EMX32

16-Channel IP Decoder

User's Manual

EverFocus

EVERFOCUS ELECTRONICS CORPORATION

EMX32

User's Manual

Disclaimer

All the images including product pictures or screen shots in this document are for example only. The images may vary depending on the product and software version. Information contained in this document is subject to change without notice.

Copyright

Safety Precautions

➢ Refer all work related to the installation of this product to qualified service personnel or system installers.

➢ Do not block the ventilation openings or slots on the cover.

➢ Do not drop metallic parts through slots. This could permanently damage the appliance. Turn the power off immediately and contact qualified service personnel for service.

➢ Do not attempt to disassemble the appliance. To prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside. Contact qualified service personnel for maintenance. Handle the appliance with care. Do not strike or shake, as this may damage the appliance.

➢ Do not expose the appliance to water or moisture, nor try to operate it in wet areas. Do take immediate action if the appliance becomes wet. Turn the power off and refer servicing to qualified service personnel. Moisture may damage the appliance and also may cause electric shock.

➢ Do not use strong or abrasive detergents when cleaning the appliance body. Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.

➢ Do not overload outlets and extension cords as this may result in a risk of fire or electric shock.

➢ Do not operate the appliance beyond its specified temperature, humidity or power source ratings. Do not use the appliance in an extreme environment where high temperature or high humidity exists. Use the IP decoder at temperatures within 0°C~40°C / 32°F~104°F (Storage). The input power source is 12VDC, 5A (60W max).

➢ **Read Instructions**
   All the safety and operating instructions should be read before the unit is operated.

➢ **Retain Instructions**
   The safety and operating instructions should be retained for future reference.

➢ **Heed Warnings**
   All warnings on the unit and in the operating instructions should be adhered to.

➢ **Follow Instructions**
All operating and use instructions should be followed.

➢ **Cleaning**
Unplug the unit from the outlet before cleaning. Do not use liquid cleaners, abrasive or aerosol cleaners. Use a damp cloth for cleaning

➢ **Attachments**
Do not use attachments not recommended by the product manufacturer as they may cause hazards.

➢ **Water and Moisture**
Do not use this unit near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.

➢ **Servicing**
Do not attempt to service this unit by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

➢ **Power Cord Protection**
Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, playing particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

➢ **Object and Liquid Entry**
Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.

➢ **Battery**
Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
a. Use only two AAA dry cell batteries.
b. Do not dispose of the batteries in a fire as it may explode.

➢ **RTC (Real Time Clock) Battery**
When encounter failure of time calibration of your IP Decoder, the issue may be caused by running-out of RTC battery. Users will have to change the RTC battery on the main board of the IP Decoder.

CE

ATTENTION! This is a class A product which may cause radio interference in a domestic environment; in this case, the user may be urged to take adequate measures.

FCC

Federal Communication Commission Interference Statement

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the users' authority to operate this equipment.

RoHS

This Product is RoHS compliant.

WEEE

Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste. Please, dispose of this equipment at your local community waste collection/recycling centre. In the European Union there are separate collection systems for used electrical and electronic product.
Please, help us to conserve the environment we live in!

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE

This product complies with the High-Definition Multimedia Interface (HDMI) Specification Adopter Agreement.

The information in this manual was current upon publication.   The manufacturer reserves the right to revise and improve his products. Therefore, all specifications are subject to change without prior notice. Manufacturer is not responsible for misprints or typographical errors.
Please read this manual carefully before installing and using this unit. Be sure to keep it handy for later reference.

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1

1. Introduction

The EverFocus EMX32 IP Decoder is an open, true 1080p HD Decoder. The device can simultaneously decode up to four high definition (1080p) or standard definition (720p) video streams, and display those streams in up to four division screens on a monitor. The EMX32 IP Decoder can display its views on HD monitors or televisions.

The EMX32 IP Decoder is able to decode IP streams from EverFocus and ONVIF and RTSP-compliant IP devices. It is used as a medium to connect the cameras and the monitor for displaying video in different screen division. It supports the third-party IP cameras which are compatible with ONVIF standards and RTSP protocol, and it can automatically search for ONVIF supported third-party IP devices under the same LAN.

The cost-effective EMX32 IP Decoder eliminates the cost of the traditional DVR or PC. Just used with a monitor only, you can easily view all the IP or analog (through RTSP) video streams. The operator can control and configure the settings either through the user-friendly local display OSD or by the intuitive web-based user interface.

The EMX32 provide two video outputs HDMI and VGA, and both video output ports can be used simultaneously. It also has one RS-485 port for connecting joystick or keyboard. This slim, compact and VESA-mountable design is easy to install and can be used anywhere such as retail stores or offices.

1.1 Overview

Front View

IR Remote
Control

Mouse / EKB200 Keyboard
USB Memory Stick

Rear View

OUT COM 4 3 COM 2 1

Alarm In
/ Out

Main Monitor
(HDMI)

Main Monitor
(VGA)

Network

RS-485
Device

Power
supply

Web Remote
Client

ONVIF/RTSP
IP Camera

DVR

Analog Camera
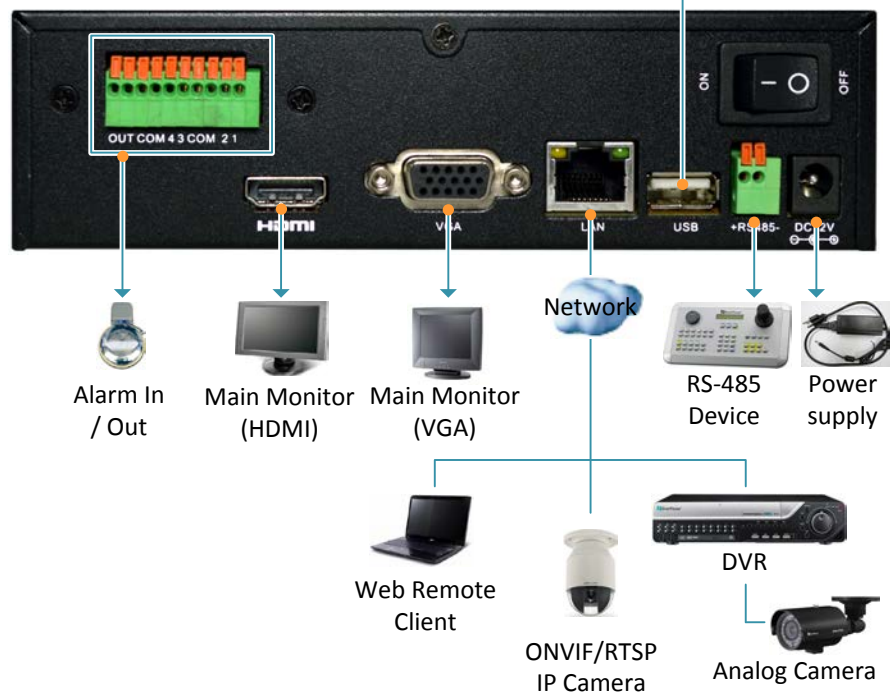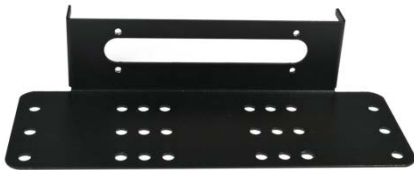
1.2   Features

- Decodes up to four 1080p/30fps video streams in H.264 codec simultaneously

- Decodes up to 16 IP streams

- Support all the EverFocus IP Cameras*

- Support ONVIF or RTSP compliant third-party IP cameras

- Multiple main monitors: Separately configured HDMI and VGA (1080p) main monitor outputs

- Free EverFocus DDNS service – static IP address is not required for reliable remote access

- Multiple control inputs: mouse / remote controller

- Remote configuration support from built-in web interface

- Standing mount and VESA mount options

- Multiple control inputs: mouse / remote controller / EKB500 and EKB200 keyboards

- Multi-language support

* **EverFocus IP Camera Support List:** The latest EverFocus IP Camera Support List for EMX32 will be updated on our website, please go to the product page and click the **Download** tab.

www.everfocus.com.tw

1.3 Packing List

• EMX32 x 1	• QIG x 1
• CD x 1 (Please see Note 3.)	• Mouse x 1
• Power Cord x 1	• Power Adaptor x 1
• IR Remote Control x 1	• AAA Battery x 2 (Please see Note 4.)
• VESA Monitor Mount Bracket	• **Washer Head Sliver Screw** x 4 for VESA Mount (50x50 / 75x75 / 100x100 mm) • **Washer Head Black Screw** x 4 for VESA Mount(200x200 mm) • **Small Black Screw** x 4

Note:
1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
2. Contact the shipper if any items appear to have been damaged in the shipping process.
3. The CD contains the IP Utility software, EFPlayer, User Manual and Quick Installation Guide
4. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
   a. Use only two AAA dry cell batteries.
   b. Do not dispose of the batteries in a fire as it may explode.

1.4 Optional Accessories

- EKB200 (USB controller keyboard: connect to the PC or the IP decoder to control the PTZ cameras connected to the IP decoder). Please refer to *5.5.5 EKB200 Setting* and the *User Manual* of the *EKB200 Keyboard*.

- EKB500 (RS-485 keyboard: connect to the RS-485 port to control the PTZ cameras connected to the IP decoder). Please refer to *5.1 Camera* and the *User Manual* of the *EKB500 Keyboard*.

1.5 Front Panel

No.	Name	Description
1	**Power**	Indicates the power is on.
2	**LAN**	Indicates the IP decoder is connected to the network.
3	**I/O**	Indicates an alarm input is triggered.
4	**IR Receiver**	Receiver for signals from the IR remote control.

1.6 Rear Panel
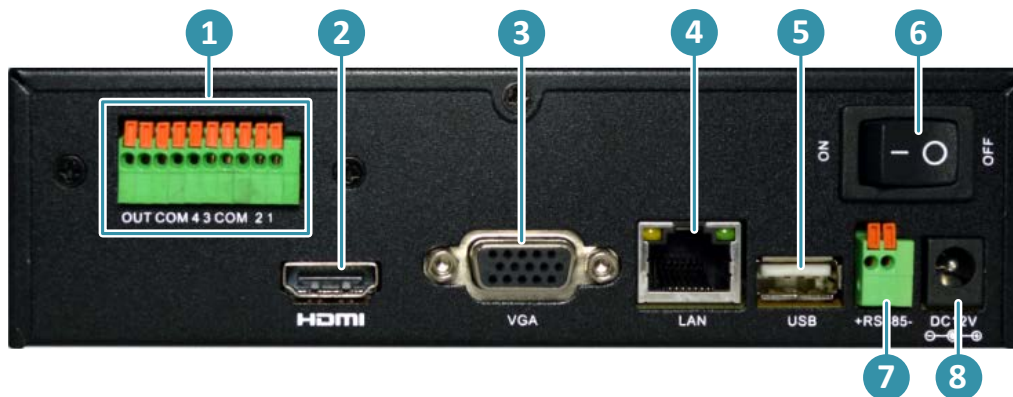
No.	Name	Description
1	**Alarm Input / Output**	Connects up to 4 alarm inputs and 1 alarm output devices. Please refer to *2.2.3 Alarm I/O*.
2	**HDMI Port**	Connects to the Main monitor using a HDMI cable. Please refer to *2.2.1 Monitor Connection*.
3	**VGA Port**	Connects to the Main monitor using a VGA cable. Please refer to *2.2.1 Monitor Connection*.
4	**LAN**	Connects to IP cameras or to the network using a standard RJ-45 CAT5 10/100Mb Ethernet cable. Please refer to *2.2 Connection*.
5	**USB**	The USB2.0 port for connecting to a mouse, external storage device or EKB200 keyboard.
6	**Power Switch**	Press to turn On / Off the IP decoder.
7	**RS-485 Port**	Connects to the RS-485 device, such as EverFocus' EKB-500 keyboard. Please refer to *2.2.4 RS-485 Port*.
8	**Power Port**	Connects to the power using the supplied Power Adaptor and Power Cord.

2. Installation

You can simply place the IP decoder, EMX32, on the desk or install it behind a VESA monitor. (VESA Mount Bracket: 50mmx 50mm / 75mm x 75mm / 100mm x 100mm / 200mm x 200 mm).

EMX32   VESA Mount Bracket

50   75   100   200

Unit: mm
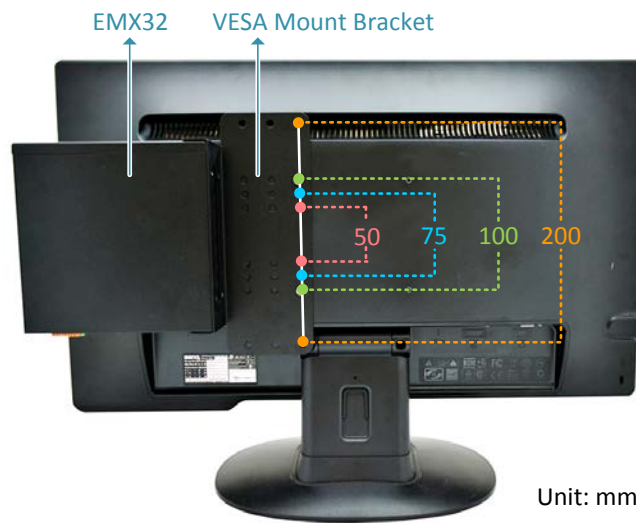
2.1   VESA Monitor Mount

1. Screw the VESA Mount Bracket on either side of the EMX32 using the four supplied Small Black Screws.

VESA Mount Bracket
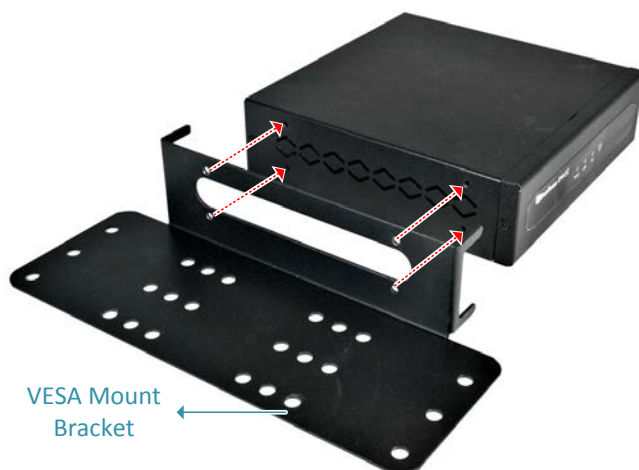
2. You just need to use two Washer Head Screws to fix the EMX32 onto the back of the monitor, and the front panel of the EMX32 has to be facing UPWARD.

> **Note:** VESA mount (50x50 / 75x75 / 100x100 mm): Use the Washer Head **Sliver** Screws.
> VESA mount (200x200 mm): Use the Washer Head **Black** Screws.

3. If your monitor is to be mounted on the wall, you should attach the EMX32 to the very right or left side of the monitor and leave the four VESA mounting holes of the monitor uncovered so that you can screw the monitor on the wall.

2.2 Connection

The instructions below describe the basic connection for IP decoder: EMX32.
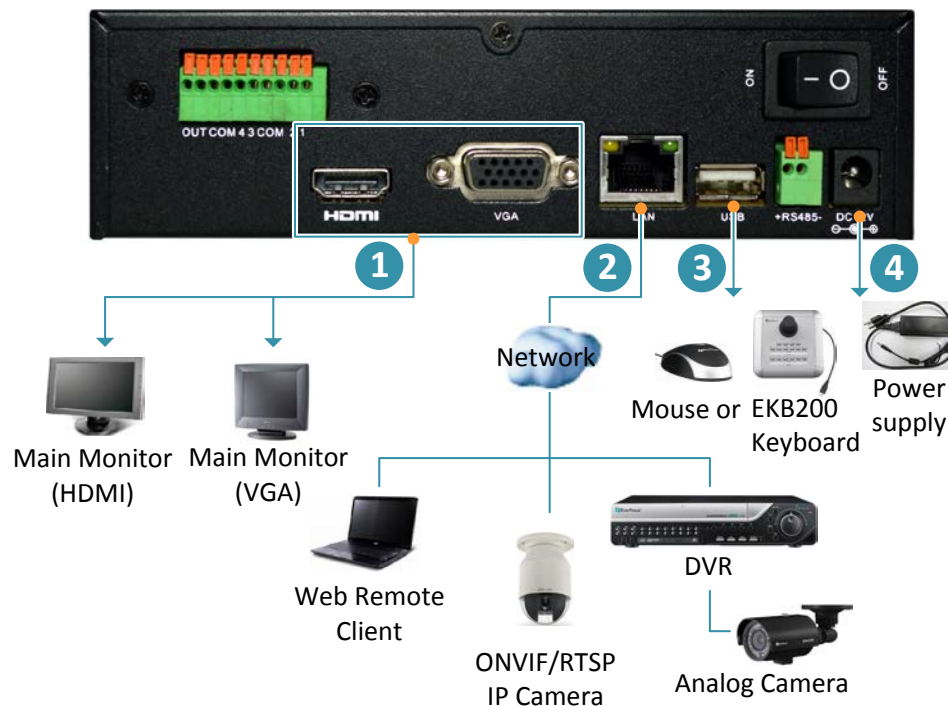
1. To view videos, connect a monitor to the HDMI or VGA port using the HDMI or VGA cable supplied by the monitor manufacturer.

2. To receive video streams or to manage the IP decoder over network, use a standard RJ-45 CAT5 10/100/1000Mb Ethernet cable to connect the LAN port to the network. Please refer to *2.4 Connecting the IP decoder to the Network*.

3. Optionally connect a mouse or a keyboard (EKB200) to the IP decoder to control the system. You can also control the system using the supplied IR Remote Controller.

4. Using the supplied Power Cord with Adaptor, connect one end to the DC 12V port on the IP decoder and the other end to the power outlet.

2.2.1 Monitor Connection

The IP decoder provides 2 main monitor outputs with identical functionality - VGA and HDMI. You can connect the monitor to the VGA or HDMI port on the rear panel of the IP decoder. Both of the VGA and HDMI video outputs can be used simultaneously and deliver full HD resolution (1920 x 1080, progressive, 60 Hz. Vert., 68 KHz hor.).

HDMI Cable   VGA Cable

Main Monitor   Main Monitor
(HDMI)   (VGA)
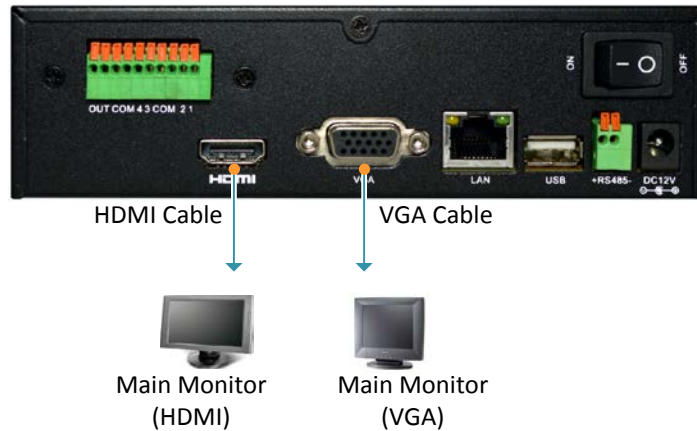
Note:
1. The connected monitors' specifications must comply with the resolution requirements.
2. Do not exceed the max. HDMI cable length of 15 meters.
3. The standard HDMI cables can support cable length up to 3 meters. For longer distances, such as 15 meters, it is highly recommended to use high quality HDMI cables.

![EverFocus logo]

2.2.2 Display Aspect Ratio

It is recommended to select the same ratio of the screen resolution and the camera live view display to avoid black bars showing on the live view screen as the images below.

If you select 1920 x 1080 (16:9) screen resolution in the **Screen Mode** drop-down list (see *5.3.1 Monitor OSD*), it is recommended to also change the camera live view display to 16:9 aspect ratio in the **Ratio** drop-down list (see *5.1.8 Adjust*).
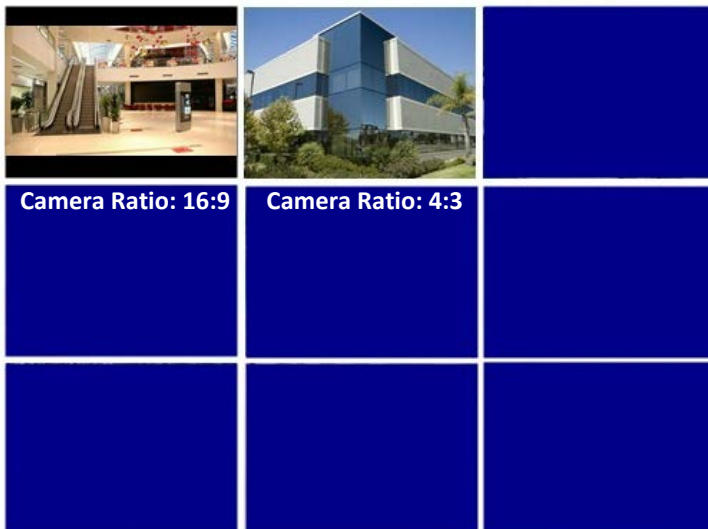
Screen Mode: 1920x1080 (16:9)
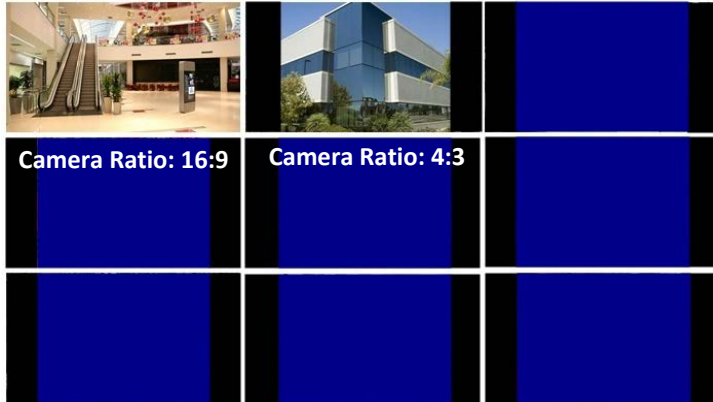
If selecting 800x600, 1024 x 768 or 1280x1024 (4:3) screen resolution in the **Screen Mode** drop-down list (see *5.3.1 Monitor OSD*), it is recommended to also change the camera live view display to 4:3 aspect ratio in the **Ratio** drop-down list (see *5.1.8 Adjust*).

Screen Mode: 800x600 / 1024x768 /1280x1024 (4:3)

2.2.3 Alarm I/O

The IP decoder provides four alarm inputs and one alarm outputs. Please refer to the table below for PIN assignment.
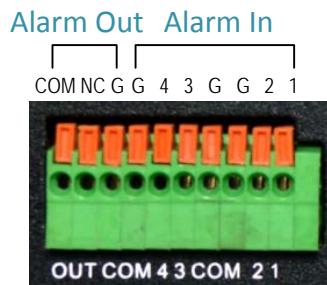
Alarm Input

No.	Description	No.	Description
1-4	ALM_IN1 -- ALM_IN4	COM	GND

Alarm Input Contacts

This IP decoder provides one alarm input per camera. All inputs are programmable N.O. (Normal Open) or N.C. (Normal Closed). All settings are programmed in the ALARM / Event menu.
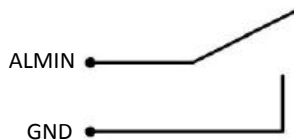
Alarm Input with N.O. contact in idle state
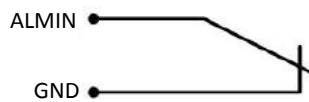
Alarm Input with N.C. contact in idle state

Alarm Output Contacts

The relay output provides either Normally Open or Normally Closed dry contacts.
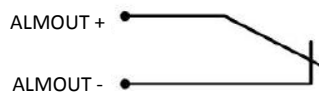
2.2.4 RS-485 Port

The RS-485 port, located on the rear panel of the IP decoder, can be used to connect to an RS-485 keyboard, such as EverFocus' EKB500, for controlling IP decoder and HD PTZ cameras. For details on the RS-485 configurations on the IP decoder, please refer to _5.5.4 I/O Control_. The RS-485 pin assignment is as follows:

2.3 Turning On / Off the Power

Before powering on the IP decoder, please make sure the internal HDDs have been installed properly. When you have completed the basic cable connections, you are ready to turn on the IP decoder.

To turn on the power, connect the supplied Power Cord to the power outlet and turn on the **Power Switch**. All of the LED indicators on the front panel will light up for a second, but the Power LED will remain light up. To turn off the power, simply unplug the Power Cord from the power outlet. You can also press the **Power Switch** on the rear panel to turn on and off the IP decoder without unplugging the Power Cord.

2.4 Connecting the IP decoder to the Network

There are three methods to connect the IP decoder to the network: **Router or LAN Connection**, **Direct High-Speed Connection** and **One-to-One Connection**. For more information of the network, please refer to *Appendix A. Network Overview*.

2.4.1 Router or LAN Connection

This is the most common connection in which the IP decoder is connected to a router and allows multiple users on and off site to see the IP decoder on a LAN/WAN (Internet). The IP decoder must be assigned an IP address that is compatible with its LAN. By setting up port forwarding on the router, you can remotely access the IP decoder from outside of the LAN via the Internet. To remotely access the Web interface, please refer to *6. Remote Access to the IP decoder*. To set up port forwarding, please consult the manual of the router or refer to *Appendix B: Linksys & D-Link Port Forwarding*.
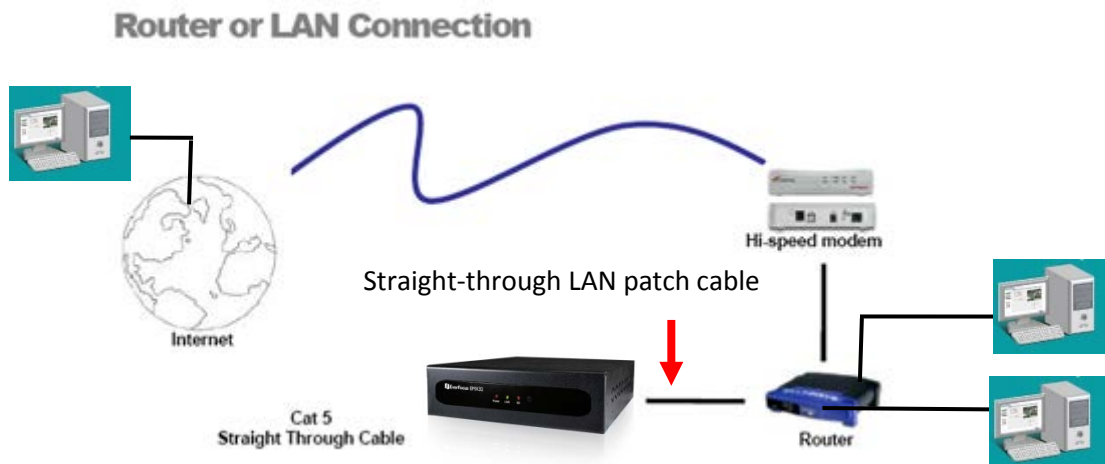
Right: Pinout of a straight-through cable.
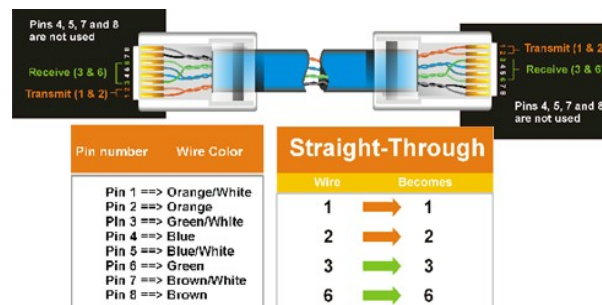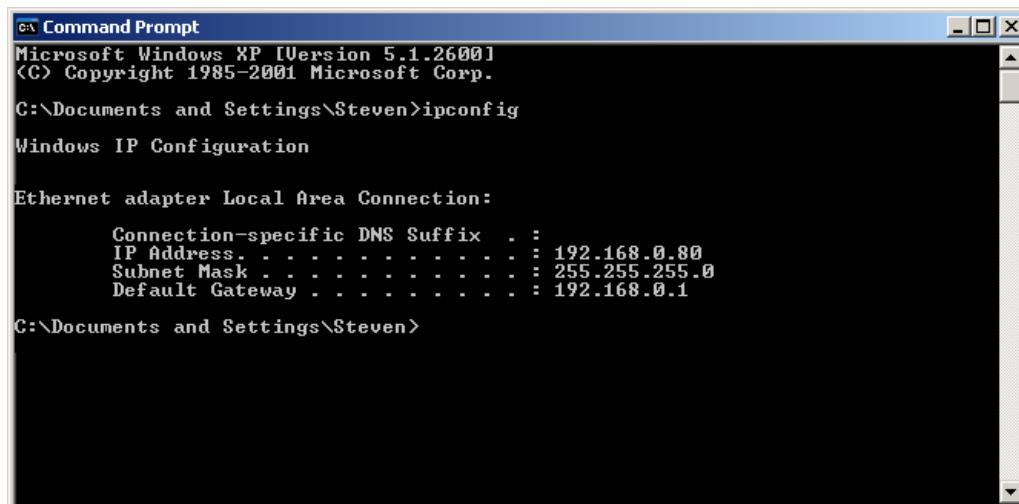
Connection Procedure:

➢ The First step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross-over network cable for this application.

➢ Once you have a straight through cable, plug one end into the LAN port on the back of the recorder and the other into the router.

