# EMV400S FHD / EMV400SSD

## 4 Channels 1080p Full HD Mobile DVR

*User's Manual*

EMV400S FHD

EMV400SSD

EverFocus

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EVERFOCUS ELECTRONICS CORPORATION

# EMV400S FHD / EMV400SSD
# 1080p Full HD Mobile DVR

## User's Manual

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# 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 mobile DVR at temperatures within -40°C~55°C / -40°F~131°F (Storage). The input power source is between 8VDC and 35VDC.

- **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.

- **RTC (Real Time Clock) Battery**
  When encounter failure of time calibration of your DVR, 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 Mobile DVR.

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.

**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.

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!

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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Chapter

1

# 1. Introduction

The latest EverFocus H.264 full HD mobile DVR comes in two models: EMV400S FHD and EMV400SSD, delivering 1080p full HD resolution on live/recording streams.

Its comprehensive features along with the 3G, 4G and Wi-Fi function, enables its mobility and functionality to be widely adopted in the vehicle environment. The models provide an external I/O port for connecting to I/O devices such as CAN bus. Moreover, the User Interface has been specially designed to fit the mobile small-sized monitor. Both of the models are CE and FCC certified.

You can use EverFocus Mobile Applications, MobileFocus, to remotely view the camera streams from the mobile DVR through your handheld devices; or use EverFocus Xfleet system for remote fleet management. Other than that, users can also use EverFocus EF-Reader to remotely back up recordings from the SSD/SD card of the mobile DVRs. The full HD mobile DVR is the ideal solution for your mobile surveillance needs.

### EMV400 Series Models

| Spec | EMV400S FHD | EMV400SSD |
|---|---|---|
| **Channels** | 4CH | 4CH |
| **Alarm I/O** | External I/O port | External I/O port |
| **SD Card Slot** | 1 (max. 128GB) | 1 (max. 128GB) |
| **SSD Storage** | - | 1 (up to 4TB) |
| **WiFi/GPS** | Supported (Optional) | Supported (Optional) |
| **3G/4G** | Supported (Optional) | Supported (Optional) |
| **Certificates** | CE, FCC | CE, FCC |

### Storage Functionality

| Spec | EMV400S FHD | EMV400SSD |
|---|---|---|
| **SD Card** | For general recordings | For alarm event backup recordings |
| **SSD** | - | For general recordings |
| **External USB Storage** | For archiving (backup) recordings | For archiving (backup) recordings |

## System Diagram

The following diagram uses EMV400SSD as an example. EMV400S FHD does not support SSD function.

**Note:**

1. Both of EMV400S FHD and EMV400SSD provide four 12VDC power output for powering the connected cameras. Each 12VDC power output provides 500mA current (total 2A).
2. To connect to the external I/O devices through the **EXT-Box** port, an optional **External I/O Box** is required (see *1.4 Optional Accessories*).

## 1.1 Features

- Full HD mobile DVR (supports analog SD / Full HD cameras)
- Up to 1080p full HD resolution for live and recording
- Dual-stream from H.264 video compression
- eZ.Controller function: Control camera OSD settings and PTZ operation directly from MDVR end (please refer to *1.2 eZ Controller Function Description for more details*)
- Supports SD card up to 128GB
- Supports 2.5” SSD up to 4TB (only for EMV400SSD)
- 3-axis G-sensor embedded
- Multiple serial interfaces
- IR remote control function
- Archives recordings to the USB storage device and FTP server
- Supports mobile applications (MobileFocus)
- Multiple network monitoring: Web viewer, Genie XMS Xfleet (Server System)
- Certificates: CE, FCC
- 3G, 4G LTE function / GPS function / Wi-Fi function (Optional) *

* Requires an external 3G / 4G / GPS / Wi-Fi antenna, please refer to *1.4 Optional Accessories*.

## 1.2 eZ. Controller Function Description

### ◆ eZ.Controller: Easily control PTZ camera from DVR using only coaxial cable.

eZ.Controller allows users to control PTZ camera from DVR using only a coaxial cable without the need of a RS-485 cable between the PTZ camera and the DVR. Users can easily operate Zoom, Focus, Iris, Direction, Auto Pan, Preset, Tour and Pattern functions to the PTZ camera through DVR.

PTZ Camera

Tip: You can also bring up the camera OSD through Preset 95.

**Note:** The eZ.Controller function for PTZ control is only supported for EverFocus AHD (1080p, 720p) PTZ cameras.

## ◆ eZ.Controller: Easily control eZ.HD camera's OSD at the DVR end.

Traditionally, the CCTV installer needs to take a portable monitor to connect to the camera for controlling the camera OSD at the camera installation site as the ***Diagram A*** below. It will take extra effort, time and people to adjust the camera.

Now, EverFocus' **eZ.Controller** allows users to control the camera OSD simply on the monitor at the DVR end as illustrated in ***Diagram B***.

### How to Control eZ.HD Camera's OSD at the DVR End?

1. On the DVR's OSD setting menu, go to **System** > **Camera** > **Adjust**. Select a camera you want to adjust.
2. Click the **Advanced** button, and the camera live view with the UTC Panel will be displayed.

1. To display the OSD menu, click the **Enter** button on the UTC Panel.
2. You can use the direction buttons on the UTC Panel to control the camera's OSD setting menu.
3. To exit the camera OSD setting, click **Exit** to return to the **Adjust** setting page.

## 1.3 Packing List

| | |
|---|---|
| • Mobile DVR x 1 | • D-Sub Cable x 1 (see *2.3.4 D-Sub Cable*) |
| • VGA Cable x 1 | • Quick Installation Guide x 1 |
| • Card Lock Key x 2 (for EMV400S FHD only) | • CD x 1 (Please see Note 3.) |
| • SSD Lock Key x 2 (for EMV400SSD only) | • Mounting Kit x 1 (Screw x 4, Anchor x 4) |
| • Power Harness Cable x 1 (see *2.3.3 Power Harness Cable*) | • IR Remote Control x 1 (with two AAA batteries. See Note 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, 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.
   - Use only two AAA dry cell batteries.
   - Do not dispose of the batteries in a fire as it may explode.

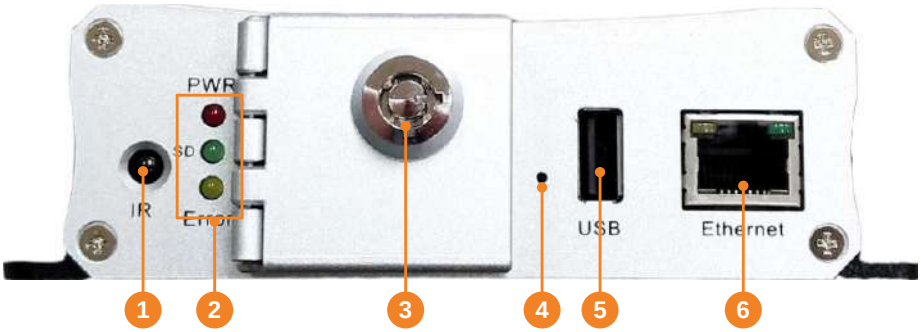
## 1.4 Optional Accessories

You can use the optional accessories to expand the capabilities and versatility of the mobile DVR. Please contact your dealer for more information.

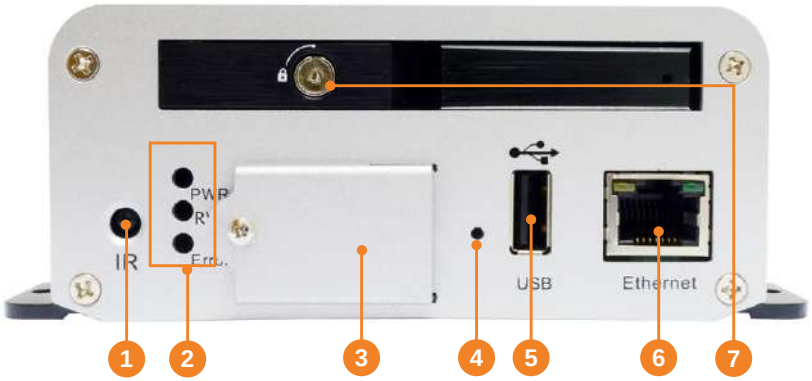
| | |
|---|---|
| • **3G Antenna:** For using 3G network function | • **4G Antenna:** For using 4G LTE network (LTE frequency bands differ among regions) |
| • **GPS Receiver:** For using GPS function | • **Wi-Fi Antenna:** For using Wi-Fi function |
| • **External I/O Box:** For connecting to the Alarm I/O and RS-232 devices (see *2.3.7 External I/O Box & LED Indicates Box*) | • **LED Indicates Box:** For monitoring mobile DVR status (note this device must work in conjunction with External I/O Box) (see *2.3.7 External I/O Box & LED Indicates Box*) |

