ENR-1000 Series

System Administrator's Manual

For V3.02.02 Firmware

www.acti.com

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- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
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About This Manual

Target Audience

This manual is intended for **System Administrators** who are responsible for installing and setting up video surveillance system. The reader is expected to know the fundamentals of IP surveillance system integration and to own the administrative privileges to install and configure all the devices.

You may also check the product page for updates and documents.
http://www.acti.com/product/category/Standalone_NVR

Technical Support

If you have any questions during system installation, please feel free to contact our engineers via our **Customer Help Desk** platform http://www.acti.com/CHD.

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Introduction

Product Overview

ACTi ENR-1000 Series (hereafter referred to as ENR) is a compact, delicate and reliable multi-channel standalone NVR. It features a stable embedded Linux operation system and capabilities of supporting mega-pixel resolution H.264 streaming, an HDMI output for local display, PTZ control, scheduled / event-triggered / event speed-up recording, event management, synchronized playback, time/event-based playback search and video bookmarks. Its smart Setup Wizard and intuitive user interface allow the system installer enjoy effortless plug&play installation experience, while making it easy for new users to get acquainted with the operation by first-time use. Other than the local client, the remote PC client may access the ENR system simultaneously, and experiences user-friendly web interface customized for browser-based operations.

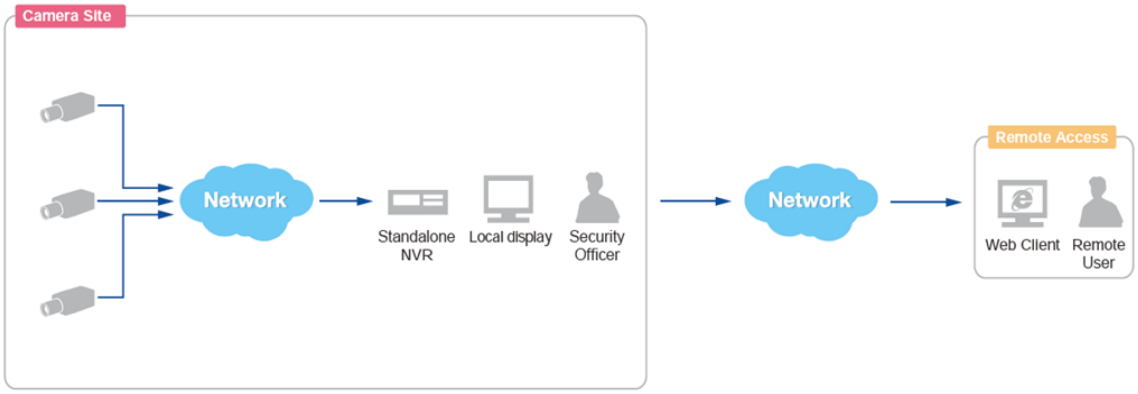
ENR Server / Client Architecture

In a video surveillance system architecture, **ENR Server** serves as a video management service provider, aimed to run 24/7 non-stop service for clients. An **ENR Client** makes requests of monitoring video streams or playing back recordings to **ENR Server**.

There are two types of **ENR Clients**: **Local Client** and **Remote Client**. A client, connecting from whether a remote computer or from local, will be offered the same accessibilities of ENR functions.

- **Local Client**: In local camera site, the client user directly operates **ENR Server** by connecting the physical device to an HDMI monitor and a USB mouse.

- **Remote Client**: Over the TCP/IP network, the **Remote Client** communicates with **ENR Server** through HTTP Protocol. This client user will have to use a computer with Internet Explorer to access the **ENR Server** web interface, without the need of installing any client program beforehand. Logging in to **ENR Server** is as simple as visiting a website.



Remote User: Administrator / Supervisor / Manager / Security Officer

Remote Client PC Requirements

ENR itself is a self-contained unit. The table below provides basic guidelines only for selecting proper hardware for the remote PC client. As the decoding of multiple channels requires good hardware for smooth performance (*1), if your live view performance is not satisfactory, please consider computers with more advanced spec.

PC Spec (*2)	Minimum Requirement
CPU Processor	Intel Core 2 Quad 2.66 GHz
RAM	4GB (*3)
Network	Ethernet (1000 Base-T recommended)
Operation System	Windows 7 and Windows 8 (All versions) (*4)
Display Resolution	1080p
Browser	Internet Explorer 9.0 and 10.0

*1 The quality of video display performance lies not only in the hardware but a few variables. Please refer to **Display Video Performance** on page 13 for instructions on how to achieve ideal video performance.

*2 PC Spec requirements are the same for 32-bit and 64-bit systems.

*3 Microsoft Windows operation system has limits on memory and address space, regardless of the real or virtual memory available on a particular computer. Please use 64-bit system if your computer has more than 4GB RAM.

*4 Please make sure your operation system is fully patched with the latest service packs.

Display Video Performance

For a single Live screen or Playback session, the way ENR handles displayed video varies based on the combination of the following factors, which you should put into consideration when configuring your view layout:

(1) The number of concurrent displayed channels

(2) The format of video stream, e.g. resolution and frame rate.

To balance system loading, ENR will **decode only I frames** (*1) for viewing when CPU usage is critical. The video stream is still recorded at its original frame rate no matter at what quality it is displayed.

To acquire good video display quality, however, it is suggested that you try to use the layout containing **just enough** channels, or make use of **Sequence Patrol function**.

Local Client - Live View / Playback

On local viewing, ENR determines when to enter Decode-I Mode according to these key references - your selection of "**Layout**" and the **Video Resolution**. A layout consisting of more channels and high-resolution streams are considered more CPU consuming, which is more likely to trigger Decode-I Mode. Take ENR-1100 for example, by switching the live screen layout from **4x4** style (**16** channels) to **Quad** style (**4** channels), the video will appear much smoother.

On a local Live screen or Playback view, the conditions below ensures the live streaming to be displayed at a smooth quality(12~30 FPS); otherwise, ENR will decode only I-frames for each channel.

Model	Layout Style	Maximum video resolution
ENR-1000	1, 2, 4	**1920** x **1080** pixels
ENR-1100	1, 2, 4, 1+5, 2+4, 1+7, 9	
ENR-1200 (*2)	1, 2, 4, 1+5, 2+4, 1+7	**1280** x **720** pixels (*3)

*1 A video sequence is composed as a series of **GOP** (Group of Pictures). Among these pictures, **I-frame** (Intra-coded picture) is a fully specified picture with complete image information, while P-frames and B-frames hold only partial image information.

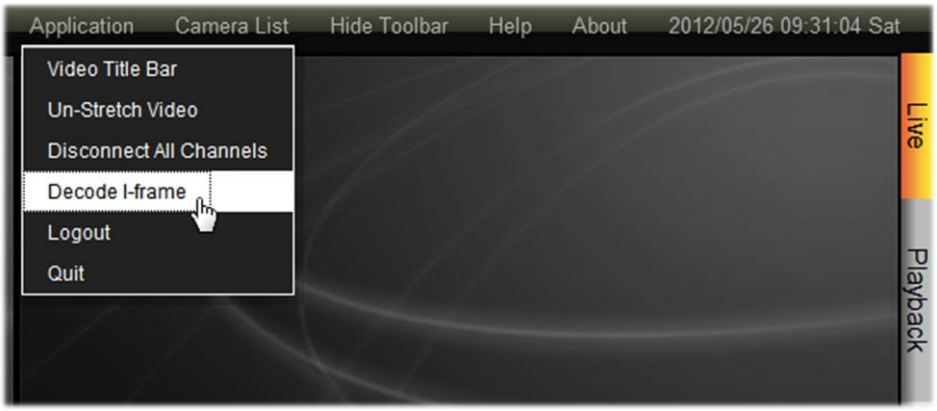
*2 ENR-1200 will automatically turn all channels into Decode-I Mode when the number of layout channels is more than **8**.

*3 ENR-1200 will automatically turn any channel into Decode-I Mode when its video resolution is above **1280** x **720** pixels.

Remote Client - Live Screen

Aside from various operational scenarios, the hardware specifications of each remote client computer differ. By default, ENR system will observe the outcome of all the variables – dynamic CPU loading, and make adaptations.

You may select a desired display mode to suit your system condition. On remote Live screen interface, click "**Application**" and select "**Decode I-frame**" or "**Auto Drop Frame**".



Mode	Decode I mode	Auto drop Frame mode (Default)
Scenario	For computers with basic specifications	●For computers with advanced specifications ●For computers dedicated for displaying ENR Live screen
Purpose	Saving as much CPU usage as possible for other tasks operated on this client PC	Displaying as many video frames as possible to achieve smooth video performance.
Rule	Decodes I frame only	Whenever the CPU loading exceeds **80%**, random channels will start to decode I frame for about 15 seconds, and then return to original frame rate later. This process will continue until ●The CPU loading drops under **80%** ●User switches to another layout or page.

Remote Playback

Up to **4** channels synchronized playback is allowed on a single remote client session, where all video frames are displayed no matter which layout is used.

Supported Video Format

As 1080p HDMI monitors have become the most extensive products used in various applications, ENR is designed to conform to this display standard with its capability of outputting 1080p video stream. Therefore, to reserve as much computing power for ENR unit as possible, only up to 2 megapixel H.264 video stream can be displayed on **local** Live screen or Playback.

With a client computer, you may still acquire full support for displaying these types of video codec – MPEG4, MJPEG and H.264, and up to 5 megapixel video resolution from web client interface; also, the video stream is recorded at your desired format despite of the local display limitation.

	Camera Management Export / Recording	Local Live View /Playback	Remote Live View / Playback
Codec	MPEG4 MJPEG H.264 (*1)	H.264 (*2)	MPEG4 MJPEG H.264
Resolution	Up to **2592** x **1944** pixels	Up to **1920** x **1080** pixels (*3)	Up to **2592** x **1944** pixels

*1 ENR's "**Auto Add**" function will only add H.264 video stream.

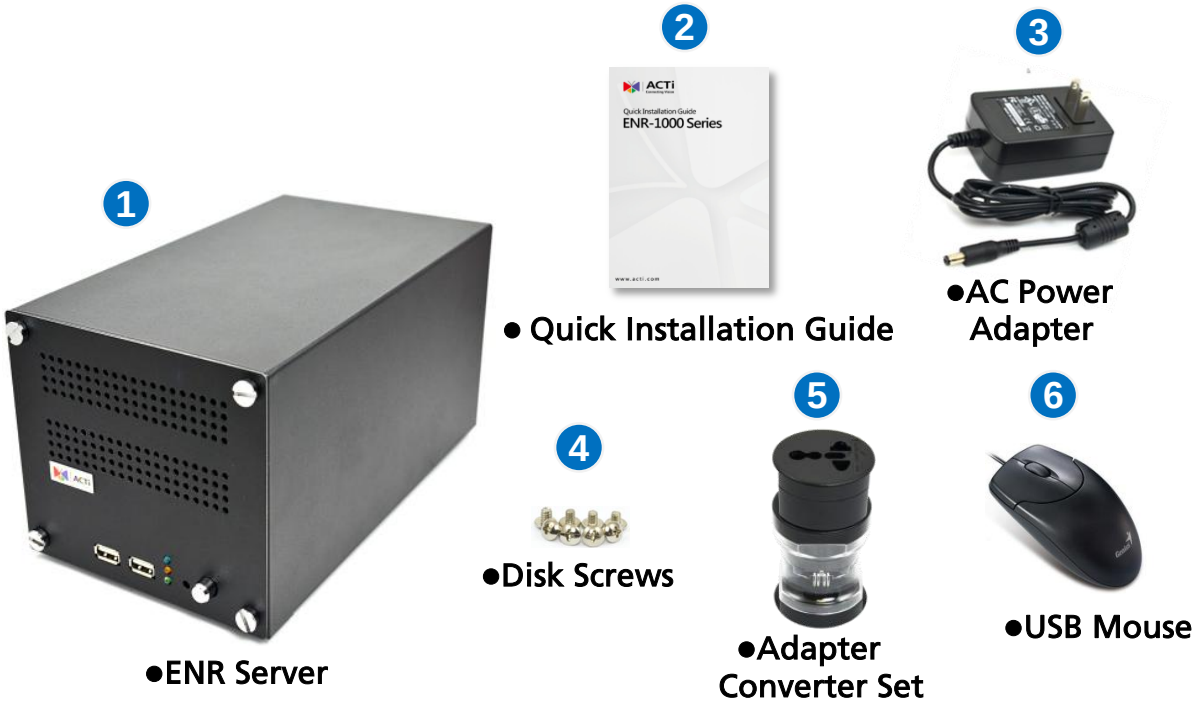
*2 H.264 is the only displayable codec for local live view and playback. The channels using other codec will appear blank, although the recording is proceeding normally.

*3 The display of more than 2 megapixel resolution video is not supported on local live view and playback. The channels using higher resolution video stream will appear blank, although the recording is proceeding normally.

Get Started

What's in the Box

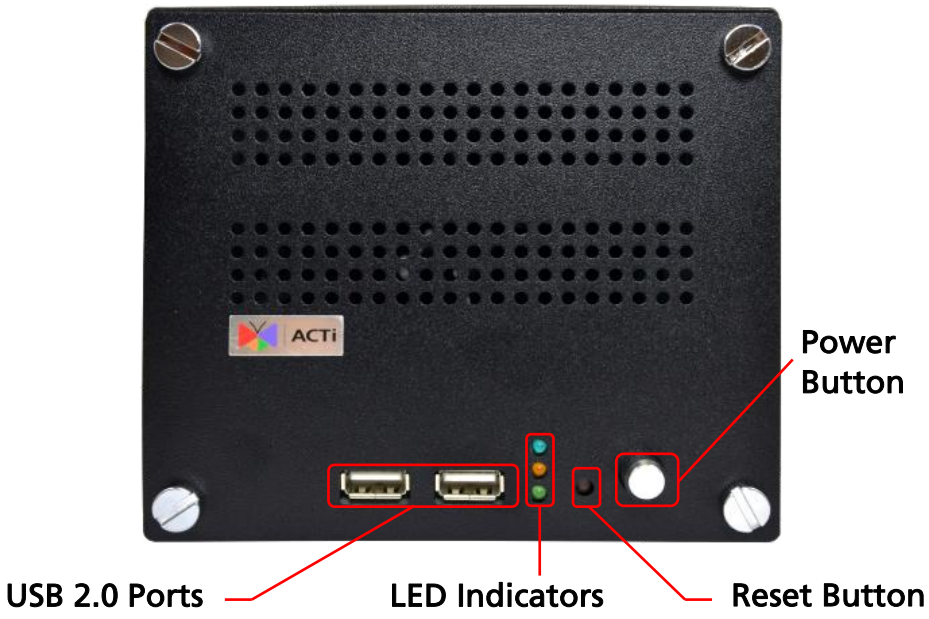
This product package includes the following items:



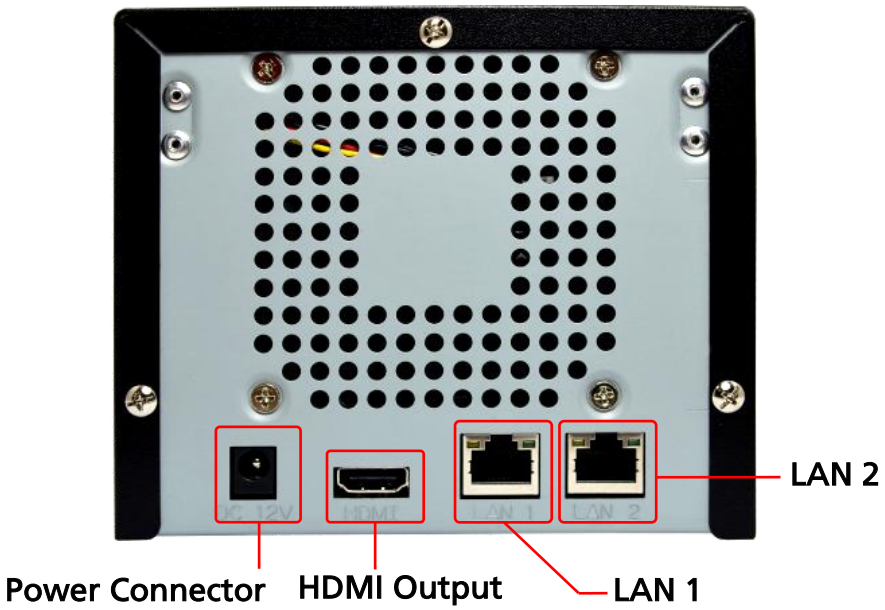
Item	Description
1	ENR Server x 1
2	Printed quick installation guide x 1
3	12V AC Power Adapter x 1
4	Hard disk screws x 8
5	Adapter converter set x 1 This unit contains three types of adapter plugs – UK type, US type and Europe type. These adapter plugs do not change the voltage, but will only change the shape of adapter to fit your electrical outlet. Please detach the plugs, take the plug type you need and connect it to the AC power adapter. 
6	USB Mouse x 1

At A Glance

Front Panel



Rear Panel



Power Button & Reset Button

You can turn on/ off the device with **Power Button**.

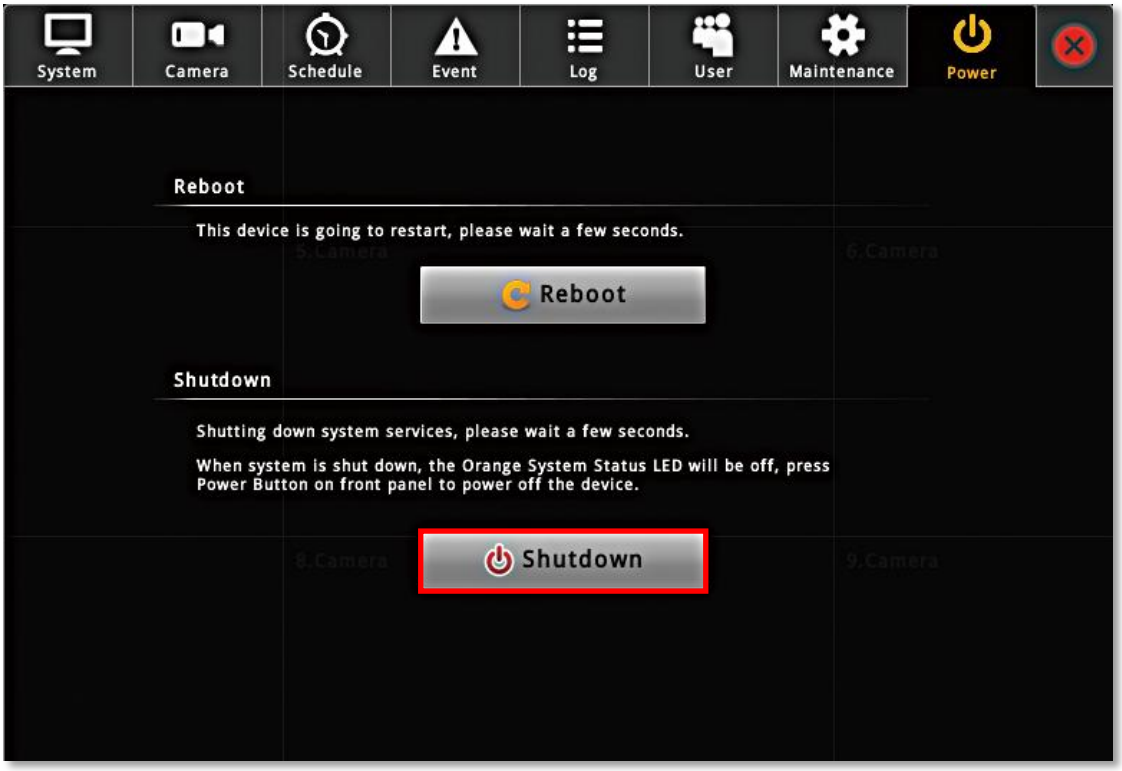
Turn On the Device

Press down the **Power Button** and release, the **Power LED** will light up and turn solid blue.

Turn Off the Device

As the device is powered on, the **Power LED** and **System LED** are both lit, and the **Power Button** is in pressed state. To turn ENR off, please do the following:

1. On **Live** screen, click **Setup** → **Power** tab, and click "**Shutdown**".



2. The local display screen will turn black, with an information dialogue box showing up. Please observe the **System LED** on front panel, when its orange light is off, you may press the **Power Button** to completely shut down the device.

Reset to Factory Default

By resetting this device, all your system settings will return to factory default, while the previous recording files are still kept on storage disks. It is strongly recommended that you back up previous settings with **Backup** function before resetting to factory default.

1. To begin, please turn off the device first.
2. Press down the **Power Button** to boot up the device, immediately press and hold the **Reset Button** with a pin or clip, the orange **System LED** will light up for about 2~3 seconds, and you may release the **Reset Button** as the orange light is off. The device will then start the resetting process.

After the device automatically reboots, the resetting process is done and you may log in.

LED Indicators

The LED indicators on front panel show the current device status:

Item	Indicator Status	Light Color	Description
Power LED	Solid	Blue	The device power is on.
System Status LED	Lights up for three seconds after **Reset Button** is pressed	Red	The system resetting process is initializing.
	Solid		The system service is running.
HDD LED	Flashing	Green	The hard disk is busy handling read or write requests.

Installation

The installation procedures may vary depending on your site conditions. The procedures provided in this manual are based on an example consisting of (1) local network, (2) an ENR unit, (3) ACTi network cameras, (4) a POE network switch and (5) necessary peripherals.

Prepare the Devices

Before starting connecting all the devices together, please read the instructions below to make sure your devices are ready for ENR system.

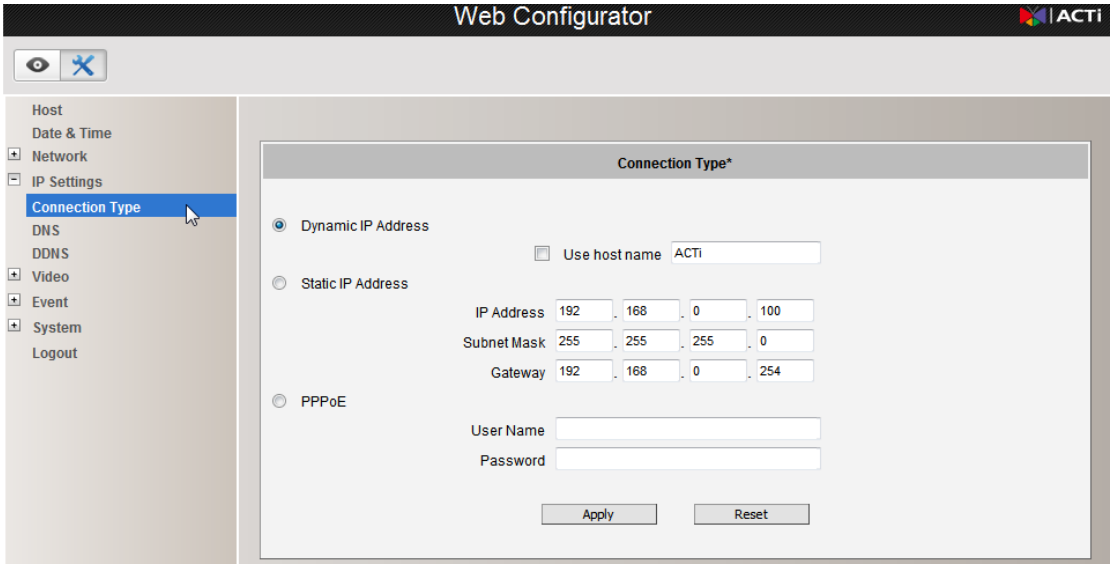
Cameras

Make sure your cameras are ready for ENR's connection. It is strongly recommended that you return the camera settings back to factory default beforehand. ENR **Camera Setup Wizard** provides two quick methods to add cameras: **Manual Add** and **Auto Add**.

- **Manual Add** method is convenient for you to select from multiple cameras, including other brand's cameras.
- **Auto Add** method automatically adds ACTi cameras and immediately displays their live streams.

If you do not wish to restore certain cameras to factory default, please

1. Change their encoder type to **H.264**.
2. Make sure the camera connection type is **Dynamic mode** (DHCP Client). You can do this via camera's **Web Configurator**.



(ACTi camera web configurator interface)

Monitor

The monitor should supports HDMI port and 1080p full HD resolution display.

USB Mouse & Keyboard

Please use a USB mouse or keyboard with a cable.

USB Mass Storage Device

- The USB mass storage device is required for system backup and system log / snapshot / video export.
- ENR supports all FAT/FAT32/EXT2/EXT3/EXT4/NTFS file systems.

Hard Disks

For video recordings**,** you should install **at least ONE** certified 3.5-inch SATA hard disk. Please always use the hard disks ACTi tested to be compatible with ENR. You may find the certified models with ***ACTi Hard Disk Selector*** http://www.acti.com/hddselector

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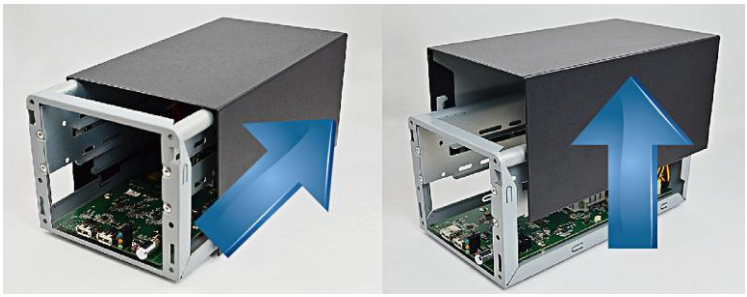
Install the Hard Disks

This system requires at least one hard disk to store video recordings and firmware image when upgrading system. Please follow the instructions below to install your hard disks in correct order to make sure the physical disk locations accord with the **Disk ID** shown in ENR server's **Storage Device List**.

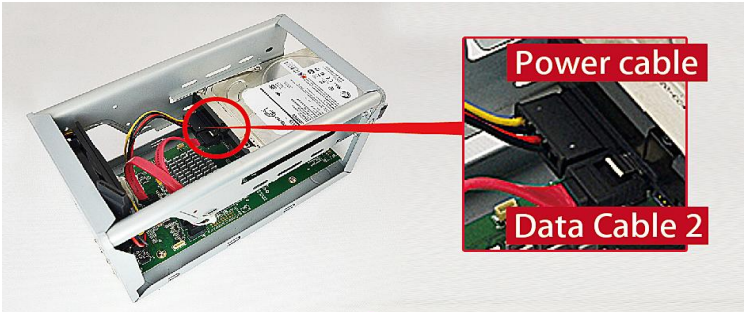
Step 1 Remove the Case Cover

Remove the four front panel screws, and then remove the three back panel screws.

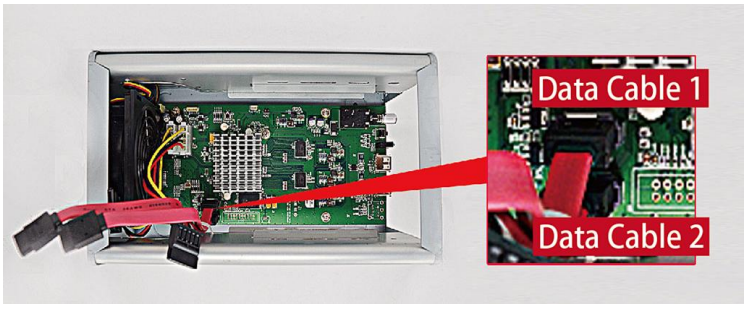


Slide the case backward until it stops, and then lift it up to remove.

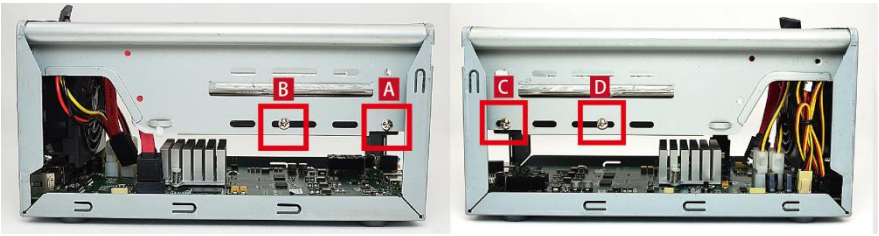
Step 2 Install Disk SATA-2



Insert **Disk SATA-2** in the lower bay, connect SATA power cable and SATA data cable 2 to the hard disk.



Make sure you connect the correct data cable to the corresponding disk.



Lock **Disk SATA-2** using disk screws in this sequence: **A→B→C→D**

Step 3 Install Disk SATA-1

Repeat **Step1~Step3** to install **Disk SATA-1** to the upper bay. Remember to connect **Disk SATA-1** with SATA data cable 1 shown in the illustration in **Step 2**.

Step 4 Install the Case Cover Back

Install the case in reverse order of removal step (see **Step 2**), slide the case cover back until it clicks. Lock the back panel and then front panel with its screws.

Network Connection Architecture

When connecting ENR with your network, please make sure you plug the network cable into the right port.

LAN 1 Port (Camera Port)
Default: 192.168.0.10

LAN 2 Port (WAN Port)
Default: Dynamic /192.168.1.10

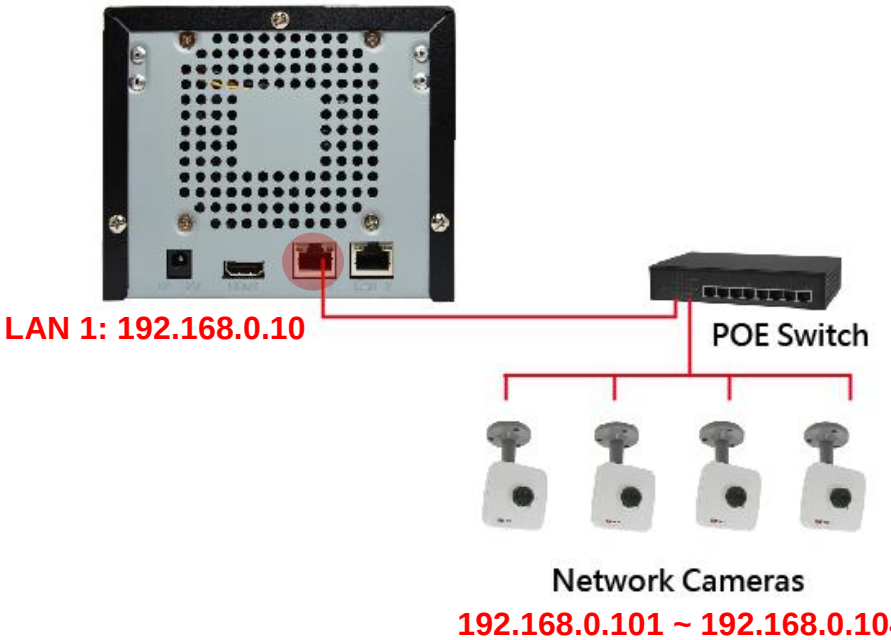
LAN 1 Port

LAN 1 port is the default camera port for a typical local network. Via this port, the DHCP server built in ENR automatically assigns IP addresses to network cameras once they are connected. With this feature, you do not have to bother arranging the camera IP addresses on your own. By default, this DHCP server is enabled, so please avoid connecting ENR to a network where exits another DHCP server via this port.

Connection Setting Example 1

Below diagram displays an example connection setting using only **LAN1** to connect networks cameras.

In this setting, ENR altogether with cameras are within the same network segment; in the mean time, there is no need of referencing another DHCP server in this system.



LAN 2 Port

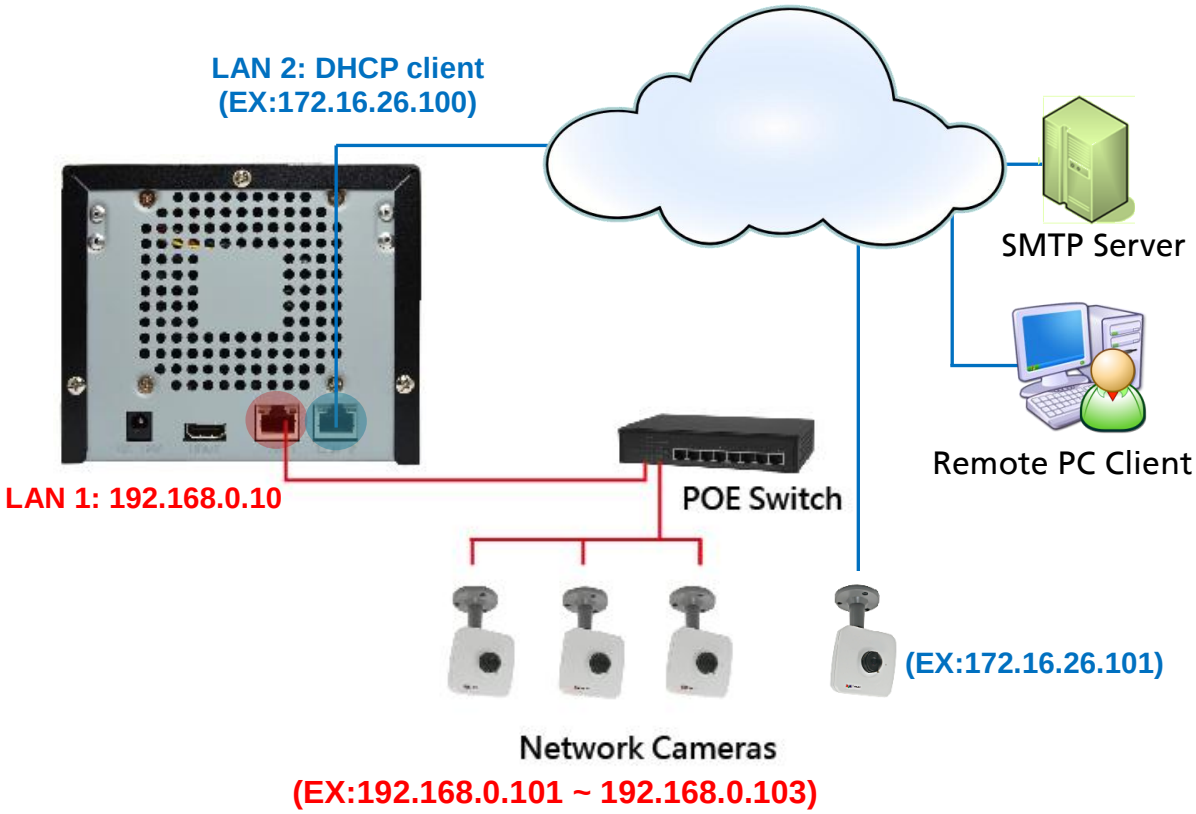
LAN2 port is a typical Ethernet port. You will have to use this port to connect with a different network segment when your system requires (1) the connection with a remote PC client or network cameras, (2) the use of event-triggered Email service via an external SMTP server (3) the use of date/time synchronization with external NTP server.

By default, once connecting to a network, it will first try to get an IP address assigned by your network router from DHCP server. If your network does not assign IP address automatically, then **LAN2** port will assume IP address **192.168.1.10**.

Connection Setting Example 2

Below diagram displays an example connection setting using **LAN1** + **LAN2** to connect networks cameras within different network segments.

In this setting, ENR with three cameras are within the same network segment, while there is another camera locating in another network. In addition, this system requires the connection with an external SMTP server and a remote client.

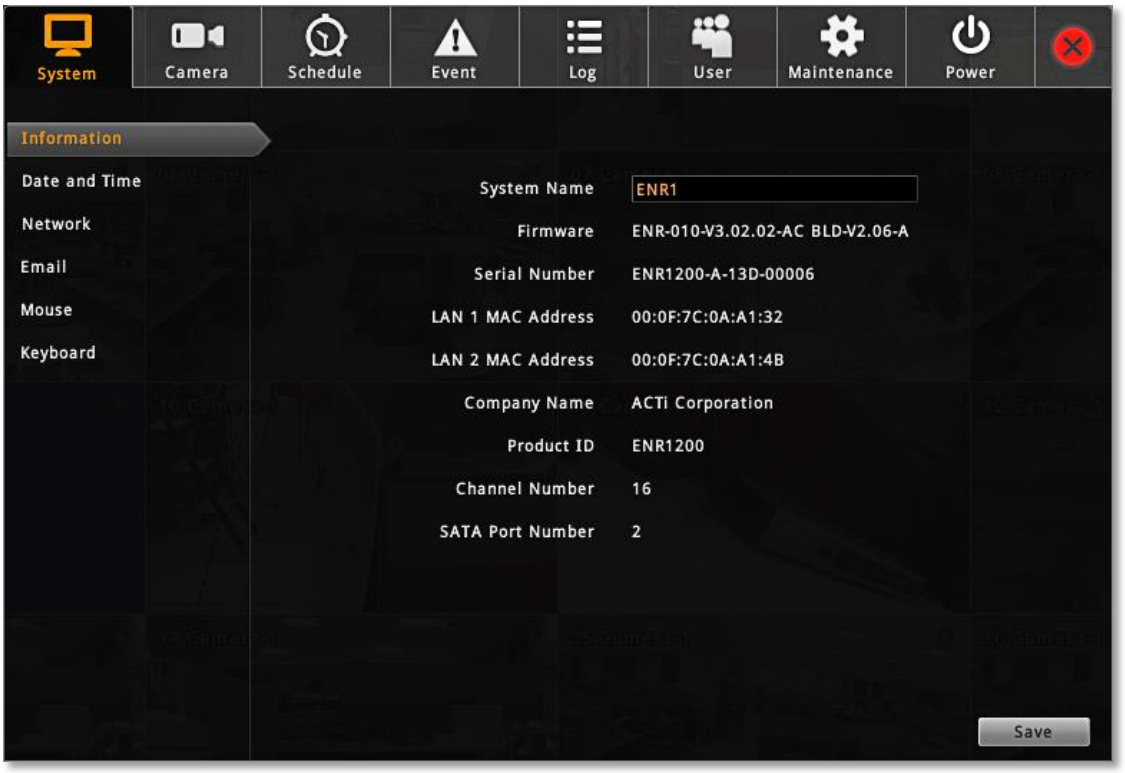


You may check and modify the network configurations by going to **Live** screen → Select "**Setup**" → click **System** tab, and select **Network**.(for detailed configuration instructions, please refer to **Device Information**

To change the device name, check firmware version information or Mac address, please go to

Setup page → **System** tab→ **Network**

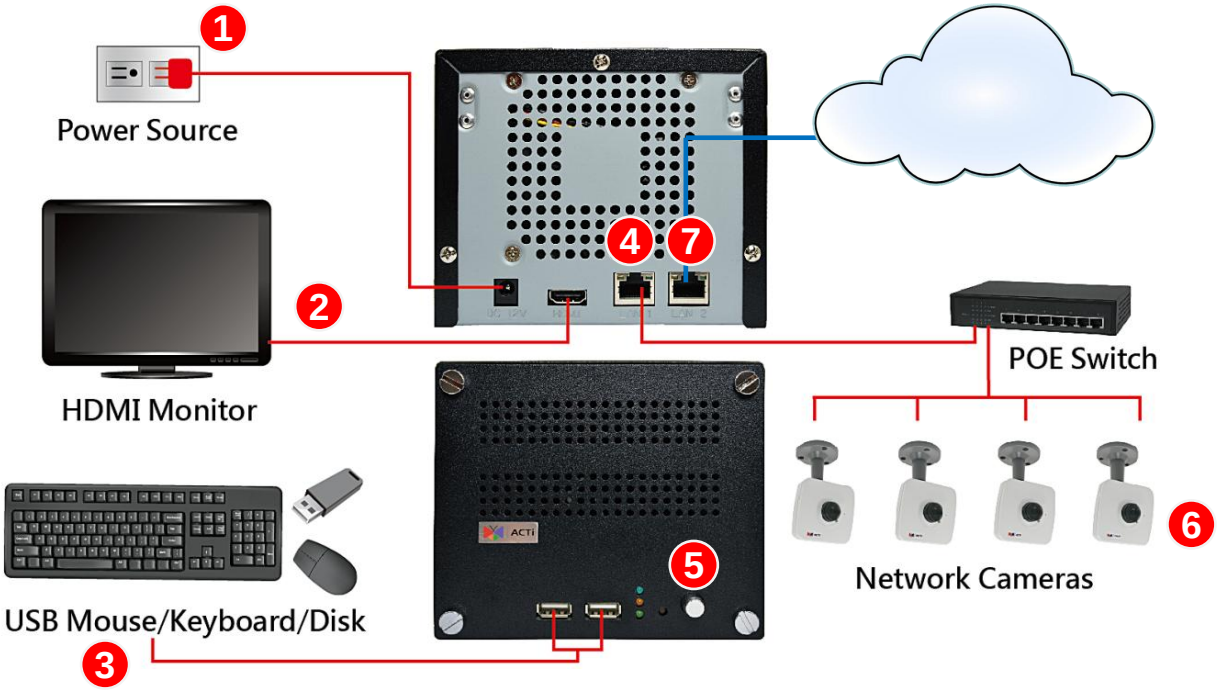
After modifying the **System Name**, click "**Save**" to save the settings.



Network Settings on page 46).

Connect the Devices

Follow the procedures to connect the devices. These devices are supposed to get connected in the sequence shown below.



1. Plug the power adapter into ENR and electricity outlet.
2. Connect the HDMI monitor.
3. Connect the USB devices.
4. Attach the network cable to **LAN1** Port.
5. Press down **Power Button** to start the device, the power status LED will turn solid blue.
6. Connect the network cameras to the switch and power them on.
7. Attach the network cable to **LAN2** Port. (Optional, required for the access to another network)

Quick Setup

By the first time you log in to ENR, the **Setup Wizard** with bring you through the initial setup process. By finishing the quick setup, you will enter Live screen immediately.

