



ENR-1000

System Administrator's Manual

For V1.01.00 Firmware

Legal Notice

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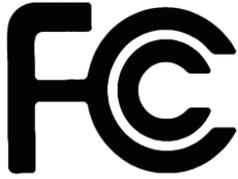
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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- 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.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Changes or modifications to the equipment that are not expressly approved by the responsible party for compliance could void the user's authority to operate the equipment.

European Community Compliance Statement



This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022 and EN 55024. In a domestic environment, this product may cause radio interference in which cause the user be require to take adequate measures.

About This Manual

Target Audience

This manual is intended for **System Administrators** who are responsible for installing and setting up ENR-1000 surveillance system. The reader is expected to know the fundamentals of IP surveillance system integration and to own the administrative privileges to achieve all the tasks.

You may also check the product page <http://www.acti.com/ENR1000> for updates and documents.

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 (hereafter referred to as ENR) is a compact, delicate and reliable 2-bay multi-channel (ENR-1000: up to 4 channels) standalone NVR for small-medium sized IP video surveillance system. It features a stable embedded Linux operation system and capabilities of supporting mega-pixel resolution H.264 streaming, an HDMI output for local display, full PTZ control, video motion detection, scheduled / event-triggered/ event speed-up recording, event management and 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 operation.

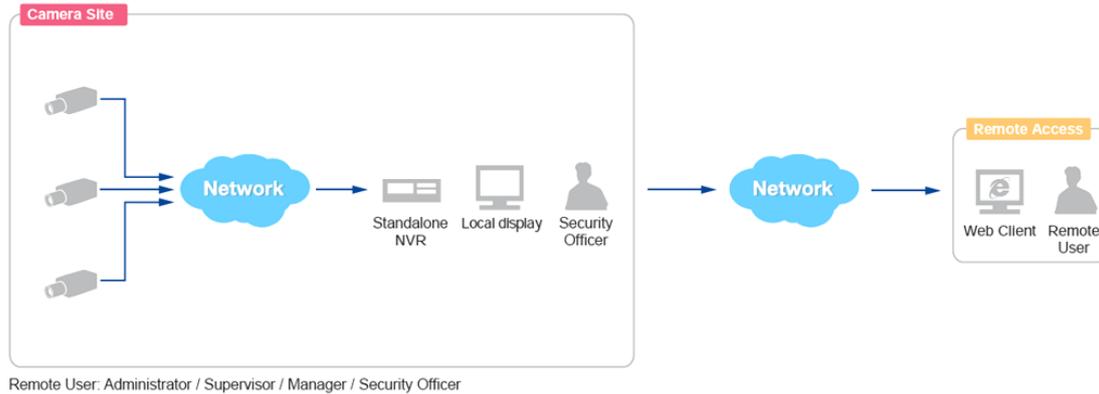
ENR Server / Client Architecture

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 ENR Server is as simple as visiting a website.



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.

PC Spec (*1)	Minimum Requirements
CPU Processor	Intel Core 2 Quad 2.66 GHz
RAM	4GB
Network	Ethernet (1000 Base-T recommended)
Operation System	Windows 7 (all versions) (*2)
Display Resolution	1080p
Browser	Internet Explorer 9.0

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

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

Get Started

What's in the Box

This product package includes the following contents:

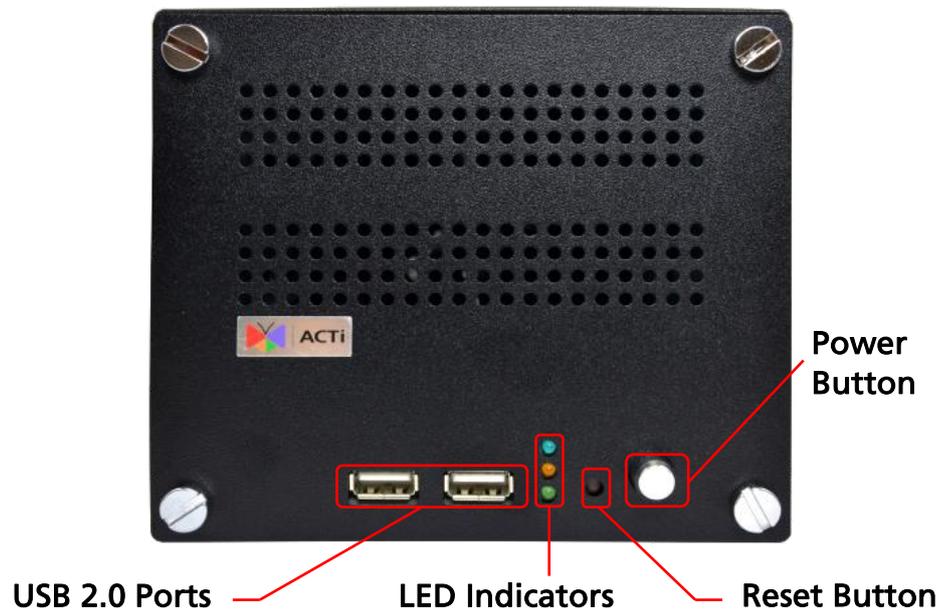


Item	Description
1	ENR-1000 network video recorder x 1
2	Printed quick installation guide x 1
3	12V AC Power Adapter x1
4	Hard disk screws x 8
5	<p>Adapter converter set x 1</p> <p>This unit contains three types of adapter plugs – UK type, US type and Europe type. These adapter plugs do not change the voltage, but will only change the shape of adapter to fit your electrical outlet.</p> <p>Please detach the plugs, take the plug type you need and connect it to the AC power adapter.</p>

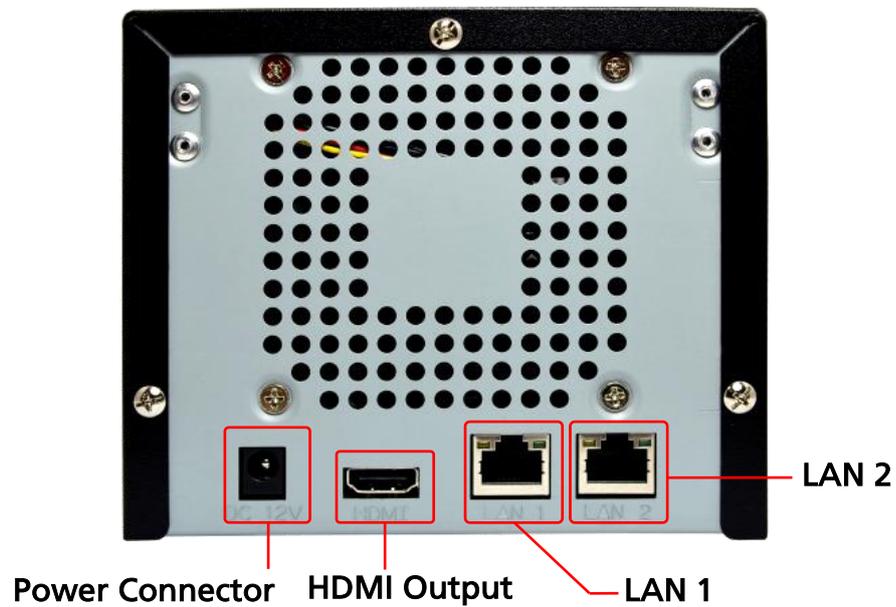


At A Glance

Front Panel



Rear Panel



Power Button & Reset Button

You can turn on/turn off the device with **Power Button**; with **Reset Button**, you may restore the device to factory default settings.

Turn On the Device

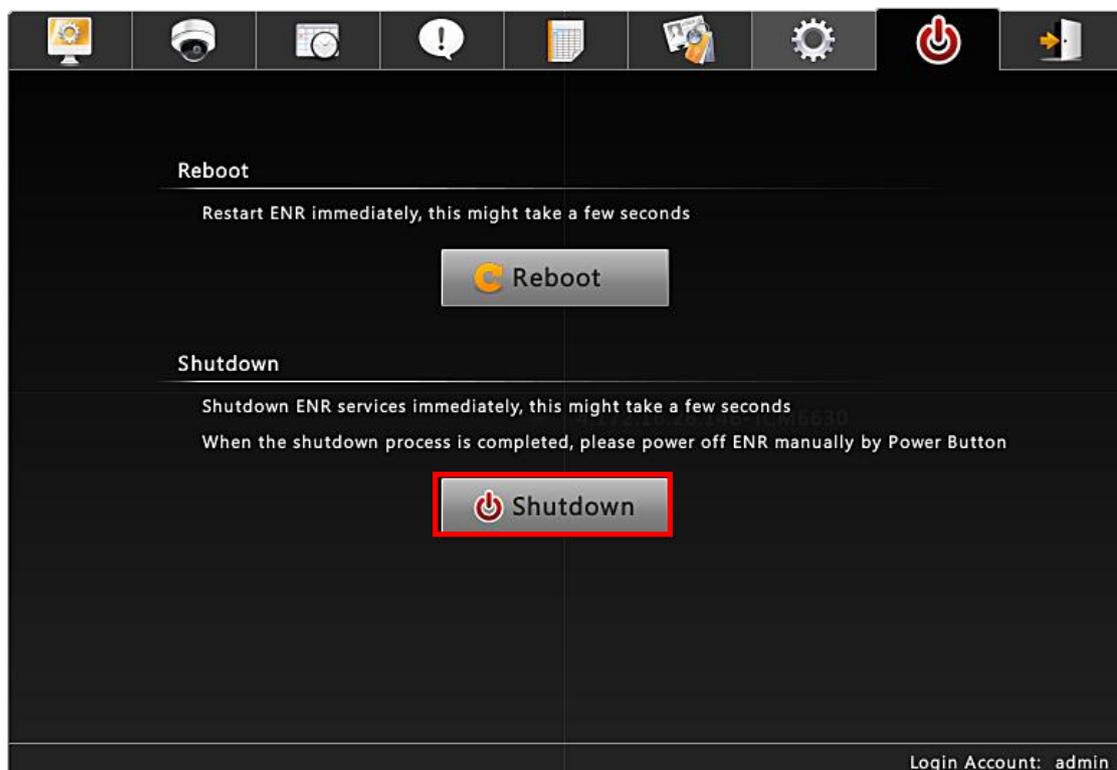
Press down the **Power Button** and release, the **Power LED** will light up and turn solid blue.

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 View** screen, right-click to bring up **Live View Menu**, select **Setup Menu** → **Reboot/ Shutdown** 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 and system logs are still kept on storage disks. It is strongly recommended that you back up previous settings by **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, and immediately press and hold the **Reset Button** with a pin or clip for about 3 seconds, as the System LED lights up, release the **Reset Button**. The device will enter the resetting process.



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

LED Indicators

Item	Indicator Status	Color	Description
Power LED	Solid	Blue	The device power is on.
System Status LED	Lights up for three seconds after Reset Button is pressed	Orange	The system resetting process is initializing.
	Solid		The system service is running.
HDD LED	Flashing	Green	The hard disk is recording.

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

Installation

The installation procedures may vary depending on your site conditions. The procedures provided in this manual are based on an example condition 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

ENR is able to automatically add the connected cameras then immediately displays their live streams without your further configurations. It is strongly recommended that you return the camera settings back to factory default beforehand. Otherwise, please fulfill the conditions below to make sure your cameras are prepared for ENR **Auto Add** function:

1. For cameras whose settings have been changed from factory default, please make sure (1) the camera output stream's **encoder type is H.264**, and (2) the camera's IP address falls in the same network range with LAN1 port: **192.168.0.10**.
2. Individually configure other camera properties via camera's web configurator with another PC if required, for example, the Video **Motion Region Settings**, **Stream Mode**, etc.
3. To have ENR automatically assign IP addresses to cameras connected via **LAN 1** port, make sure the camera connection type is **Dynamic mode** (DHCP Client).



(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 / system log export / snapshot / video export.
- ENR supports all FAT/FAT32/EXT2/EXT3/EXT4/NTFS file systems.

Hard Disks

For system log and recording, 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-1000. You may find the certified models in this document *ACTi Certified HDD List for Standalone Network Video Recorders* available via this web link: <http://www.acti.com/hdd>.

Install the Hard Disks

This system requires at least one hard disk to store video recordings, system log 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 by ENR server's **Storage Device List**.

Step 1 Remove the Case Cover

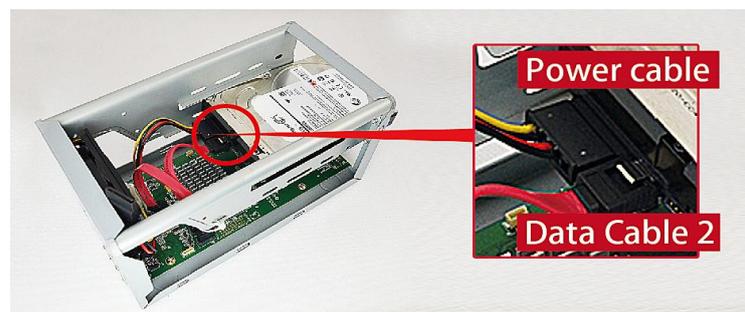


Remove the four front panel screws, and then remove the three back panel screws.