➢ Log into the EverFocus IP decoder menu and go to the Network Setting Menu.

➢ To let the router automatically assign an address:

◆ Set the Network Type to DHCP. Make sure to write down the IP address and the Gateway.

◆ Exit from the Menu to save settings.

To manually assign an address:

◆ Go to a computer connected on the same network as the IP decoder.

◆ Click on the Start button and choose Run.

If using Windows Vista, choose Search instead.

◆ Type "command" and click on OK.

In Vista, you will need to double-click on the "Command Prompt" file to open it.

◆ In the DOS prompt, type "ipconfig" and press Enter.

◆ The network information will be displayed on a screen similar to the one below.

In Windows Vista, look for the information that says "IP v4".

◆ Take the values for Subnet Mask and Default Gateway and input them into the IP decoder; these values should be exactly the same in both devices. However, you should change the last number of the IP address. For example, if the IP address of the computer is 192.168.2.101, the IP decoder's IP address should be 192.168.2.50.

➢ To access the IP decoder from a computer simply open Internet Explorer and in the address bar type:

 http:// (IP address of the IP decoder)

> **Note:** The IP decoder's IP address will only work at the location of the IP decoder. To connect from a different location over the Internet, see below.

To set the IP decoder for Internet Connection through router:
➢ The next step is to open ports within your router. Log into the router using a PC and open the following ports.

◆ Ports to open: 80

◆ If your Internet service provider blocks port 80, you can change it to a different port in the IP decoder's Network Menu Setup; open/forward that port instead.

◆ If you are using a Linksys or D-Link router, see *Appendix B* for basic support on setting up ports. For any other router, you will need to contact the manufacturer for support.

➢ To access the IP decoder from a computer simply open Internet Explorer and in the address bar type:

 http:// (the IP address given by your internet service provider)

> **Note:** If you changed to a different port other than 80, you will need to include this at the end of the IP address:
> http:// (the IP address given by your internet service provider):port number

![EverFocus logo]

2.4.2 Direct High-Speed Connection

In a Direct High-Speed Connection, the IP decoder connects directly to a modem without the need for a router. You need to set the static or dynamic WAN IP address assigned by your ISP (Internet Service Provider) in the IP decoder's configuration web pages. To access the IP decoder, just type "http://xxx.xxx.xxx.xxx", where xxx.xxx.xxx.xxx is the IP address given by your ISP. If you have a dynamic IP address, this connection may require that you use DDNS for a reliable connection.
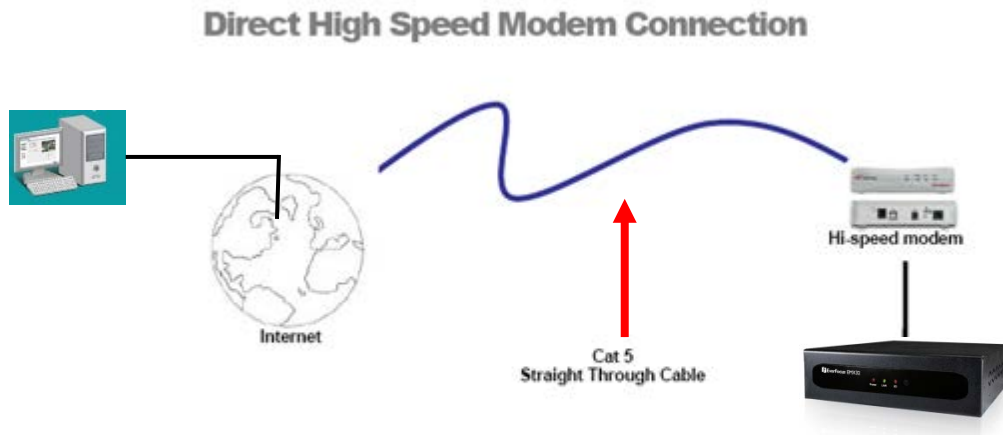
Connection Procedure:

➢ The first step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross-over network cable for this application

➢ Once you have a straight through cable plug one end into the LAN port on the back of the recorder and the other into the high speed modem.

➢ Log into the EverFocus IP decoder menu and go to the Network Setting Menu.

➢ Input the Static IP address, the Subnet Mask, and the Gateway that you obtained from the internet service provider.

Note: If you have a dynamic IP address, you can set the IP decoder to DHCP to automatically detect the network settings. Therefore, it can use a dynamic IP address.

➢ Exit from the IP decoder's Menu to save the settings.

➢ To access the IP decoder from a computer, open Internet Explorer and in the address bar type: http:// (IP address given by your internet service provider)

Note: When using this type of connection, only one device can be connected to the modem at a time. You will need to use a computer at a different location to test the connection s.

2.4.3   One-to-One Connection

You can connect directly without using a switch, router or modem. However, only the PC connected to the IP decoder will be able to view the IP decoder. You will also have to manually assign a compatible IP address to both the computer and the IP decoder. Unless the PC has another network connection, the IP decoder will be the only network device visible to the PC. See the diagram below:


Right: Pinout of a crossed-over cable.
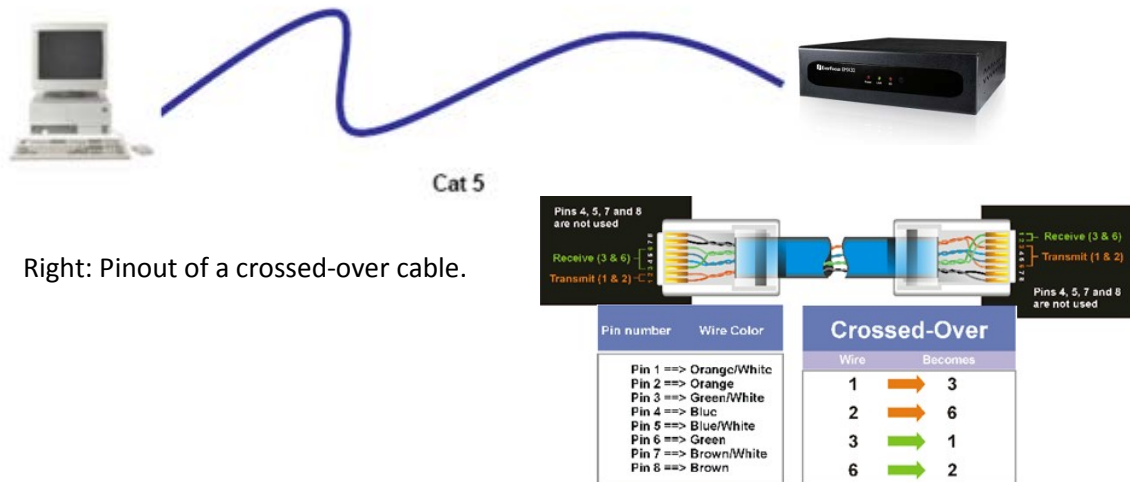
Connection Procedure:

➢   The First step is to purchase or make a cross-over cable. We recommend purchasing one if you have never made a cross-over cable. Please remember you can not use a straight through network cable for this application.

➢   Once you have a cross-over cable, plug one end into the LAN port on the back of the IP decoder and the other into the network card on the back of the computer.

➢   Log into the EverFocus IP decoder menu and go to the Network Setting Menu.

➢   You must use the Static IP option for this type of connection.

➢   Assign an IP of 192.168.001.003, a Subnet Mask of 255.255.255.000, and a Gateway of 192.168.001.001. You can ignore DNS Server.

➢   The next step is to set the computer's network settings to match those of the IP decoder. You will need Administrator privileges on your Windows machine to do this.

➢   To assign a fixed IP address in Windows 2000/XP, follow the instructions below:

◆ Go to **Start**. Double-click on **Control Panel**.
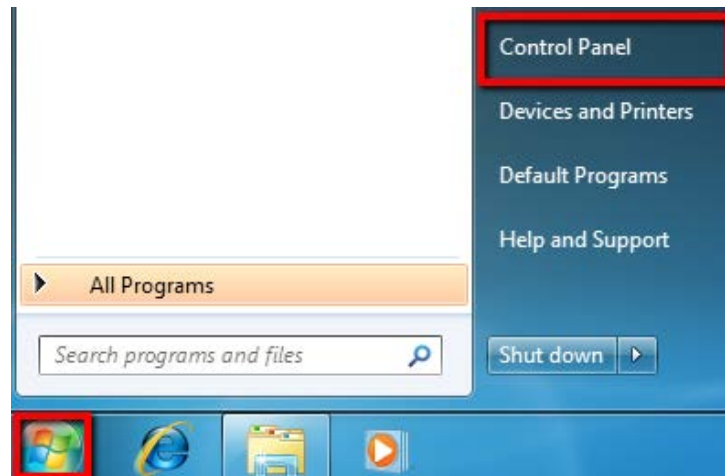
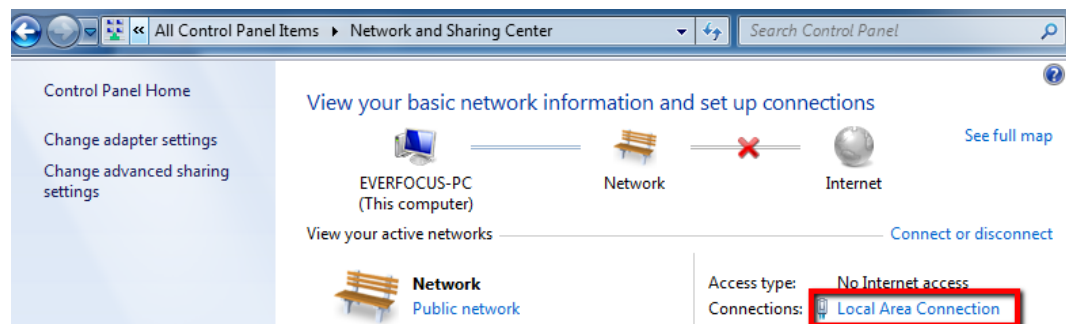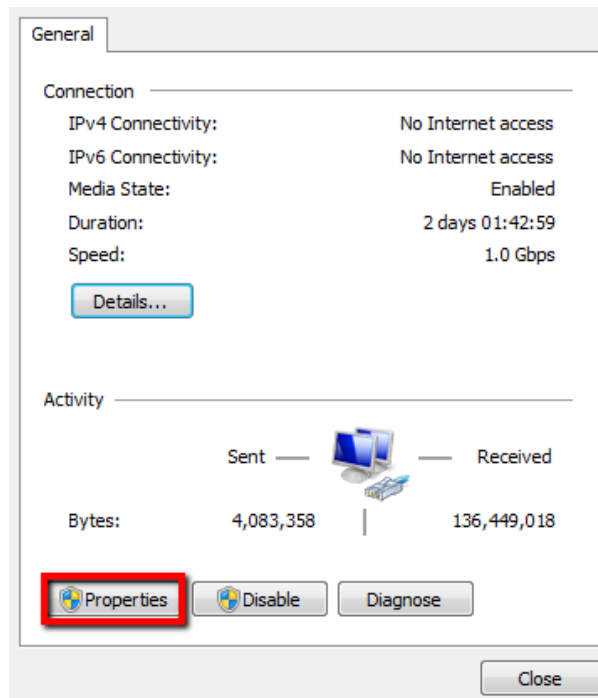◆ Click **Network and Sharing Center**.
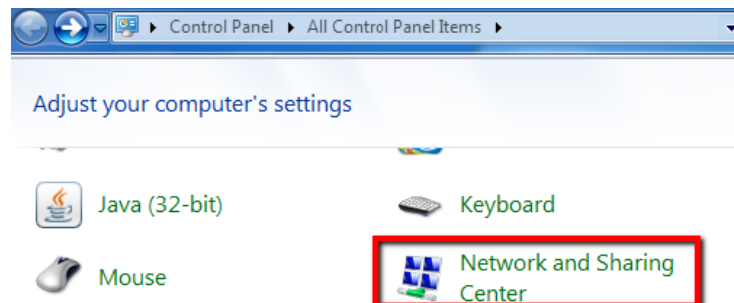
◆ Click **Local Area Connection**.
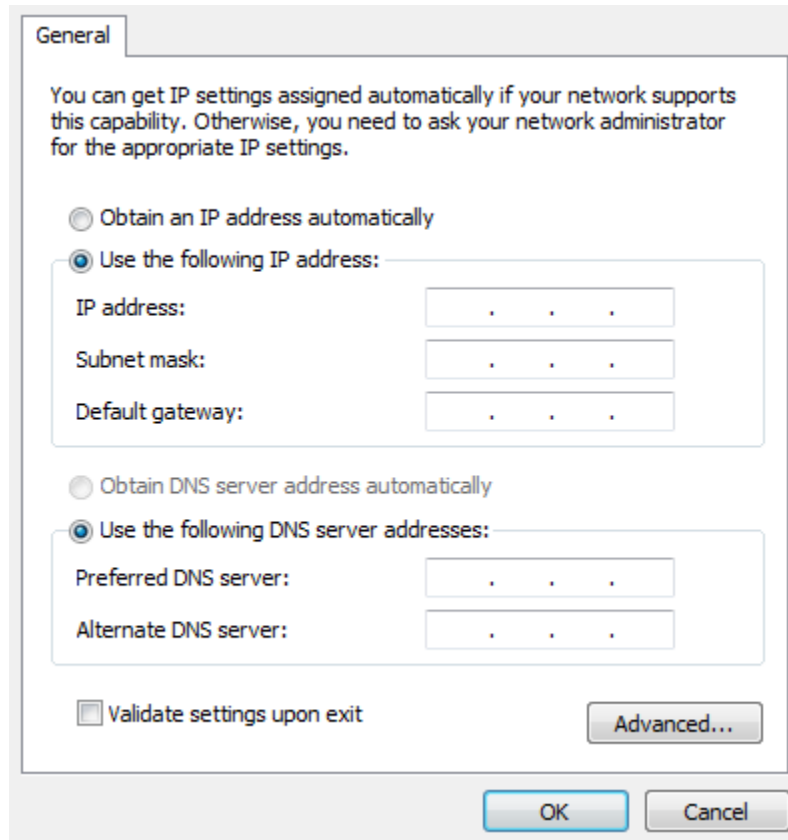
◆ Click **Properties**.

◆ Click on **Internet Protocol Version 4(TCP/IPv4)** and then click **Properties**.
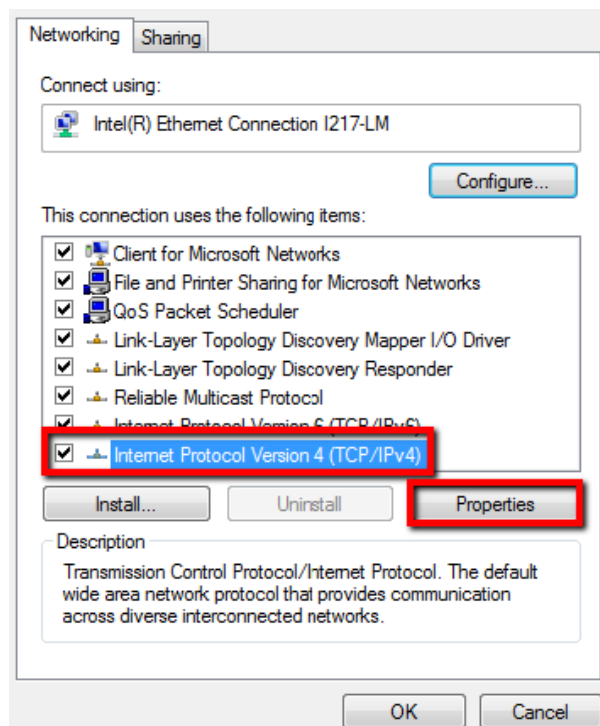
◆ Select **Use the following IP address**. Assign an IP address of 192.168.1.2, a Subnet Mask of 255.255.255.0, and a Default Gateway of 192.168.1.1 and then click **OK**.

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

◉ Use the following IP address:

IP address:　　　　　.　.　.

Subnet mask:　　　　.　.　.

Default gateway:　　.　.　.

○ Obtain DNS server address automatically

◉ Use the following DNS server addresses:

Preferred DNS server:　.　.　.

Alternate DNS server:　.　.　.

☐ Validate settings upon exit

Advanced...

OK　　　Cancel

◆ Restart both of the computer and the IP decoder.

◆ To access the IP decoder from the computer, simply open Internet Explorer and in the address bar type: http://192.168.1.3

2.5 Checking the Dynamic IP Address

You can look up the IP address and access the Web interface of the NVR using the **IP Utility (IPU)** program, which is included in the software CD. The IP Utility can also be downloaded from EverFocus' Website: http://www.everfocus.com.tw/product/ip-utility/

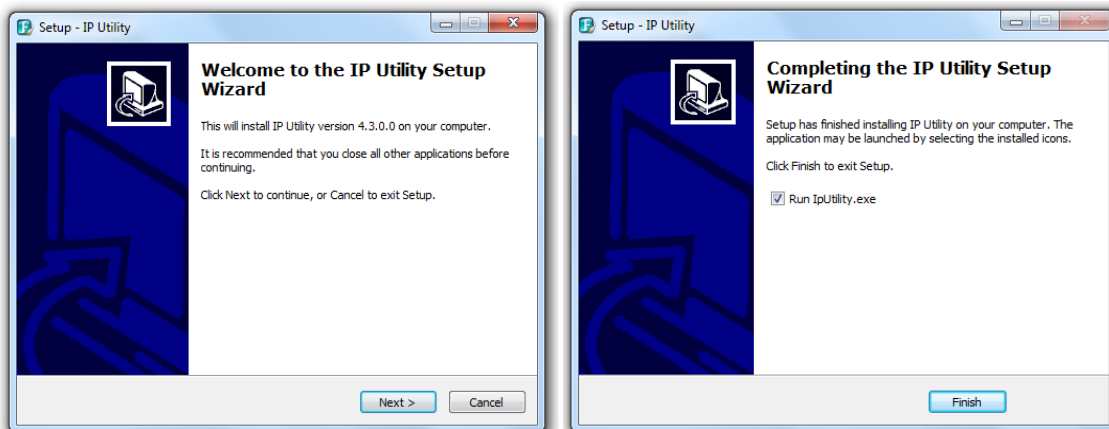Please connect the NVR on the same LAN of your computer.

1. Save **IP Utility Setup .exe** in your computer. Double click the .exe file and follow the on-screen instructions to install the IP Utility.

2. Click the **Finish** button, the IP Utility will be automatically launched to search the IP devices connected on the same LAN.
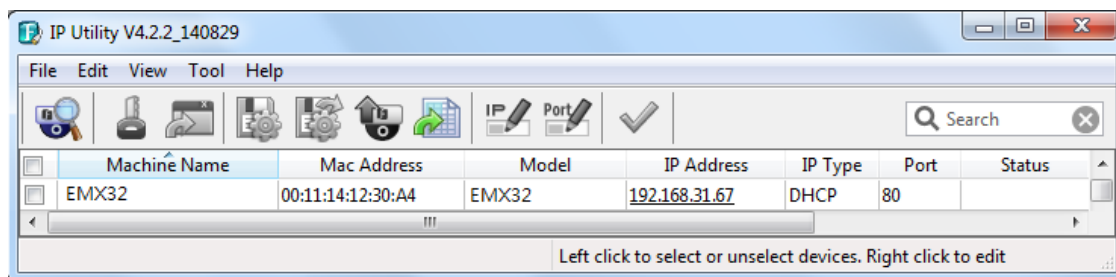
3. To access the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the user ID is **admin** and the password is **11111111**
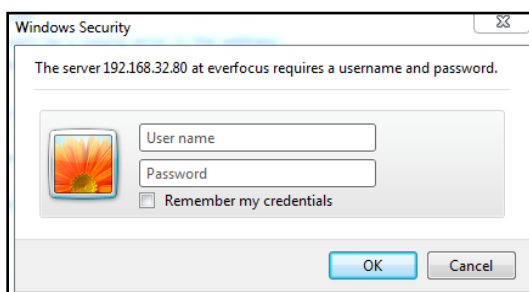
4. If you log in for the first time, follow the instruction steps on the interface to update the latest Plugin version (ePlayer). After reloading the webpage, the login window pops up again. Type the user ID and password to log in again. By default, the user ID is **admin** and the password is **11111111**
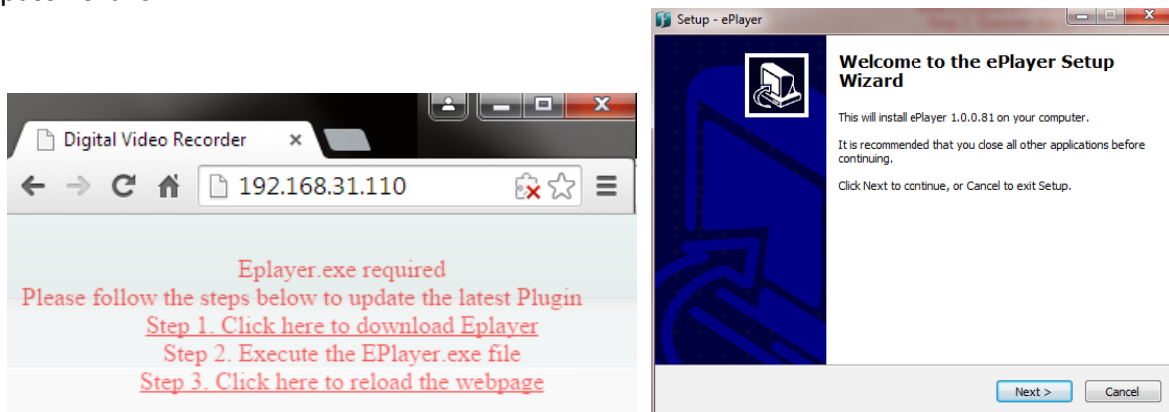
Note for the first time login:

◆ The "Download ePlayer Instruction" page will only be prompted for the first time login in order to update the system to the latest plugin version.

◆ When the Plug-in blocked appears on the browser, select **Always allow plug-ins on xxx**, click **Done** and then reload the webpage.

5. Now you will be able to see the remote live page.

If you encounter the following problem or still can't access the remote Web interface, please see below:

◆ If the **Error** window appears, please be sure to **close ALL the Web browser windows first** and then click **Retry.** When the **Completing the ePlayer Setup Wizard** window shows up, click **Finish**. Then, you can open a new browser again to access the DVR's remote Web interface.

◆ If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.

◆ You may need to turn off the firewall and turn **User Account Control** off if you still can't see the Remote Live View.

To turn **User Account Control** off, on the computer, click **Start > Control Panel > System and Security > Action Center** (click Change User Account Control Settings), the **User Account Control Settings** window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.

Chapter

3

3. General Operation

There are three ways to control the IP decoder: with a **Mouse**, the handheld **IR Remote Controller**, or the optional device **EKB500 Keyboard**. For details on the IR remote control, please refer to *Appendix C: IR Remote Control*. This chapter will discuss the basic operations using the mouse.

3.1 Login

In order to access IP decoder, you may be prompted to log in for authority identification. To log in, follow the steps below.

1. Right-click on the screen, the Login window appears.
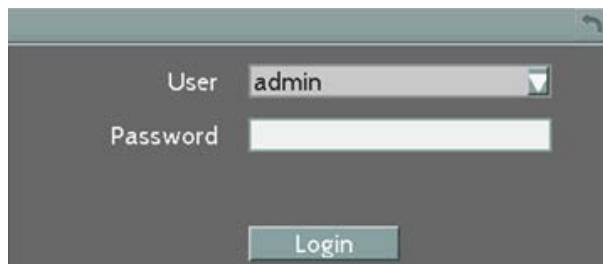
2. Select a user name from the drop-down list. Click the Password field to bring up the on-screen keyboard. Click the buttons and then click ⏎ to confirm the User Name / Password.
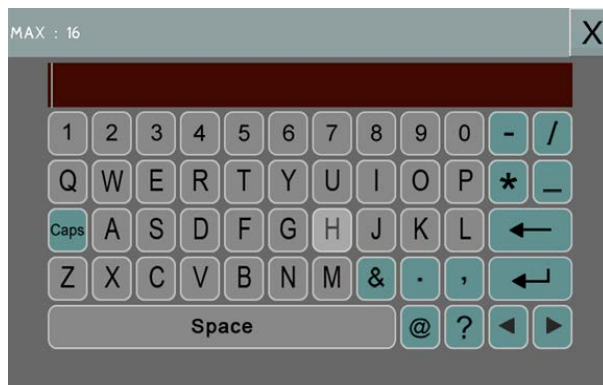
3. The default user name and password are:

User: admin

Password: 11111111

> **Note:** For details on setting up multiple user accounts, please refer to *5.5.3 User Management*.

---

4. Click **Login** to log in the IP decoder.

3.2   Camera Selection

You can control each camera individually by selecting that camera. To select a camera, follow the instructions below:

1. Click a camera on the screen, and the selected camera will be highlighted with a red frame.

2. All cameras will be selected when you scrolling the mouse up / down between the first and the last channel.

3. Double clicking on a channel screen will display full screen for this channel.

3.3   Opening OSD Root Menu

1. Right-click the mouse, the OSD Root Menu appears.

2. Click on any icon to enter the setup menus.

3. Click the [icon] button on the top-right corner or right-click to close the OSD Root Menu.

3.4 Field Input Option

You may found the following fields in the Configuration menu. Follow the instructions below to configure the settings.

Text Box: Click on the box and an on-screen keyboard will appear.

Title   IP Camera01

On-Screen Keyboard: Click on a button to input that character. The buttons on the right and bottom have the following functions:
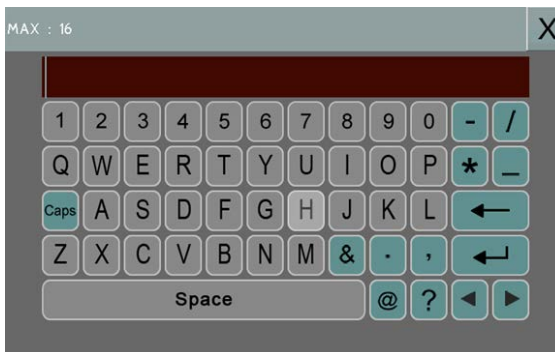
Caps	Switch to capital letters
←	Delete the letter backwards
↵	Confirm the selection
◄	Move to left
►	Move to right
Space	Enter a space

Drop-Down Box: Click on the down arrow to see all selections, then directly click on an option to select it.

Resolution   1920x1080 ▼

Check Box: Click on the box to enable it (checked) or disable it (unchecked).

Enable ☑

Button: Click the button to execute the function.

Save
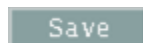
Bar: Slide the bar to the left or right for adjusting the set point.

Brightness: 50
50

4. OSD Root Menu
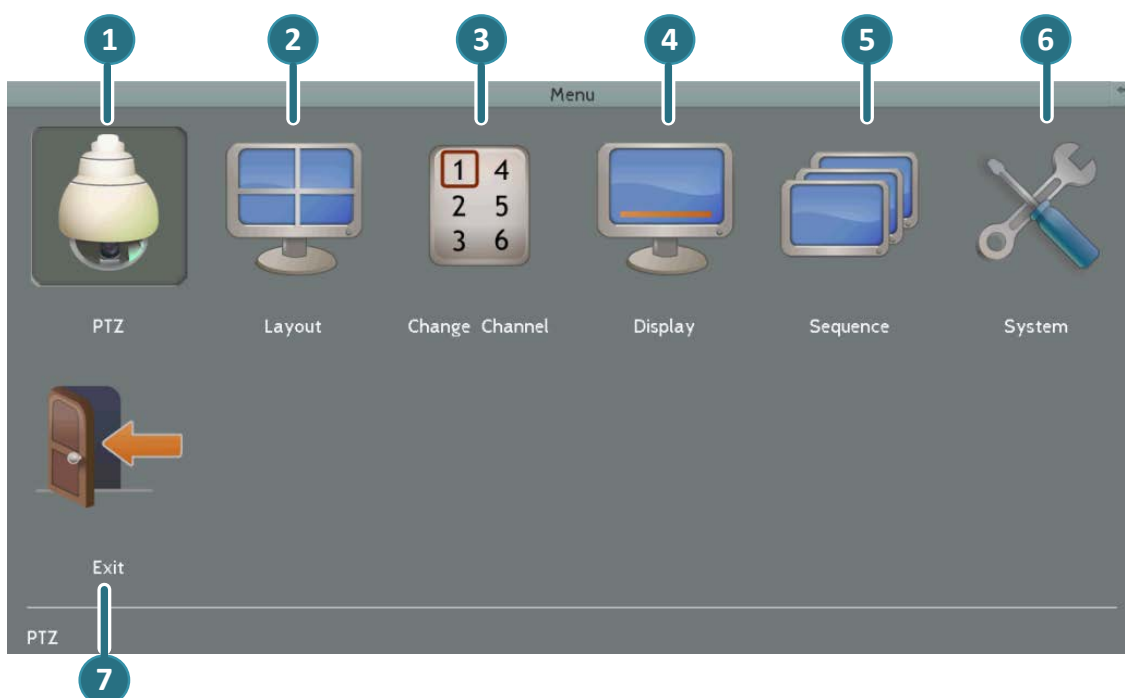
No	Name	Description
1	PTZ	Click to display the PTZ Control Panel for controlling the connected PTZ cameras. For details, please refer to *4.1 PTZ*.
2	Layout	Click to display the Layout Bar as shown below. Select a layout type for the live view display on the Main Monitor. For details, please refer to *4.2 Layout Switching*.

