and click to enable Motion Detection.

**Step2: Set the area for triggering motion detection.**
You can set the area by dragging a square on live view window.
Note:
The motion detection area will be synchronized to Camera.

Step 3. Set Effective Time of motion detection by clicking.
It will be more convenient by clicking to set or clear all time settings.

Step 4. Set Action for motion detection alarm by clicking.
Audible Warning: NVR will trigger an audible beep when motion is detected.
The user can set effective schedule as following two ways:
1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
2. Click to edit record effective time manually.

Trigger Interval: The effective interval between two actions when event triggered.
**Email Linkage:** NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking 
   - Select All
   - Clear All
   to set or clear all time settings.

2. Click 
   - Edit Time
   to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered.

You can set display duration time of all triggered channel in ‘Settings’->‘General’->’Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.

**Alarm Output:** Trigger alarm output when alarm is triggered.
**Others:** Trigger other channels record when alarm is triggered.

**Step 5.** Click [Copy] and [ ] to copy the same configuration to other channels.

3.7.2 Video Loss

**Step 1.** Select a channel.
Step 2. Set Action for video loss by clicking  

**Audible Warning:** NVR will trigger an audible beep when motion is detected.

The user can set effective schedule as following two ways:
1. Select the operation type: Email or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking  or  to set or clear all time settings.
2. Click  to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

![Time Table Diagram]

**Email Linkage:** NVR will send an email to the address you set before.

User can set effective schedule as following two ways:
1. Select the operation type: Email or Erase. Then drag a rectangle on the time table for time setting, it will be more convenient by clicking  or  to set or clear all time settings.
2. Click  to edit record effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

![Time Table Diagram]

**Alarm Output:** Trigger alarm output when alarm is triggered.
Step 3. Click [Copy] and [ ] to copy the same configuration to other channels.

3.7.3 Alarm Input

Alarm Input function is supported by MS-N5008-UT, MS-N5016-UT, MS-N7016-UH, MS-N7032-UH, MS-N8032-UH, MS-N8064-UH, MS-N5008-UPT, MS-N5016-UPT, MS-N7016-UPH and MS-N7032-UPH.

Step 1. Set Alarm input Number, Alarm Name and Alarm Type.

- **Alarm Input No.:** The channel which has input signal.
- **Alarm Name:** Set a name for the alarm.
- **Alarm Type:** Choose NO or NC alarm type for the alarm.

Step 2. Set action for alarm input by clicking [ ].

- **Channel Record:** Start recording when alarm is triggered.
**Trigger Channels Record:** Trigger selected channels to record when alarm is triggered.

**Copy to Channels:** Copy record schedule to other channels by clicking **Copy to Channels**.

**Audible Warning:** NVR will trigger an audible beep when alarm is triggered. User can set effective schedule as following two ways:
1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.
2. Click **Edit Time** to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before. User can set effective schedule as following two ways:
1. Select the operation type: Email or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.
2. Click **Edit Time** to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Trigger Channels Snapshot:** The snapshot of selected channels will be sent when alarm is triggered.
**PTZ Action**: Trigger PTZ action when alarm is triggered. PTZ action includes **Preset and Patrol**.
User can set effective schedule as following two ways:
① Select the operation type: Email or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.
② Click **Edit Time** to edit record effective time manually.

**Alarm Output**: Trigger alarm output when alarm is triggered.

**Step 3**: Copy alarm input settings to other input interface by clicking **Copy**.
3.7.4 Alarm Output

Alarm Output function is supported by MS-N5008-UT, MS-N5016-UT, MS-N7016-UH, MS-N7032-UH, MS-N8032-UH, MS-N8064-UH, MS-N5008-UPT, MS-N5016-UPT, MS-N7016-UPH and MS-N7032-UPH.

Step 1. Set Alarm output channel, Alarm Name, Alarm Type and Record Channels.

**Alarm Output No.** : The channel which will output the alarm signal.
**Alarm Name** : Set a name for the alarm.
**Alarm Type** : Choose NO or NC alarm type for the alarm.
**Dwell Time** : The output time for alarm. If the output alarm lasts too long, you can select the Manually Clear to stop it.

Step 2. Select effective Time for alarm output.
The user can set effective schedule as following two ways:

1. Select the operation type: AlarmOut or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.

2. Click **Edit Time** to edit record effective time manually.

Step 3: Copy alarm output settings to other output interface by clicking **Copy**.

3.7.5 Exception

Step1. Select Exception Type.
Network Disconnected: Loss of network.
Disk Full: Disk full. It usually happens when recycle Mode is OFF.
Record Failed: Recording fails, including HDD Failed, HDD Full and so on.
Disk Error: Failed to recognize HDD.
Disk Uninitialized: Disk is uninitialized.
No Disk: There is no storage device.

Step2. Select normal linkage includes Event Notification, Audible Warning and Email Linkage.
Event Notification: You will got a notification in Live View if an alarm is triggered.
Audible Warning: NVR will trigger an audible beep.
Email Linkage: An alarm Email will be sent if an alarm is triggered.

3.7.6 Smart Event

Smart Event uses Milesight Video Content Analysis technology which is applied in a wide range of domains including entertainment, health-care, retail, automotive, transport, home automation, safety and security. Milesight VCA provides advanced, accurate smart video analysis for Milesight network cameras. It enhances the performance of network cameras through 8 detection modes which are divided into basic function and advanced function, enabling the comprehensive surveillance function and quicker response of cameras to different monitoring scenes.

Note:
Please input license of selected channel in Settings page to activate Smart Event first.

Region Entrance
Region entrance helps to protect a specific area from potential threat of suspicious person’s or object’s entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.
Step 1. Select channel and enable Region Entrance.

Step 2. Set entrance detection region.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking

Step 3. Set Effective Time of region entrance by clicking

NVR receives the alarm when effective time has been set. It will be more convenient by clicking

Step 4. Set Action for region entrance alarm by clicking
**Audible Warning:** NVR will trigger an audible beep when region entrance is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking [Select All] or [Clear All] to set or clear all time settings.

2. Click [Edit Time] to edit record effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

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**Email Linkage:** NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking [Select All] or [Clear All] to set or clear all time settings.

2. Click [Edit Time] to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

---

**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered.

You can set display duration time of all triggered channel in ‘Settings’->‘General’->‘Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.
**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.

**Region Exiting**
Region exiting is to make sure that any person or object won’t exit the area that is being monitored. Any exit of people or objects will trigger an alarm.
Step 1. Select channel and enable Region Exiting.

Step 2. Set exit detection region.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and Clear All.

Step 3. Set Effective Time of region exiting by clicking Edit.
NVR receives the alarm when effective time has been set. It will be more convenient by clicking Select All or Clear All to set or clear all time settings.

Step 4. Set Action for region exiting alarm by clicking Edit.
**Audible Warning:** NVR will trigger an audible beep when region exiting is detected. The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking [Select All] or [Clear All] to set or clear all time settings.
2. Click [Edit Time] to edit record effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

---

**Email Linkage:** NVR will send an email to the address you set before. The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking [Select All] or [Clear All] to set or clear all time settings.
2. Click [Edit Time] to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

---

**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered. You can set display duration time of all triggered channel in ‘Settings’ -> ‘General’ -> ‘Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.
**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.

**Advanced Motion Detection**
Different from traditional motion detection, Milesight advanced motion detection can filter out “noise” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger alarm.

**Step 1.** Select channel and enable Advanced Motion Detection.
Step 2. Set advanced motion detection region.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won’t trigger the alarm.

Step 4. Set Effective Time of advance motion detection by clicking
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or
to set or clear all time settings.
Step 5. Set Action for advanced motion detection alarm by clicking ![Edit Button].

**Audible Warning:** NVR will trigger an audible beep when advanced motion is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking ![Select All] or ![Clear All] to set or clear all time settings.
2. Click ![Edit Time] to edit record effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

![Effective Time Diagram]

**Email Linkage:** NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking ![Select All] or ![Clear All] to set or clear all time settings.
2. Click ![Edit Time] to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered. You can set display duration time of all triggered channel in ‘Settings’->’General’->’Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.