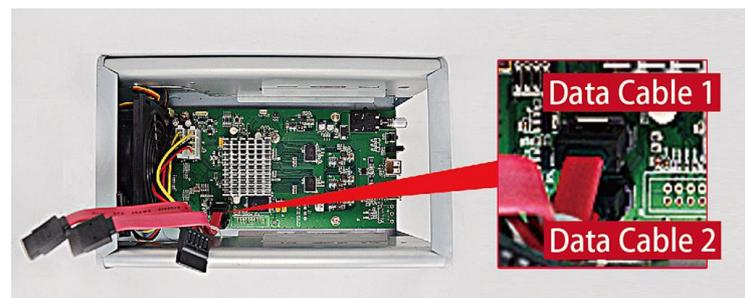


Slide the case backward until it stops, and then lift it up to remove.

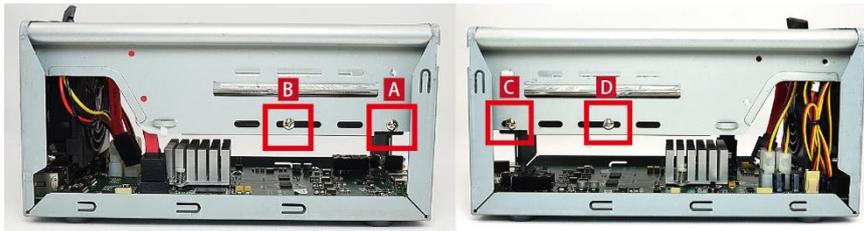
Step 2 Install Disk SATA-2



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](#)

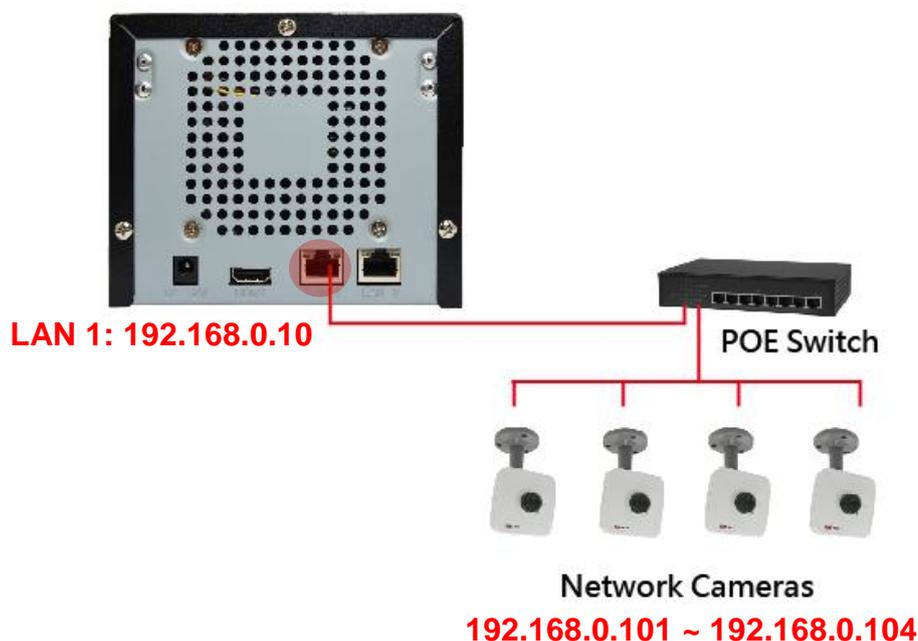
LAN 1 Port

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 with 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 outside DHCP server in this system.



LAN 2 Port

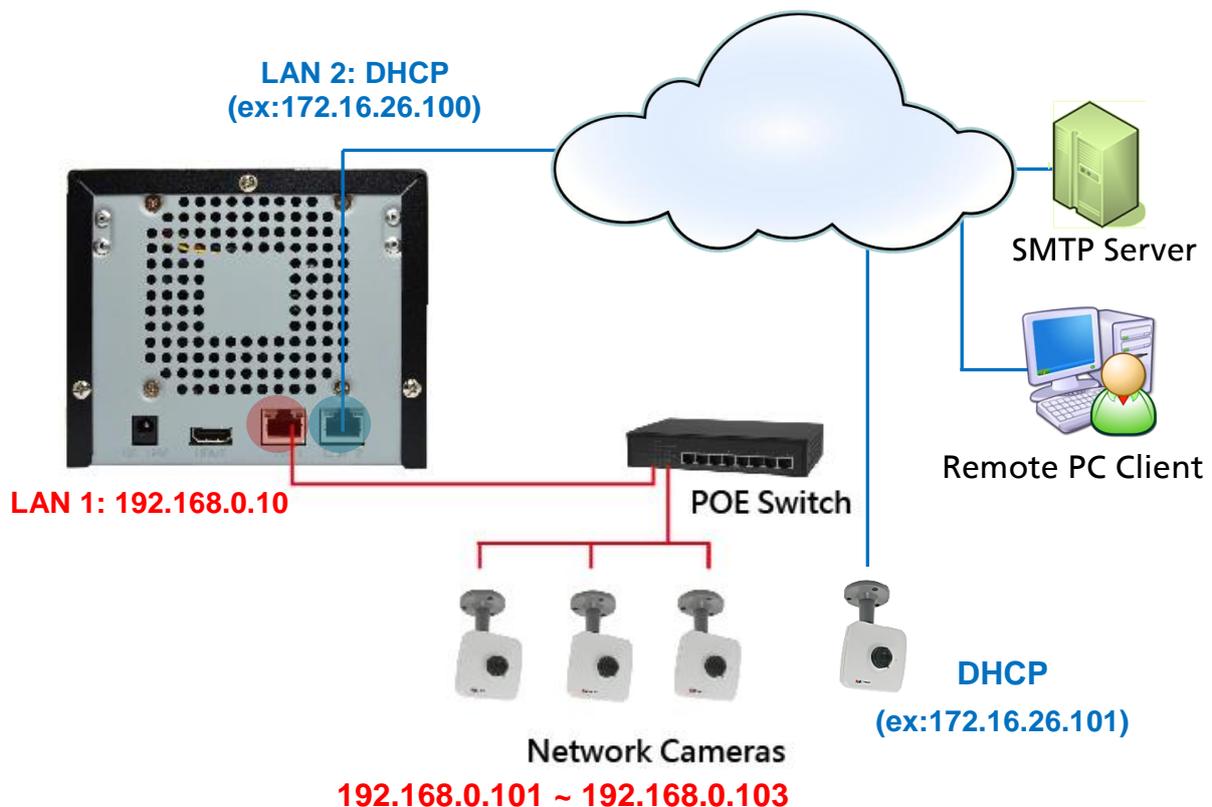
LAN2 port is a typical Ethernet port. You will have to use this port to connect with a different network segment when your system requires (1) the connection with a remote PC client or network camera, (2) the use of event-triggered Email service via external SMTP server (3) the use of date/time synchronization 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 with DHCP server. If your network does not assign IP address automatically, then **LAN2** port will assume IP address 192.168.1.10. Please note that every time you connect a network via **LAN2**, you have to REBOOT ENR to refresh the IP addresses.

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.



Network Settings

You may check and modify the network configurations by going to **Live View Menu** → Select **“Setup Menu”** → click **System Settings** tab, and select **Network.**(for detailed configuration instructions, please refer to if you have to change certain settings that are not available on

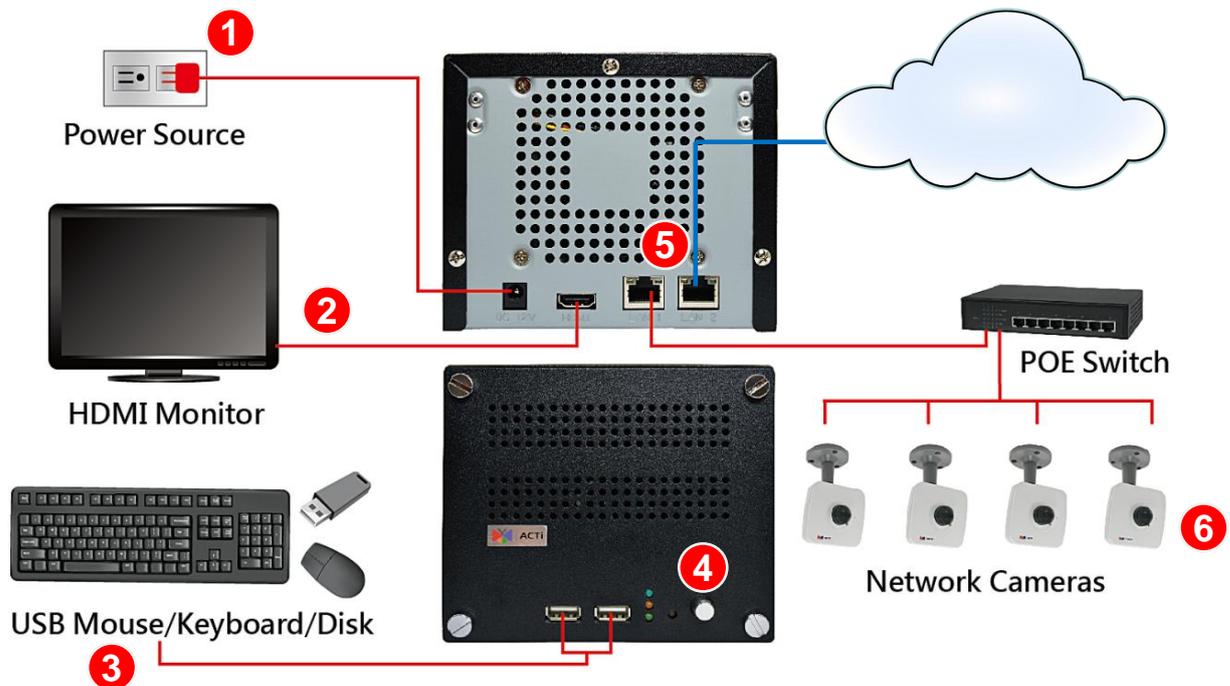
ENR interface (e.g. video motion region settings, stream mode) for a saved channel, please do the following,

1. Uncheck the “**Auto save ENR settings into device upon connection**”.
2. Via camera's web interface, change the camera settings, you will have to use a computer to do this.
3. On **ENR Camera Settings** page, click “**Get Camera Settings**”, ENR will apply the current camera settings.
4. Click “**Save**”.

Network Settings on page 34)

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 mouse, USB keyboard or USB Mass storage device.
4. Press down **Power Button**. The power status LED will turn solid blue.
5. Connect the network cables to ENR LAN Port(s)
6. Connect the network cameras to the switch and power them on.

Quick Setup

By the first time you log in to ENR, the **Setup Wizard** will bring you through the initial setup process.

Step 1: Log in to ENR

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

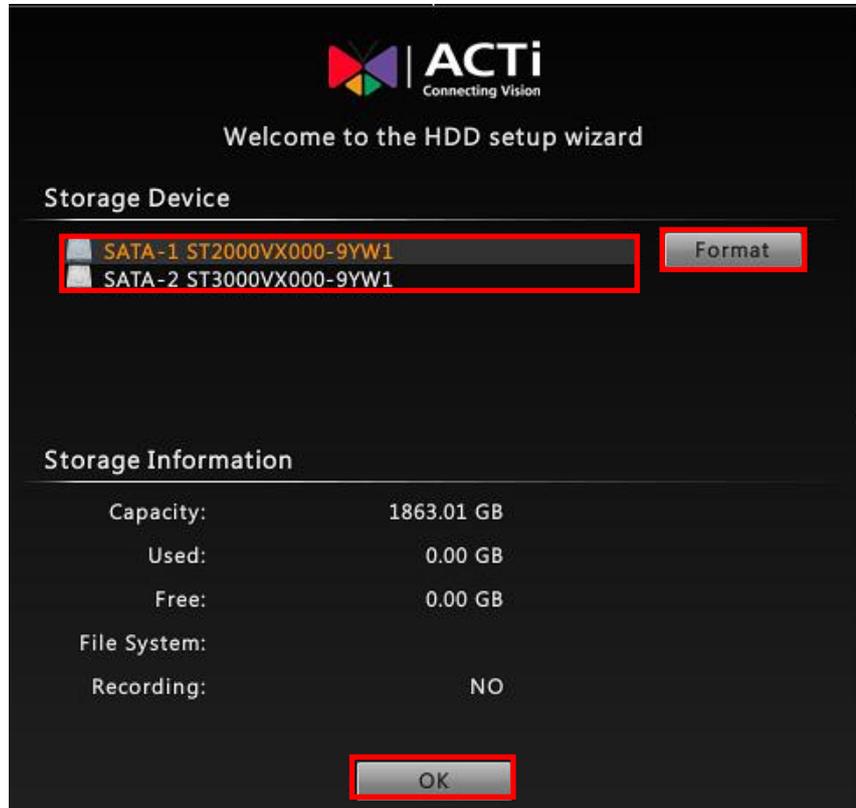


By default, you will login in using the administrator account. Click anywhere on screen to bring up the Login window. Click in the **Password** field and enter "**123456**" then "**Login**".