## 1.5 Front Panel

### EMV400S FHD



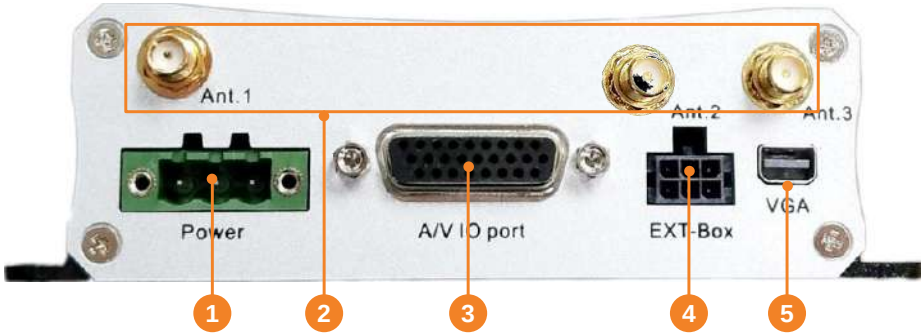

### EMV400SSD



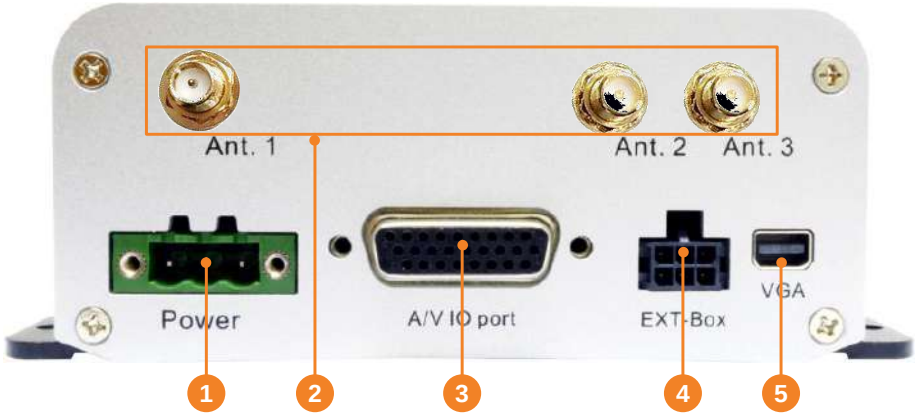

| No. | Name | Description |
|---|---|---|
| 1 | **IR Receiver** | Receives data from the infrared remote control. |
| 2 | **System LEDs** | Power: Lights red continuously when power is supplied. Blinks when power supply is insufficient.<br>Storage: Lights green continuously when storage is reading or writing data.<br>Error: Lights yellow continuously when system error occurs, including System Clock Error, Storage Failed, Storage Off and Network Loss. |
| 3 | **Card Lock** | Open the card protection lock and then insert a SDHC/SDXC card (up to 128GB, see *2.3.1 SD Card Installation)*; or insert a SIM card for 3G/4G function (see *2.3.6 Antenna Connection*). To see the SD card info, see *6.5.1 Storage* in the *User's Manual*. You can also see *Appendix G* for tested card brands. |
| 4 | **Reset Button** | Press and hold the Reset Button to restart system. |
| 5 | **USB2.0 Port** | Connects to a USB storage device or a mouse. You can use the USB storage device for archiving (backup) recordings. Up to 4TB storage capacity is supported of the USB storage device. |
| 6 | **LAN** | Connects to a 10/100 Ethernet. |
| 7 | **SSD Key Lock** | Lock and unlock the SSD tray (see *2.3.2 SSD Installation*). |

## 1.6 Rear Panel

### EMV400S FHD




### EMV400SSD




| No. | Name | Description |
|---|---|---|
| 1 | **DC Power Input** | Power harness cable for connecting to 8 ~ 35VDC power source. For details, please refer to *2.3.3 Power Harness Cable*. |
| 2 | **Antenna** | Connects the antenna to the mobile DVR. Please refer to *2.3.6 Antenna Connection* for more details.<br>**Ant. 1 (3G/4G)** Connects to the 3G or 4G antenna.<br>**Ant. 2 (4G)** Connects to the 4G antenna. Note that the 4G function is required to use both Antenna 1 and 2.<br>**Ant. 3 (Wi-Fi)** Connects to the Wi-Fi antenna for using Wi-Fi function. |
| 3 | **D-Sub Port** | A D-Sub connector for connecting to the audio and video devices, GPS device and supply power for the connected cameras. Speakers and microphones with a (built-in) amplifier and external power supply are required. For details, please refer to *2.3.4 D-Sub Cable.* |
| 4 | **EXT Box** | Optionally connects to an external I/O box for alarm I/O function (see *2.3.7 External I/O Box & LED Indicates Box*). |
| 5 | **VGA** | Connects to a monitor using the supplied VGA Cable. You can display live view or perform the playback and OSD operations. |

Chapter 2

# 2. Getting Started

## 2.1 Installation

Please **avoid** installing the mobile DVR to the following locations in the vehicle:

- That is subject to high vibration / sunlight levels
- That is subject to be drenched of the rain
- Where passengers can interfere with the mobile DVR
- Next to a heater duct

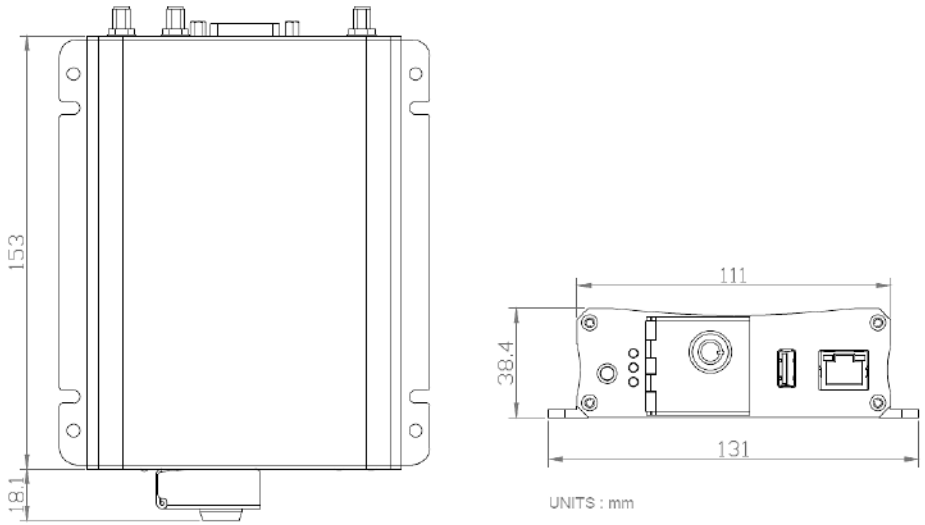
The following table lists the recommended location options in the vehicle:

| Location | Convenient Operation | Easy to Install | Low Vibration | Good Air Flow |
|---|---|---|---|---|
| Bottom of glove box- horizontal mount | Yes | Yes | Yes | Yes |
| Bottom of passenger seat next to the driver | **No** | Yes | Yes | Yes |
| Underneath bulkhead-horizontal mount | Yes | Yes | **No** | Yes |
| Front of bulkhead-horizontal mount | Yes | Yes | Yes | Yes |
| Beside deriver seat-horizontal mount | Yes | Yes | Yes | Yes |

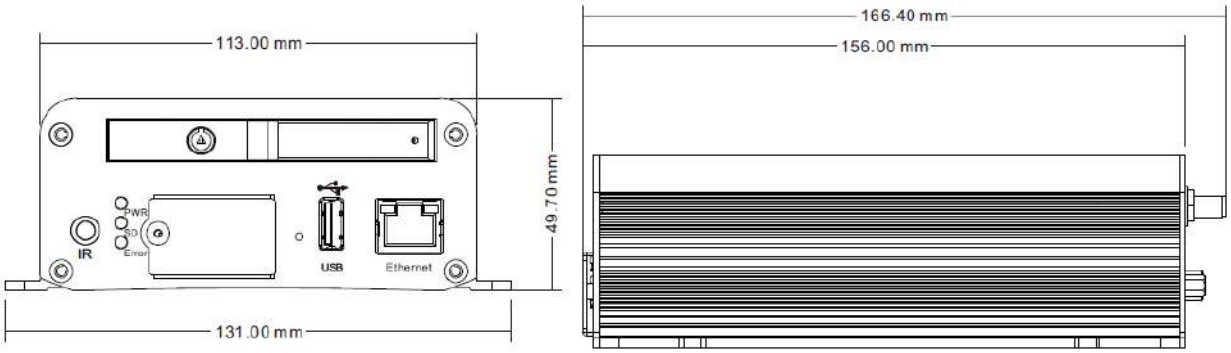
**Note:** Do not install the mobile DVR on the floor or on the transmission access hatch. These locations have the highest levels of vibration and may be subject to water damage.