**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.
**Tamper Detection**

Tamper Detection is used to detect possible tampering like the camera being unfocused, obstructed or moved. This functionality alerts security staff immediately when any above-mentioned actions occur.

**Step 1. Select channel and enable Tamper Detection.**

**Step 2. Set Sensitivity.**

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won’t trigger the alarm.

**Step 3. Set Effective Time of tamper detection by clicking .**

NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.
Step 4. Set Action for tamper detection alarm by clicking **Edit**.

**Audible Warning**: NVR will trigger an audible beep when tamper is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.

2. Click **Edit Time** to edit record effective time manually.

**Trigger Interval**: The effective interval between two actions when event triggered.

**Email Linkage**: NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.

2. Click **Edit Time** to edit effective time manually.

**Trigger Interval**: The effective interval between two actions when event triggered.
**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered. You can set display duration time of all triggered channel in 'Settings'->'General'->'Event Popup Duration Time'. Then triggered channel will be shown one by one as duration time.

**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.
**Line Crossing**

Line Crossing detection is designed to work in most indoor and outdoor environment. An event will be triggered every time when the camera detects objects crossing a defined virtual line. Settings steps are shown as follows:

**Step 1. Select channel and enable Line Crossing.**

**Step 2. Choose detection line number and define its direction.**

It allows to set up to four lines at a time. There are three direction modes to choose for triggering alarm. “A→B” means when there is any object crossing the line from the “A” side to the “B” side, the alarm will be triggered. “B→A” vice versa. “A ↔ B” means that the alarm will be triggered when objects cross line from either side.

**Step 3. Draw detection lines.**
Step 4. Set Effective Time of line crossing by clicking .

NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.

Step 5. Set Action for line crossing alarm by clicking .

**Audible Warning:** NVR will trigger an audible beep when line crossing is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.

2. Click to edit record effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Email Linkage:** NVR will send an email to the address you set before. The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking `select All` or `clear All` to set or clear all time settings.

2. Click `Edit Time` to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered. You can set display duration time of all triggered channel in ‘Settings’->‘General’->’Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.

**Alarm Output:** Trigger alarm output when alarm is triggered.
### Others

When an alarm is triggered, other channels can record the event.

### Loitering

When objects are loitering in a defined area for a specific period of time, it will trigger an alarm.

**Step 1. Select channel and enable Loitering.**
Step 2. Set Loitering detected region.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and .

![Channel: 1 Name: CAM1]

After setting minimum loitering time from 3s to 300s, any objects loitering in the selected area over the minimum loitering time will trigger the alarm. Also Milesight loitering allows to set “Object Size”. Only the object bigger than the set size will trigger the alarm.

![Min. Loitering Time (3-300s)]

![Object Size]

Step 4. Set Effective Time of loitering by clicking .
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.

![Effective Time]

Step 5. Set Action for loitering alarm by clicking .
**Audible Warning:** NVR will trigger an audible beep when loitering is detected.
The user can set effective schedule as following two ways:
① Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
② Click to edit record effective time manually.
**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking [Select All] or [Clear All] to set or clear all time settings.
2. Click [Edit Time] to edit effective time manually.

**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered.

You can set display duration time of all triggered channel in ‘Settings’->’General’->’Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.
**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.

**Human Detection**

Human detection is used for figuring out whether an object is a human or not.

**Step 1.** Select channel and enable Human Detection.

**Step 2.** Enable Show Tracks or not.
Step 3. Set Effective Time of human detection by clicking **Edit**.

NVR receives the alarm when effective time has been set. It will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.

![Effective Time](image)

Step 4. Set Action for human detection alarm by clicking **Edit**.

**Audible Warning:** NVR will trigger an audible beep when human is detected.

The user can set effective schedule as following two ways:

1. Select the operation type: Audible or Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.
2. Click **Edit Time** to edit record effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.

![Action](image)

**Email Linkage:** NVR will send an email to the address you set before.

The user can set effective schedule as following two ways:

1. Select the operation type, Email and Erase. Then drag a square on the time table for time setting, it will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.
2. Click **Edit Time** to edit effective time manually.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Event Popup:** Trigger alarm screen popup to full screen when alarm is triggered. You can set display duration time of all triggered channel in ‘Settings’->’General’->’Event Popup Duration Time’. Then triggered channel will be shown one by one as duration time.

**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.
**People Counting**

People counting is able to count that how many people enter or exit during the setting period.

**Step 1. Select channel and enable People Counting.**

**Step 2. Set counting OSD.**

It shows the number of counted people, including in and out number. Besides, you can clear count by clicking [Clear].

**Note:**

1. To enable people counting, human detection should be enabled first.
2. Crossing along the direction of the arrow will record as “In”, opposite is “Out”.

**Step 3. Draw detection line.**
**Settings:**
Milesight VCA provides the primary setting for the whole VCA functions. **Draw Min.** is to set the whether an object is big enough to trigger other settings. The frame you draw on the screen means that only if the object size is bigger than the frame, the settings for other VCA functions will take effect. **Draw Max.** means opposite, the frame you draw on the screen stands for that only if the object size is smaller than the frame, the settings for other VCA functions will take effect.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process FPS</strong></td>
<td>Five different periods are available(5, 10, 15, 20, 25, fps) for process fps</td>
</tr>
<tr>
<td><strong>Scenario Mode</strong></td>
<td>Select <strong>Indoor</strong> or <strong>Outdoor</strong> mode to meet your needs</td>
</tr>
<tr>
<td><strong>Camera Installation</strong></td>
<td>Select camera installation view, including <strong>Angle View, Horizontal View</strong> and <strong>Overhead View</strong></td>
</tr>
<tr>
<td><strong>Analysis Type</strong></td>
<td>Select <strong>Standard</strong> or <strong>Advanced</strong> analysis type</td>
</tr>
<tr>
<td><strong>License</strong></td>
<td>Generated by camera’s information</td>
</tr>
</tbody>
</table>
3.8 Settings

3.8.1 General

It is for setting up the general parameters of NVR, including Device Name, Device ID, HDMI Resolution, Language, System time, etc.

Event Popup Duration Time: The display duration time for Motion Detection popup screen.

Boot Wizard: Enable it to pop up boot wizard after rebooting.

Local Authentication: Enable it to authenticate the user after rebooting.

Menu Authentication: Enable it to authenticate the user every time when you click menu.

Settings Page Timeout: The interface will switch to Live View automatically according to the time you set.

3.8.2 Network

3.8.2.1 Basic

The system supports two IP address format: IPv4 and IPv6

IPv4

Enable IPv4 DHCP to auto search IP. When enable DHCP function, you can not modify IP/ Subnet mask/ Gateway.

Disable IPv4 DHCP to modify IP/ Subnet mask/ Gateway manually.

IPv6

Manual/ Router Advertisement/ DHCPv6 are available.

DNS Server
Preferred DNS Server: DNS server IP address.
Alternate DNS Server: DNS server alternate address.

**Note:**
1. Check the DHCP check-box when there is a DHCP server running in the networks.
2. The valid range of MTU is 500~9676.
3. Do not input an IP address conflicting with another device.
4. Working mode option is only for NVR 7000/8000 Series. Internal NIC IPv4 Address is only for PoE NVR Series.

### 3.8.2.2 UPnP

With the function enabled, you don’t need to configure the port mapping for each port in router, it will do the port mapping in router automatically once router supports UPnP.

### 3.8.2.3 DDNS

Using DDNS to solve the dynamic IP address problem.
Check DDNS check-box to enable it, then select a DDNS Server and input the user name, password and host name. Do not forget to save the configuration.
Milesight has its own DDNS server. Please do port forwarding for HTTP port and RTSP port before enabling Milesight DDNS. Then input corresponding information and you can use http://ddns.milesight.com:MAC to access device remotely.

**Note:**

“Host Name” must begin with letters, and it can only contain number, letters, and hyphen.
3.8.2.4 Email

A screenshot will be sent to the receivers when alarm is triggered.

User name: The E-mail address you choose to send emails. Please input full email address.
Password: The password of the E-mail.
SMTP Server: The SMTP Server of your E-mail.
SMTP Port: The port of SMTP Server. It’s usually 25.
Sender Email Address: It must be same as [User name].
Receiver Email Address: E-mail Address for the receivers.
Encryption: Security Protocol of email sending, including TLS and SSL.
Host Name: It will be attached in the email.