Step 2: Format the Hard Disks

The hard disks you installed in ENR 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**”.



Step 3: Add Cameras

You may choose either **Auto Add** or **Manual Add** to add cameras to ENR system based on your site conditions. Please select **Auto Add**, this function will add every stream detected from the connected cameras and display them in **Live View** right away.

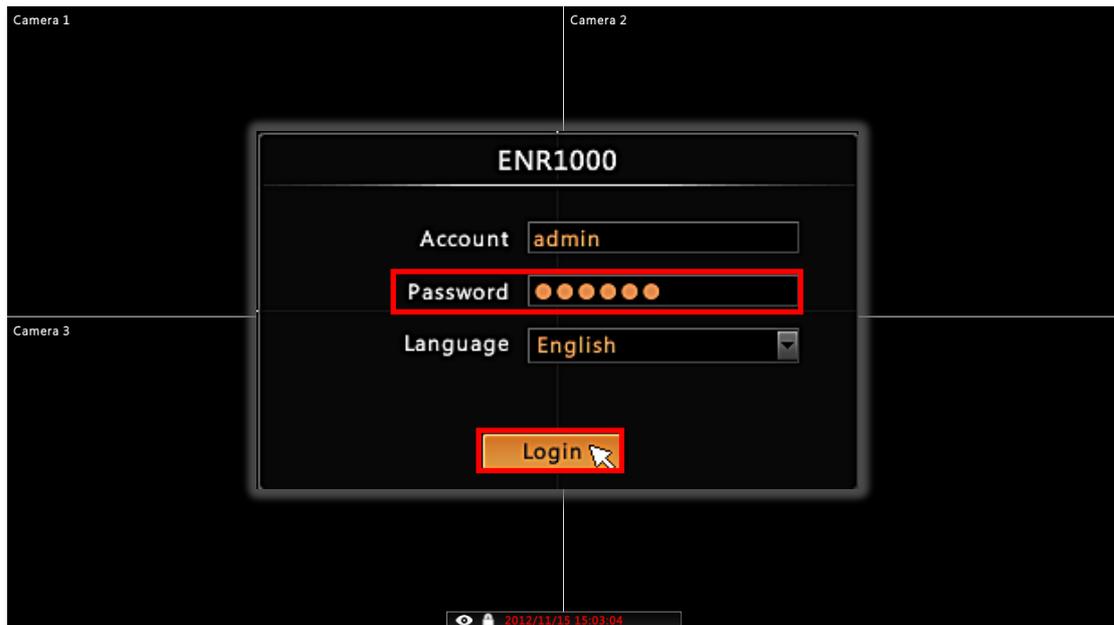


Log In/ Out ENR

By default, an administrator account has already been existing in your system. To log into ENR system 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.



Log Out

On **Live View** screen, right-click anywhere to bring up the **Live View** menu, click the  icon.



Live View Menu

Live View menu is a toolbar listing the most used functions required for Live view operations and system setup.

You can always bring it up on Live View screen by right-clicking anywhere.



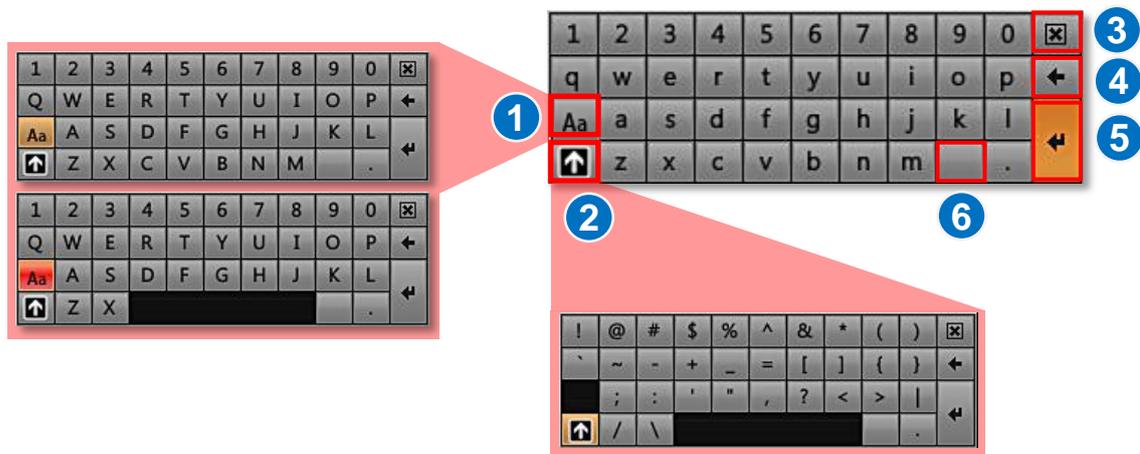
No	Description
1	Layout Styles: Single / Quad screen
2	Single Channel Switch
3	Take the snapshot of current live view image
4	View Patrol Switch (only activates on single screen layout mode)
5	Setup Menu
6	Playback screen
7	Logout

Input Devices

The input devices are ready to use when you connect them to ENR via USB ports.

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.

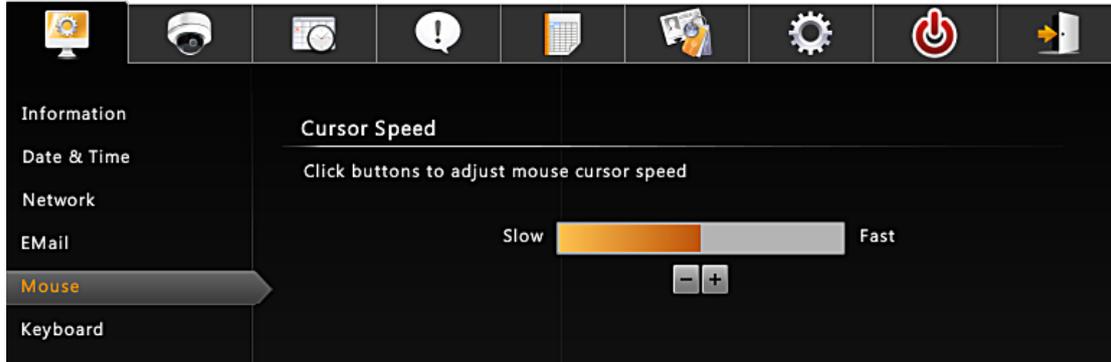


No	Description
1	 Press once to change a single input to uppercase.  Long press to set the default input mode in which typed letters are uppercase.
2	Press once to switch to symbol characters page.
3	Close onscreen the keyboard.
4	Delete one character backwards.
5	Confirm the input and close the onscreen keyboard.
6	Space

Mouse Settings

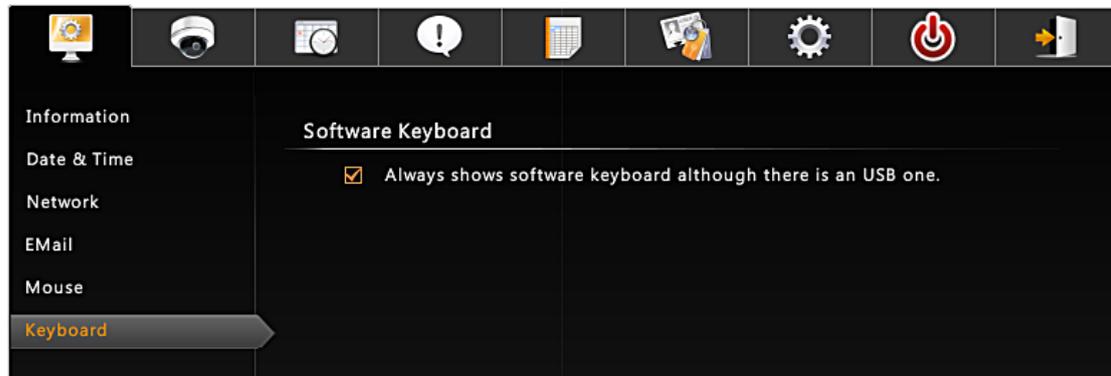
You may adjust the mouse's cursor speed via the path below:

On **Live View** screen, right-click to bring up **Live View** menu → Select "**Setup Menu**" → click "**System Settings**" tab → click "**Mouse**".



Software Keyboard Settings

To disable the virtual keyboard if a physical one is already in use, on **Live View** screen, right-click to bring up **Live View** Menu → Select "**Setup Menu**" → click "**System Settings**" tab → click "**Keyboard**", uncheck the box "**Always shows software keyboard although there is an USB one**".



Set Cameras

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

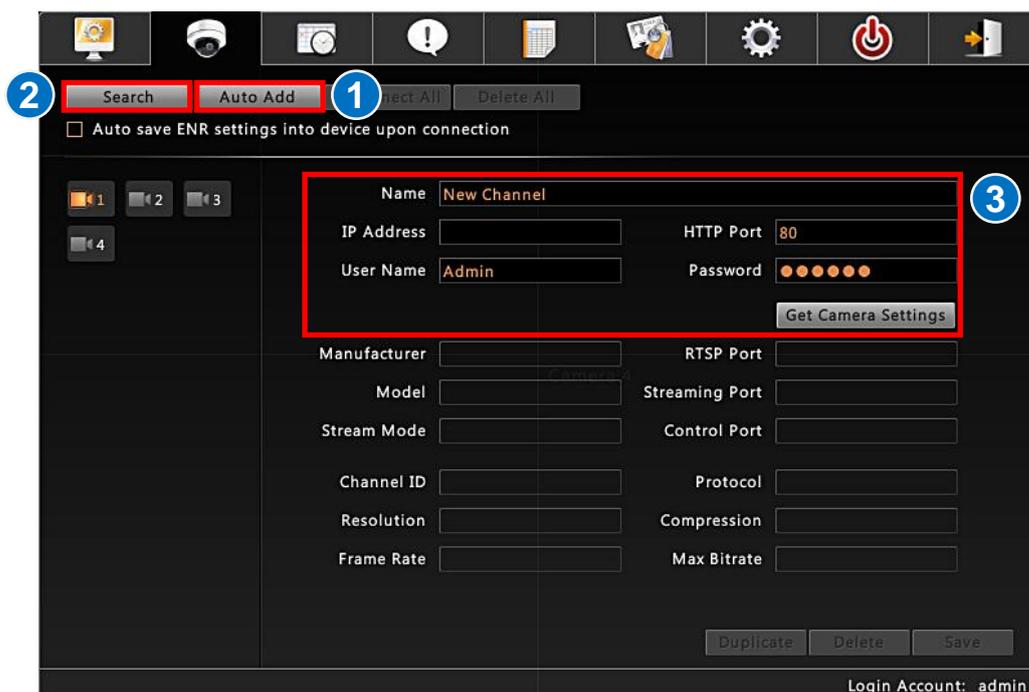
Live View Camera Channel Positions

Please be aware of the **Camera ID** when you add cameras manually or by auto search. On **Live View** screen, the four channels **Camera 1**, **Camera 2**, **Camera 3** and **Camera 4** are arranged in the positions presented below:



Add Cameras

Right-click on screen to bring up **Live View** menu → Select “**Setup Menu**” → click “**Camera Settings**” tab. Choose (1) **Auto Add** to let ENR add the video streams for you or (2) **Search** to scan through the available video source (3) manually add one.



As ENR supports only H.264 video compression format for live view, you can only add an H.264 video stream into a channel.

Note

ENR will sync with devices upon connecting to them. To make sure the settings on ENR side are prior to and always overwrite those on camera sides, please check **“Auto save ENR settings into device upon connection”**.