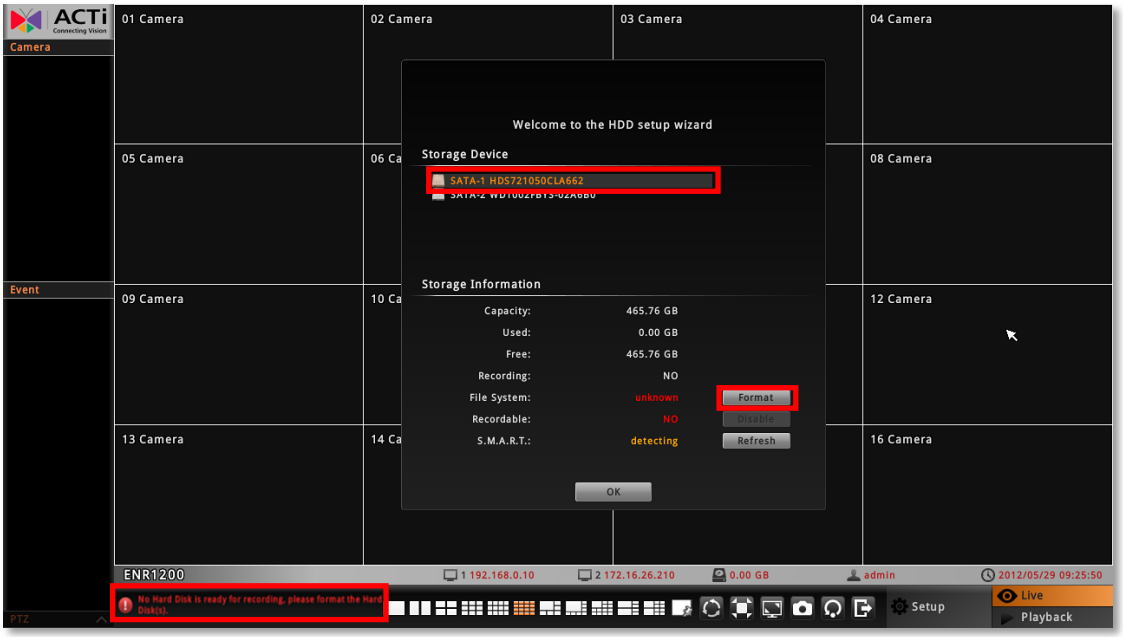
Step 1: Log in to ENR

After the device starts, you will first see ACTi splash screen then system interface.

On **Login** window. Click into the **Account** and **Password** fields to enter the default account information - **admin** / **123456**, then click "**Login**".

Step 2: Format the Hard Disks

At present, the hard disks you installed in ENR are not ready for recording, they need formatting before use.



On **HDD setup wizard** window, select the unformatted disk and click "**Format**". Repeat this step to format the other disk, and then click "**OK**". As ENR has successfully formatted a hard disk, a message will pop out to notify you. After a successful formatting, the File System of the disk will show "**ENR-FS**", and this disk will immediately become ready for recording,

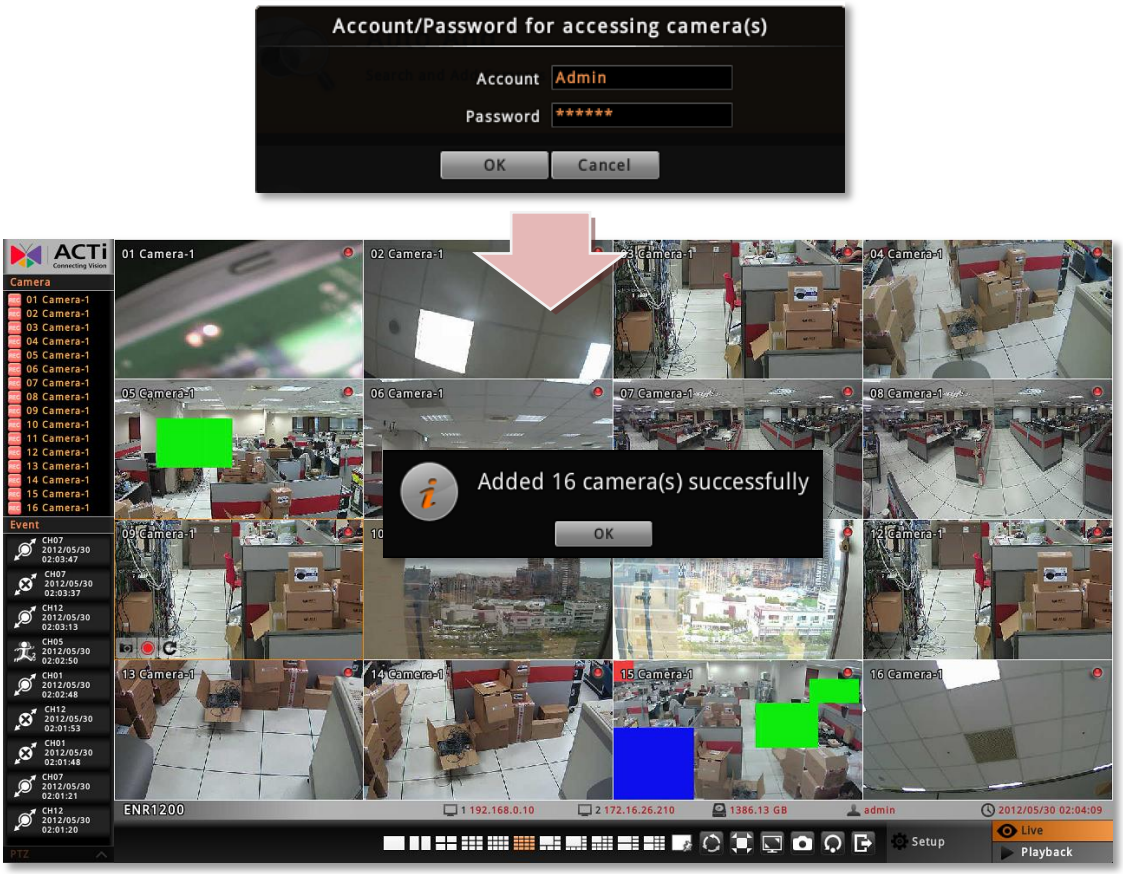
(Not formatted)		*(Formatted)*	
File System:	unknown	File System:	ENR-FS
Recordable:	NO	Recordable:	YES

Step 3: Add Cameras

Please select **Auto Add** to automatically add cameras or **Manual Add** to select cameras by yourself. this function will add the **Stream 1** of detected cameras and display them on **Live** screen right away.

Auto Add

By using **Auto Add** function, ENR will add the first detected H.264 streams. Please input the **Account** and **Password** (this user account must be the camera's root account) to access the cameras.



Note

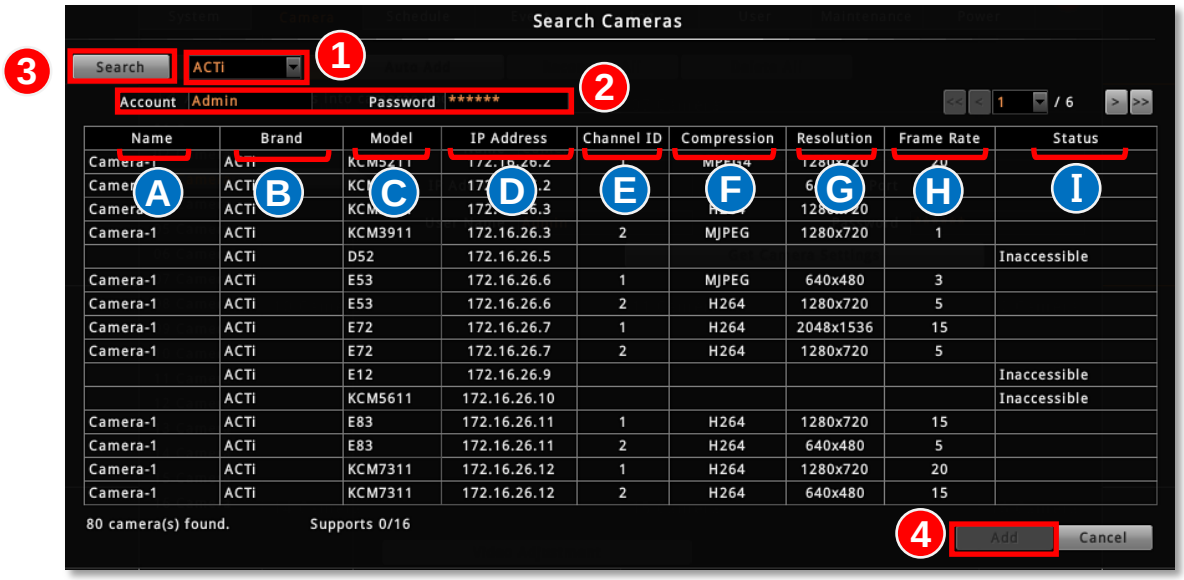
If your camera is in dual-streaming mode, **Auto Add** will only add **Stream 1**. You may go to **Setup → Cameras** tab, and click "**Search**" to find **Stream 2** and add it.

Name	Brand	Model	IP Address	Channel ID	Compression
Camera-1	ACTi	E62	172.16.26.13	1	H264
Camera-1	ACTi	E62	172.16.26.13	2	H264

Manual Add

Manual Add allows you to select desired cameras and streams from multiple-streaming devices.

1. Select the camera manufacturer.
2. Input the **Account** and **Password** to access the cameras (this user account must be the camera's root account).
3. Click "**Search**".
4. Select your desired cameras and click "**Add**". Please note that your clicking order will decide **Live View** channels arrangement. For example, you select cameras on the search list in this order: TCM-4511 → TCM-5111 → D11 → E52, which will exactly become the channel order: **01 Camera → 02 Camera → 03 Camera → 04 Camera**



No	Column	Description
A	Name	The camera models will be listed in alphabet order based on their model names.
B	Brand	Camera manufacturer
C	IP Address	Camera IP Address
D	Model	Camera model name
E	Channel	Represents the camera's **stream ID**. For example, only channel **1** (stream 1) will be detected from a single stream mode camera; while both channel **1** (stream 1) and channel **2** (stream 2) will both be detected from a dual stream mode camera, and so forth to a 4VGA or a 6 VGA mode camera.
F	Compression	Video compression
G	Resolution	Camera image resolution
H	Frame Rate	Video frame rate
I	Status	Blank: this camera is accessible and not added yet. In Use: this camera/stream has been added to the system. Inaccessible: this camera is inaccessible. You will have to try accessing it using another **Username** or **Password**, (make sure this account is that camera's root account), and click **Search**.

Note

Camera Setup helps your ENR connect cameras within few clicks; however, you may still need to configure the camera settings (e.g. Motion Detection, Video Adjustment) later. Please go to **Setup** → **Cameras** tab to do so, and also refer to Set Cameras on page 36 for the instructions.

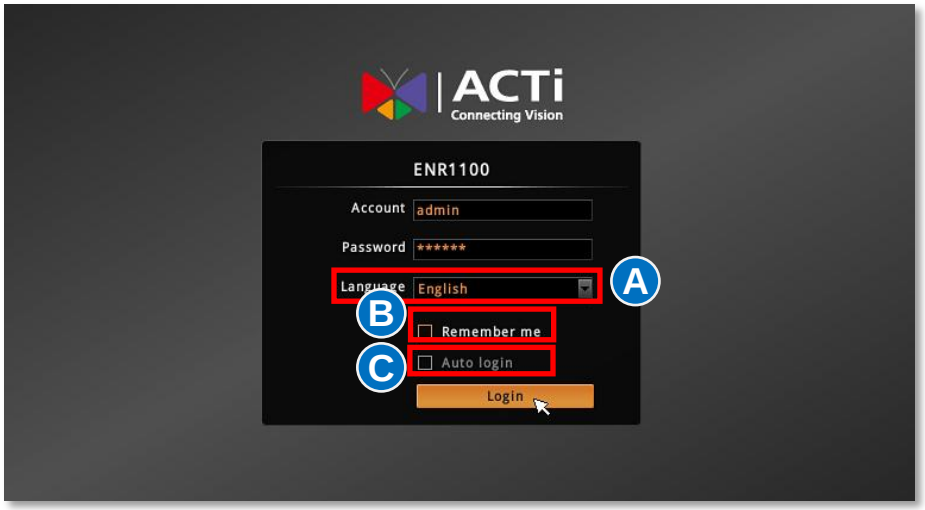
Local Client Operation

Log In/ Out ENR

By default, an administrator account has already been existing in your system. To log in to ENR for the first time, you will have to key in the password in **Login** window.

Log In

If you are not logged in yet, click on screen to bring up the **Login** window.



Change UI language A

To change UI language, select the desired language from "**Language**" dropdown list.

Remember Login Information B

To have the server remember your **Account**, **Password** and language setting for future, check "**Remember me**".

Set Auto Login C

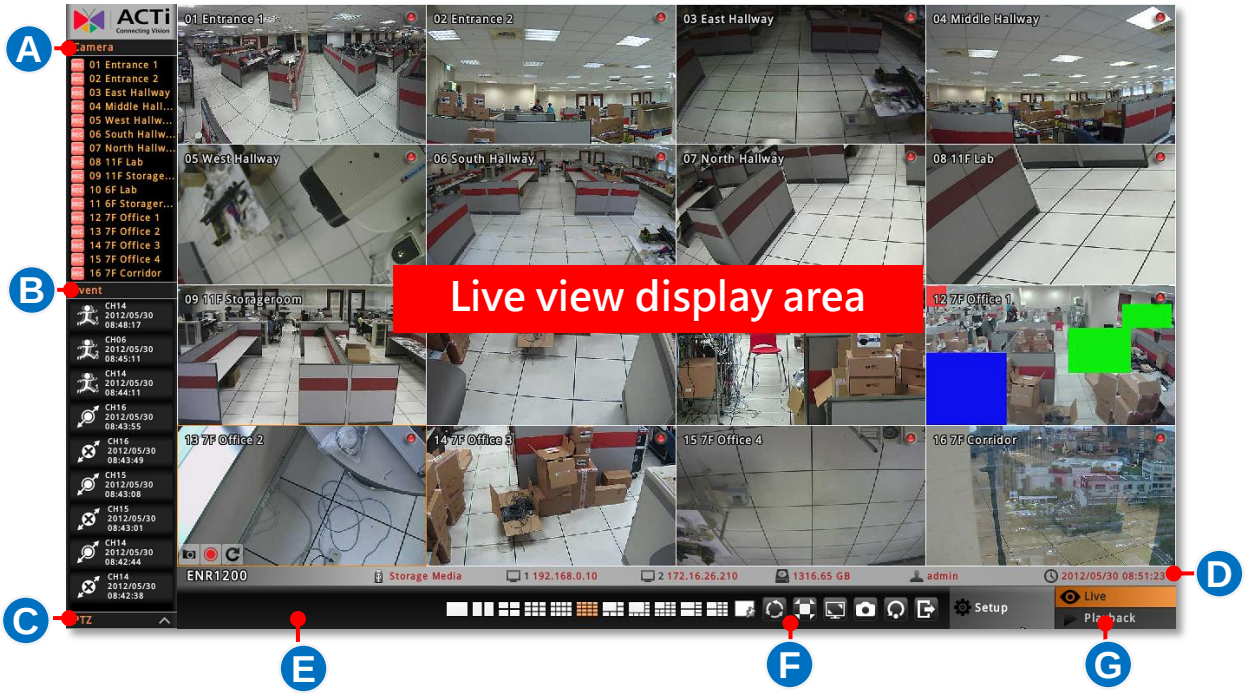
Check "**Remember me**" then "**Auto Login**", you will skip the **Login** page and directly enter **Live** screen when accessing ENR in the future. This feature makes using ENR more convenient, however it may pose a security risk because any other user can enter ENR using the account you established. The **Remember me** and **Auto-login** function will be cancelled when you logout from ENR.

Log Out

On **Live** screen, click "**Logout NVR**" .

Live Page UI Overview

After logging in, you will enter **Live** screen. **Live** screen is the interface where you see the live views from your cameras. It is where most of the security professionals access the surveillance system



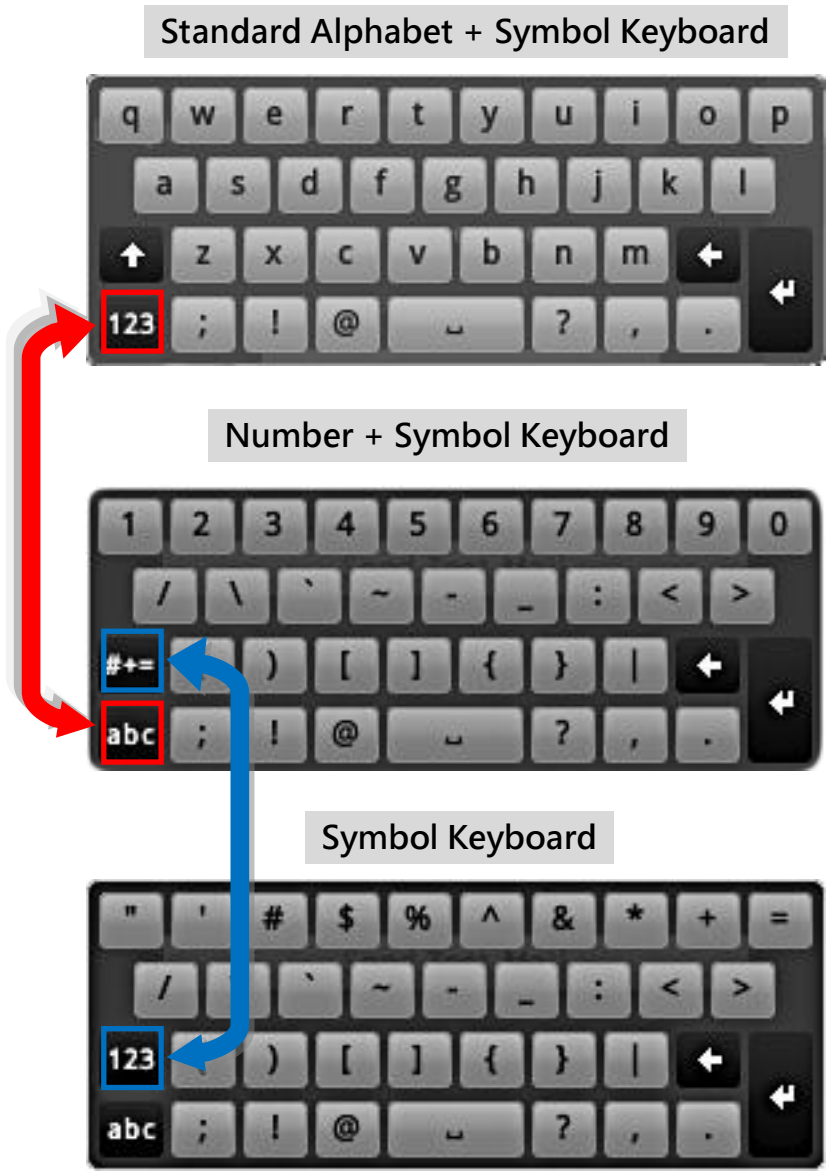
No	Description
A	**Camera List**: Lists all the connected cameras and their recording status.
B	**Event List**: Displays alerts of detected motion, recording and connection status.
C	**PTZ Control Panel** Provides live onscreen PTZ controls. This panel is only enabled when a PTZ camera channel is selected on live view display area.
D	**System Status**: Displays the following system status from left to right – (1) connected USB storage device, (2) **LAN1** IP address, (3) **LAN2** IP address,(4) total free disk space, (5) your user account and (6) current system time.
E	**System Message** Displays import messages to inform you of certain system conditions that require your prompt action.
F	**Live Menu** Lists available layout selection and live view operation controls
G	**Page Switch** You may switch to the **Setup** or **Playback** page by clicking the tags. The **Setup** page is only accessible from **Live** page.

Input Devices

The physical input devices (e.g. USB mouse and USB keyboard) are ready to use when you connect them to ENR via USB ports.

Onscreen Keyboard

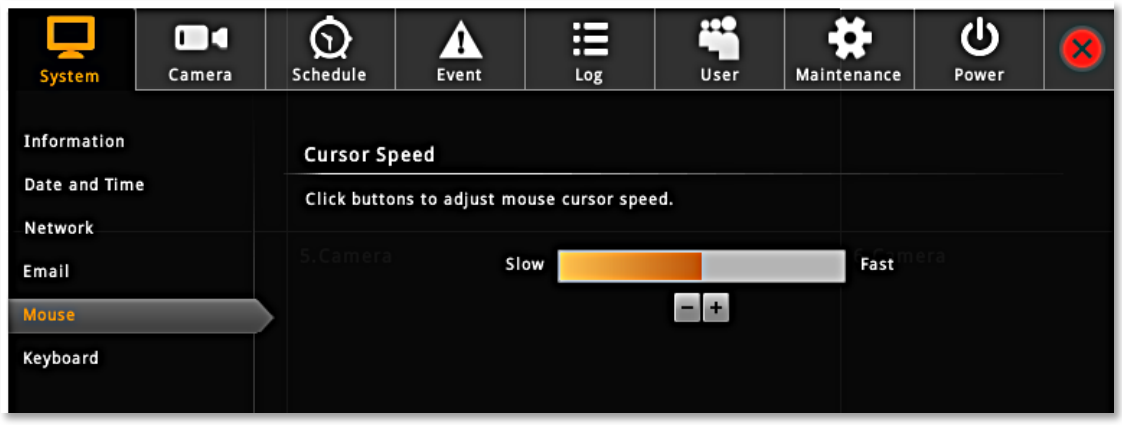
The onscreen keyboards allow you to input characters without using a physical one. By clicking in a character field (e.g. **Account** or **Server** name) or number field (e.g. **IP address** or **Port**), the specific onscreen keyboard will be brought up.



Mouse Settings

You may adjust the mouse's cursor speed via the path below:

On **Live** screen**,** click **Setup** → select **System** tab → click "**Mouse"**.



Onscreen Keyboard Settings

To disable the virtual keyboard if a physical one is already in use, on **Live** screen, click **Setup** → **System** tab → click "**Keyboard"**. Uncheck the box "**Always shows software keyboard**".

Set Cameras

ENR user interface also allows you to easily configure, add or delete cameras without the use of another web browser.

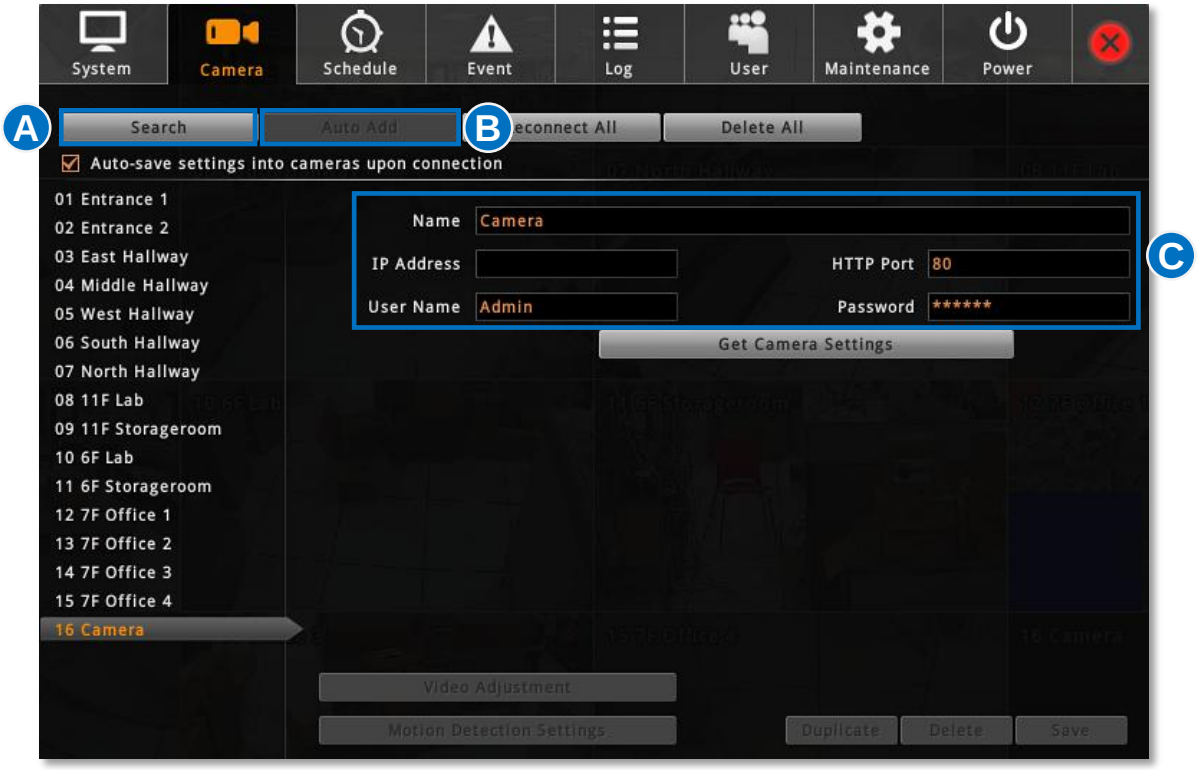
Add Cameras

On **Live** page, click **Setup** → **Camera** tab. There are three methods you can use to add cameras:

(A) Click **Search** to scan through the available video sources, and select desired cameras to add by yourself. This is the same quick method provided by **Camera Setup Wizard**, please refer to **Manual Add** on page 30 for instructions.

(B) Click **Auto Add** to let ENR add the channels automatically. This is the same quick method provided by **Camera Setup Wizard**; please refer to Auto Add on page 29 for instructions.

(C) Fill in the properties in this area to **Manually** add one.



Note

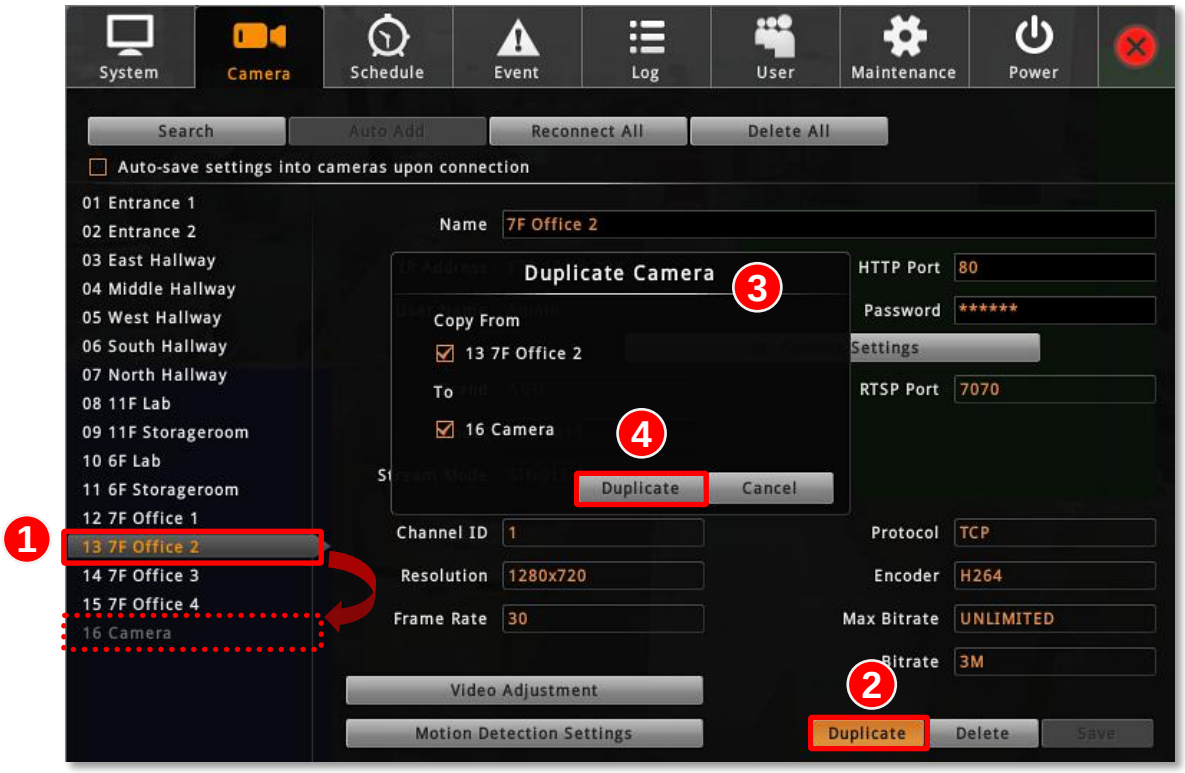
ENR will synchronize with devices upon connecting to them. To make sure the settings on ENR side are prior to those on camera sides, please check "**Auto save ENR settings into device upon connection**". When this function is enabled, every modification you make via Camera's web configurator will be overwritten by ENR.

If the camera is not located within your network segment, you may add it manually.

1. Select a **Camera ID**, from the **Camera List** on the left.
2. Fill in the connection properties such as properties **IP Address**, **Port**, **Username** and **Password**, and click "**Get Camera Settings**".
3. The camera settings will appear. Click "**Save**" to save it to this camera channel.

Copy Camera Settings

You may copy an added camera's settings another channel. In this way, it is easier to manually add more than one camera of the same models.



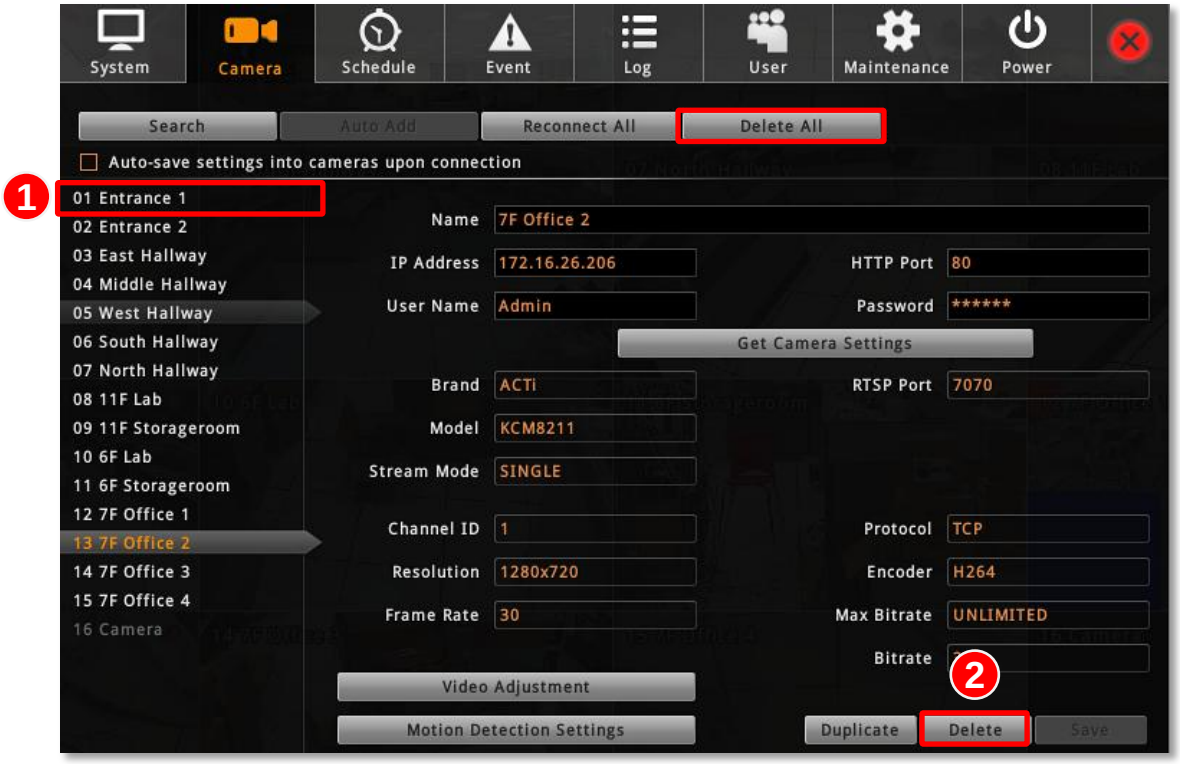
1. Select an existing channel.
2. Click "**Duplicate**", a target channel list will pop up. Select your desired target cameras and click "**Duplicate**". In the example shown above, **Camera 13** properties will be copied to **16 Camera**.

Delete Cameras

You may delete a single channel one at a time or delete them all at once. The deletion of certain channel will not include the previous recordings of it.

1. Select an existing channel.
2. Click "**Delete** to delete the selected channel

By clicking "**Delete All**", you can delete all cameras at one time.



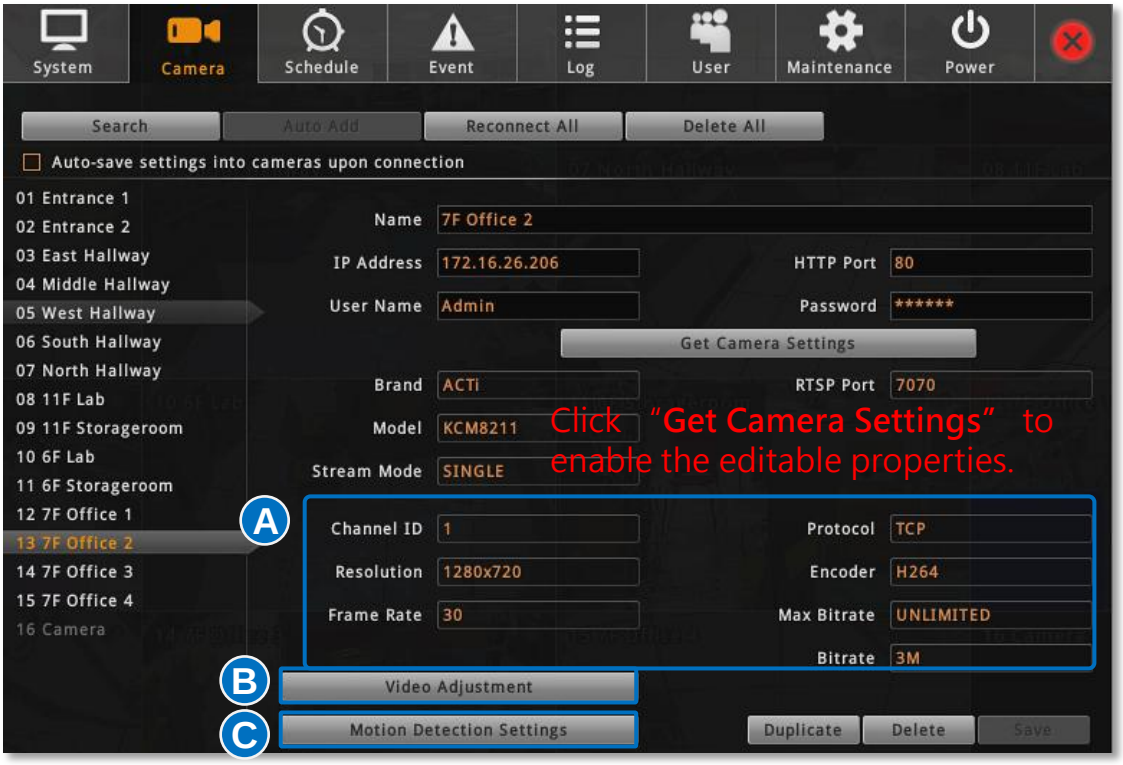
Change Camera Settings

After the cameras are added, you may change their properties on **Camera** tab.

(A) Video format and transmission properties

(B) Video adjustment

(C) Motion Detection settings



(A) Video Format and Transmission Properties

To modify the video format and transmission properties including **Channel ID**, **Resolution**, **Frame Rate**, **Protocol**, and **Bitrate**, you will have to click 

first to sync with the camera first. After configuration, click "**Save**" to save this setting to camera

Note

1. Changing the video resolution will reset your current motion region settings. Please re-configure the settings later.
2. For local display viewing, please DO NOT (1) change the video resolution to more than 2M (1920x1080 pixels) or (2) change the video codec to MJPEG or MPEG4, for these types of video streams are only displayable through ENR web interface.

(B) Fine-tune the Image: Brightness/Contrast/Saturation/Hue

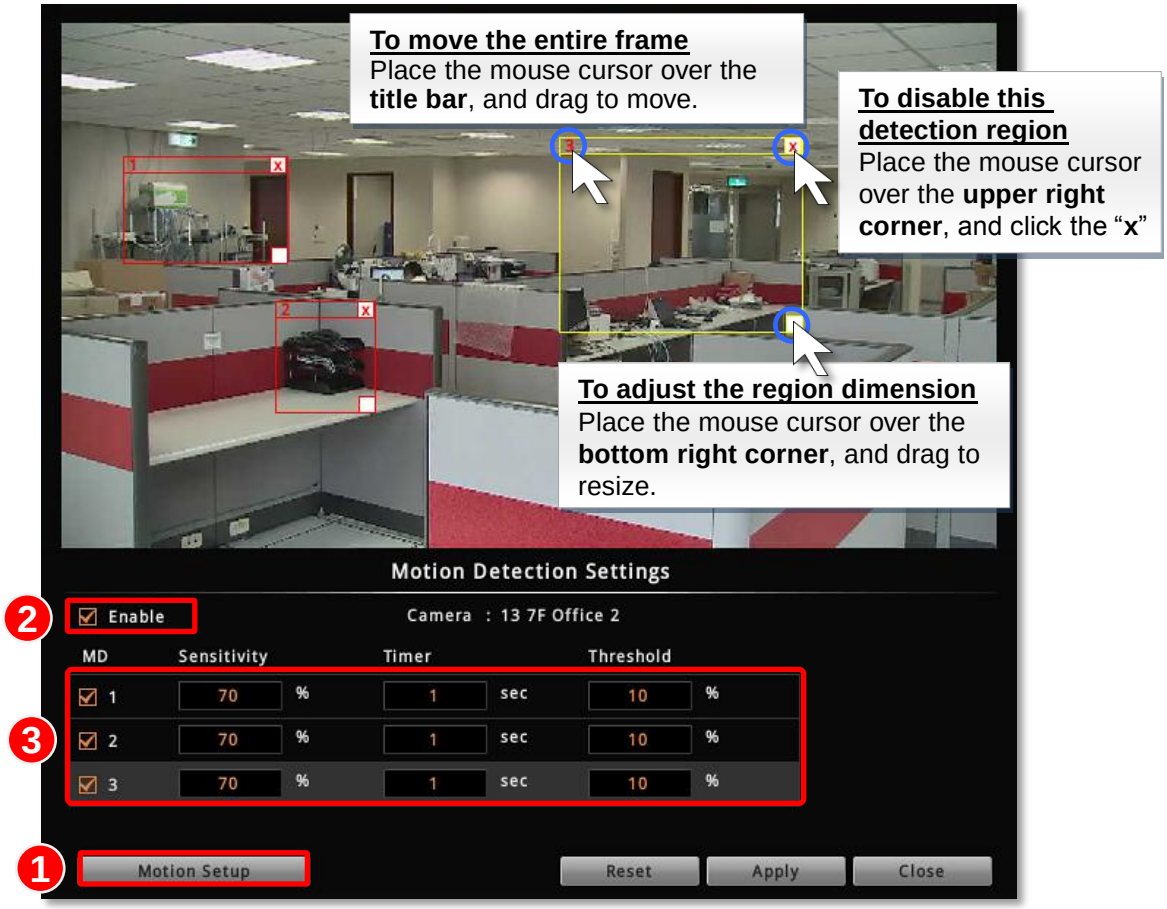
Not only clarity but also brightness, contrast, saturation and hue are essential factors to make images closer to real scene. For cameras that support these configurations, you may directly modify them and save via ENR interface.

After selecting a camera, click "**Video Adjustment**" window, the fields available for modification (depends on models) will be enabled. Select the desired value for the field, and click "**Apply**".

Field Name	Description
Brightness (1-100)	Defines how much portion of light and of dark appear in the image. As the value increases, the image appears brighter, and vice versa.
Contrast (1-100)	Defines the range level between light values and dark values. As the value increases, the separation between light and dark becomes more obvious.
Saturation (1-100)	Defines the level of the actual color intensity. As it increases, colors appear more pure; as it decreases, colors appear more gray-out.
Hue(1-100)	It is the term used to refer to the pure spectrum colors. Adjust this value to find the color closest to the real scene.
Line Frequency (50Hz / 60 Hz)	The unction that adjusts the shutter speed options to match the frequencies of artificial light source of given country. For example, in Europe the light frequency (due to power supply frequency of lights) is 50Hz, that is 50 flashes per second. By setting line frequency to 50Hz in such case, the shutter speed options will be proportional with light source frequency, such as 1/25s, 1/50s, 1/100s, etc. It is necessary to have the camera's line frequency adjusted according to the power frequency of the light source to avoid flickering effect.

(C) Motion Settings

After selecting the camera, click "**Motion Detection Settings**". If this camera is in dual stream mode, only **Channel ID 1** (Stream 1) supports motion detection feature. On **Motion Detection Settings** window, check "**Enable**" then click "**Motion Setup**". To enable one motion region, check it, a color frame will appear in the view. You may start setting the detection area by adjusting this yellow frame on the view. Simply use your mouse to move and resize the frame. Click "**Apply**" to save the settings.



Field Name	Description
Sensitivity (0-100%)	Determines how sensitive the camera reacts to the movement. The higher the sensitivity level is, the smaller motion will trigger the alarm, but may give false alarms. Default is 70%.
Timer (0-300 secs)	The interval before the next motion detection can be triggered again. Default is 1 second.
Threshold (0-100%)	The threshold level of this motion detection region. The lower threshold level is, smaller portion of the region would be considered as motions, which is more easily to be triggered, but may give more false alarms. Default is 10%.