3	Channel	Click to display the Channel Changing Bar as show below. To switch the selected camera to a specific channel, please refer to *4.3 Channel Switching*. Change Channel 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
4	Display	Click to display system information icons or status icons on the live view screen. For details, please refer to *4.4 Display*.
5	Sequence	Click to enter the auto sequential switching mode. Click again to disable. For setting up the sequencing order, please refer to *5.3.2 Monitor Sequence*
6	Configuration	Click to enter the Configuration menu. Please refer to *5. Configuration*.
7	Logout	Click to bring up the Logout Confirmation window and then click Yes to log out the system (see *4.6 Logout*). To log in, please refer to *3.1 Login*.

9. To delete a Preset Position (if supported by the camera):

    a. Click the **Preset** button.

    b. Click the desired Preset number.

    c. Click the **Delete** button.

10. To operate the Auto Pan function, click the **Auto Pan** button.

11. To operate the Pattern function, click the **Pattern** button. The Pattern is the "0" Tour in EverFocus and Pelco PTZ cameras.

12. To operate the Tour function:

    a. Click the **Tour** button.

    b. Click the desired Tour number.

    c. Click the **Go** button.

13. To remove a pre-configured Tour (if supported by the camera):

    a. Click the **Tour** button.

    b. Click the desired Tour number.

    c. Click the **Delete** button.

14. To start the auto-tracking function, click the **Track** button.

15. To start tracking a selected object on the screen, click the **Object** button. When the object selection box displays on the screen, click to select an object to start auto tracking. Once the PTZ camera loses track of the object, the camera will return to the auto tracking start point. Please select forward position in the object movement path to get better tracking result.

16. To adjust PTZ operation speed, select a speed from the Speed drop-down list.

Click **C** to clear the entered number in the Number Box.

Click   at the top-right corner to hide the PTZ Control Panel (see *4.1.1 Express Control of PTZ*). To display the PTZ Control Panel, right-click on the screen.

Click **Logout** to close the PTZ Control Panel and exit the PTZ mode.

> **Note:** Before start using the Auto Pan, Pattern, Tour, and Tracking functions, you have to configure the related settings for the connected PTZ cameras. Please refer to *5.1 Camera* or the User's Manual of your PTZ cameras.

4.1.1 Express Control of PTZ

If the PTZ Control Panel has first been opened and then hidden, the mouse can be used to control basic PTZ functions. Move your mouse cursor on the screen, the mouse cursor will turn into a control icon (direction, focus or zoom) in different areas of the screen. You can control PTZ direction, focus and zoom by clicking directly on the screen.
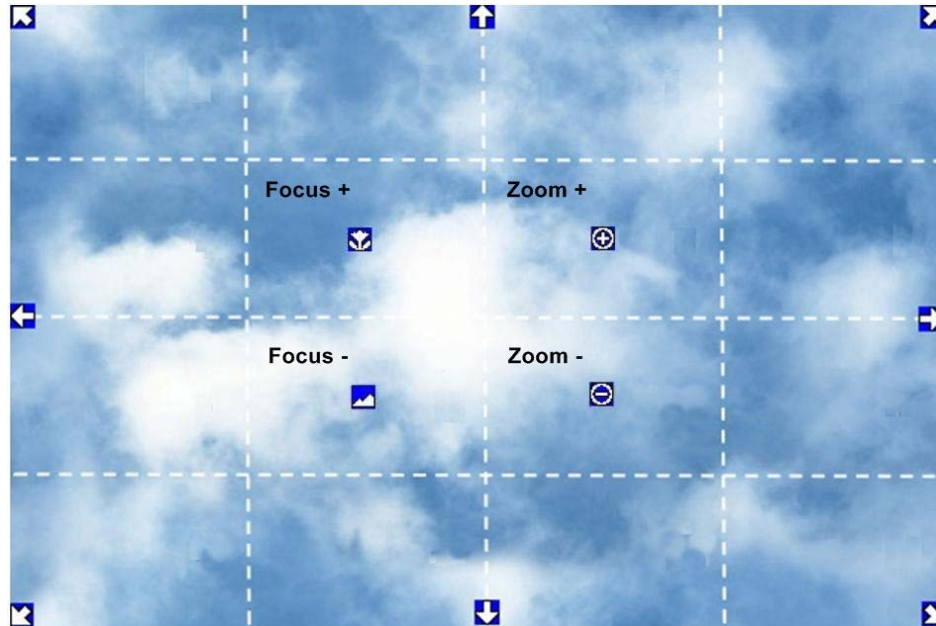
Direction Controls: When your mouse cursor turns into a direction icon, click on the screen will force the camera to turn in that direction.

Focus Controls: When your mouse cursor turns into [icon], click on the screen will focus closer the image. When your mouse cursor turns into [icon], click on the screen will focus farther the image.

Zoom Controls: When your mouse cursor turns into [icon], click on the screen will zoom in the image. When your mouse cursor turns into [icon], click on the screen will zoom out the image.

4.2   Layout Switching

The IP decoder has 7 screen division types available. The seven layouts are shown as below:

To change layout, follow the steps below:

1.   Right-click to bring up the OSD Root Menu and click the Layout icon.
2.   Click on the desired layout.

4.3   Channel Switching

You can switch the selected camera to a specific channel. Follow the steps below:

1.   On the live view screen, select a camera, the selected camera will be highlighted with a red frame.
2.   Right-click to display the OSD Root Menu.
3.   Click the **Channel** icon , the Channel Bar appears.

4.   Select a channel, the selected camera will be switched to that channel.

4.4   Display

You can display system and camera status on the live view screen. Follow the steps below:

1.   Click the Display button [icon] on the OSD Root Menu or press the Display button on the
     front panel to display the system and camera status. You can continue click on the button
     to switch among the display modes. There are four modes provided: (1) Display both the
     camera and system status icons. (2) Display only the camera status icons. (3) Display only
     the system status icons. (4) Hide both the camera and system status icons.

2.   The following icons will be displayed at the top-left side of each camera stream to show
     each camera's status.

     [icon]   [icon]   [icon]
     Alarm   Connection loss   Uninstall

3.   The following icons will be displayed at the bottom of the monitor to show the system
     status.

     [icon]   [icon]   [icon]   [icon]   [icon]
     Alarm   Connection loss   No network   Main   Sequence
                                              LAN

4.5   Sequence

The sequence function is used to display each channel in sequence mode. To enable this
function:

Click the Sequence button [icon] to enter the sequential switching mode. The IP decoder
will display one channel at a time in full screen. The channels will be displayed in the
sequence and for the amount of time as configured in the System > Display Setting > Monitor
Sequence submenu. The default setting is channels 1~16 with a dwell time of 3 seconds
each – repeated. Please refer to *5.3.2 Monitor Sequence* for detailed information.

![EverFocus logo]

4.6 Logout

You can log out the IP decoder by clicking the **Exit** icon ![icon] on the OSD Root Menu to bring up the Logout Confirmation window as below. Press "Yes" when you are ready to logout of the system. You will need to login again before accessing the OSD Root Menu.
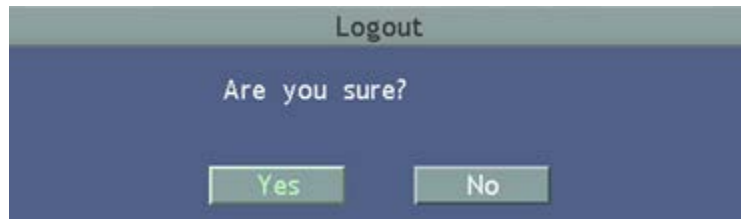
If you do not need the Login / Logout step before entering the Root Menu, please uncheck the **Login** box in the User Management setting page. For more details, please refer to *5.5.3 User Management*.

EverFocus
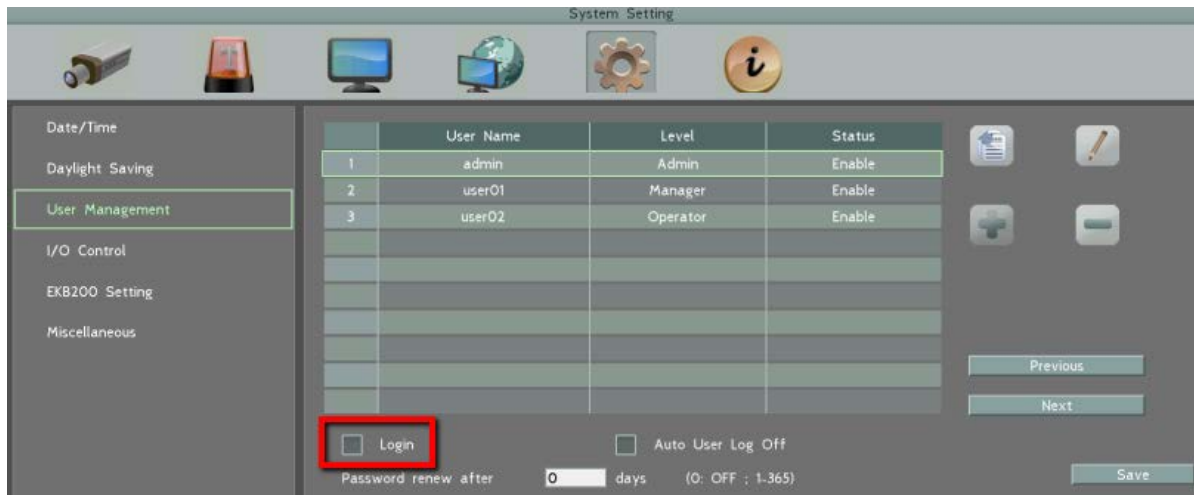
5. Configuration

The EMX32 can be configured through a series of menus on screen by using a **Mouse**, the supplied **IR Remote Control**, or the optional device **EKB500 keyboard**. The following operations are examples of using a Mouse. This chapter describes the functions and options of the Configuration Setting in the on-screen display (OSD) menus. Right-click the mouse, the OSD

Root Menu appears. Click the **Configuration** button   , the following Configuration Menu appears.

Ch	Title	Address	Port	FPS	Mbps	Connect
1	IPCamera01	192.168.31.215	80	30	3.0	Connect
2	IPCamera02	192.168.31.218	80	15	2.0	Connect
3	IPCamera03	192.168.31.90	80	30	3.9	Connect
4	IPCamera04	192.168.31.210	80	30	0.0	Disconnect
5	IPCamera05	192.168.31.201	80	15	9.6	Connect
6	IPCamera06	192.168.0.99	80	30	0.0	Disconnect
7	IPCamera07	192.168.31.80	80	30	4.1	Connect
8	IPCamera08	192.168.31.217	80	15	4.3	Connect

Device

Camera Status
Auto Search
Basic
Advanced
PTZ
Tracking
Pattern Tour
Adjust
eZ Hopper

Previous   Next   1/2

List of Configuration Options:

Please find the topic of interest by referring to the section prefixed to each option.

5.1 Camera	5.1.1 Camera Status 5.1.2 Auto Search 5.1.3 Basic 5.1.4 Advanced 5.1.5 PTZ 5.1.6 Tracking 5.1.7 Pattern Tour 5.1.8 Adjust 5.1.9 *eZ* Hopper	
5.2 Event	5.2.1 Alarm	
5.3 Display Setting	5.3.1 Monitor OSD 5.3.2 Monitor Sequence 5.3.3 Layout Setting	
5.4 Network	5.4.1 LAN & WAN 5.4.2 DDNS	
5.5 System Setting	6.5.1 Date / Time 6.5.2 Daylight Saving Time 6.5.3 User Management 6.5.4 I/O Control 6.5.5 EKB200 Setting 6.5.6 Miscellaneous	
5.6 System Information	5.6.1 System	

5.1   Camera

You can view the camera status, search the connected IP cameras and configure the Basic, Advanced, PTZ, Tracking, Pattern Tour and Adjust on the following setting pages.

5.1.1   Camera Status

This page displays added IP cameras' status.

Channel: Displays the channel number.

Title: Shows the name of the connected IP camera.

Address: Shows the IP address of the connected IP cameras.

Port: Shows the port number of the connected IP cameras

FPS (Frame Rate per Second): Shows the current frame rate of the connected IP camera.

Mbps: Shows the current Bit Rate of the connected IP camera.

Connect: Shows the connection status.

Previous: Click to turn to the previous page.

Next: Click to turn to the next page.

5.1.2 Auto Search

The function allows users to automatically search and add IP cameras on the same network.

To automatically search and then add IP cameras to the system:

1. Once entering this page, the system will automatically search for the IP cameras connected on the same network and then display the searched camera information on the Camera List. You can also click the **Search** button to search again.
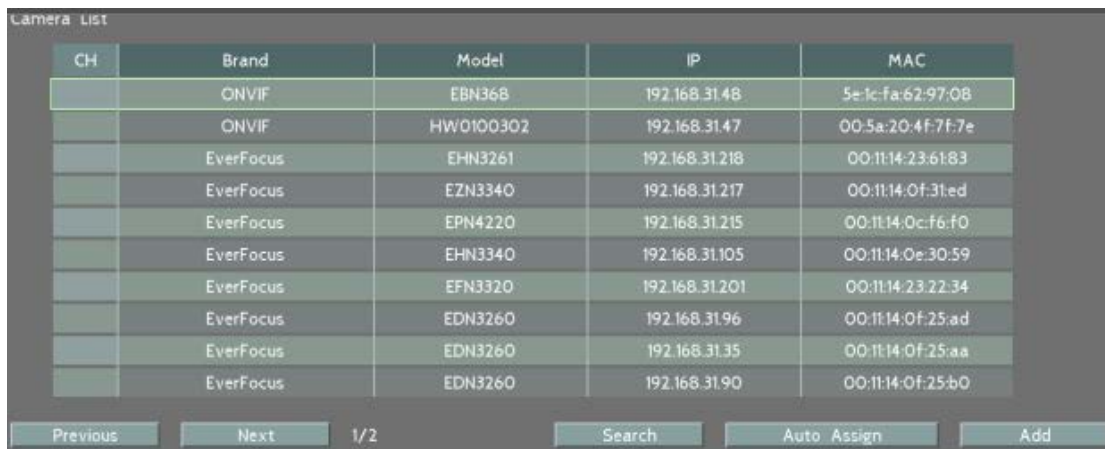
2. To add IP cameras to the system, you can A) add 16 IP cameras automatically assigned by the system to each channels at once or B) add IP cameras one by one.

   A) To add 16 IP cameras automatically, click **Auto Assign**, the system will automatically add the first sixteen cameras shows on the list to channel 1~16. Click **Save** to save the setting.

   B) To add IP cameras one by one:

      a. On the Camera List, select a desired IP camera by clicking on it and then click the **Add** button.

b. To assign a channel to this camera, select a desired channel by clicking on it and then click the **Add** button.

c. After clicking the **Add** button, the IP camera will be listed on the Camera List.
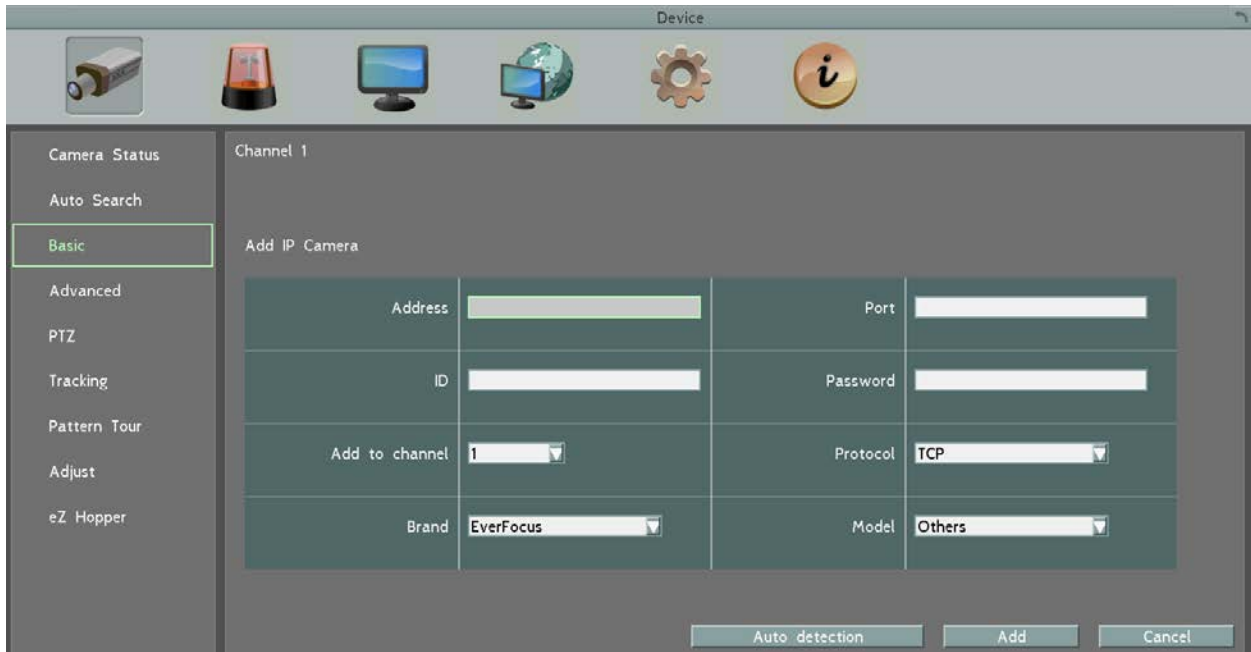
d. Click **Save** to save the settings.

5.1.3 Basic

The function allows users to manually add IP cameras.

Address: Type the IP address of the camera.

Port: The default port is 80.

ID: Enter the account username of the camera.

Password: Enter the password of the camera.

Add to Channel: Select a channel number to add this camera to that channel.

Protocol: The data transmission protocol.

Brand: The brand of the camera.

Model: The model type of the camera.

Auto Detection: After entering the IP address, port, ID, password and selecting a channel, click this button to auto detect the protocol, brand and model of the camera.

Add: Click to add the camera, and bring up the detailed setting page (please refer to the content on the next page).

Cancel: Click to cancel the changes and return to the previous settings.

After clicking the **Add** button, the following Main/Sub Stream parameter setup page appears. To successfully add the IP camera, after configure the settings, you need to click the **Save** button on this page.

【**Main / Sub Stream Parameter**】 You can separately configure the settings for the Main / Sub Streams.

Camera Channel: Show the camera channel number.

Normal Frame Rate: Select a frame rate per second (FPS) for continuous recording. The frame rate is limited by the maximum total recording capacity of the IP decoder as allocated across all the installed cameras.

Event Frame Rate: Select a frame rate per second (FPS) for continuous recording. The frame rate is limited by the maximum total recording capacity of the IP decoder as allocated across all the installed cameras.

Resolution: Select a desired recording resolution.

Quality: Select an image quality of the camera.

Constant Bit Rate: set up the current Bit Rate of the connected IP camera.

Record Audio: Select to enable or disable the audio recording function.

Save: Click to add the camera and save the current settings.

Cancel: Click to cancel the settings and return to the previous setting page.

5.1.4 Advanced

The Advanced Setting is for users to view, add, delete or modify the cameras in the Camera List.

Add: Click the [+] button to add camera manually. To add the cameras, please see *5.1.3 Basic*.

Delete: Click [-] button to delete the camera.

Modify: Click [M] button to modify the settings of the added camera. Please refer to *5.1.3 Basic*.

5.1.5　PTZ

You can set up the Preset and Auto Pan settings in this page.

【**Camera**】**:** Select a PTZ camera.

【**Speed**】**:** Select a PTZ speed from the Speed drop-down list for the camera to move to the directions when you use the direction buttons during the configuration period.

【**PTZ Control Pad**】**:**
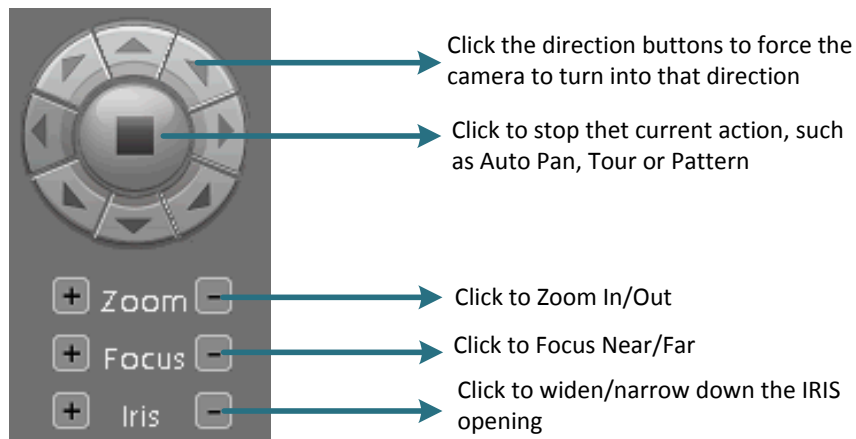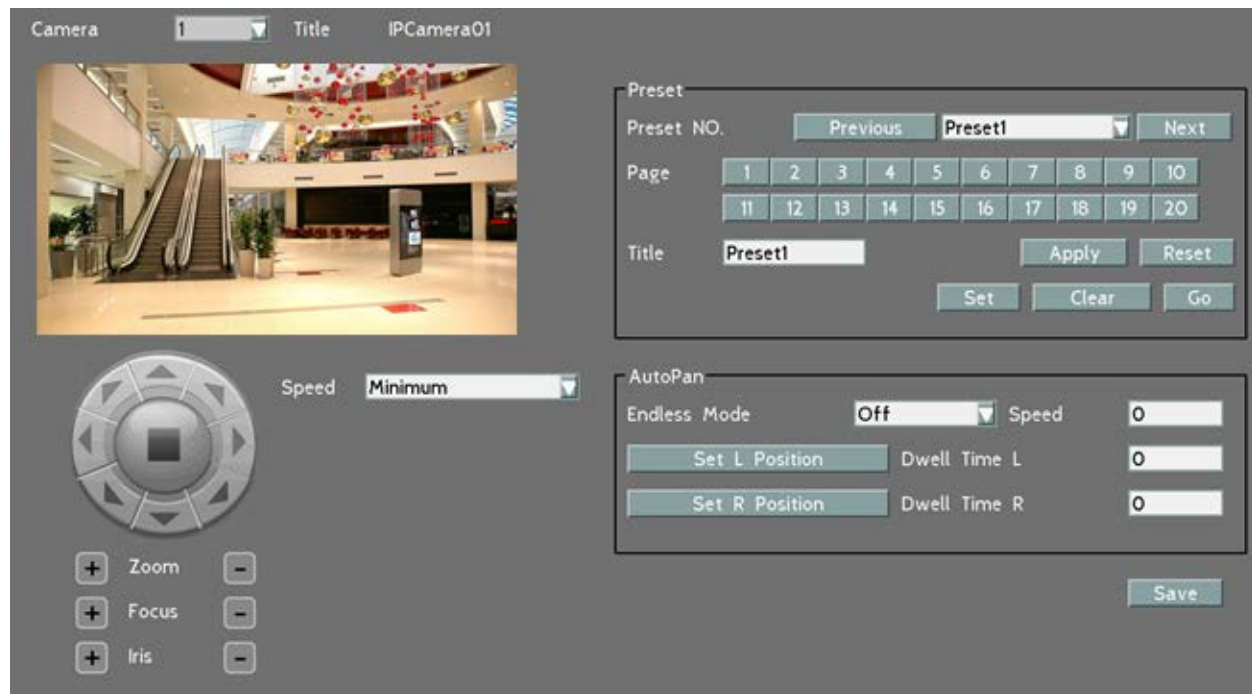
Click the direction buttons to force the camera to turn into that direction

Click to stop thet current action, such as Auto Pan, Tour or Pattern

Click to Zoom In/Out

Click to Focus Near/Far

Click to widen/narrow down the IRIS opening

Preset: You can configure up to 192 preset positions in this field.

To set up a Preset Positions:

1. Adjust the camera view to a desired position using the direction button. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary.

2. To set up the current camera view as a preset position, select a preset number from the **Preset No** drop-down list for the current camera view.

3. Optionally set up a title for this preset position in the **Title** field .Click **Apply** to save the title name or click **Reset** to reset the current changes.

4. Click **Set** to save the current position as the Preset Number you have selected.

5. Follow Step 1 to 4 to set up another preset position. You can click the **Next** button to go to the next page and then click the Preset No drop-down list to select a number. Or click on the number in the Page field to select a preset number.

To activate the Preset function on the PTZ Live View window, click the PTZ [icon] icon on the OSD Root Menu. Click the **Preset** button, click on the numeric buttons to select a Preset number and then click the **Go** button. The selected Preset position should be displayed on the camera view. Please refer to _4.1 PTZ_ for detailed instructions.

Auto Pan: You can only configure one Auto Pan sequence. The configured Auto Pan (A to B Pan) sequence will always be numbered as "1". The number "2" will always be an endless pan around the given (not preconfigured) X/Y tilt axis.

Endless Mode: The Endless Mode is always numbered as "99" in the PRESET function. If you select **On**, the Preset number "99" will be the 360° endless pan function; if you select **Off,** the Preset number "99" will be the preconfigured A to B Pan function. To use the function, go to PTZ live view page first. Click the **Preset** button and click the Preset number "99". Finally, click **Go** to activate the Endless Mode.

To set up an Auto Pan Sequence:

1. Using the direction buttons to adjust the camera view to a desired position where you want to set up the position as the Left Position. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary.
2. Click the **Set L Position** button to save the current position as the Left Position.
3. Follow Step 1 to set up the Right Position and then click the **Set R Position** to save the current position as the Right Position.
4. Enter a dwell time (1~99 seconds) for the Left and Right positions (the time that the camera will pause at each position).
5. Enter a speed (1~255) at which the camera will move during the Auto Pan sequence.
6. Click **Save** to save the settings.

To activate the configured Auto Pan on the PTZ Live View window, click the PTZ [icon] icon on the Menu Bar. Click the **Auto Pan** button, click "1" on the numeric buttons and then click the **Go** button. The camera will continuously move to the left and right positions which you have configured. Click "2" on the numeric buttons and then click the **Go** button will force the camera to pan 360° endlessly. To stop the Auto Pan function, click the **Stop** button [icon] on the PTZ Control panel.

5.1.6   Tracking

To set up the Auto Tracking function:

1. **Auto Tracking Start Point:** Check the box to enable a camera position to which the camera will return to after a tracking operation. Use the direction buttons to adjust the camera view to a desired position where you want to set up the position as the Auto Tracking Start Point. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary. Click **Set** to set the position as the Auto Tracking Start Point.

   > **Note:** If the user did not set up a start point or the start point is disabled, the camera will go back to track/monitor the initial point instead of the Auto Tracking Start Point, once the tracked object exits in the camera's field of view.

2. **Pan/Tilt Limit:** Check the box if you want to create a zone where the camera will track the movement inside the zone only. Before clicking the Upper/Lower/Right/Left buttons, use the direction buttons to adjust the camera view to a desired position where you want the camera to track the movement in that zone. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary. Click the Upper/Lower/Right/Left buttons to set up the Pan/Tilt limits (Left and Right for the Pan limit; Upper and Lower for the Tilt limit).

> **Note:** Please note that if enabling the **Pan/Tilt Limits** function, the position of the Start Point should be within the range of the **Pan/Tilt Limits**, or there will be a pop-up message showing "Setting error: Start Point is not inside Pan/Tilt Limits".

- **Zoom control on tracking:**
  Keep current zoom ratio: the current zoom ratio will stay fixed during the tracking process.
  Multi-step zoom function: the zoom ratio will change according to the distance of the object against the camera. When the object is moving further away, the camera will keep zooming in to track; on the other hand, when moving closer, the camera will zoom out to check whether it should track the object or not.
- **Tracking Duration:** User can set the tracking time duration of the camera (0~600 seconds). When the Tracking Duration is up, the camera will return to the Start Point. The function is used to prevent the camera from tracking an object which is intentionally set to lure the camera away.
- **When the object is lost on the screen:** User can select a tracking mode when the object is lost on the screen. The options are:
  Keep tracking: The camera will stop at the current position and wait for another moving object in the camera's field of view. Then, the camera will track the new object without changing zoom ratio.
  Zoom out and look for a new object: The camera will zoom out at the current position immediately for expanded the field of view and restart tracking a new moving object appearing in the camera's field of view.
  Stop tracking and zoom out: The camera will stop auto tracking and stay at the current position. Then, the camera will zoom out for expanded the field of view.
- **In sec and Back to Start Point:** Set up a period of time for the camera to stay at the current position before returning to the Start Point (0 is returning to Start Point without any waiting).
- **Resume from manual stop:** The function is used to set up the Auto Tracking restart time (0~600 seconds). If user manually operates the PTZ function during auto tracking process, the auto tracking function will stop. When the manual operation ceases, the camera will resume to "Auto Tracking Start Point" after a given period of time. Setting of value 0 indicates do not restart.

> **Note:** In the on-going auto tracking process after object is identified, the PTZ function keeps the moving object in the center of the screen. But the PTZ function may stop if the object moves too slow and stays in center of the screen too long. In case like this the auto tracking may incorrectly assume the object is lost and ends the tracking process.

5.1.7   Pattern Tour

Pattern: You are given 90 seconds to move the camera (via the PTZ buttons) to different positions (and different zoom / focus / Iris positions). The camera then saves that sequence under the Pattern No. you've selected. Up to 4 Patterns can be configured.

To set up a Pattern Sequence:

1. Select a pan and tilt speed from the **Speed** drop-down list for the camera to move to the directions when you use the direction buttons during the configuration period.
2. Select a pattern number from the **Pattern No** drop-down list.
3. Click the **Set** button to start the 90-second configuration period. Use the direction / zoom / focus / Iris buttons to move the camera in the desired sequence.
4. Click the **Complete** button again to end the configuration.