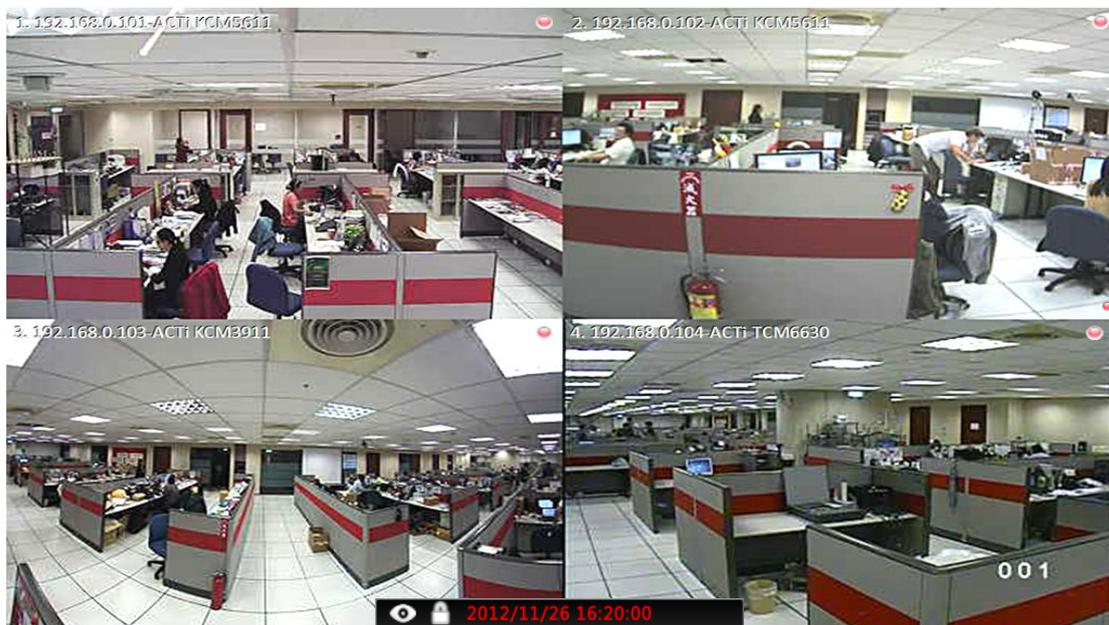
Auto-Add

This is strongly recommended when only four required cameras have connected to the system. ENR will look for every video stream, add them by itself and display them on the **Live View** screen immediately.

Input the **User Name** and **Password** to access the camera (this user account must be the root account) and click **“OK”**.



You will enter **Live View** screen after **Auto Add** is completed.



Note

If your camera is set to **Dual Stream** mode, **Auto Add** function will add only **Stream 1**; for a **4VGA** or **6VGA** Stream mode camera, all **Stream 1 ~ Stream 4** will be added.

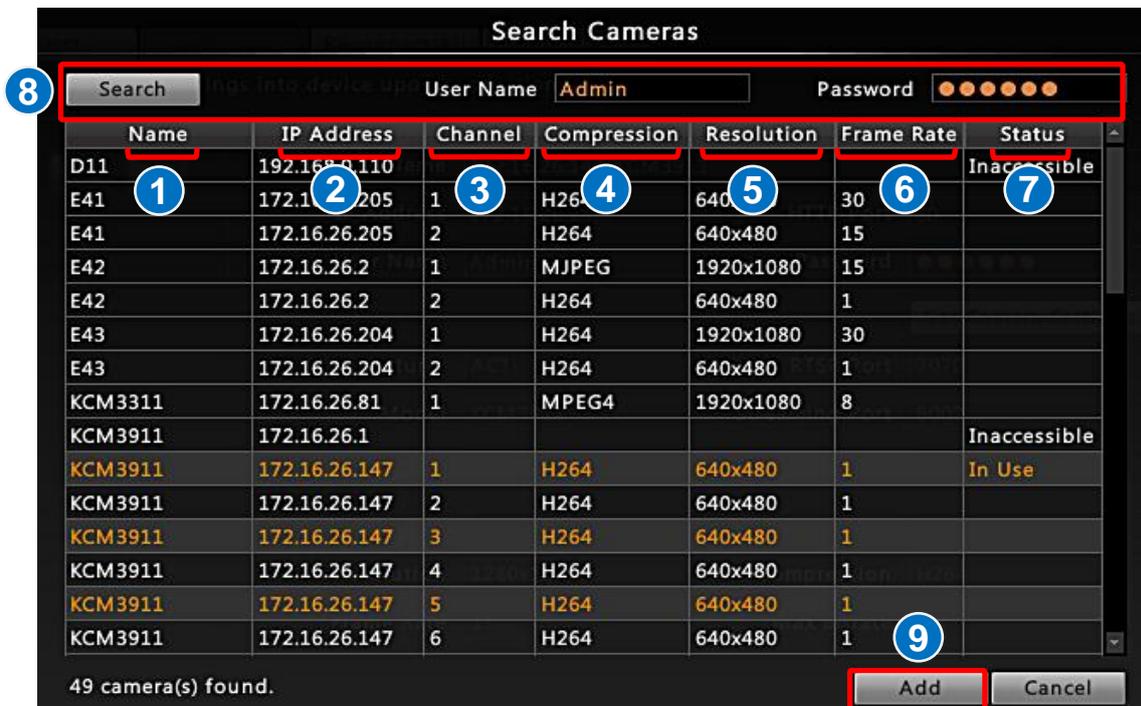
Search

This search method is recommended when there are more than four cameras within the network. By performing **Search**, you will be provided with a list of all devices connected to the network. You may select any desired stream to add to your system.

Input the **User Name** and **Password** to access the camera (this user account must be the root account) and click **“OK”**.



After a while, the search result will pop up, select your desired cameras/streams, and click **“Add”**.



No	Column	Description
1	Name	The camera models will be listed in alphabet order based on their model names
2	IP Address	Camera IP Address
3	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.
4	Compression	Video compression Please set the compression format to H.264 before this stream can be added.

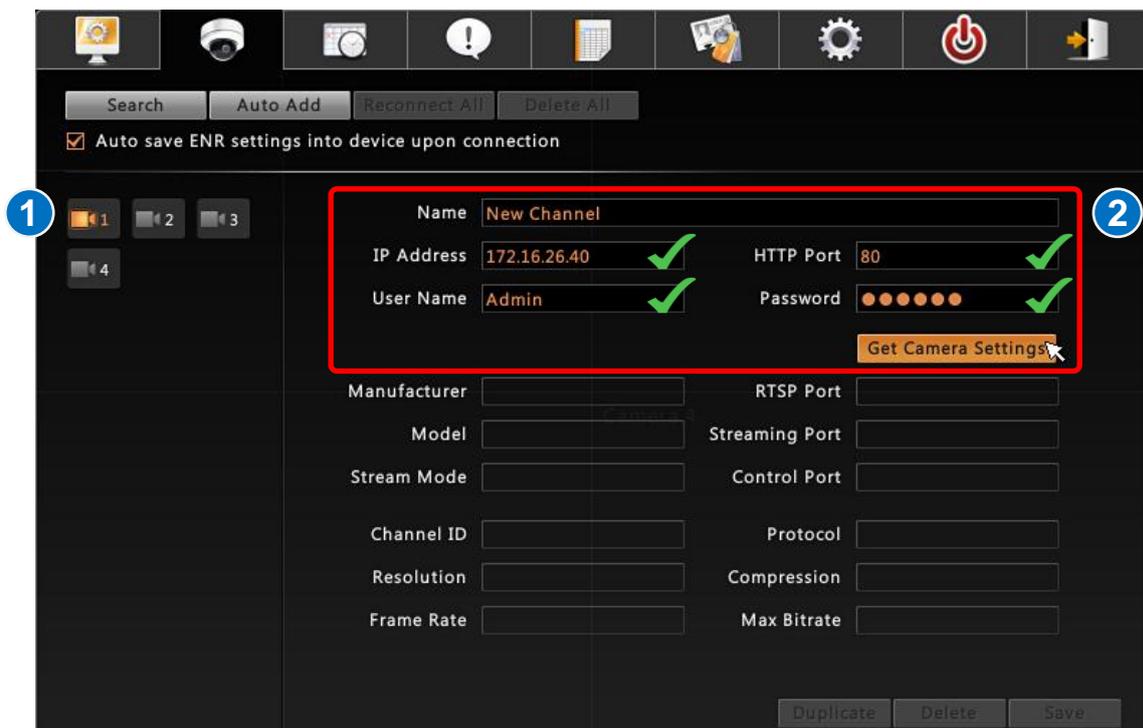
5	Resolution	Image resolution. Please select a resolution size.
6	Frame Rate	Video frame rate
7	Status	<u>Blank</u> : this camera is accessible and not added yet. <u>In Use</u> : this camera/stream has been added to the system. <u>Un-access</u> : this camera is inaccessible. You will have to try access it using another Username or Password , (make sure this account is that camera's root account), and click Search again.
8	Search	After Username and Password fields are filled in, click this button to perform the search.
9	Add	After selecting your desired cameras/streams, click this button. The four video sources will be added to Live View channels: Camera 1 ~ Camera 4 in accordance with your clicking orders.

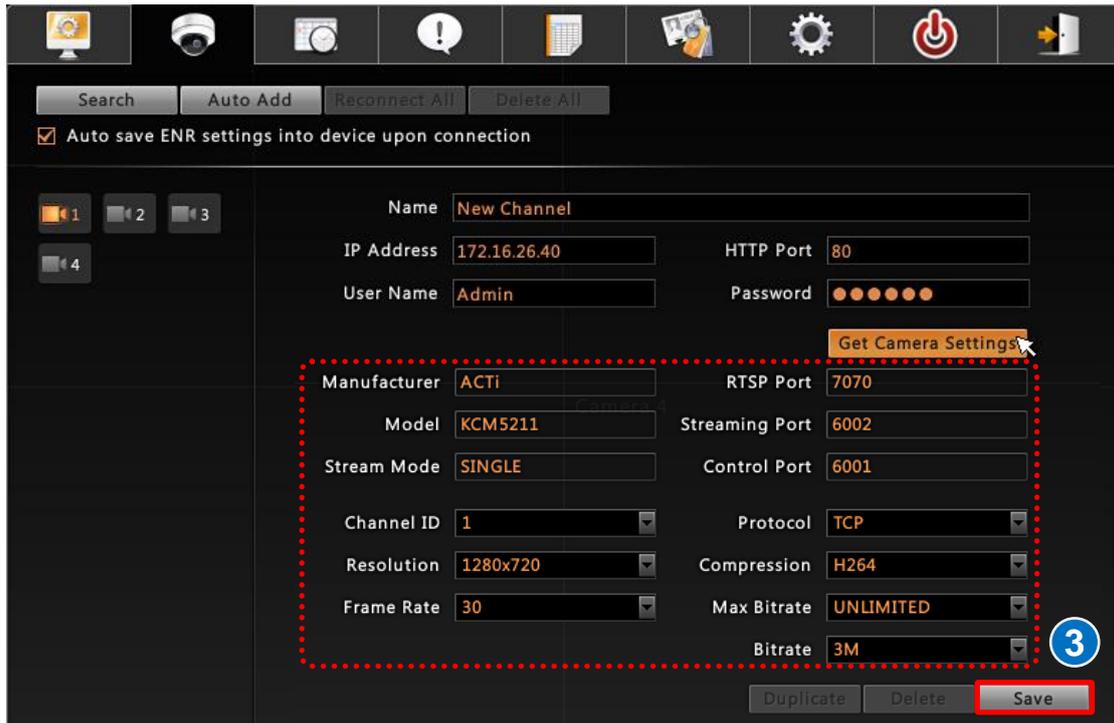
Please note that your clicking order will decide **Live View** channels arrangement. For example, you select cameras on the search list in this order: KCM-3911 → KCM-7911 → D11 → E52, which will exactly become the camera order: Camera 1 → Camera 2 → Camera 3 → Camera

Add Cameras Manually

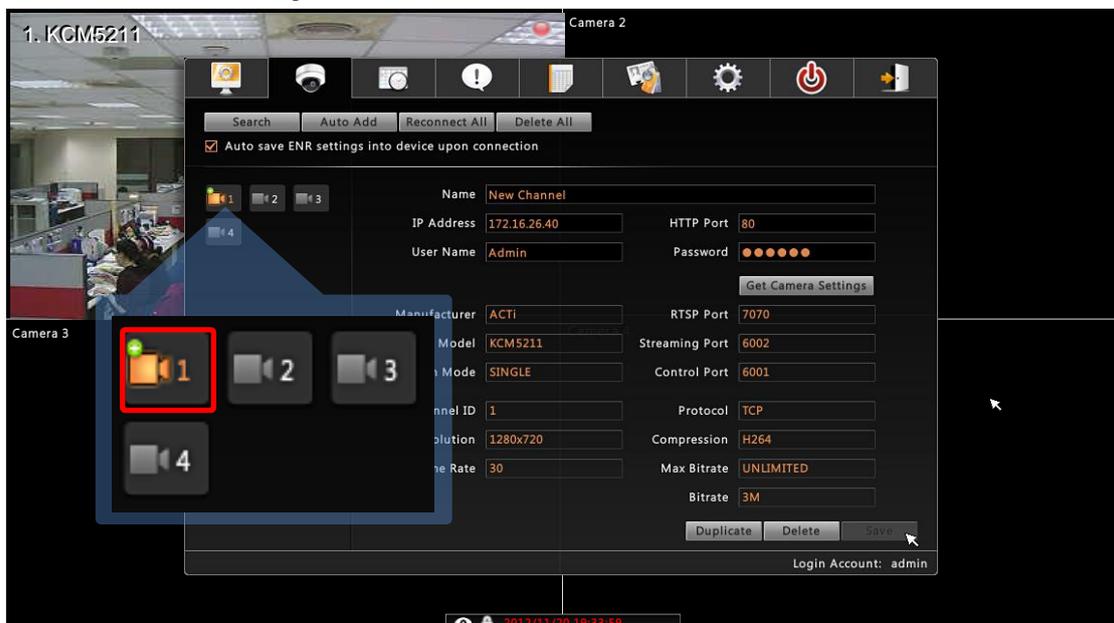
If you have known a camera's connection properties, you may add it manually.