Configure PTZ Presets

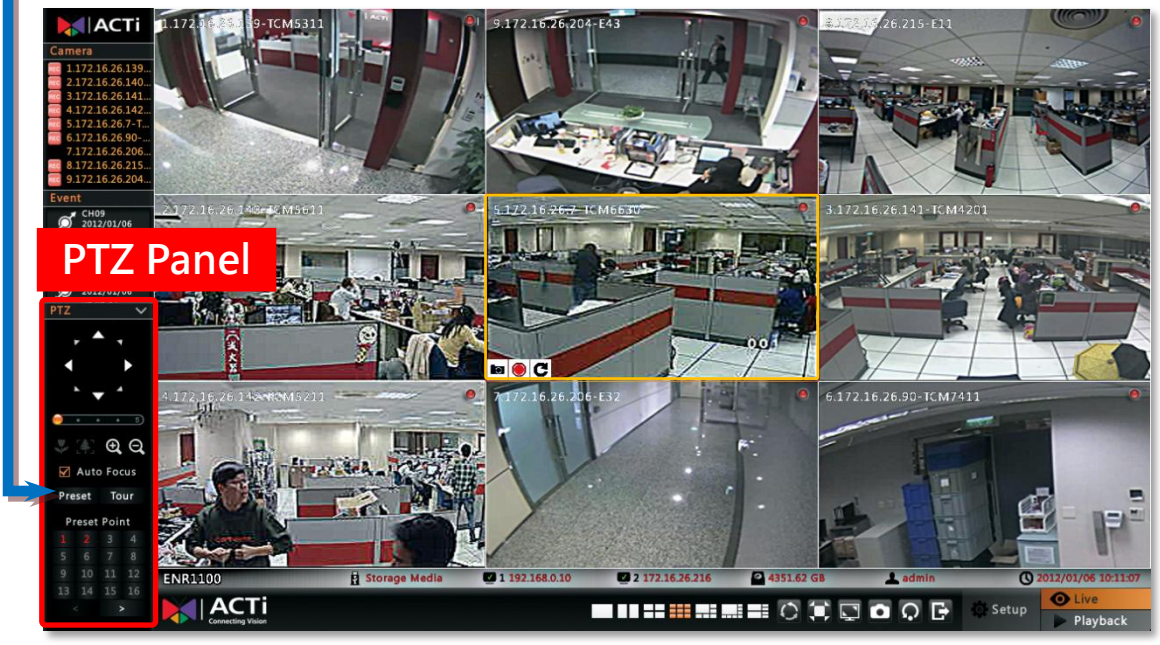
With PTZ cameras, you may define a view by where to look (through panning and tilting) and how close (through zooming) to zoom. Once these views have been saved in ENR as preset points, the device can always point to this view upon the event triggering or user's command. For local operation, the PTZ-related configurations are done on **Live** screen.

Please note that, the PTZ-related settings you configure here will overwrite those on camera's firmware.

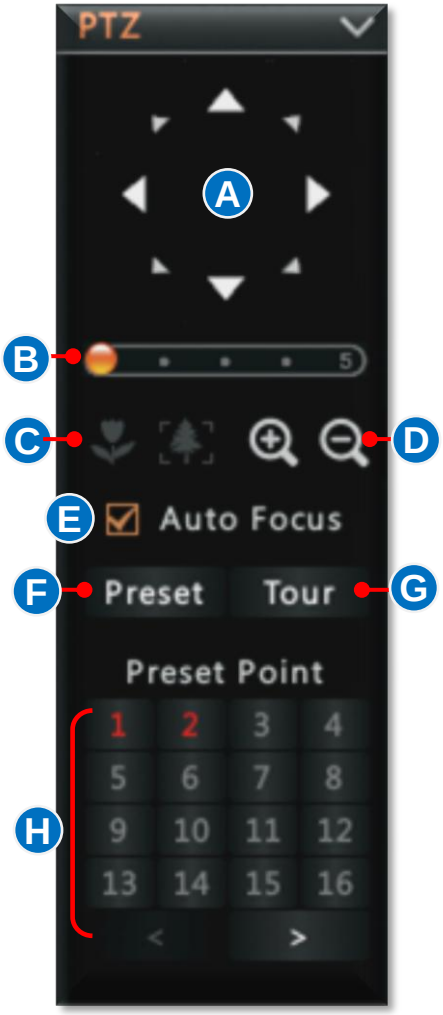
Open PTZ Panel

On **Live** screen, select the PTZ camera channel on display area.

Click the **PTZ Panel** tag to open the panel.



PTZ Panel Description

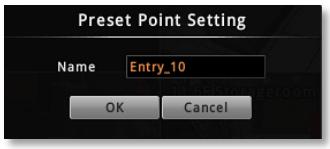


No	Function
A	**8 directional arrow keys**: Click to pan or tilt the camera (only available for cameras with Pan/Tilt/ capability).
B	**Pan/Tilt/Zoom speed**: Click to change the speed. Provided speed scale is from **1** to **5** (available for cameras with Pan/Tilt/Zoom capability).
C	**Manual focus** (Available for cameras with a controllable focus) Near focus Far focus These buttons are enabled when the "**Auto Focus**" is disabled.
D	**Zoom** (Available for cameras with a controllable zoom) Zoom in Zoom out
E	**Auto focus** (available for cameras with auto focus capability)
F	**Preset Points Editor** Click to enter Preset Points edit mode.
G	**Tour Mode** Click to enter Tour mode.
H	**Preset Points** Click to the Preset Point ID to make the camera point to the pre-defined position.

Edit Preset Points

1.On **PTZ Panel**, click Preset to enter **Preset Points Editor**.

2. Use buttons A ~ E on **PTZ Panel** to define a view, then click the desired preset point ID and in put the point name in **Preset Point Setting** box. This preset point will be saved, and its ID will turn red.



3.To delete a point, simply click and then preset point you want to delete.

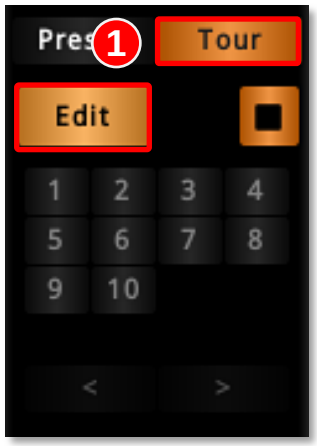
4.After editing, click Preset will save the setting and exit the editor mode. You may click on a red number to have the camera go to that perset point.

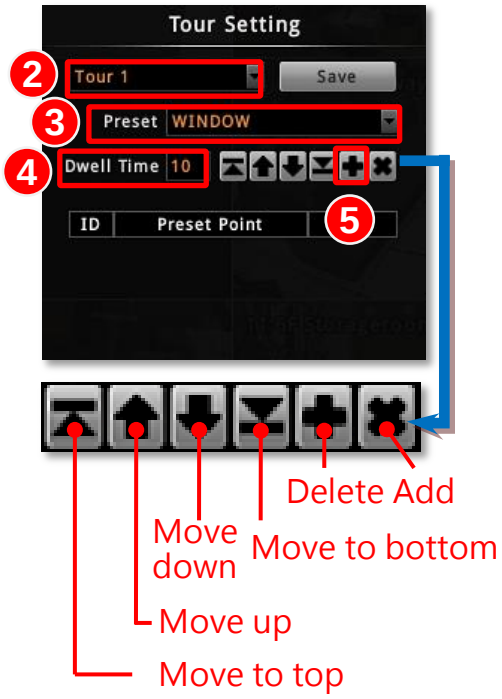
Edit PTZ Preset Tour

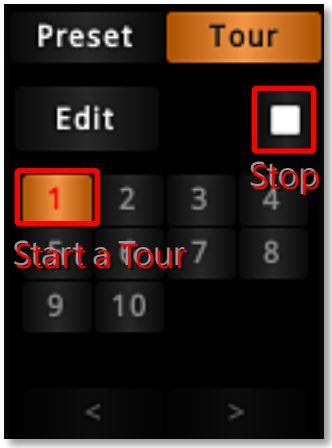
Preset Tour is a preconfigured PTZ sequence that directs the camera to cycle through multiple preset points, including where to look and how long to look at each location. With this preset tour, your PTZ device can perform an automatic patrol to scan through your cared areas.

Before setting up Preset Tours, please make sure you have set PTZ Preset Points. To start:

1. On **PTZ Panel**, click Tour and then Edit to enter Tour mode.
2. On **Tour Setting** window, select a **Tour** from drop-down list.
3. Select a **Preset Point** from drop-down list.
4. Set the **Dwell Time**, default is 10 seconds.
5. Click ✚ to save this point into the list.
6. Repeat **step 1** ~ **step 5** to add other points in your desired movement sequence. You may use the edit buttons to change the point order or delete a point. Click "**Save**" when this Tour list is well set. Click "**Close**" to exit this window.
7. The ID of a saved tour will appear red. Click on it to start the tour, and click ■ to stop it.



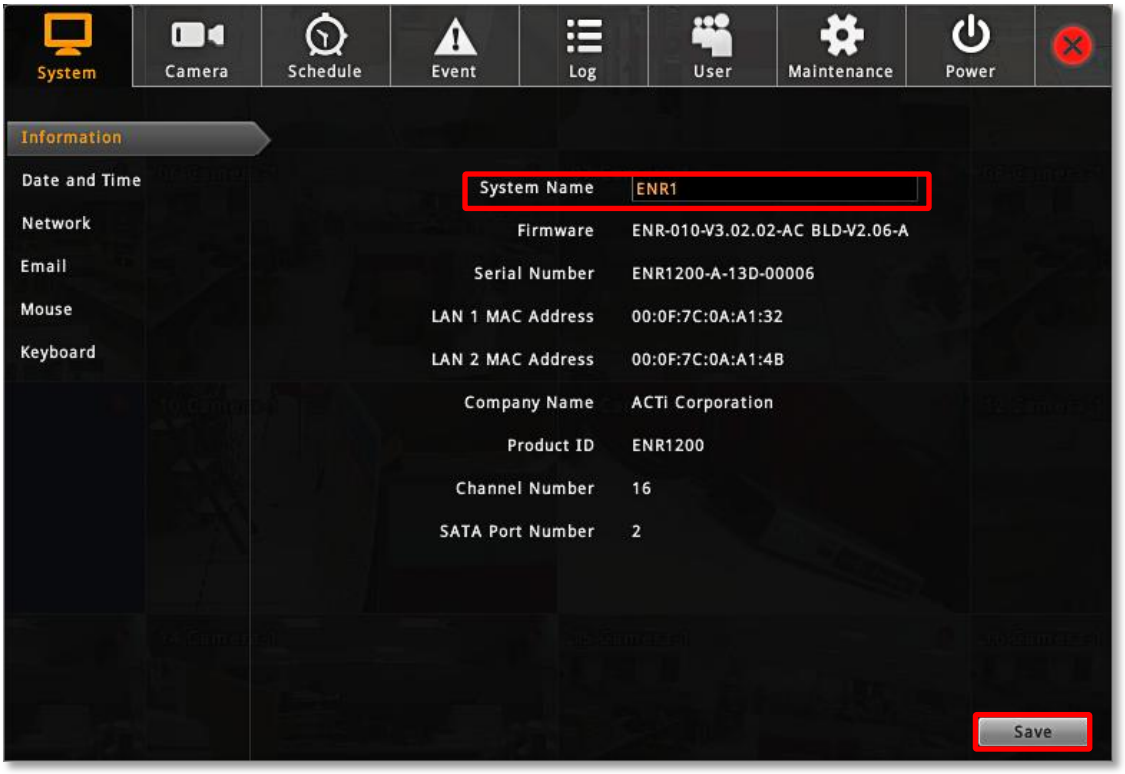




Device Information

To change the device name, check firmware version information or Mac address, please go to **Setup** page → **System** tab→ **Network**

After modifying the **System Name**, click "**Save**" to save the settings.



Network Settings

There are two network interface cards in ENR. Either of these cards can be supported by the built-in DHCP server feature, which enables ENR to assign IP addresses to cameras via **LAN1** or **LAN2** port without another DHCP on router.

By default, **LAN1** card is set to **Manual** mode with a fixed IP address ***192.168.0.10***, while **LAN2** is in **DHCP** client mode. It is suggested that you connect **LAN1** to LAN and connect **LAN2** to WAN.

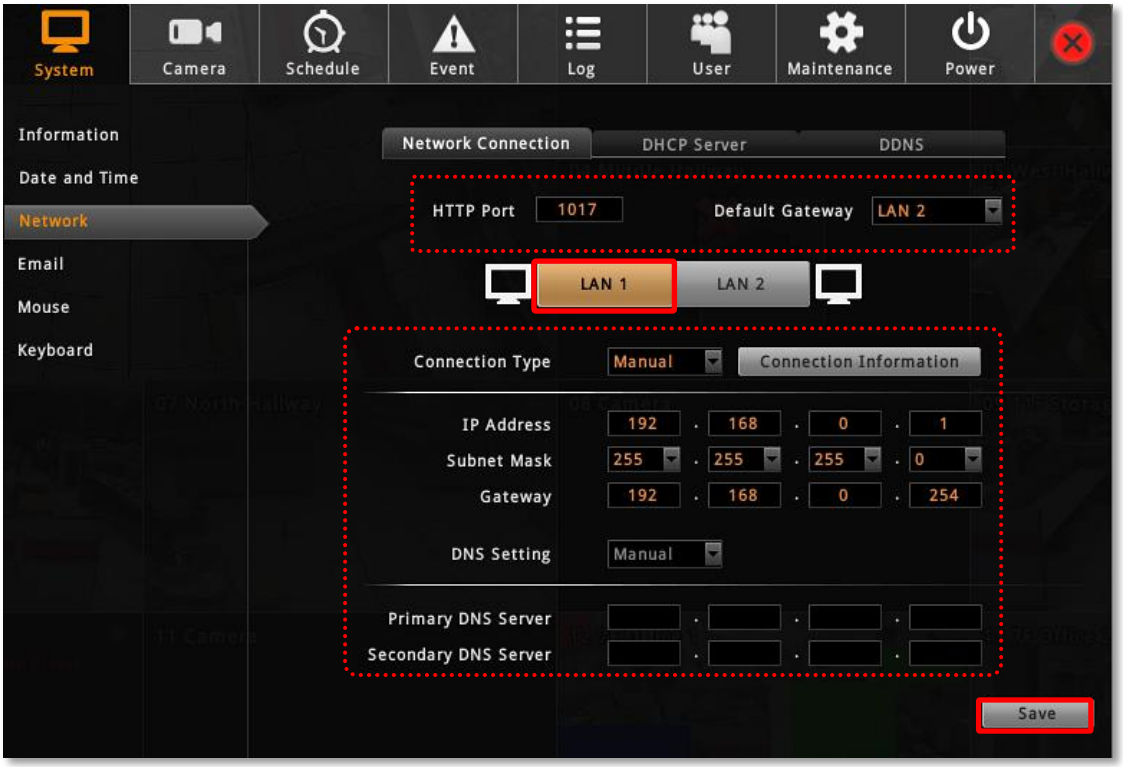
IP Settings

Go to **Setup** page → **System** tab→ **Network**

Click "**Network**" then tag **LAN1** or **LAN2** to select the interface card that you wish to set up.

After setting up, please click "**Save**" on the bottom right to save the settings.

Please note that any change you make on this page requires the system to restart its service, please wait for a while and reconnect ENR using the new properties.



Field Name	Description
HTTP Port	The connection port is used for remote web client to communicate with ENR. Default is *80*.
Default Gateway	Default uses *LAN2's setting*.
Connection Type	Choose one connection type for this LAN port. DHCP and PPPoE service will assign an IP Address to ENR, and there is no need for you to define other network information. **Manual**: Please obtain a static IP address and other network information including Subnet Mask, Gateway and DNS server from your network administrator. **DHCP**: Use this connection type if you have a DHCP server on your network router. **PPPoE**: Chose this when your ISP is using PPPoE type DSL line. Please contact you ISP to get the **Username** and **Password** for this connection. **LAN1** default is *Manual*; **LAN2** default is *DHCP*.
IP Address	Fixed IP Address. **LAN1** default is *192.168.0.10*; **LAN2** default is *Auto*.
Subnet Mask	Used to define if the destination is in the same subnet. **LAN1** default is *255.255.255.0*; **LAN2** default is *Auto*.
Gateway	A valid gateway setting is essential for data transmission between different subnets, such as accessing the DNS service or SMTP server on the Internet. **LAN1** default is *192.168.0.254*; **LAN2** default is *Auto*.
DNS Setting	The DNS server that translates domain names to actual IP addresses. If this LAN is **Manual** mode, and you will set an SMTP server for event notification, be sure to set the Primary DNS and Secondary DNS. **LAN1** default is *Manual*; **LAN2** default is *Auto*.

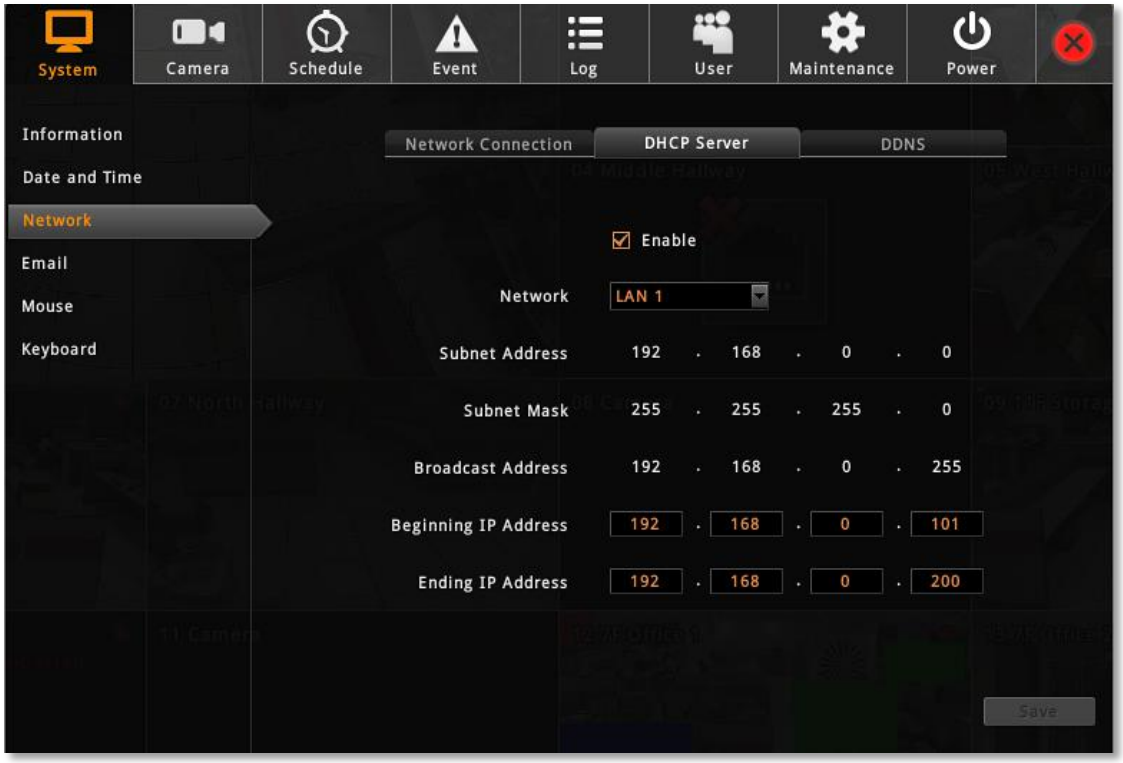
Enable DHCP Server

You may enable the built-in DHCP server for either **LAN1** or **LAN2** port.

Go to **Setup** page → **System** tab→ **Network** and click "**DHCP Server**".

1. Check "**Enable**" and select a LAN, this LAN has to be in **Manual** mode.
2. Set the **Beginning IP Address** and **Ending Address**, and click "**Save**". ENR will assign

IP addresses within this range to the cameras connected to the selected LAN port. Please (1) make sure the cameras are in DHCP client mode, (2) connect and power the cameras up after you enable this service.



Enable DDNS Service

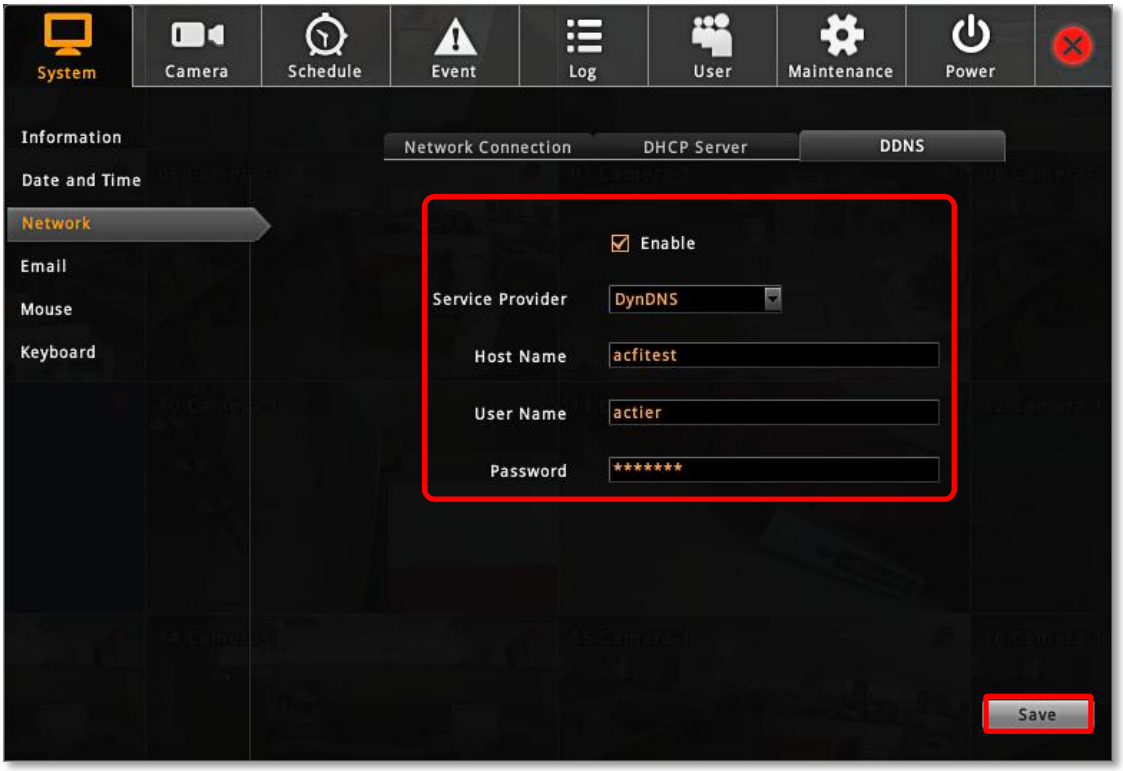
ENR has built-in the DDNS update client feature, which saves ENR domain name address information and actively update its ip address to the DDNS provider's server.

1. Visit the dynamic DNS service provider's website and register the domain name for your ENR.

   ENR supports the following service providers:

   - DynDNS: http://www.dyndns.com
   - NO-IP: http://www.noip.com/

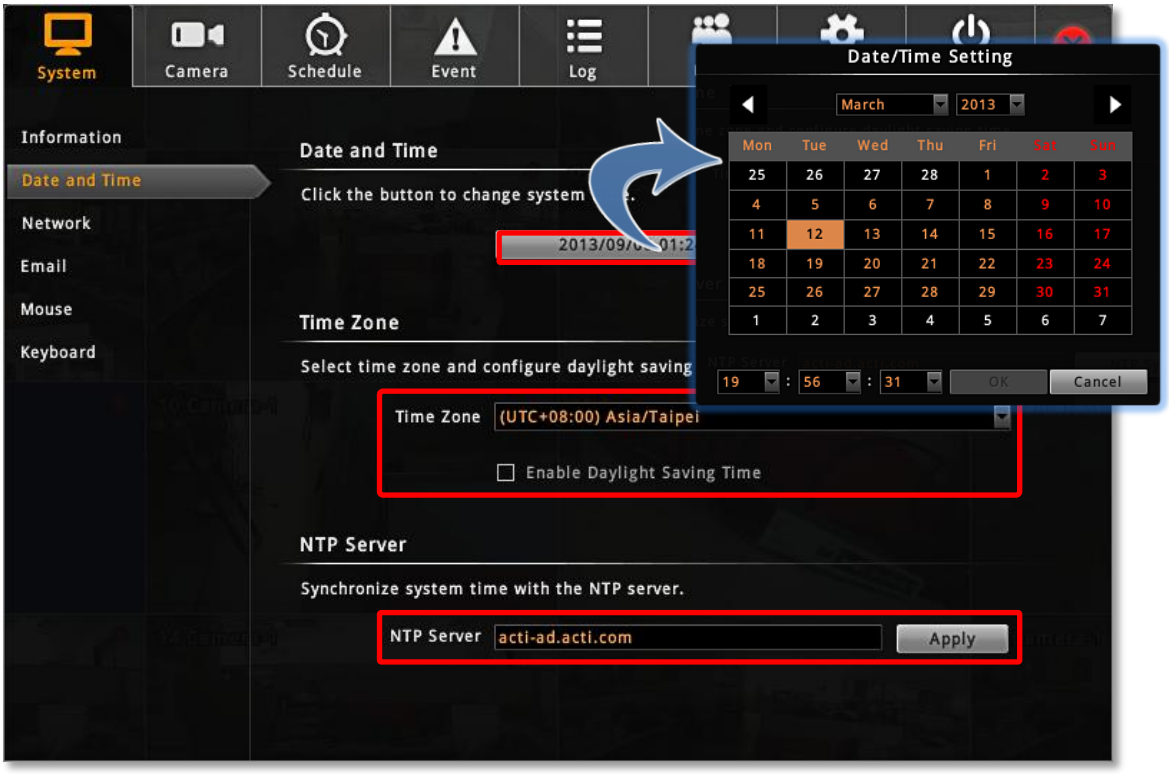
2. Go to **Setup** page → **System** tab→ **Network and** click "**DDNS**".
3. Check "**Enable**", select the service provider, and input the **Host Name**, **User Name** and Password.
4. Click "**Save**" to save the settings.



Date & Time

ENR provides three methods to synchronize the time setting; you can (1) manually set the date and time, (2) sync with Time Zone or (3) synchronize with NTP server.

On **Live** screen, click **Setup** → click **System** tab → click "**Date and Time**"



Setup Manually

In **Date & Time** section, click the button that shows date and time information on it. On the popped-out calendar, select the correct date and time, then click "**OK**".

Synchronize with Time Zone

In **Time Zone** section, select your zone from the **Time Zone** drop-down list. If your time zone falls in Daylight Saving Time area, you may check the box "**Enable Daylight Saving Time**", and then system time will automatically adapt itself to daylight saving time clock.

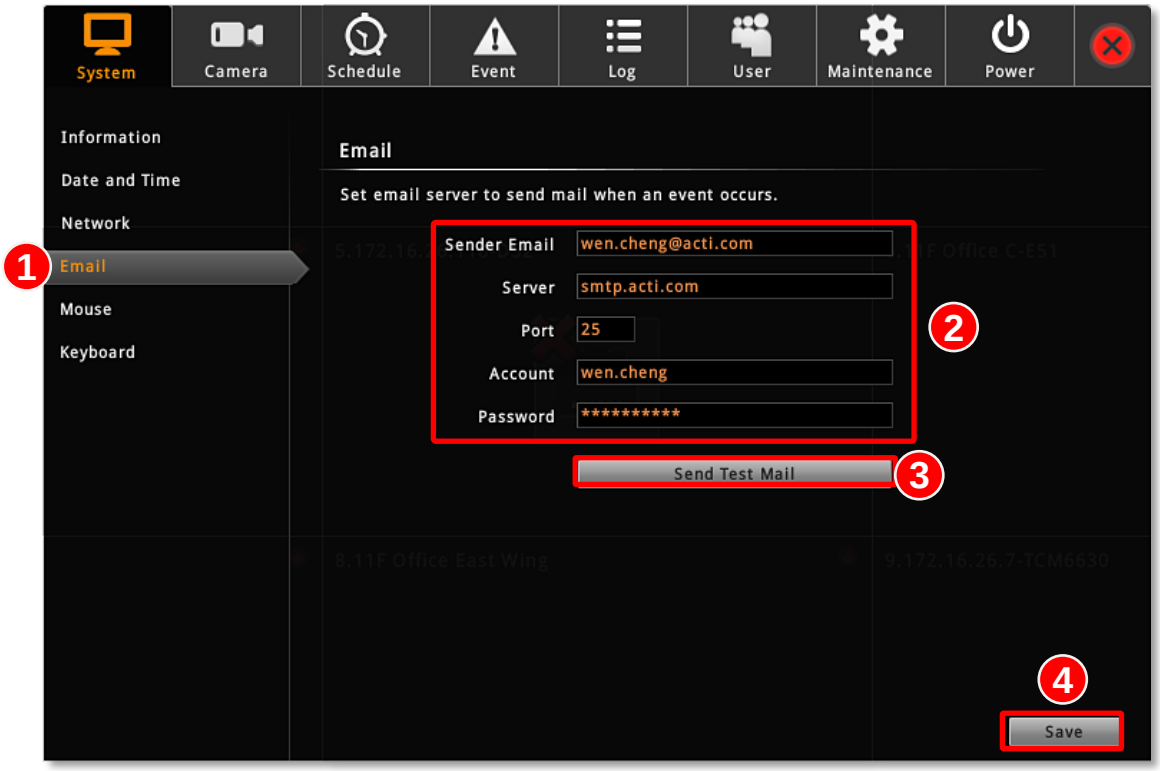
Synchronize with NTP server

In **NTP Server** section, fill in the NTP server IP or domain name in the NTP Server field, and click "**Apply**" to start synchronizing.

Email Settings

ENR supports email notification for **Event Handling** sent through an SMTP server. To enable this service, you will have to configure the SMTP mail settings in advance. For SMTP service, please go to **Setup** page → **System** tab→ **Network** and make sure the **Default Gateway** adopts the setting of the LAN connection has access to the SMTP server.

1. On **Live** screen, click **Setup** → Select **System** tab → click "**Email**".



2. Fill in **every field** according to the detailed instructions in the table below.
3. Click "**Send Test Mail**" to send a test mail to this email account. If the test mail is sent successfully, the dialog box below will pop up, which means your ENR server is ready to send out email notifications when being triggered by an event.

4. Click "**Save**" to save these properties.

Field Name	Description
Sender Email	Input the sender's email address, should the same account you set for SMTP server.
Server	Input the sender's SMTP server address. Only alphabets, numbers, and the

	symbols (.), (_), (-) are valid. ENR server supports the SMTP services with SSL protocol. If you wish to use a free webmail SMTP service, you may choose certain webmail providers such as **Yahoo** (SMTP: smtp.mail.yahoo.com Port:25) or **Gmail** (SMTP: smtp.gmail.com Port:25 or 465 for SSL protocol / 587 for TLS protocol)
Port	Set the SMTP port, allowed value is from 1~65535, default is **25**.
Account	Input the name of the SMTP server account. The form of account name depends on mail server, e.g. a Hotmail account name is a complete email address, while other mail servers' are not. Only alphabets, numbers, and the symbols (@), (.), (_), (-) are valid.
Password	Input the password of the SMTP server account. Only alphabets and numbers are valid.

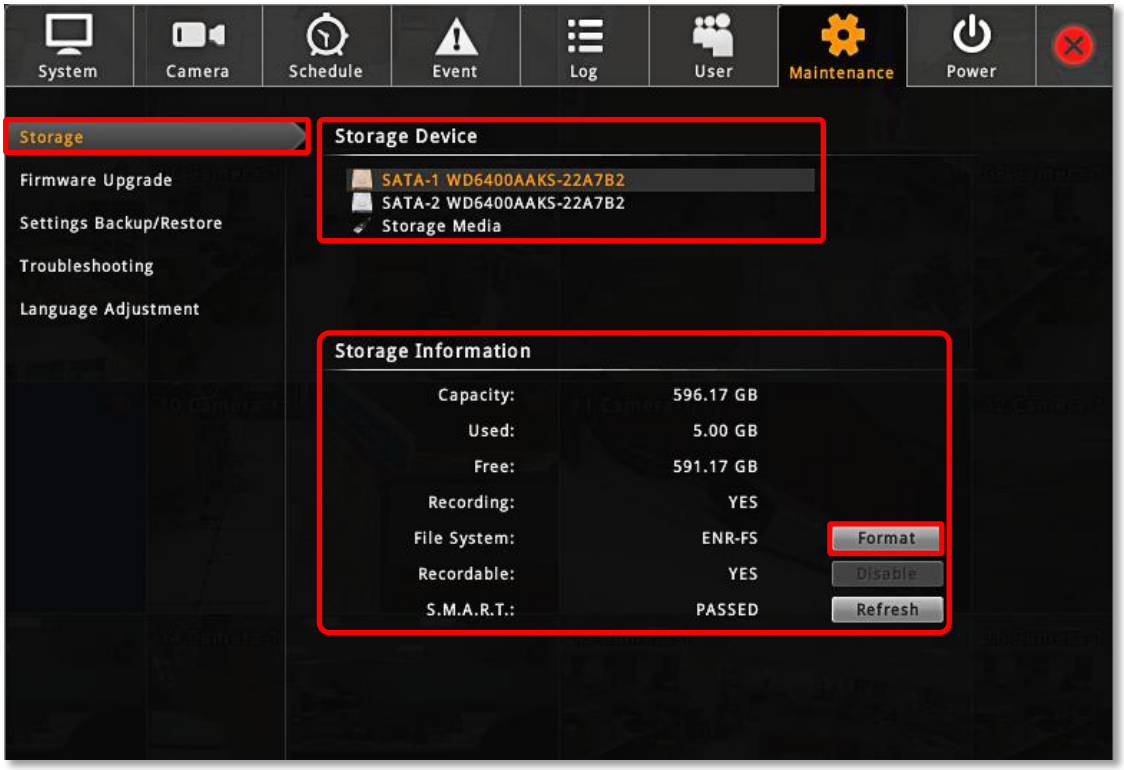
Disk Management

ENR keeps the recordings on SATA hard disks installed in it. Whenever recording is taking place, ENR writes data to one of the disks, and switch to the other as the original one is full. Once the available space of the whole system is less than the reserved size, ENR will start deleting the oldest file to make the amount of space allowing each active channel to record for another 10 minutes.

You may observe the disk memory and recording status on **Storage** page.
On **Live** screen, click **Setup** → click **Maintenance** tab → click "**Storage**". The connected storage devices will be shown in the **Storage Device** list. Select a storage device to check its **Storage** Information appearing as below.

Storage Device Types

●**SATA1** represents the disk installed in upper bay for saving recordings.
●**SATA2** represents the disk installed in lower bay for saving recordings.
●**Storage Media** represents the connected USB disk that you use for carrying firmware image file, backup file, exported system log file, snapshots or video.



Format Hard Disks

Any newly-installed hard disk has to be formatted into ENR file system format. Click "**Format**" to start formatting a new disk. After formatting, this disk will become ready for recording.

During normal operation, please **DON NOT REMOVE ANY DISK FROM THE DEVICE**, or it might cause damage to the disks. You can only remove or install a disk when the device is shut down.

Please note that the system will stop recording during the disk formation.

Check Disk Status

Hard disk failure often comes after detectable signs and thus can be predicable, thus it is important to detect these signs long before they really cause disk failures.

ENR performs **S.M.A.R.T**. Disk check on 24-hour basis since last check. This technology enables a system to monitor the disk status and anticipate disk failures, helping the system administrator to prevent from unexpected outage and data loss.

You may manually perform an instant **S.M.A.R.T** check by clicking "**Refresh**".

Once disk a appears in "**WARNING**", "**FAILED**", or "**UNKNOWN**" status, it is not reliable for recording, and may fail when the number of bad sectors on the disk has grown high enough.

S.M.A.R.T Status	Description	Solution
PASSED	This disk is in normal condition.	--
WARNING	Certain error has been found on this disk.	1. On "**Storage**" page, select the disk and click "**Disable**" next to **Recordable** status to stop the system from saving recording into it. 2. Watch playback and export important video / system log.
FAILED	An amount of errors have been found on this disk.	
UNKNOWN	Unable to get the disk information.	

Manage Abnormal Disks

A disk that is not recognized as "**PASSED**" by **S.M.A.R.T.** check may have unexpected failures anytime. However, it will still continue recording until it finally fails.

After you disabled the recording on this disk and review important recordings,

1. Turn off the device.
2. Replace the abnormal disk with a new one, and turn on the device.
3. Go to **Live** screen, click **Setup** → click **Maintenance** tab → click "**Storage**", and click "**Format**" to format the new disk.

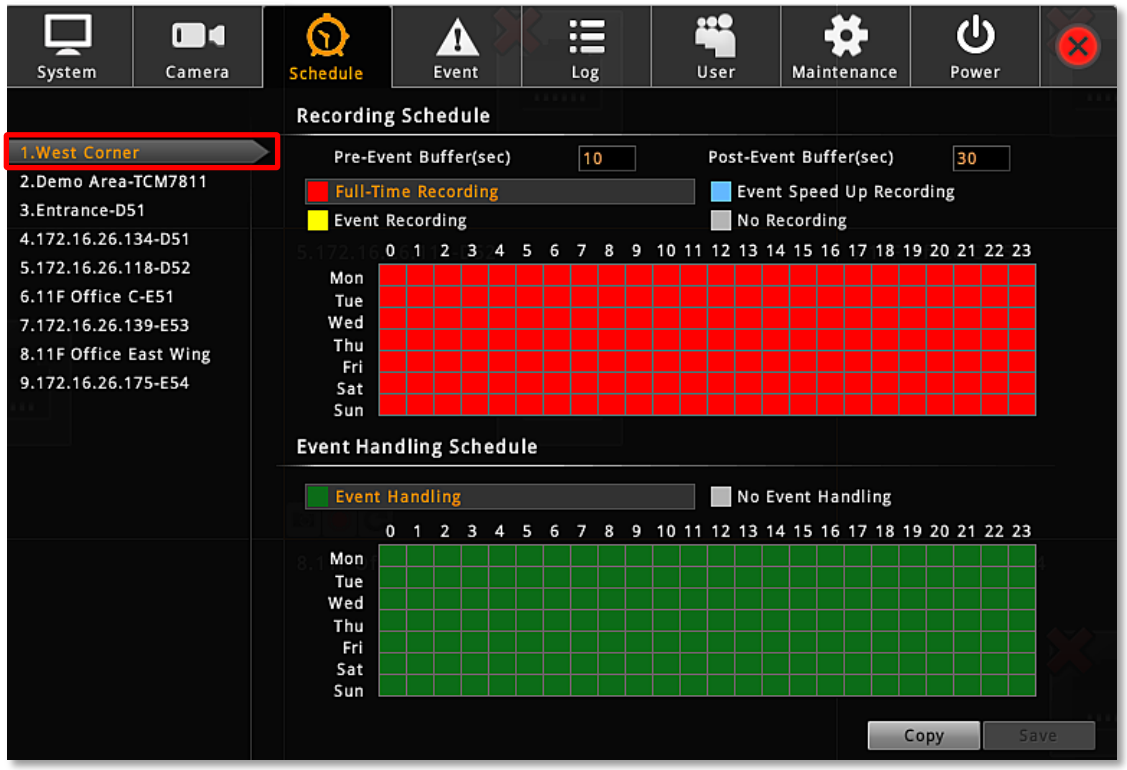
Schedule Recordings

Unlike the traditional analog surveillance system, the IP surveillance system provides a target-oriented recording schedule for devices; the view of each device can be recorded based on your required time segments and event types. For example, you may have a camera installed on the office ceiling do continuous recording during work hours, and record only upon the triggers (incidents that detected by system) at night. In this way, the system does not waste disk space storing meaningless parts, and you save lots of effort browsing playback for specific events.

For the recording schedule, ENR supports **Schedule recording**, **Event recording** and **Event Speed-up Recording** modes, which are set up on a week-based timetable; the event-handling schedule is configured here.

On ENR, you can configure camera's recording schedule on 7 days / 24 hours basis. The schedule is split into segments of one-hour-length. By default, once a device is added to the system, its schedule is automatically set to full-time schedule recording and event handling. You should configure it according to your system plan.

On **Live** screen → Select **Setup** → click "**Schedule"** tab and select one channel.



Event-Recording File Length

Before setting the recording schedule, you may define the length of an event recording. To do this, configure the following properties shown as below, which will make an event recording as long as 10+30 second:

Field	Description
Pre-event Recording Buffer (sec):	ENR keeps a short cache of video received from devices. If an event is triggered, ENR will automatically store the pre-event buffer along with the recording of the event itself.
Post-event Recording Buffer (sec):	This will determine how long after the event is triggered should be included in the event recording file.

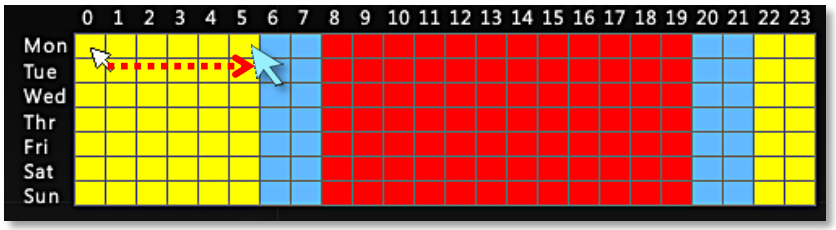
Set the Recording Schedule

On the time table

1. Click on the recording mode from

Field	Description
Full-Time Recording	Continuously record at the video frame rate you define in **Camera Settings**.
Event Speed Up Recording	Continuously record everything at 1FPS, when an event occurs, the frame rate will switch to the value you define in **Camera Settings**, and automatically switch back to 1FPS after the event ends.
Event Recording	Only events are recorded, at the video frame rate you define in **Camera Settings**.

2. Click and drag over the "**Time Track**" to set time period.

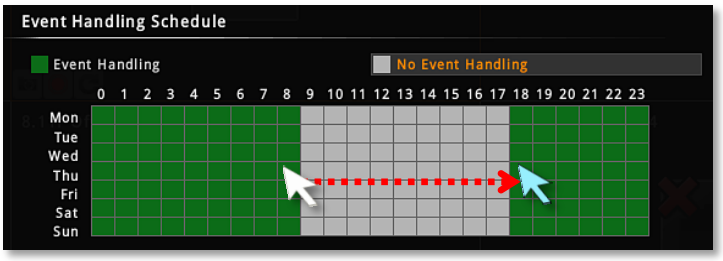


3. Click "**Save**".

Set the Event Schedule

The **Event Schedule** defines when the event handling is activated. To set the event rules, please refer to **Setup Event Rules** on page 61. By default, the event handling is full-time activated; you may disable it during certain time period.