Click **Clear** can void the configuration for the entered Pattern No. Click **Go** to view/test the configured Pattern sequence.

To activate the Pattern function on the PTZ Live View window, click the PTZ icon ![icon] on the Menu Bar. Click the **Pattern** button, click on the numeric buttons to select a Pattern number and then click the **Go** button. The camera will move to the positions in the Pattern sequence you have configured. To stop the Pattern function, click the **Stop** button ![icon] on the PTZ Control panel. Please refer to _4.1 PTZ_ for detailed instructions.

Tour: You can combine up to 16 preconfigured camera positions and patterns into one long sequence. Up to 16 Tour sequences can be set up.

To set up a Pattern Sequence:

1. Select a number from the **Tour No** drop-down list.
2. To set up the first position for Tour No.1, select **OFF**, **Preset** or **Pattern** in the Mode field.

3. Enter a Preset No. or Pattern No. in the **Value** field.
4. Enter a dwell time (1~99 seconds) in the **Dwell Tour** field that the Tour will pause at a Preset position or after a Pattern sequence.
5. Enter a speed (1~255) at which the camera will move to the Preset position or first point of the Pattern sequence.
6. Follow Step 3 to 5 to configure up to 16 positions for Tour No.1.
7. To configure another Tour sequences, select a number from the **Tour No** drop-down list and follow Step 3 to 6 to configure up to 16 positions for the selected Tour number.
8. Click **Apply** to apply the settings. Click **Clear** to clear the current settings for the selected Tour No.; click **Default** to set the Tour Sequence to Default setting; click **Go** to view/test the configured Tour sequence.

To activate the Tour function on the PTZ Live View window, click the PTZ icon ![icon] on the Menu Bar. Click the **Tour** button, click on the numeric buttons to select a Tour number and then click the **Go** button. The camera will move to the positions in a long sequence you have configured. To stop the Pattern function, click the **Stop** button ![icon] on the PTZ Control panel. Please refer to *4.1 PTZ* for detailed instructions.

EverFocus

5.1.8   Adjust

You can adjust detail camera settings in this page.

Camera: Select a desired camera for adjusting the following settings.

Device Title: Enter a camera title.

Record Dual Stream: Select to enable or disable the dual streams recording function.
Record Mode: Select a recording mode from the drop-down list.

Normal+Event: Set all cameras to the Continuous and Event recording mode.

Event Only: Set all cameras to the Event only recording mode.

Ratio: Select 4:3 or 16:9 display aspect ratio of a camera, and its video will be displayed in 4:3 or 16:9 format on that channel screen. Please refer to *2.2.2 Display Aspect Ratio* for more details.

Connected Channel: Check the box to enable the connection between the camera and the IP decoder. If the box is unchecked, the system will disconnect the camera and stop recording.

Mask Channel: Check the box to mask the camera's live view on the screen, but the recording function is still on.

EverFocus

5.1.9   *eZ* Hopper

You can just use one mouse to control up to 16 DVRs/NVRs/IP decoders in the same LAN network by enabling the *eZ* Hopper function.

> **Note:** Before using this function, you need to set up all the monitors to be the same resolution.

Set up one DVR, NVR or IP decoder to be the **Main Server**, and the rest to be the **Sub Servers**. Then, you just need to connect a mouse to the **Main Server**, and you will be able to move its cursor across all the connected monitors of the **Main** and **Sub Servers** and to control their OSD menus respectively.

Follow the steps below to set up the *eZ* Hopper function:

For the Main Server:
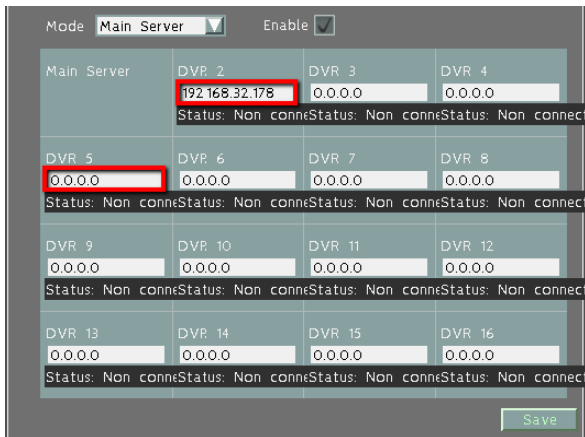
1.   Select **Main Server** in the **Mode** drop-down list, and check the **Enable** box.
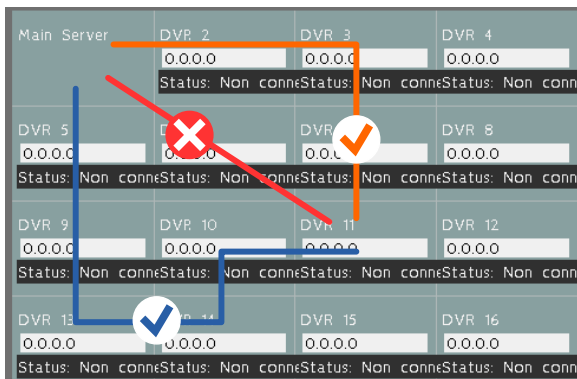
2. The position of each device on the OSD layout represents the physical positions of your monitors which you should arrange and place in the setup environment.
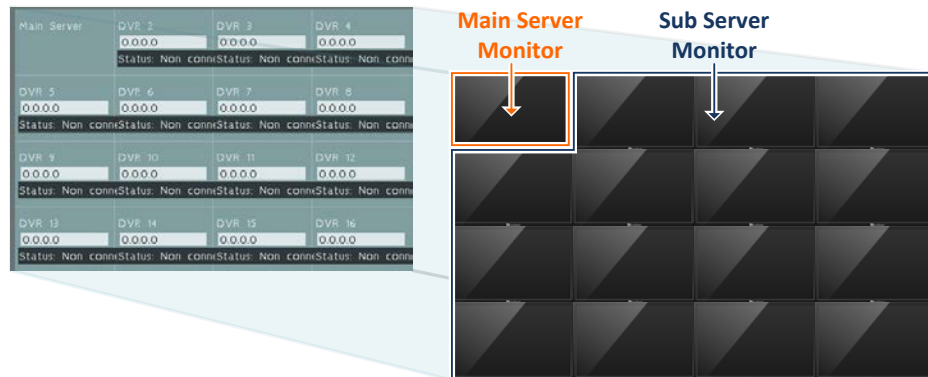
3. Click an IP address field to enter the **IP address** of a Sub Server and the first Sub Server must be adjacent to Main Server on the OSD layout (DVR/NVR 2 or DVR/NVR 5), or it won't work.

4. Set up the rest of the Sub Servers by entering their IP addresses, and please note that the Sub Servers must be adjacent to one another on the layout, or it won't work.

5. Click **Save** to save the setting.

For the Sub Server:

1. Select Sub Server in the **Mode** drop-down list, and check the **Enable** box.

2. Enter the IP address of the Main Server, and click **Save**.

3. When the message pops up as below, the eZ Hopper function is enabled. So, you can now use the mouse connected to the Main Server to control this Sub Server's OSD.
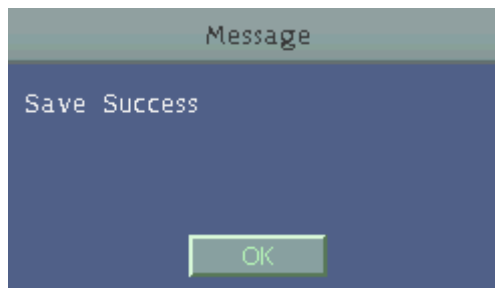
4. Follow the above 3 steps to set up the rest Sub Servers.

5.2 Event

You can configure the I/O Alarm settings in this menu.

5.2.1 Alarm

Alarm: Select an Alarm input number from 1 to 4.

Enable: Check the box to enable the I/O Alarm trigger function for the selected alarm input.

Buzzer: Check the box to enable the buzzer when an alarm event is triggered.

Alarm Output: Select an alarm output number. When an alarm is triggered, the signal will be transmitted through the selected alarm output relay.

Output Type: Select an output type when an alarm is triggered.

Timeout: Select this option and then set up the Timeout Duration in the field below, the alarm output will last for the setup duration time (1 ~ 150 seconds).

Permanent: Alarm will remain active until the user presses the "OK" key on the IR Remote Control or resets the alarm remotely.

Transparent: Alarm output remains as long as the alarm input is active.

Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (1 ~ 150 seconds).

Timeout Duration: This function only appears when you select **Timeout** or **Trans + Timeout** options in the Output Type drop-down list. Select a duration time for the alarm event. The alarm output will last for the setup duration time between 1 and 150 seconds.

Main Monitor: Select **Full Screen** to enable the Alarm Layout Pop-up function (see *5.2.1.1 Alarm Layout Pop-Up*), which is to force the Active Camera associated with the selected alarm

number to display full screen on the monitor. The full screen camera view will last according to the output type selected in the Output Type field. Select **No Change** will disable the Alarm Layout Pop-up function.

Input Type: Select an input type when the selected alarm number is triggered. The options include N.O. and N.C.

Active Camera: This function is for associating an alarm trigger with a specific camera (Alarm Layout Pop-up function – for more details about how to set up the Alarm Layout Pop-up, please refer to *5.2.1.1 Alarm Layout Pop-Up*).

The alarm will be associated with the selected item from Active Camera drop-down list for full screen display, event logging and PTZ actions. The options include 1~16 and D1~D4. The options 1~16 represent the channel number; while the D1~D4 options represent the multi-channel display layout type 1~4. You will have to pre-configure the D1~D4 layout type in advance (refer to *5.3.3 Layout Setting*).

PTZ: If the Active Camera selected above is a PTZ camera, you can further set up the PTZ actions in this field. Once an alarm is triggered, this PTZ camera will do the action as setup here.

Apply To: Click the button to apply the same settings to the desired Alarm inputs.

Save: Click to save the settings.

5.2.1.1 Alarm Layout Pop-Up

The Alarm Layout Pop-Up function is designed to pop-up a live view layout (single channel or multi-channel) in full screen when an alarm is triggered.

For example, if Alarm 1 is setup near Camera 2, you can select "2" from the Active Camera (which means channel 2) drop-down list. When Alarm 1 is triggered, the live view of channel 2 will be pop-up in full screen. If you set up Alarm 2 with D3 (Display Type 3) selected from the Active Camera drop-down list, when Alarm 2 is triggered, the D3 layout will be pop-up in full screen.

To enable the Alarm Layout Pop-Up function, please follow the steps below:

1. On the Event < Alarm page, select an Alarm number from the Alarm drop-down list and then check the **Enable** box to enable the alarm function.

    Set up the **Alarm Output**, **Output Type** and **Timeout Duration** (please refer to *5.2.1 Alarm* for more details). This will decide how long the pop-up layout will be displayed on the window.

2. To enable the Alarm Layout Pop-up function, select **Full Screen** from the Main Monitor drop-down list. (Selecting **No Change** will disable the Alarm Layout Pop-up function).

3. Select a pop-up layout type from the Active Camera drop-down list for the selected alarm number. The options 1~16 represent the channel number (single channel layout); while the D1~D4 options represent the multi-channel display layout (type 1~4). You will have to pre-configure the D1~D4 layout types in advance (refer to *Step 5*).

4. Follow *Step 1-3* to configure all the alarm inputs. Click **Save** to save the settings.

5. To configure multi-channel display layout type 1~4 (D1~D4):

   a. On the Display Setting < Layout Setting page, select a layout type from the Set drop-down list (ex: D1).

   b. Select a layout division for the selected layout type by checking the Division box (4 Divisions / 9 Divisions / 16 Divisions).

   ➢ If 4 Divisions is checked, further select 4 channels from the channel drop-down list to be displayed on the 4-Division layout.

   ➢ If 9 Divisions is checked, further select 9 channels from the channel drop-down list to be displayed on the 9-Division layout.

   ➢ If 16 Divisions is checked, further select 16 channels from the channel drop-down list to be displayed on the 16-Division layout.

   c. Optionally set up the **Layout Switch** function. The Layout Switch is designed for the pop-up layouts to be displayed in sequence when two or more alarms are triggered during the same time period.

   ➢ **Enable:** When two or more alarms are triggered during the same time period, the layouts to the alarms will be displayed in sequence every 3 seconds.

   ➢ **Disable:** Click to disable the Layout Switch function.

   d. Click **Save** to save the settings.

5.2.1.2 Alarm Image Pop-Up

The Alarm Image Pop-Up function is designed to pop-up an image on the local display live view when either one of the alarms is triggered.

When an alarm is triggered (Alarm 1~4), it will pop-up a warning image on the local display. The image has to be prepared in advance and then uploaded to the system.

To enable the Alarm Image Pop-Up function, follow the steps below:

1. On the Display Setting < Monitor OSD page, check the **Alarm Message** box to enable the Alarm Image Pop-Up function.
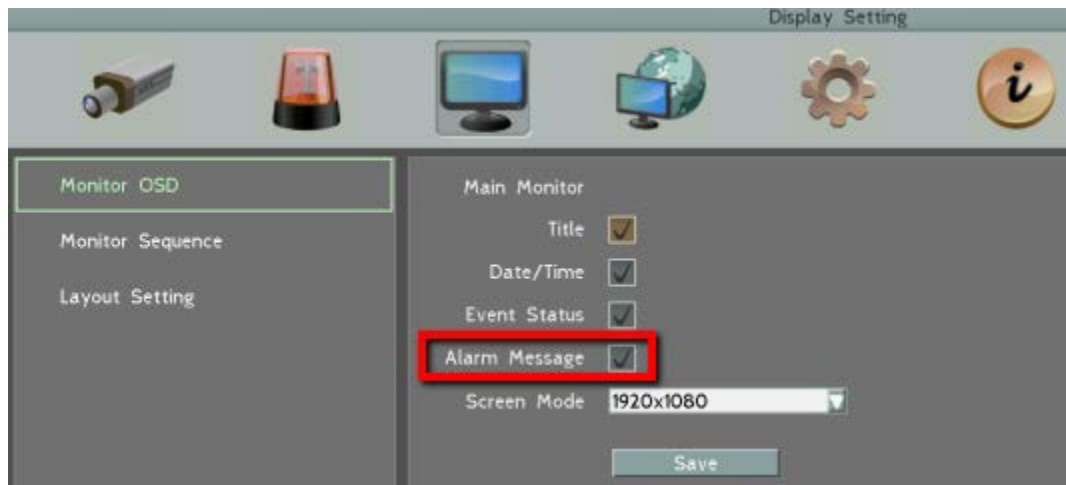
2. Prepare an image in .bmp format (max. size 500kb).

3. Upload the image file via EMX32 Web UI. Go to Event < Alarm page, click **Browse** in the Images Upload field to select an image. Click **Upload** to upload the image. The system will automatically reboot. The Alarm Image Pop-Up function setup is complete.
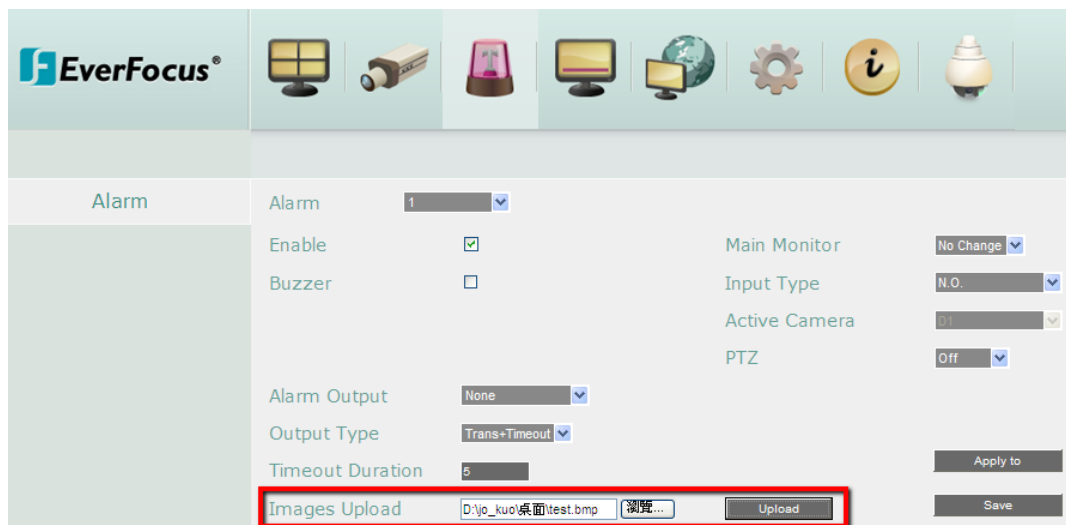
When an alarm is triggered, the uploaded image will be pop-up on the local display.

To close the image, click the **Exit** button on the upper-right corner of the image.
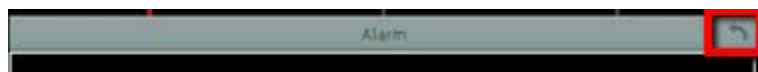
5.3   Display Setting

You can configure the settings for displaying the camera / IP decoder information on the live view image. You can also set up the sequencing order for the Main monitor.

5.3.1   Monitor OSD
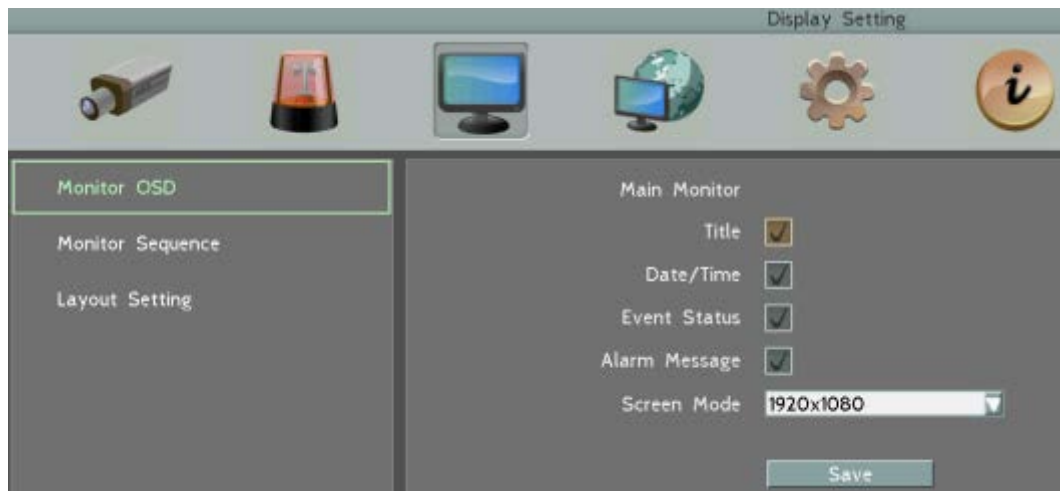
Title: Check the box to display camera titles.

Date/Time: Check the box to display current date/time.

Event Status: Check the box to display event status.

Alarm Message: Check the box to enable the Alarm Image Pop-Up function (*see 5.2.1.2 Alarm Image Pop-Up*).

Screen Mode: Select the suitable screen mode. Selections are: 1920x1080; 1280x1024; 1024x768; 800x600. Please see to *2.2.2 Display Aspect Ratio* for more details.

Save: Click to save the settings.

5.3.2   Monitor Sequence

You can configure up to 20 steps of the sequencing order for the Main monitor. The Sequence will repeat continuously from step 1 to step 20 until interrupted.

Step: The sequencing order.

Camera: Select a camera for the specific step.

Dwell (sec): Sets up the dwell time between 0 and 60 seconds for each step.

Save: Click to save the settings.

5.3.3 Layout Setting

This page is for setting up the Alarm Layout types for the Alarm Layout Pop-Up function (see *5.2.1.1 Alarm Layout Pop-Up*). You can configure up to 4 multi-channel layout (D1~D4) with 4, 9 or 16 divisions.

Set: Select a layout type from the drop-down list (D1~D4).

4/9/16 Divisions: Select a layout division for the selected layout type by checking the Division box.

➢ If 4 Divisions is checked, further select 4 channels from the channel drop-down list to be displayed on the 4-Division layout.

➢ If 9 Divisions is checked, further select 9 channels from the channel drop-down list to be displayed on the 9-Division layout.

➢ If 16 Divisions is checked, further select 16 channels from the channel drop-down list to be displayed on the 16-Division layout.

Layout Switch: Optionally set up the **Layout Switch** function. The Layout Switch is designed for the pop-up layouts to be displayed in sequence when two or more alarms are triggered during the same time period.

➢ **Enable:** When two or more alarms are triggered during the same time period, the layouts to the alarms will be displayed in sequence every 3 seconds.

➢ **Disable:** Click to disable the Layout Switch function.

Save: Click to save the settings.

5.4 Network

The IP decoder allows you to use a Web browser to remotely view and manage the system. You can also receive live video streaming from the IP decoder using your smartphone.

> **Note:** Since every Network Configuration is different, please check with your Network Administrator or ISP to see if your IP decoder should use specific IP addresses and/or port numbers.

5.4.1 LAN & WAN

According to your network environment, select **Static IP, DHCP** or **PPPoE** to configure an IP address to the IP decoder.

Network Type: Three options are selectable: **Static IP**, **DHCP** and **PPPoE**.

Static IP: User can set a fixed IP for network connection.

DHCP: DHCP server in LAN will automatically assign an IP configuration for the network connection.

PPPoE: For direct connection to the DSL only. Verify with your ISP if they use PPPoE. (The option is only for WLAN (WAN) port)

IP address: Displays the IP decoder's current IP Address. A static IP address must be set manually. If DHCP is selected, this value will be assigned automatically.

Subnet Mask: Displays the subnet mask for your network so the IP decoder will be recognized within the network. If DHCP is selected, this value will be assigned automatically.

Gateway: Displays the gateway on your network for the IP decoder to use when communicating with any devices not on the local network. If DHCP is selected, this value will be assigned automatically.

DNS Server 1: Displays the primary DNS server for your network. If DHCP is selected and an internet connection is available, this value should be assigned automatically. This field must have a valid DNS address in order to use the DDNS feature.

DNS Server 2: This field shows the secondary DNS server for your network.

HTTP Port: Port number for HTTP/WEB communication.

Bandwidth Limit (Kbps): Specify, disabled / 128 K/ 256 K / 512 K / 768K / 1M / 3M bps. This is the maximum bandwidth that the IP decoder is allowed to use on the network. This is a useful function when connecting the IP decoder to busy or heavily loaded networks, or when accessing the IP decoder(s) over a WAN.

Anonymous Viewer Login: Check the box to allow the unauthorized persons to log in the Web page of the system. Note that to protect your system from being taken over by unauthorized persons, make sure the "Anonymous viewer login" button IS NOT checked/selected.

Save: Click to save the settings.

Additional information:

1. Set up the IP decoder Network Menu according to the instructions detailed in the Networking chapter of this IP decoder's manual.

    a. If using DHCP, all settings will be detected automatically. While DHCP is a useful tool for determining the network settings, if you set up your IP decoder in this manner its IP address may change at different times for different reasons, particularly after a power failure. If the IP address of the IP decoder changes, you may have difficulties accessing your IP decoder locally and/or remotely. It is strongly recommended that you assign a fixed (static) IP address to your IP decoder, and that in order to avoid address conflicts the IP address assigned be outside of the DHCP range of addresses your router issues to DHCP clients. Please do not set the DHCP address issued to the IP decoder by the router as its static IP address unless you take specific steps that program your router to prevent such address conflicts.

    b. If using a Fixed IP (recommended), you will need to input the information manually. In order for DDNS to work, you must enter valid data, compatible with your network, for all four of the network setting fields: IP address, subnet mask, default gateway and the DNS Address (depending on your network hardware and IP configuration this may be the IP address of your router/gateway, or it may be the actual IP address of the local DNS server). The DNS server IP is required because

your DNS server provides critical information necessary for the IP decoder to communicate with the DDNS server.

You can obtain the actual DNS IP from your Internet Service Provider (ISP); or, from a PC located on the same LAN as the IP decoder, go to http://www.dnsserverlist.org/ to obtain a list of the IP addresses of their recommendation of the best servers to use for your location.

2. If you are connecting through a router, make sure that you have 'opened up' all the required network ports in the port forwarding section of your router's setup options. That is, you have directed the router to send any incoming traffic using those IP ports to the LAN IP address of the IP decoder. Useful information about router port forwarding can be found at www.portforward.com . Different routers may use different terms for port forwarding function. For instance, D-Link calls it virtual server, Netopia calls it pinholes.

The default port for the IP decoder is: 80

Note: Port 80 is the default port used for Web browsing. Because of this, in order to prevent the average user from hosting a Web server, most ISPs BLOCK traffic using port 80 from reaching the average site. If you only plan to view your IP decoder on a LAN, you can use port 80, and don't have to concern yourself with DDNS or routers. However, if you desire **remote access** to your IP decoder, perhaps using DDNS (optional), you MUST select functional ports and set up the port forwarding in your router. Other ports, such as 8080 and 8000 are sometimes blocked by ISPs as well.

What port(s) should be used? There are 65,535 valid IP ports to choose from. These are broken down into three groups:

• Well Known Ports 0 thru 1023

• Registered Ports 1024 thru 49151

• Dynamic and/or Private Ports 49152 thru 65535

So, rather than encounter a port conflict by choosing a port commonly used for another purpose (like port 25 for SMTP mail or port 448 for secure sockets), choose an 'unusual' port number. For example, add 50,000 to your house number: 50,123 is less likely to lead to a port conflict. For a list of the known and registered ports, see http://www.iana.org/assignments/port-numbers

5.4.2 DDNS

DDNS (Dynamic Domain Name System) is a service used to map a domain name to the dynamic IP address of a network device. You can set up the DDNS service for remote access to the IP decoder.

DDNS assigns a domain name (URL) to the IP decoder, so that the user does not need to go through the trouble of checking if the IP address assigned by DHCP Server has changed. Once the IP is changed, the IP decoder will automatically update the information to the DDNS to ensure it is always available for remote access.

Before enabling the following DDNS function, user should have applied for a host name from the DDS service provider's website. We support four DDNS server providers: **www.everfocusddns.com** and **www.dyndns.com.**

Note: We highly recommend that you use **xxxx.everfocusddns.com** for the simplicity of setting up your IP decoder.

EverFocus DDNS

Note that the **DNS Server 1** should be set up correctly or the DDNS will not work (refer to *5.4.1 LAN & WAN*).

DDNS Service: Select **EverfocusDDNS** from the drop-down list.

DVR Name: Input the desired name for the IP decoder, and you can enter up to 32 letters. If the length of the name exceeds the text field size on the OSD, you can move your cursor onto the text field to display the entire name on the OSD.

Note that the name of the IP decoder cannot include a space, or a dot (period) or any special characters particularly _ ~ ! @ # $ % ^ & * ( ) + < > " ; : . ,

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Note:

1. It is not necessary to append the HTTP port number to the DDNS name. The EverFocus DDNS server not only keeps track of your IP decoder's IP address, but also keeps track of the ports.

2. You can go to http://www.everfocusddns.com to check the DDNS name can be registered or not.

www.dyndns.org

DDNS Service: Select www.dyndns.org from the drop-down list.

Host name: Host name created through the dyndns account.

User name: User name of the dyndns account.

Password: Password of the dyndns account.

Confirm: Input the password again to confirm.

Setup Steps:

1. Apply for a host name from www.dyndns.org.

2. Make sure that the DNS Server 1 is set up correctly or the DDNS will not work.

3. Select www.dyndns.org from the DDNS Service drop-down list.

4. Enter the host name in the Host Name field. Note that the name of the IP decoder cannot include a space, or a dot (period) or any special characters particularly _~ ! @ # $ % ^ & * ( ) + < > " ; : . , _

5. Enter the User Name / Password of the dyndns account.

6. The setting is complete. And you should now be able to remotely connect the IP decoder by typing the name you created into the address bar. Example: http://hostname.dyndns.com

Note: If you are connecting through a router, make sure that you have opened up all the required network ports in the "Port Forwarding" section of your router's setup options. The default port of the IP decoder is 80. To set up Port Forwarding, please consult the manual of the router.

![EverFocus logo]

5.5 System Setting

You can configure the general settings for the IP decoder in this menu.