### 2.1.1 Dimensions

#### EMV400S FHD




#### EMV400SSD




### 2.1.2 Mounting the Mobile DVR

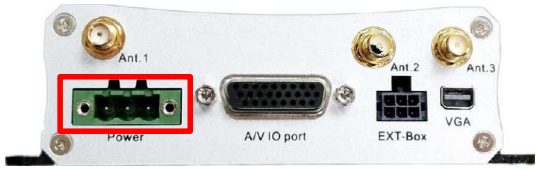
To mount the mobile DVR onto a surface inside a vehicle:

1. Optionally drill four holes on the mounting surface according to the hole-position on the mobile DVR and then insert the four supplied **Anchors** into the holes on the mounting surface. Place the mobile DVR on the mounting surface against the anchoring surface so that the holes line up.
2. Screw the mobile DVR to the mounting surface using the supplied four **Screws**.
3. The mounting process is now complete. You can start connecting cables and the desired devices to the mobile DVR. Please refer to *2.3 Basic Connection* for more details.

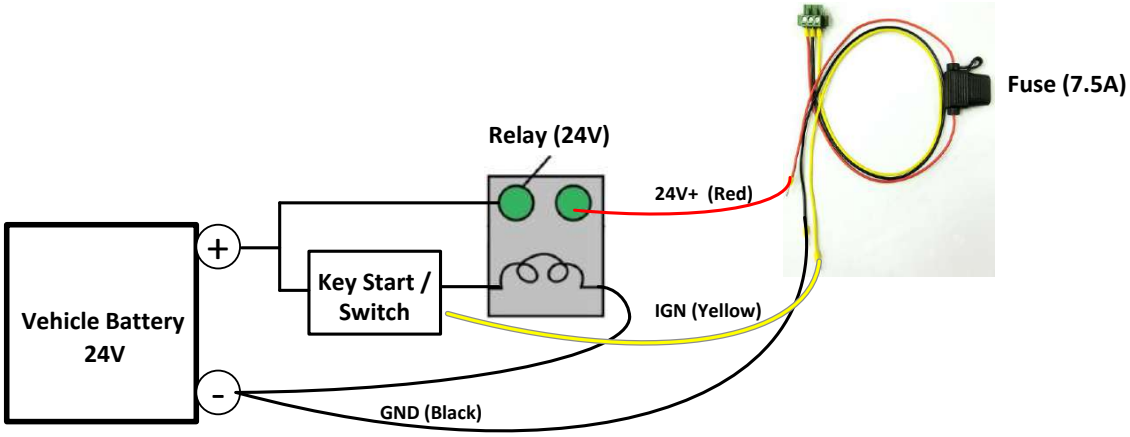
## 2.2 Vehicle Connection

The mobile DVR supports input power voltage between 8VDC ~ 35VDC. You can install the mobile DVR in all kinds of vehicles support the above power voltage. The diagrams below are examples to illustrate the connection inside a car / truck with 12VDC / 24VDC.

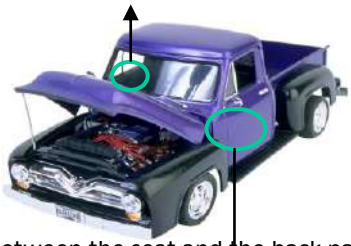
### 2.2.1 Connecting to a Truck with 24VDC




**24V+ GND IGN**
Red Black Yellow




Glove box (inside or underneath)

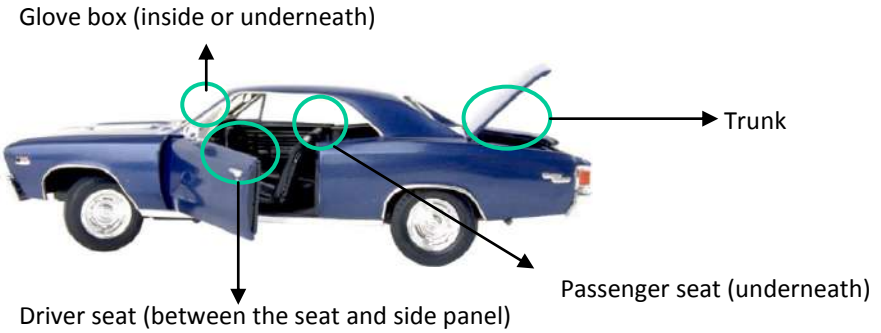


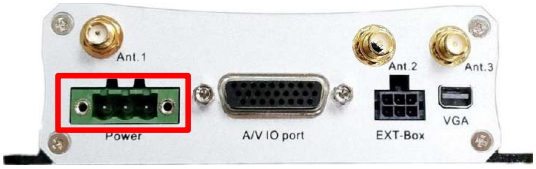
Driver's seat (between the seat and the back panel) or underneath the Passenger seat

**Note:**

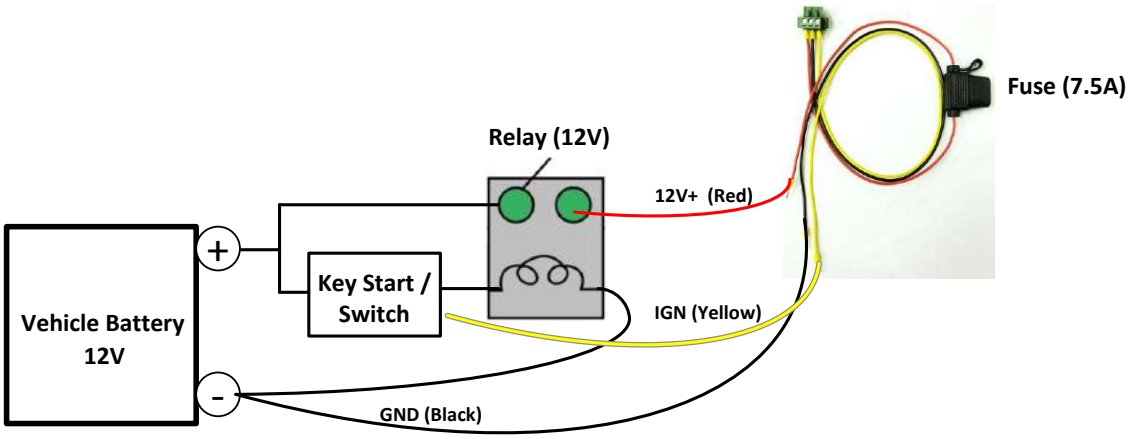
1. If the car is without an ignition key, please connect the IGN (yellow) wire directly or via a switch to the vehicle battery.
2. It is suggested to use a relay in the installation. Otherwise, the mobile DVR will always draw the power from the vehicle battery.

### 2.2.2 Connecting to a Car with 12VDC




**12V+ GND IGN**
Red Black Yellow

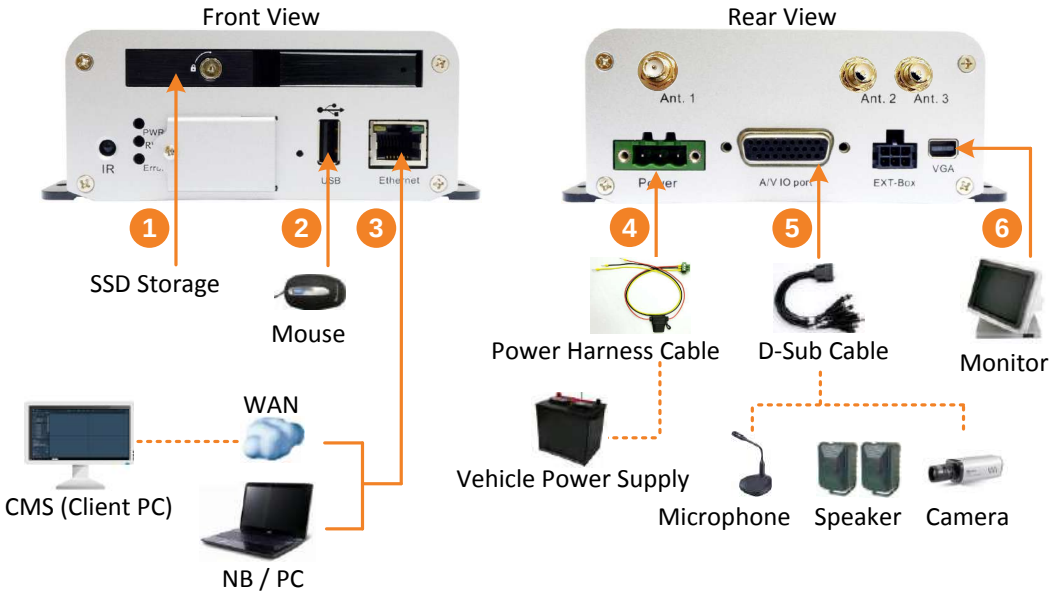



**Note:**

1. If the car is without an ignition key, please connect the IGN (yellow) wire directly or via a switch to the vehicle battery.
2. It is suggested to use a relay in the installation. Otherwise, the mobile DVR will always draw the power from the vehicle battery.