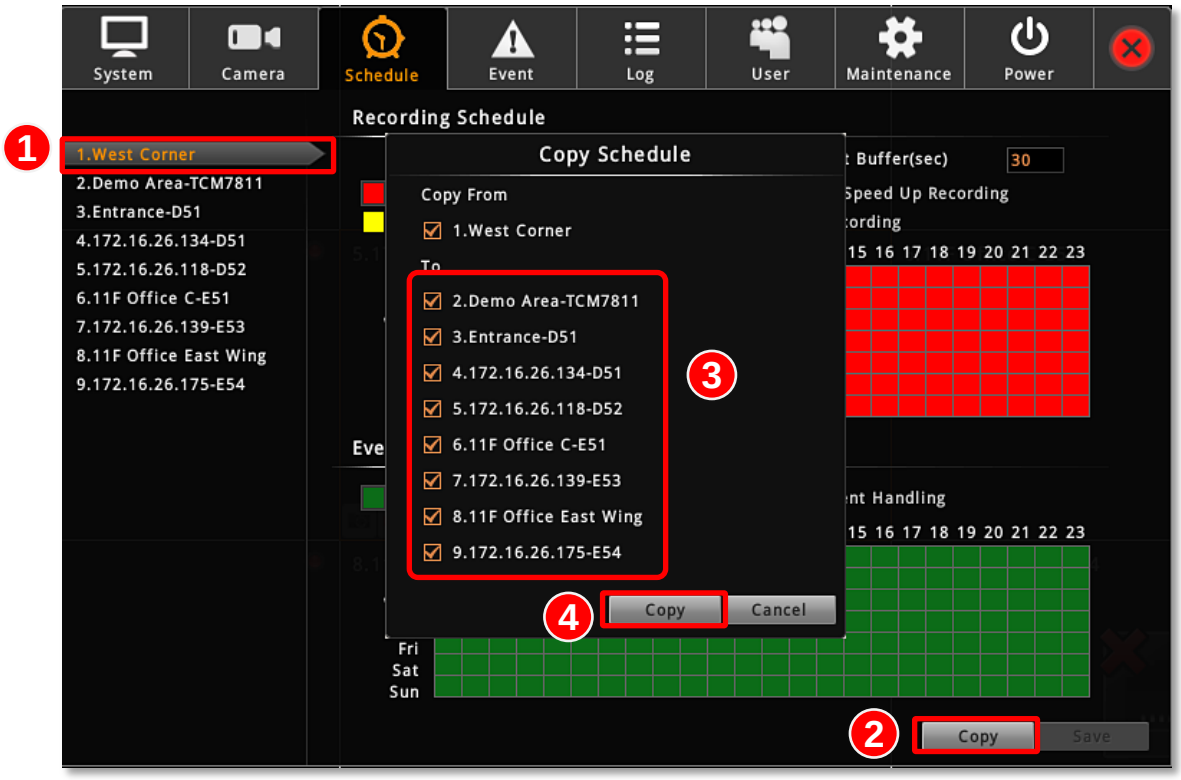
1. Click on the recording mode "**No Event Handling**".
2. Click and drag over the "**Time Track**" to set time period.
3. Click "**Save**".



Copy Schedule

You may copy a camera's schedule setting to other multiple cameras. This saves much your time on configuring the schedules camera by camera.

1. On **Schedule** tab, select a source camera from camera list, its schedule will be copied to others.
2. Click "**Copy**"
3. On **Copy Schedule** window, select the target cameras.
4. Click "**Copy**" on **Copy Schedule** window.



Event Management

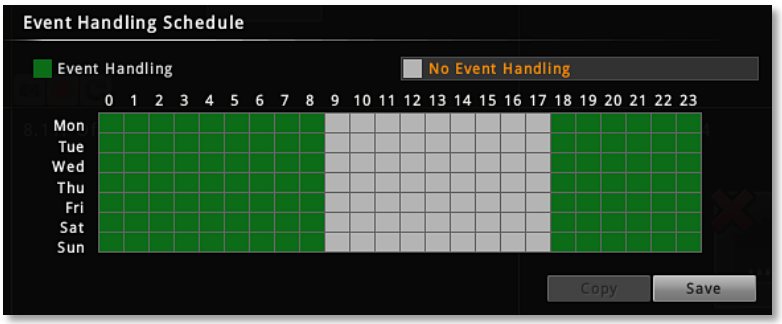
When something happens on camera site, such as someone walks by, the door opens or a fire breaks out – these are all **Events**. The event which occurs in the environment and was pre-programmed in the camera serves as **Triggers**. Triggers cause the device to react with **Responses**. The link between trigger and response is governed by **Event Rules**. Each event rule detects one specific trigger and may initiate multiple responses. An example rule would be for ENR to send an email to alert the manager (**Response 1**) and trigger the alarm (**Response 2**) when motion on camera site is detected (**Trigger**) during the event handing active period (**Schedule**).

Each device can be involved in several event rules. As different camera models possess various capabilities, the supported response types would vary. For example, a PTZ camera can execute a go-to preset point response, while this option is not available for other models without this feature.

Event-Handling Schedule

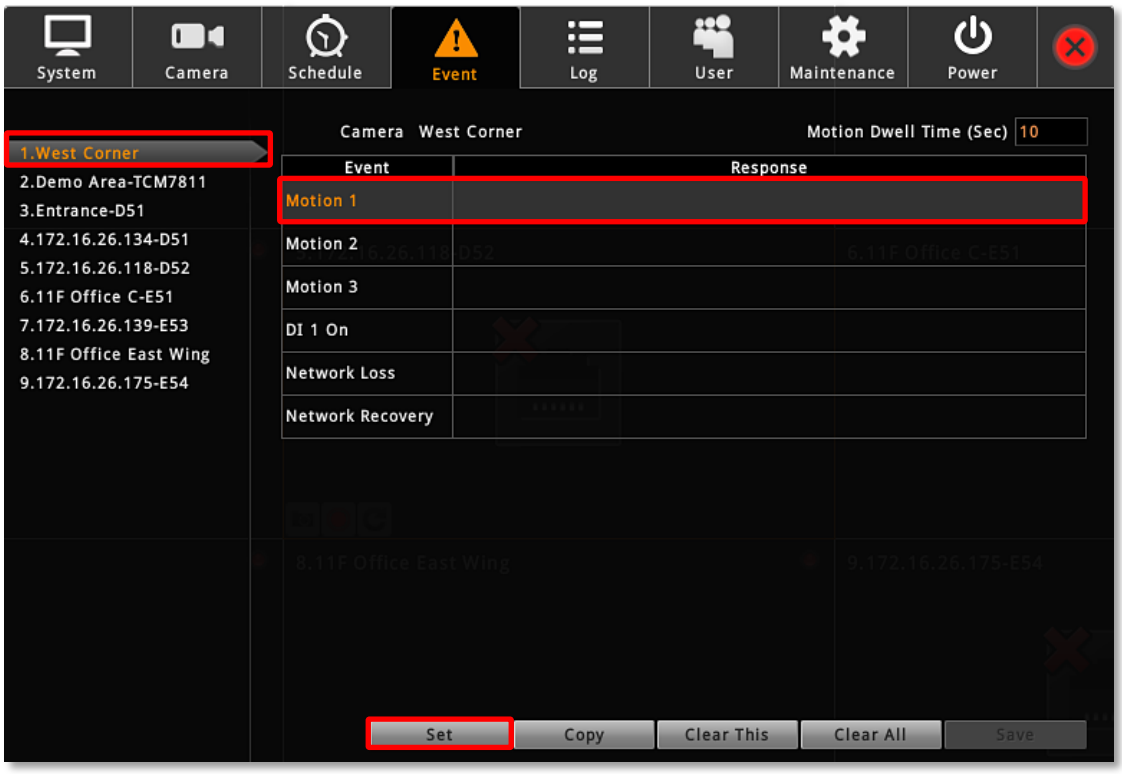
Event rules become active or inactive based upon a weekly schedule, to enable event-handling service, you will have to make sure the event-handing schedule of certain device is well configured. By default, the event-handling schedule of each camera is enabled for 24 hours once it is added to ENR system.

To configure the **Event Handling Schedule**, on **Live** screen, click **Setup** → click "**Schedule**", select the camera, and drag on the 24-hour time table.



Setup Event Rules

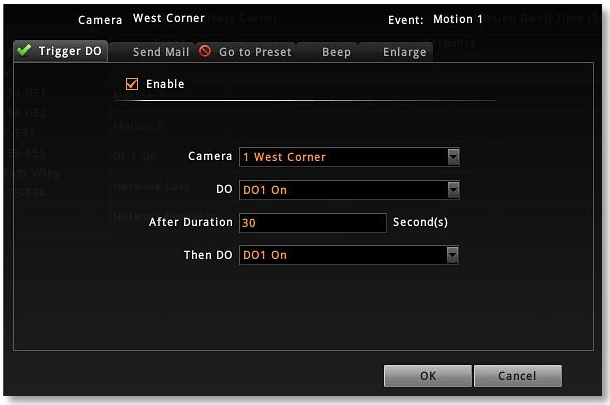
On **Live** screen, click **Setup** → click **Event** tab → select a camera.



1. Once a device is added to ENR server, the server would provide empty rules with compatible trigger types for you to configure such as **Motion 1, Motion 2**, **Motion 3**, **DI 1**, **DI 2**, **Network Loss** and **Network Recovery**. Select the **Event Type**, then click "**Set**".
2. Select the trigger type:

●Trigger DO

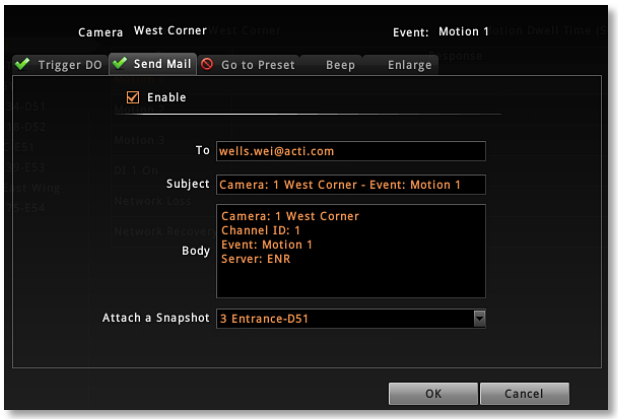
Set the DO to become ON or OFF upon trigger, only the devices supporting DO functions are available. Check the "**Enable**" to enable this function, and the device whose connected DO(s) will be triggered. You may select one DO to be activated after the other and the duration time between them. Clik "**OK**" to confirm.



●Send Mail

Enable ENR to send email notifications via SMTP service.Check the "**Enable**" to enable this function, and fill in the mail recipient's email address in "**To**" field, notification title in "**Subject**" field and mail body in "**Body**" field, then choose a camera whose snapshot will be attached from **Attach a Snapshot** dropdown list. Clik "**OK**" to confirm. Please note that if you want to attach a snapshot to the notification email, make sure your local display stays on **Live** screen during the event handing period, in this way, ENR can take the snapshots for motion events.

To enable this service, you have to configure the Email setting (please refer to **Email Settings** on page 52) before this trigger is enabled.



●Go to Preset

For the use of PTZ cameras to make movements toward certain triggers, please configure the preset points (refer to _____

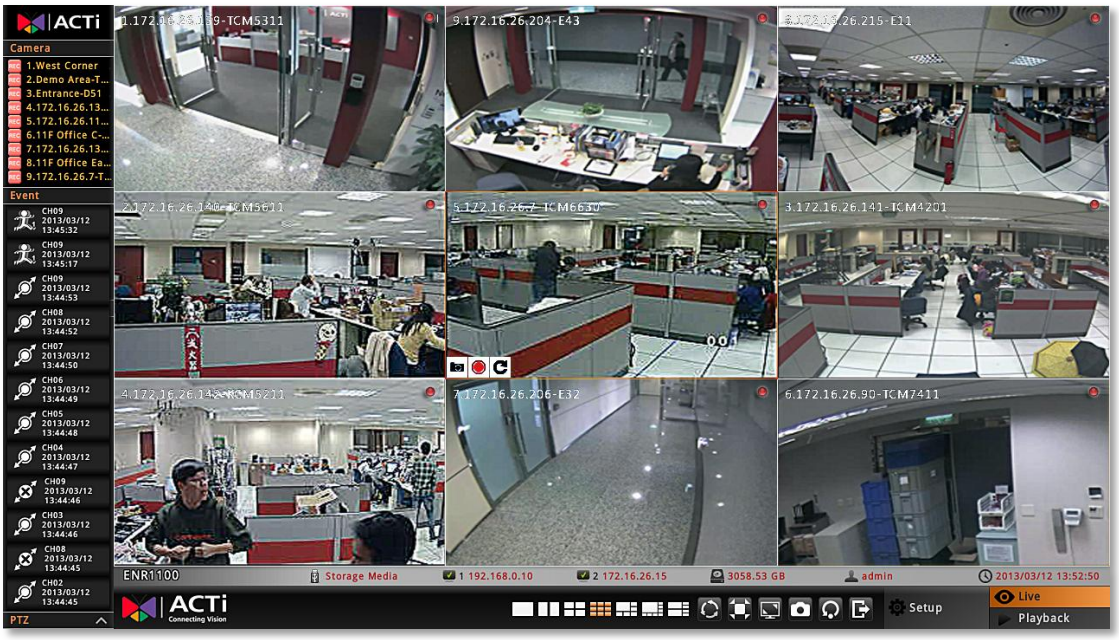
Configure PTZ Presets

With PTZ cameras, you may define a view by where to look (through panning and tilting) and how close (through zooming) to zoom. Once these views have been saved in ENR as preset points, the device can always point to this view upon the event triggering or user's command. For local operation, the PTZ-related configurations are done on **Live** screen.

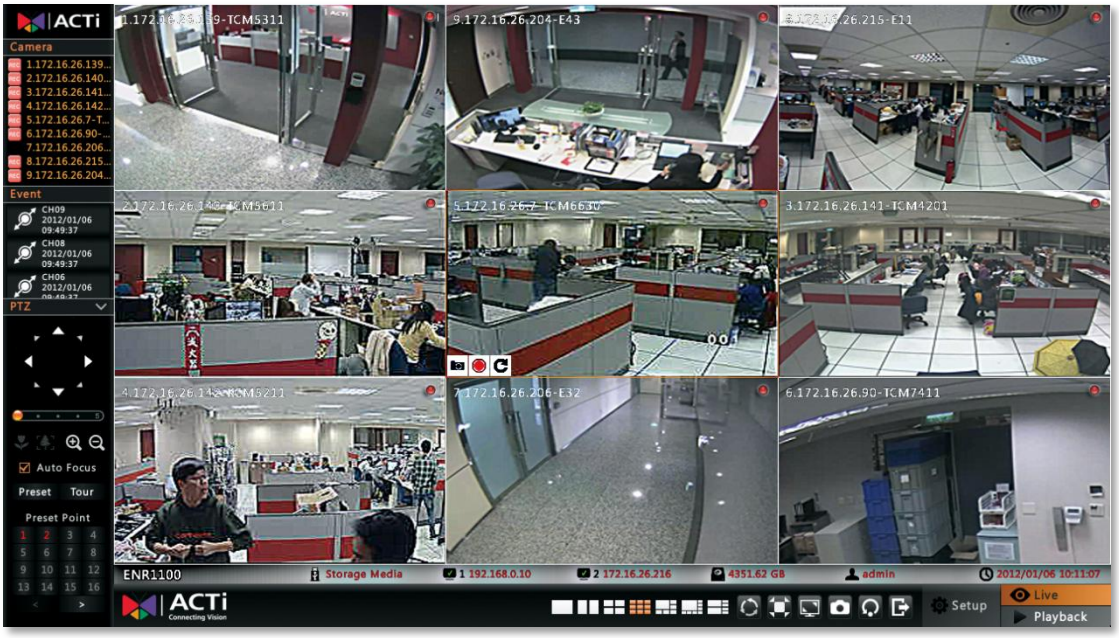
Please note that, the PTZ-related settings you configure here will overwrite those on camera's firmware.

Open PTZ Panel

On **Live** screen, select the PTZ camera channel on display area.



Click the **PTZ Panel** tag to open the panel.



PTZ Panel Description

No	Function
A	**8 directional arrow keys**: Click to pan or tilt the camera (only available for cameras with Pan/Tilt/ capability).
B	**Pan/Tilt/Zoom speed**: Click to change the speed. Provided speed scale is from **1** to **5** (available for cameras with Pan/Tilt/Zoom capability).
C	**Manual focus** (Available for cameras with a controllable focus) Near focus Far focus These buttons are enabled when the "**Auto Focus**" is disabled.
D	**Zoom** (Available for cameras with a controllable zoom) Zoom in Zoom out
E	**Auto focus** (available for cameras with auto focus capability)
F	**Preset Points Editor** Click to enter Preset Points edit mode.
G	**Tour Mode** Click to enter Tour mode.
H	**Preset Points** Click to the Preset Point ID to make the camera point to the pre-defined position.

Edit Preset Points

1.On **PTZ Panel**, click Preset to enter **Preset Points Editor**.

2. Use buttons ~ on **PTZ Panel** to define a view, then click the desired preset point ID and in put the point name in **Preset Point Setting** box. This preset point will be saved, and its ID will turn red.

3.To delete a point, simply click and then preset point you want to delete.

4.After editing, click will save the setting and exit the editor mode. You may click on a red number to have the camera go to that perset point.

Edit PTZ Preset Tour

Preset Tour is a preconfigured PTZ sequence that directs the camera to cycle through multiple preset points, including where to look and how long to look at each location. With this preset tour, your PTZ device can perform an automatic patrol to scan through your cared areas.

Before setting up Preset Tours, please make sure you have set PTZ Preset Points. To start:

8. On **PTZ Panel**, click Tour and then to enter Tour mode.

9. On **Tour Setting** window, select a **Tour** from drop-down list.

10. Select a **Preset Point** from drop-down list.

11. Set the **Dwell Time**, default is 10 seconds.

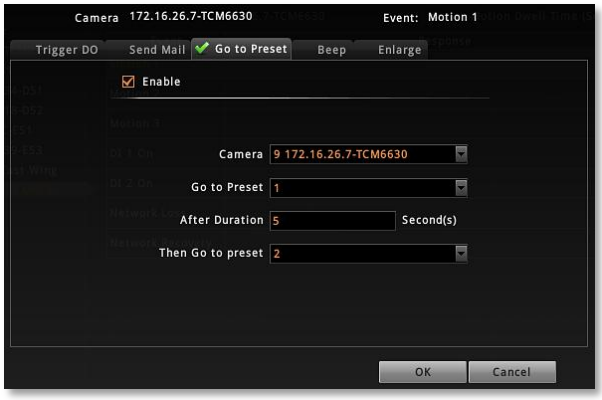
12. Click to save this point into the list.

13. Repeat **step 1** ~ **step 5** to add other points in your desired movement sequence. You may use the edit buttons to change the point order or delete a point. Click "**Save**" when this Tour list is well set. Click "**Close**" to exit this window.

14. The ID of a saved tour will appear red. Click on it to start the tour, and click to stop it.

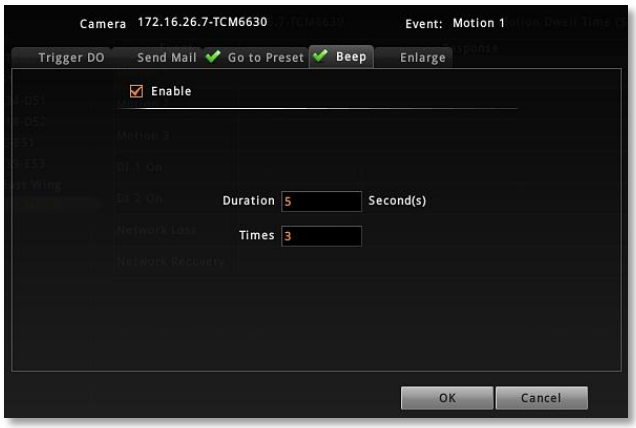
on page 43) on **Live** screen before you set the event rule.

On **Go to Preset** tab, check the "**Enable**" to enable this function (if there is no PTZ camera exsiting in ENR server to execute a PTZ response, a red sign would appear on the tab Go to Preset , please add a PTZ camera). Select which PTZ camera in ENR server to make the movement, then the preset points and duration time between them. Click "**OK**" to confirm.



●Beep

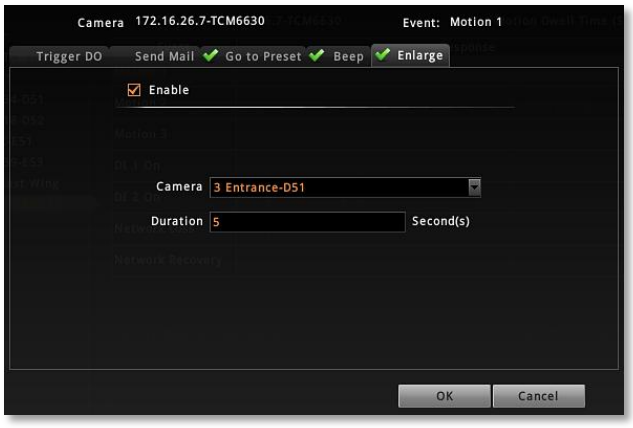
ENR device can play beep sound upon being triggered by events. On **Beep** tab**,** check the "**Enable**" to enable this function. Input the duration time and prepeat times of the beep. Click "**OK**" to confirm.



●Enlarge

Live screen will display certain channel view in full screen for a while when the system is triggered. On **Enlarge** tab**,** check the "**Enable**" to enable this function. Select the camera

whose live view will be enlarged on **Live** screen and the duration time. Click "**OK**" to confirm.



3. After configuring the event handling rules, on **Event** tab, input the dwell time in 

for all the rules you set. **Dwell Time** defines, after an event occurs, the period of time during which the same event will not be triggered again.
4. On **Event** tab, click "**Save**" to save the settings.

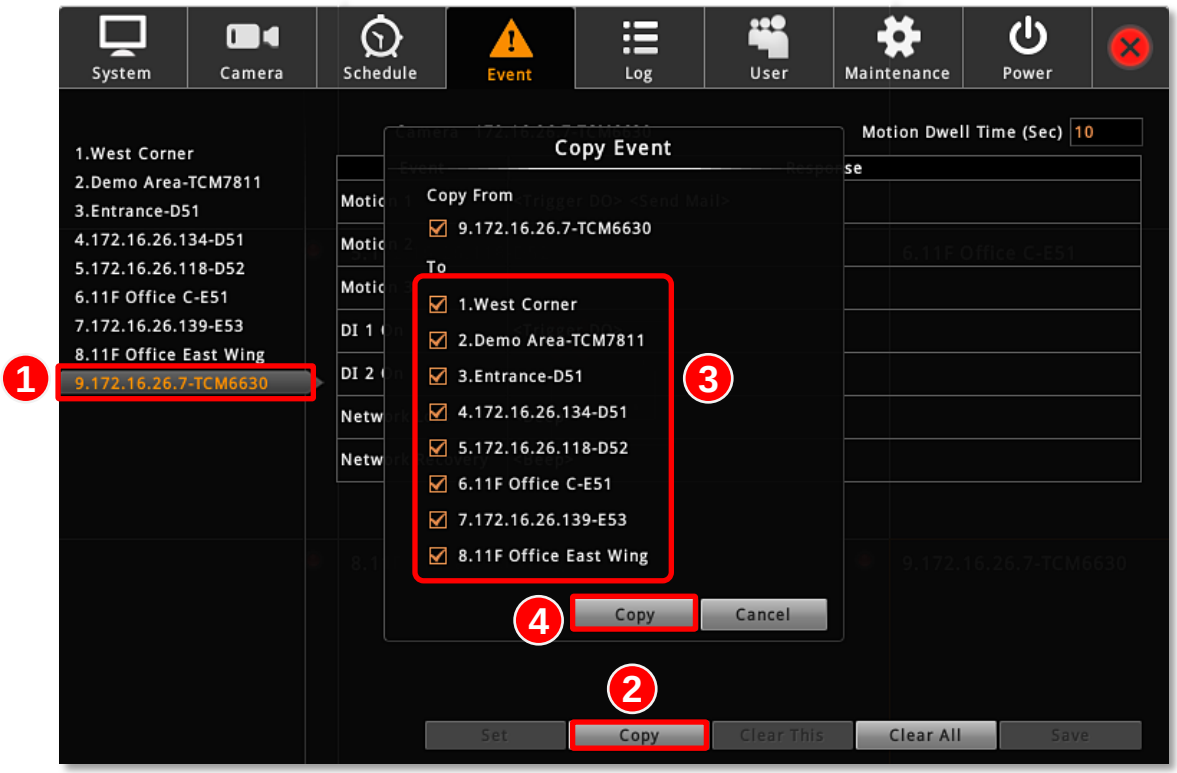
Clear Event Rules

On **Event** tab, you may select an event rule under certain camera, and click "**Clear This**" to delete it, or "**Clear All**" to deleta all the rules belong to this camera.

Copy Event Rules

You may copy a camera's event rules to other multiple cameras. This saves much your time on setting up rules one by one.

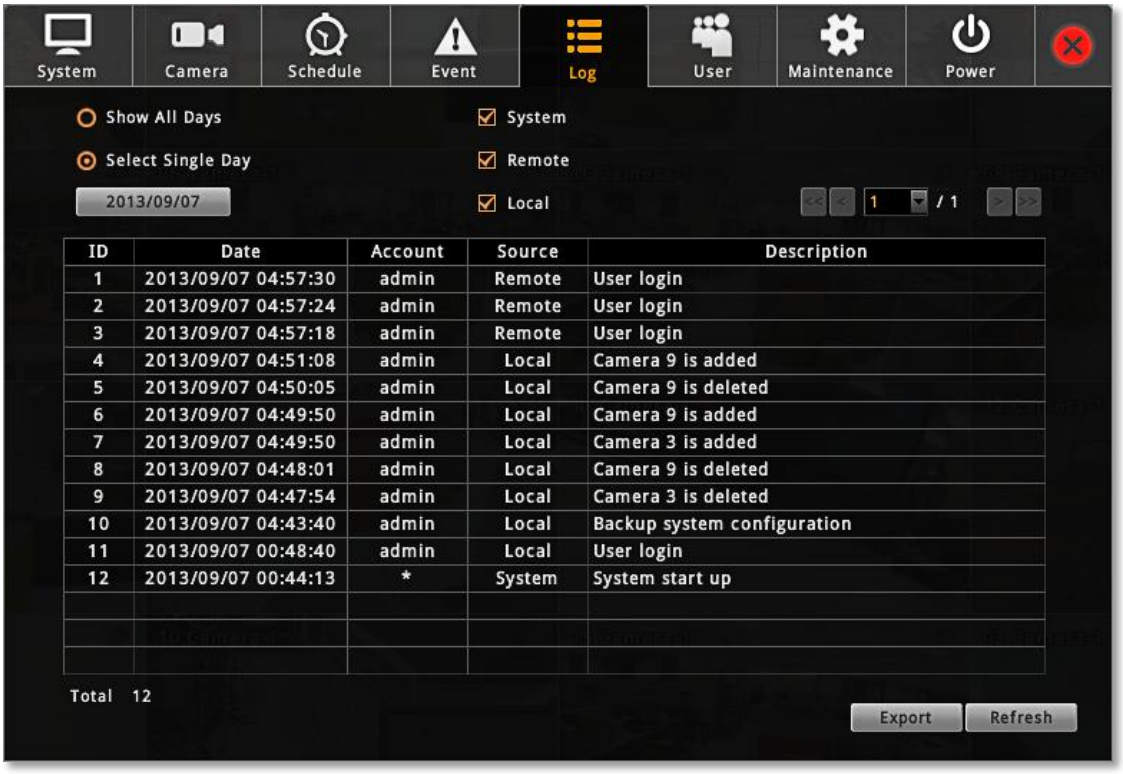
1. On **Event** tab, select a source camera from camera list, its rules will be copied to others.
2. Click "**Copy**"
3. On **Copy Event** window, select the target cameras.
4. Click "**Copy**" on **Copy Event** window.



System Log

ENR records the important system activities and user's behaviors in **System Log**. Once the number of logs exceed 3000, ENR will erase the earliest 100 logs.

On **Live** screen, click **Setup** → click **Log** tab



1. Define the time range:
   You may choose "**Show All Days**" to show all the logs or choose "**Select Single Day**" then click **Date** button to define a specific date.

2. Select **Log** types:

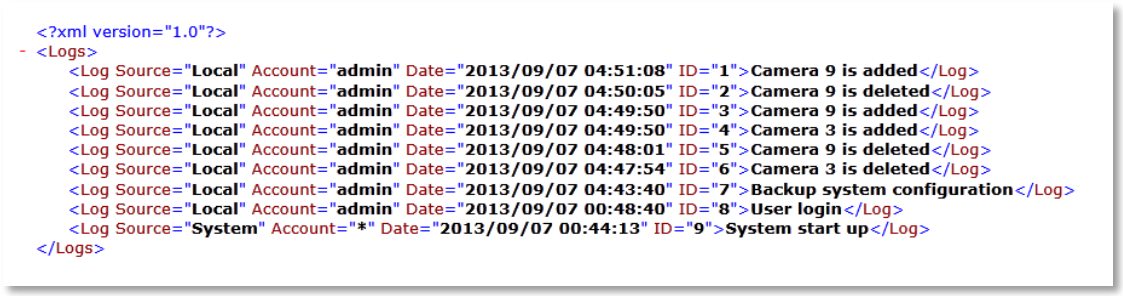
Log Types	Event
System	System start up, format storage
Local User Behaviors	Login & logout, add camera, reboot / shutdown system, modify event settings, upgrade firmware , format storage, backup / restore system configuration, modify schedule settings, modify time, modify e-mail server settings, modify system information, modify network settings, modify user & permissions, import language file
Remote User	Login & logout, reboot / shutdown system, modify camera settings, modify event handling schedule/settings, upgrade

Behaviors	firmware, format storage, backup / restore system configuration, modify recording schedule, modify time, modify e-mail server settings, modify system information, modify network settings, modify user &permissions, import language file, modify workspace parameter

By changing the criteria, the result will automatically refresh accordingly.

Export System Log

To export the logs, insert a USB disk into ENR, click "**Export**" and save the xml file to your local computer. You may view this file on a computer with **Notepad** or **XML Editor**.



```
<?xml version="1.0"?>
- <Logs>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:51:08" ID="1">Camera 9 is added</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:50:05" ID="2">Camera 9 is deleted</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:49:50" ID="3">Camera 9 is added</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:49:50" ID="4">Camera 3 is added</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:48:01" ID="5">Camera 9 is deleted</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:47:54" ID="6">Camera 3 is deleted</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:43:40" ID="7">Backup system configuration</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 00:48:40" ID="8">User login</Log>
    <Log Source="System" Account="*" Date="2013/09/07 00:44:13" ID="9">System start up</Log>
</Logs>
```

User Group Management

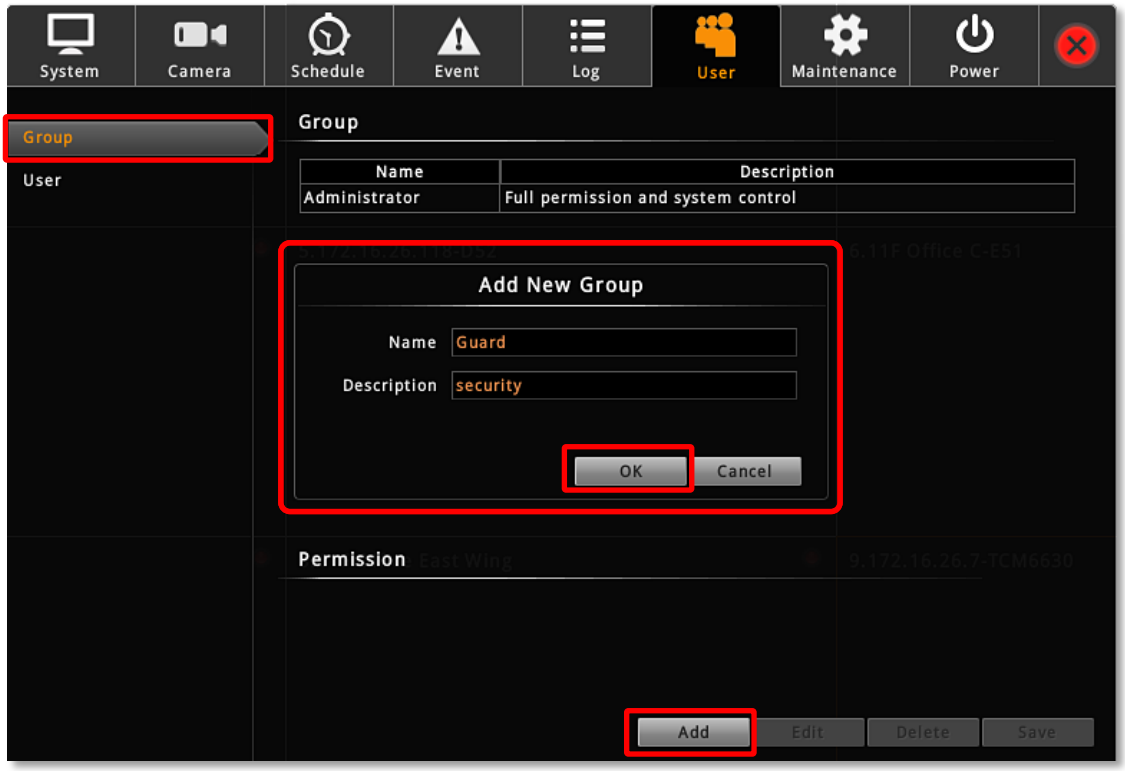
In ENR, the access permissions are managed by **User Groups**. **User Groups** defines what functions are allowed for a group of users. Different **User Groups** will have different access rights in terms of permitted operations like monitoring **Live** screen or execute **Playback**. For example, an Administrator user is allowed for all the operations in ENR, while a standard normal user may only be permitted to do **Live** monitoring.

On **Live** screen, click **Setup** → click **User** tab to enter **Group** and **User** management page.

Add a Group

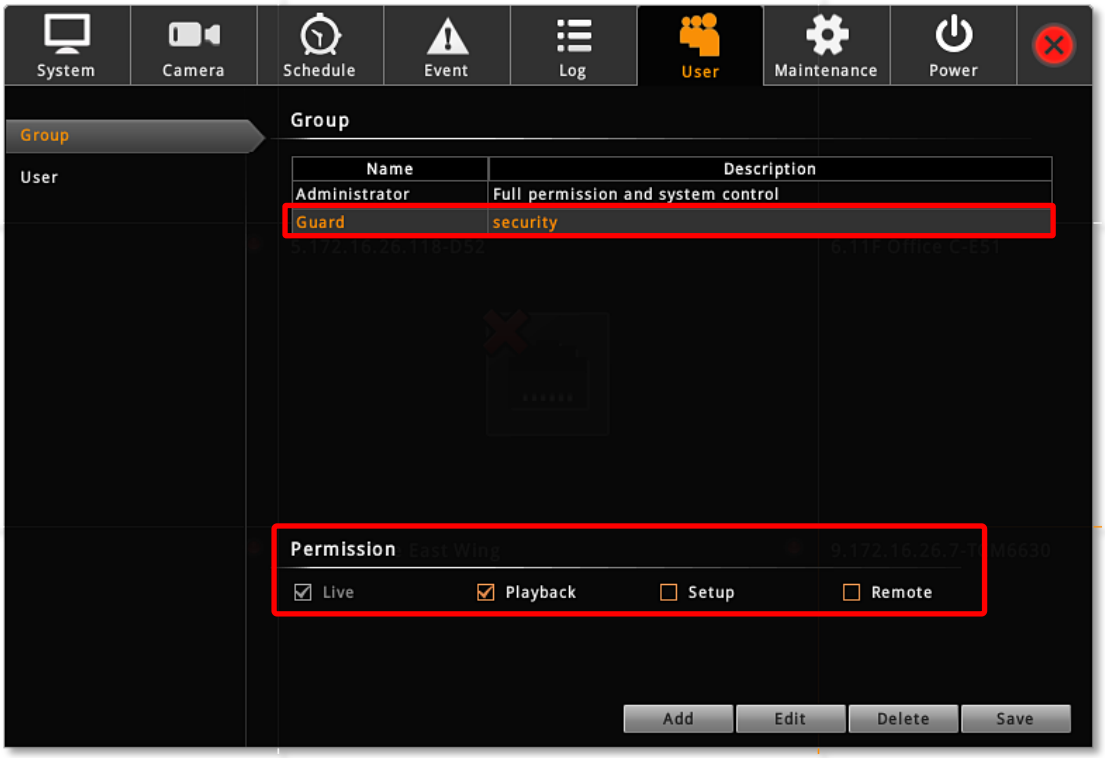
By default, the **Administrator** User Group with full permissions in ENR already exists. Except for the password and email settings, you may not delete this account or change its permissions.

1. Select "**Group**" , click "**Add**" to bring up **Add New Group** window, enter the **Name** and **Description** of the group, and click "**OK**" to add it to the **Group List**.



2. On **Group List**, select this group. In **Group Permission** section, enable the permissions possessed by this group.

3. Click "**Save**" to save the group settings.



Edit / Delete a Group

You may edit an existing group by changing its **Name**, **Description** or **Permissions** or delete it. Once you delete a group, the Users belonging to it will be removed altogether. Select the group on Group List, click "**Edit**" or **Delete**".

Add a User

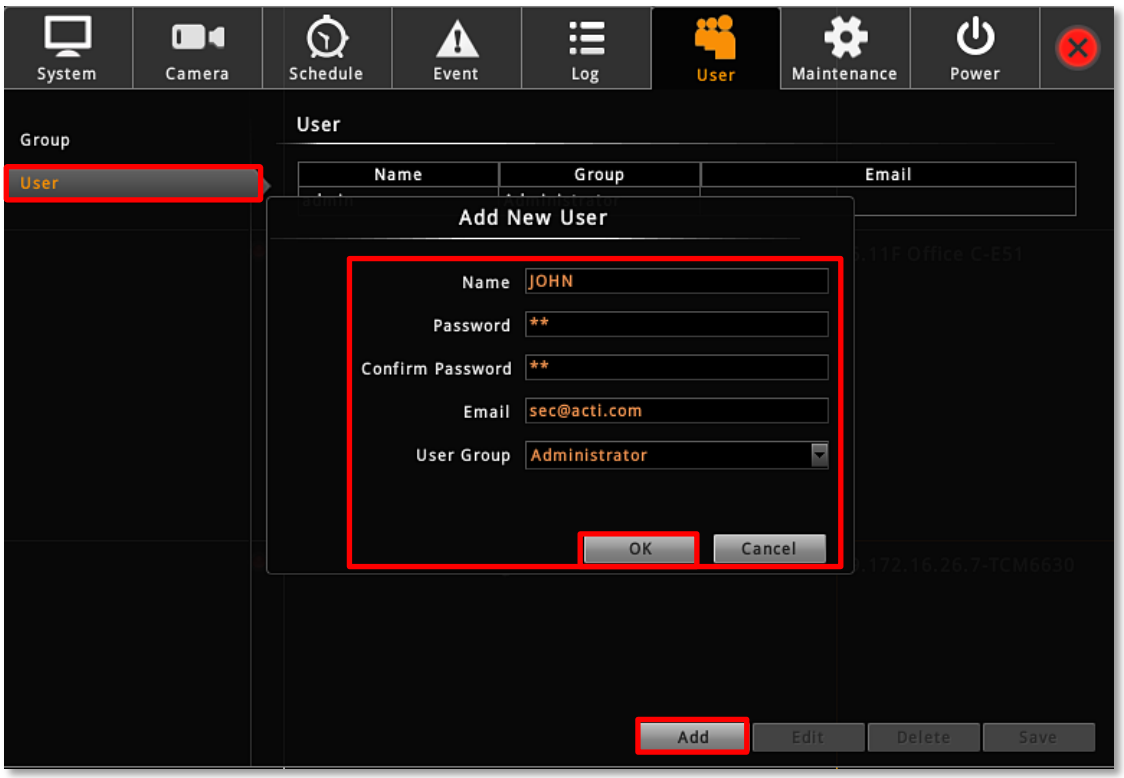
By default, the **Administrator** User already exists, which you may not delete.

1. Select User, click "**Add**" to bring up **Add New User** window, enter the **Name**, **Password**, **Email** and select its **User Group** from dropdown list. Click "**OK**" to add it to the **User List**.
2. Click "**Save**" to save the user settings.

Account /Password Rules

1. **Account** field allows alphabets, numbers, and symbols except the following: *** < > ? | " \ :**. The maximum length of characters is 15.
2. **Password** field allows alphabets, numbers and symbols. The maximum length of characters is 40.

3. Both the **Account** and **Password** field are non-case-sensitive.



Edit / Delete a User

You may edit an existing user or delete it. Select the user on **User List**, click "**Edit**" or **Delete**".