1. Select a **Camera ID**, it will decide in which of the four windows this camera view will appear in **Live View** screen.
2. Fill in the connection properties such as properties **IP Address**, **Port**, **Username** and **Password**, and click "**Get Camera Settings**".



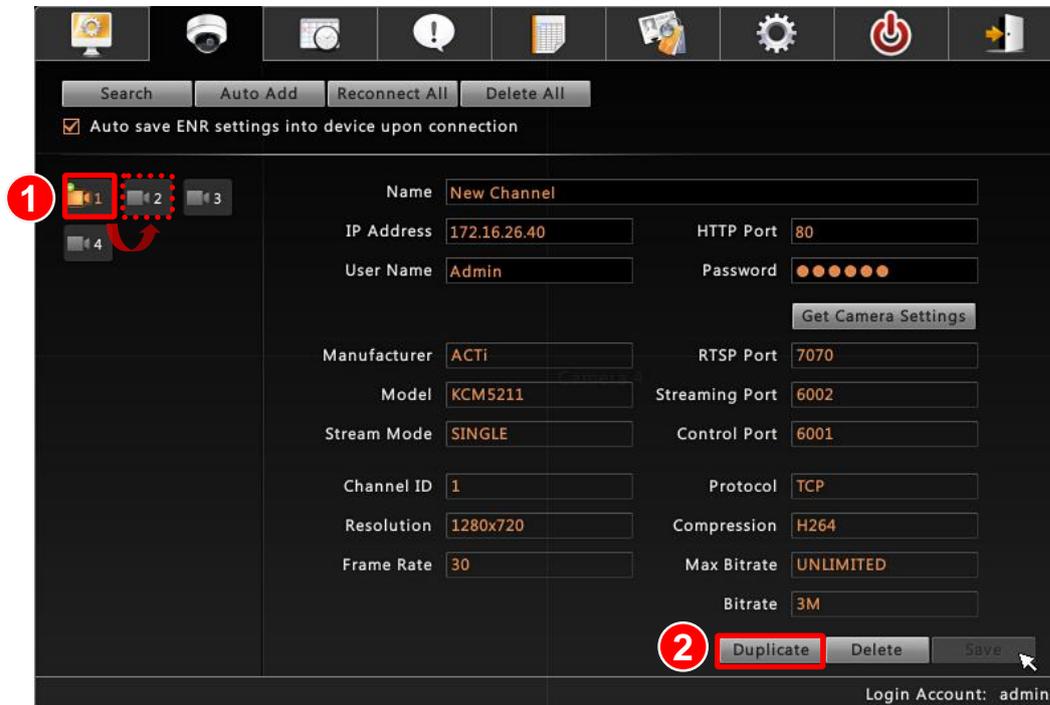


3. The camera settings will appear. Click **“Save”** to save it to this camera channel. The saved camera channel will immediately appear in its channel window on **Live View** screen. A green indicator will appear by the camera ID icon and ENR has started recording this channel.



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 properties.

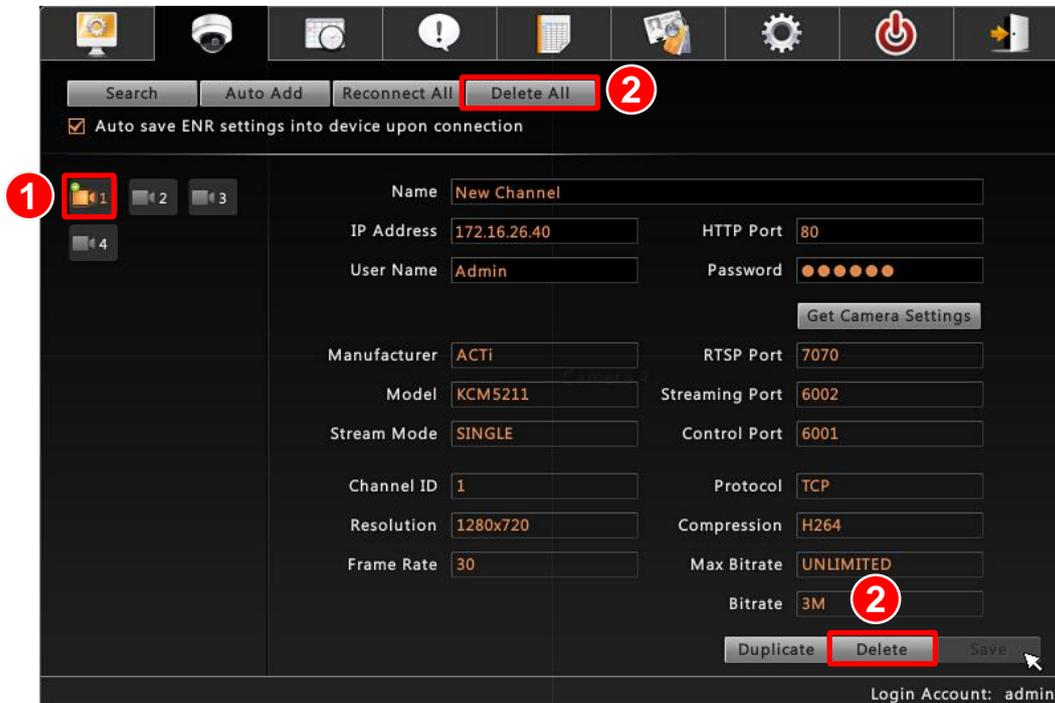


1. Select an existing channel.
2. Click “**Duplicate**”, the camera properties will be copied to the next empty channel. In the example shown above, **Camera 1** properties will be copied to **Camera 2** and immediately saved to the system.

Delete Cameras

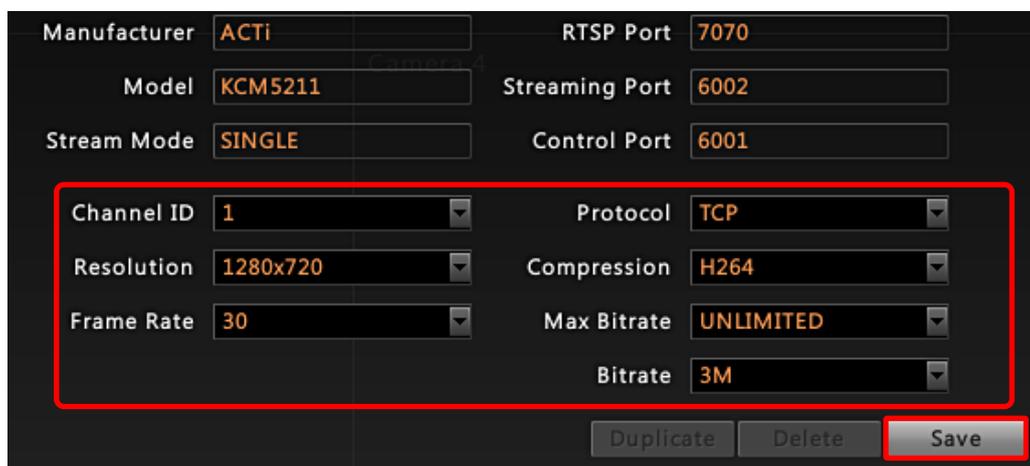
You may delete a single channel one at a time or delete them all at once. The deletion of certain channel will not include the previous recordings of it.

1. Select an existing channel.
2. Click “Delete” to delete the selected channel or “Delete All” to delete all channels.



Change Camera Settings

After the cameras are added, you may change their properties on **Camera Settings** page. For the video settings, you will have to click “Get Device Settings” first. Once these settings are acquired successfully, the video properties fields will become editable as shown below. Remember to click “Save” after you change something.



If you have to change certain settings that are not available on ENR interface (e.g. video motion region settings, stream mode) for a saved channel, please do the following,

5. Uncheck the “**Auto save ENR settings into device upon connection**”.
6. Via camera's web interface, change the camera settings, you will have to use a computer to do this.
7. On **ENR Camera Settings** page, click “**Get Camera Settings**”, ENR will apply the current camera settings.
8. Click “**Save**”.

Network Settings

You may check the network adapter setting of **LAN1** and **LAN2** via the path: **Live View Menu** → Select "**Setup Menu**" → click "**System Settings**" tab → click "**Network**".

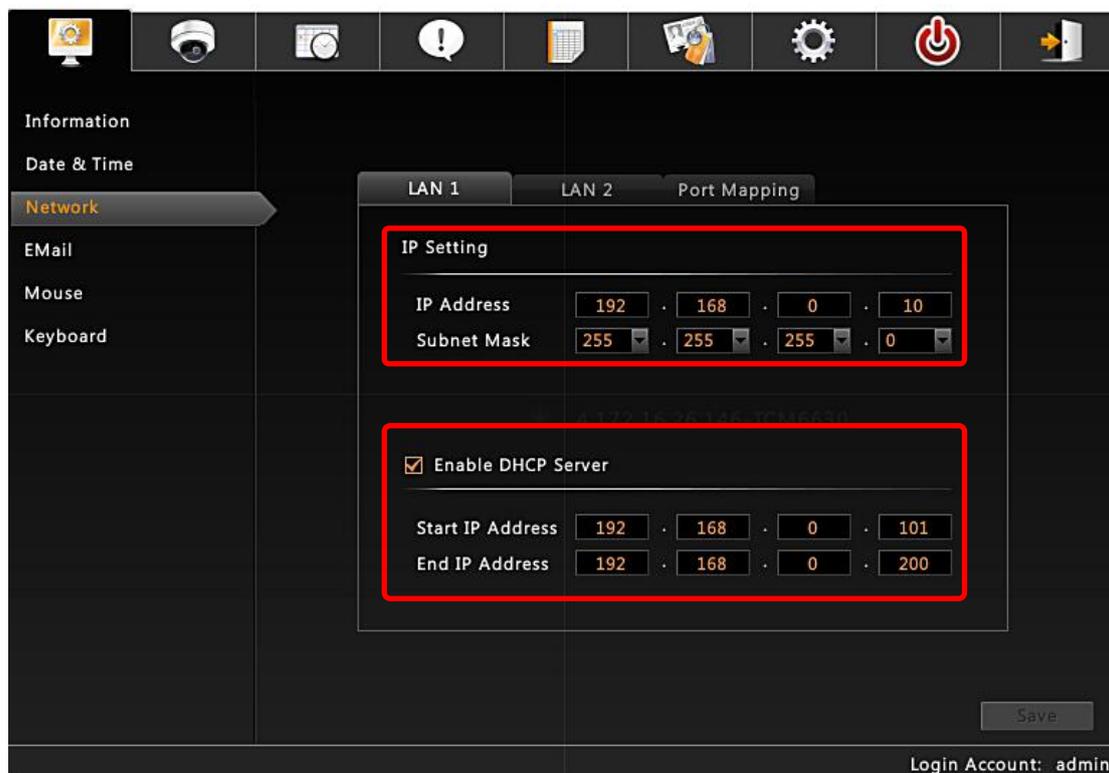
Configure LAN1 Settings

As **LAN1** port supports only DHCP server function. Without the DHCP client capability, it cannot get IP from another DHCP server, and you will have to define its **IP Address** and **Subnet Mask** manually if necessary. The default IP is **192.168.0.10**.

Turn On/Off the DHCP Server

By default, the DHCP server is enabled. It will assign IP addresses to the cameras which are in DHCP (client) mode. You may also define the range of IP address ENR assigns to the cameras.

Simply enable the DHCP Server by checking the box "**Enable DHCP Server**", fill in the beginning IP address in **Start IP Address** field, and the ending IP Address in **End IP Address** field. The default range is **192.168.0.101~192.168.0.200**.