Select Test to check if the Mail function is workable.

Note:
If your NVR has a port forwarding IP for Host Name, please input the complete address that contains the port.

3.8.2.5 P2P

You can watch remote NVR live view in WAN by P2P on M-Sight Pro without doing port
forwarding on router.
Click “Enable” and “Save” to enable P2P.

**P2P is enabled successfully when P2P Status shows “Activated”**.
After enabling, you can add the NVR on the APP M-Sight Pro for live view via scanning the QR code on the “P2P” page directly, or inputting the MAC address manually.

There are several status shows on P2P Status after clicking Saving, please check corresponded possibilities below:

<table>
<thead>
<tr>
<th>P2P Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network unavailable</td>
<td>Failed to connect with internet</td>
</tr>
<tr>
<td>Authentication request failed</td>
<td>Failed to authenticate P2P encryption</td>
</tr>
<tr>
<td>No idle UUID</td>
<td>Please contact Milesight if this status shows up</td>
</tr>
<tr>
<td>Activated</td>
<td>P2P is available</td>
</tr>
<tr>
<td>Login failed</td>
<td>Failed to login P2P server</td>
</tr>
<tr>
<td>Initialization failed</td>
<td>Failed to initialize P2P</td>
</tr>
<tr>
<td>Unactivated</td>
<td>P2P is disabled</td>
</tr>
<tr>
<td>Unknown error</td>
<td>Other error</td>
</tr>
</tbody>
</table>

**Note:**
1. Please make sure that NVR is available for internet before enabling.
2. If your NVR firmware version is not 7x.7.0.9-r2 or above, please contact Milesight to registered P2P first.

**3.8.2.6 SNMP**

SNMP is an abbreviation of Simple Network Management Protocol, which is convenient for NVR to be monitored and managed in the whole network environment. The SNMP is widely used in many network devices, software and systems.
Before setting the SNMP, please download the SNMP software and manage to receive the NVR information via SNMP port. By setting the Trap Address, the NVR can send the alarm event and exception messages to the surveillance center.
SNMP v1/2c/3: The version of SNMP. Please select the version of your SNMP software.
- SNMP v1: No security protection
- SNMP v2c: Require password for access
- SNMP v3: Support encryption on the premise that the HTTPS protocol must be enabled.

Read Community: Input the name of Read Community
Write Community: Input the name of Write Community
Read Security Name: Input the name of Read Security Community
Level of Security: There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv)
Write Security Name: Input the name of Write Security Community
Level of Security: There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv)

SNMP Port: The default of the SNMP port is 161.

3.8.2.7 More

SSH
Enable or disable SSH access. Secure Shell (SSH) has many functions; it can replace Telnet, and also provides a secure channel for FTP, POP, even for PPP.

SSH Port
The default SSH port is 22. Only for Milesight R&D debugging.

HTTP Port
The default HTTP port is 80. Please modify HTTP ports according to actual application.

Note:
1. The default HTTP port for IE browser is 80.
2. HTTP port is used for remote network access for 4k/H.265 NVR Series.

HTTPS Port
The default HTTPS port is 443. Please modify HTTPS ports according to actual application.

**Note:**
1. The default HTTPS port for IE browser is 443.
2. HTTPS port is used for remote network access for 4k/H.265 NVR Series.

**RTSP Port**

Real Time Streaming Protocol (RTSP) is an application layer protocol in TCP/IP protocol system. The default RTSP port is 554. Please modify RTSP port according to actual application.

**Note:**
1. RTSP port is used for remote network live view.
2. RTSP port valid range is 554 or 1024~65535.

**Push Message**

With this option enabled, you can receive the alarm message on the mobile application.

**Push Video Stream**

Select which video stream will be pushed to APP M-Sight Pro. Auto, Primary Stream and Secondary Stream are available.

**Note:**
Only NVR model ends with letter T support this option.

**Push Event Type**

Select which alarm type will be pushed to APP M-sight Pro. It includes Motion Detection, Video Loss, Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering and Human Detection.

### 3.8.3 Holiday

It can configure the record or image capture schedule for holidays of the current year.

Click 🗓️ to edit holiday information, including Holiday Name, Holiday Enable, Style, Start Date and End Date. Then click OK to save the configuration.
3.8.4 User

Note:
1. If the NVR firmware version is below xx.7.0.6, the default user name is “admin” and the default password is “123456”.
2. If the NVR firmware version is between xx.7.0.6 and xx.9.0.3, the default user name is “admin” and the default password is “ms1234”.
3. If the NVR firmware version is xx.9.0.3 or above, please set the password before login.

Add a new user
Click [Add], then input user information and click [OK] to add a new user.
Note:
The user name can only contain letters and number. There are two user levels with different authority: Operator and Viewer.

**Edit user limits**

Select a user, when the background color changes into dark gray, click **OK** to edit user privileges.

① Local Privilege means that the privilege to the monitor connected with NVR.

② Remote Privilege means that the privilege to web settings.

**Edit user password**

Select a user, when the background color changes into dark gray, click **OK** to modify password.

Sync new password to current connected PoE channels is available for PoE NVR Series.
**Delete user**

Select a user and click ![Delete icon] to delete a user.

**Modify Security Question**

Input Admin Password, select security question and answer. Click ![OK button] to save.

**Note:**

1. This option is available for the NVR firmware version xx.9.0.3 or above.
2. Security question is used for resetting admin password if you forget current one.

**3.8.5 Maintenance**

**Upgrade**

*Step 1.* Search for USB device, and select the corresponding firmware.

*Step 2.* Check if you need to reset settings to factory default (except IP Address and User Information) after upgrade.

*Step 3.* Click ![Upgrade button] confirm the upgrade.
Note:
The system will auto reboot after confirming upgrade.

Save/Load Configuration

Save Configuration: Select a folder and then click backup to export configuration to USB device.

Load Configuration: Select a .cfg file and then click Restore to import configuration to your NVR.

Reset

All parameters can be reset to default settings by clicking Reset.
3.8.6 Auto Reboot

You can set day and time for reboot, and **the NVR will reboot automatically at the time you set.**
- **Day:** Everyday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday.
- **Time:** 00:00, 01:00, 02:00 , ..., 22:00, 23:00.

3.8.7 Hot Spare

Configured as the architecture of **N pcs Master NVRs and 1 hot spare Slave NVR**, Milesight N+1 Hot Spare guarantees the data integrity and reliability of video surveillance system. If any one of the Master NVRs fails, the Slave NVR can take over the channel information to ensure video recording. Meanwhile, when the failed NVR recovered, the Slave NVR will send the recorded data back.

**Master Mode:**
- **Step 1:** Select Master Mode as Hot Spare Mode.
- **Step 2:** Input Slave IP Address, Slave Admin Password and Apply.

**Slave Mode:**
- **Step 1:** Select Slave Mode as Hot Spare Mode and click Apply. NVR will change to Slave mode successfully after rebooting.
- **Step 2:** Add Master which is up to 32.

For example, there are three NVRs in LAN, 192.168.5.200, 192.168.5.201 and 192.168.5.202. If you want to set 192.168.5.200 and 192.168.5.201 as Master NVR, and set 192.168.5.202 as Slave NVR. You can operate as following steps.
1. Set 192.168.5.200 and 192.168.5.201 to Master Mode. And then input the IP and account information of 192.168.5.202 as Slave.

2. Set 192.168.5.202 to Slave Mode. And then add 192.168.5.200 and 192.168.5.201 to its Master List.

After Master and Slave match successfully, Hot Spare function begins to work.

---

**Note:**

1. Only MS-N7016-UH, MS-N7032-UH, MS-N8032-UH and MS-N8064-UH support N+1 Hot Spare function.

2. It is recommended to set Master NVR and Slave NVR up with the same NVR model.

---

### 3.9 Status

You can have a quick view of the information of the device, network, camera, disk and event. This part is only for your rapid reference. If you want to make any configuration, please go to corresponding parts accordingly.