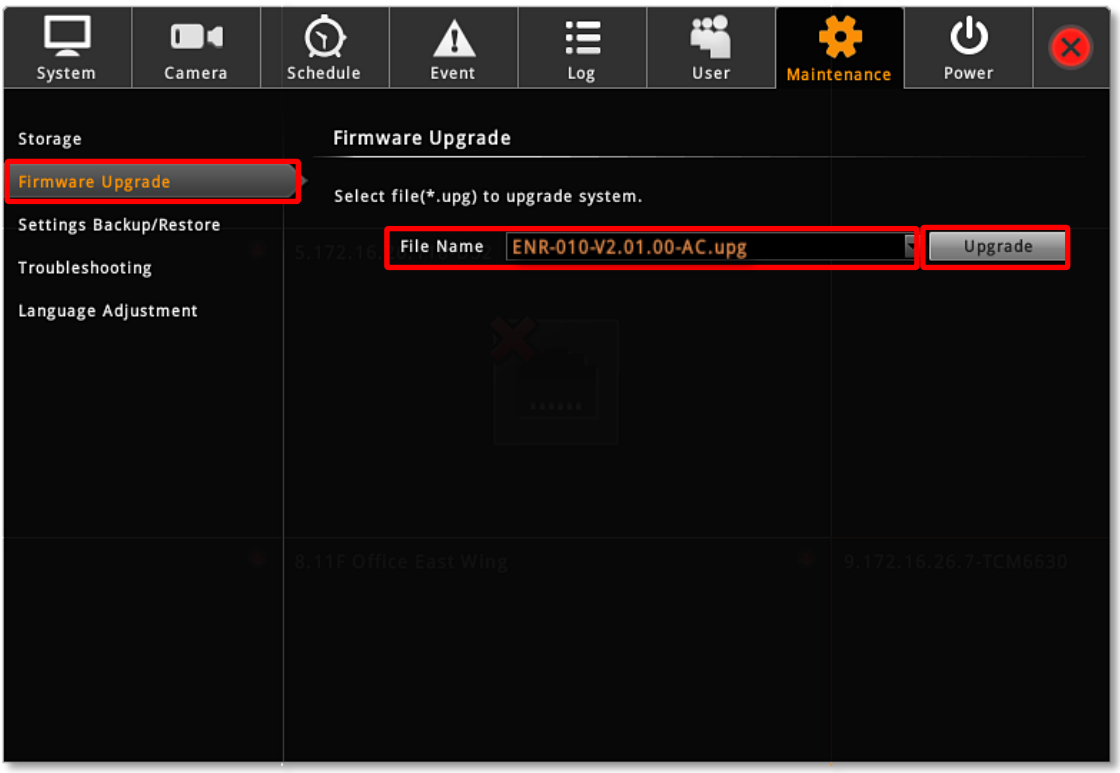
Please always click "**Save**" before leaving this page.

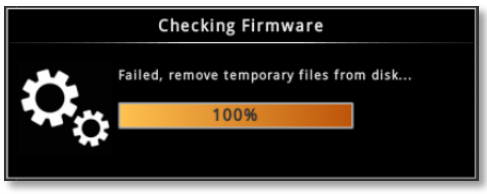
`

Upgrade Firmware

You may check ACTi corporate website for latest ENR firmware package and download it. Unzip the package and save the *.upg file to the root directory of a USB disk and insert it into ENR USB port.

1. On **Live** screen, click **Setup** → click **Maintenance** tab → select "**Firmware Upgrade**".
2. Click "**Browse**" , find the target *.upg file and click "**Open**".
3. Click "**Upgrade**".





During upgrading, the system will stop every other activity including recording and event handling. The system will auto-restart after the upgrading completes.

After upgrading has started, **DO NOT cut off the system power or eject the USB disk until ENR restarts**.

Please note that

The USB disk carrying the firmware image should at least have **200 MB** free space.

Backup / Restore Settings

Making regular system backups is always recommended in case of unexpected disasters or accidents that may damage ENR server.

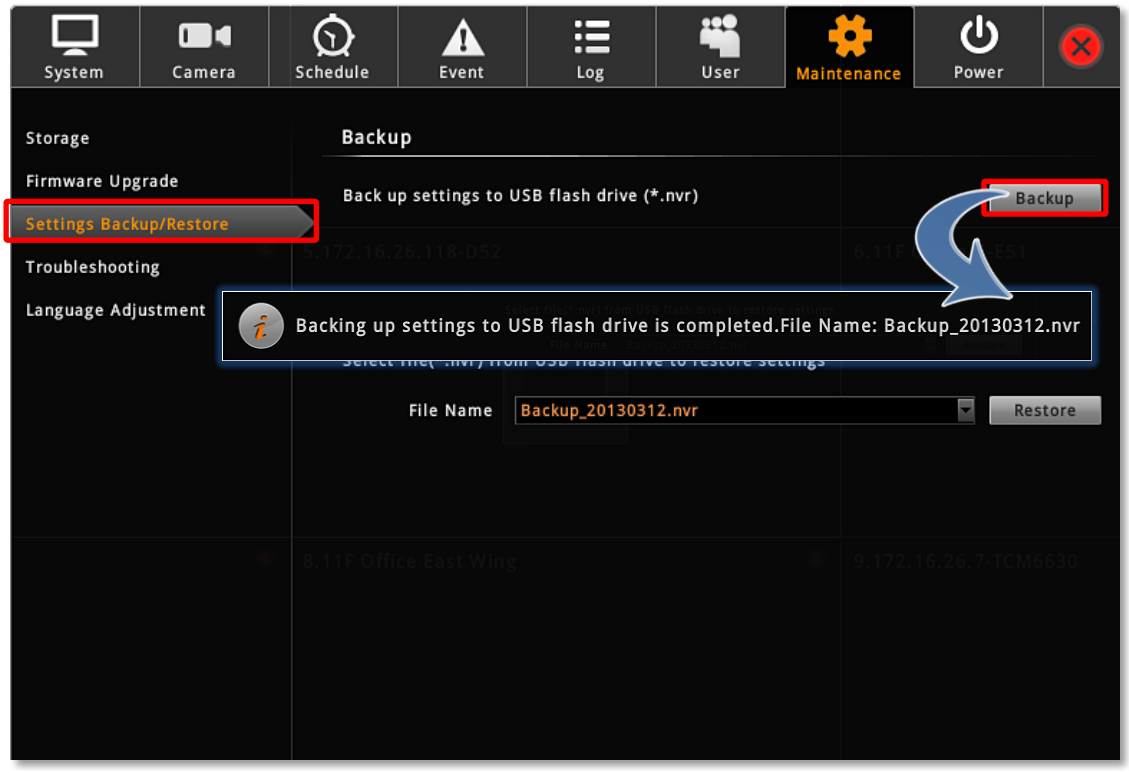
ENR server can create a backup file of the whole system settings as **Backup_[yyyymmdd].nvr** file and save it to a connected USB disk within one click. The backed up settings include the following properties: (1) **System Settings** including **System Name**, **Date & Time**, **Network**, **Email**, **Mouse** and **Keyboard**, (2) **Camera Settings,** (3) **Schedule Settings,** and (4) **Event Management**.

The recordings will be kept on hard disks, please refer to **ENR User's Manual** to export a system log file and to export video files for a complete backup.

Backup

To start backing up system setting, please insert a USB disk into ENR first.

1. On **Live** screen, click **Setup**"→ click **Maintenance** tab → click "**Settings Backup / Restore"**.

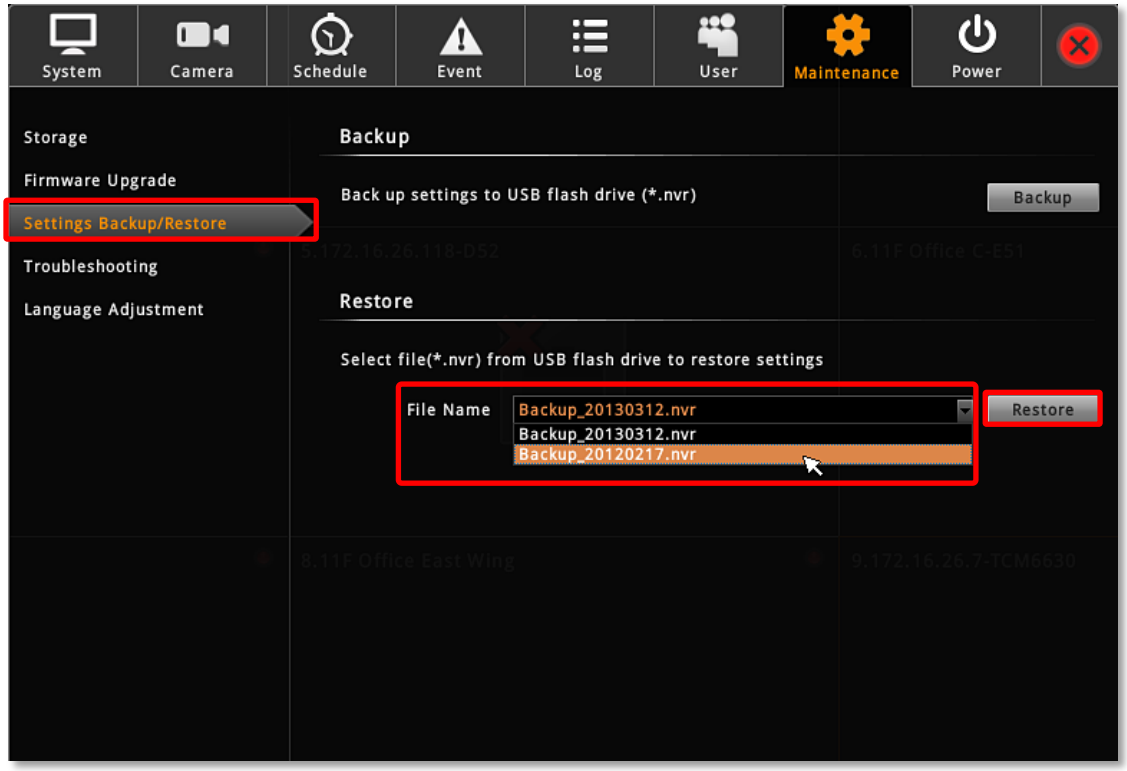


2. Click "**Backup**", the backup file will be saved to your USB disk as .nvr file.

Restore

Before starting restoring the system, make sure you have connected the USB disk with the desired .nvr backup file in it, and the backup file is saved in the root directory.

1. On **Live** screen, click **Setup** → click **Maintenance** tab → click "**Setting Backup / Restore"**.



2. All the .nvr file detected from your USB disk root directory will be shown on the **File Name** dropdown list, select your desired one.
3. Click "**Restore**" to start restoring the settings. The server will restore the settings from the backup file and reboot.

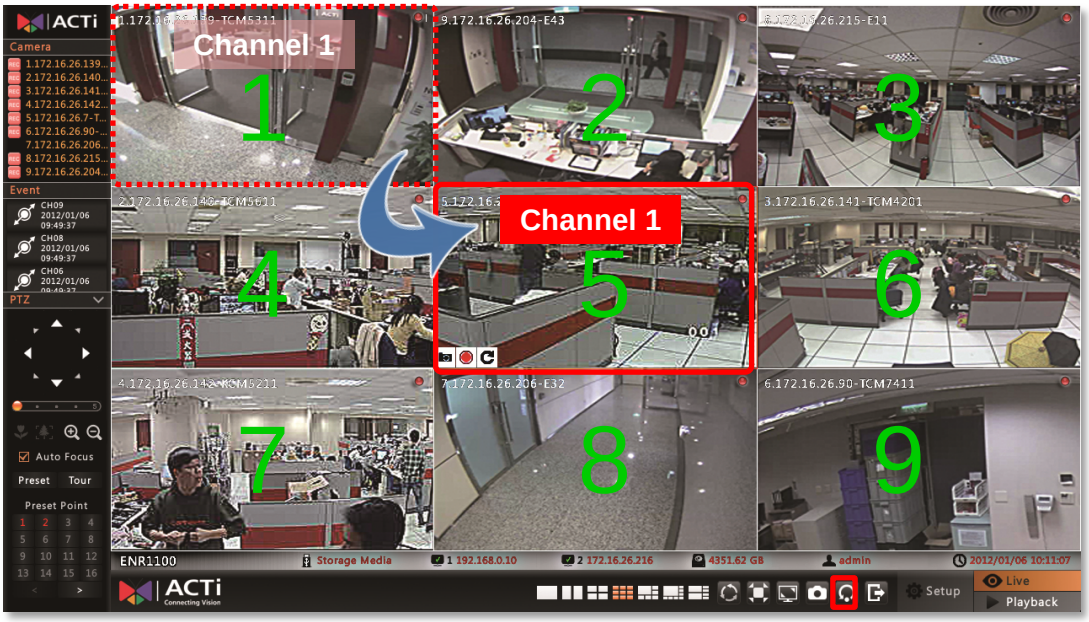
Customize Live Screen Layout

You may customize the layout style, channel position and patrol behavior. Your arrangement of **Live** screen layout will be the default view after any local user logs in to ENR.

Change Channel Position

You may place any channel in your desired window, and ENR will remember this arrangement until you change it.

Select the channel, and drag to the target window. In the example below, the green numbers represent the position of windows, and **Channel 1** will be swapped to **Window 5**.



Toy can reset the channel positions by clicking  on **Live Menu**.

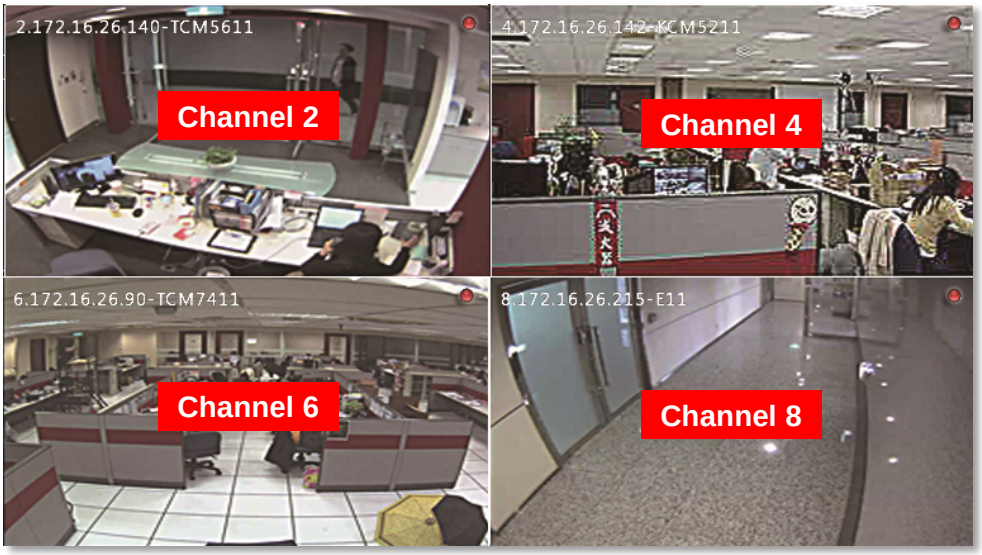
Change Layout

To select a desired layout, click one in the layout selection area. Each layout will display specific windows shown below. Therefore, you have to make sure the channels you desired to watch are placed in the designated windows before applying the layout.

For example, to watch **Channel 2,4,6,8** in a **quad layout**, you should:

1. On the **3x3** layout, place **Channel 2** into **Window 1**, **Channel 4** into **Window 2**, **Channel 6** into **Window 3** ,and **Channel 8** into **Window 4**.

2. Select the **2x2** layout on **Live Menu**.



Execute Sequence Patrol

1. On **Live Menu**, click  to bring up the **Patrol Time Setting** window.
2. Input the patrol time
3. Click "**OK**", the patrol will start until you click  again.

Customize System Language

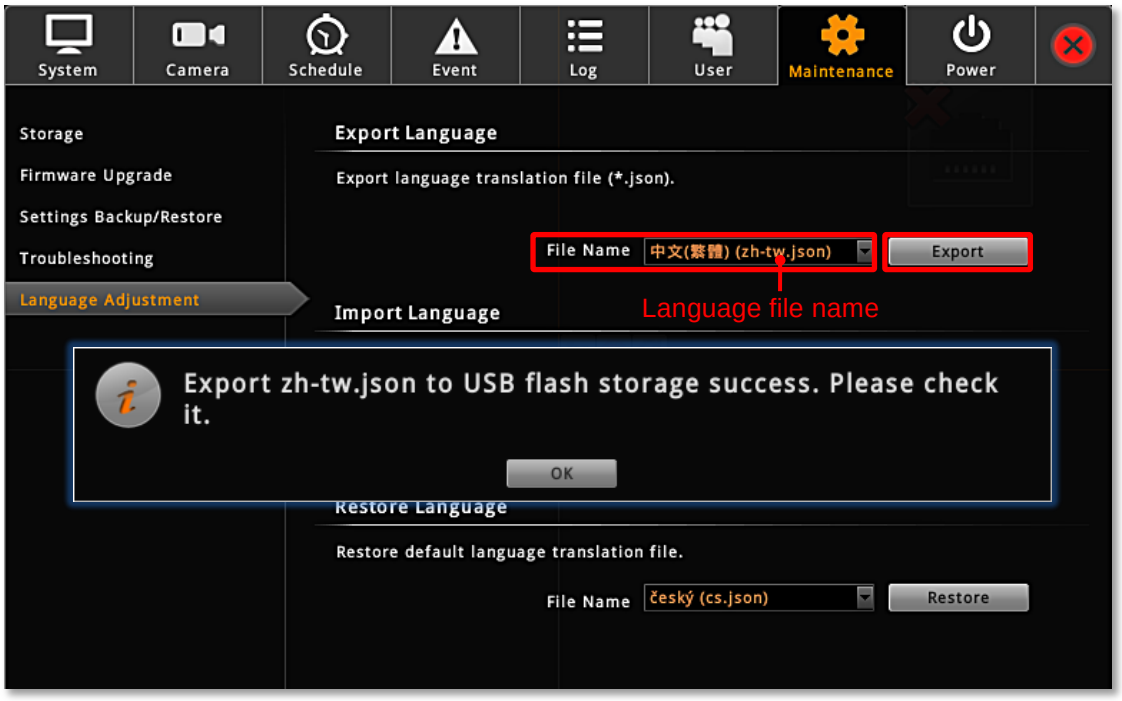
ENR user interface supports multiple languages and offers you the flexibility to change the wording . There are over **10** supported UI languages you may choose on **Login** page. Each language (**except for English**) is open for customization based on your own needs. This section will describe how to choose or customize language wording for your ENR.

To start, you need to connect a USB disk to ENR to export the language file for editing.

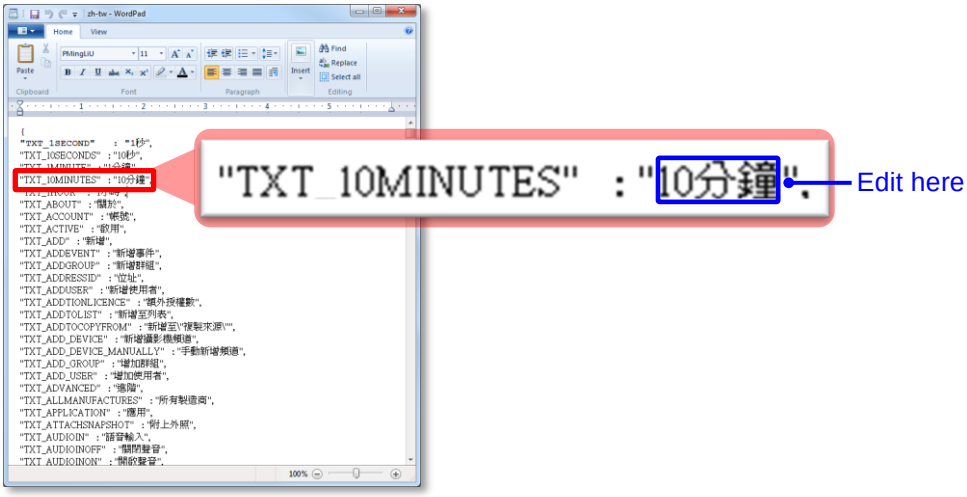
Modify the Wording

After the USB disk is connected,

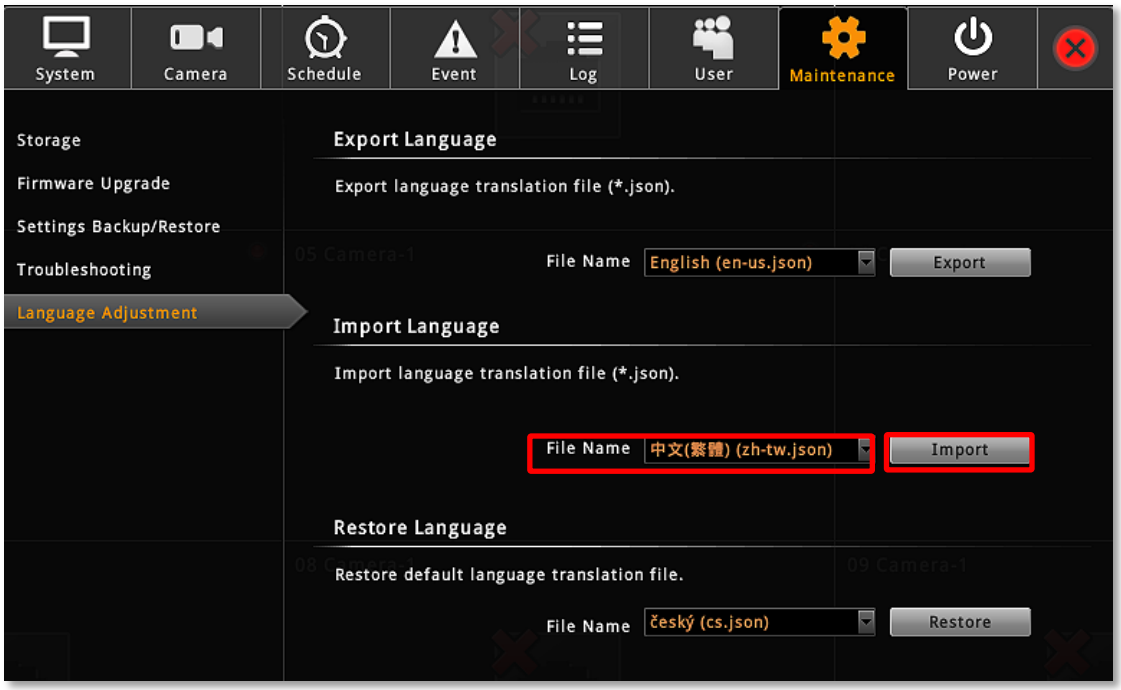
1. On **Live** screen, click **Setup** → click **Maintenance** tab → click "**Language Adjustment**".
2. On **Language Adjustment** page, below **Export Language** section, select your desired language form original language file list, and click "**Export**". ENR will pop up a window as the file is successfully saved to USB disk.



3. On a computer, open the file (*.json) with a text editor program. Each entry represents the current wording of an object. Please edit the wording of your language embedded in quotation marks (" ") on the right of the colon; The English term appearing on the left is the original system code, which should be left unchanged.



4. After the modification is done, save this file with its original file name and file type onto the USB disk, make sure the text encoding format is **UTF-8**.
5. Connect the USB disk with ENR, on **Language Adjustment** page, select the language file from drop-down list below **Import Language** section, and click "**Import**". ENR will pop up a window as the file is successfully imported into ENR server.



6. Log in to ENR again. On **Login** window, select the UI language before you click "**Login**".
7. Check the UI to see if the modified term is correctly shown.

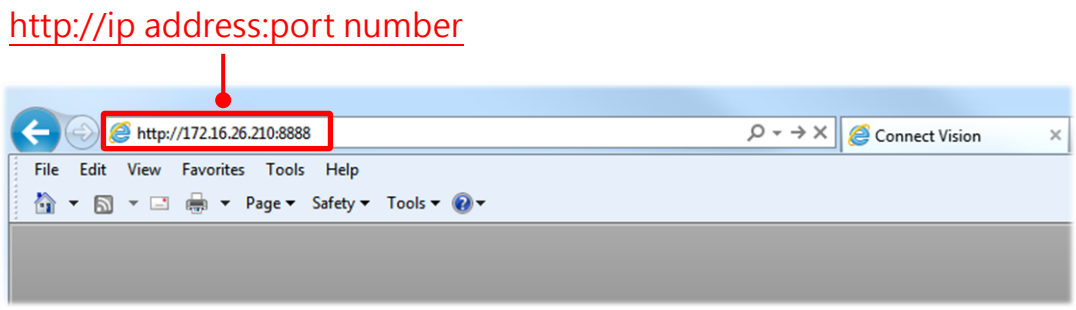
Restore the Wording

ENR always keeps the original language file in its memory, so you can restore the language wording to default. On **Language Adjustment** page, select the language file from drop-down list below **Restore Language** section, and click "**Restore**". The entire original language wording will restore after you log into the system again.

Remote Client Operation

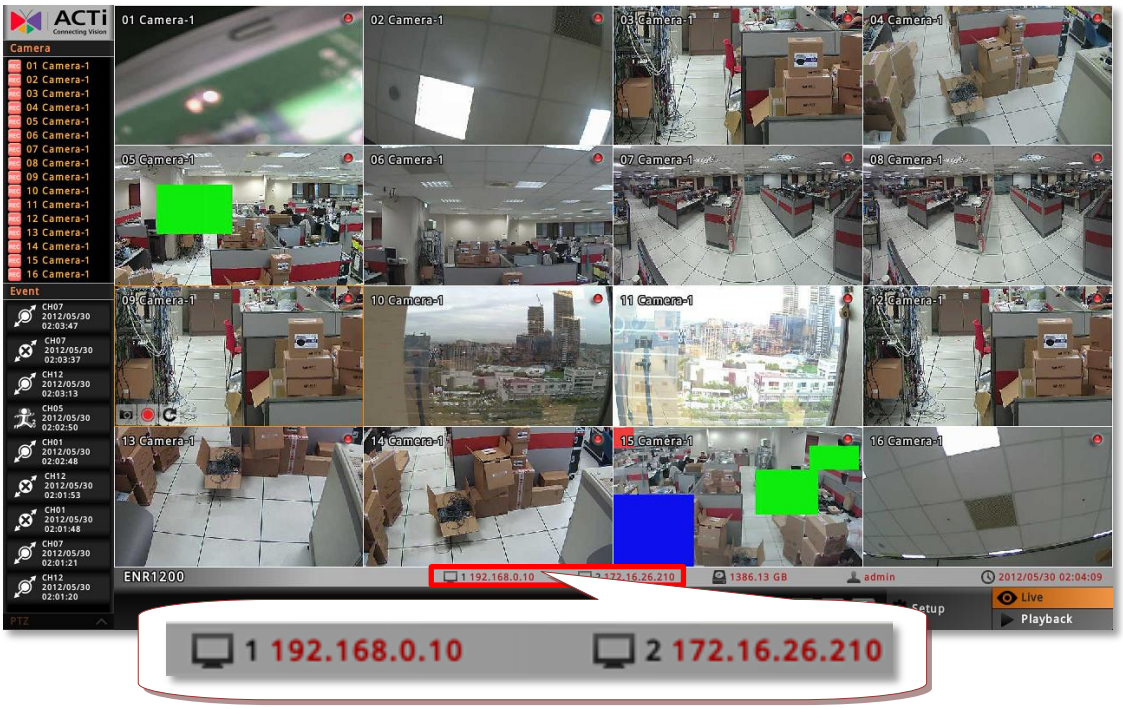
Access ENR Server

A remote client refers to any client using a computer over WAN or LAN other than server computer. If you know the IP address and port number of the ENR, you may type in the IP address and port number directly into Internet Explorer. Sample IP will look like this: **http://220.228.146.21:1000** or domain name **http://enr.acti.com**. If the port number is **80**, you do not need to append it when typing the address.

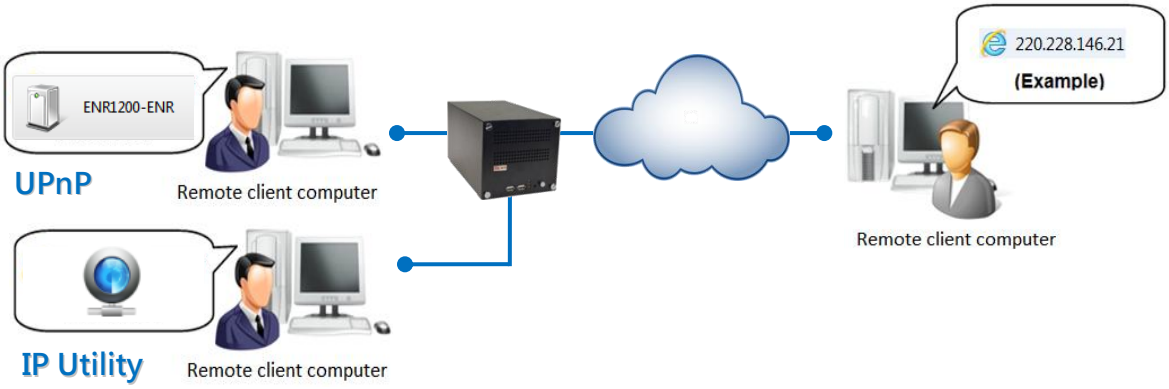


Find ENR in Your Network

The ip address of both ENR's LAN ports are shown on local live screen.



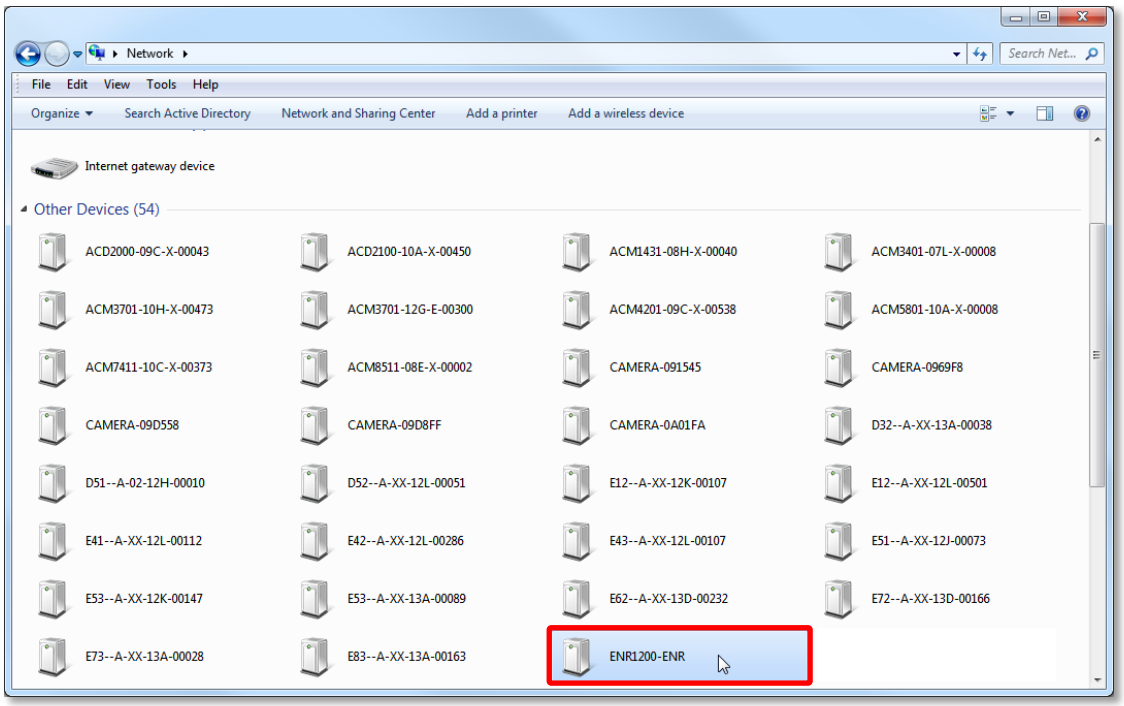
If your client computer and ENR are both within the same network, find ENR's IP address via the following two quick methods - **UPnP** connection or **ACti IP Utility**.



Via UPnP Connection

ENR supports UPnP connection. This means that once the device has an IP address, you will be able to find it in the local network in **Windows Explorer** → **Network**. Please note that your PC must be in the same subnet with ENR.

Once you locate ENR, double-click on it to open the client browser.

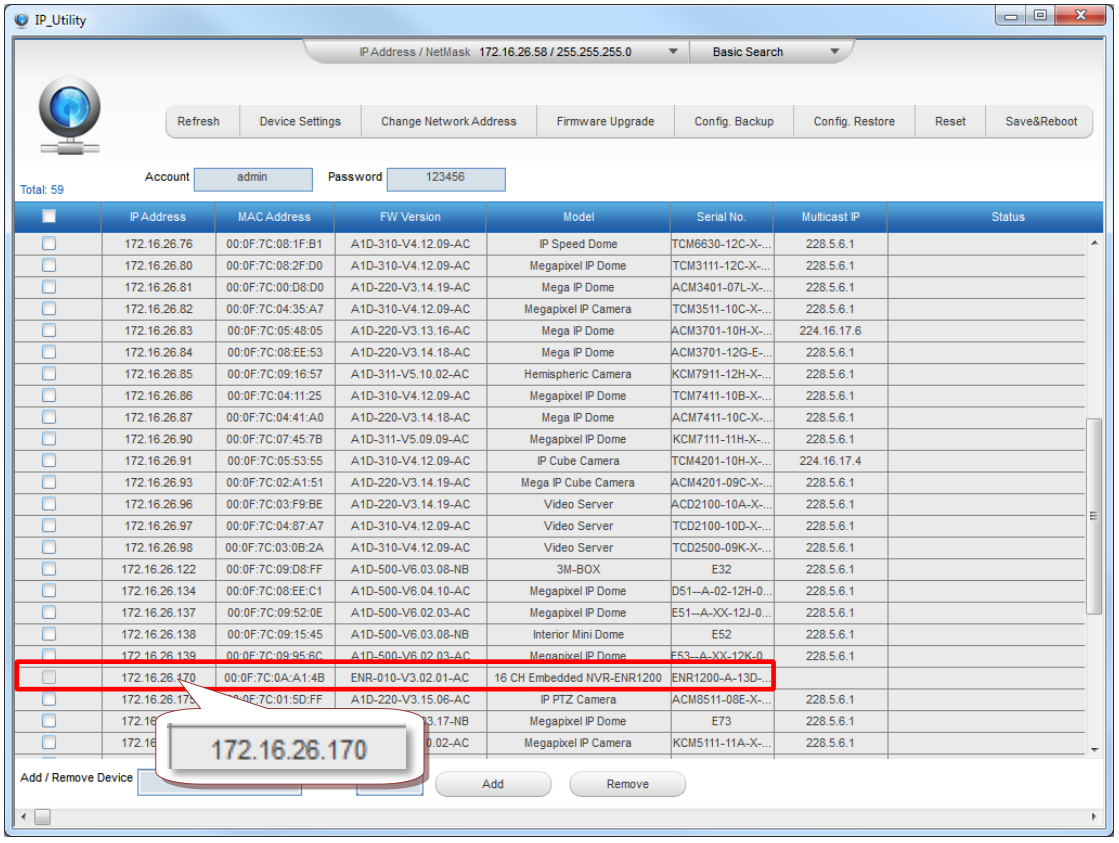


Via ACTi IP Utility

ACTi IP Utility is a software tool used to find all ACTi products including cameras and ENR servers. Download the latest IP Utility from the link below and install it on your computer.

http://www.acti.com/product/detail/Video_Management_System/ACTi_Utility_Suite

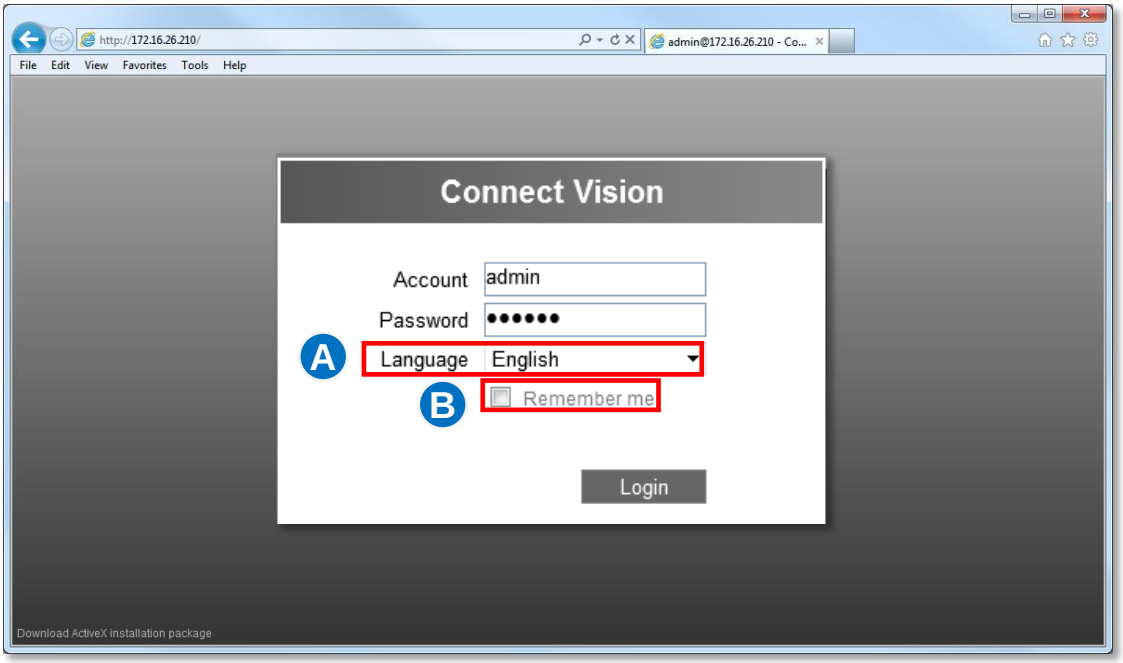
Execute this program, and find ENR from the search list, double-click on the IP address to open the client browser.



Log In/ Out ENR

After you By default, an administrator account has already been existing in your system. To log in to ENR for the first time, you will have to key in the password in **Login** window.

Log In



Enter Account & Password

Account (non case-sensitive)**:** **Admin** (default)

Password (case-sensitive): **123456** (default)

Change UI language A

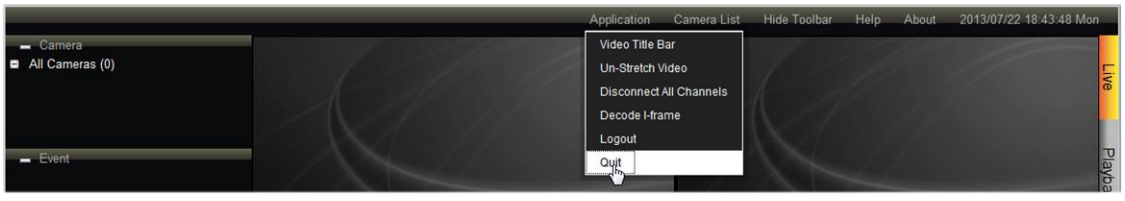
To change UI language, select the desired language from "**Language**" dropdown list.

Remember Login Information B

To have the server remember your **Account**, **Password** and language setting for future, check "**Remember me**".

Log Out

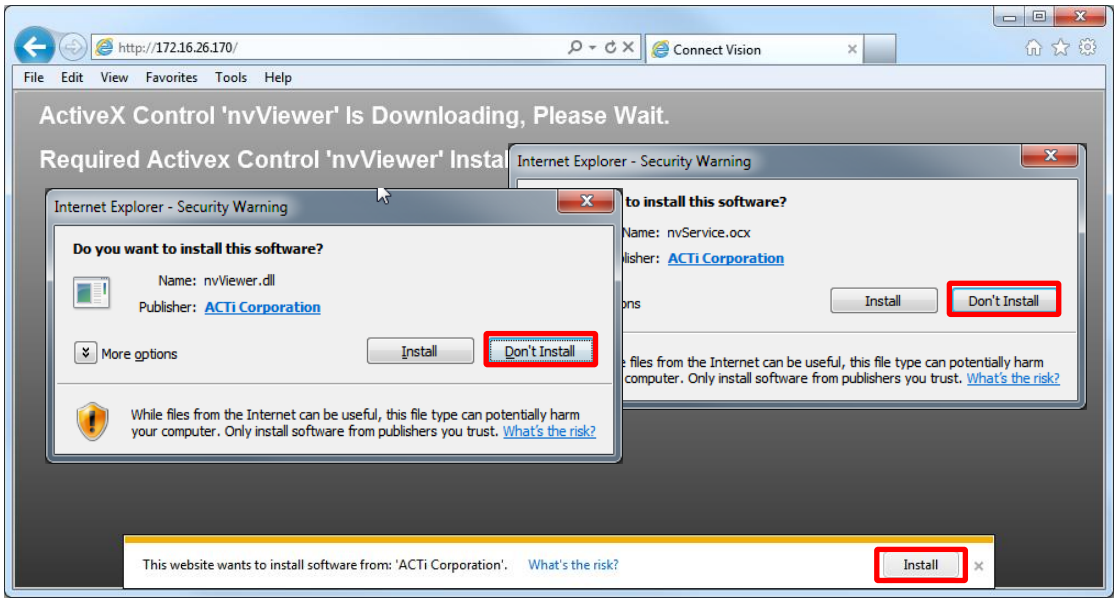
On **Live** screen, click "**Application**" →"**Quit**".



Accept ActiveX Controls Installation

ENR interface requires the add-on ActiveX Control components, please allow ActiveX controls to be downloaded and installed.

It is strongly recommended that (1) you add this ENR server into Internet Explorer's Trusted Sites and (2) turn off Windows Firewall on this client computer.

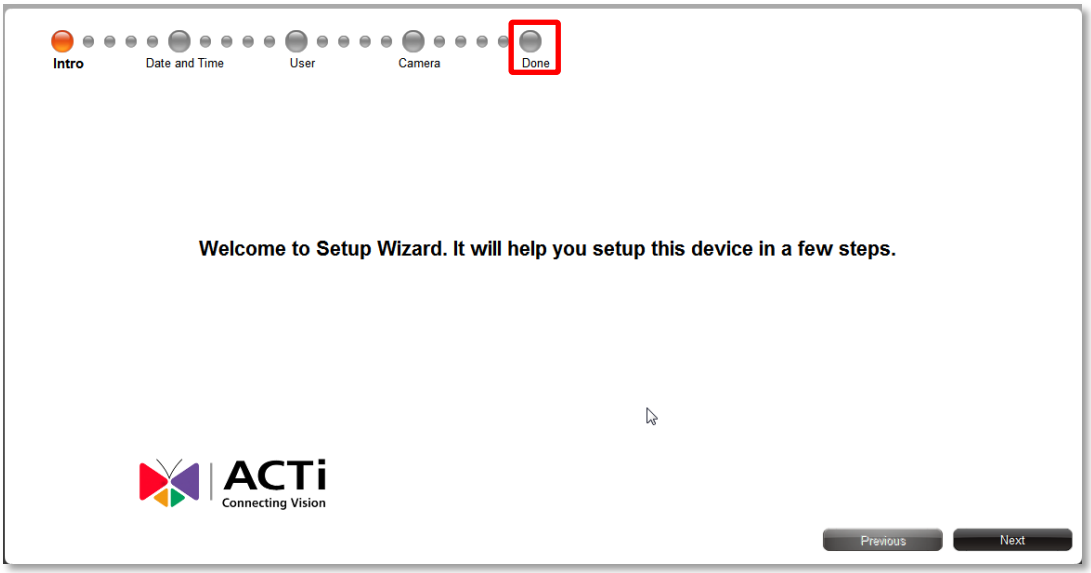


Setup Wizard

After logging in, If no camera has been added to ENR system, **ENR Setup Wizard** will lead you through three essential installation steps in order that you could quickly get camera live view.