## 2.3 Basic Connection

After installing the mobile DVR in the vehicle, you can start connecting the external devices to the mobile DVR. The instructions below describe the basic connection to the mobile DVRs. For details on cable connections, please refer to the following sections. The example below is using EMV400SSD.




1. To record videos, install a storage device to the mobile DVR:
   - For EMV400S FHD: Insert an SD Card to the SD Card Slot (see *2.3.1 SD Card Installation*).
   - For EMV400SSD: Install an SSD to the SSD tray (see *2.3.2 SSD Installation*).
2. To control the system, connect a mouse to the mobile DVR or use the supplied IR Remote Control.
3. To manage the mobile DVR over network, use a standard RJ-45 cable to connect the mobile DVR to the network.

   **Note:** The mobile DVRs feature Wi-Fi/3G/4G function. You can optionally connect the Wi-Fi/3G/4G antenna to the mobile DVR for wireless networking (see *2.3.6 Antenna Connection*).
4. Connect the supplied Power Harness Cable to the power supply in the vehicle for powering the mobile DVR (see *2.3.3 Power Harness Cable*). For details on vehicle connection, please refer to *2.2 Vehicle Connection*.
5. Connect the eZ.HD cameras (HD-TVI / HD-CVI / HD-SDI cameras are not supported) to the mobile DVR using the supplied D-Sub Cable (see *2.3.4 D-Sub Cable*). You can also optionally connect a speaker or microphone to the mobile DVR using the supplied D-Sub Cable. Note that the speaker/microphone with a (built-in) amplifier and external power is required.
6. To view videos, connect a monitor to the VGA port using the supplied VGA cable. You can also connect a call monitor to the BNC port, please refer to *2.3.5 Monitor Connection*.

### 2.3.1 SD Card Installation

The mobile DVRs provide one SD card slot. Please follow the steps below to install the SD Card. Up to 128GB SDHC / SDXC cards are supported (see *Appendix G Tested Card Brands*).
For EMV400S FHD, the SD card is used for general recording. For EMV400SSD, the SD card is used for alarm event backup recording only.

**EMV400SSD:**

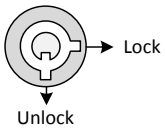
1. On the front panel of the mobile DVR, unscrew the card protection plate.

2. Lift up the card protection plate and insert a SD card into the SD Card slot (the lower one).

3. Screw back the card protection plate. The SD card installation is now complete.

**EMV400S FHD:**

1. On the front panel of the mobile DVR, unlock the card protection plate using the supplied Card Lock Key (turn clockwise).




2. Lift up the card protection plate and insert a SD card into the SD Card slot (the lower one).

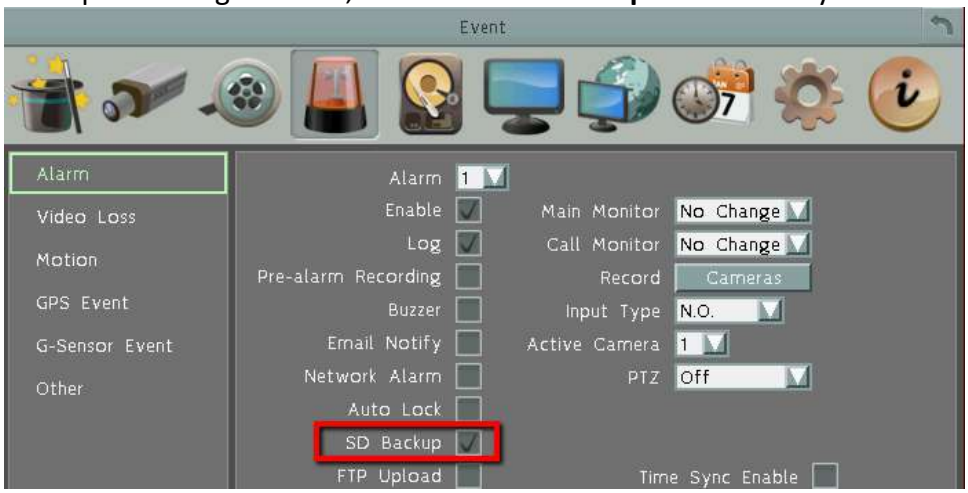
3. Lock the card protection plate using the supplied Card Lock Key.

The Mobile DVR will automatically detect when a new SD card has been inserted and the below SD card format message will pop-up. Click **Yes** to format the SD card. The formatting process will take about 30 ~ 60 seconds. Note that only the formatted SD card can be used for recordings.

For **EMV400S FHD**, the SD card is used for general recording. For **EMV400SSD**, the SD card is used for alarm event backup recording only. After installing the SD Card, it's recommended to enable the **Record Overwrite** function. The Record Overwrite function can be applied to the SD card connected to both models, which enables the mobile DVR to overwrite the SD card when the card space is full. To enable Record Overwrite, please go to the OSD menu: System < Record < Record.

If Record Overwrite is not enabled, the recording to the SD card (general recordings or alarm event backup recordings) will stop when card space is full and the mobile DVR will automatically pop-up a message "SD Card Off" for notification. Users will have to replace a new SD card; or backup the SD card recordings and then erase (format) the SD card to resume the recording.

For **EMV400SSD**, the SD card is used for alarm event backup recording. To enable the alarm event backup recording function, enable the **SD Backup** function in System < Event < Alarm.

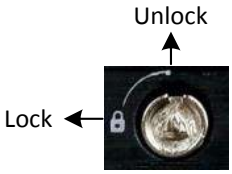


### 2.3.2 SSD Installation

Only the EMV400SSD features the SSD function. Users can install one 2.5” SSD into the mobile DVRs for recording. Please follow the steps below to install the SSD. Up to 4TB SSD is supported.

**Note:** The mobile DVR does not support hot swap for the SSD. Ensure to power off the mobile DVR before removing the SSD. Also ensure to remove the SSD only after the power was completely shut off. This would protect and extend the operating life of the SSD.

1. Make sure the mobile DVR is powered-off. Unlock the SSD Tray (turn clockwise) using the supplied SSD Lock Key.




2. To install the SSD, pull the Release Latch to open the SSD Tray Arm.

3. Insert an SSD into the SSD tray.

4. Push back the SSD Tray Arm.

5. Lock the SSD Tray using the supplied SSD Lock Key.

After installing the SSD, it's recommended to enable the **Record Overwrite** function. The Record Overwrite function enables the mobile DVR to overwrite the recordings when the storage space is full. If Record Overwrite is not enabled, the recording to the storage will stop when storage is full and the mobile DVR will automatically pop-up a message for notification. Users will have to replace a new SSD; or backup the SSD recordings and then erase (format) the SSD to resume the recording function.