### 3.9.1 Device Information

Device Information include Model, MAC Address, Hardware Version, Software Version, and Uptime.
3.9.2 Network Status

Network Status includes three main parts: Network Status and Bandwidth Status.

Network Status

Bandwidth Status

3.9.3 Camera Status

Camera Status includes Channel, Name, IP Address, Record, Frame Rate, Bit Rate, Frame Size and Status.
The **PoE Port Status** is only for PoE NVR, it will show you the current power and connection status of PoE ports.

### 3.9.4 Disk Status

**Disk Status**

Disk Status includes Port, Vendor, Status, Total(GB), Free(GB), HDD Type and Group. The user can see the Total Capacity (GB) and Available Capacity (GB) as well.

**S.M.A.R.T**

S.M.A.R.T is a monitoring system of HDD that detects anticipating failures of HDD and reports them with various indicators.

- **Test Type:** Fast and Full are available.
- **Self-evaluation:** If the HDD is in good condition, it will pass the self-evaluation.
3.9.5 Event Status

**Camera Event**

The user can check Camera Event here, including Video Loss, Motion and I/O.  

when the corresponding alarm is triggered.

**Alarm**

The user can check Alarm Input and Output list here if NVR has corresponded interface.  

will turn into  when the corresponding alarm is triggered.
**Smart Event**

It shows the Smart Event status. 🚨 turns into ⚠️ when alarm is triggered.

**People Counting**

It shows every camera’s current In/Out number of people counting.
3.9.6 Group Status

Check Group Status. The status of the all created Groups can be sorted by Group or Channel.

3.9.7 Logs

The user can check, search and export logs in Logs interface. By selecting the Start Time, End Time, Main Type and Sub Type, which can narrow down the scale of logs, you can search for logs that you need.

Click Export to export searched logs to media device.
3.10 Logout

**Logout**: Exit the current login account.

**Reboot**: Restart the NVR.

**Shutdown**: Close the NVR.
4. WEB Settings

4.1 Account Setting

**Note:**
Only the NVR firmware version xx.9.0.3 or above supports account activation.

**Step1. Set password to active admin account.**

![Activation](image)

**Note:**
1. Password must be 8 to 32 characters long.
2. Password must contain at least one number and one letter.

**Step2. Set security questions which are used for resetting password to finish account setting.**
10 questions are provided, you can select any one to set answer. Beside, customized question is available.
If you skip this step, you can also set it again in Setting -> User interface.

![Security Question Setting](image)
4.2 Login

Select Language on the top-right of interface.
Input the user name, password and click Login to login NVR web page.

If you forget the password, click to reset password (Only the NVR firmware version xx.9.0.3 or above supports this.).

Note:
1. If the NVR firmware version is below xx.7.0.6, the default user name is “admin” and the default password is “123456”.
2. If the NVR firmware version is between xx.7.0.6 and xx.9.0.3, the default user name is “admin” and the default password is “ms1234”.
3. If the NVR firmware version is xx.9.0.3 or above, please set the password before login.
4.3 Menu

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Hide or show secondary menu</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Live view</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Play back the video</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Make settings for Camera, Record, Event and System</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Check Device Information, Network Status, Camera Status, Disk Status and Event Status</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Check all operation logs</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Log out NVR</td>
</tr>
</tbody>
</table>

4.4 Live View

4.4.1 Camera List

List and play added cameras on Camera List page.

Select one window one camera to play. Or click ➡️ to get all cameras’ live video.
Icons’ descriptions of Live View

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎥</td>
<td>Play Primary Stream</td>
<td>🎥</td>
<td>Play Secondary Stream</td>
</tr>
<tr>
<td>🖍️</td>
<td>Save View</td>
<td>🖍️</td>
<td>Play default view</td>
</tr>
<tr>
<td>🎥</td>
<td>Full screen</td>
<td>🎥</td>
<td>1 screen mode</td>
</tr>
<tr>
<td>🎥</td>
<td>4 screens mode</td>
<td>🎥</td>
<td>8 screens mode</td>
</tr>
<tr>
<td>🎥</td>
<td>9 screens mode</td>
<td>🎥</td>
<td>16 screens mode</td>
</tr>
<tr>
<td>⬅️</td>
<td>Previous page</td>
<td>⬅️</td>
<td>Next page</td>
</tr>
<tr>
<td>⬅️</td>
<td>Stop all live view</td>
<td>⬅️</td>
<td>Start all live view</td>
</tr>
<tr>
<td>🔍</td>
<td>Digital zoom</td>
<td>🔍</td>
<td>Snapshot</td>
</tr>
<tr>
<td>🎥</td>
<td>Record</td>
<td>🎥</td>
<td>Audio on</td>
</tr>
<tr>
<td>🔊</td>
<td>Audio off</td>
<td>🔊</td>
<td>Original Image</td>
</tr>
<tr>
<td>🌱</td>
<td>Resize Image</td>
<td>🌱</td>
<td></td>
</tr>
</tbody>
</table>

And there are multiple icons on each channel displayed in live view, indicating video loss and alarm status of the channel.
It indicates video loss

It indicates motion detection alarm

It indicates smart event alarm

4.4.2 PTZ

For PTZ cameras, you can operate PTZ, Preset, Patrol and Pattern on PTZ page directly.

For the Fisheye camera, select a Fisheye channel, and you can operate PTZ, Preset and Patrol of this channel separately.

**Note:**

Only for Milesight Fisheye Camera with Bundle-Stream Mode.

4.4.3 Image Configuration

Adjust image Brightness, Contrast, Saturation, Sharpness and Noise Reduction Level on Image Configuration page.
4.5 Playback

To play and backup the recorded files.

4.5.1 How to playback

Step1. Select channel you want to do playback.
Step2. Select Stream Type, including Primary Stream and Secondary Stream.
Step3. Select Date.
Step4. Click to play.

Note:
Only the day with a red mark means that there are recorded files.
Video Playback Tool Bar Description

The tool bar can display multi-event record. It shows that in this record period what kind of event has happened. The symbolic meaning of each color is shown below:

**Blue** — Timing
**Red** --- Event

And take this bar above as an example, it means in this recording period, timing have been triggered.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Descriptions</th>
<th>Icons</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 screen mode</td>
<td></td>
<td>4 screens mode</td>
</tr>
<tr>
<td></td>
<td>Speed Down</td>
<td></td>
<td>Play</td>
</tr>
<tr>
<td></td>
<td>Pause</td>
<td></td>
<td>Stop</td>
</tr>
<tr>
<td></td>
<td>Forward Step</td>
<td></td>
<td>Speed Up</td>
</tr>
<tr>
<td></td>
<td>Transcoding</td>
<td></td>
<td>Digital Zoom</td>
</tr>
<tr>
<td></td>
<td>Snapshot</td>
<td></td>
<td>Backup</td>
</tr>
<tr>
<td></td>
<td>Audio On</td>
<td></td>
<td>Audio Off</td>
</tr>
<tr>
<td></td>
<td>Original Image</td>
<td></td>
<td>Resize Image</td>
</tr>
</tbody>
</table>
4.5.2 Transcoding

With transcoding function, remote playback will have a better performance no matter what network environment is.

**Step1.** After successfully search out or play video, select the channel you want to transcoding and click to expand transcoding panel.

![Transcoding Panel]

**Step2.** Set Transcoding parameters.
Set Transcoding, Frame Size, Bitrate and Frame Rate according to the network situation. The worse network situation, the lower transcoding parameter.

**Step3.** Click to make transcoding take effect.

4.5.3 Video Files Backup

Recorded files can be cut and backed up from WEB.

**Step1.** In playback interface, select camera, stream type, the date and time to search record video.

![Playback Interface]

**Step2.** Select Recorded files for Backup.

Click , then select start time and end time by dragging the vertical line on the time bar.
Step 3. Backup the recorded files.

Click  to select file path, then click  to back up recorded files.

4.5.4 Picture Files Backup

Step 1. Browse a playback picture path in Local Configuration interface.

Step 2. Click  to save the picture during video playback. Then the backup picture can be found in the files path you set before.
Note:
It is recommended to run browser as administrator before getting playback snapshot.

4.6 Settings

4.6.1 Local Configuration

Local Configuration includes Record File Path, Preview Picture Path, Playback Preview Path, Connection Type, Play Mode and Primary Stream When Fullscreen option.