For video recording, please remember to install hard disks and format them in physical ENR device.

You may click the **Done** bubble to skip to the quick setup procedures last step.



And click "**Done**" to exit **Setup Wizard**.

Setup the System

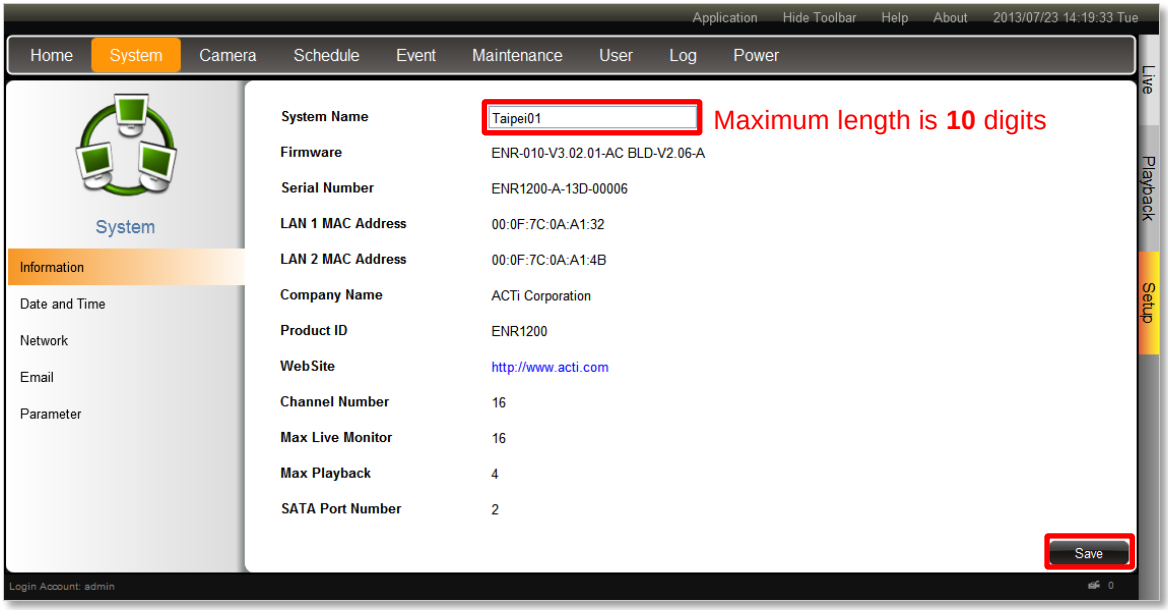
Before adding cameras to the system or starting up the recording and event handling, it is essential to configure certain system-wise settings on **Setup** page.

Set System Name

Go to **Setup** page → **System** tab→ **Information**

You may modify the name of this ENR server, which will be shown in the notification email (Please refer to), and click "**Save**".

Your ENR's serial number and MAC address are also shown here.



Set Date & Time

Go to **Setup** page → **System** tab→ **Date and Time**

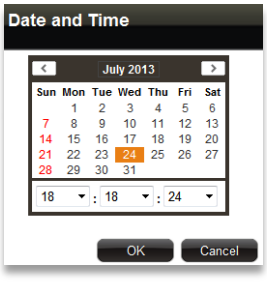
You may configure other time-related settings here.

Change Time Zone

Select the time zone where ENR server belongs to. After selecting the time zone, it will change to the corresponding date and time.

Change Date and Time

It shows the current date and time on the device. Click "**Date and Time**" to bring up the calendar. Input the exact date and time, then click "**OK**".



Set Daylight Saving

If the device is located in an area where daylight saving time is used, click the check box to enable daylight saving. The time will be automatically adjusted. When the daylight saving time has finished, uncheck the box to return to original setting.

Set NTP Server

Please enter a NTP server address and click "**Apply**" to synchronize time with the NTP server. Make sure ENR has connection with the NTP Server.

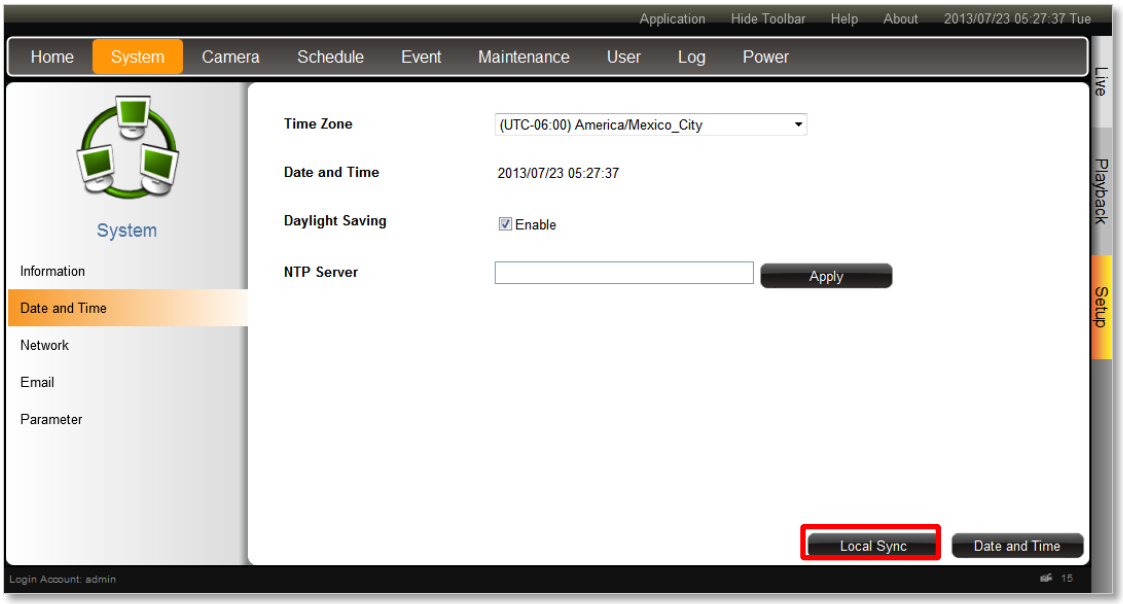
To delete this NTP server, simply clear its address in this field and click "**Apply**".

Note

If your NTP server is a domain name address, make sure you have configured the **DNS Setting** and chosen appropriate Default **Gateway** on **Setup** page → **System** tab→ **Network**

Synchronize with Client Computer's Time

Click "**Local Sync**" to synchronize the device time with the time on the computer you are using now, please click this button.



Configure Network Settings

There are two network interface cards in ENR.

Either of these cards can be supported by the built-in DHCP server feature, which enables ENR to assign IP addresses to cameras via **LAN1** or **LAN2** port without another DHCP on router.

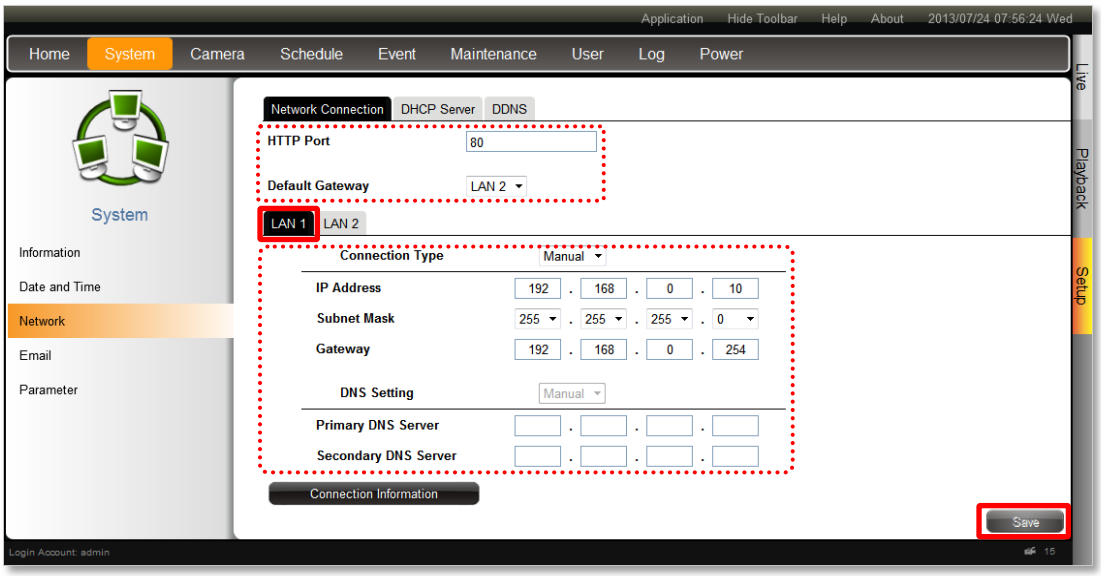
By default, **LAN1** card is set to **Manual** mode with a fixed IP address ***192.168.0.10***, while **LAN2** is in **DHCP** client mode. It is suggested that you connect **LAN1** to LAN and connect **LAN2** to WAN.

IP Settings

Go to **Setup** page → **System** tab→ **Network**

Please click "**Network Connection**" then tag **LAN1** or **LAN2** to select the interface card that you wish to set up. After setting up, please click "**Save**" on the bottom right side to save the settings.

Please note that any change you make on this page requires the system to restart its service, please wait for a while and reconnect ENR using the new properties.



Field Name	Description
HTTP Port	The connection port is used for remote web client to communicate with ENR. Default is *80*.
Default Gateway	Default uses *LAN2's setting*.
Connection Type	Choose one connection type for this LAN port. DHCP and PPPoE service will assign an IP Address to ENR, and there is no need for you to define other network information. **Manual**: Please obtain a static IP address and other network information

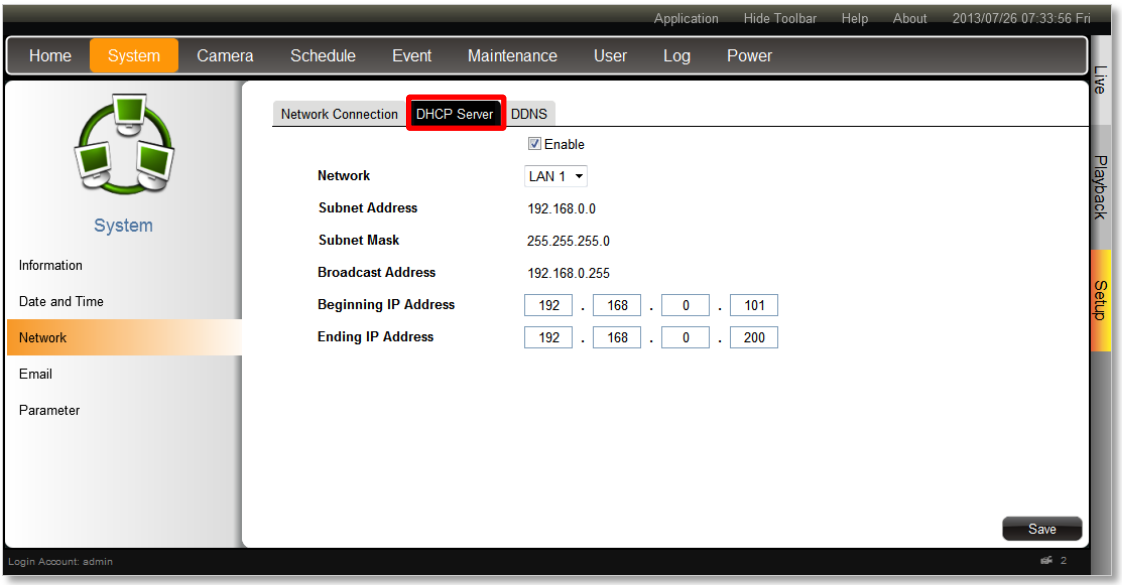
	including Subnet Mask, Gateway and DNS server from your network administrator. **DHCP**: Use this connection type if you have a DHCP server on your network router. **PPPoE**: Chose this when your ISP is using PPPoE type DSL line. Please contact you ISP to get the **Username** and **Password** for this connection. **LAN1** default is *Manual*; **LAN2** default is *DHCP*.
IP Address	Fixed IP Address. **LAN1** default is *192.168.0.10*; **LAN2** default is *Auto*.
Subnet Mask	Used to define if the destination is in the same subnet. **LAN1** default is *255.255.255.0*; **LAN2** default is *Auto*.
Gateway	A valid gateway setting is essential for data transmission between different subnets, such as accessing the DNS service or SMTP server on the Internet. **LAN1** default is *192.168.0.254*; **LAN2** default is *Auto*.
DNS Setting	The DNS server that translates domain names to actual IP addresses. If this LAN is **Manual** mode, and you will set an SMTP server for event notification, be sure to set the Primary DNS and Secondary DNS. **LAN1** default is *Manual*; **LAN2** default is *Auto*.

Enable DHCP Server

You may enable the built-in DHCP server for either **LAN1** or **LAN2** port.

Go to **Setup** page → **System** tab→ **Network and** click "**DHCP Server**".

3. Check "**Enable**" and select a LAN, this LAN has to be in **Manual** mode.
4. Set the **Beginning IP Address** and **Ending Address**, and click "**Save**". ENR will assign IP addresses within this range to the cameras connected to the selected LAN port. Please (1) make sure the cameras are in DHCP client mode, (2) connect and power the cameras up after you enable this service.



Enable DDNS Service

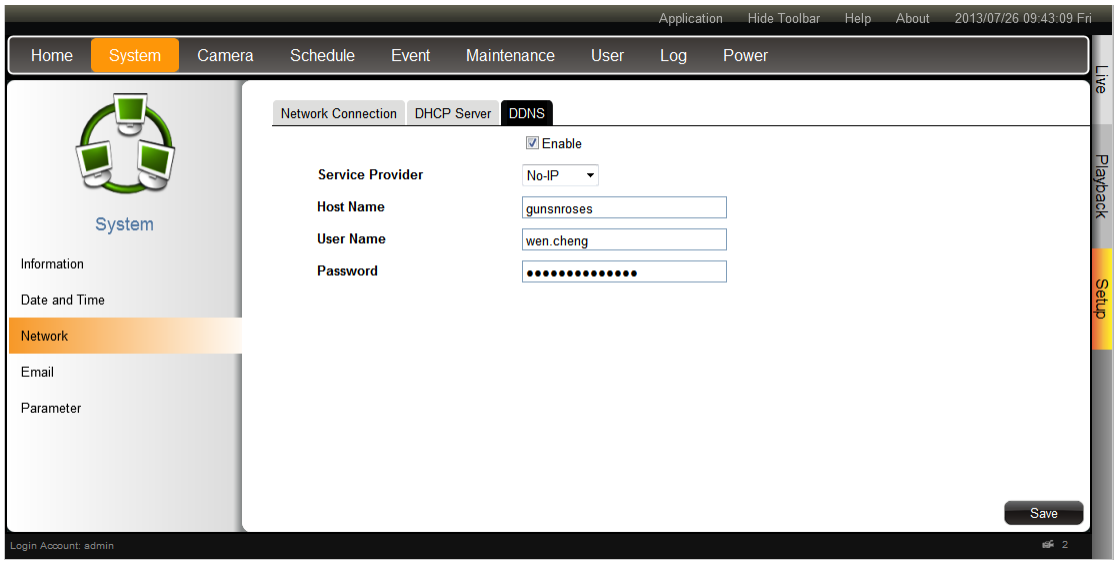
ENR has built-in the DDNS update client feature, which saves ENR domain name address information and actively update its ip address to the DDNS provider's server.

5. Visit the dynamic DNS service provider's website and register the domain name for your ENR.

   ENR supports the following service providers:

   - DynDNS: http://www.dyndns.com
   - NO-IP: http://www.noip.com/

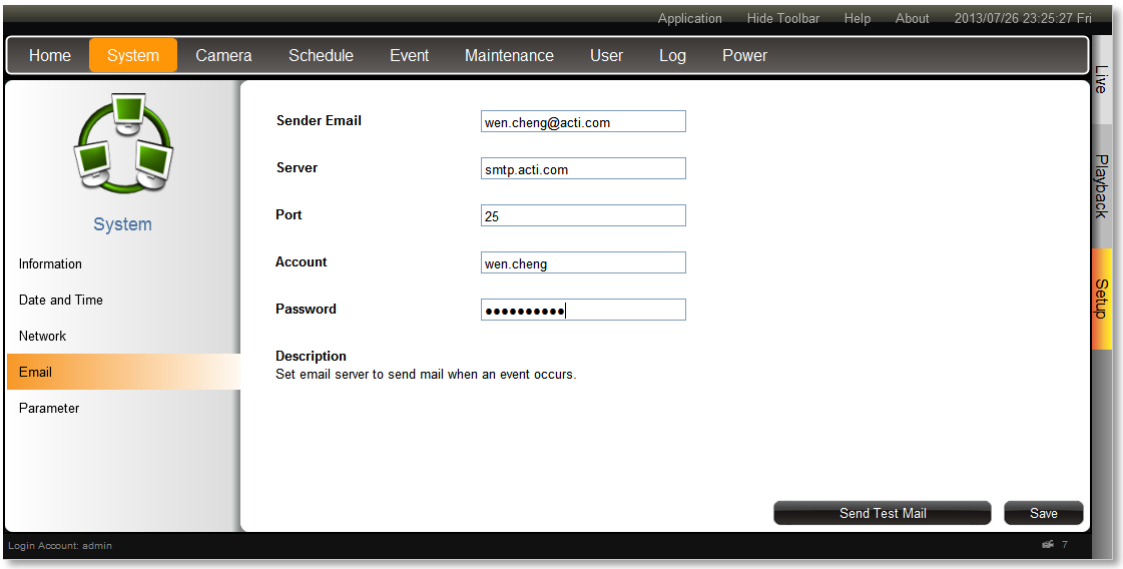
6. Go to **Setup** page → **System** tab→ **Network and** click "**DDNS**".
7. Check "**Enable**", select the service provider, and input the **Host Name**, **User Name** and Password.
8. Click "**Save**" to save the settings.



Set Email Notification Service

ENR supports email notification for Event Handling. The emails are sent through an SMTP server, the settings of which are configured in this section.

Go to **Setup** page → **System** tab→ **Email**.



Please fill up the information about the mail server you wish to connect to. After configuring, please click "**Save**" to save settings.

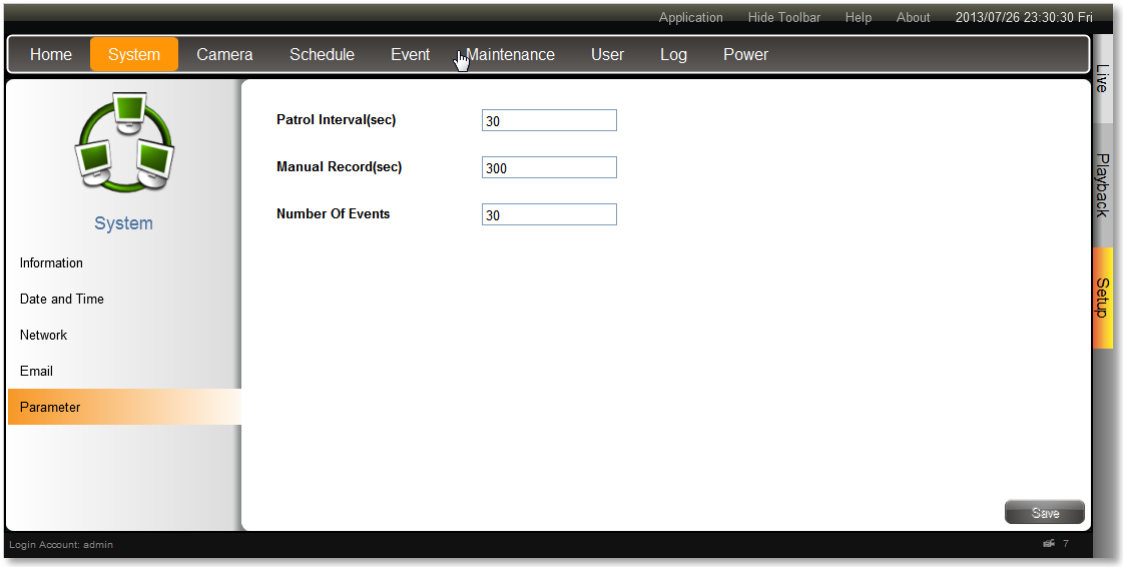
Field Name	Description
Sender Email	Input the sender's email address, should the same account you set for SMTP server.
Server	Input the sender's SMTP server address. Only alphabets, numbers, and the symbols (.), (_), (-) are valid. ENR server supports the SMTP services with SSL protocol. If you wish to use a free webmail SMTP service, you may choose certain webmail providers such as **Yahoo** (SMTP: smtp.mail.yahoo.com Port:25) or **Gmail** (SMTP: smtp.gmail.com Port:25 or 465 for SSL protocol / 587 for TLS protocol)
Port	Set the SMTP port, allowed value is from 1~65535, default is **25**.
Account	Input the name of the SMTP server account. The form of account name depends on mail server, e.g. a Hotmail account name is a complete email address, while other mail servers' are not. Only alphabets, numbers, and the symbols (@), (.), (_), (-) are valid.
Password	Input the password of the SMTP server account. Only alphabets and numbers are valid.

As all necessary information is filled in, click "**Send Test Mail**" to try sending an email according to your settings, and then login your SMTP server to check incoming emails.

Global Settings

A few of the parameters that cannot be easily categorized are listed here for editing.

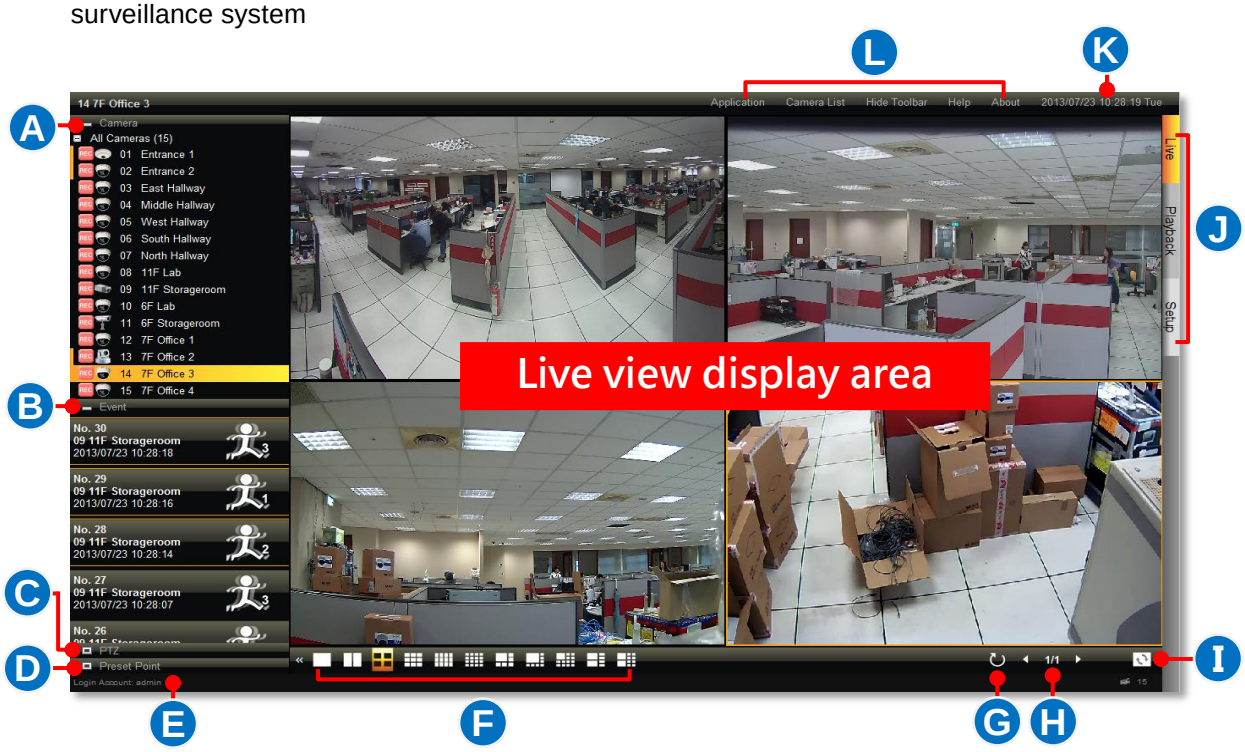
Go to **Setup** page → **System** tab→ **Parameter**.



- **Patrol Interval (sec):** The interval of live view patrol, default is 30 sec.
- **Manual Record (sec):** Manual recording duration Default is 300 sec.
- **Number of Events:** The max number events that can be displayed in event panel. Default is 30.

Live Page UI Overview

After logging in, you will enter **Live** screen. **Live** screen is the interface where you see the live views from your cameras. It is where most of the security professionals access the surveillance system



No	Description
A	**Camera List**: Lists all the connected cameras and their recording status.
B	**Event List**: Displays alerts of detected motion, digital inputs and connection status.
C	**PTZ Control Panel** Provides onscreen PTZ controls. This panel is only enabled when a PTZ camera channel is selected on live view display area.
D	**Preset Point Panel** Provides onscreen tour and preset points controls. This panel is only enabled when a PTZ camera channel is selected on live view display area.
E	Your current logged on **Account** name
F	**Layout Selection Buttons** Click to change the current layout
G	**Sequence Patrol** Click to start/stop sequence patrol
H	**Page Selection** Normal state: 2/15 Click on the numbers to view a row of available pages: 1 2 3 4 5 6 7 8 9
I	**Set Local View** Click to synchronize local live view with your current view

J	**Page Switch** Switch to the **Setup** or **Playback** page by clicking the tags.
K	**Current System Time**
L	**Toolbar** Lists available tools for your current page

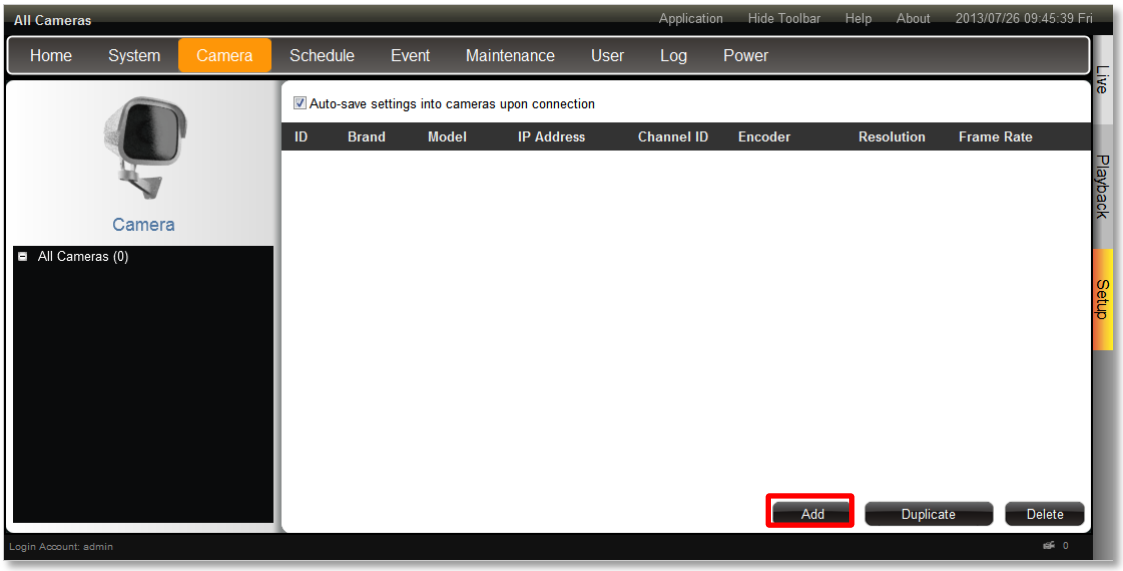
Set Cameras

ENR remote user interface also allows you to easily configure, add or delete cameras without the use of another web browser.

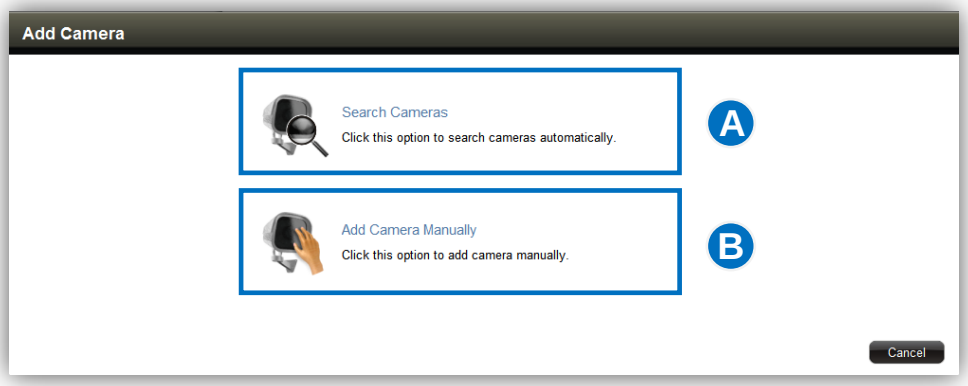
Add Cameras

Go to **Setup** page → **Camera** tab.

1. As there is currently no camera existing in ENR system, click "**Add**" to starting adding the fist one.

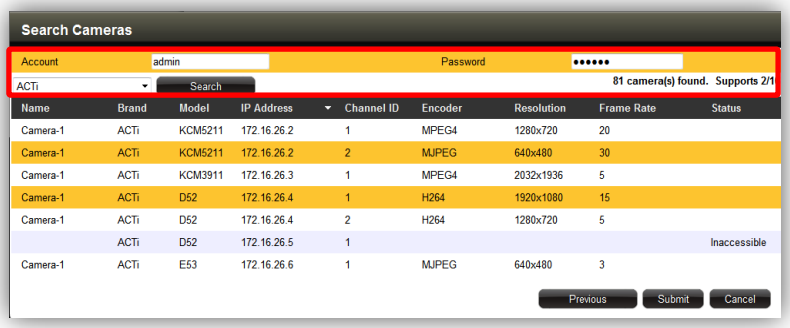


2. Click "**Search Cameras**"

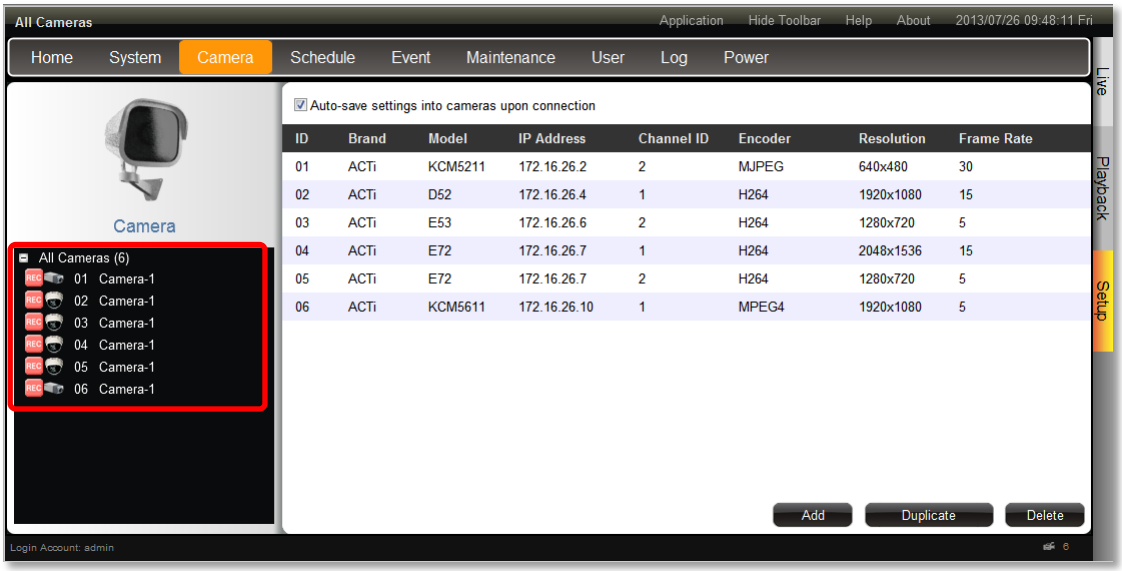


A On **Search Cameras** windows, input the **Account** and **Password** to access the cameras, select the manufacturer and click "**Search**".

After all the connected cameras are found, click the cameras and then "**Submit**" to add them.

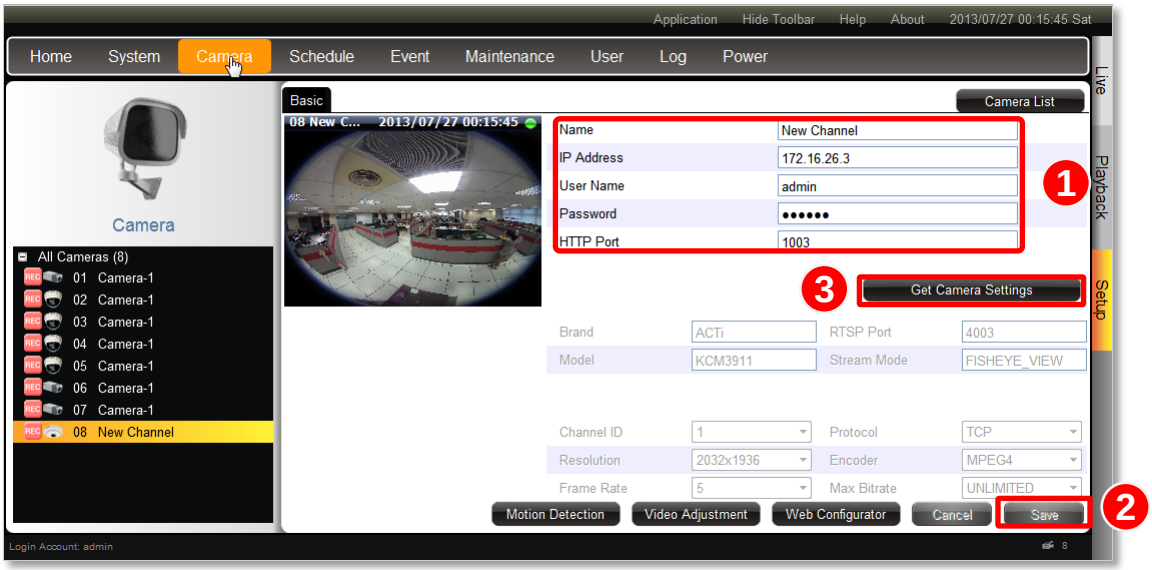


Back on the **All Cameras** list, the selected cameras are already added into ENR system and started their full-time recording service.



B If the camera is not located within your network segment, you may add it manually.

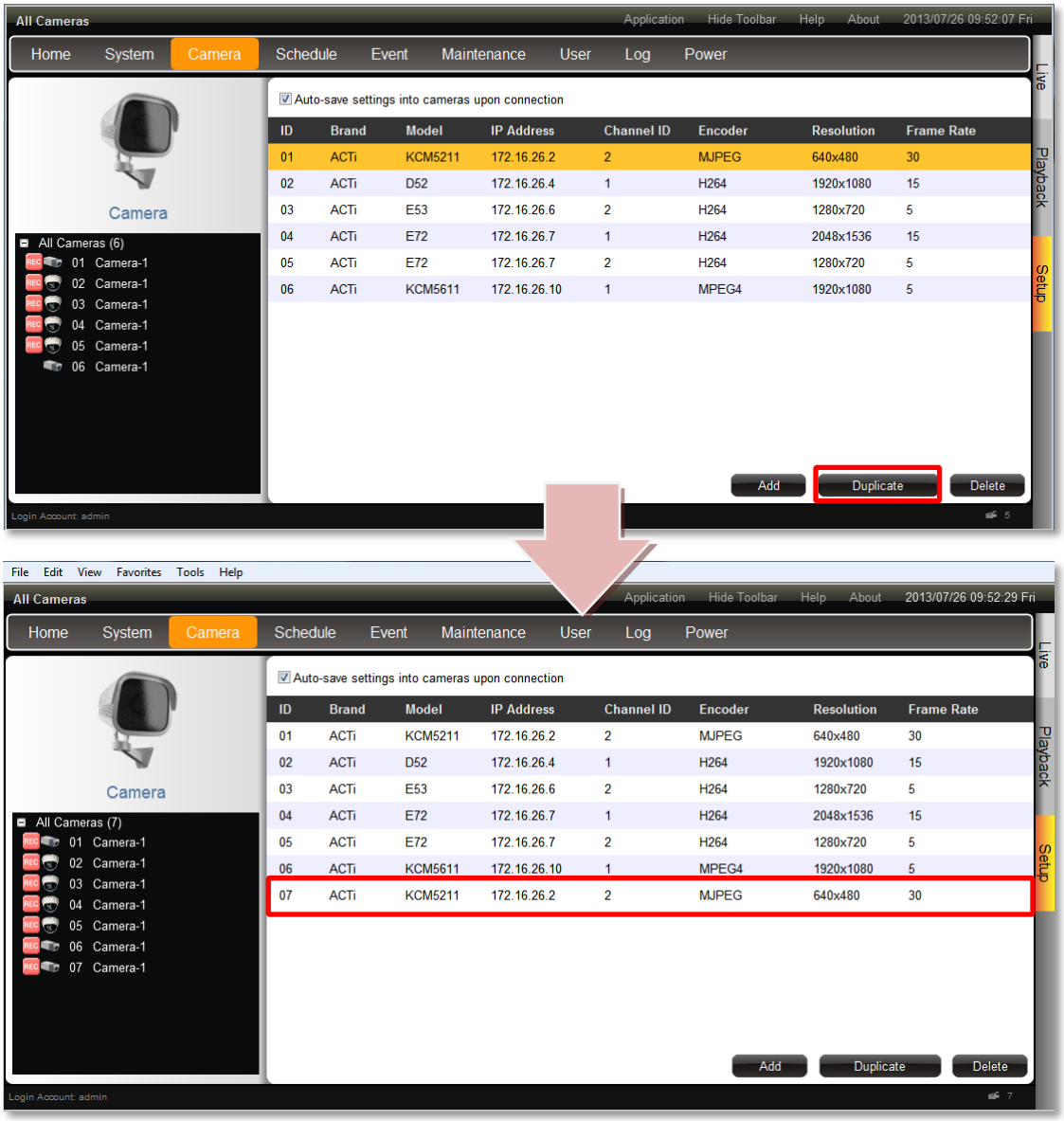
1. Fill in the connection properties such as properties **IP Address**, **Username** and **Password**, **HTTP Port**, and click "**Save**" then "**Get Camera Settings**".
2. The camera settings and live view will appear.



Copy Camera Settings

You may copy an added camera's settings another channel. In this way, it is easier to manually add more than one camera of the same models.

1. On **All Cameras** list, select an existing channel.
2. Click "**Duplicate**", the selected cameras will be duplicated to new channels. In the example shown above, **01 Camera** will be copied to a new channel – **07 camera**.

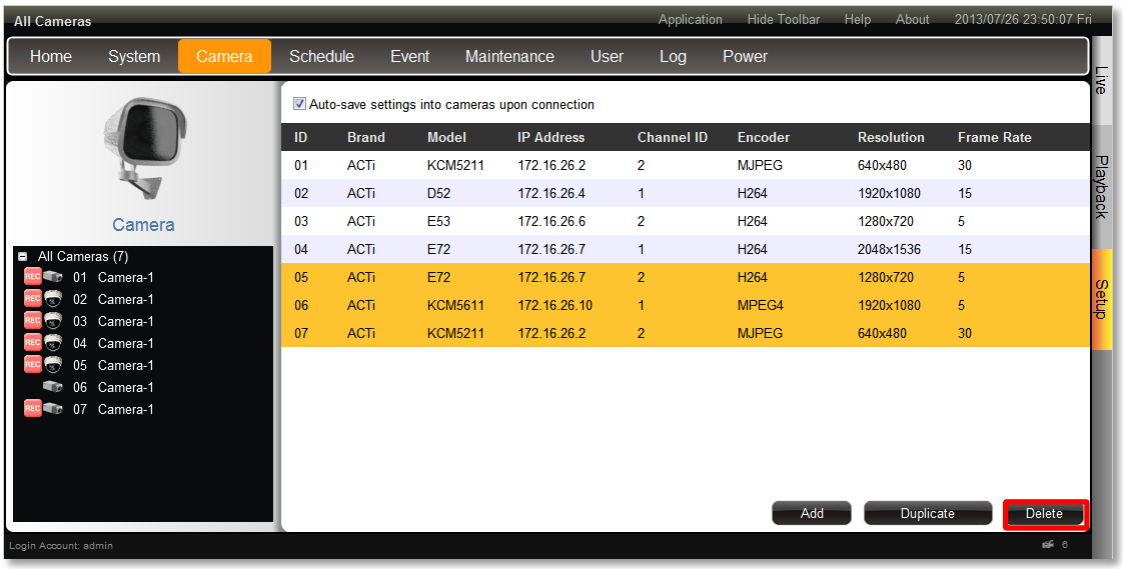


Note

ENR will synchronize with devices upon connecting to them. To make sure the settings on ENR side are prior to those on camera sides, please check "**Auto save ENR settings into device upon connection**". When this function is enabled, every modification you make via Camera's web configurator will be overwritten by ENR.