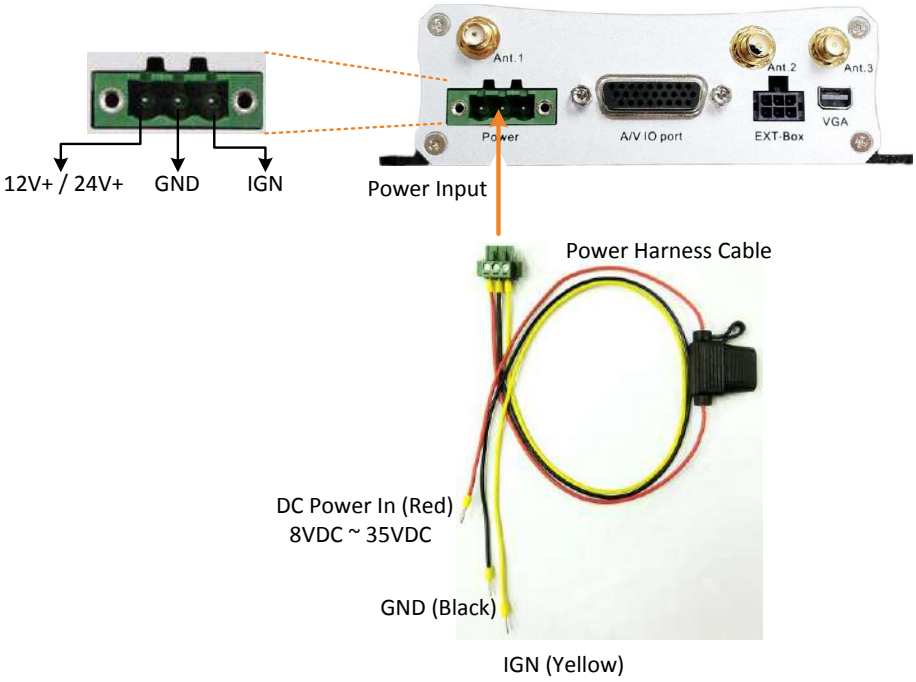
To enable Record Overwrite, please go to the OSD menu: System < Record < Record.

## SSD Compatibility List

Please go to the EMV400SSD Web page on EverFocus' website http://www.everfocus.com.tw to see the latest Hard Disk / SSD Compatibility List.

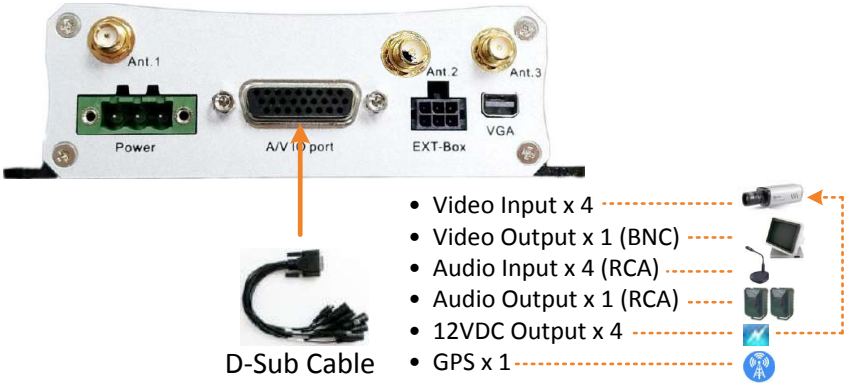
### 2.3.3 Power Harness Cable

You can connect the mobile DVR to a power source between 8VDC ~ 35VDC.




### 2.3.4 D-Sub Cable

The D-Sub cable is for connecting to the audio and video devices, GPS receiver and supply power for the connected cameras. Speakers and microphones with a (built-in) amplifier and external power supply are required.




**Camera Connection:** Connect to the eZ.HD cameras using the four Video Input cables. To supply power to cameras, connect the 12VDC Output cables (500mA each) to the cameras. Note that the mobile DVR doesn't support HD-TVI / HD-CVI / HD-SDI cameras.

**Call Monitor Connection:** Connect to a call monitor (BNC) using the Video Output cable.

**Audio Device Connection:** Connect to a microphone or speakers using the Audio Input / Audio Output cables. Note that speakers and microphones with a (built-in) amplifier and external power supply are required.

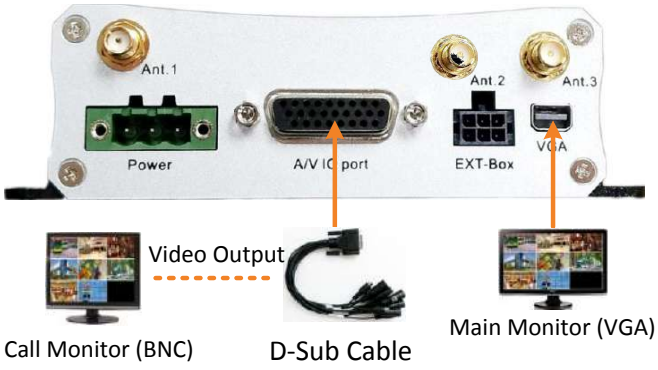
**GPS Connection:** Connect to the GPS Receiver.

### 2.3.5 Monitor Connection

The mobile DVR has one Main Monitor port (VGA) and 1 Call Monitor port (BNC). You can connect the monitors to the system through VGA and BNC ports. The Main and Call Monitor ports can be used simultaneously. Make sure that the connected monitor's specifications comply with these resolution requirements.

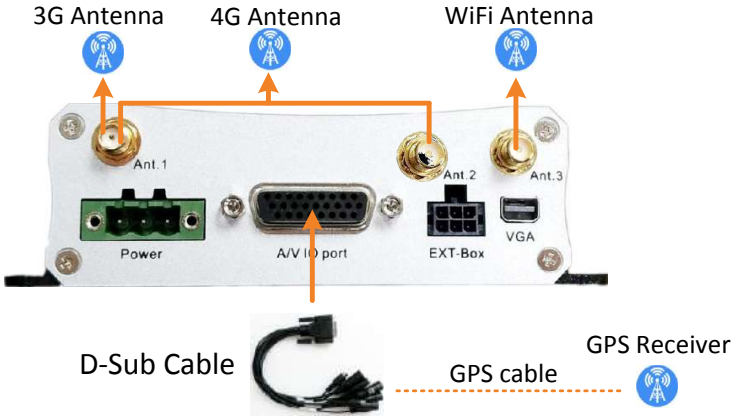
Main Monitor: The configuration can only be operated on the Main Monitor.

Call Monitor: The call monitor can display camera streams or perform sequence mode.




### 2.3.6 Antenna Connection

You can connect the mobile DVR to the 3G/4G or WiFi antenna for wireless networking. You can also connect a GPS receiver to the mobile DVR to perform the GPS function.




**WiFi Installation:** Connects a WiFi antenna to the Ant.3 port.

**GPS Installation:** Connects a GPS receiver to the GPS cable of the supplied D-Sub Cable.

**3G Installation:** Connects a 3G antenna to the Ant.1 port. Insert the 3G SIM card to the card slot (see 3G/4G *SIM Card Installation* below).

**4G Installation:** Connects 2 4G antenna to both of the Ant.1 and Ant.2 ports. Insert the 4G SIM card to the card slot (see 3G/4G *SIM Card Installation* below).

## 3G/4G SIM Card Installation:

Before using the 3G/4G function, you have to insert a 3G/4G SIM card to the card slot.

**EMV400SSD:**

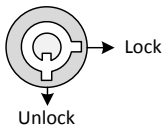
1. On the front panel of the mobile DVR, unscrew the card protection plate.

2. Lift up the card protection plate and insert a 3G/4G SIM card into the Card slot (the upper one).

3. Restart the MDVR for detecting the SIM card.
4. Screw back the card protection plate.

**EMV400S FHD:**

1. On the front panel of the mobile DVR, unlock the card protection plate using the supplied Card Lock Key (turn clockwise).

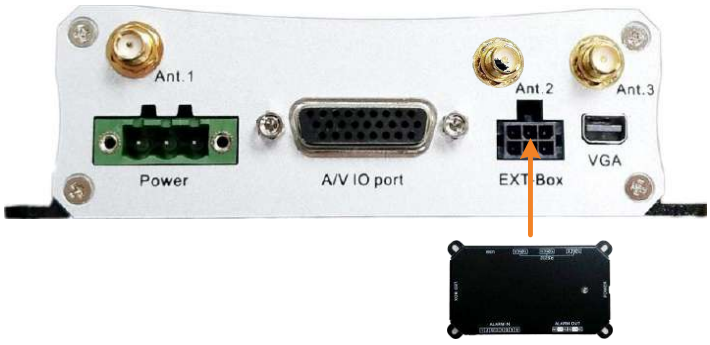



2. Lift up the card protection plate and insert a 3G/4G SIM card into the Card slot (the upper one).

3. Restart the MDVR for detecting the SIM card.
4. Lock the card protection plate using the supplied Card Lock Key.

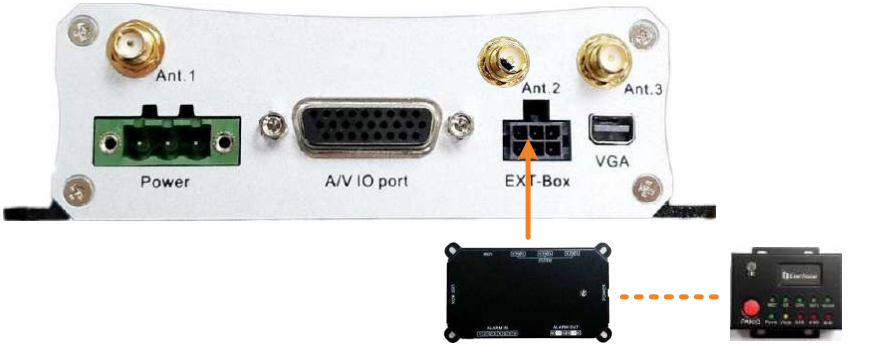
### 2.3.7 External I/O Box & LED Indicates Box

You can connect the mobile DVR to the Alarm I/O or RS-232 (CAN bus) devices using the External I/O Box, which is an optional device supplied by EverFocus. For more details about the External I/O Box, please refer to the *User's Manual* of *External I/O Box*.