5.5.1 Date/Time

You can set up the date and time for the IP decoder.
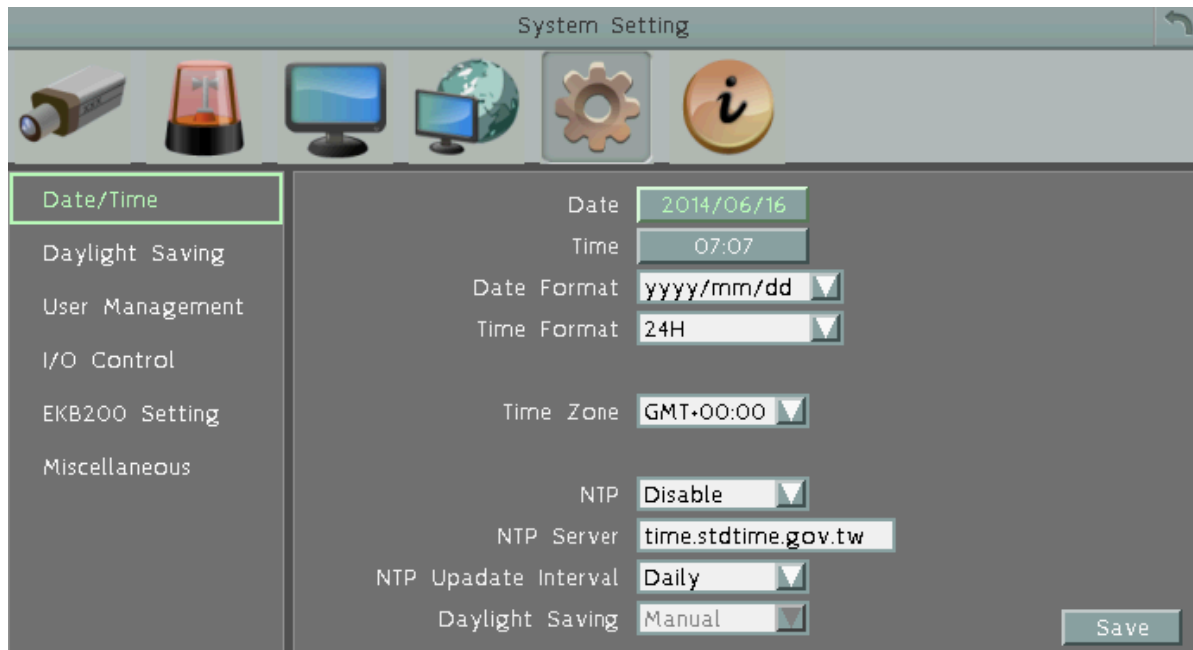
Date: Click to bring up the on-screen keyboard to set up the date.

Time: Click to bring up the on-screen clock to set up the time.

Date Format: Select a date format from the drop-down list.

Time Format: Select a time format from the drop-down list.

Time Zone: Select a time zone for the NVR to adjust to when updating from the time server.

NTP: Select Disable / Enable for NTP time synchronization.

NTP Server: Displays the time server address that the NVR uses for time synchronization. Requires operating network configuration and WAN or LAN access to a compatible NTP server. The default NTP address is the NTP server in Taiwan. To find a compatible NTP address of the NVR's physical location, follow the steps below:

  a. Use a computer connected to the Network.

  b. Click Start > Run > type "command" and then click OK.

  c. In the DOS Prompt, type "ping pool.ntp.org" to find out the IP address of an NTP Server.

NTP Update Interval: The frequency that the system automatically updates the time via the NTP server. Select Daily, Weekly or Monthly.

Daylight Saving: This **Auto** daylight saving function is used for the system to automatically set up the daylight saving time but it is currently reserved for the users in the United States. So, if you want to set up the daylight saving time, please go to Daylight Saving setting page to manually set up the time (refer to *5.5.2 Daylight Saving*).

For the users in United States, if they want to use the **Auto** daylight saving functions, please follow the steps below:

1. Select a U.S Time zone (GMT -05:00 ~ GMT -08:00).
2. Enable the **NTP**.
3. Enter a NTP server IP address in United States.
4. Select **Auto** in the **Daylight Saving** drop-down list.
5. Click **Save** to save the settings.
6. The Daylight Saving setting page (refer to *5.5.2 Daylight Saving*) will be grayed out and automatically set to the correct daylight saving time.

Note: If you need to use the **Daylight Saving** function, you must set up the **Date / Time** first in this page. If you configure the **Daylight Saving** function first and then set up the **Date / Time** setting, the **Daylight Saving** function will then be disabled.

5.5.2   Daylight Saving

You can configure the settings for IP decoder to automatically adjust to daylight saving time.

> **Note:**
> 1.   If this page is grayed out, it means that you have enabled the **Auto** daylight saving function, please refer to 5.5.1 Date/Time.
> 2.   If you need to use the **Daylight Saving** function, you must set up the **Date / Time** first in Date/Time setting page.

Daylight Saving: Check the box to enable automatic daylight saving time (DST).

Start Date: Set the start date for daylight saving time.

Start Time (hh:mm): Set the time when daylight saving time begins.

Set To (hh:mm): This is what the time will change to when daylight saving begins. For most regions, this will be one hour ahead of the "Start Time".

End Date: Set the end date for daylight saving time.

End Time (hh:mm): Set the time when daylight saving time ends.

The time change difference on the End Date will be the same as the difference between the Start Time and End Time entered for the Start Date (typically 1 hour as in the example shown).

Save: Click to save the settings.

5.5.3 User Management

You can create multiple user accounts (max: 20 user accounts) with different privileges. The IP decoder has default user accounts which you can choose to copy, edit, add or delete, and the default password is 11111111.

Copy: Click the [icon] button to copy the settings of an existing user account to a new user account.

Edit: Click the [icon] button to edit the settings of an existing user account.

Add: Click the [icon] button to add a new user.

Delete: Click the [icon] button to delete an existing user account.

Login: Check the box to enable the User Login function after logging out the IP decoder. For details on logging in the IP decoder, please refer to *3.1 Login*.

Auto User Log Off: Check the box to automatically logoff the IP decoder after 3 minutes of inactivity.

Password renewal: The password will expire after the specified days. When it's expired, a password renewal reminder will show up as below for you to change your password. If you don't want to renew the password periodically, just enter "0".

Previous: Click to return to the previous page.

Next: Click to enter the next page.

Save: Click to apply all the settings.

You can further configure each user account and its settings individually, see the steps below:

1. Click to select a user account.
2. Click the **Add**, **Copy** or **Edit** button, and the following page appears.

User Name: Click to bring up the keyboard and input the desired user name.

User Group: Select a user group (access level).

Status: Select to enable or disable the user account.

Password: Input the password.

Confirm: Enter the same password again to confirm.

Camera Access: Click to bring up a new setting page as below, and check the boxes to enable the live or PTZ functions of the cameras for local or remote access.

User Right: Check the boxes to enable the functions for the user account.

5.5.4 I/O Control

The I/O Control setup menu is used to define the settings for controlling the IP decoder through RS-485 / RS-232 communication protocol and for IP decoder to control the connected PTZ cameras. Please note that the RS-232 port on the IP decoder is currently reserved.

RS-485

Type: Select Control or Text Insert.

PTZ Protocol: Select PTZ protocol, choose from the following protocols: Transparent, Pelco_D, Pelco_P, Everfocus or Samsung. (Note: All cameras on the RS-485 bus must use the same protocol)

485 ID: This is the ID used by the EKB500 to send commands to the IP decoder. On an RS-485 connection, every device (PTZ, IP decoder and controller) must be assigned an unique ID number between 0 and 127.

Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the IP decoder. There are eight different speeds: 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, 38400 BPS, 57600 BPS and 115200 BPS.

Data Bit: This field is the data bit at which you will be transferring. There are two settings for this option: 8 or 7.

Stop Bit: This field is to set the stop bit for the RS232 connection. There are two different stop bits, 1 or 2.

Parity: This field is to select the parity level at which you will be connected. You can choose between None, Odd, or Even parity levels.

Control

One remote control can be used to operate four IP decoders. The IP decoder to be addressed is selected by pressing the key corresponding to its ID number on the IR Remote control. Please refer to *Appendix C: IR Remote Control*.

IR Controller ID: Set up an ID for the IP decoder and allow the IR remote control to control this IP decoder.

5.5.5 EKB200 Setting

You can connect an EKB200, which is EverFocus' USB keyboard, to the USB port on the IP decoder to control the Iris, focus or the pre-configured PTZ control functions of the connected cameras. For details on how to configure the PTZ control functions, including Preset Position, Auto Pan, Tour and Pattern, please refer to *5.1 Camera*.

The control keys on the EKB200

After connecting the EKB200 keyboard to the IP decoder and configuring the PTZ control functions, you need to configure the above setup page to define the function for each control key on the keyboard. Click the **Save** button to save the settings. Once you press the control key on the keyboard, the camera will do the action which you've defined for the key.

【**Key No**】 The control key number on the keyboard.

【**Action**】 Select an item from the drop-down list to define the function for each key on the keyboard.

- **Set Preset:** You can use the joystick on the keyboard to select a position and then press this key to save the position as the Preset Position.
- **Go to Preset:** Press this key to let the camera go to the Preset Position number specified in the Value column.
- **Go to Home:** Press this key and the camera will go to the Preset Position 1.
- **Clear Preset:** Press this key to clear the Preset Position number specified in the Value column.
- **Run Auto Pan:** Press this key to start the AutoPan number specified in the Value column.
- **Stop Auto Pan:** Press this key to stop the AutoPan number specified in the Value column.
- **Tour Run:** Press this key to start running the Tour number specified in the Value column.
- **Tour Stop:** Press this key to stop running the Tour number specified in the Value column.
- **Pattern Run:** Press this key to start running the Pattern number specified in the Value column.
- **Pattern Stop:** Press this key to stop running the Pattern number specified in the Value column.
- **Set Auto Tracking:** Press this key to switch On / Off the Auto-Tracking function.
- **Select Tracking Object:** Press the key to display the tracking crosshairs on the screen. Use the joystick on the keyboard to select the desired tracking object and press this key again to save the selection.
- **Toggle Full Screen:** Press this key to toggle between the full screen and current screen.

【**Value**】 Type in the number for the selected Action item. For example, selecting **Go to Preset** from the Action drop-down list and typing in 2 in the Value column represents the Preset Position 2.

To activate the EKB200 keyboard on the PTZ Live View window, click the PTZ icon on the OSD Root Menu, and then you are able to control the PTZ camera over the EKB200 keyboard (please refer to *4.1 PTZ*).

5.5.6 Miscellaneous

You can perform the following functions on this page.

Firmware

Current Firmware Version: Shows the current firmware version of the IP decoder.

Upgrade: Click to upgrade the latest firmware. Note you will need to restore the firmware file to the USB flash device and then connect the USB flash device to the IP decoder.
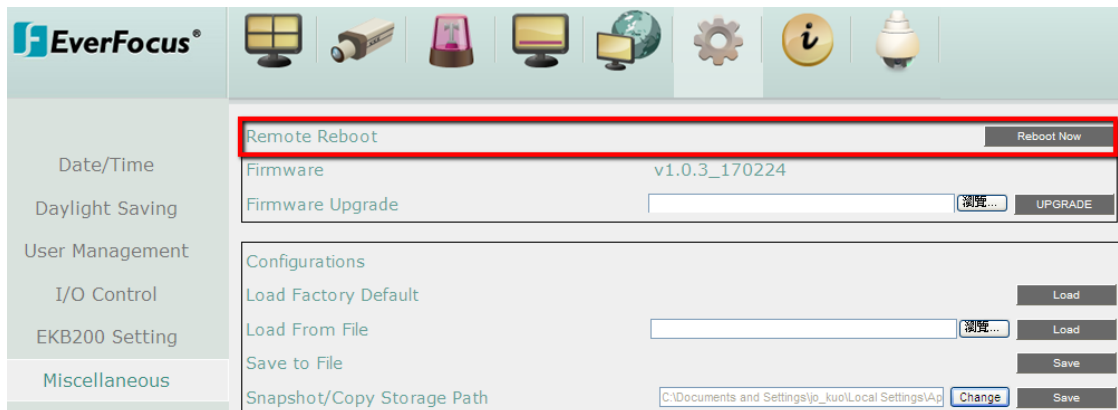
Configuration

Load Factory Default: Click to restore the IP decoder to factory default settings. The User Account, Network IP Settings, and Time settings will not be affected.

Load From USB: Click to upload the system configurations restored in the USB flash device.

Save to USB: Click to save the IP decoder configurations to the USB flash device.

Language: Choose which language the IP decoder uses.

Remote Reboot: Check the box to enable restarting the IP decoder via the Network.

EverFocus

5.6   System Information

You can see the IP decoder information in this menu.

5.6.1   System

In the System Menu, you can only see the information of the IP decoder or Network. No configuration can be done in this menu.

【**System**】

Version: Displays the firmware version.

Model: Displays the model name of the IP decoder.

S/N: Display the serial number of the IP decoder.

【**LAN**】

IP 1: Displays the IP address of LAN / WLAN set up in the Network or Express menu.

MAC 1: Displays the MAC address of LAN / WLAN. This option cannot be changed.

NVR Name: Displays the DDNS name if configured.

6. Remote Access to the IP decoder

You can access and control the IP decoder remotely by using the web browser.

6.1 Accessing the IP decoder

Follow the steps below to access the IP decoder from a computer.

1. Open an Internet Explorer window and in the address bar type the IP address.

   Local connection:
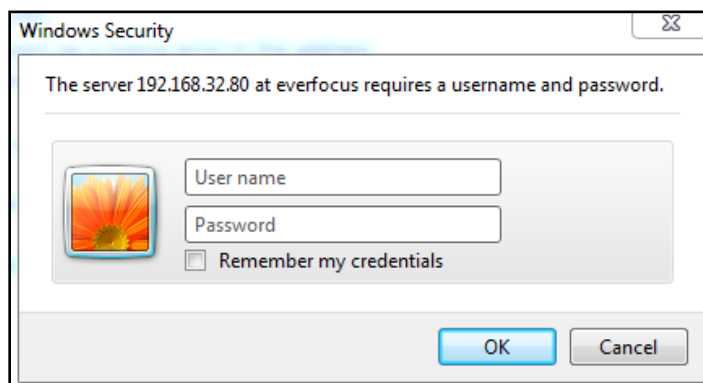   http:// (IP address from the IP decoder's Network Menu): IP port used
   e.g. http://192.168.1.163:2468

   Internet connection:
   http:// (IP address given by your Internet Service Provider): IP port used
   e.g. http://57.182.67.204:2468

2. The Login window pops up. Type the User Name and Password. The default User Name is **admin**, while the password is **11111111** Click **OK**.
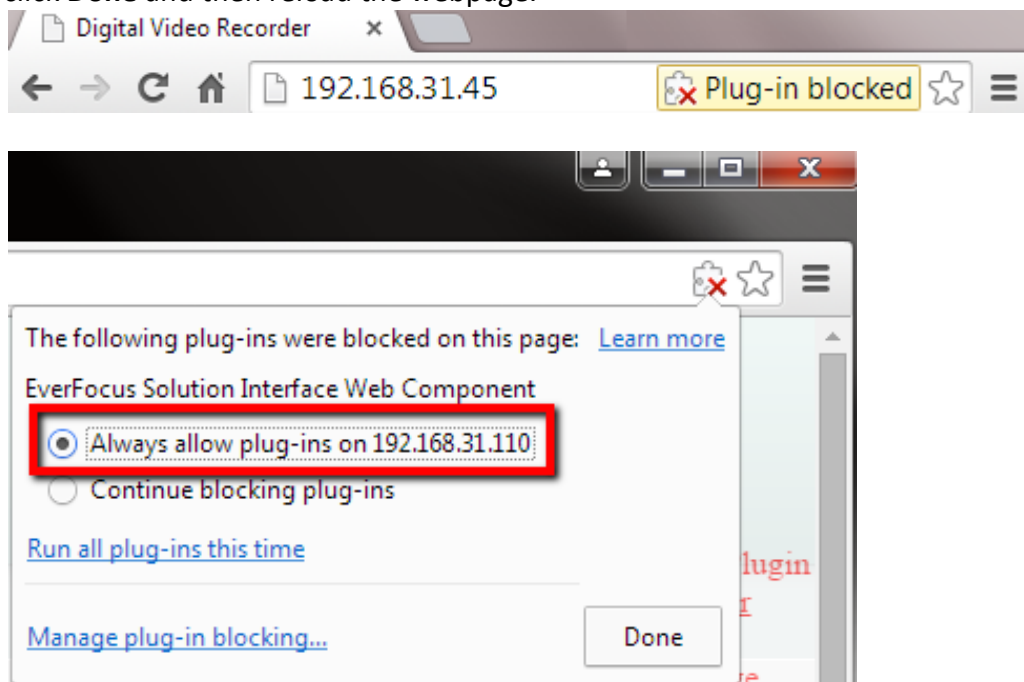
3. If you log in for the first time, follow the instruction steps on the interface to update the latest Plugin version (ePlayer). After reloading the webpage, the login window pops up again. Type the user ID and password to log in again. By default, the user ID is **admin** and the password is **11111111**
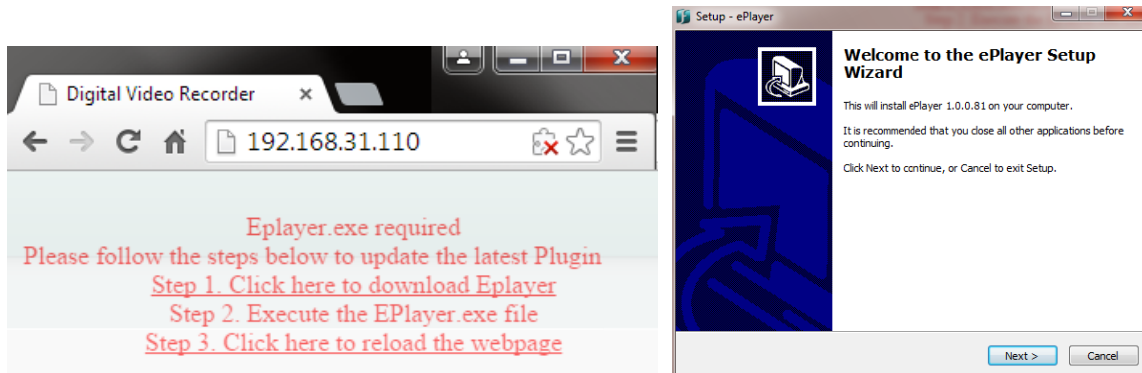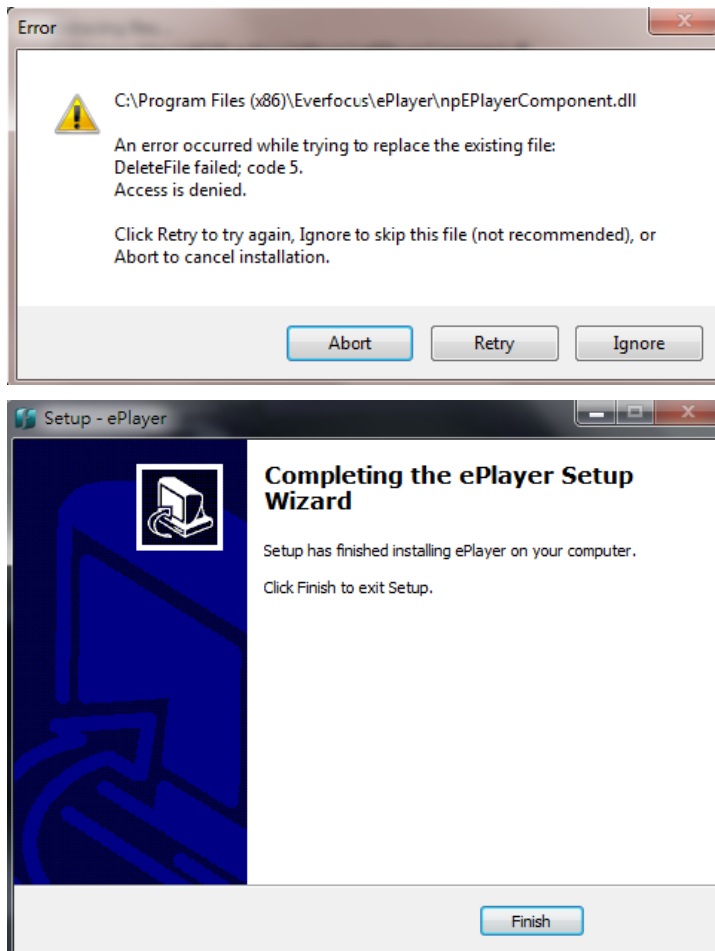
Note for the first time login:

◆   The "Download ePlayer Instruction" page will only be prompted for the first time login in order to update the system to the latest plugin version.

◆   When the Plug-in blocked appears on the browser, select **Always allow plug-ins on xxx**, click **Done** and then reload the webpage.
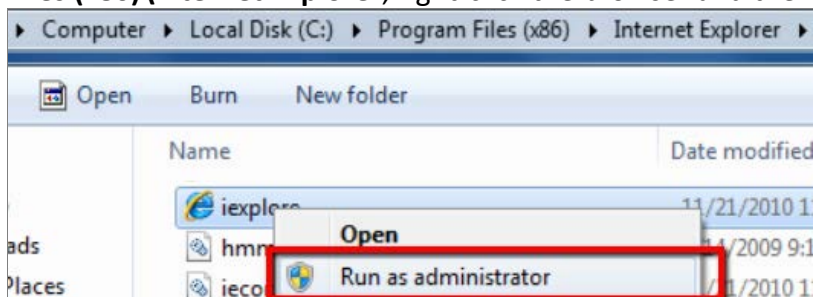
4. Now you will be able to see the remote live page.

If you encounter the following problem or still can't access the remote Web interface, please see below:

◆ If the **Error** window appears, please be sure to **close ALL the Web browser windows first** and then click **Retry.** When the **Completing the ePlayer Setup Wizard** window shows up, click **Finish**. Then, you can open a new browser again to access the DVR's remote Web interface.
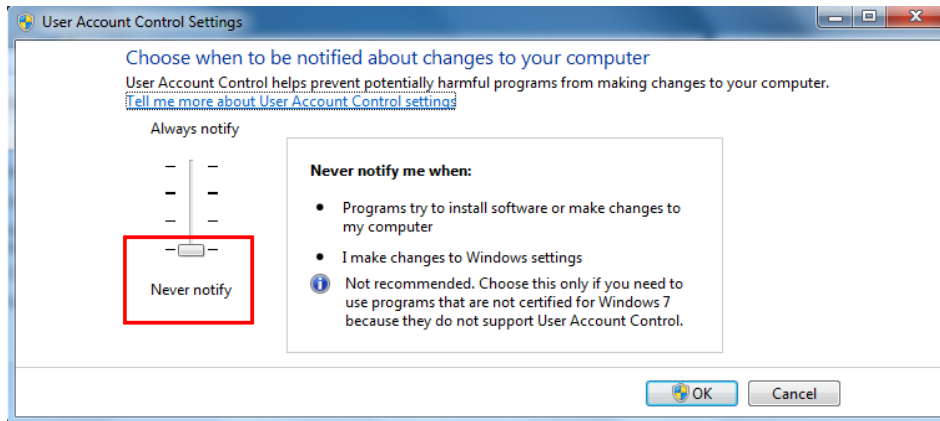
◆ If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.

◆ You may need to turn off the firewall and turn **User Account Control** off if you still can't see the Remote Live View.
To turn **User Account Control** off, on the computer, click **Start > Control Panel > System and Security > Action Center** (click Change User Account Control Settings), the **User Account Control Settings** window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.

6.2 Remote Live View

When you access the IP decoder using web browser, the remote live view home page will display as below:

Live View:

No.	Name	Description
1	**Menu Bar**	For configuring the IP decoder.
2	**Layout**	Click a desired layout.
3	**Stream Type**	Click to switch between the Main stream and Sub stream.
4	**Sound / Audio Broadcast / Snapshot**	Click the **Sound** button to transfer audio to the client side from IP decoder if there is a speaker on the PC and a microphone and preamp attached to the IP decoder, and audio recording is enabled on the IP decoder. Click the **Audio Broadcast** button to transfer audio to IP decoder from client side if there is a microphone attached to the PC and an amplifier and speaker attached to the IP decoder. Click the **Snapshot** button to save a snapshot of the video image
5	**Channel Buttons**	Click on the number to display the channel in full screen.

6	**Status Highlight**	White: Indicates the live view is in a normal status. Blue: Indicates connection loss. Red: Indicates an alarm / event is triggered. Grey: Indicates the live view is disabled.
7	**Live View Window**	Double-click on a camera image to enlarge the current display to full screen; double-click again to return to the normal view.
8	**Save layout**	Click to temporarily synchronize the local OSD layout with the current remote live view layout. You can still change the local OSD layout via OSD Root Menu (See *4.2 Layout Switching*).

Menu Bar:

No.	Name	Description
1	**Live View**	Click to display the live view window.
2	**Camera**	Click to configure the camera settings. Please refer to *6.5 Camera*.
3	**Alarm**	Click to configure the alarm / event settings. Please refer to *6.6 Alarm*.
4	**Display**	Click to configure the display settings for displaying the camera information on the camera live view. Please refer to *5.3 Display Setting*.
5	**Network**	Click to configure the network settings. Please refer to *5.4 Network*.
6	**System Setting**	Click to configure the IP decoder time / user privilege / IO control / UI language or upgrading firmware and etc. Please refer to *5.5 System Setting*.
7	**System Information**	Displays the system information. Please refer to *5.6 System Information*.
8	**PTZ**	Click to control the connected PTZ cameras. Please refer to *6.7 PTZ*.

6.3 Camera

Users can view the camera status, automatically search and add the cameras in the Auto Search setting page, or add the cameras manually in the Basic and Advanced setting pages. In the Camera Setting page, users are able to configure the detailed settings and PTZ settings of the cameras.

6.3.1 Camera Status

This page shows the current status of the added IP cameras.

Camera List

Channel	Name	IP Address	Port	Frame rate	Bit Rate	Connect Status
CH01	EHN3261	192.168.31.218	80	14 fps	2.5 Mbps	Connect
CH02	EPN4220	192.168.31.215	80	30 fps	4 Mbps	Connect
CH03	EDN3260	192.168.31.90	80	30 fps	4.9 Mbps	Connect
CH04	EHN3340	192.168.31.109	80	15 fps	2.3 Mbps	Connect
CH05	EFN3320	192.168.31.67	80	14 fps	22.9 Mbps	Connect
CH06	EDN3260	192.168.31.80	80	29 fps	4 Mbps	Connect
CH07	ETN2260	192.168.31.210	80	15 fps	4.5 Mbps	Connect
CH08	EFN3320	192.168.31.201	80	15 fps	9.3 Mbps	Connect
CH09	EZN3340	192.168.31.217	80	15 fps	4.5 Mbps	Connect
CH10	EDN3260	192.168.31.35	80	30 fps	7.5 Mbps	Connect
CH11	EDN2260	192.168.31.221	80	9 fps	0.4 Mbps	Connect
CH12	ETN2260	192.168.31.222	80	29 fps	1.9 Mbps	Connect
CH13		0.0.0.0	0	0 fps	0 Mbps	Connection loss
CH14		0.0.0.0	0	0 fps	0 Mbps	Connection loss
CH15		0.0.0.0	0	0 fps	0 Mbps	Connection loss
CH16		0.0.0.0	0	0 fps	0 Mbps	Connection loss

【**Camera List**】

Channel: Displays the channel number.

Name: Shows the name of the connected IP camera.

IP Address: Shows the IP address of the connected IP cameras.

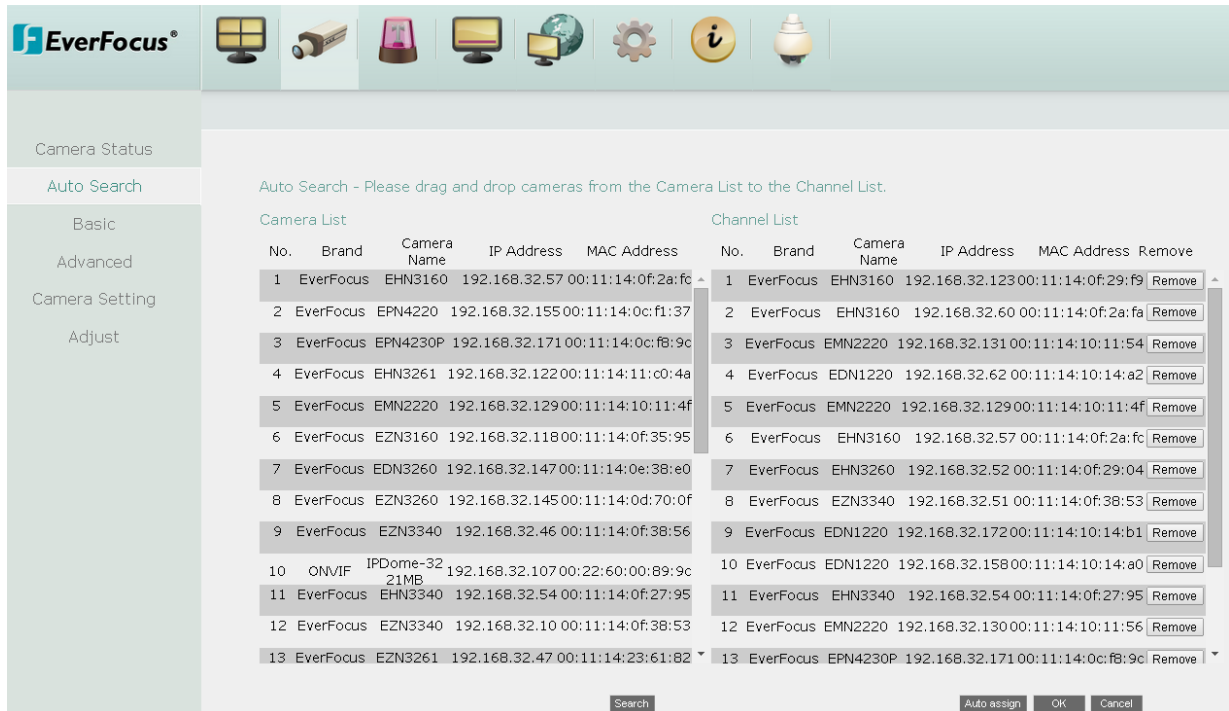**Port:** Shows the port number of the connected IP cameras

Frame Rate: Shows the current frame rate of the connected IP camera.

Bit Rate: Shows the current Bit Rate of the connected IP camera.