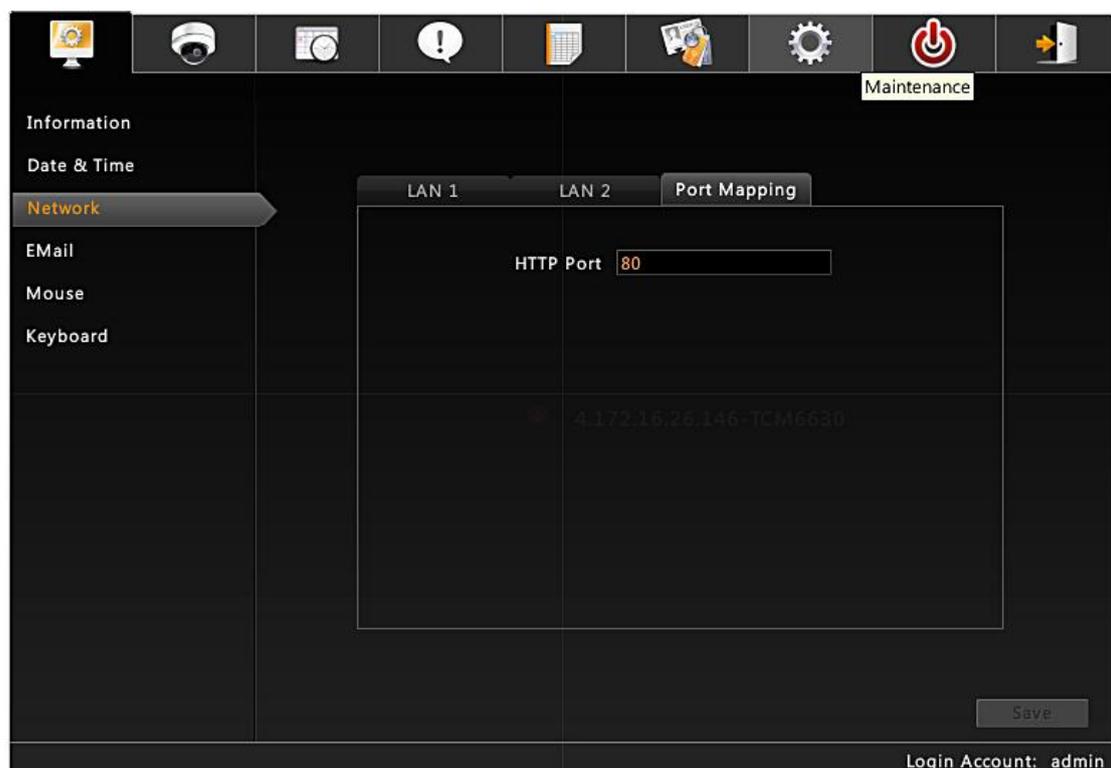
Configure LAN2 Settings

LAN2 port is originally in **DHCP** mode. You may change the mode to **Static** to manually define its network properties. In Static mode, the default IP is [192.168.1.10](#).



Set the Port

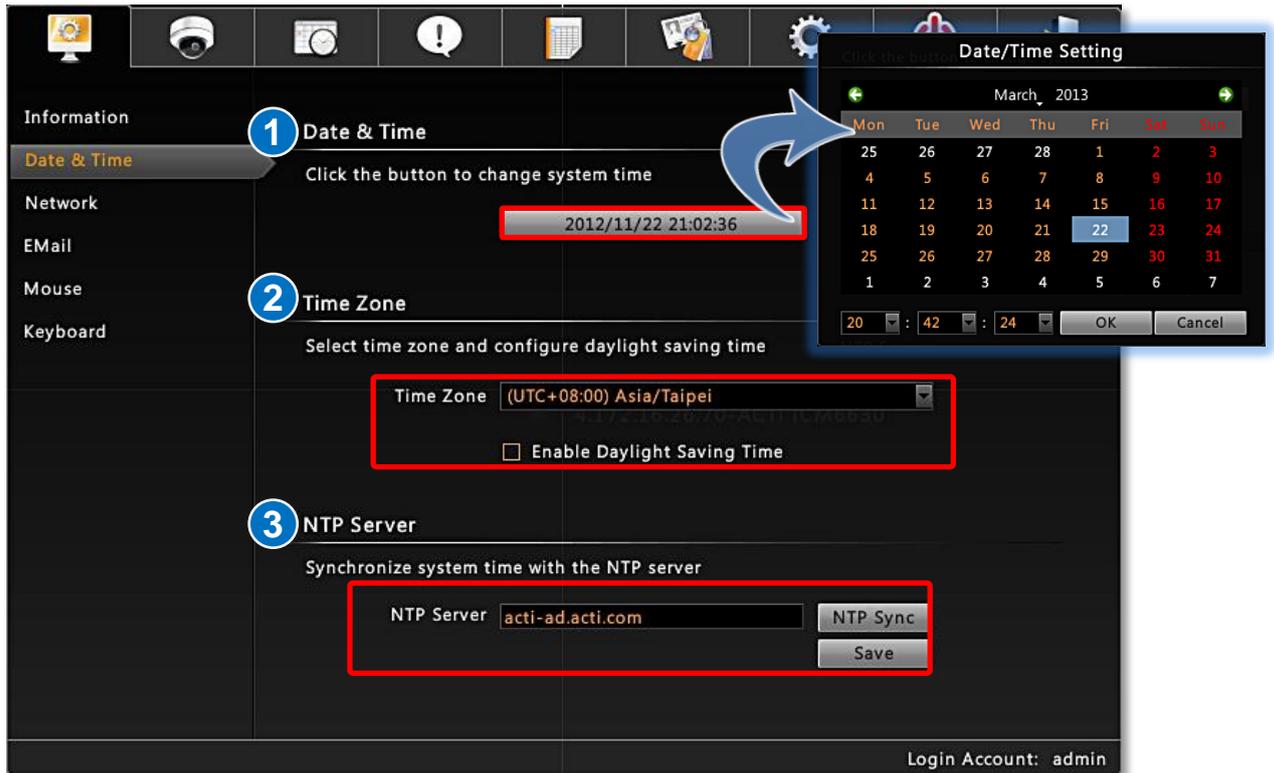
Change the ENR Port here if you have setup port forwarding service for ENR's IP.



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 View screen, right-click to bring up **Live View** menu → Select "**Setup Menu**" → click "**System Settings**" tab → click "**Date & Time**"



The screenshot displays the 'Date & Time' configuration page. It features three main sections:

- 1 Date & Time:** Includes a button to change system time, currently showing '2012/11/22 21:02:36'. A calendar popup is open, showing 'March 2013' with the 22nd selected.
- 2 Time Zone:** Includes a dropdown menu for 'Time Zone' set to '(UTC+08:00) Asia/Taipei' and an unchecked checkbox for 'Enable Daylight Saving Time'.
- 3 NTP Server:** Includes a text field for 'NTP Server' containing 'acti-ad.acti.com', and buttons for 'NTP Sync' and 'Save'.

The bottom right corner of the interface shows 'Login Account: admin'.

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.

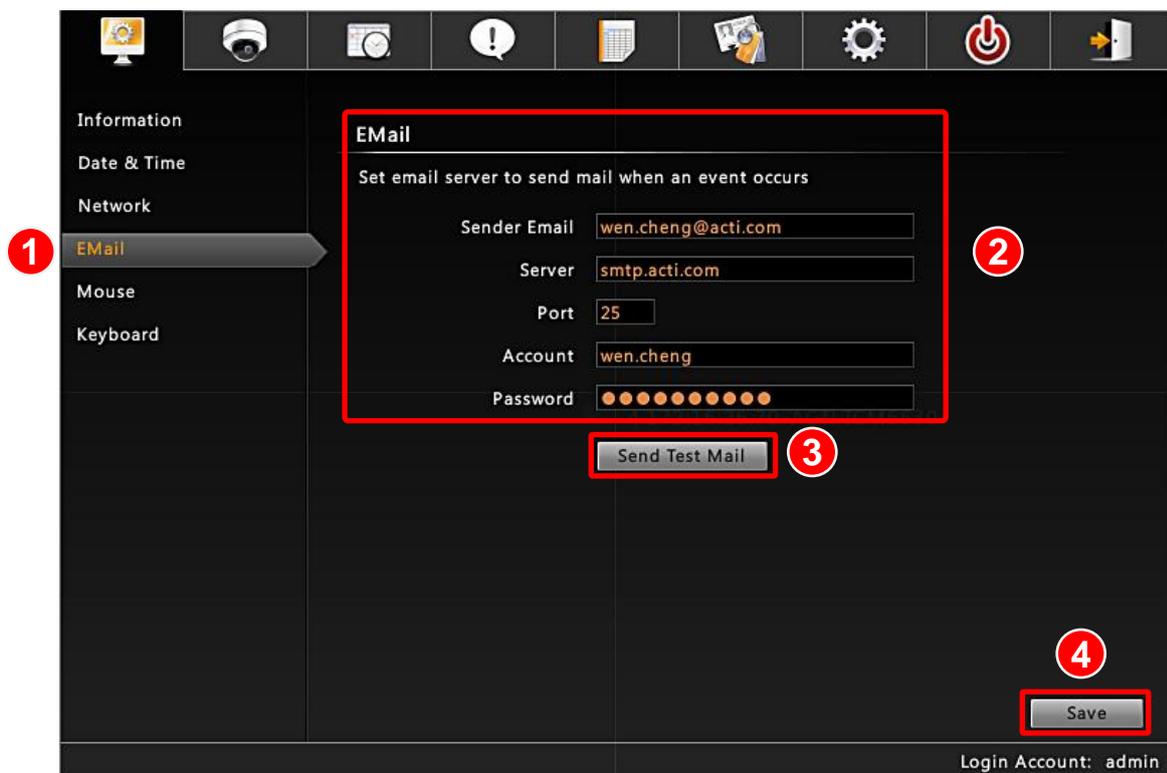
Synchronize with NTP server

In **NTP Server** section, fill in the NTP server IP or domain name in the NTP Server field, and click "**NTP Sync**" to start synchronizing, and then click "**Save**" to save this setting.

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. In order to reach out to an SMTP server, your network cable should go through ENR **LAN 2** port which communicates with a network other than ENR local network.

1. On **Live View** screen, right-click to bring up **Live View** menu → Select “**Setup Menu**” → click “**Email**”.



2. Fill in **every field** according to the detailed instruction 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

	<p>symbols (.), (_), (-) are valid. ENR server <u>supports the SMTP services with SSL protocol</u>. 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)</p>
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.

Right-click on screen to bring up **Live View** menu → Select "**Setup Menu**" → click "**Maintenance**" tab → click "**Storage**". The connected storage devices will be shown in the **Storage Device** list. Select a device to check the **Storage** Information appear below.

Storage Device Types

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



The screenshot displays the Storage management interface. On the left, there are options for 'Storage', 'Firmware Upgrade', and 'Settings Backup/Restore'. The 'Storage Device' list shows three items: 'SATA-1 ST3000VX000-9YW1', 'SATA-2 ST2000VX000-9YW1', and 'Flash Disk'. A 'Format' button is located to the right of the selected SATA-1 device. Below the list, the 'Storage Information' table provides details for the selected device.

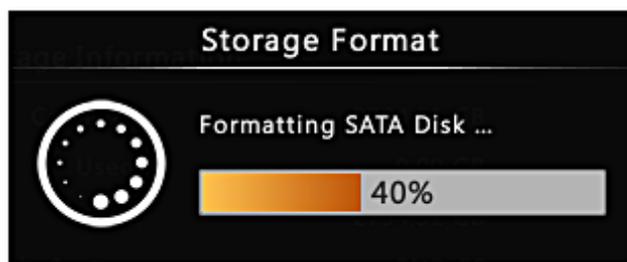
Storage Information	
Capacity:	2794.51 GB
Used:	8.43 GB
Free:	2786.08 GB
File System:	ENR-FS
Recording:	Yes

At the bottom right of the interface, the login account is shown as 'admin'.

Format Hard Disks

You may execute disk formatting toward a newly-installed disk. You should follow the installation procedures (refer to Install the Hard Disks on page 16) to format the disks before ENR system start carrying out the surveillance task, for a disk that is not formatted to ENR file system format is not ready for recording.

After the disk is installed and detected in **Storage Device** list, select it and click "**Format**".



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.

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

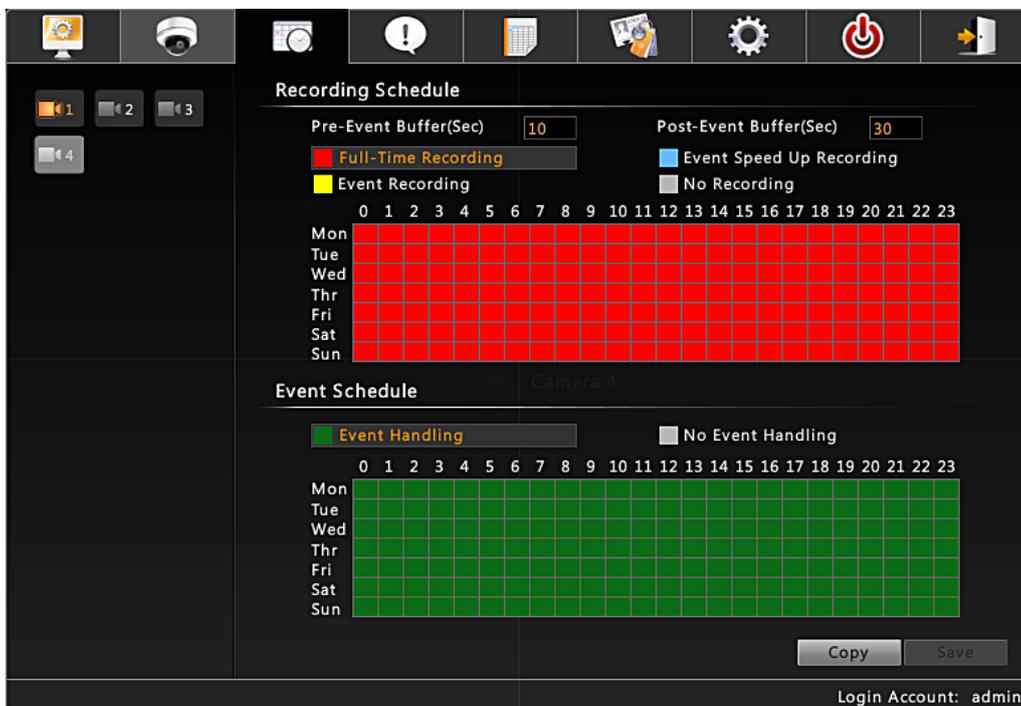
Please be noted that the system will stop recording during the disk formation.