External I/O Box

If you want to monitor mobile DVR status, such as storage, GPS, 3G/4G/WiFi connectivity; or trigger alarm among the mobile DVR, Control Center (Genie XMS / Xfleet) and External I/O Box, you can optionally connect the LED Indicates Box to the External I/O Box. Note that the LED Indicates Box must work in conjunction with External I/O Box. For more details about the LED Indicates Box, please refer to the *User's Manual* of *LED Indicates Box*.




External I/O Box LED Indicates Box

## 2.4 Turning On / Off the Power

Before powering on the mobile DVR, please make sure the internal storage devices have been installed properly. Once you have completed the basic cable connections, you are ready to turn on the mobile DVR. Simply plug in the power source. The POWER LED will light up if power is normal. Once the system has finished loading, you can begin to set up the menu options for the mobile DVR.

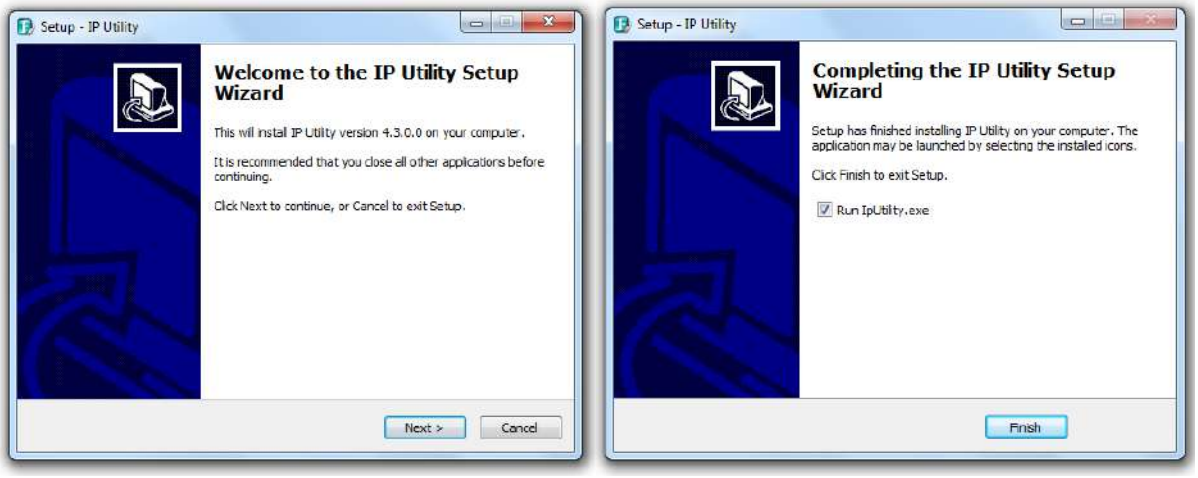
To turn off the power, please go to OSD Root Menu > System > System Setting > Miscellaneous setting page, and click **Shutdown** (refer to *6.9.7 Miscellaneous*). After the message pops up as below, you can now turn off the power source.

Note that when the mobile DVR is placed in an environment where the temperature is very low (for example, -40°C, the mobile DVR will NOT turn on immediately.)

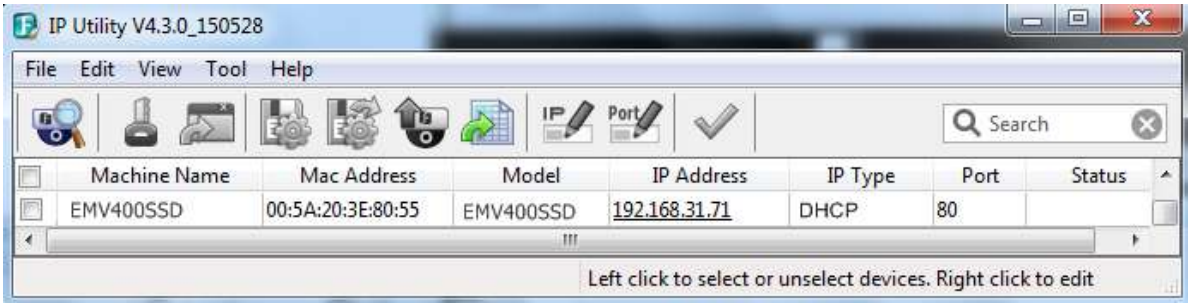
## 2.5 Accessing the Mobile DVR

You can look up the IP address and access the Web interface of the DVR 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 Please connect the DVR 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.

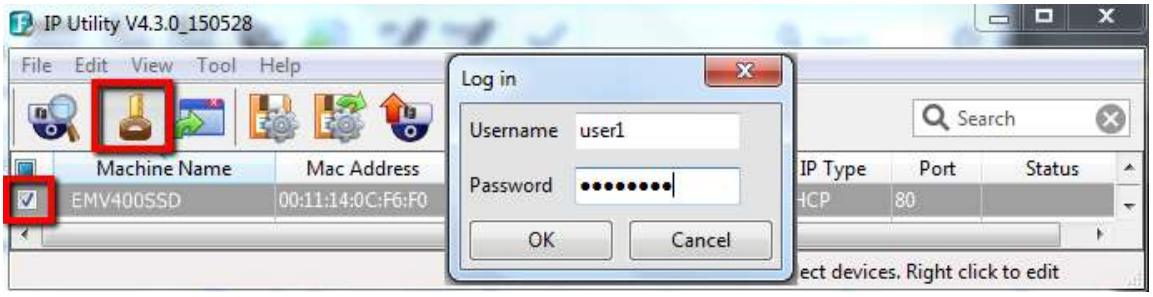



2. Click the **Finish** button, the IP Utility will be automatically launched to search the IP devices connected on the same LAN.

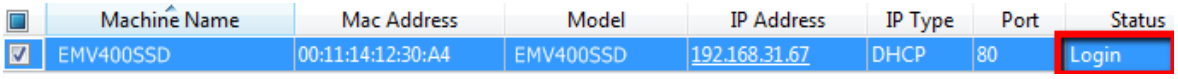



3. To optionally configure the Machine Name, IP Address, IP Type or Port Number using the IPU:

   a. Log in the DVR by checking the desired model and then click the **Log in** icon. The Log in dialog box appears.

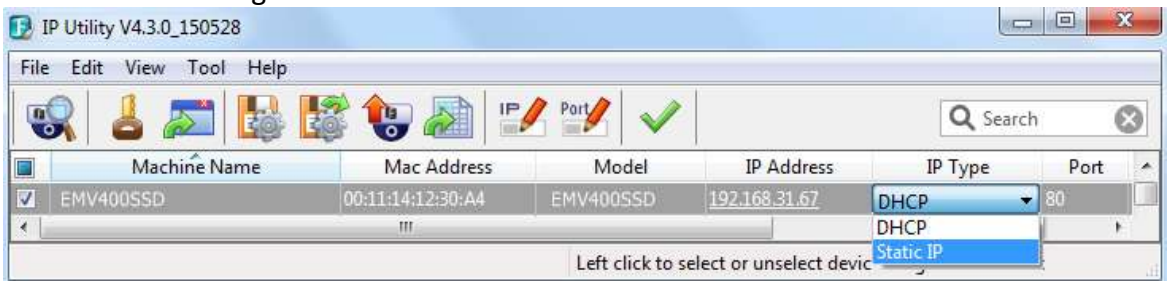


b. Type the Username and Password. Click the **OK** button, the status of the selected camera will display **Login**.




**Note:**
1. The default user ID is **admin** and the default password is **11111111**.
2. If you select more than one DVRs that have the same user ID / password, you will be able to log in several DVRs at once.