Connect Status: Shows the connection status.

6.3.2 Auto Search

The function allows users to automatically search and add cameras in the same network.

To search cameras:

1. Click the **Search** button.

2. The system will list all the currently available cameras under the **Camera List**.

To add cameras:

1. Click **Auto assign** to assign all the available cameras to the **Channel List.**

2. If you only want to add certain cameras, just drag the desired cameras from the **Camera List** and drop it onto the **Channel List**.

3. Click **OK** to add the cameras; click **Cancel** to remove the selected cameras.

To remove cameras:

1. Click the **Remove** button on the **Channel List**.

2. Click **OK** to remove the camera.

6.3.3 Basic

You can also add the IP camera manually by typing its IP Address, Port, ID, Password and other settings.

Address: Type the IP address of the camera.

Port: The default port is 80.

ID: Enter the account username of the camera.

Password: Enter the password of the camera.

Add to Channel: Select a channel number to add this camera to that channel.

Protocol: The data transmission protocol.

Brand: The brand of the camera.

Model: The model type of the camera.

Auto Detection: After entering the IP address, port, ID, password and selecting a channel, click this button to auto detect the protocol, brand and model of the camera.

Add: Click to add the camera, and bring up the detailed setting page (please refer to the content on the next page).

Cancel: Click to cancel the changes and return to the previous settings.

After clicking the **Add** button, the following Main/Sub Stream parameter setup page appears. To successfully add the IP camera, after configure the settings, you need to click the **Save** button on this page.

【**Main / Sub Stream**】 You can separately configure the settings for the Main and Sub Streams.

Camera Parameter

Camera Channel: Show the camera channel number.

Video Format: Select an encoding format.

Normal Frame Rate: Select a frame rate per second (FPS) for continuous recording. The frame rate is limited by the maximum total recording capacity of the IP decoder as allocated across all the installed cameras.

Event Frame Rate: Select a frame rate per second (FPS) for continuous recording. The frame rate is limited by the maximum total recording capacity of the IP decoder as allocated across all the installed cameras.

Resolution: Select a desired recording resolution.

Quality: Select an image quality of the camera.

Record Audio: Select to enable or disable the audio recording function.

Save: Click to add the camera and save the current settings.

Cancel: Click to cancel the settings and return to the previous setting page.

6.3.4 Advanced

The Advanced setting page is for users to view, add, delete or modify the cameras in the Camera List.

Add: Click the [+] button to add camera manually. To add the cameras, please see *6.5.3 Basic*.

Delete: Click [-] button to delete the camera.

Modify: Click [M] button to modify the settings of the added camera. Please refer to *6.5.3 Basic*.

6.3.5 Camera Setting

You can configure the detailed camera settings, PTZ and tracking functions in this setting page.

6.3.5.1 Camera
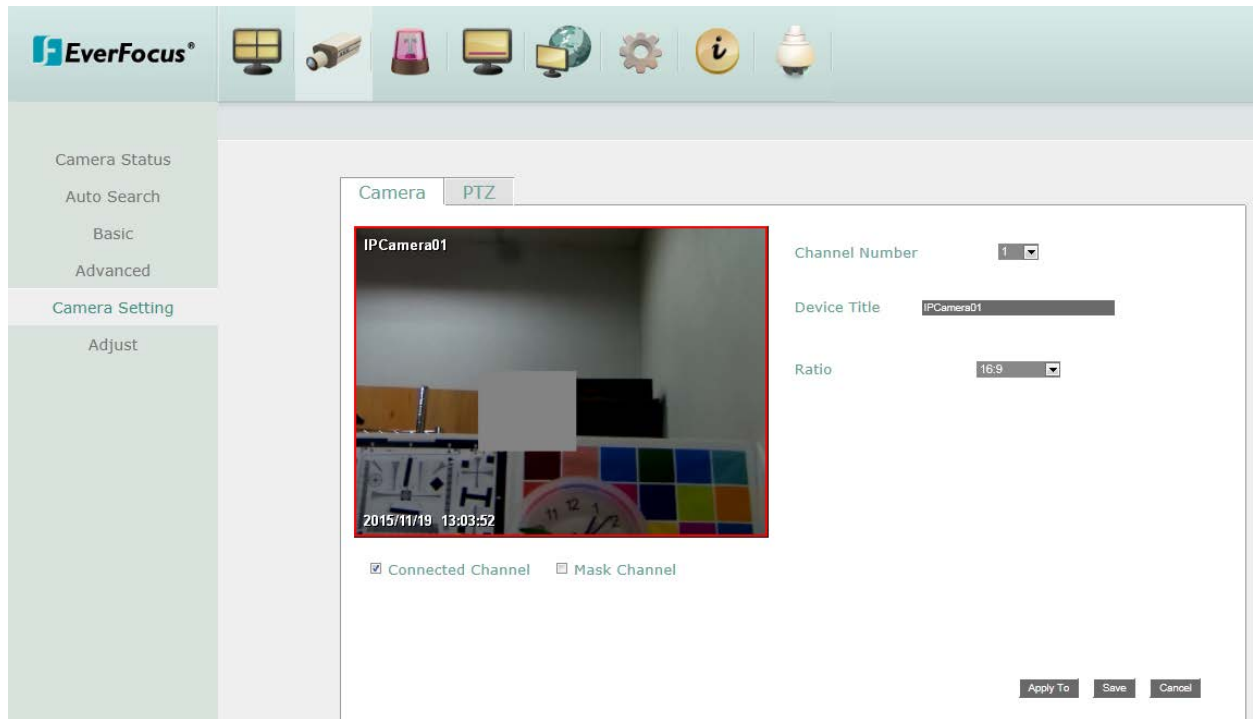
Connected Channel: Check the box to enable the connection between the camera and the IP decoder. If the box is unchecked, the system will disconnect the camera.

Mask Channel: Check the box to mask the camera's live view on the screen.

Channel Number: Select a desired channel for configuration.

Device Title: Enter a camera title.

Ratio: Select 4:3 or 16:9 display aspect ratio of a camera, and its video will be displayed in 4:3 or 16:9 format on that channel screen. Please refer to *2.2.2 Display Aspect Ratio* for more details.

6.3.5.2 PTZ

You can set up the Preset, Auto Pan, Tracking, Pattern and Tour settings in this page.
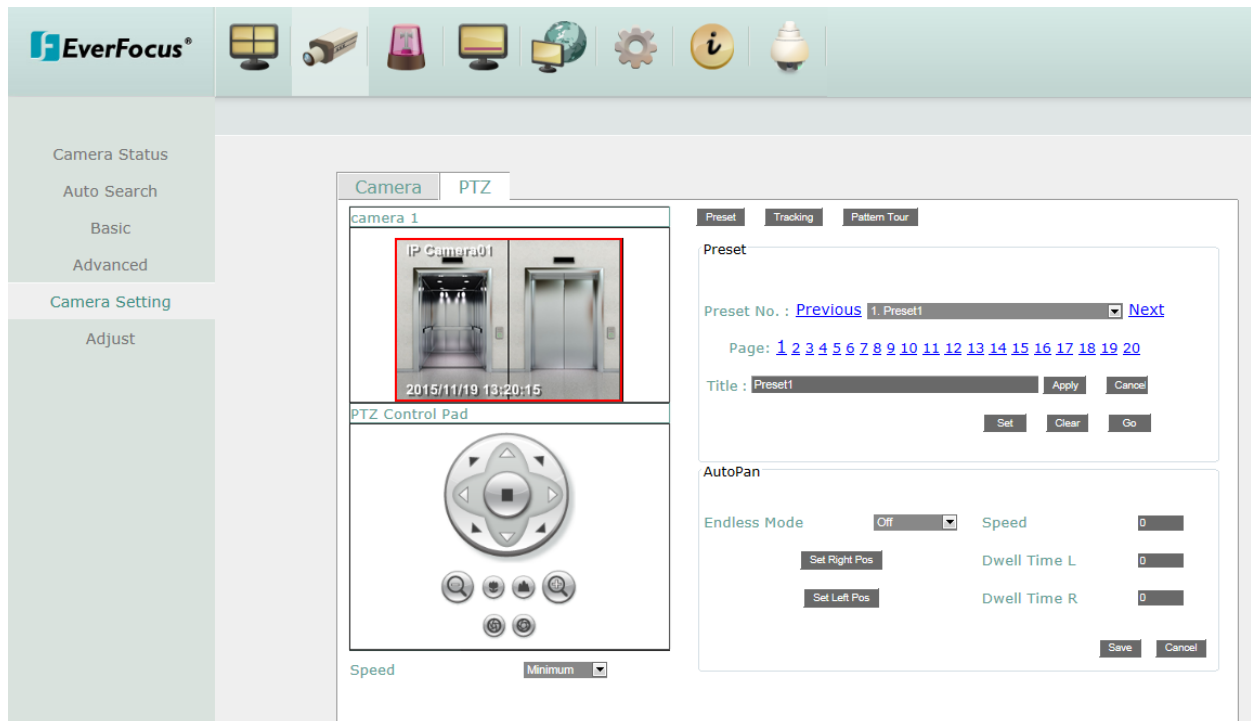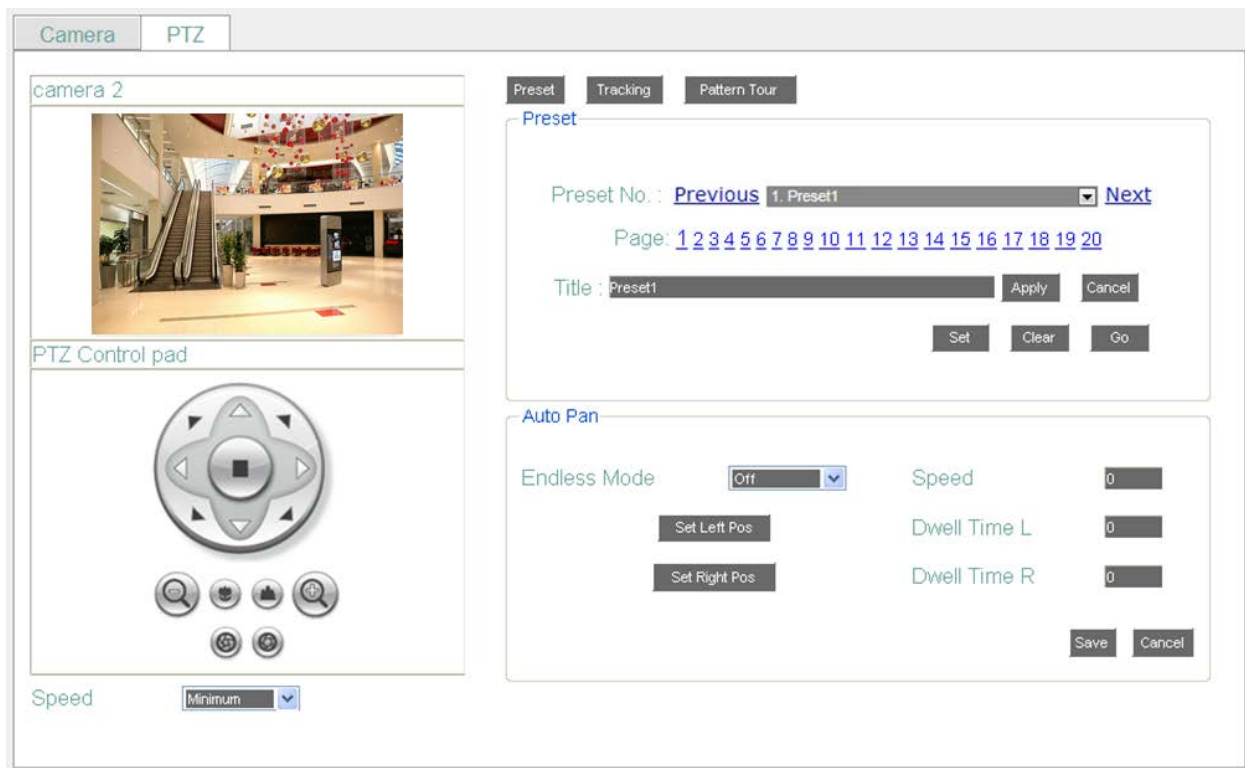
【**Camera (1~16)**】**:** Shows the PTZ camera live view. You need to select the PTZ camera from the **Channel Number** drop-down list in the **Camera** setting page (see *6.5.5.1 Camera*) before configuring the PTZ settings.

【**PTZ Control Pad**】**:**

Click the direction buttons to force the camera to turn into that direction

Click to stop thet current action, such as Auto Pan, Tour or Pattern

Click to Zoom In/Out or Focus Near/Far

Click to widen/narrow down the IRIS opening
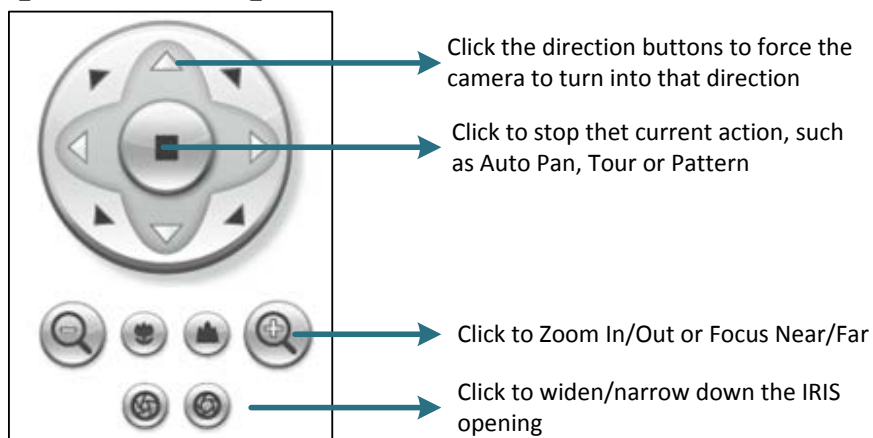
【**Speed**】**:** Select a pan and tilt speed from the Speed drop-down list for the camera to move to the directions when you use the direction buttons during the configuration period

Preset: Click the **Preset** button to set up the Preset Position or the Auto Pan function.

Preset: You can configure up to 192 preset positions in this field.

To set up a Preset Positions:

1. Adjust the camera view to a desired position using the direction button. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary.

2. To set up the current camera view as a preset position, select a preset number from the **Preset No** drop-down list for the current camera view.

3. Optionally set up a title for this preset position in the **Title** field .Click **Apply** to save the title name or click **Cancel** to cancel the current changes.

4. Click **Set** to save the current position as the Preset Number you have selected.

5. Follow Step 1 to 4 to set up another preset position. You can click the **Next** button to go to the next page and then click the Preset No drop-down list to select a number. Or click on the number in the Page field to select a preset number.

To activate the Preset function on the PTZ Live View window, click the PTZ ![icon] icon on the Menu Bar. Click the **Preset** button, click on the numeric buttons to select a Preset number and then click the ![Go] button. The selected Preset position should be displayed on the camera view. Please refer to *6.10 PTZ* for detailed instructions.

Auto Pan: You can only configure one Auto Pan sequence. The configured Auto Pan (A to B Pan) sequence will always be numbered as "1". The number "2" will always be an endless pan around the given (not preconfigured) X/Y tilt axis.

Endless Mode: The Endless Mode is always numbered as "99" in the PRESET function. If you select **On**, the Preset number "99" will be the 360° endless pan function; if you select **Off,** the Preset number "99" will be the preconfigured A to B Pan function. To use the function, go to PTZ live view page first. Click the **Preset** button and click the Preset number "99". Finally, click ![Go] to activate the Endless Mode.

To set up an Auto Pan Sequence:

1. Using the direction buttons to adjust the camera view to a desired position where you want to set up the position as the Left Position. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary.
2. Click the **Set Left Position** button to save the current position as the Left Position.
3. Follow Step 1 to set up the Right Position and then click the **Set Right Position** to save the current position as the Right Position.
4. Enter a dwell time (1~99 seconds) for the Left and Right positions (the time that the camera will pause at each position).
5. Enter a speed (1~255) at which the camera will move during the Auto Pan sequence.

6. Click **Save** to save the settings.

To activate the configured Auto Pan on the PTZ Live View window, click the PTZ [icon] icon on the Menu Bar. Click the **Auto Pan** button, click "1" on the numeric buttons and then click the [GO] button. The camera will continuously move to the left and right positions which you have configured. Click "2" on the numeric buttons and then click the [GO] button will force the camera to pan 360° endlessly. To stop the Auto Pan function, click the **Stop** button [■] on the PTZ Control panel.

Tracking: Click the **Tracking** button to set up the tracking function which is functional only when the selected PTZ camera is equipped with the tracking function.

To set up the Auto Tracking function:

1. **Auto Tracking Start Point:** Check the box to enable a camera position to which the camera will return to after a tracking operation. Use the direction buttons to adjust the camera view to a desired position where you want to set up the position as the Auto Tracking Start Point. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary. Click **Set** to set the position as the Auto Tracking Start Point.

> **Note:** If the user did not set up a start point or the start point is disabled, the camera will go back to track / monitor the initial point instead of the Auto Tracking Start Point, once the tracked object exits in the camera's field of view.

2. **Pan / Tilt Limit:** Check the box if you want to create a zone where the camera will track the movement inside the zone only. Before clicking the Upper / Lower / Right / Left buttons, use the direction buttons to adjust the camera view to a desired position where you want the camera to track the movement in that zone. You can select the pan / tilt speed from the **S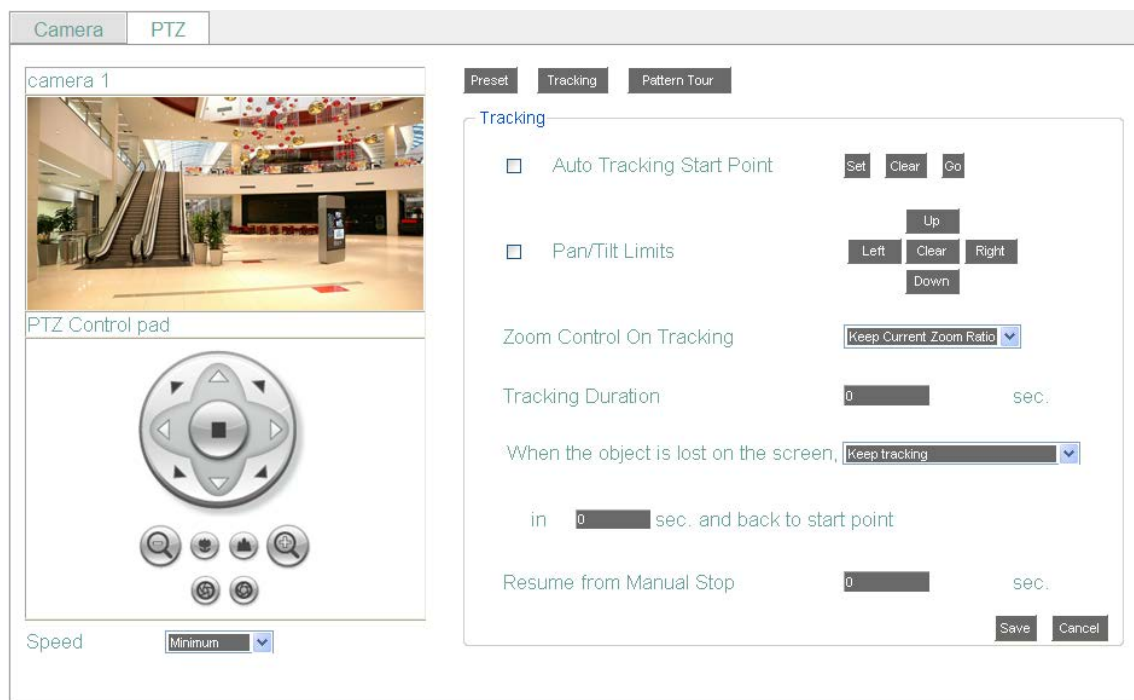peed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary. Click the Upper / Lower / Right / Left buttons to set up the pan / tilt limits (Left and Right for the Pan limit; Upper and Lower for the Tilt limit).

> **Note:** Please note that if enabling the **Pan / Tilt Limits** function, the position of the Start Point should be within the range of the **Pan / Tilt Limits**, or there will be a pop-up message showing "Setting error: Start Point is not inside Pan/Tilt Limits".

- **Zoom control on tracking:**
  Keep current zoom ratio: the current zoom ratio will stay fixed during the tracking process.
  Multi-step zoom function: the zoom ratio will change according to the distance of the object against the camera. When the object is moving further away, the camera will keep zooming in to track; on the other hand, when moving closer, the camera will zoom out to check whether it should track the object or not.
- **Tracking Duration:** User can set the tracking time duration of the camera (0~600 seconds). When the Tracking Duration is up, the camera will return to the Start Point. The function is used to prevent the camera from tracking an object which is intentionally set to lure the camera away.
- **When the object is lost on the screen:** User can select a tracking mode when the object is lost on the screen. The options are:
  Keep tracking: The camera will stop at the current position and wait for another moving object in the camera's field of view. Then, the camera will track the new object without changing zoom ratio.
  Zoom out and look for a new object: The camera will zoom out at the current position immediately for expanded the field of view and restart tracking a new moving object appearing in the camera's field of view.
  Stop tracking and zoom out: The camera will stop auto tracking and stay at the current position. Then, the camera will zoom out for expanded the field of view.

■ **In __ sec. and Back to Start Point:** Set up a period of time for the camera to stay at the current position before returning to the Start Point (0 is returning to Start Point without any waiting).

■ **Resume from manual stop:** The function is used to set up the Auto Tracking restart time (0~600 seconds). If user manually operates the PTZ function during auto tracking process, the auto tracking function will stop. When the manual operation ceases, the camera will resume to "Auto Tracking Start Point" after a given period of time. Setting of value 0 indicates do not restart.

Note: In the on-going auto tracking process after object is identified, the PTZ function keeps the moving object in the center of the screen. But the PTZ function may stop if the object moves too slow and stays in center of the screen too long. In case like this the auto tracking may incorrectly assume the object is lost and ends the tracking process.

Pattern Tour:

Pattern: You are given 90 seconds to move the camera (via the PTZ buttons) to different positions (and different zoom / focus / Iris positions). The camera then saves that sequence under the Pattern No. you've selected. Up to 4 Patterns can be configured.

To set up a Pattern Sequence:

1. Select a pan and tilt speed from the **Speed** drop-down list for the camera to move to the

directions when you use the direction buttons during the configuration period.

2. Select a pattern number from the **Pattern No** drop-down list.
3. Click the **Set** button to start the 90-second configuration period. Use the direction / zoom / focus / Iris buttons to move the camera in the desired sequence.
4. Click the **Complete** button again to end the configuration.

Click **Clear** can void the configuration for the entered Pattern No. Click **Go** to view / test the configured Pattern sequence.

To activate the Pattern function on the PTZ Live View window, click the PTZ icon [ ] on the Menu Bar. Click the **Pattern** button, click on the numeric buttons to select a Pattern number and then click the [GO] button. The camera will move to the positions in the Pattern sequence you have configured. To stop the Pattern function, click the **Stop** button [ ] on the PTZ Control panel. Please refer to *6.10 PTZ* for detailed instructions.

Tour: You can combine up to 16 preconfigured camera positions and patterns into one long sequence. Up to 16 Tour sequences can be set up.

To set up a Tour Sequence:

1. Select a number from the **Tour No** drop-down list.
2. To set up the first position for Tour No.1, select **OFF**, **Preset** or **Pattern** in the Mode field.

3. Enter a Preset No. or Pattern No. in the **Value** field.
4. Enter a dwell time (1~99 seconds) in the **Dwell Tour** field that the Tour will pause at a Preset position or after a Pattern sequence.
5. Enter a speed (1~255) at which the camera will move to the Preset position or first point of

the Pattern sequence.

6.   Follow Step 3 to 5 to configure up to 16 positions for Tour No.1.

7.   To configure another Tour sequences, select a number from the **Tour No** drop-down list and follow Step 3 to 6 to configure up to 16 positions for the selected Tour number.

8.   Click **Apply** to apply the settings. Click **Clear** to clear the current settings for the selected Tour No.; click **Default** to set the Tour Sequence to Default setting; click **Go** to view / test the configured Tour sequence.

To activate the Tour function on the PTZ Live View window, click the PTZ icon [icon] on the Menu Bar. Click the **Tour** button, click on the numeric buttons to select a Tour number and then click the [GO] button. The camera will move to the positions in a long sequence you have configured. To stop the Pattern function, click the **Stop** button [icon] on the PTZ Control panel. Please refer to *6.10 PTZ* for detailed instructions.

6.3.6 Adjust

You can adjust detail camera settings in this page.
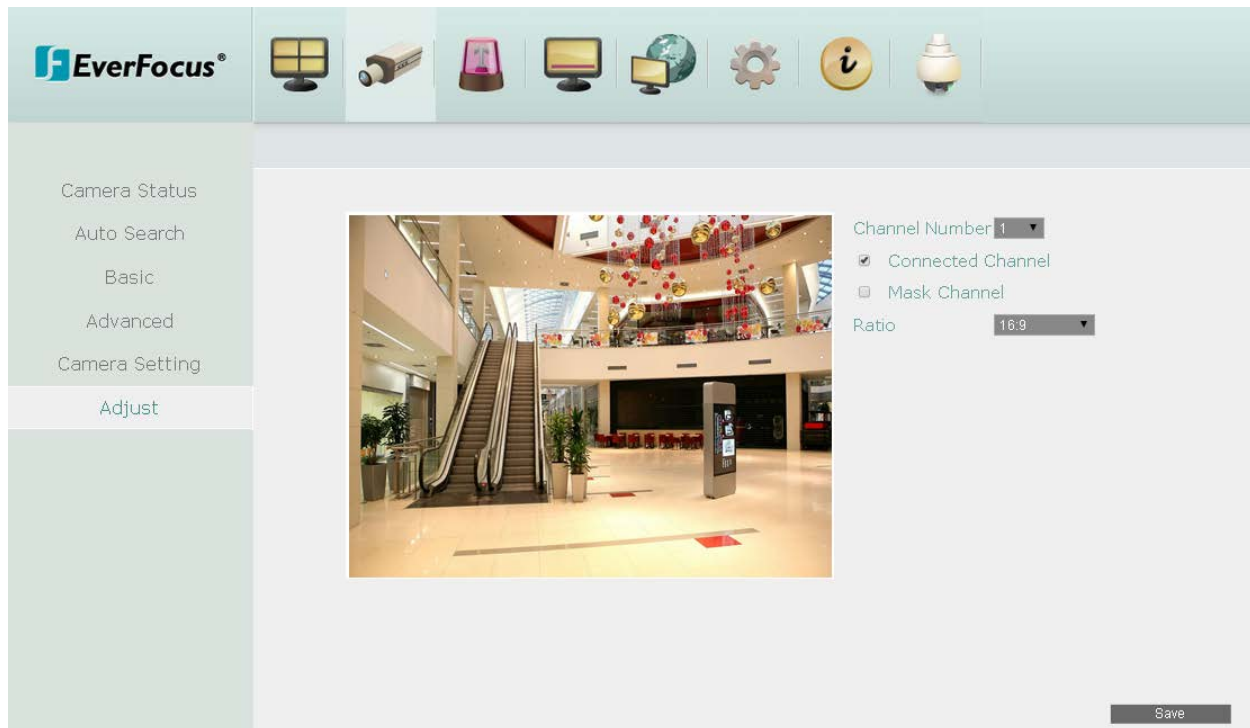
Channel Number: Select a desired channel for adjusting the following settings.

Connected Channel: Check the box to enable the connection between the camera and the IP decoder. If the box is unchecked, the system will disconnect the camera and stop recording.

Mask Channel: Check the box to mask the camera's live view on the screen, but the recording function is still on.
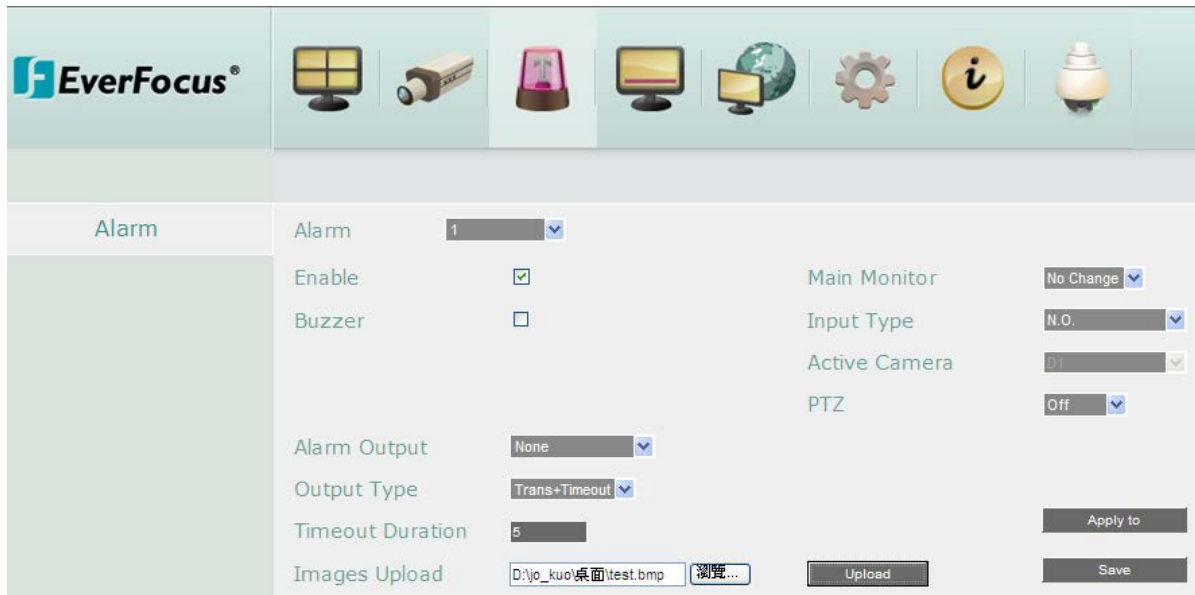
> **Note:** Whether the following functions marked with a "*" will be enabled or not depends on the connected IP camera. If the IP camera doesn't have the any one of these functions, the function will not be enabled. The setting options will also vary according to the IP cameras you selected. For more details, please refer to your IP camera's user's manual.