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 can also be configured on it.

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 **Live View** menu → Select **Setup Menu** → click **Schedule Settings** tab and select one channel.



Recording Schedule

Pre-Event Buffer(Sec) Post-Event Buffer(Sec)

Full-Time Recording Event Speed Up Recording

Event Recording No Recording

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	Full-Time																							
Tue	Full-Time																							
Wed	Full-Time																							
Thr	Full-Time																							
Fri	Full-Time																							
Sat	Full-Time																							
Sun	Full-Time																							

Event Schedule

Event Handling No Event Handling

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	Event Handling																							
Tue	Event Handling																							
Wed	Event Handling																							
Thr	Event Handling																							
Fri	Event Handling																							
Sat	Event Handling																							
Sun	Event Handling																							

Copy Save

Login Account: admin

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

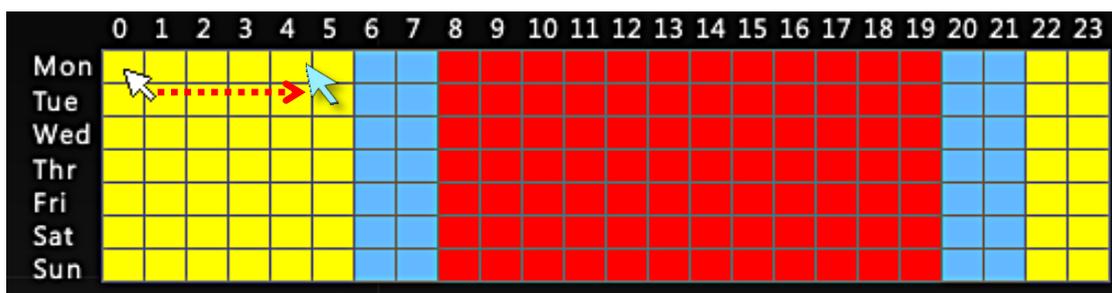
On the time table

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.

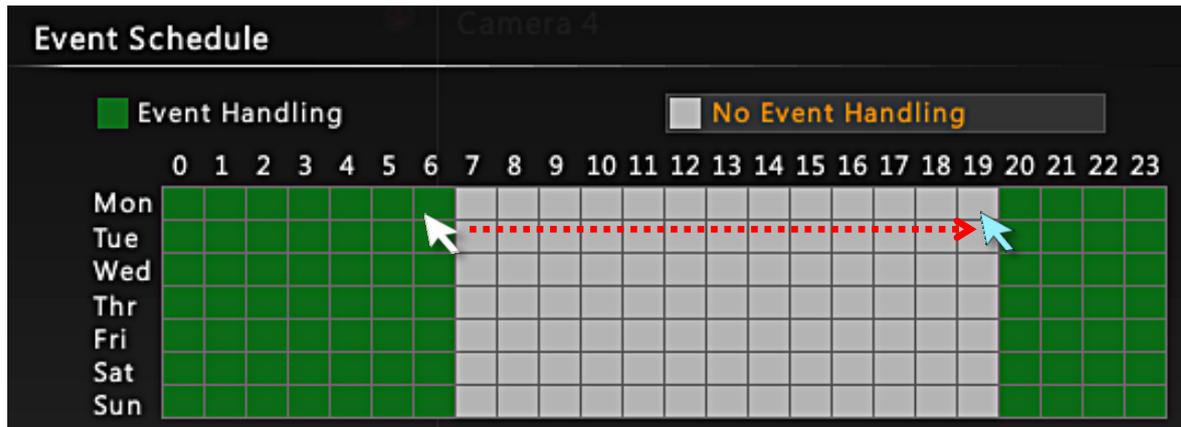


3. Click "Save".

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 45 for Event Rules settings. By default, the event handling is full-time activated; you may disable it for 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"**.



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 alarm (**Response 2**) when motion on camera site is triggered (**Trigger**) during the event handling 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 available for other models without this feature.

Event-Handling Schedule

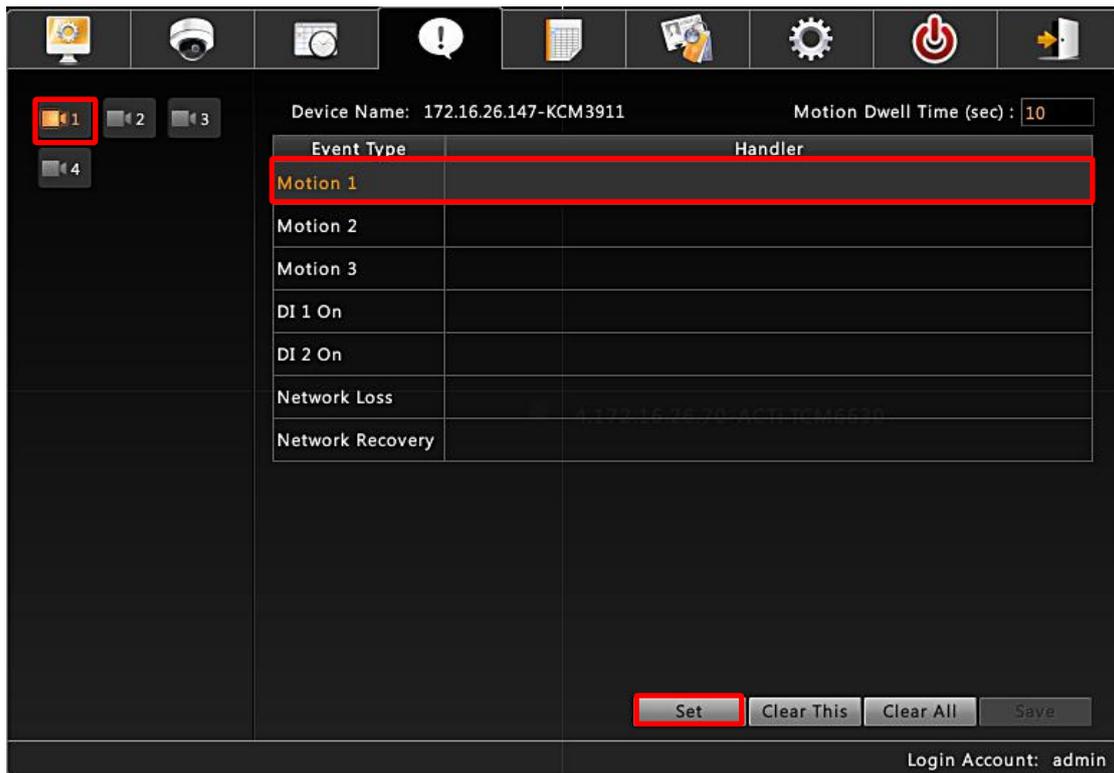
Event rules become active or inactive based upon a weekly **Schedule**, to enable event-handling service, you will have to make sure the event-handling schedule of certain device is well configured. By default, the event-handling schedule of each camera is enabled for 24 hours once it is added to ENR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

To configure the event schedule, you may right-click on **Live View** screen to bring up **Live View** menu → click **“Setup Menu”** → click **“Schedule Settings”**, select the camera, and drag on 24-hour table.



Setup Event Rules

Right-click on screen to bring up **Live View** menu → Select **“Setup Menu”** → click **“Event Management”** 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

Setup 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 if both DOs are well-set and the duration time between them. Click **“OK”** to confirm.

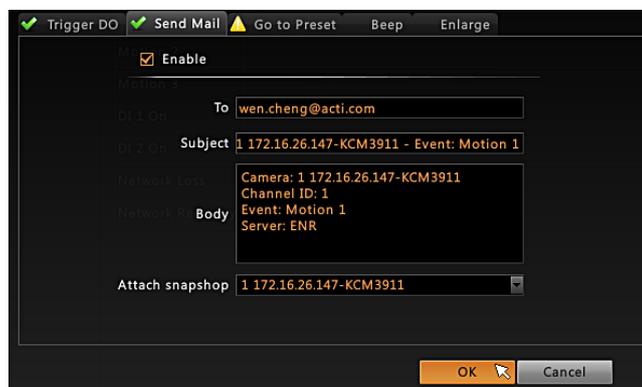


●Send Mail

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 to attach a snapshot of which camera from “Attach snapshot” dropdown list. Click “**OK**” to confirm.

Note: You have to configure the Email setting (please refer to [Email Settings](#) on page 38) before this trigger is enabled.



●Go to Preset

For the use of PTZ camera features to make responses toward certain triggers, please configure the preset points (refer to PTZ settings) On **Live View** 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 existing in ENR server to execute a PTZ response, a yellow warning sign would appear on the tab  **Go to Preset** , please connect 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 trigger by events. On **Beep** tab, check the “**Enable**” to enable this function. Input the duration time and times of the Beep. Click “**OK**” to confirm.



●Enlarge

Live View 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 View screen and the duration time. Click “**OK**” to confirm.



3. After configuring the event handling rules, on **Event Management** tab, input the **Motion Dwell Time (sec) : 10** for all the rules you set for certain camera. **Dwell Time** defines, after an event occurs, the period of time during which the same event will not be triggered again.
4. On **Event Management** tab, click “**Save**” to save the settings.

Clear Event Rules

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

User Group Management

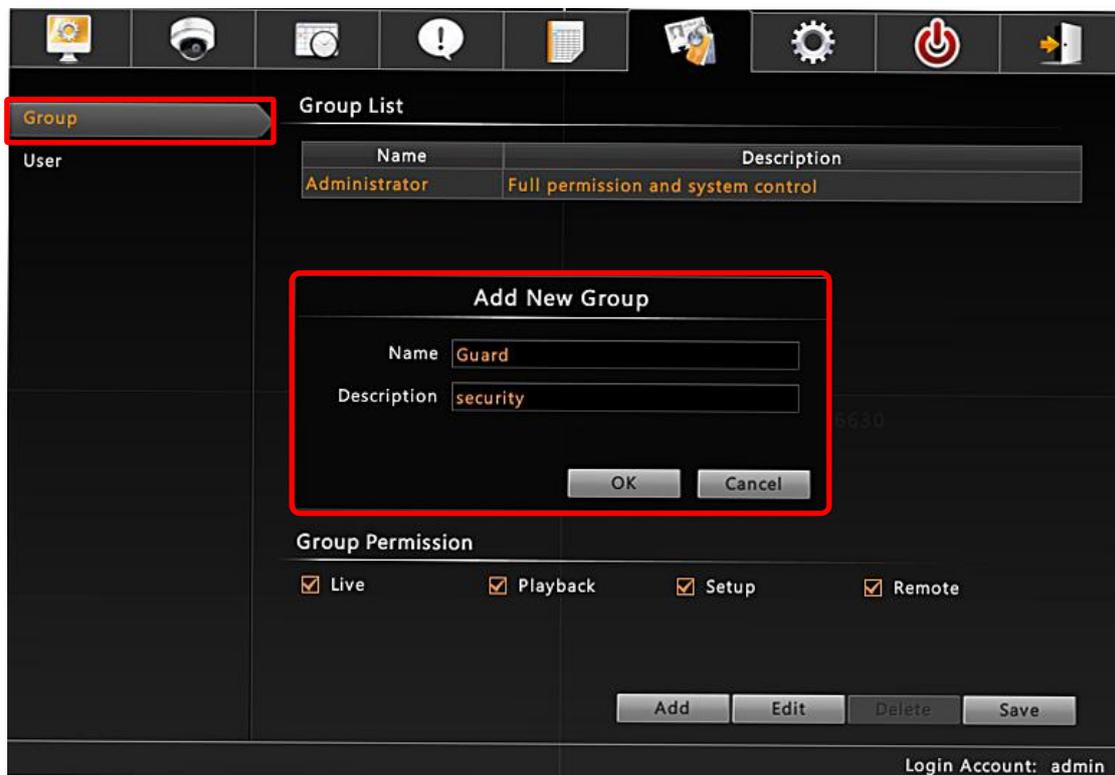
In ENR, the access permissions are managed by **User Groups**. **User Groups** defines what functions are allowed for a group of users. Different **User Groups** will have different access rights in terms of permitted operations like **Live Vie** or **Playback**. For example, an Administrator User is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

Right-click on screen to bring up **Live View** menu → Select **“Setup Menu”** → click **User Authorization Settings** tab → select to manage **Group** or **User**.