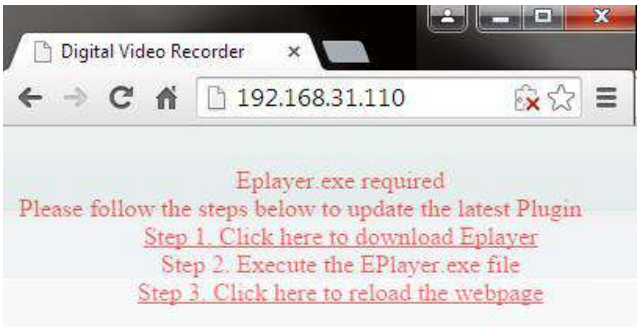
c. Right click the column to configure the setting. Click **Apply Changes** button to apply and save the settings.




**Note:** Most networks uses DHCP to assign IP address, if you are unsure of your network settings, please consult your network administrators for configuration details.

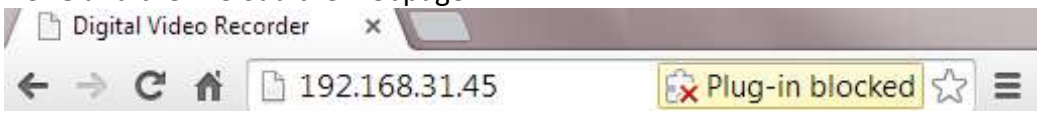
4. To access the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the user ID is **admin** and the password is **11111111**.

5. 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.

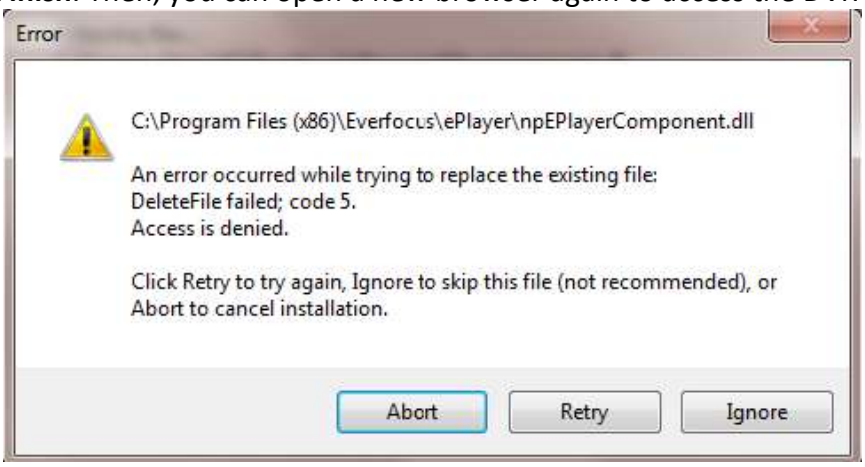
When the Plug-in blocked appears on the browser, select **Always allow plug-ins on xxx**, click **Done** and then reload the webpage.

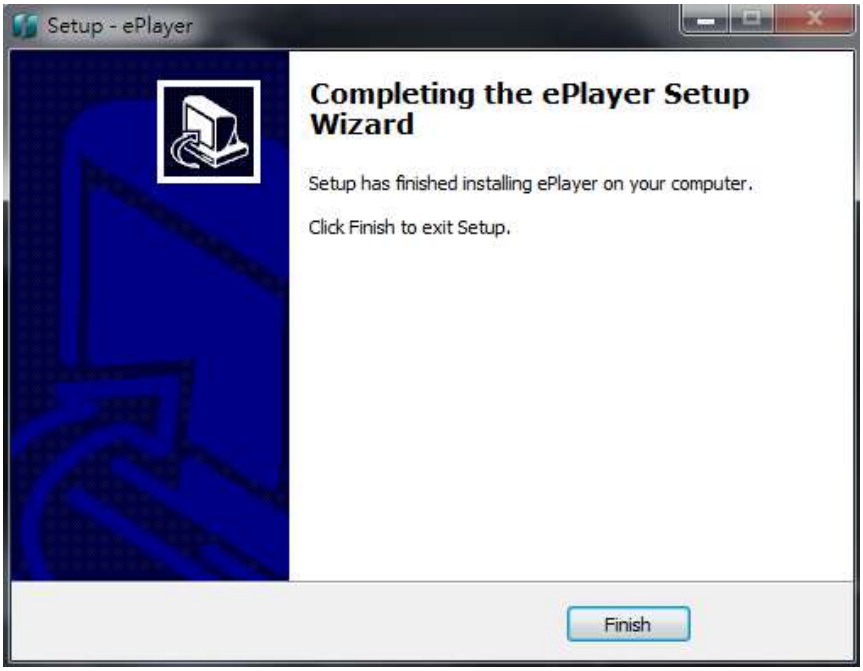


6. Now you will be able to see the remote live page.

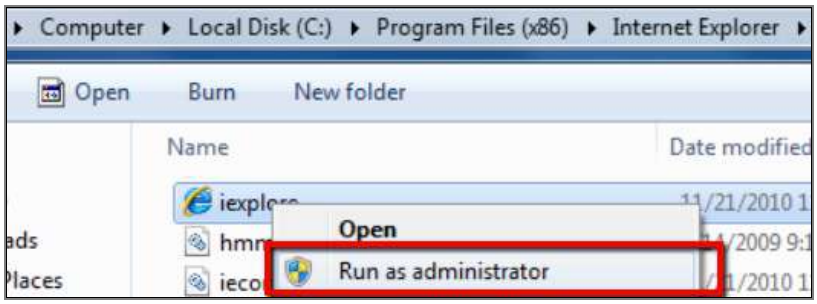
**If you encounter the following problem or still can't access the remote Web interface, please see below:**

- 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**.



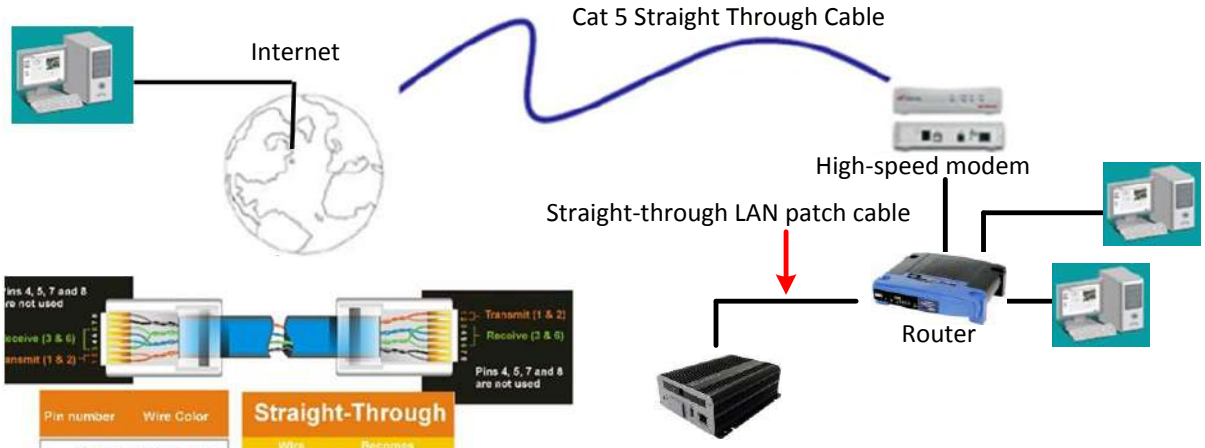

- You may need to turn off the firewall and turn **User Account Control** off if you still can't see the Remote Live View.
  To turn **User Account Control** off, on the computer, click **Start > Control Panel > System and Security > Action Center** (click Change User Account Control Settings), the **User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

## 2.6 Connecting the Mobile DVR to the Network

There are three methods to connect the mobile DVR 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*.

### 2.6.1 Router or LAN Connection

This is the most common connection in which the MDVR is connected to a router and allows multiple users on and off site to see the MDVR on a LAN/WAN (Internet). The camera 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 cameras from outside of the LAN via the Internet. To remotely access the Web interface, please refer to *7. Remote Access to the Mobile DVR*. To set up port forwarding, please consult the manual of the router or refer to *Appendix B: Linksys & D-Link Port Forwarding.*




Left: 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 mobile DVR 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 mobile DVR.
- 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 mobile DVR; 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 mobile DVR’s IP address should be 192.168.002.050.