Ratio: Select 4:3 or 16:9 display aspect ratio of a camera, and its video will be displayed in 4:3 or 16:9 format on that channel screen. Please refer to *2.2.2 Display Aspect Ratio* for more details.

Save: Click to save the settings.

6.4 Event

6.4.1 Alarm

Alarm: Select an Alarm input number from 1 to 4.

Enable: Check the box to enable the Alarm trigger function for the selected alarm input.

Buzzer: Check the box to enable the buzzer when an alarm event is triggered.

Alarm Output: Select an alarm output number. When an alarm is triggered, the signal will be transmitted through the selected alarm output relay.

Output Type: Select an output type when an alarm is triggered.

Timeout: Select this option and then set up the Timeout Duration in the field below, the alarm output will last for the setup duration time (1 ~ 150 seconds).

Permanent: Alarm will remain active until the user presses the "Enter" key on the IR Remote Control or resets the alarm remotely.

Transparent: Alarm output remains as long as the alarm input is active.

Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (1 ~ 150 seconds).

Timeout Duration: This function only appears when you select **Timeout** or **Trans + Timeout** options in the Output Type drop-down list. Select a duration time for the alarm event. The alarm output will last for the setup duration time between 1 and 150 seconds.

Images Upload: You can upload an image in .bmp format for the Alarm Image Pop-Up function (see *6.4.1.2 Alarm Image Pop-Up* for more details).

Main Monitor: Select **Full Screen** to enable the Alarm Layout Pop-up function (see *6.4.1.1 Alarm Layout Pop-Up*), which is to force the Active Camera associated with the selected

alarm number to display full screen on the monitor. The full screen camera view will last according to the output type selected in the Output Type field. Select **No Change** will disable the Alarm Layout Pop-up function.

Input Type: Select an input type when the selected alarm number is triggered. The options include N.O. and N.C.

Active Camera: This function is for associating an alarm trigger with a specific camera (Alarm Layout Pop-up function – for more details about how to set up the Alarm Layout Pop-up, please refer to _6.4.1.1 Alarm Layout Pop-Up_).

The alarm will be associated with the selected item from Active Camera drop-down list for full screen display, event logging and PTZ actions. The options include 1~16 and D1~D4. The options 1~16 represent the channel number; while the D1~D4 options represent the multi-channel display layout type 1~4. You will have to pre-configure the D1~D4 layout type in advance (refer to _6.5.3 Layout Setting_).

PTZ: If the Active Camera selected above is a PTZ camera, you can further set up the PTZ actions in this field. Once an alarm is triggered, this PTZ camera will do the action as setup here.

Apply To: Click the button to apply the same settings to the desired Alarm inputs.

Save: Click to save the settings.

6.4.1.1 Alarm Layout Pop-Up

The Alarm Layout Pop-Up function is designed to pop-up a live view layout (single channel or multi-channel) in full screen when an alarm is triggered.

For example, if Alarm 1 is setup near Camera 2, you can select "2" from the Active Camera (which means channel 2) drop-down list. When Alarm 1 is triggered, the live view of channel 2 will be pop-up in full screen. If you set up Alarm 2 with D3 (Display Type 3) selected from the Active Camera drop-down list, when Alarm 2 is triggered, the D3 layout will be pop-up in full screen.

To enable the Alarm Layout Pop-Up function, please follow the steps below:

1. On the Event < Alarm page, select an Alarm number from the Alarm drop-down list and then check the **Enable** box to enable the alarm function.

   Set up the **Alarm Output**, **Output Type** and **Timeout Duration** (please refer to *6.4.1 Alarm* for more details). This will decide how long the pop-up layout will be displayed on the window.

2. To enable the Alarm Layout Pop-up function, select **Full Screen** from the Main Monitor drop-down list. (Selecting **No Change** will disable the Alarm Layout Pop-up function).

3. Select a pop-up layout type from the Active Camera drop-down list for the selected alarm number. The options 1~16 represent the channel number (single channel layout); while the D1~D4 options represent the multi-channel display layout (type 1~4). You will have to pre-configure the D1~D4 layout types in advance (refer to *Step 5*).

4. Follow *Step 1-3* to configure all the alarm inputs. Click **Save** to save the settings.

5. To configure multi-channel display layout type 1~4 (D1~D4):

a. On the Display Setting < Layout Setting page, select a layout type from the Set drop-down list (ex: D1).

b. Select a layout division for the selected layout type by checking the Division box (4 Divisions / 9 Divisions / 16 Divisions).

➢ If 4 Divisions is checked, further select 4 channels from the channel drop-down list to be displayed on the 4-Division layout.

➢ If 9 Divisions is checked, further select 9 channels from the channel drop-down list to be displayed on the 9-Division layout.

➢ If 16 Divisions is checked, further select 16 channels from the channel drop-down list to be displayed on the 16-Division layout.

c. Optionally set up the **Layout Switch** function. The Layout Switch is designed for the pop-up layouts to be displayed in sequence when two or more alarms are triggered during the same time period.

➢ **Enable:** When two or more alarms are triggered during the same time period, the layouts to the alarms will be displayed in sequence every 3 seconds.

➢ **Disable:** Click to disable the Layout Switch function.

d. Click **Save** to save the settings.

6.4.1.2 Alarm Image Pop-Up

The Alarm Image Pop-Up function is designed to pop-up an image on the local display live view when either one of the alarms is triggered.

When an alarm is triggered (Alarm 1~4), it will pop-up a warning image on the local display. The image has to be prepared in advance and then uploaded to the system.

To enable the Alarm Image Pop-Up function, follow the steps below:

1. On the Display Setting < Monitor OSD page, check the **Alarm Message** box to enable the Alarm Image Pop-Up function.
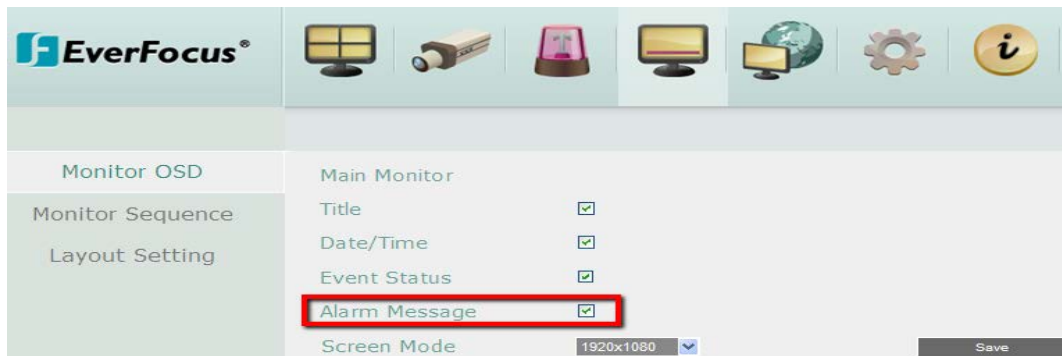
2. Prepare an image in .bmp format (max. size 500kb).

3. To upload the image file to the system, click **Browse** in the Images Upload field to select an image. Click **Upload** to upload the image. The system will automatically reboot. The Alarm Image Pop-Up function setup is complete.

When an alarm is triggered, the uploaded image will be pop-up on the local display.
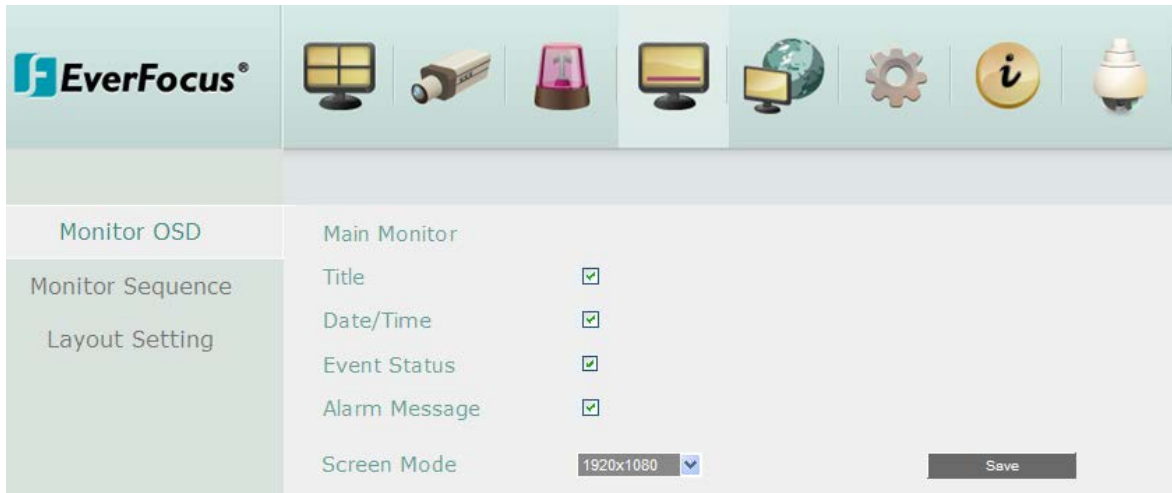
To close the image, click the **Exit** button on the upper-right corner of the image.
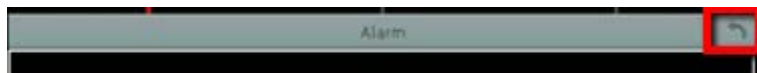
6.5　Display Setting

You can configure the settings for displaying the camera / IP decoder information on the live view image. You can also set up the sequencing order for the Main monitor.

6.5.1　Monitor OSD

Title: Check the box to display camera titles.

Date/Time: Check the box to display current date/time.

Event Status: Check the box to display event status.

Alarm Message: Check the box to enable the Alarm Image Pop-Up function (*see 6.4.1.2 Alarm Image Pop-Up*).

Screen Mode: Select the suitable screen mode. Selections are: 1920x1080; 1280x1024; 1024x768; 800x600. Please see to *2.2.2 Display Aspect Ratio* for more details.

Save: Click to save the settings.

6.5.2   Monitor Sequence

You can configure up to 20 steps of the sequencing order for the Main monitor. The Sequence will repeat continuously from step 1 to step 20 until interrupted.

Step: The sequencing order.
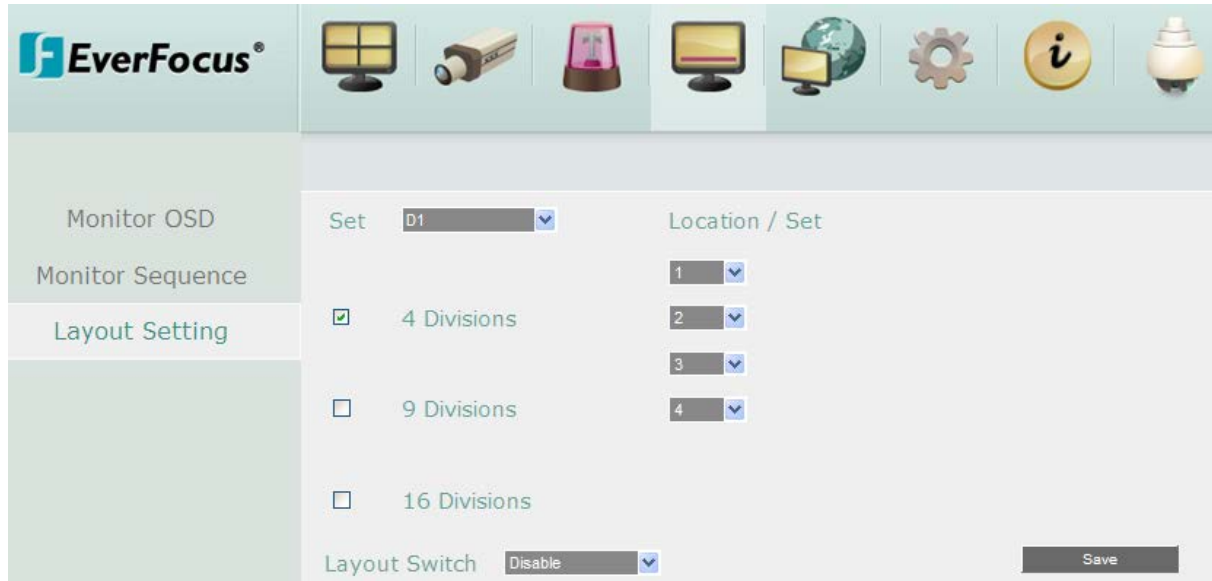
Camera: Select a camera for the specific step.

Dwell (sec): Sets up the dwell time between 0 and 60 seconds for each step.

Save: Click to save the settings.

6.5.3 Layout Setting

This page is for setting up the Alarm Layout types for the Alarm Layout Pop-Up function (see *6.4.1.1 Alarm Layout Pop-Up*). You can configure up to 4 multi-channel layout (D1~D4) with 4, 9 or 16 divisions.

Set: Select a layout type from the drop-down list (D1~D4).

4/9/16 Divisions: Select a layout division for the selected layout type by checking the Division box.

➢ If 4 Divisions is checked, further select 4 channels from the channel drop-down list to be displayed on the 4-Division layout.

➢ If 9 Divisions is checked, further select 9 channels from the channel drop-down list to be displayed on the 9-Division layout.

➢ If 16 Divisions is checked, further select 16 channels from the channel drop-down list to be displayed on the 16-Division layout.

Layout Switch: Optionally set up the **Layout Switch** function. The Layout Switch is designed for the pop-up layouts to be displayed in sequence when two or more alarms are triggered during the same time period.

➢ **Enable:** When two or more alarms are triggered during the same time period, the layouts to the alarms will be displayed in sequence every 3 seconds.

➢ **Disable:** Click to disable the Layout Switch function.

Save: Click to save the settings.

6.6 Network

6.6.1 LAN & WAN

According to your network environment, select **Static IP, DHCP** or **PPPoE** to configure an IP address to the IP decoder.

Port Type: Select LAN from the drop down list.

Network Type: Three options are selectable: **Static IP**, **DHCP** and **PPPoE**.

Static IP: User can set a fixed IP for network connection.

DHCP: DHCP server in LAN will automatically assign an IP configuration for the network connection.

PPPoE: For direct connection to the DSL only. Verify with your ISP if they use PPPoE. (The option is only for WLAN (WAN) port)

IP address: Displays the IP decoder's current IP Address. A static IP address must be set manually. If DHCP is selected, this value will be assigned automatically.

Subnet Mask: Displays the subnet mask for your network so the IP decoder will be recognized within the network. If DHCP is selected, this value will be assigned automatically.

Gateway: Displays the gateway on your network for the IP decoder to use when communicating with any devices not on the local network. If DHCP is selected, this value will be assigned automatically.

DNS Server 1: Displays the primary DNS server for your network. If DHCP is selected and an internet connection is available, this value should be assigned automatically. This field must have a valid DNS address in order to use the DDNS feature.

DNS Server 2: This field shows the secondary DNS server for your network.

HTTP Port: Port number for HTTP/WEB communication.

Bandwidth Limit (Kbps): Specify, disabled / 128 K/ 256 K / 512 K / 768K / 1M / 3M bps. This is the maximum bandwidth that the IP decoder is allowed to use on the network. This is a useful function when connecting the IP decoder to busy or heavily loaded networks, or when accessing the IP decoder(s) over a WAN.

Save: Click to save the settings.

Additional information:

1. Set up the IP decoder Network Menu according to the instructions detailed in the Networking chapter of this IP decoder's manual.

    c. If using DHCP, all settings will be detected automatically. While DHCP is a useful tool for determining the network settings, if you set up your IP decoder in this manner its IP address may change at different times for different reasons, particularly after a power failure. If the IP address of the IP decoder changes, you may have difficulties accessing your IP decoder locally and/or remotely. It is strongly recommended that you assign a fixed (static) IP address to your IP decoder, and that in order to avoid address conflicts the IP address assigned be outside of the DHCP range of addresses your router issues to DHCP clients. Please do not set the DHCP address issued to the IP decoder by the router as its static IP address unless you take specific steps that program your router to prevent such address conflicts.

    d. If using a Fixed IP (recommended), you will need to input the information manually. In order for DDNS to work, you must enter valid data, compatible with your network, for all four of the network setting fields: IP address, subnet mask, default gateway and the DNS Address (depending on your network hardware and IP configuration this may be the IP address of your router/gateway, or it may be the actual IP address of the local DNS server). The DNS server IP is required because your DNS server provides critical information necessary for the IP decoder to communicate with the DDNS server.

You can obtain the actual DNS IP from your Internet Service Provider (ISP); or, from a PC located on the same LAN as the IP decoder, go to http://www.dnsserverlist.org/ to obtain a list of the IP addresses of their recommendation of the best servers to use for your location.

2. If you are connecting through a router, make sure that you have 'opened up' all the required network ports in the port forwarding section of your router's setup options.

That is, you have directed the router to send any incoming traffic using those IP ports to the LAN IP address of the IP decoder. Useful information about router port forwarding can be found at www.portforward.com . Different routers may use different terms for port forwarding function. For instance, D-Link calls it virtual server, Netopia calls it pinholes.

The default port for the IP decoder is: 80

Note: Port 80 is the default port used for Web browsing. Because of this, in order to prevent the average user from hosting a Web server, most ISPs BLOCK traffic using port 80 from reaching the average site. If you only plan to view your IP decoder on a LAN, you can use port 80, and don't have to concern yourself with DDNS or routers. However, if you desire **remote access** to your IP decoder, perhaps using DDNS (optional), you MUST select functional ports and set up the port forwarding in your router. Other ports, such as 8080 and 8000 are sometimes blocked by ISPs as well.

What port(s) should be used? There are 65,535 valid IP ports to choose from. These are broken down into three groups:

•   Well Known Ports 0 thru 1023

•   Registered Ports 1024 thru 49151

•   Dynamic and/or Private Ports 49152 thru 65535

So, rather than encounter a port conflict by choosing a port commonly used for another purpose (like port 25 for SMTP mail or port 448 for secure sockets), choose an 'unusual' port number. For example, add 50,000 to your house number: 50,123 is less likely to lead to a port conflict. For a list of the known and registered ports, see http://www.iana.org/assignments/port-numbers

6.6.2 DDNS

DDNS (Dynamic Domain Name System) is a service used to map a domain name to the dynamic IP address of a network device. You can set up the DDNS service for remote access to the IP decoder.

DDNS assigns a domain name (URL) to the IP decoder, so that the user does not need to go through the trouble of checking if the IP address assigned by DHCP Server has changed. Once the IP is changed, the IP decoder will automatically update the information to the DDNS to ensure it is always available for remote access.

Before enabling the following DDNS function, user should have applied for a host name from the DDS service provider's website. We support four DDNS server providers: **www.everfocusddns.com** and **www.dyndns.com.**

Note: We highly recommend that you use **xxxx.everfocusddns.com** for the simplicity of setting up your IP decoder.

EverFocus DDNS

Note that the **DNS Server 1** should be set up correctly or the DDNS will not work (refer to 6.8.1 LAN & WAN).

DDNS Service: Select **EverfocusDDNS** from the drop-down list.
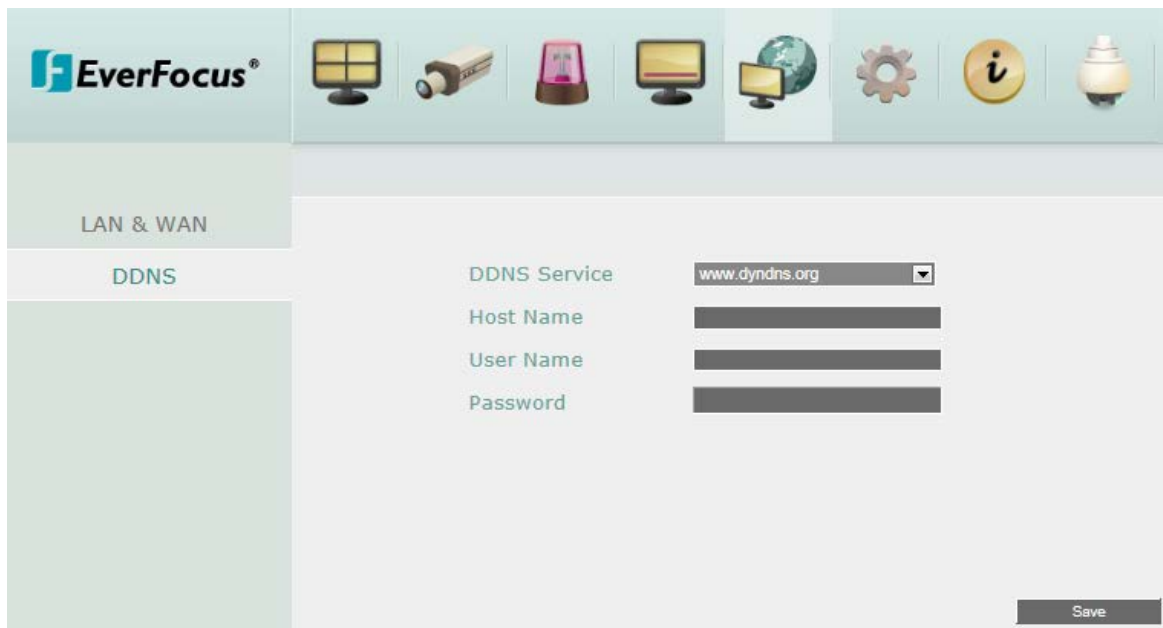
DVR Name: Input the desired name for the IP decoder, and you can enter up to 32 letters.

Note that the name of the IP decoder cannot include a space, or a dot (period) or any special characters particularly _ ~ ! @ # $ % ^ & * ( ) + < > " ; : . ,

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Note:

1. It is not necessary to append the HTTP port number to the DDNS name. The EverFocus DDNS server not only keeps track of your IP decoder's IP address, but also keeps track of the ports.

2. You can go to http://www.everfocusddns.com to check the DDNS name can be registered or not.

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www.dyndns.org

DDNS Service: Select www.dyndns.org from the drop-down list.

Host name: Host name created through the dyndns account.

User name: User name of the dyndns account.

Password: Password of the dyndns account.

Setup Steps:

1. Apply for a host name from www.dyndns.org.

2. Make sure that the DNS Server 1 is set up correctly or the DDNS will not work.

3. Select www.dyndns.org from the DDNS Service drop-down list.

4. Enter the host name in the Host Name field. Note that the name of the IP decoder cannot include a space, or a dot (period) or any special characters particularly _ ~ ! @ # $ % ^ & * ( ) + < > " ; : . , _

5. Enter the User Name / Password of the dyndns account.

6. The setting is complete. And you should now be able to remotely connect the IP decoder by typing the name you created into the address bar. Example: http://hostname.dyndns.com

Note: If you are connecting through a router, make sure that you have opened up all the required network ports in the "Port Forwarding" section of your router's setup options. The default port of the IP decoder is 80. To set up Port Forwarding, please consult the manual of the router.

6.7   System Setting

You can configure the general settings for the IP decoder in this menu.

6.7.1. Date/Time

You can set up the date and time for the IP decoder.

Date: Click to bring up the on-screen picker to set up the date.

Time: Click the up/down arrow to set up the time.

Date Format: Select a date format from the drop-down list.

Time Format: Select a time format from the drop-down list.

Time Zone: Select a time zone for the IP Decoder to adjust to when updating from the time server.

NTP: Select Disable / Enable for NTP time synchronization.

NTP Server: Displays the time server address that the IP Decoder uses for time synchronization. Requires operating network configuration and WAN or LAN access to a compatible NTP server. The default NTP address is the NTP server in Taiwan. To find a compatible NTP address of the IP Decoder's physical location, follow the steps below:

a. Use a computer connected to the Network.

b. Click Start > Run > type "command" and then click OK.

c. In the DOS Prompt, type "ping pool.ntp.org" to find out the IP address of an NTP Server.

NTP Update Interval: The frequency that the system automatically updates the time via the NTP server. Select Daily, Weekly or Monthly.

Daylight Saving: This **Auto** daylight saving function is used for the system to automatically set up the daylight saving time but it is currently reserved for the users in the United States. So, if you want to set up the daylight saving time, please go to Daylight Saving setting page to manually set up the time (refer to *6.9.2 Daylight Saving*).

For the users in United States, if they want to use the **Auto** daylight saving functions, please follow the steps below:

1. Select a U.S Time zone (GMT -05:00 ~ GMT -08:00).

2. Enable the **NTP**.

3. Enter a NTP server IP address in United States.

4. Select **Auto** in the **Daylight Saving** drop-down list.

5. Click **Save** to save the settings.

6. The Daylight Saving setting page (refer to *6.9.2 Daylight Saving*) will be grayed out and automatically set to the correct daylight saving time.

> **Note:** If you need to use the **Daylight Saving** function, you must set up the **Date / Time** first in this page. If you configure the **Daylight Saving** function first and then set up the **Date / Time** setting, the **Daylight Saving** function will then be disabled.
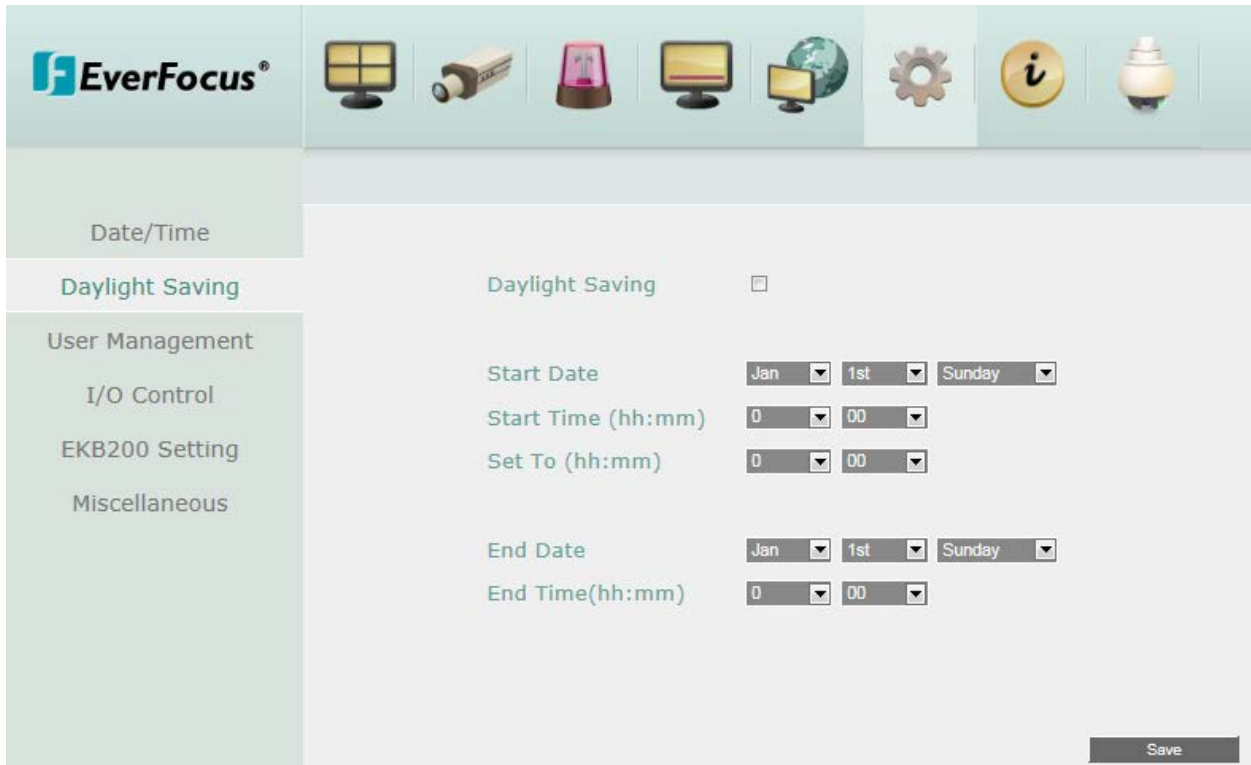
Save: Click to save the settings.

6.7.2. Daylight Saving

You can configure the settings for IP decoder to automatically adjust to daylight saving time.

> **Note:**
> 1. If this page is grayed out, it means that you have enabled the **Auto** daylight saving function, please refer to *6.9.1 Date/Time*.
> 2. If you need to use the **Daylight Saving** function, you must set up the **Date / Time** first in Date/Time setting page.

Daylight Saving: Check the box to enable automatic daylight saving time (DST).

Start Date: Set the start date for daylight saving time.

Start Time (hh:mm): Set the time when daylight saving time begins.

Set To (hh:mm): This is what the time will change to when daylight saving begins. For most regions, this will be one hour ahead of the "Start Time".

End Date: Set the end date for daylight saving time.

End Time (hh:mm): Set the time when daylight saving time ends.

The time change difference on the End Date will be the same as the difference between the Start Time and End Time entered for the Start Date (typically 1 hour as in the example shown).