4.6.2 Camera

Before configuration, please ensure that camera is connected to the same network as your NVR and the network setting for your NVR is properly setup.
4.6.2.1 Camera Management

Step 1. Add Camera.

Method 1. Add IP Channel in Device Search interface. ‘Settings’ → ‘Camera’ → ‘Device Search’.

1. Select IP Range, NIC and Protocol, which includes ALL, ONVIF and MSSP.

MSSP: You can search out all Milesight camera which has different network segment in the LAN.

2. Click to search cameras at the same network segment with NVR.

3. Select one channel, click button, input password and click to finish.
3. Or you can check ☑️ to **batch adding** the network cameras if they are of the same password, and you can choose TCP or UDP transport protocol for it. Click ✅ to finish batch adding.

**Note:**

1. If camera status shows inactive, please click ✅ to active it first.
2. The steps for adding the **third party PoE cameras** plugged into Milesight PoE NVR:
   ① Set camera’s IP segment to the same as NVR PoE NIC before plugging into PoE NVR;
   ② Select PoE for NIC in Device Search interface, click ✅ to search out cameras;
   ③ Select cameras and click ✅ to add them.

**Method2. Add camera through camera management interface.**

‘Settings’ → ‘Camera’ → ‘Camera Management’.

Select channel id, input complete information, then click ✅ button. There are three protocols available for camera connection:

- **ONVIF:** You can add any IP cameras with ONVIF protocols.
- **RTSP**: You can add any IP cameras with RTSP protocol streams (Port: 554). It needs you to input complete resource path of the IP camera to add it. Take Milesight device for example, the resource path of main stream is “rtsp://IP:port/main” and second stream is “rtsp://IP:port/sub”.

- **MSSP**: You can add Milesight cameras which are in the same LAN with this protocol.

### Step 2. Check the connection status.
After adding the IP channels, click on Camera Management interface, then appears under Status. If it doesn’t appear, you need to check if the network is connected or whether the user name, password is correct or not.

### Step 3. Configure IP Channel.
**Configure one camera**
After successfully adding the channel, click to re-edit the channel info.

Select [Parameters] page to re-edit this channel parameters. Click to save the configuration.
You can delete this channel by clicking , or you can select multiple devices and then click to delete.

### Batch configuring camera

Click , select multiple channels and set cameras parameters.

### Note:
The user name and password entered here are the default user name and password. The management port is 80 and the default Transport protocol is UDP.

**Step5. Configure PoE Channel (Only for PoE NVR)**
1. Connect Milesight camera to PoE port, it will detect the camera automatically.
2. If the camera's password is the same with NVR admin password, it will be successfully authenticated and be changed into the same network segment with internal NIC IPv4 address, then the camera will be connected successfully.
3. If the camera's password is different with NVR admin password, the PoE channel will show disconnect status. You need to input the camera's password by clicking to realize authentication (you can also multi-select the devices and then click this button). Then the camera will be changed into the same network segment with internal NIC IPv4 address and will be successfully connected. In next time, NVR will use the password you input to authenticate this camera when you re-plug it;
4. You can access to PoE-connected cameras website directly by clicking , which can save much steps to configure cameras with complete settings which were unavailable.

**Note:**
① Please enable Channel Access in Network->More first;
② Please select HTTP as transport protocol for PoE-connected cameras;
③ Please upgrade the NVR firmware version to xx.8.0.6 or above.

**4.6.2.2 Device Search**
Select Protocol and NIC, set the IP range, then click **Search** to quickly search the IP devices that support selected protocol at the same LAN with NVR.

If the camera status shows Inactive, please select camera and click **Activate** to active it first before adding to NVR.

Besides, you can select channels and click **IP Edit** to batch editing their IP information.

### 4.6.2.3 PTZ Configuration

Select a channel and set the PTZ parameters. You can select [Copy to Camera] to copy the same configuration to other channels.

**Note:**
1. The PTZ protocol and address of IP channel must be consistent with those of the PTZ decoder.
2. Settings for a PTZ camera must be configured before it can be used. Make sure that the PTZ and RS-485 of the NVR are connected properly.

**4.6.2.4 Privacy Mask**

Milesight NVR support to set privacy masks. It is used to cover some privacy area which is not proper to appear on monitor.

You can add a privacy mask by following steps:

**Step1. Select channel and enable privacy mask.**
**Step2. Set the privacy mask type and drag the mouse to select the area which is privacy on the live window. You can add 4 areas at most.**

**Step3. You can click [Copy to Camera] to copy the same configuration to other channels.**
Step 4. Select “Save” to save the settings.

4.6.2.5 OSD Configuration

You can set OSD (On Screen Display) on NVR, and the OSD will be synchronized to Camera.

Select channel and finish the info and save.

[Video Stream]: Select stream. All Streams, Primary Stream and Secondary Stream are available.
[Show Video Title]: Enable it and the video title will be shown on screen.
[Video Title]: Set the video title for the channel.
[Title Position]: Set the position for the video title: Top-Left, Top-Right, Bottom-Left or Bottom-Right.
[Show Timestamp]: Enable or disable timestamp.
[Date Format]: Set format for date: YYYY-MM-DD, MM/DD/YY or DD/MM/YYYY.
[Date Position]: Set the position for the date: Top-Left, Top-Right, Bottom-Left or Bottom-Right.

You can also click [Copy to Camera] to copy the same configuration to other channels.
4.6.2.6 Image Enhancement

You can set Image Enhancement on NVR, and the configuration will be synchronized to Camera.

**Step1. Select channel.**

**Step2. Set the configuration.**

- **Day/Night Mode:** Set the Day/Night mode for the channel.
- **Day to Night Value:** Set the Minimum illumination intensity to trigger Night Mode.
- **Night to Day Value:** Set the Maximum illumination intensity to trigger Day Mode.
- **IR Light Sensor Value:** Shows the current value of IR light sensor.
- **Power Line Frequency:** 50Hz and 60Hz are available.
- **Corridor Mode:** Set corridor mode.
- **Image Rotation:** Set image rotation.
- **IR Balance Mode:** Turn on to avoid IR overexposure.
- **White Balance:** Choose a white balance mode for the channel.
- **Digital Anti-fog Mode:** Set the Anti-fog function on and off.
- **WDR/HLC:** Click to configure Wide Dynamic Range or High Light Control.

**Step4. You can click [Copy to Camera] to copy the same configuration to other channels.**
4.6.3 Storage

**Preparation for Configuration**

Step 1. Ensure that your NVR has installed and initialized the HDD or Network Disk.

Step 2. Ensure that Storage device has sufficient storage space.
Enable [Recycle Mode] in the case of insufficient capacity of storage device on Storage -> Disk Management -> Advanced Settings interface.

4.6.3.1 Record Schedule

**Record Schedule**

Step 1. Select Record Schedule.
Step 2. Select the desired channel.
Step3. Set record schedule.
Select record type including Continuous, Event, Motion Detection and Alarm, then set the time you want to record. It is convenient for you to set or clear all schedule by clicking **Select All** or **Clear All**.

Also, you can click the time bar and reedit the record time.

Click **<** to copy time setting to other days.
Click [Copy to Camera] to copy the same configuration to other channels.

**Batch Settings**

Record and Stop are available for user to set or clear always record schedule for selected channels.

### 4.6.3.2 Record Settings

Make record settings for selected channels.

**General Settings**
**Channel:** Select the channel which will be set.

**Pre Record:** Event pre-record duration time. It will start recording before the event is triggered.

**Post Record:** Event post-record duration time. It will keep recording after the event is over.

**Audio Record:** Select to record audio or not.

**Record Stream Type:** Select Main stream or sub stream for record. **Primary+Secondary Stream is available for NVR model ends with T only.**

**Due Time:** Enable or unlimit the due time.

**Expired Time:** Set the due time of recording files.

Click [Copy to Camera] and 📒 to copy the same configuration to other channels.

**Advanced Settings**

Enable or disable Recycle Mode for all storage device.

**4.6.3.3 Disk Management**

You can check Disk status and add Network Disk here.