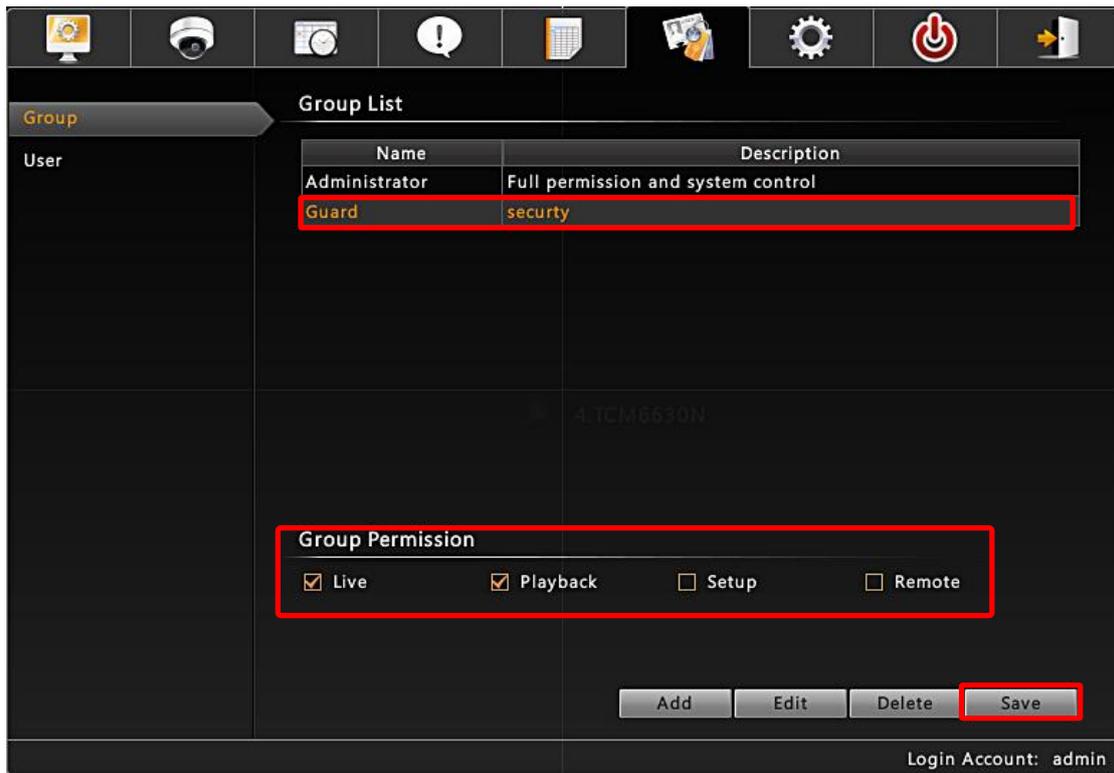
Add a Group

By default, the **Administrator** User Group already exists, with full permissions in ENR, which you may not delete or change its permissions.

1. Click **“Group”** to bring up **Add New Group** window, enter the **Name** and **Description** of the group, and click **“OK”** to add to the **Group List**.



2. On **Group List**, select this group. In **Group Permission** section, enable the permissions to access ENR operations for 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**”.

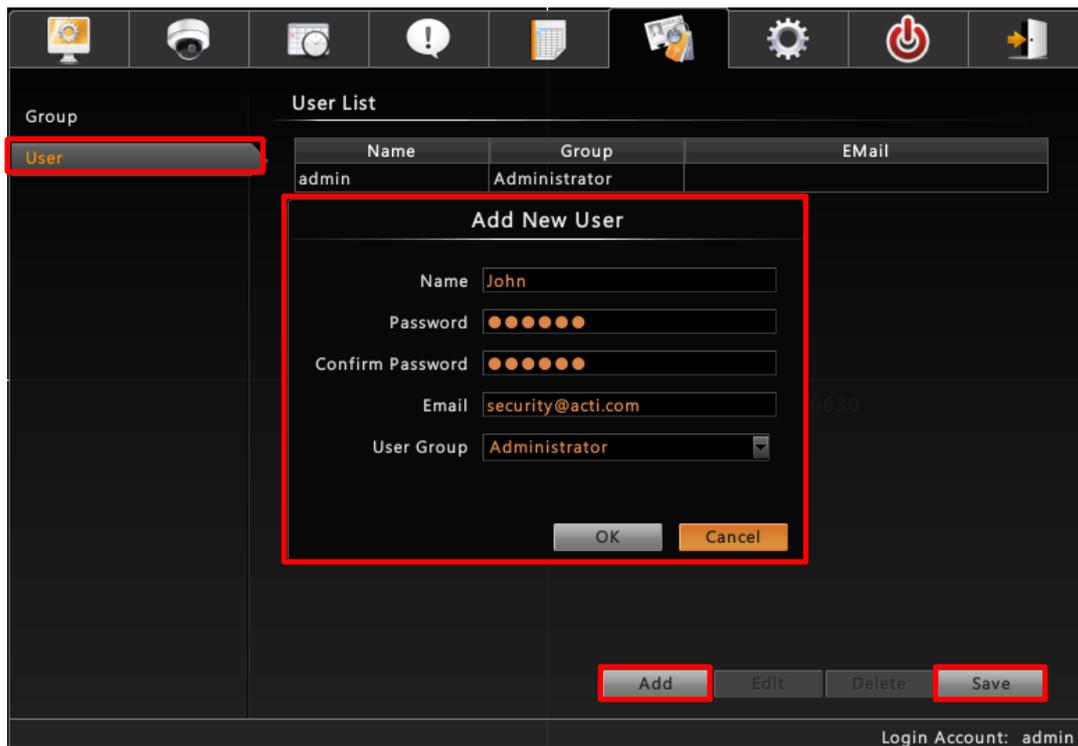
Add a User

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

1. Click “**User**” to bring up **Add New User** window, enter the **Name**, **Password**, **Email** and select its **User Group** from dropdown list. Click “**OK**” to add 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.



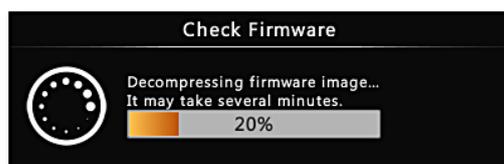
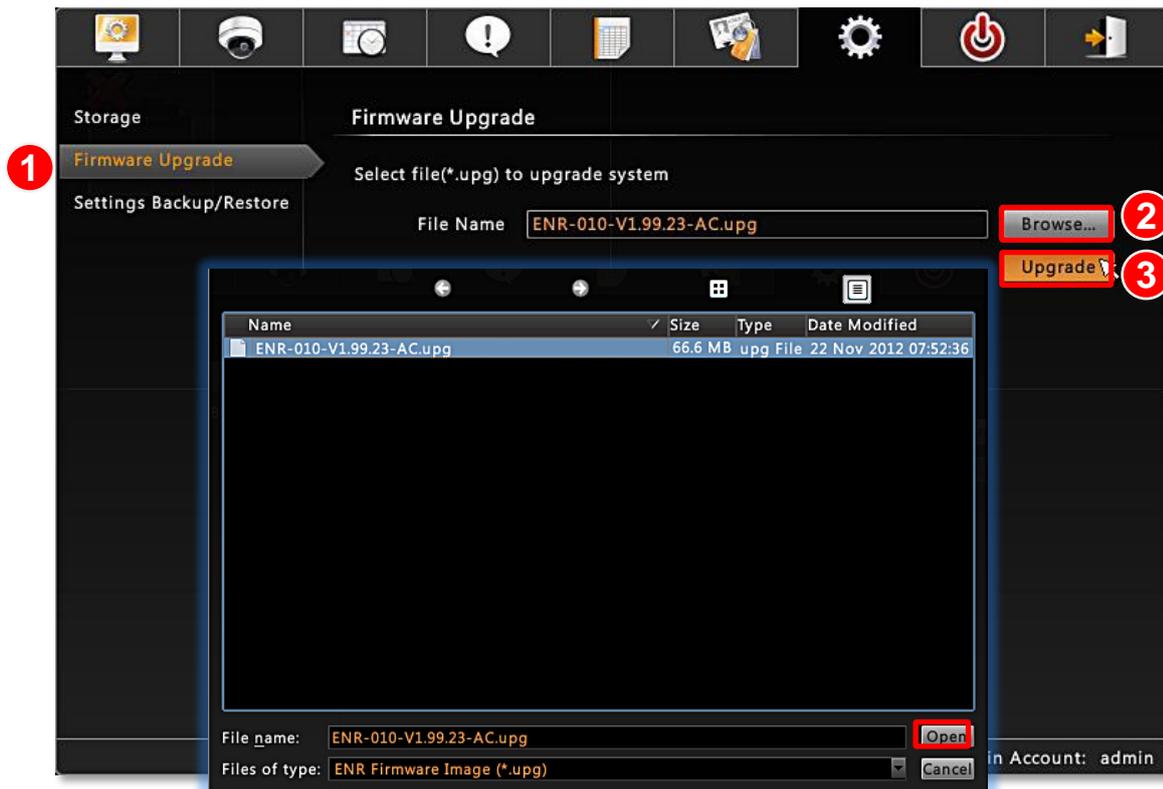
Edit / Delete a User

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

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 a USB disk and Insert it into ENR USB port.

1. On **Live View** screen, right-click to bring up **Live View** menu → Select “**Setup Menu**” → 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.

Please be noted that after upgrading has started, **DO NOT** cut off the system power or eject the **USB** disk until **ENR** restarts.

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 settings being backed up include the following properties you set for system: (1) **System Settings** including **System Name**, **Date & Time**, **Network**, **Email**, **Mouse** and **Keyboard** (2) **Camera Settings** (3) **Schedule Settings** (4) **Event Management**.

The recordings and system log 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 View** screen, right-click to bring up **Live View** menu → Select "**Setup Menu**" → click **Maintenance** tab → click **Setting Backup / Restore**.

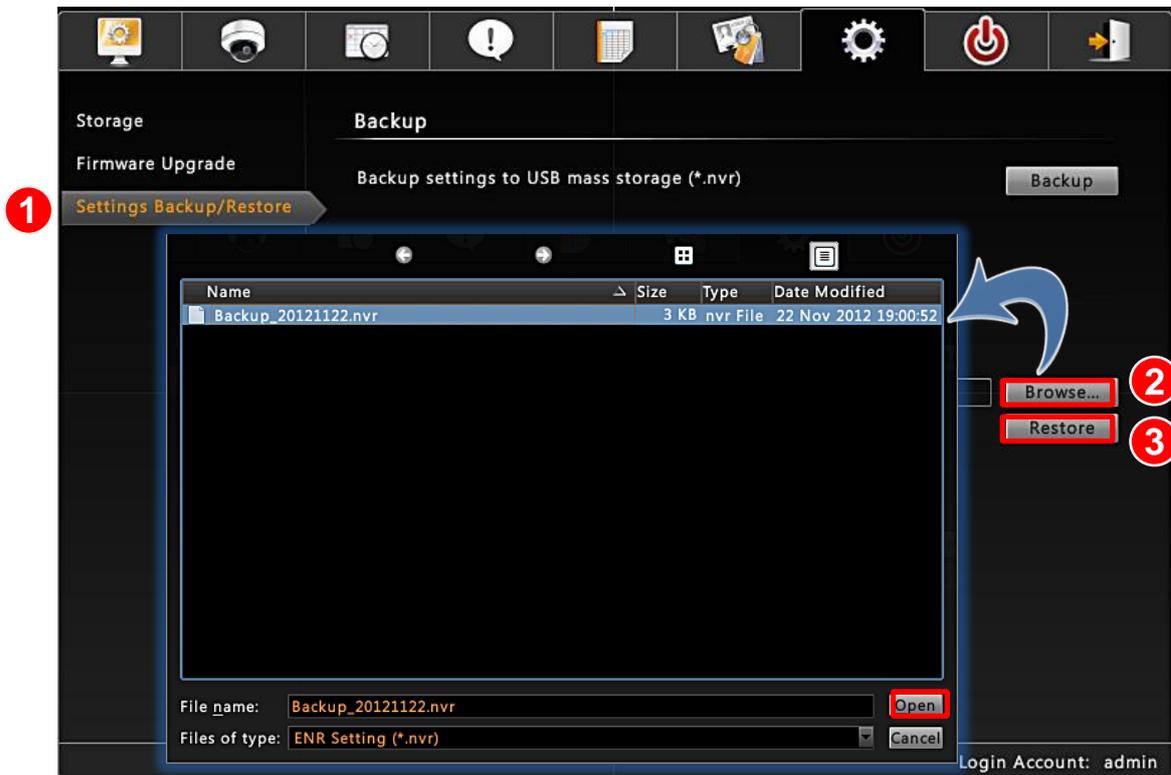


2. Click "**Backup**", the backup file will be saved to your USB disk as .nvr file.

Restore

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

1. On **Live View** screen, right-click to bring up **Live View** menu → Select “**Setup Menu**” → click **Maintenance** tab → click “**Setting Backup / Restore**”.



2. Click “**Browse**” to select the backup file.
3. Click “**Restore**” to start restoring the settings. The server will restore the settings from the backup file and reboot.