Save: Click to save the settings.

6.7.3. User Management

You can create multiple user accounts (max: 20 user accounts) with different privileges. The IP decoder has default user accounts which you can choose to copy, edit, add or delete, and the default password is 11111111.

Copy: Click the button to copy the settings of an existing user account to a new user account.

Edit: Click the button to edit the settings of an existing user account.

Add: Click the button to add a new user.

Delete: Click the button to delete an existing user account.

Login: Check the box to enable the User Login function after logging out the IP decoder. For details on logging in the IP decoder, please refer to *3.1 Login*.

Auto User Log Off: Check the box to automatically logoff the IP decoder after 3 minutes of inactivity.

Previous: Click to return to the previous page.

Next: Click to enter the next page.

Save: Click to apply all the settings.

You can further configure each user account and its settings individually, see the steps below:

1. Click to select a user account.

	User Name	Level	Status
1	admin	Admin	Enable
2	user01	Operator	Enable
3	user02	Operator	Enable
4	user03	Operator	Enable
5	user04	Operator	Enable
6	user05	Operator	Enable

2. Click the **Add**, **Copy** or **Edit** button, and the following page appears.

User Name: Input the desired user name.

User Group: Select a user group (access level).

Status: Select to enable or disable the user account.

Password: Input the password.

User Right: Check the boxes to enable the functions for the user account.

Camera Access: Click to bring up a new setting page as below, and check the boxes to enable the live or PTZ functions of the cameras for local or remote access.

	Local Access		Remote Access	
	Live	PTZ	Live	PTZ
All	☐	☐	☑	☑
Camera 1	☑	☑	☑	☑
Camera 2	☑	☑	☑	☑
Camera 3	☐	☑	☑	☑
Camera 4	☑	☐	☑	☑
Camera 5	☑	☑	☑	☑
Camera 6	☑	☑	☑	☑
Camera 7	☑	☐	☑	☑
Camera 8	☐	☐	☑	☑
Camera 9	☐	☐	☑	☑
Camera 10	☐	☑	☑	☑
Camera 11	☐	☐	☑	☑
Camera 12	☐	☐	☑	☑
Camera 13	☐	☐	☑	☑
Camera 14	☐	☐	☑	☑
Camera 15	☐	☐	☑	☑
Camera 16	☐	☐	☑	☑

Save   Cancel

6.7.4. I/O Control

The I/O Control setup menu is used to define the settings for controlling the IP decoder through RS-485 / RS-232 communication protocol and for IP decoder to control the connected PTZ cameras. Please note that the RS-232 port on the IP decoder is currently reserved.

RS-485

PTZ Protocol: Select PTZ protocol, choose from the following protocols: Transparent, Pelco_D, Pelco_P, Everfocus or Samsung. (Note: All cameras on the RS-485 bus must use the same protocol)

485 ID: This is the ID used by the EKB500 to send commands to the IP decoder. On an RS-485 connection, every device (PTZ, IP decoder and controller) must be assigned an unique ID number between 0 and 127.

Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the IP decoder. There are eight different speeds: 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, 38400 BPS, 57600 BPS and 115200 BPS.

Data Bit: This field is the data bit at which you will be transferring. There are two settings for this option: 8 or 7.

Stop Bit: This field is to set the stop bit for the RS232 connection. There are two different stop bits, 1 or 2.

Parity: This field is to select the parity level at which you will be connected. You can choose between None, Odd, or Even parity levels.

Control

One remote control can be used to operate four IP decoders. The IP decoder to be addressed is selected by pressing the key corresponding to its ID number on the IR Remote control. Please refer to *Appendix C: IR Remote Control*.

IR Controller ID: Set up an ID for the IP decoder and allow the IR remote control to control this IP decoder.

6.7.5. EKB200 Setting

You can connect an EKB200, which is EverFocus' USB keyboard, to the USB port on the IP decoder to control the Iris, focus or the pre-configured PTZ control functions of the connected cameras. For details on how to configure the PTZ control functions, including Preset Position, Auto Pan, Tour and Pattern, please refer to 6.5 Camera.

The control keys on the EKB200

After connecting the EKB200 keyboard to the IP decoder and configuring the PTZ control functions, you need to configure the above setup page to define the function for each control key on the keyboard. Click the **Save** button to save the settings. Once you press the control key on the keyboard, the camera will do the action which you've defined for the key.

【Key No】 The control key number on the keyboard.

【Action】 Select an item from the drop-down list to define the function for each key on the keyboard.

- **Set Preset:** You can use the joystick on the keyboard to select a position and then press this key to save the position as the Preset Position.
- **Go to Preset:** Press this key to let the camera go to the Preset Position number specified in the Value column.
- **Go to Home:** Press this key and the camera will go to the Preset Position 1.
- **Clear Preset:** Press this key to clear the Preset Position number specified in the Value column.
- **Run Auto Pan:** Press this key to start the AutoPan number specified in the Value column.
- **Stop Auto Pan:** Press this key to stop the AutoPan number specified in the Value column.
- **Tour Run:** Press this key to start running the Tour number specified in the Value column.
- **Tour Stop:** Press this key to stop running the Tour number specified in the Value column.
- **Pattern Run:** Press this key to start running the Pattern number specified in the Value column.
- **Pattern Stop:** Press this key to stop running the Pattern number specified in the Value column.
- **Set Auto Tracking:** Press this key to switch On / Off the Auto-Tracking function.
- **Select Tracking Object:** Press the key to display the tracking crosshairs on the screen. Use the joystick on the keyboard to select the desired tracking object and press this key again to save the selection.
- **Toggle Full Screen:** Press this key to toggle between the full screen and current screen.

【Value】 Type in the number for the selected Action item. For example, selecting **Go to Preset** from the Action drop-down list and typing in 2 in the Value column represents the Preset Position 2.

To activate the EKB200 keyboard on the PTZ Live View window, click the PTZ icon on the Menu Bar, and then you are able to control the PTZ camera over the EKB200 keyboard (please refer to *6.11 PTZ*).

6.7.6. Miscellaneous

You can upgrade the latest firmware, restore the factory default settings to the IP decoder, upload / save the IP decoder configuration settings from / to your PC or change the language in this setup menu.

Remote Reboot: Click the **Reboot Now** button to enable restarting the IP decoder via the Network.

Firmware: Shows the current firmware version of the IP decoder.

Firmware Upgrade: Select a file and then click the **UPGRADE** button to upgrade the latest firmware. Note you will need to restore the firmware file to your PC.

Configurations

Load Factory Default: Click the **Load** button to restore the IP decoder to factory default settings. The User Account, Network IP Settings, and Time settings will not be affected.

Load from File: Select a file and then click the **Load** button to upload the IP decoder configurations restored in your PC.

Save To File: Click the **Save** button to save the IP decoder configurations to your PC.

Language: Choose which language the IP decoder uses.

6.8 System Information

You can see the IP decoder information in this menu.

6.8.1. System

In the System Menu, you can only see the information of the IP decoder or Network. No configuration can be done in this menu.
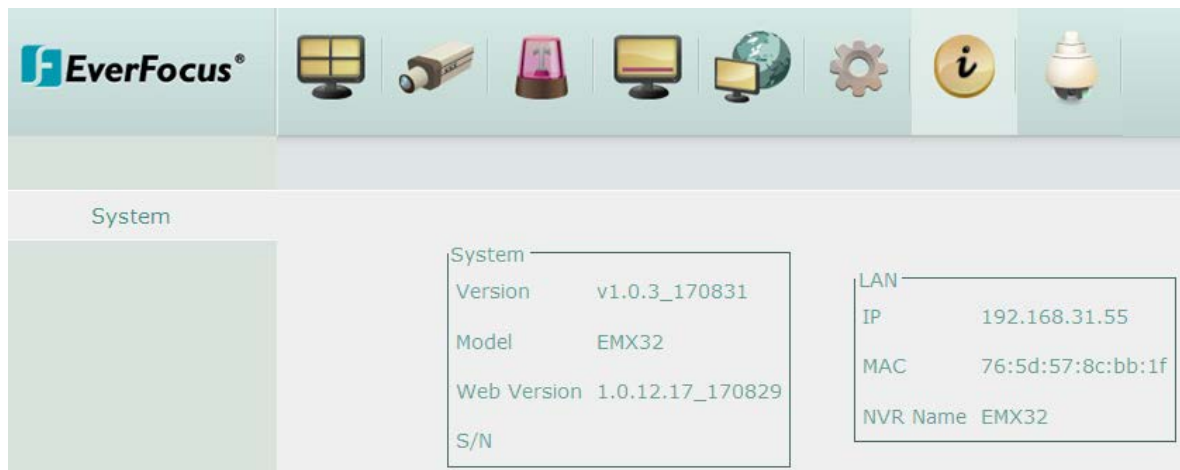
【System】

Version: Displays the firmware version.

Model: Displays the model name of the IP decoder.

Web Version: Displays the version of the Web UI program of the IP decoder.

S/N: Display the serial number of the IP decoder.

【LAN】

IP: Displays the IP address of LAN / WLAN set up in the Network or Express menu.

MAC: Displays the MAC address of LAN / WLAN. This option cannot be changed.

NVR Name: Displays the DDNS name if configured.

6.9 PTZ

You can use the PTZ Control Panel to control the connected PTZ cameras, to set **Preset** setting and to activate the configured PTZ settings. You can also connect to an EverFocus' EKB200 keyboard to a computer to control the PTZ camera.
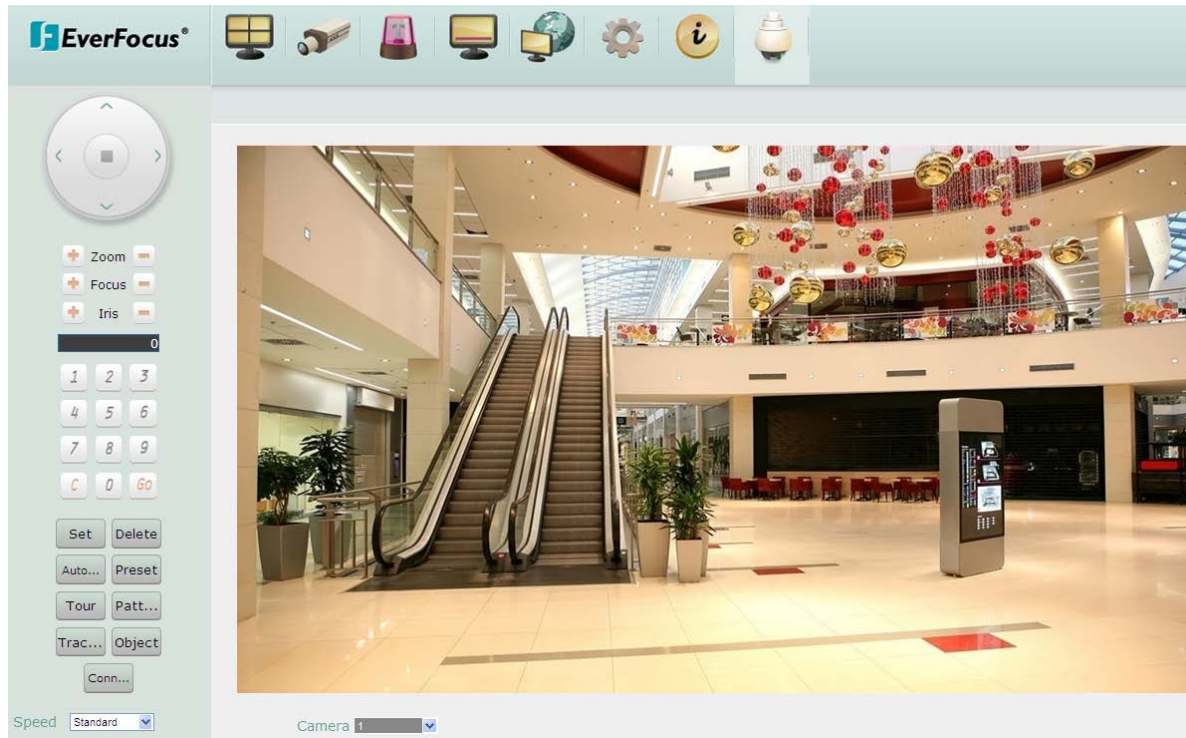
To control the PTZ camera:

1. Select a connected PTZ camera in the **Camera** drop-down list first.

2. To move the camera to the desired direction and angle, click the **Direction** buttons.

3. To zoom in / out the camera view, click the **Zoom** buttons.
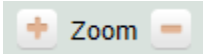
4. To adjust the camera focus, click the **Focus** buttons.
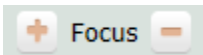
5. To adjust the Iris open to increase / decrease the amount of light in, click the **Iris** buttons.

6. To program a Preset Position (if supported by the camera):

    a. Move the PTZ camera to the desired position.

    b. Click the **Preset** button.

    c. Set up a preset number for the current position by clicking the number buttons. The number will be displayed in the number box.

    d. Click the **Set** button to save the settings.

7. To jump to a Preset Position:
    a. Click the **Preset** button.
    b. Click the desired Preset number.
    c. Click the **Go** button.

8. Shortcut for Preset 1 ~ 9:
    a. Click digit 1 ~ 9 button without clicking any other buttons.
    b. The camera will seek that Preset Position.

9. To delete a Preset Position (if supported by the camera):
    a. Click the **Preset** button.
    b. Click the desired Preset number.
    c. Click the **Delete** button.

10. To operate the Auto Pan function, click the **Auto Pan** button.

11. To operate the Pattern function, click the **Pattern** button. The Pattern is the "0" Tour in EverFocus and Pelco PTZ cameras.

12. To operate the Tour function:
    a.   Click the **Tour** button.
    b.   Click the desired Tour number.
    c.   Click the **Go** button.
13. To remove a pre-configured Tour (if supported by the camera):
    a.   Click the **Tour** button.
    b.   Click the desired Tour number.
    c.   Click the **Delete** button.
14. To start the auto-tracking function, click the **Tracking** button.
15. To start tracking an object on the screen, click the **Object** button. When the object selection box displays on the screen, click to select an object to start auto tracking. Once the PTZ camera loses track of the object, the camera will return to the auto tracking start point. Please select forward position in the object movement path to get better tracking result.
16. To adjust PTZ operation speed, select a speed from the Speed drop-down list.

   Click **C** to clear the entered number in the Number Box.

> **Note:** Before start using the Auto Pan, Pattern, Tour, Tracking and Object functions, you have to configure the related settings for the connected PTZ cameras. Please refer to 6.5.5.2 PTZ or the User's Manual of your PTZ cameras.

Controlling PTZ Camera over EKB200 Keyboard:

When using an EKB200 keyboard, you need to click the **Connect** button on the PTZ Control Panel. Please note that you need to configure the PTZ control functions and define the function for each control key on the keyboard before controlling the PTZ camera over the EKB200 keyboard (see *6.5.5.2 PTZ* and *5.5.5 EKB200 Setting*). For information about the installation of the EKB200 keyboard, please refer to your EKB200 keyboard User's Manual.

Chapter

8

7. Specifications

Model Name	EMX32
Channel Number	16 CH
Video Codec	H.264
Video Output	HDMI/VGA : 800X600, 1024X768, 1280X1024, 1920X1080
Alarm In	4
Alarm Out	1
Watch Dog Timer	Yes
User Interface	GUI (Graphical User Interface)
OS	Embedded Linux
Network / Protocol	10/100Mbps Ethernet TCP-IP / DHCP/ PPPoE / Everfocus DDNS / RTSP / RTP / HTTP / SMTP / POP3 / SSL
Control PTZ via OSD	Yes
Dual Streaming	Yes
USB	1 USB 2.0 port (on Back Panel)
User Access	3 Levels of user access supported
RS-485	1 RS-485
Power Source	12VDC/ 5A (Max. 60W)
Operating Temperature	0°C~40°C / 32°F~104°F (20~80% humidity)
Dimensions (L x W x H)	160 x 160 x 45 mm / 6.29" x 6.29" x 1.77"
Certificates	CE, FCC, RoHS
Language	English, Japanese, Traditional Chinese, Spanish, Deutsch, French, Russian, Portuguese, Dutch, Simplified Chinese, Hungarian
Remote Client System Minimum Requirements	
Operating System	Windows XP (32-bit) / Win7 (32 and 64-bit)
CPU	Intel Core I3-2100
RAM	2GB
VGA	Intel HD 2000
LAN Speed	10 / 100 / 1000 Mbps (RJ45)
Web Browser	IE11 and later, Firefox 50 and earlier, Chrome 44 and earlier, EF browser
Other Remote Application	EverFocus' mobile app: MobileFocus (iOS and Android); MobileFocusHD (iPad).

Appendix
A

Appendix A: Network Overview

This chapter will give you a basic instruction on how to set up the IP decoder for network connection. It is highly recommended that you have a working knowledge of what a network is and how it works. This will be helpful in completing the networking process.

Introduction to TCP / IP

TCP/IP is the group of protocols used by the Internet and most Local Area Networks (LANs) throughout the world. In TCP/IP, every computer or other communications device that is connected to the network has a unique IP address. By doing this you are giving your device a unique address similar to the address of your house. An IP address is composed of four octets (numbers in the range of 0 to 255) separated by decimal points. The IP address is used to uniquely identify a host or computer on the LAN. For example, one computer on a network could have an IP address of 192.168.1.127.

You should never give two or more devices the same exact IP address, but the first three octets of an IP address is often the same for all computers in the local area network. For example, if a total of 253 computers exist in a single LAN, the IP addresses could be assigned starting with 192.168.1.x, where x represents a number in the range of 2 to 254. In IPP address could be compared with a telephone number.

Subnet Masks

Each host in a LAN has a subnet mask. The subnet mask is a set of octets that is used to determine which LAN or class it belongs to. The number 255 is usually used to represent the network address portion of the IP address and a zero is placed at the end to identify the host portion of the address. Basically the subnet mask tells the devices how the network addresses are organized, and helps to determine which addresses are local and which are remote (on the other side of the router).

Gateway Address

Addressees are either local or remote. A gateway address is composed of four octets separated by decimal points. The gateway address is used to uniquely identify the device on the LAN that has access to the communications links connecting to other LANs, WANs and/or the Internet (access to the 'remote' addresses).

Virtual Ports

A **port number** represents a "channel" or entryway for network communications. Port numbers allow different computers to utilize network resources without interfering with each other. Port numbers most commonly appear in network programming, particularly socket programming. Sometimes, though, port numbers are made visible to the casual user. For example, some websites on the Internet use a URL like the following:
http://www.sitename.com:8100/

In this example, the number 8100 refers to the port number used by the browser to connect to the web server. The standard port number used by web sites is 80, so this number does not need to be included with the URL (although it can be). In IP networking, port numbers can theoretically range from 0 to 65535. Most popular network applications, though, use port numbers at the lower end of the range (such as 80 for HTTP).   Ports are similar to doors and windows of your house, with port 80 acting as the front door. If these are not open you could not enter the house. This is the same case with ports on a network. If the ports for a specific IP address are not open then you could not gain access to that IP address.

> **Note:** The term port also refers to several other aspects of network technology. A port can refer to Ethernet connection points, such as those on a hub, switch, or router. The term port is also used to refer to a physical connection point for peripheral devices such as serial, parallel, and USB ports.

Another analogy would be: if a WAN IP address is similar to the phone number identify a site, IP ports are similar to telephone extensions, in that they allow communication with specific devices within a site that all share the same external (WAN) IP address. A router is a device which allows multiple computers and other IP enabled equipment to share that single WAN IP address. It functions like a "switchboard operator" – opening ports creates an association between those port numbers and the LAN IP address of specific equipment on the LAN behind the router. When the router sees a 'call' for a specific 'extension' (port), it directs that data stream to the (LAN IP address of the) equipment associated with that 'extension' (port).

Pre-Installation

Before beginning the installation, please answer the following questions:

■   Do you have Hi-speed Internet?   _____

     There are many types of high speed Internet available. The most common ones are T1, Cable, and DSL (in order of speed). The IP decoder is not compatible with a dial-up connection.

> **Note:** EverFocus suggests having a minimum upload speed of 256KBps. This can be addressed by your Internet Service Provider.

■   What type of modem/router do you have?   _____
                                             Modem/router model name/ #

     The modem/router was either installed by your Internet service provider or purchased by you to establish a connection to the Internet. A router assigns different internal IP addresses to local computers; this allows multiple computers to access the Internet through the same external IP address.

■   Do you have a static IP address?   _____

     A Static IP address means you use the same IP address every time you connect to the Internet. With a static IP address, other Internet users always know the address of your location and can easily connect with it. This makes it much simpler to host a website, email server, or other type of server connection. EverFocus suggests using a static IP address. If this is not available, you will need to use a dynamic IP address. This is explained below.

■   Do you have a dynamic IP address?   _____

     A Dynamic IP address means your IP address changes each time you connect to the Internet. We recommend asking your Internet service provider for a Static IP address. If this is not a possibility, you may use the DDNS feature of the IP decoder. DDNS stands for Dynamic Domain Name Server, a service that provides a central database where IP information can be stored and retrieved. It allows those using a dynamic IP address to be registered centrally so users can connect to it by name. See _5.4.2 DDNS_ for details on using EverFocus DDNS.

Pre-Installation

EverFocus' IP decoder can operate using one of three types of networking connections.

Simple One to One Connection: A simple one to one connection is the simplest type of network connection. It uses a cross-over cable to make a direct connection from one computer to another (or in this case a computer to a IP decoder).

Direct High Speed Modem Connection: A direct modem connection uses a standard network cable to connect the modem directly to a computer (or in this case a modem to the IP decoder). This type of connection only covers single-port modems. For a combination modem/router, use the setup described below.

Router or LAN Connection – A local area network connection requires either a router or a pre-existing LAN connection. This is the most common type of connection. A router allows multiple computers and IP decoder's to access each other as well as the Internet. It assigns different internal IP addresses to the computers.

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Appendix

B

Appendix B: Linksys & D-Link Port Forwarding
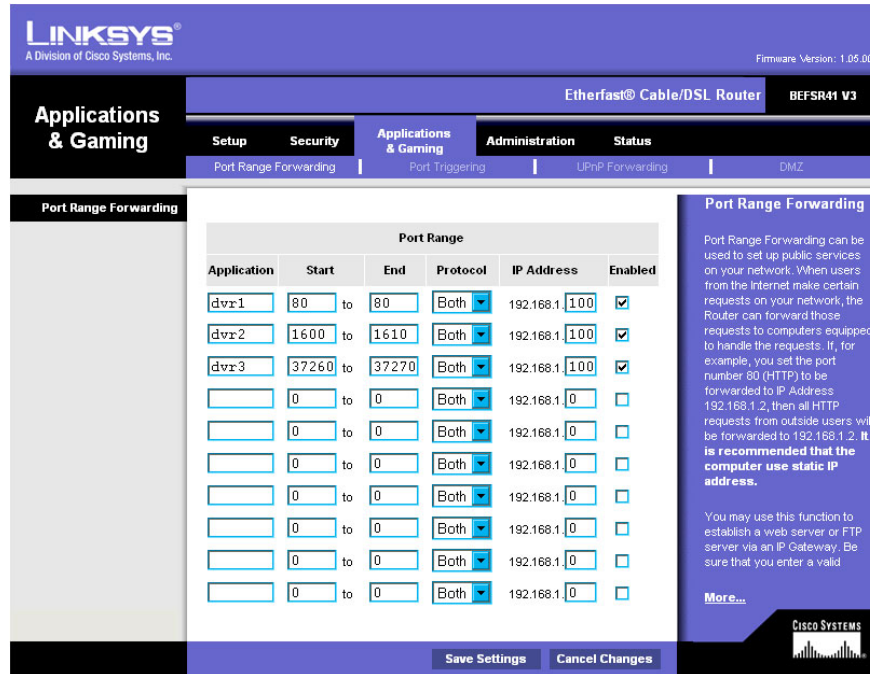
Typical Linksys Port Forwarding

This section will cover a few simple configurations for the Linksys router. This chapter is only to offer some help to the installer and end user. Please understand we **DO NOT** support this product and will not give tech support on it. If you need additional technical support on this router you must call Linksys.

To access the Web-based Utility, launch a web browser and type the Router's IP address, typically **192.168.1.1**, in the address bar. Then press Enter. A password request page will appear. (Non-Windows XP users will see a similar screen.) Leave the User Name field blank. The first time you access the router, use the default password **admin**. Click the **OK** button to continue.

The first screen that appears displays the Setup tab. This allows you to change the Router's general settings. Change these settings as described here and click the **Save Settings** button to apply your changes or **Cancel Changes** to cancel your changes.

Click on the "Applications & Gaming" tab.

Applications and Gaming allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, or other specialized Internet applications. (Some Internet applications may not require any forwarding) To forward a port, enter the information on each line for the criteria required. Descriptions of each criterion are described here.

Application - In this field, enter the name you wish to give the application.
Start/End - Enter the starting number of the range under **Start** and the ending number under **End**.
Protocol - Enter the protocol used for this application, either **TCP** or **UDP**, or **Both**.
IP Address - For each application, enter the IP Address of the PC running the specific application.
Enable - Click the **Enable** checkbox to enable port forwarding for the relevant application.
When finished making changes, click the **Save Settings** button to apply your changes or **Cancel Changes** to cancel them.

Here is an example for how the port information might look:
    HTTP   80 to 80   Both 192.168.1.50   Enable

Where 192.168.1.50 is the IP address of the IP decoder on the LAN, and the default port 80 is in use.

Note: If you changed port 80 in the IP decoder's Network Menu, open that port instead of 80.

Typical D-Link Port Forwarding

This section will cover a few simple configurations for the D-Link router. This chapter is only to offer some help to the installer and end user. Please understand we **DO NOT** support this product and will not give tech support on it. If you need additional technical support on this router you must call D-Link.

Whenever you want to configure your network or the DI-624, you can access the Configuration Menu by opening a web-browser and typing in the IP Address of the DI-264.
The DI-264 default IP Address is 192.168.0.1.

- ■ Type "admin" in the **User Name** field
- ■ Leave the **Passwor**d blank
- ■ Click **OK**
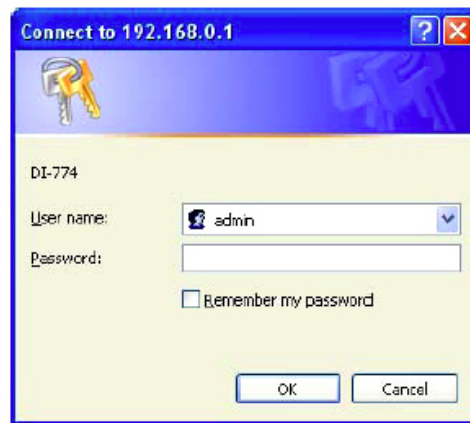
The first screen that shows up is the Home Tab. This is the starting point for all the router's settings and functions.

Click Virtual Servers on the left to bring up the following screen.

Virtual Servers allows users who are connecting remotely to access services on the router's Local Network. The functions of each field are described below.

Virtual Server - Select **Enabled** or **Disabled**
Name - Enter the name referencing the virtual service
Private IP - The IP address of the device running the local services.
Protocol Type - The protocol used for the virtual service.
Private Port – The port number that the service uses on the LAN (Local Area Network).
Public Port - The port number that the services uses on the WAN (Wide Area Network).
Schedule – The time period the virtual server will be active.
When you have input all the information for a virtual server, click on **Apply** to add it to the list at the bottom or **Cancel** to clear all fields.
Here is an example of the information for each service:

Name	Private IP	Protocol	Private Port	Public Port	Schedule
HTTP	192.168.1.50	Both	80	80	Enable

Where 192.168.1.50 is the IP address of the IP decoder on the LAN, and the default port 80 is in use.

Note: If you changed port 80 in the IP decoder's Network Menu, open that port instead of 80.

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Appendix C: IR Remote Control

The IR remote control is an accessory to enhance the convenient operation of the IP decoder. You can perform all the settings and operations from the remote control. The effective distance is up to 33 feet line of sight.

When there is more than one IP decoder installed in the same environment, you need to select a correct IP decoder ID, preventing the IP decoder from responding to commands from the Remote Control.

To select the IP decoder ID,

1. Aim at the IR receiver of your IP decoder.
2. Press the **IP decoder Device Button** first.
3. Select the IP decoder ID number by pressing the **Number Button**. The IP decoder ID number here must correspond to the "IR Remote ID" set up in the "I/O Control Menu", and remember to click **Save** on that setting page (refer to *5.5.4 I/O Control*). For example, if you set up "2" in the OSD setting page, you need to press "2" on the controller.
4. Press the **OK** button to complete the setting and now you can control the IP decoder.

To switch channels,

To select CH1~9, press Number Button 1~9.

To select CH10~16, press the "0" button first to change the Number Button 1~7 as CH10~16, and then press the Number Button 1~7 to switch to the desired channel. For example, if you want to select CH11, press "0" first, and then press "2".
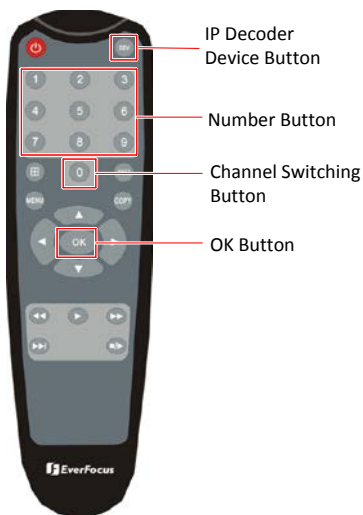
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