**HDD Management**

**Property:** R/W and Read-only are available for this option.

**Note:**

Initializing the HDD before you set record schedule to ensure that record properly works.
NAS (Network-Attached Storage) should be available within the network and properly configured to store the recorded files and snapshots.

**Note:**

1. NAS with NFS format is the only type for network disk adding.
2. It’s recommended to use Hard Disk rather than Network Disk.

You can add it manually or search local NAS by clicking **Batch Add**.
4.6.4 Event

4.6.4.1 Motion Detection

Step 1. Enable Motion Detection.
Select channel, Sensitivity and click to enable Motion Detection.

Step 2: Set the area for triggering motion detection.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and.
Step 3. Set Effective Time of motion detection by clicking.

NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.

![Effective Time]

Step 4. Set Action for motion detection alarm by clicking.

**Audible Warning:** NVR will trigger an audible beep when motion is detected. Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings. What's more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

![Adhoc]

**Email Linkage:** NVR will send an email to the address you set before. Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings. What's more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Alarm Output**: Trigger alarm output when alarm is triggered.

**Others**: Trigger other channels record when alarm is triggered.

**Step 5.** Click [Copy to Camera] and to copy the same configuration to other channels.
4.6.4.2 Video Loss

Step1. Select a channel

Step2. Set Action for video loss.

Audible Warning: NVR will trigger an audible beep when alarm is triggered.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

Trigger Interval: The effective interval between two actions when event triggered.

Email Linkage: NVR will send an email to the address you set before.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

Trigger Interval: The effective interval between two actions when event triggered.
**Alarm Output**: Trigger alarm output when alarm is triggered.

**Step 3**. Click [Copy to Camera] and to copy the same configuration to other channels.

**4.6.4.3 Alarm Input**

Alarm Input function is supported by MS-N5008-UT, MS-N5016-UT, MS-N7016-UH, MS-N7032-UH, MS-N8032-UH, MS-N8064-UH, MS-N5008-UPT, MS-N5016-UPT, MS-N5016-UPH and MS-N7032-UPH.

**Step 1. Set Alarm input Number, Alarm Name and Alarm Type.**

- **Alarm Input No.**: The channel which has input signal.
- **Alarm Name**: Set a name for the alarm.
- **Alarm Type**: Choose NO or NC alarm type for the alarm.

**Step 2. Set action for alarm input.**

- **Channel Record**: Start recording when alarm is triggered.
**Trigger Channels Record:** Trigger selected to record when alarm is triggered. Don’t forget to set record schedule in Store -> Record Schedule interface.

**Copy to Alarm:** Copy alarm settings to other channels which has alarm input.

**Audible Warning:** NVR will trigger an audible beep when alarm is triggered.

**Trigger Interval:** The effective interval between two actions when event triggered.

Click [Copy to Alarm] and select channels to copy the same configuration to other channels.

**Email Linkage:** NVR will send an email to the address you set before.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Trigger Channels Snapshot:** The snapshot of selected channels will be sent when alarm is triggered.
Click [Copy to Alarm] and □ to copy the same configuration to other channels.

**Alarm Output**: Trigger alarm output when alarm is triggered.

### 4.6.4.4 Alarm Output

Alarm Output function is supported by MS-N5008-UT, MS-N5016-UT, MS-N7016-UH, MS-N7032-UH, MS-N8032-UH, MS-N8064-UH, MS-N5008-UPT, MS-N5016-UPT, MS-N7016-UPH and MS-N7032-UPH.
Step 1. Set Alarm output channel, Alarm Type, Delay and Alarm Name.

**Alarm Output**: The channel which will output the alarm signal.

**Alarm Type**: Select alarm type: NO or NC.

**Delay**: Set the output time for alarm. If the output alarm lasts too long, you can select the Manually Clear to stop it.

**Alarm Name**: Set a name for the alarm.

Step 2: Set effective time.

Step 3. Click [Copy to Alarm] and to copy the same configuration to other alarm channels.
4.6.4.5 Exception

Step 1. Select Exception Type.

- **Network Disconnected**: Loss of network.
- **Disk Full**: HDD full, it usually happens when Recycle Mode is OFF.
- **Record Failed**: Recording fails, including HDD Failed, HDD Full and so on.
- **Disk Error**: Failed to recognize HDD.
- **Disk Uninitialized**: HDD is uninitialized.
- **No Disk**: There is no Disk.

Step 2. Select normal linkage includes Pop up Alarm, Audible Warning and Email Linkage.
- **Audible Warning**: NVR will trigger an audible beep.
- **Email Linkage**: An alarm Email will be sent if an alarm is triggered.

4.6.4.6 Smart Event

Smart Event uses Milesight Video Content Analysis technology which is applied in a wide range of domains including entertainment, health-care, retail, automotive, transport, home automation, safety and security. Milesight VCA provides advanced, accurate smart video analysis for Milesight network cameras. It enhances the performance of network cameras through 8 detection modes which are divided into basic function and advanced function, enabling the comprehensive surveillance function and quicker response of cameras to different monitoring scenes.

**Note:**
Please input license of selected channel in Settings page to activate Smart Event first.

**Region Entrance**

Region entrance helps to protect a specific area from potential threat of suspicious person’s or object’s entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.

**Step 1. Select channel.**

![Region entrance GUI](image)

**Step 2. Enable Region Entrance.**

![Region entrance settings](image)

**Step 3. Set entrance detection region.**

You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and.

![Set and clear all region settings](image)

**Step 4. Set Effective Time of region entrance by clicking**

NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.
Step 5. Set Action for region entrance alarm by clicking 🔄 Edit 🔄.

**Audible Warning:** NVR will trigger an audible beep when region entrance is detected.

Drag a line on the time table for time setting, it will be more convenient by clicking 🔄 Clear All 🔄 to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click 🔄 to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before.

Drag a line on the time table for time setting, it will be more convenient by clicking 🔄 Clear All 🔄 to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click 🔄 to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Alarm Output**: Trigger alarm output when alarm is triggered.

**Others**: Trigger other channels record when alarm is triggered.

**Region Exiting**
Region exiting is to make sure that any person or object won’t exit the area that is being monitored. Any exit of people or objects will trigger an alarm.

**Step 1. Select channel.**
Step 2. Enable Region Exiting.

Step 3. Set exit detection region.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and .

Step 4. Set Effective Time of region exiting by clicking .
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.

Step 5. Set Action for region exiting alarm by clicking .
**Audible Warning:** NVR will trigger an audible beep when region exiting is detected.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What's more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What's more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Alarm Output:** Trigger alarm output when alarm is triggered.
**Others:** Trigger other channels record when alarm is triggered.

**Advanced Motion Detection**
Different from traditional motion detection, Milesight advanced motion detection can filter out “noise” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger alarm.

**Step 1. Select channel.**

**Step 2. Enable Advanced Motion Detection.**

**Step 3. Set advanced motion detection region.**
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and.

**Step 4. Set Sensitivity.**
The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won’t trigger the alarm.

**Step 5. Set Effective Time of advance motion detection by clicking.**
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.

**Step 6. Set Action for advanced motion detection alarm by clicking.**

- **Audible Warning:** NVR will trigger an audible beep when advanced motion is detected.

Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

- **Trigger Interval:** The effective interval between two actions when event triggered.
**Email Linkage:** NVR will send an email to the address you set before.

Drag a line on the time table for time setting, it will be more convenient by clicking or **Clear All** to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click **Copy** to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.
Tamper Detection

Tamper Detection is used to detect possible tampering like the camera being unfocused, obstructed or moved. This functionality alerts security staff immediately when any above-mentioned actions occur.

**Step 1. Select channel.**

**Step 2. Enable Tamper Detection.**

**Step 3. Set Sensitivity.**

The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won’t trigger the alarm.

**Step 4. Set Effective Time of tamper detection by clicking**

NVR receives the alarm when effective time has been set. It will be more convenient by clicking **Select All** or **Clear All** to set or clear all time settings.
Step 5. Set Action for tamper detection alarm by clicking Edit.

**Audible Warning:** NVR will trigger an audible beep when tamper is detected.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Alarm Output**: Trigger alarm output when alarm is triggered.