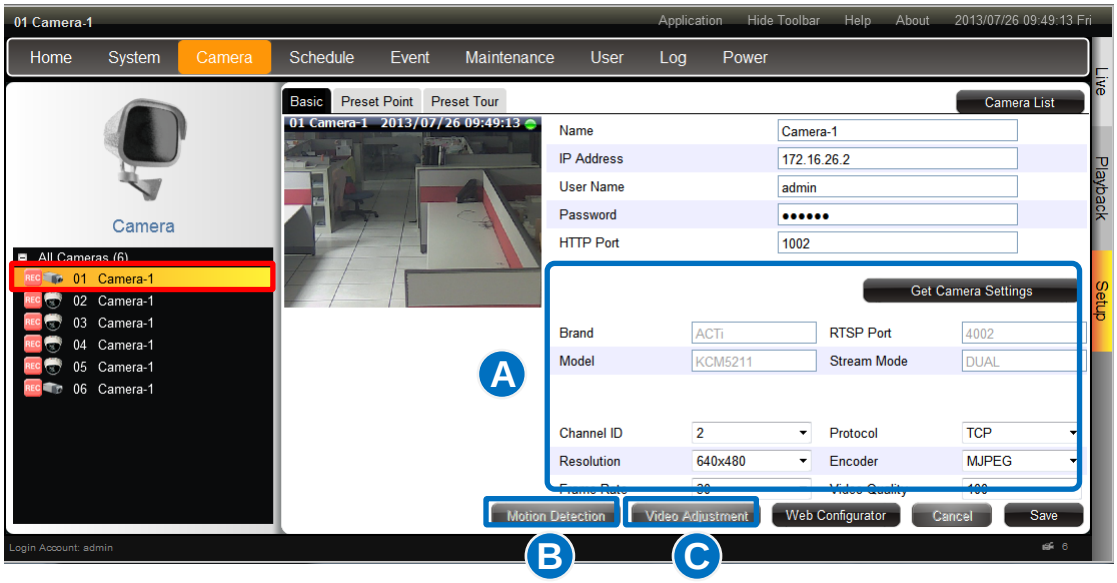
Delete Cameras

On **All Cameras** list, select the cameras you wish to delete and click "**Delete**".



Change Camera Settings

After the cameras are added, select a camera on **All Cameras** list to configure its individual properties.

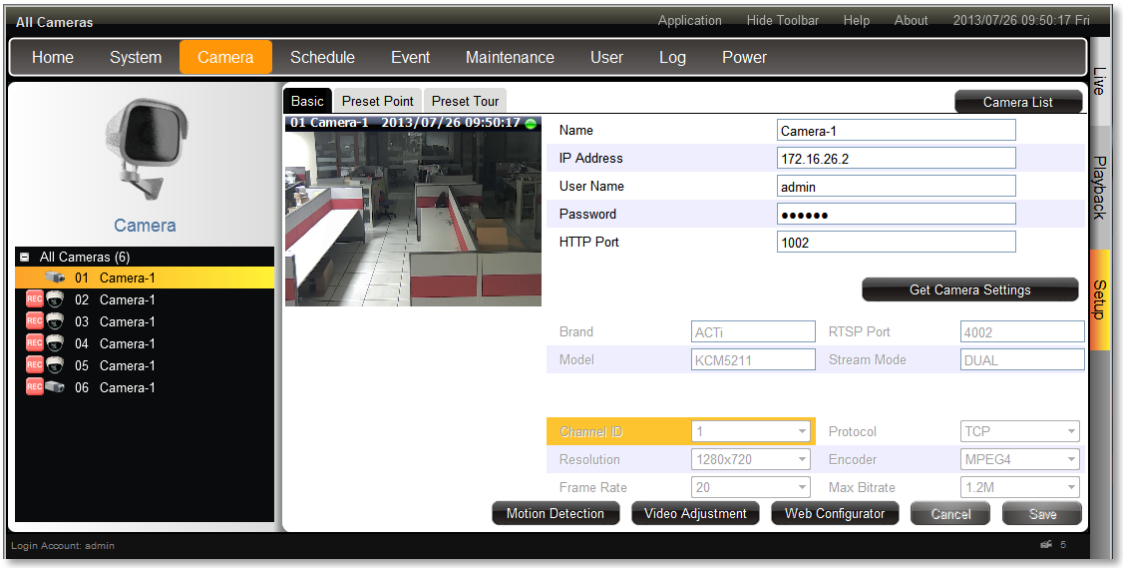


(A) Video Format and Transmission Properties

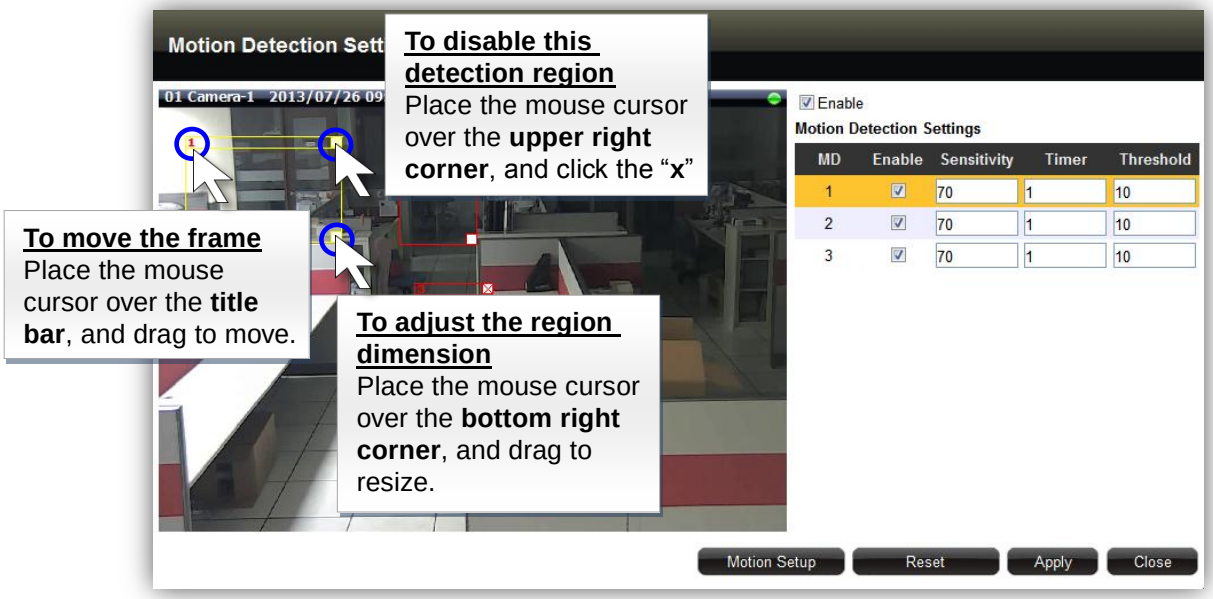
To modify the video format and transmission properties including **Channel ID**, **Resolution**, **Frame Rate**, **Protocol**, and **Bitrate**, you will have to click "**Get Camera Settings**" first to sync with the camera first. After configuration, click "**Save**" to save this setting to camera

(B) Motion Settings

After selecting the camera from **All Cameras list**, click "**Motion Detection**". If this camera is in dual stream mode, only **Channel ID 1** (Stream 1) supports motion detection feature.



On **Motion Detection Settings** window, check "**Enable**" then click "**Motion Setup**". To enable one motion region, check it, a color frame will appear in the view. You may start setting the detection area by adjusting this yellow frame on the view. Simply use your mouse to move and resize the frame. Click "**Apply**" to save the settings.



Adjustment Attributes

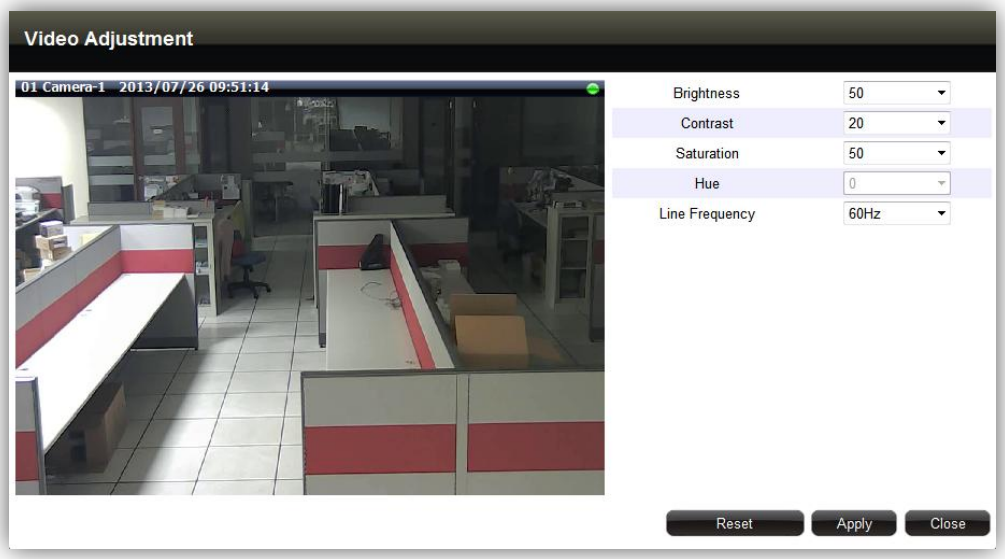
Field Name	Description
Sensitivity(1-100)	Determines how sensitive the camera reacts to the movement. The higher the sensitivity level is, the smaller motion will trigger the alarm, but may give false alarms. Default is 70.

Timer(0-300 secs)	The interval before the next motion detection can be triggered again. Default is 1 second.
Threshold (%)	The threshold level of this motion detection region. The lower threshold level is, smaller portion of the region would be considered as motions, which is more easily to be triggered, but may give more false alarms.

(C) Fine-tune the Image: Brightness/Contrast/Saturation/Hue

Not only details but also brightness, contrast, saturation and hue are essential factors to make images closer to real scene. For devices that support these property configurations, you may directly modify them and save to the device ENR interface.

On **Video Adjustment** window, the fields available for modification (depends on models) will be enabled. Select the desired value for the field, and click "**Apply**".



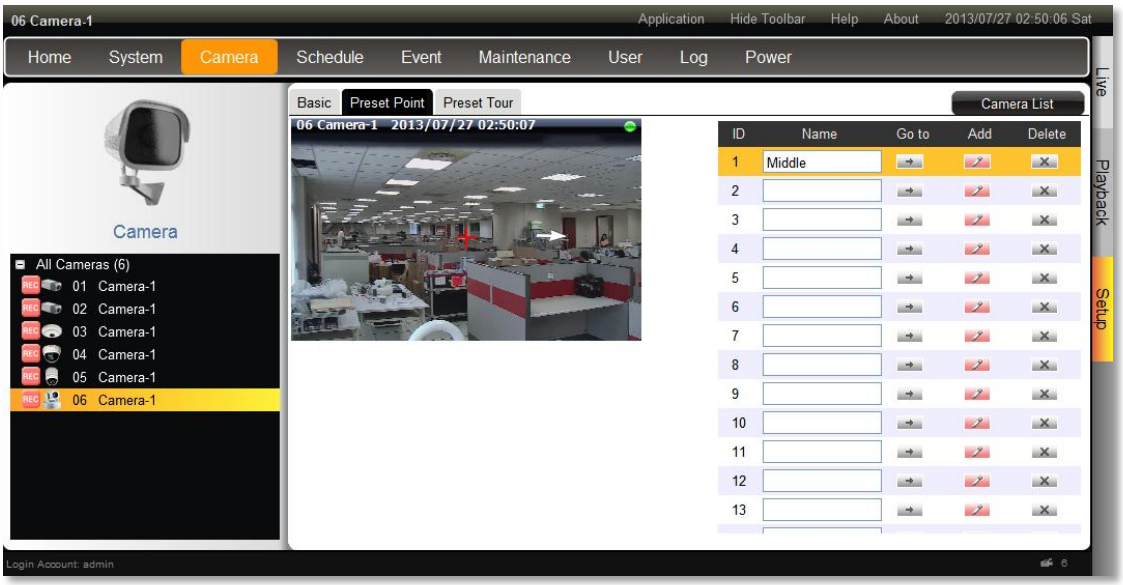
Video Adjustment Attributes

Field Name	Description
Brightness(1-100)	Defines how much portion of light and of dark appear in the image. As the value increases, the image appears brighter, and vice versa.
Contrast(1-100)	Defines the range level between light values and dark values. As the value increases, the separation between light and dark becomes more obvious.
Saturation(1-100)	Defines the level of the actual color intensity. As it increases, colors appear more pure; as it decreases, colors appear more gray-out.
Hue(1-100)	It is the term used to refer to the pure spectrum colors. Adjust this value to find the color closest to the real scene.
Line Frequency (50Hz / 60 Hz)	The unction that adjusts the shutter speed options to match the frequence of artificial light source of given country. For example, in Europe the light frequency (due to power supply frequency of lights) is 50Hz, that is 50 flashes per second. By setting line frequency to 50Hz in such case, the shutter speed options will be proportional with light source frequency, such as 1/25s, 1/50s, 1/100s, etc. It is necessary to have the camera's Line Frequency adjusted according to the power frequency of the light source to avoid flickering effect.

Configure PTZ Preset Points

With PTZ devices, you may define a view by where to look (through panning and tilting) and how close (through zooming) to zoom. Once these views have been saved in ENR as preset points, the device can always point to this view upon the event triggering or user's command.

Go to **Setup** page → **Camera** tab, select a PTZ camera from **All Cameras** list, and click **Preset Point**.

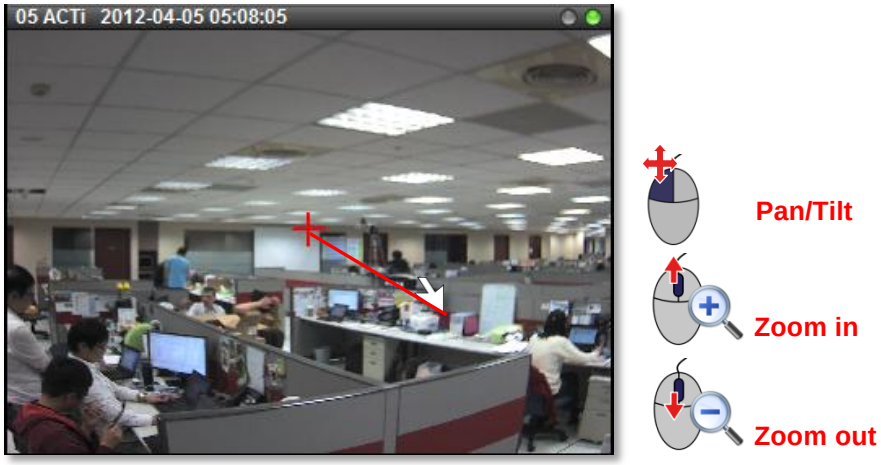


1. Define a view:

   On mini live window, use the mouse to do the following PTZ operations:

   ■ To execute optical **Panning** and **Tilting**, click anywhere on the live window to allow the camera to move in that direction. The length of the direction indicator is proportional to the Pan and Tilt speed. The farther you place the cursor from the center, the faster the Pan/Tilt movement.

   ■ To execute optical **Zoom in** or **Zoom out**, scroll the mouse wheel forward to zoom in; scroll the mouse wheel backward to zoom out.



2. Save to a **Preset Point**

On **Preset Point** list, select an ID, input the point name and click 

To delete this point, click 

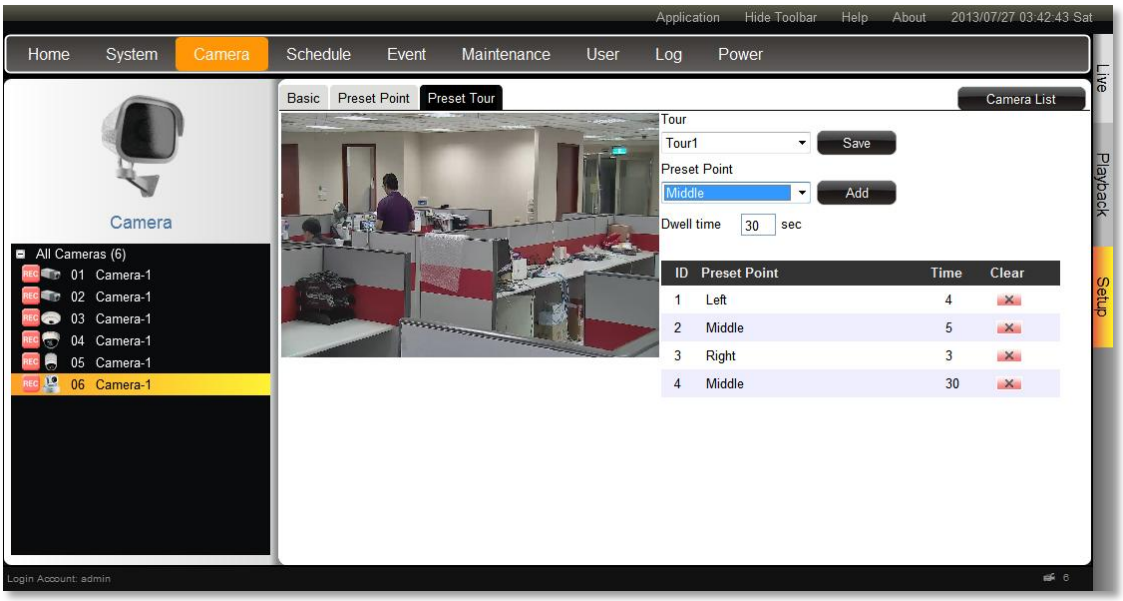
After a point is saved, you can click  to go to this point.

Configure PTZ Preset Tour

Preset Tour is a preconfigured PTZ sequence that directs the camera to cycle through multiple preset points, including where to look and how long to look at each location. With this preset tour, your PTZ device can perform an automatic patrol to scan through your cared areas.

Before setting up Preset Tours, please make sure you have configured PTZ settings and set PTZ Preset Points. To start:

15. Go to **Setup** page → **Camera** tab, select a PTZ camera from **All Cameras** list, and click **Preset Tour**.
16. Select a Tour from **Tour1**~**Tour10**, pick a preset point, define its **Dwell time** and click "**Add**", this preset point will be added to the tour. Continue to add other preset points in your desired movement sequence and click "**Save**" . After a tour is saved, it is available on **Live** page→**PTZ control** panel.

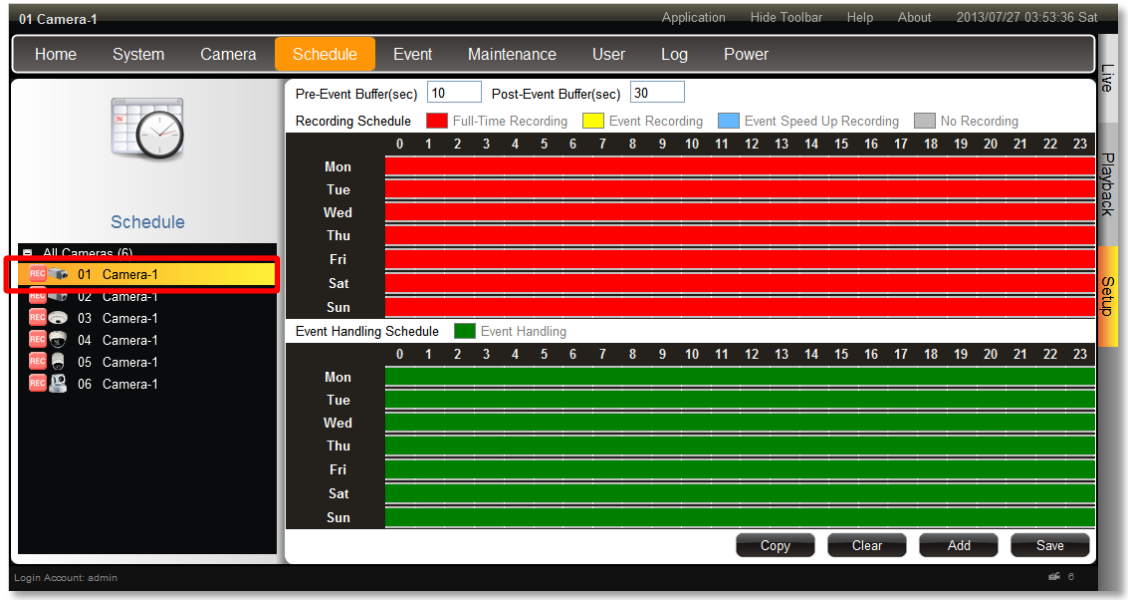


Set Recording Schedule

For the recording schedule, ENR supports **Schedule recording**, **Event recording** and **Event Speed-up Recording** modes, which are set up on a week-based timetable; the event-handling schedule is configured here.

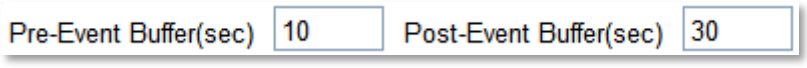
On ENR, you can configure camera's recording schedule on 7 days / 24 hours basis. The schedule is split into segments of one-hour-length. By default, once a device is added to the system, its schedule is automatically set to full-time schedule recording and event handling. You should configure it according to your system plan.

Go to **Setup** page → **Schedule** tab, and select a camera to configure its recording schedule.



Event-Recording File Length

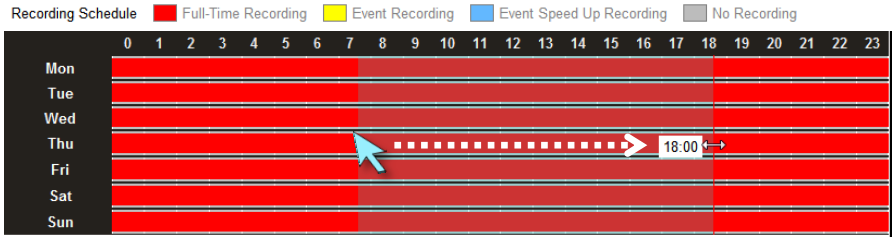
Before setting the recording schedule, you may define the length of an event recording. To do this, configure the following properties shown as below, which will make an event recording as long as 10+30 second:



Field	Description
Pre-event Recording Buffer (sec):	ENR keeps a short cache of video received from devices. If an event is triggered, ENR will automatically store the pre-event buffer along with the recording of the event itself.
Post-event Recording Buffer (sec):	This will determine how long after the event is triggered should be included in the event recording file.

Set the Recording Schedule

1. On the Recording Schedule time table, click and drag set time period.



2. Click "**Add**" to select the recording type, and the "**Save**"

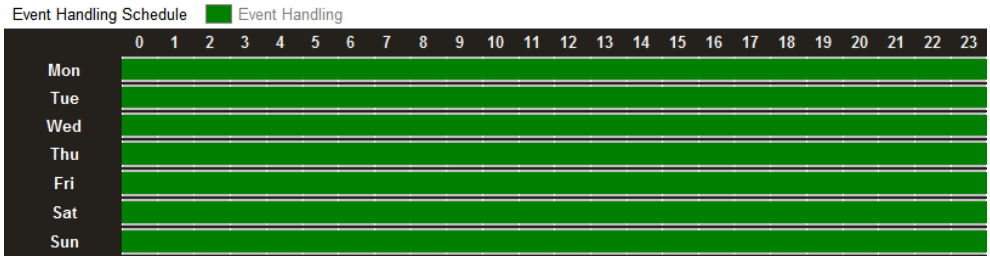
Field	Description
Full-Time Recording	Continuously record at the video frame rate you define in **Camera Settings**.
Event Recording	Only events are recorded, at the video frame rate you define in **Camera Settings**.
Event Speed Up Recording	Continuously record everything at 1FPS, when an event occurs, the frame rate will switch to the value you define in **Camera Settings**, and automatically switch back to 1FPS after the event ends.

3. To delete the recording configuration, click "**Clear** " and drag on the desired section on time table.

Set the Event Handling Schedule

The **Event Schedule** defines when the event handling is activated. To set the event rules, please refer to **Setup Event Rules** on page 61.

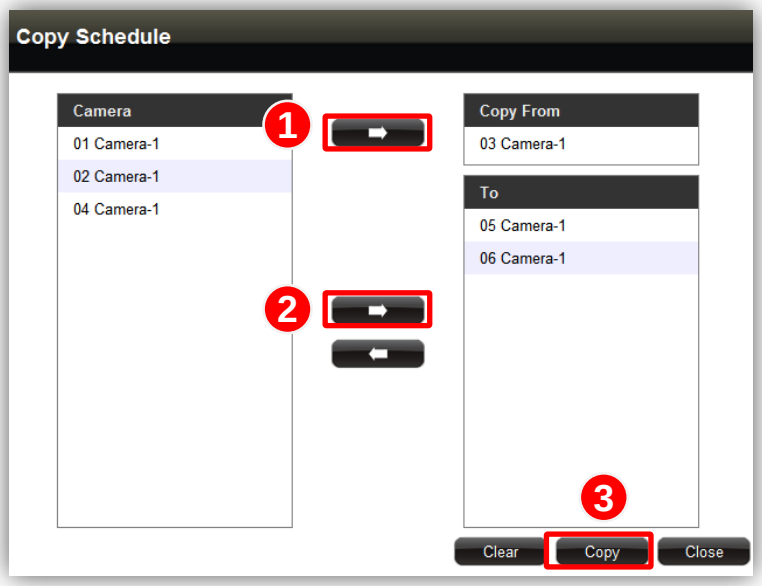
By default, the event handling is full-time activated; you may disable it during certain time.



1. Click "**Clear**" on bottom of this page.
2. Drag over the Event Handling Schedule time track to disable the event handling service.
3. Click "**Save**".

Copy Schedule

You may copy a camera's schedule setting to other multiple cameras. This saves much your time on configuring the schedules camera by camera. On the bottom of this page, click "**Copy**" to bring up **Copy Schedule** window.



Select one camera as the source of schedule, and add other cameras to the "**To**" field. Click "**Copy**" to commit changes.

Setup Event Rules

ENR can react to events occurring on the storage disk and camera site.

the storage disk status

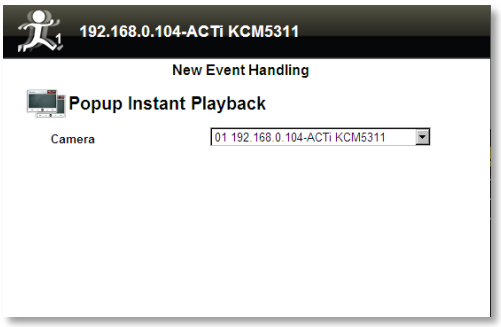
Trigger Types

ENR supports the following reaction types:

●Popup Instant Playback

ENR will pop up a small window on **Live** screen to play the 10-second period ahead of event.

You will choose a specific camera whose recording is to be played.



●Go to Preset

For the use of PTZ cameras to make movements toward certain triggers, please configure the preset points (refer to _____

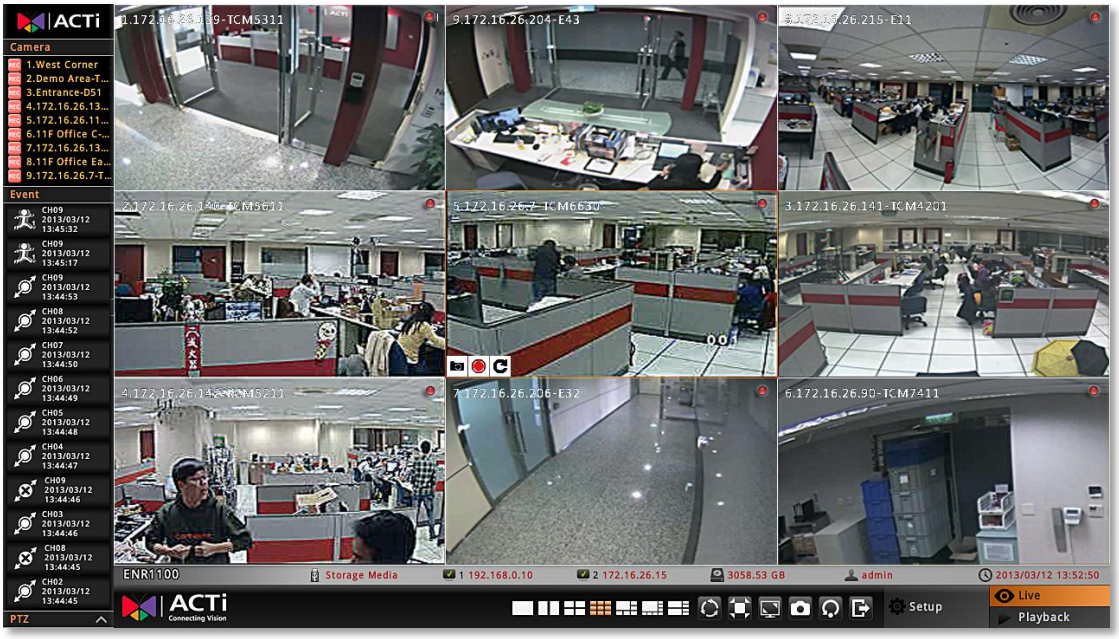
Configure PTZ Presets

With PTZ cameras, you may define a view by where to look (through panning and tilting) and how close (through zooming) to zoom. Once these views have been saved in ENR as preset points, the device can always point to this view upon the event triggering or user's command. For local operation, the PTZ-related configurations are done on **Live** screen.

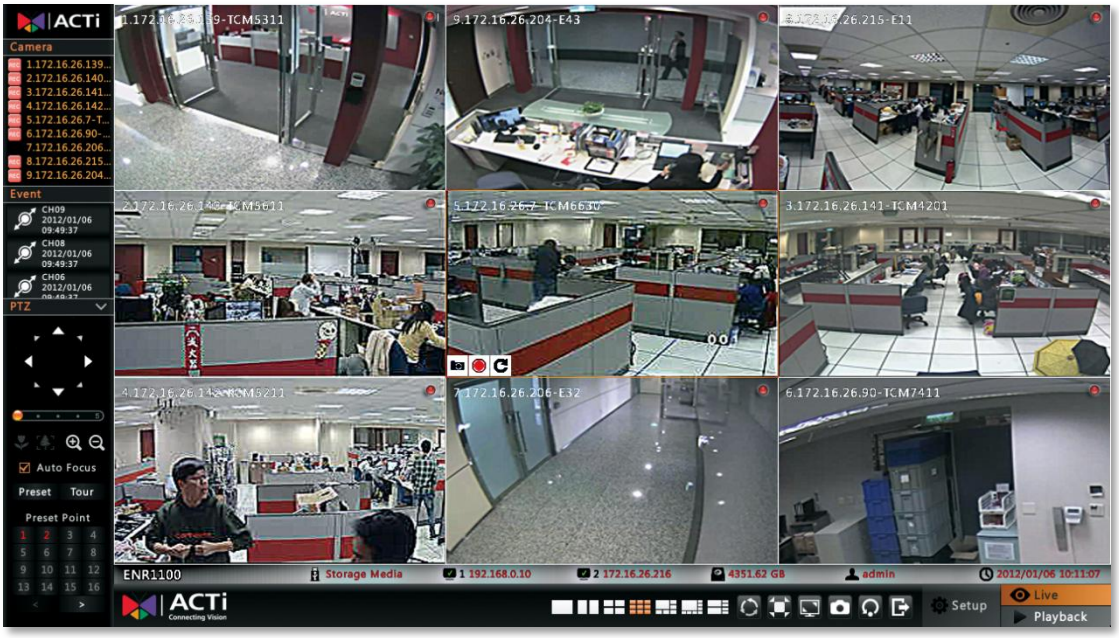
Please note that, the PTZ-related settings you configure here will overwrite those on camera's firmware.

Open PTZ Panel

On **Live** screen, select the PTZ camera channel on display area.



Click the **PTZ Panel** tag to open the panel.



PTZ Panel Description

No	Function
A	**8 directional arrow keys**: Click to pan or tilt the camera (only available for cameras with Pan/Tilt/ capability).
B	**Pan/Tilt/Zoom speed**: Click to change the speed. Provided speed scale is from **1** to **5** (available for cameras with Pan/Tilt/Zoom capability).
C	**Manual focus** (Available for cameras with a controllable focus) Near focus Far focus These buttons are enabled when the "**Auto Focus**" is disabled.
D	**Zoom** (Available for cameras with a controllable zoom) Zoom in Zoom out
E	**Auto focus** (available for cameras with auto focus capability)
F	**Preset Points Editor** Click to enter Preset Points edit mode.
G	**Tour Mode** Click to enter Tour mode.
H	**Preset Points** Click to the Preset Point ID to make the camera point to the pre-defined position.

Edit Preset Points

1.On **PTZ Panel**, click Preset to enter **Preset Points Editor**.

2. Use buttons ~ on **PTZ Panel** to define a view, then click the desired preset point ID and in put the point name in **Preset Point Setting** box. This preset point will be saved, and its ID will turn red.

3.To delete a point, simply click and then preset point you want to delete.

4.After editing, click will save the setting and exit the editor mode. You may click on a red number to have the camera go to that perset point.

Edit PTZ Preset Tour

Preset Tour is a preconfigured PTZ sequence that directs the camera to cycle through multiple preset points, including where to look and how long to look at each location. With this preset tour, your PTZ device can perform an automatic patrol to scan through your cared areas.

Before setting up Preset Tours, please make sure you have set PTZ Preset Points. To start:

17. On **PTZ Panel**, click Tour and then to enter Tour mode.
18. On **Tour Setting** window, select a **Tour** from drop-down list.
19. Select a **Preset Point** from drop-down list.

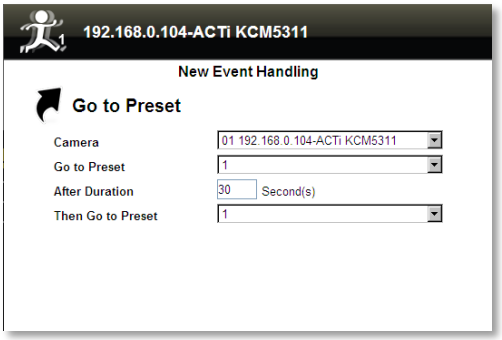
20. Set the **Dwell Time**, default is 10 seconds.

21. Click to save this point into the list.

22. Repeat **step 1** ~ **step 5** to add other points in your desired movement sequence. You may use the edit buttons to change the point order or delete a point. Click "**Save**" when this Tour list is well set. Click "**Close**" to exit this window.

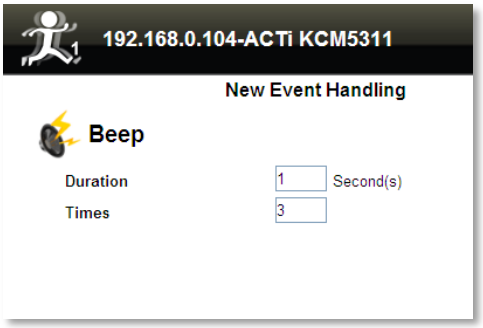
23. The ID of a saved tour will appear red. Click on it to start the tour, and click to stop it.

on page 43) on **Live** screen before you set the event rule. You have to Select which PTZ camera to make the movement, then the preset points and duration time between them.



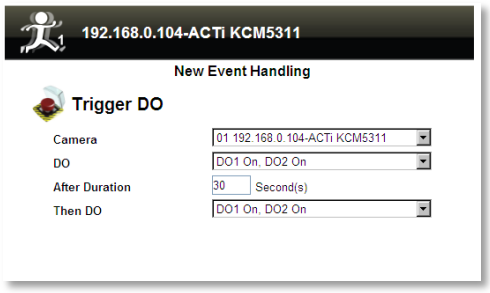
●Beep

ENR device can play beep sound upon being triggered by events. Input the duration time and prepeat times of the beep. Click "**OK**" to confirm.



●Trigger DO

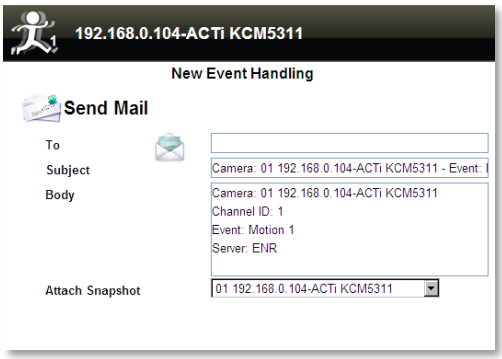
Set the DO to become ON or OFF upon trigger, only the devices supporting DO functions are available. Select the device whose connected DO(s) will be triggered. You may select one DO to be activated after the other and the duration time between them.



●Send Mail

Enables ENR to send email notifications via SMTP service.Fill in the mail recipient's email address in "**To**" field, notification title in "**Subject**" field and mail body in "**Body**" field, then choose a camera whose snapshot will be attached from **Attach a Snapshot** dropdown list.

To enable this service, you have to configure the Email setting (please refer to **Email Settings** on page 52) before this trigger is enabled.

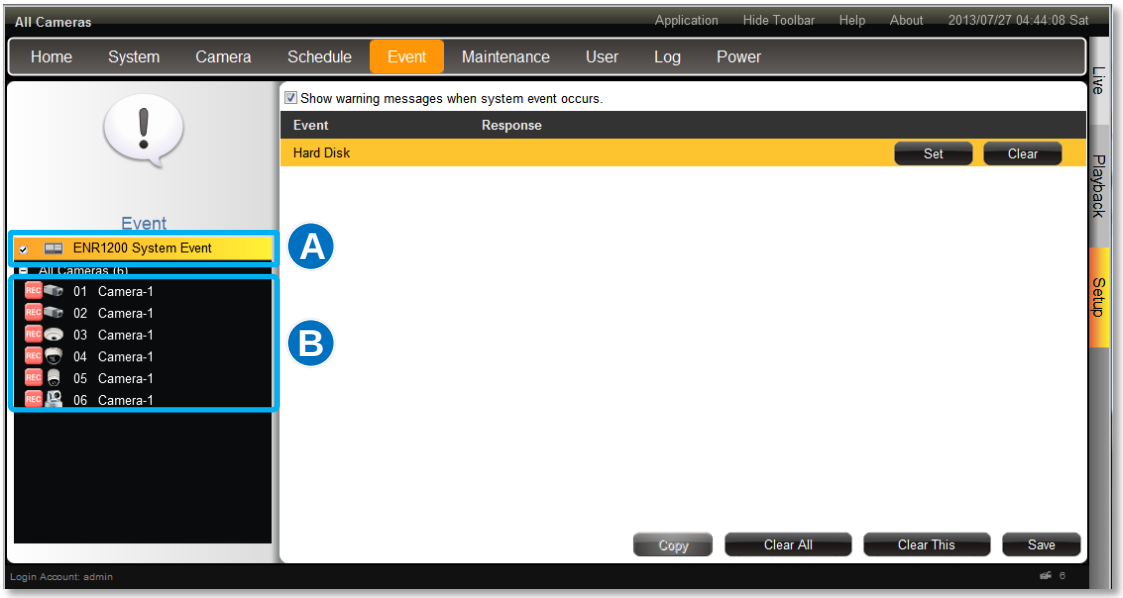


●Enlarge

Local Live screen will display certain channel view in full screen for a while when the system is triggered. Select the camera whose live view will be enlarged on **Live** screen and the duration time.

Set Event Rules

Go to **Setup** page → **Event** tab, and select **a camera** or **System** to set Event rules.

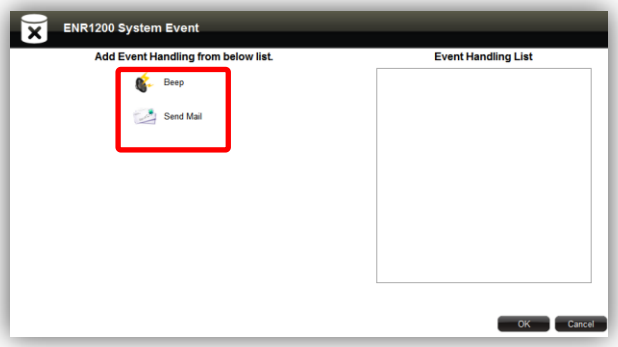


A Set System Event rule

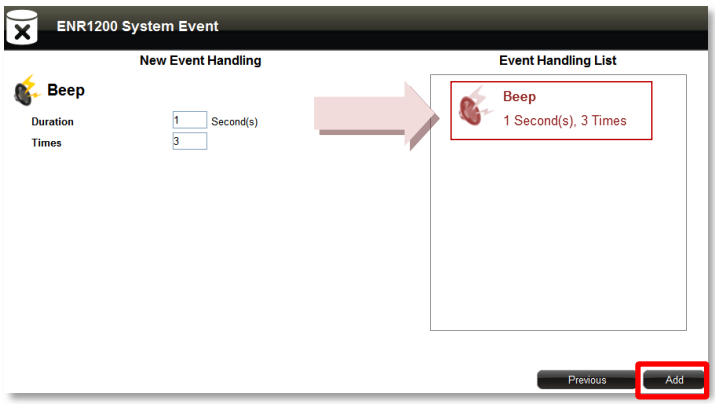
Whenever any hard disk goes into abnormal status, ENR will trigger a response based on the rule you set.

1. Click "**Set**" to enter the rule content.

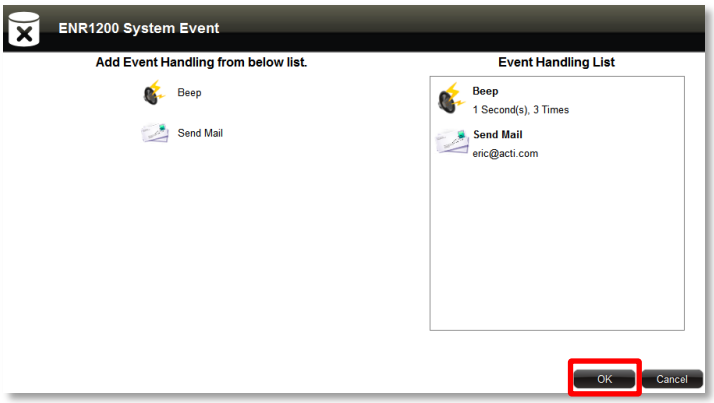
2. Select your desired trigger type.



3. On the trigger content window, set the details and click "**Add**" to add it into **Event Handling List**. Click "**Previous**" to add another trigger.