**Others**: Trigger other channels record when alarm is triggered.

**Line Crossing**
Line Crossing detection is designed to work in most indoor and outdoor environment. An event will be triggered every time when the camera detects objects crossing a defined virtual line. Settings steps are shown as follows:

**Step 1. Select channel.**
Step 2. Enable Line Crossing.

Step 3. Choose detection line number and define its direction.
It allows to set up to four lines at a time. There are three direction modes to choose for triggering alarm. “A→B” means when there is any object crossing the line from the “A” side to the “B” side, the alarm will be triggered. “B→A” vice versa. “A ↔ B” means that the alarm will be triggered when objects cross line from either side.

Step 4. Draw detection lines.

Step 5. Set Effective Time of line crossing by clicking .
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.
Step 6. Set Action for line crossing alarm by clicking.

**Audible Warning:** NVR will trigger an audible beep when line crossing is detected.

Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before.

Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Alarm Output**: Trigger alarm output when alarm is triggered.

**Others**: Trigger other channels record when alarm is triggered.

**Loitering**
When objects are loitering in a defined area for a specific period of time, it would trigger an alarm.

**Step 1. Select channel.**
Step 2. Enable Loitering.

Step 3. Set Loitering detected region.
You can select an area by dragging the mouse to set the trigger area, and this area will be synchronized to camera. Also, you can set or clear all set region by directly clicking and

After setting minimum loitering time from 3s to 300s, any objects loitering in the selected area over the minimum loitering time will trigger the alarm. Also Milesight loitering allows to set “Object Size”. Only the object bigger than the set size will trigger the alarm.

Step 5. Set Effective Time of loitering by clicking.
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.

**Audible Warning:** NVR will trigger an audible beep when loitering is detected.

Drag a line on the time table for time setting, it will be more convenient by clicking or Clear All to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click  to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.

**Email Linkage:** NVR will send an email to the address you set before.

Drag a line on the time table for time setting, it will be more convenient by clicking or Clear All to set or clear all time settings.

What’s more, you can click time bar to edit the time accurately.

Click  to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.
**Alarm Output:** Trigger alarm output when alarm is triggered.

**Others:** Trigger other channels record when alarm is triggered.

**Human Detection**

Human detection is used for figuring out whether an object is a human or not.

**Step 1. Select channel.**
Step 2. Enable Human Detection.

Step 3. Set Effective Time of human detection by clicking .
NVR receives the alarm when effective time has been set. It will be more convenient by clicking or to set or clear all time settings.


**Audible Warning:** NVR will trigger an audible beep when human is detected.
Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings.
What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

**Trigger Interval:** The effective interval between two actions when event triggered.
Email Linkages: NVR will send an email to the address you set before. Drag a line on the time table for time setting, it will be more convenient by clicking or to set or clear all time settings. What’s more, you can click time bar to edit the time accurately.

Click to copy time setting to other day.

Trigger Interval: The effective interval between two actions when event triggered.

Alarm Output: Trigger alarm output when alarm is triggered.

Others: Trigger other channels record when alarm is triggered.
**People Counting**

People counting is able to count that how many people enter or exit during the setting period.

**Step 1. Select channel.**

**Step 2. Enable People Counting.**

**Step 3. Draw detection line.**

**Step 4. Set counting OSD.**

It shows the number of counted people, including in and out number. Besides, you can clear count by clicking **Clear**.
Note:
1. To enable people counting, human detection should be enabled first.
2. Crossing along the direction of the arrow will record as “In”, opposite is “Out”.

Settings
Milesight VCA provides the primary setting for the whole VCA functions.
Draw Min. is to set whether an object is big enough to trigger other settings. The frame you draw on the screen means that only if the object size is bigger than the frame, the settings for other VCA functions will take effect.
Draw Max. means opposite, the frame you draw on the screen stands for that only if the object size is smaller than the frame, the settings for other VCA functions will take effect.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process FPS</td>
<td>Five different periods are available (5, 10, 15, 20, 25, fps) for process fps</td>
</tr>
<tr>
<td>Scenario Mode</td>
<td>Select Indoor or Outdoor mode to meet your needs</td>
</tr>
<tr>
<td>Camera Installation</td>
<td>Select camera installation view, including Angle View, Horizontal View and Overhead View</td>
</tr>
<tr>
<td>Analysis Type</td>
<td>Select Standard or Advanced analysis type</td>
</tr>
<tr>
<td>License</td>
<td>Generated by camera’s information</td>
</tr>
<tr>
<td>License Status</td>
<td>Show present license status, including Valid, Invalid, Expired, Unactivated</td>
</tr>
</tbody>
</table>
4.6.5 System

4.6.5.1 General Settings

To setup the general parameters of NVR, including modify the Device Name, Boot Wizard, set system time manually and auto logout, etc.

![General Settings]

4.6.5.2 Network

4.6.5.2.1 Basic

The system supports two IP address format: IPv4 and IPv6

IPv4

Enable IPv4 DHCP to auto search IP. When enable DHCP function, you can not modify IP/ Subnet mask/ Gateway.

Disable IPv4 DHCP to modify IP/ Subnet mask/ Gateway manually.

IPv6

Manual/ Router Advertisement/ DHCPv6 are available.

DNS Server

Preferred DNS Server: DNS server IP address.
Alternate DNS Server: DNS server alternate address.
1. Check the DHCP check-box when there is a DHCP server running in the networks.
2. The valid range of MTU is 500~9676.
3. Do not input an IP address conflicting with another device.

**4.6.5.2.2 UPnP**

With the function enabled, you don’t need to configure the port mapping for each port in router, it will do the port mapping in router automatically once router supports UPnP.

**4.6.5.2.3 DDNS**

Using DDNS to solve the dynamic IP address problem.
Check DDNS check-box to enable it, then select a DDNS Server, input the user name, password and host name. Do not forget to save the configuration.
Milesight has its own DDNS server. Please do port forwarding for HTTP port and RTSP port before enabling **Milesight DDNS**. Then input corresponding information and you can use http://ddns.milesight.com:MAC to access device remotely.

**Note:**
“Host Name” must begin with letters, and it can only contain number, letters, and hyphen.
4.6.5.2.4 Email

Email will send receivers a screenshot when the alarm is triggered.

User name: The E-mail address you choose to send emails. Please input full email address into it.
Password: The password of the E-mail.
SMTP Server: The SMTP Server of your E-mail.
SMTP Port: The port of SMTP Server, it’s usually 25.
Encryption: Security Protocol of email sending, including TLS and SSL.
Host Name: It will be attached in the email.
Sender Email Address: It must be same with [User name].
Receiver Email Address: E-mail Address for the receivers.

Select Test to check if the Mail function is workable.

Note:
If your NVR has a port forwarding IP for Host Name, please input the complete address that contains the port.

4.6.5.2.5 P2P

You can watch remote NVR live view in WAN by P2P on M-Sight Pro without doing port forwarding on router.
Click “Enable” and “Save” to enable P2P.
P2P is enabled successfully when P2P Status shows “Activated”.
After enabling, you can add the NVR on the APP M-Sight Pro for live view via scanning the QR code on the “P2P” page directly, or inputting the MAC address manually.
There are several status shows on P2P Status after clicking Saving, please check corresponded possibilities below:

<table>
<thead>
<tr>
<th>P2P Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network unavailable</td>
<td>Failed to connect with internet. Please check again for the network settings, like Gateway or DNS, make sure the NVR is able to the Internet.</td>
</tr>
<tr>
<td>Authentication request failed</td>
<td>Failed to authenticate P2P encryption. Please contact with Milesight.</td>
</tr>
<tr>
<td>No idle UUID</td>
<td>Please contact Milesight if this status shows up</td>
</tr>
<tr>
<td>Activated</td>
<td>P2P is available</td>
</tr>
<tr>
<td>Login failed</td>
<td>Failed to login P2P server. Please contact with Milesight.</td>
</tr>
<tr>
<td>Initialization failed</td>
<td>Failed to initialize P2P. Please contact with Milesight.</td>
</tr>
<tr>
<td>Unactivated</td>
<td>P2P is disabled</td>
</tr>
<tr>
<td>Unknown error</td>
<td>Other error. Please contact with Milesight.</td>
</tr>
</tbody>
</table>

**Note:**
1. Please make sure that NVR is available for internet before enabling.
2. If your NVR firmware version is not 7x.7.0.9-r2 or above, please contact Milesight to registered P2P first.