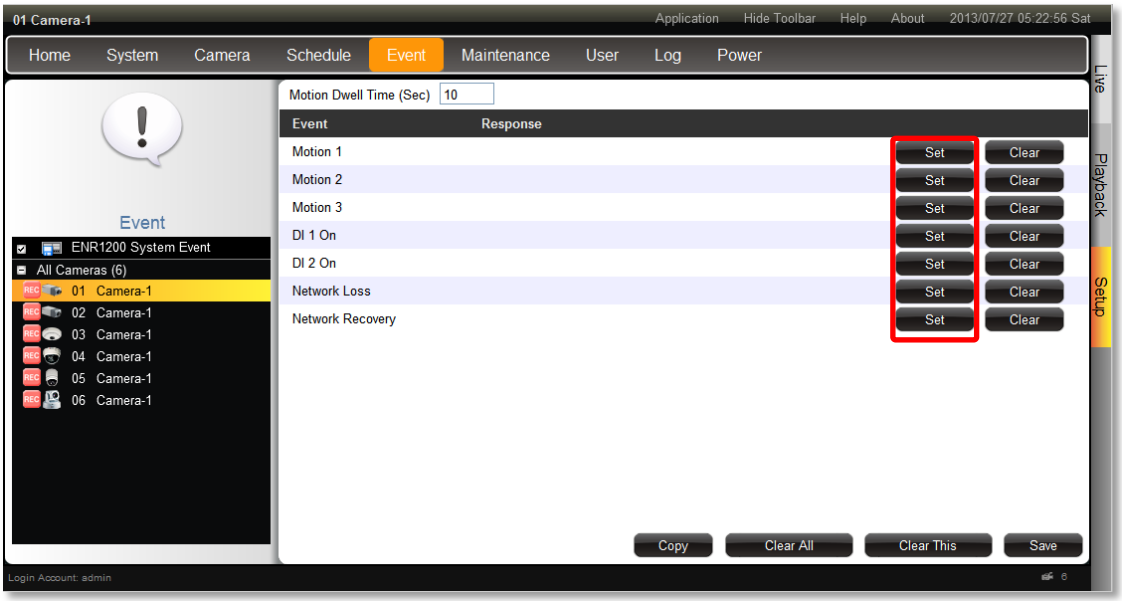
4. After the desired triggers are added, click "**OK**" to save this list.



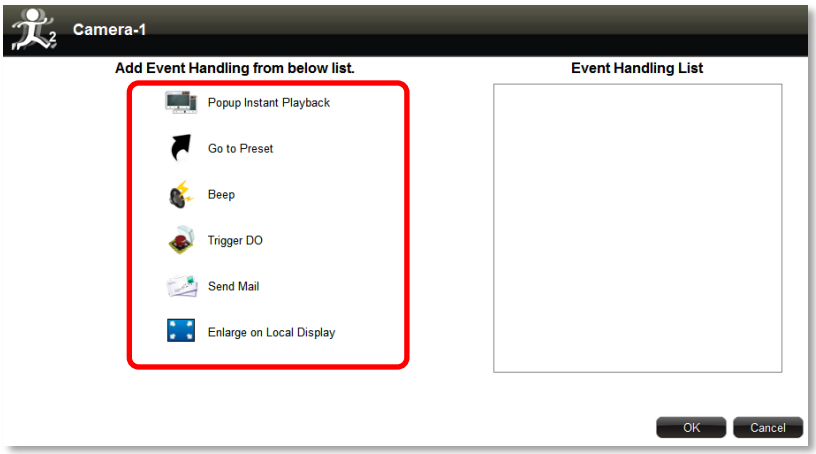
B Set Camera Event rule

Whenever any encounter certain events (including detected motions, detected DI triggers, network loss and network recovery) ENR will trigger a response based on the rule you set.

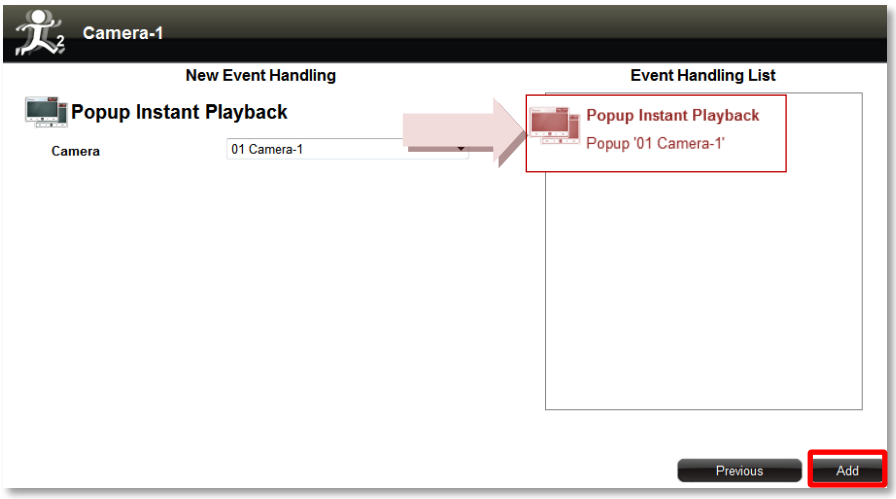
1. Select a camera and then click "**Set**" of your desired Event type.



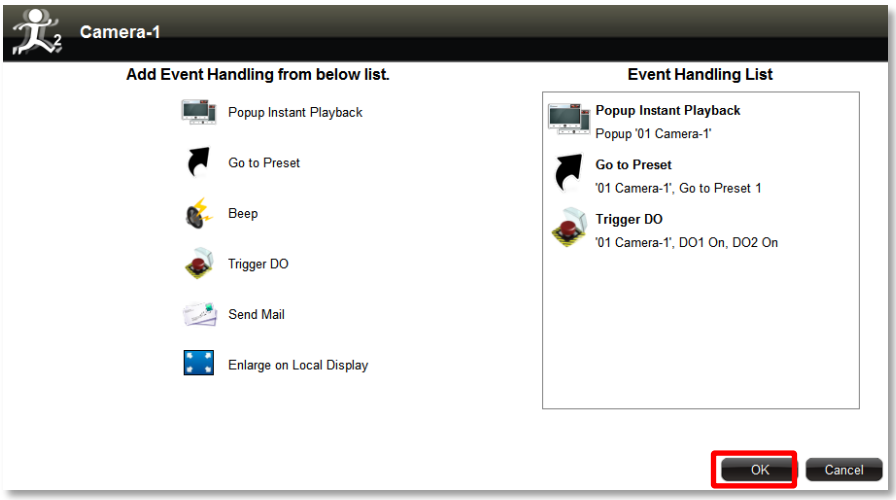
2. Select your desired trigger type.



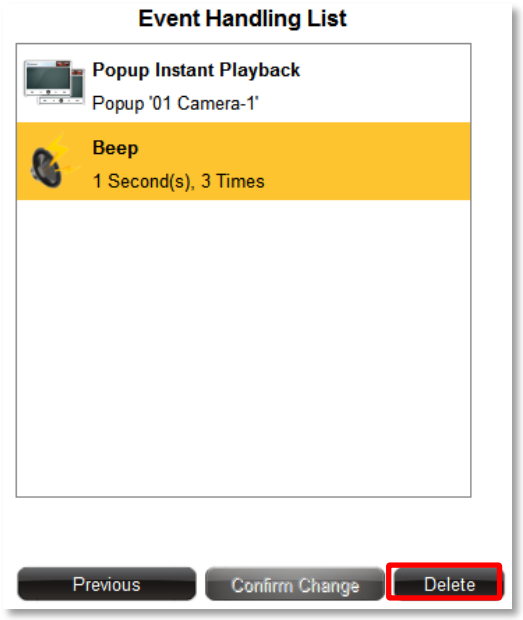
3. On the trigger content window, set the details and click "**Add**" to add it into **Event Handling List**. Click "**Previous**" to add another trigger.



5. After the desired triggers are added, click "**OK**" to save this list.



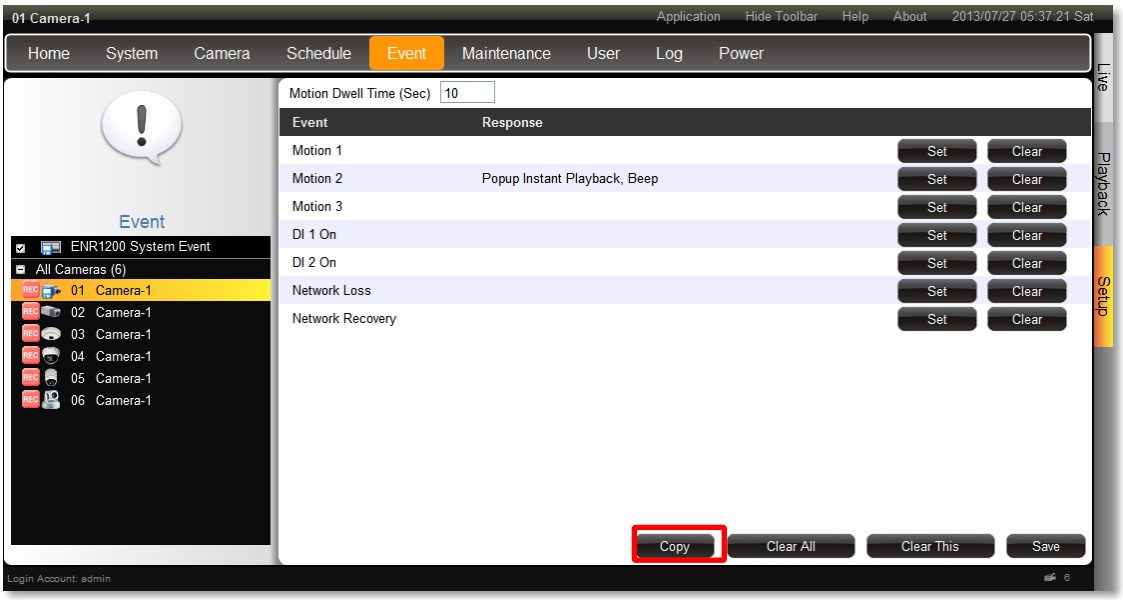
To delete certain trigger from an **Event Handling List**, select it and click "**Delete**"



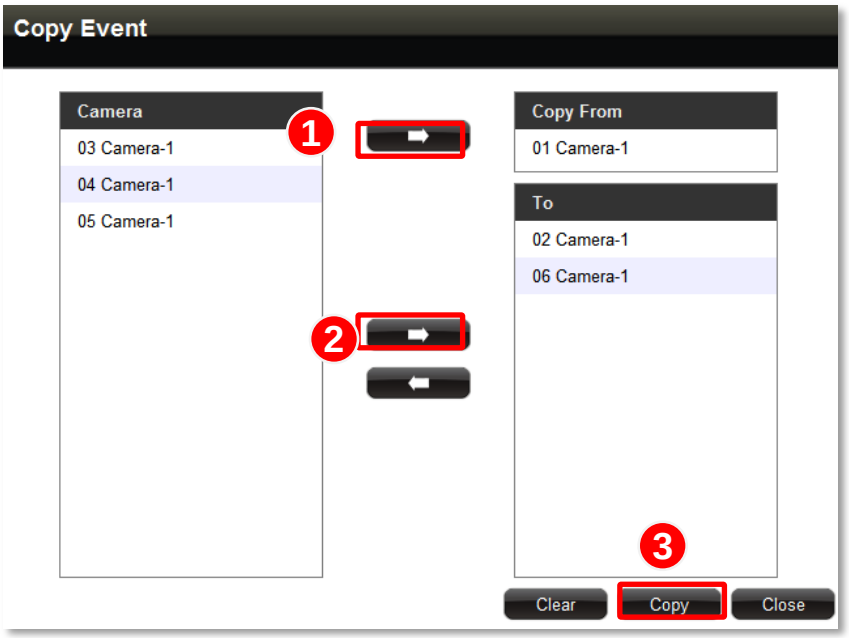
Copy Event Rules

You may copy a camera's event rules to other multiple cameras. This saves much your time on setting up rules one by one.

On **Event** tab, click "**Copy**"

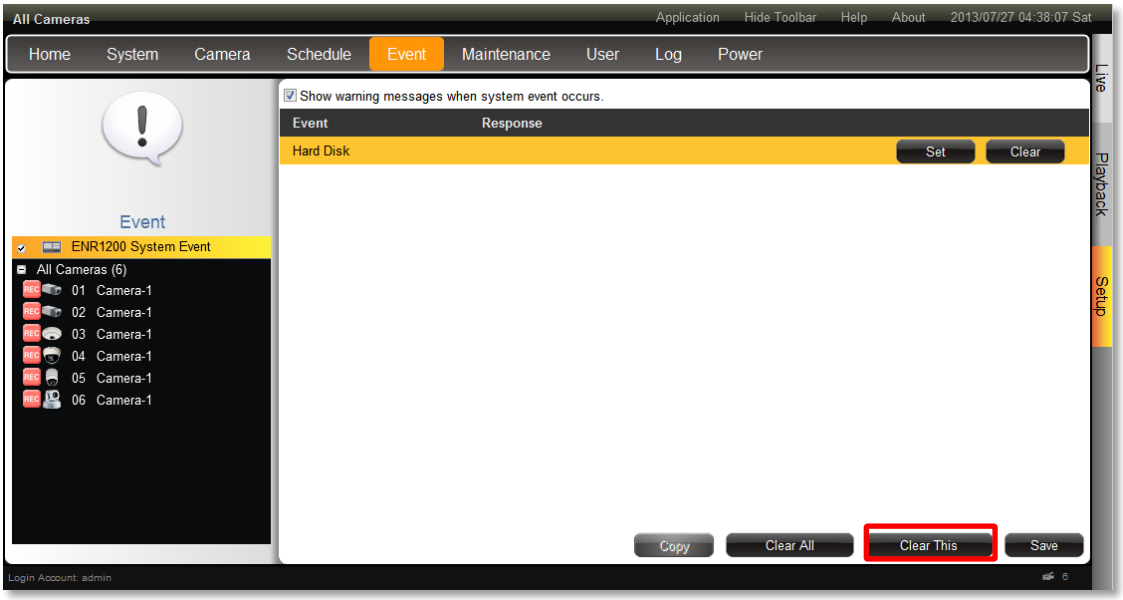


Select one camera as the source of schedule, and add other cameras to the "**To**" field. Click "**Copy**" to commit changes.



Clear Event Rules

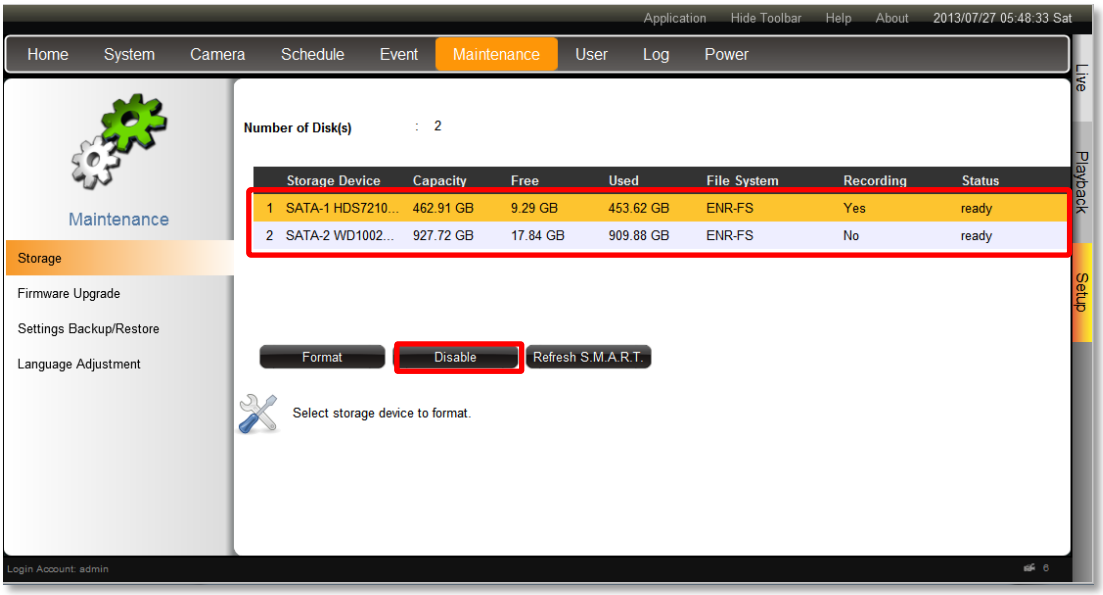
On **Event** tab, you may select an event rule under certain camera, and click "**Clear This**" to delete it, or "**Clear All**" to deleta all the rules belong to this camera.



Disk Management

ENR keeps the recordings on SATA hard disks installed in it. Whenever recording is taking place, ENR writes data to one of the disks, and switch to the other as the original one is full. Once the available space of the whole system is less than the reserved size, ENR will start deleting the oldest file to make the amount of space allowing each active channel to record for another 10 minutes.

You may observe the disk memory and recording status on **Storage** page.
Go to **Setup** page → **Maintenance** tab→ **Storage**. The connected storage devices will be shown in the **Storage Device** list.



Format Hard Disks

Select a disk and click "**Format**".

You may execute disk formatting toward a newly-installed disk. You should follow the installation procedures (refer to **Install the Hard Disks** on page 22) to format the disks before ENR system start carrying out the surveillance task, for a disk that is not in ENR file system format is not ready for recording. Please note that the system will stop recording during the disk formation.

If you have to format a disk having been recording for a while, it is suggested that you export important video and system log in advance.

Check Disk Status

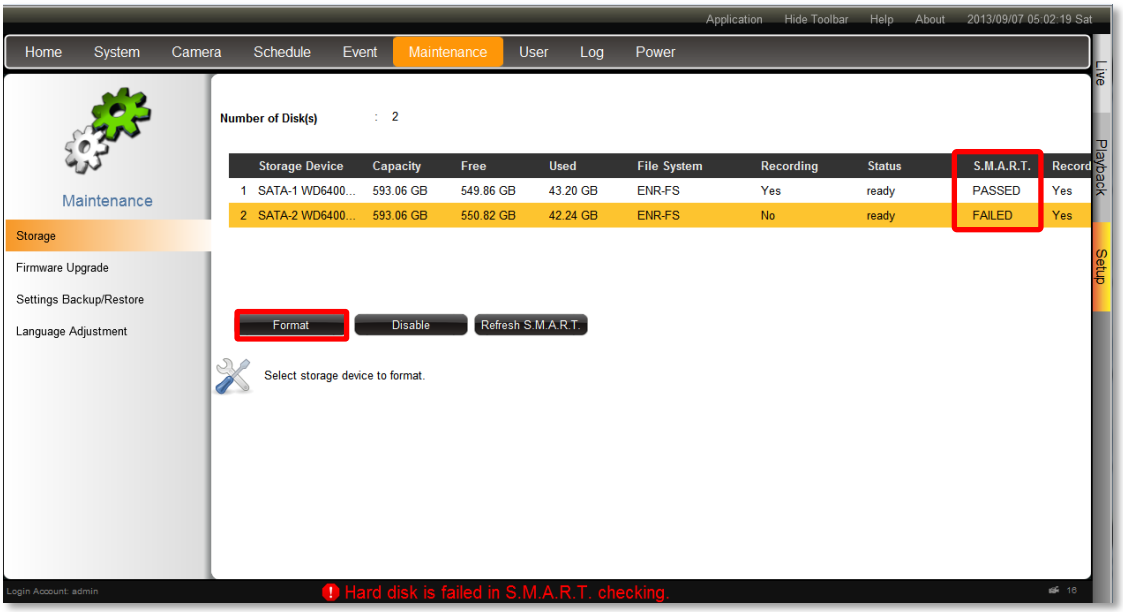
Hard disk failure often comes after detectable signs and thus can be predicable, thus it is important to detect these signs long before they really cause disk failures.

ENR performs **S.M.A.R.T**. Disk check on 24-hour basis since last check. This technology enables a system to monitor the disk status and anticipate disk failures, helping the system administrator to prevent from unexpected outage and data loss.

You may manually perform an instant **S.M.A.R.T** check by clicking "**Refresh**".

Once disk a appears in "**WARNING**", "**FAILED**", or "**UNKNOWN**" status, it is not reliable for recording, and may fail when the number of bad sectors on the disk has grown high enough.

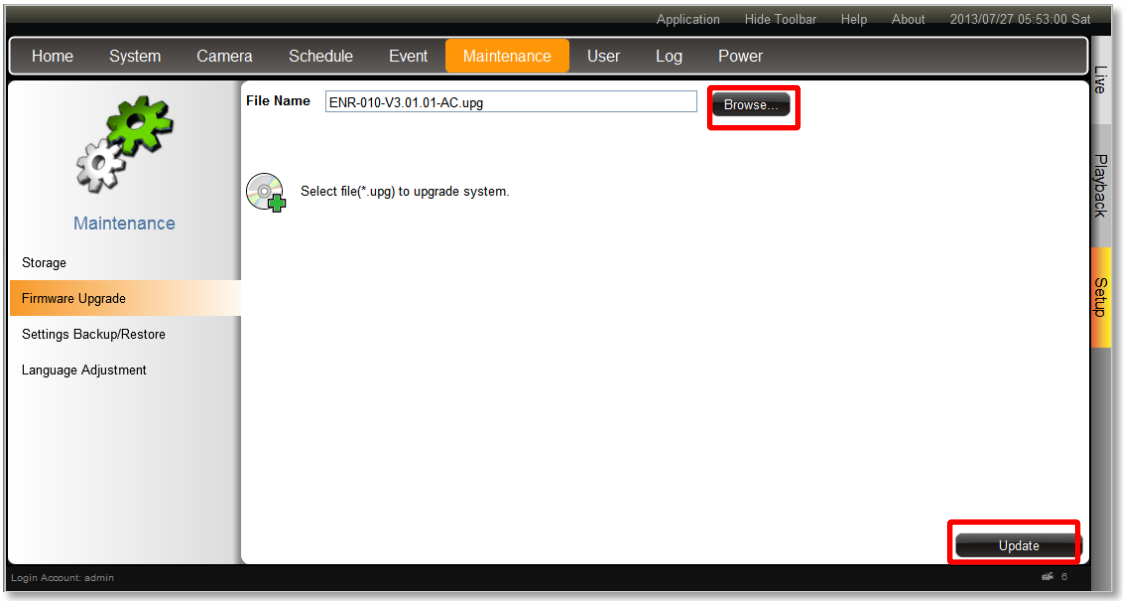
When either of the disks click "**Disable**" next to **Recordable** status to stop the system from saving recording into it, watch playback and export important video / system log and replace the disk following the instructions in **Manage Abnormal Disks** on page 56.



Upgrade Firmware

You may check ACTi corporate website for latest ENR firmware package and download it. Unzip the package and save the *.upg file to your client computer.

1. Make sure there is a recordable hard disk installed in ENR or a USB disk with at least 200MB space connected to ENR.
2. Go to **Setup** page → **Maintenance** tab→ **Firmware Upgrade**. Click "**Browse**", find the target *.upg file and click "**Open**".
3. Click "**Updade**".



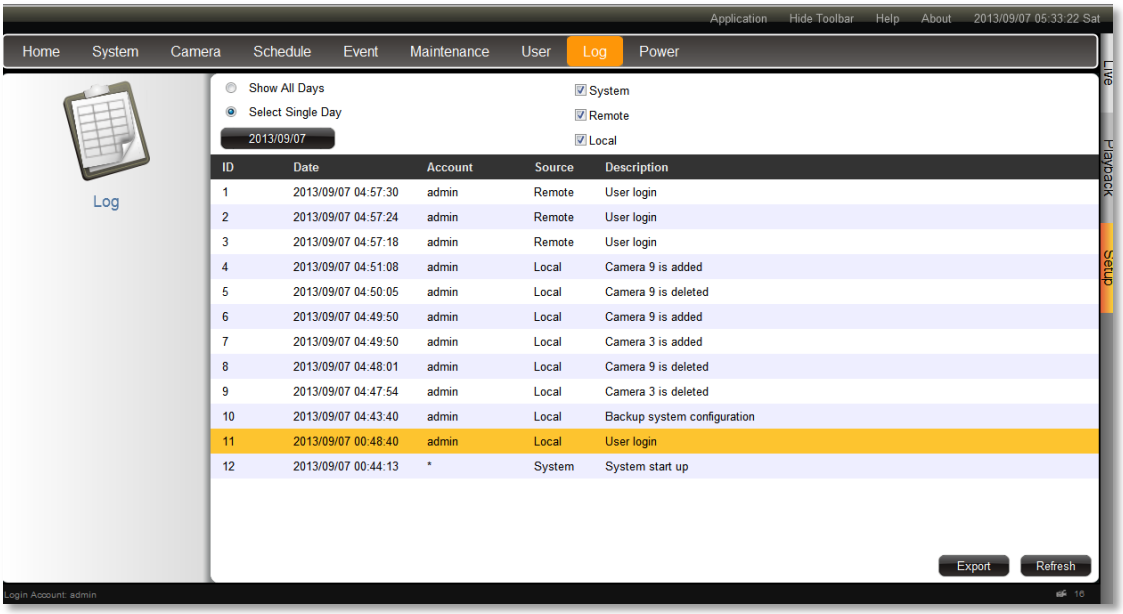
During upgrading, the system will stop every other activity including recording and event handling. The system will auto-restart after the upgrading completes.

After upgrading has started, **DO NOT cut off the system power or eject the USB disk until ENR restarts**.

System Log

ENR records the important system activities and user's behaviors in **System Log**. Once the number of logs exceed 3000, ENR will erase the earliest 100 logs.

Go to **Setup** page → **Log** tab.



3. Define the time range:
   You may choose "**Show All Days**" to show all the logs or choose "**Select Single Day**" then click **Date** button  to define a specific date.

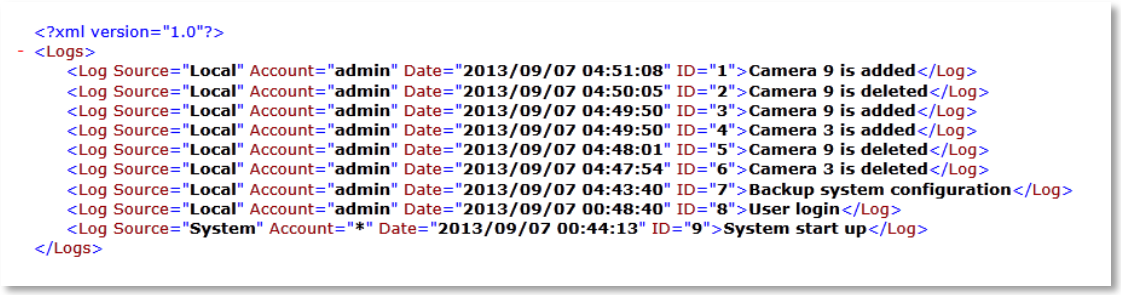
4. Select **Log** types:

Log Types	Event
System	System start up, format storage
Local User Behaviors	Login & logout, add camera, reboot / shutdown system, modify event settings, upgrade firmware , format storage, backup / restore system configuration, modify schedule settings, modify time, modify e-mail server settings, modify system information, modify network settings, modify user & permissions, import language file
Remote User Behaviors	Login & logout, reboot / shutdown system, modify camera settings, modify event handling schedule/settings, upgrade firmware, format storage, backup / restore system configuration, modify recording schedule, modify time, modify e-mail server settings, modify system information, modify network settings, modify user &permissions, import language file, modify workspace parameter

By changing the criteria, the result will automatically refresh accordingly.

Export System Log

To export the logs, click "**Export**" and save the xml file to your local computer. You may view this file with **Notepad** or **XML Editor**.



```
<?xml version="1.0"?>
- <Logs>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:51:08" ID="1">Camera 9 is added</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:50:05" ID="2">Camera 9 is deleted</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:49:50" ID="3">Camera 9 is added</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:49:50" ID="4">Camera 3 is added</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:48:01" ID="5">Camera 9 is deleted</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:47:54" ID="6">Camera 3 is deleted</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 04:43:40" ID="7">Backup system configuration</Log>
    <Log Source="Local" Account="admin" Date="2013/09/07 00:48:40" ID="8">User login</Log>
    <Log Source="System" Account="*" Date="2013/09/07 00:44:13" ID="9">System start up</Log>
  </Logs>
```

Backup / Restore Settings

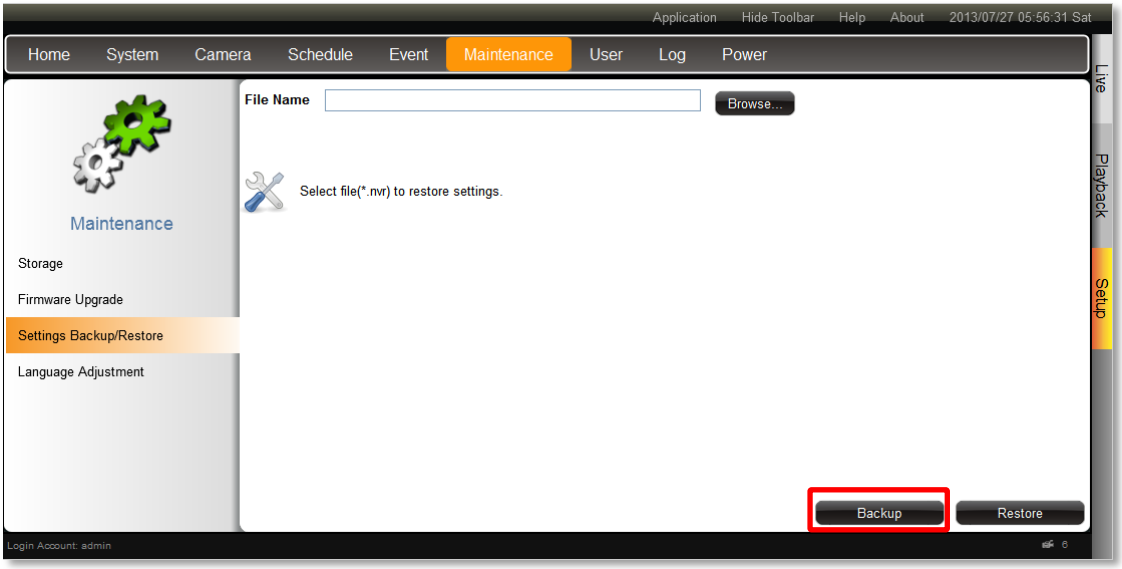
Making regular system backups is always recommended in case of unexpected disasters or accidents that may damage ENR server.

ENR server can create a backup file of the whole system settings as **Backup_[yyyymmdd].nvr** file and save it to your client computer within one click. The backed up settings include the following properties: (1) **System Settings** including **System Name**, **Date & Time**, **Network**, **Email**, **Mouse** and **Keyboard**, (2) **Camera Settings,** (3) **Schedule Settings,** and (4) **Event Management**.

Backup

To start backing up system setting, please insert a USB disk into ENR first.

1. Go to **Setup** page → **Maintenance** tab→ **Settings Backup** / **Restore**.

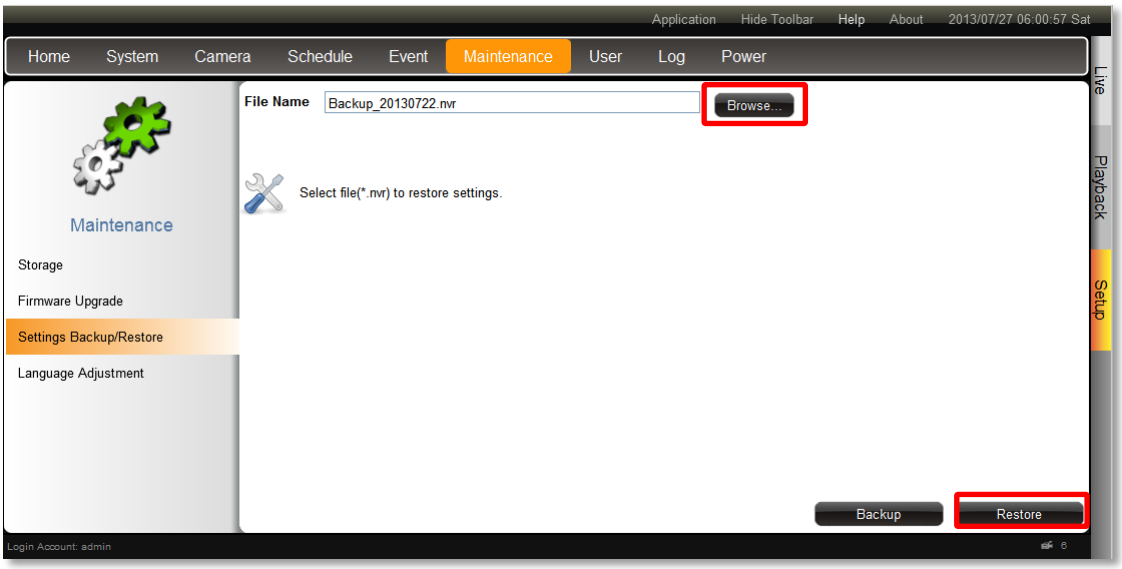


2. Click "**Backup**", the backup file will be saved to your client computer as .nvr file.

Restore

Before starting restoring the system, make sure you have connected the USB disk with the desired .nvr backup file in it, and the backup file is saved in the root directory.

1. Go to **Setup** page → **Maintenance** tab→ **Settings Backup** / **Restore**.



2. Click "**Browse**", find the target *.nvr file and click "**Open**".
3. Click "**Restore**" to start restoring the settings.

User Group Management

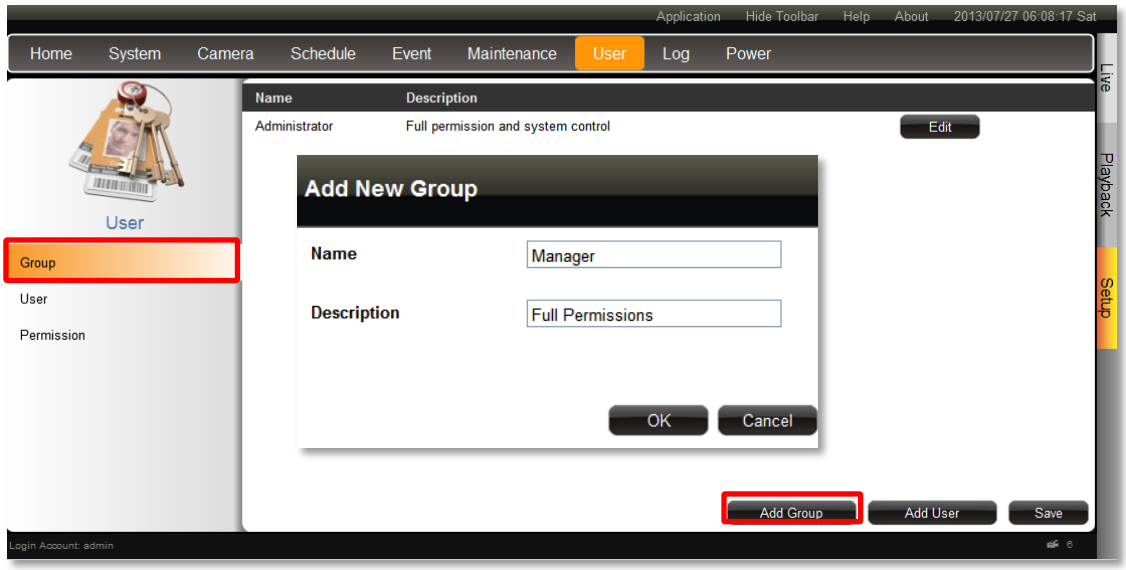
In ENR, the access permissions are managed by **User Groups**. **User Groups** defines what functions are allowed for a group of users. Different **User Groups** will have different access rights in terms of permitted operations like monitoring **Live** screen or execute **Playback**. For example, an Administrator user is allowed for all the operations in ENR, while a standard normal user may only be permitted to do **Live** monitoring.

Go to **Setup** page → **User** tab**.**

Add a Group

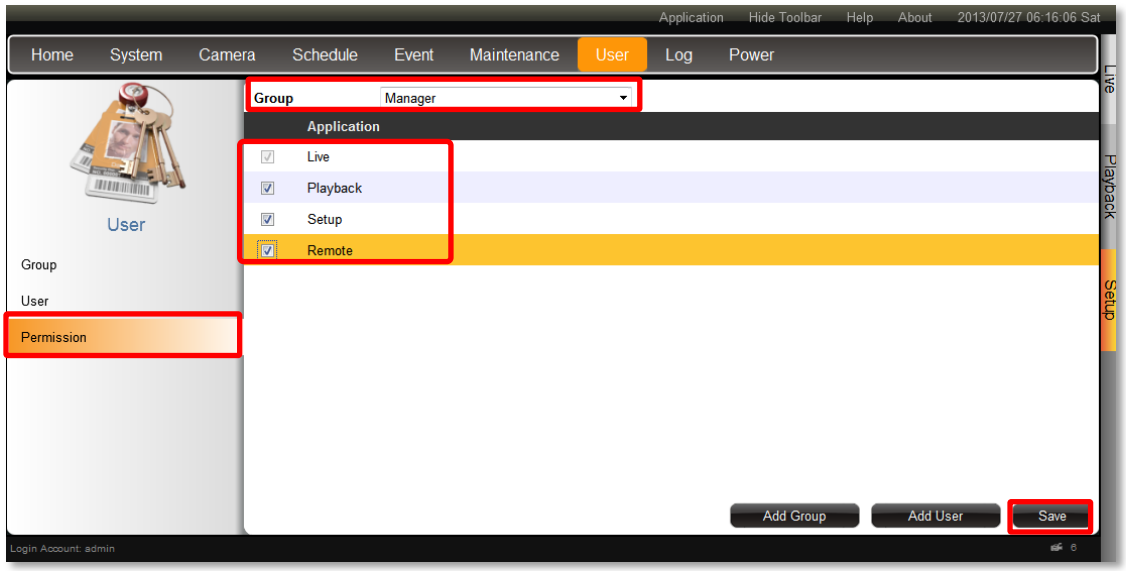
By default, the **Administrator** User Group with full permissions in ENR already exists. Except for the password and email settings, you may not delete this account or change its permissions.

1. Enter **Group** , click "**Add Group**" to bring up **Add New Group** window, enter the **Name** and **Description** of the group, and click "**OK**" to add it to the **Group List**.



2. To delete or edit this group, select it from Group list and click "**Edit**" or "**Delete**". Click "**Save**" after the setting is done.

3. Enter **Permission**, and select the group from Group list, enable the permissions possessed by this group.



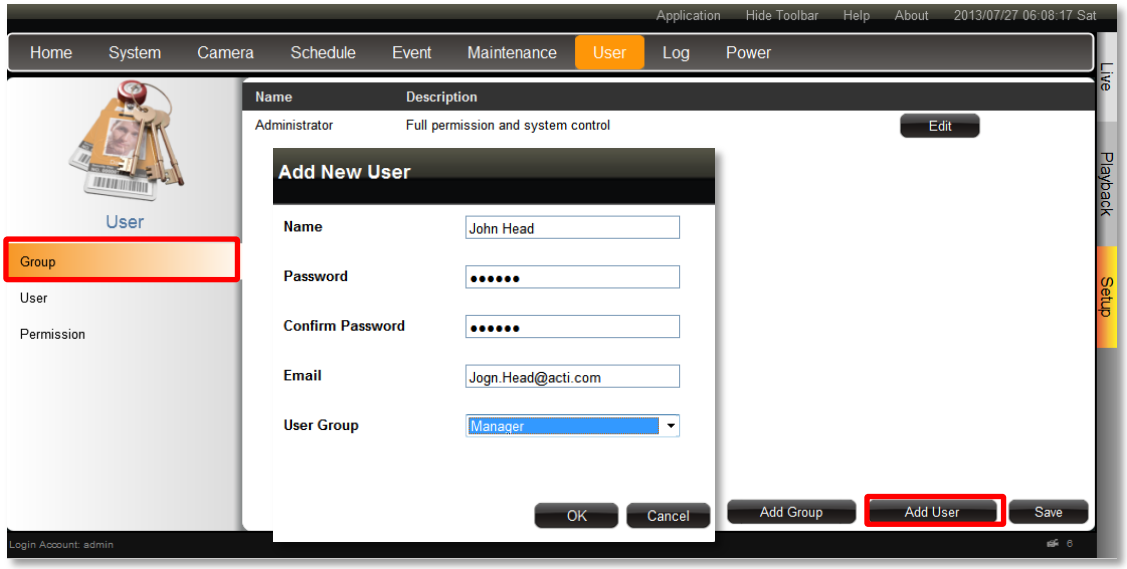
4. Click "**Save**" to save the group settings.

Add a User

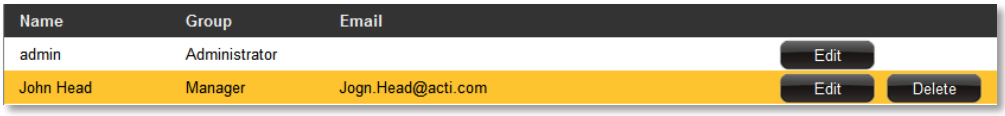
By default, the **Administrator** User already exists, which you may not delete.

Go to **Setup** page → **User** tab**.**

1. Enter **User** , click "**Add User**" to bring up **Add New Group** window, enter the **Name** and **Password**, and select its User Group, and click "**OK**" to add it to the **User List**.



2. To delete or edit this User, select it from User list and click "**Edit**" or "**Delete**". Click "**Save**" after the setting is done.



Account /Password Rules

1. **Account** field allows alphabets, numbers, and symbols except the following: *** < > ? | " \ :**. The maximum length of characters is 15.
2. **Password** field allows alphabets, numbers and symbols. The maximum length of characters is 40.

3. Both the **Account** and **Password** field are non-case-sensitive.

Edit / Delete a User

You may edit an existing user or delete it. Select the user on **User List**, click "**Edit**" or **Delete**".

Please always click "**Save**" before leaving this page.