**4.6.5.2.6 SNMP**

SNMP is an abbreviation of Simple Network Management Protocol, which is convenient for NVR to be monitored and managed in the whole network environment. The SNMP is widely used in many network devices, software and systems.

Before setting the SNMP, please download the SNMP software and manage to receive the NVR information via SNMP port. By setting the Trap Address, the NVR can send the alarm event and exception messages to the surveillance center.
SNMP v1/2c/3: The version of SNMP, please select the version of your SNMP software.
- SNMP v1: No security protection
- SNMP v2c: Require password for access
- SNMP v3: Support encryption on the premise that the HTTPS protocol must be enabled

Read Community: Input the name of Read Community
Write Community: Input the name of Write Community
Read Security Name: Input the name of Read Security Community
Level of Security: There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv)
Write Security Name: Input the name of Write Security Community
Level of Security: There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv)
SNMP Port: The default of the SNMP port is 161

4.6.5.2.7 HTTPS
Set in the interface to make sure getting access to NVR successfully via HTTPS, which is able to guarantee communication data security. The reliable and stable technology can secure the user information security and device safety.

There are three certificate installation types:

Create a Private Certificate
Click “Create” to create the following dialog box. And then enter Country, Common Name, Period of Validity and other information. And then click “OK” to generate a private certificate.
Direct Installation
Click “Browse” to select a signed certificate locally and click “Install” to install it.

Create a Certificate Request
Firstly, click “Create” button. And then enter Country, Common Name and other information to create the certificate request;
Download the certificate request and submit it to the trusted certificate authority for signature;
After receiving the signed valid certificate, import the certificate to the device.
After creating and installing the certificate successfully, you can check the certificate information and clear the information on the following interface. And you can access the NVR by inputting `https://ip:port` via the web browser.

**Note:**
The default HTTPS port is 443, you can modify it on the “More” interface.

### 4.6.5.2.8 More

**Channel Access**
With this option enabled, you can access PoE-connected cameras website directly in Camera Management.

**Enable SSH**
Enable or disable SSH access. Secure Shell (SSH) has many functions; it can replace Telnet, and also provides a secure channel for FTP, POP, even for PPP.

**SSH Port**
The default SSH port is 22. Only for Milesight R&D debugging.
HTTP Port
The default HTTP port is 80. Please modify HTTP ports according to actual application.

Note:
1. The default HTTP port for IE browser is 80.
2. HTTP port is used for remote network access for 4k/H.265 NVR Series.

HTTPS Port
The default HTTPS port is 443. Please modify HTTPS ports according to actual application.

Note:
3. The default HTTPS port for IE browser is 443.
4. HTTPS port is used for remote network access for 4k/H.265 NVR Series.

RTSP Port
Real Time Streaming Protocol (RTSP) is an application layer protocol in TCP/IP protocol system. The default RTSP port is 554. Please modify RTSP port according to actual application.

Note:
1. RTSP port is used for remote network live view.
2. RTSP port valid range is 554 or 1024~65535.

Push Message Enable
With this option enabled, you can receive the alarm message on the mobile application.

Push Video Stream
Select which video stream will be pushed to APP M-Sight Pro. Auto, Primary Stream and Secondary Stream are available.

Note:
Only NVR model ends with letter T support.

Push Type
Select which alarm type will be pushed to APP M-sight Pro. It includes Motion Detection, Video Loss, Region Entrance, RegionExiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering and Human Detection.

4.6.5.3 Holiday
It can configure the record or image capture schedule for holidays of the current year.

Click  to open holiday configuration page to modify holiday name, check the ‘Enable Holiday’
check-box, and then select [Type] to setup Start/End date. There are By0 Month, By Week, and By Date in [Type] mode. Then click [OK] to save the configuration and return to holiday page.

![Edit Holiday](image)

4.6.5.4 User

![Add a new user](image)

**Note:**
1. If the NVR firmware version is below xx.7.0.6, the default user name is “admin” and the default password is “123456”.
2. If the NVR firmware version is between xx.7.0.6 and xx.9.0.3, the default user name is “admin” and the default password is “ms1234”.
3. If the NVR firmware version is xx.9.0.3 or above, please set the admin password before login.

**Add a new user**

Click ![Add](image) to enter the user add interface, input information for the new user, select user level and set user privileges, then click ![OK](image) to save settings.
Note:
User name can only contain letters and number. There are two user levels with different authority: Operator and Viewer;

**Edit user limits**

Click a user, when the background color changes into blue, click **Edit Limit** to edit user privileges.

1. Local Privilege means the privilege to the monitor connected with NVR
2. Remote Privilege means the privilege to web settings.
**Edit user password**

Click **Edit Password** to modify password.

Sync new password to current connected PoE channels is available for PoE NVR Series.

**Delete user**

Select a user and click **Delete** to delete a user.
Modify Security Question

Input Admin Password, select security question and answer. Click OK to save.

Note:
1. This option is available for the NVR firmware version xx.9.0.3 or above only.
2. Security question is used for resetting admin password if you forget current one.

4.6.5.5 Maintenance

Reboot

Click Reboot to reboot the NVR.

Set Default

Click Reset to reset the NVR to factory defaults. Keeping the IP parameters and keeping the User information are available.
Import Configuration File

Click **Browse** to select one file and click **Upload** to import the NVR configuration.

Export Configuration File

Click **Backup** to backup current NVR settings.

System Upgrade

Click **Browse** to select the firmware file, and you can check **Reset** to reset configuration to factory defaults.

Click **Upgrade** to upgrade.

**Note:**
It will take 5 to 10 minutes to upgrade, please do not disconnect the device power during the process. The device will reboot automatically after upgrading.

4.7 Status

You can have a quick view of the information of the device, network, camera, disk and event. This part is only for your rapid reference. If you want to make any configuration, please go to corresponding interfaces accordingly.
4.7.1 Device Information

Device information includes Model, MAC Address, Hardware Version, Software Version and Uptime.

![Device Information Table]

4.7.2 Network Status

Network Status includes three main parts: Receive Bandwidth, LAN1 and LAN2.

![Network Status Table]

4.7.3 Camera Status

Camera status includes Channel, Name, IPv4 Address, Record, Frame Rate, Bit rate, Resolution and Status.
4.7.4 Disk Status

Disk status includes Port, Vendor, status, Total(GB), Free(GB), Type, In Use and Recycle Mode. You also can check the Total Capacity (GB) and Free Capacity.

4.7.5 Event Status

**Camera Event**

Camera Event shows camera event, including Video Loss, Motion and I/O. 🔄 turns into 🚸 when alarm is triggered.
**Alarm**

Alarm shows the Alarm Input and Alarm Output status. 🚨 turns into 📸 when alarm is triggered.

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**Smart Event**

It shows the Smart Event status. 🚨 turns into 📸 when alarm is triggered.

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**People Counting**

It shows every camera’s current In/Out number of people counting.
4.7.6 Packet Capture Tool

Input IP and Port, then click [Start] to start capture and click [End] to stop. Click [Download] to backup the captured packet locally.

4.8 Logs

In Log interface, you can check, search and export logs. By selecting the Main Type, Sub Type, Start Time and End Time which can narrow down the scale of logs, you can search for logs that you need and then export them locally.
4.9 Logout

Click to exit the current account.
5. Services

Milesight Technology Co., Ltd provides customers with timely and comprehensive technical support services. End-users can contact your local dealer to obtain technical support. Distributors and resellers can contact directly with Milesight for technical support.

Technical Support Mailbox: support@milesight.com
Web: http://www.milesight.com
Online Problem Submission System: http://www.milesight.com/support/feedback.asp

MILESIGHT USA
TEL: +1-800-561-0485
Add: 220 NE 51st ST, Oakland Park, Florida 33334, USA

MILESIGHT KOREA
TEL: +82-2-839-3335

MILESIGHT CHINA
TEL: +86-592-5922772
Add: No.23 Wanghai Road,2nd Software Park, Xiamen, China