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

http:// (IP address of the mobile DVR)

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

**To set the mobile DVR 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 mobile DVR's Network Menu Setup; open/forward that port instead.
  - If you are using a Linksys or D-Link router, see *Appendix A* for basic support on setting up ports. For any other router, you will need to contact the manufacturer for support.

- To access the mobile DVR from a computer simply open Internet Explorer and in the address bar type:

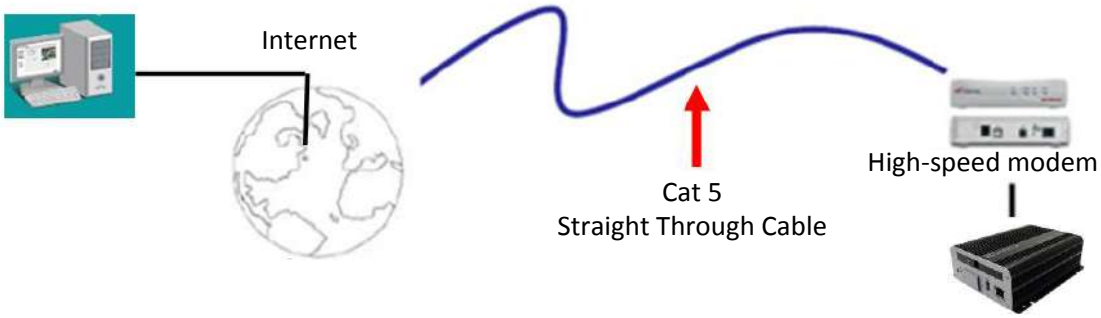
  http:// (the IP address given by your internet service provider)

**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):portnumber

- If you have a WAN Dynamic IP address and have opened the ports, go to Chapter 7 to setup DDNS.

### 2.6.2 Direct High-Speed Connection

In a Direct High-Speed Connection, the camera 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 camera's configuration web pages. To access the camera, 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 mobile DVR 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.

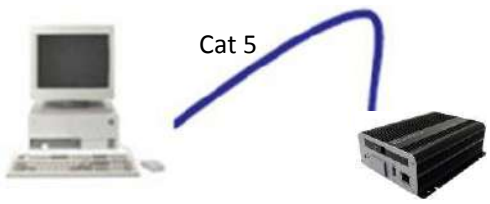
**Note:** If you have a dynamic IP address, you can set the mobile DVR to DHCP to automatically detect the network settings. Therefore, it can use a dynamic IP address.

- Exit from the mobile DVR's Menu to save the settings.
- To access the mobile DVR from a computer, open Internet Explorer and in the address bar type: http:// (IP address given by your internet service provider)

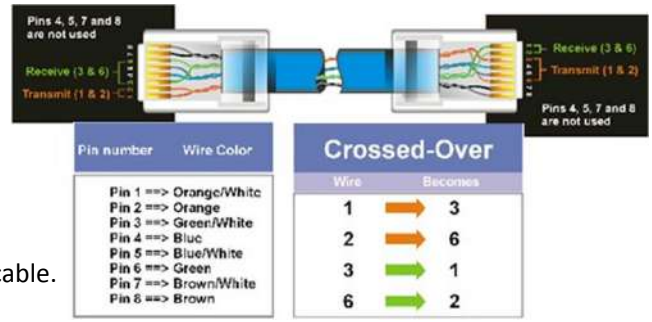
**Note:** When using this type of connection, only one device can be connected to the modem at a time. You will need to use a computer at a different location to test the connection s.

### 2.6.3 One-to-One Connection

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



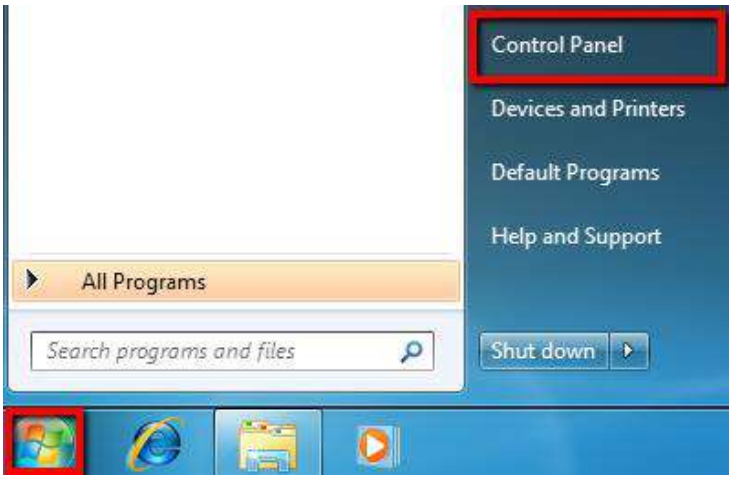

Right: Pinout of a crossed-over cable.



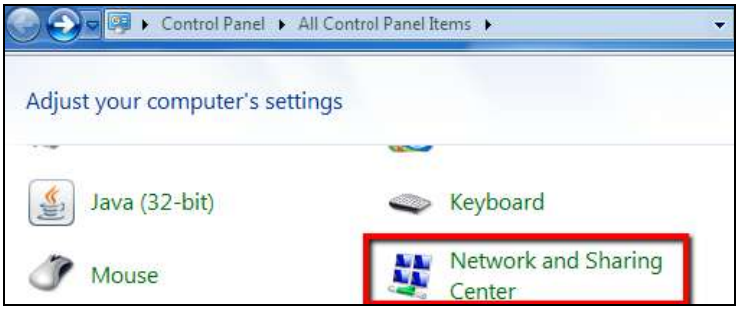

**Connection Procedure:**

- 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 mobile DVR and the other into the network card on the back of the computer.
- Log into the EverFocus mobile DVR 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 mobile DVR. 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**.

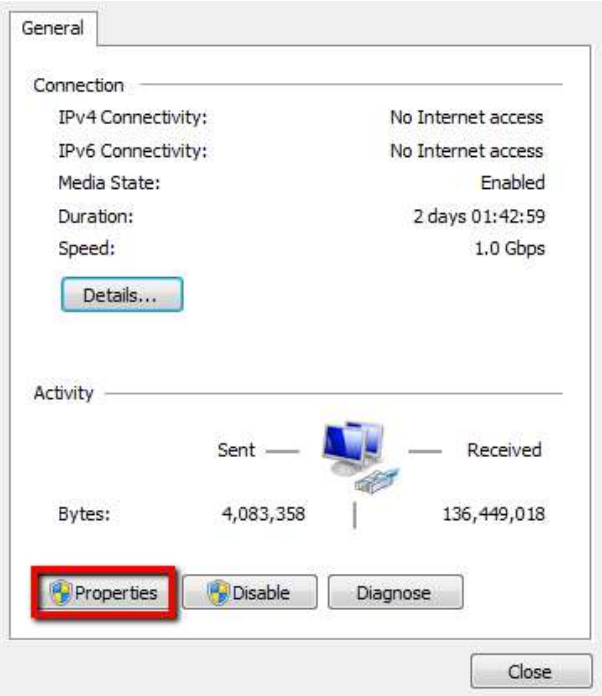



- Click **Network and Sharing Center**.

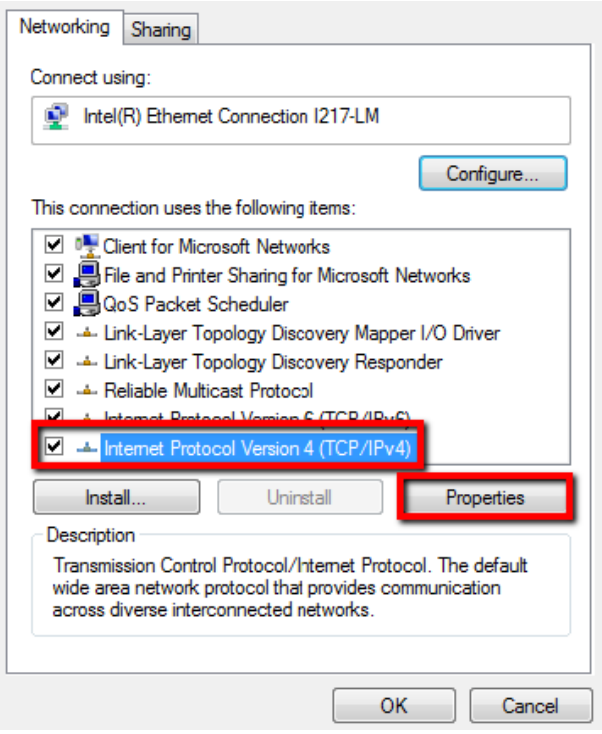



- Click **Local Area Connection**.

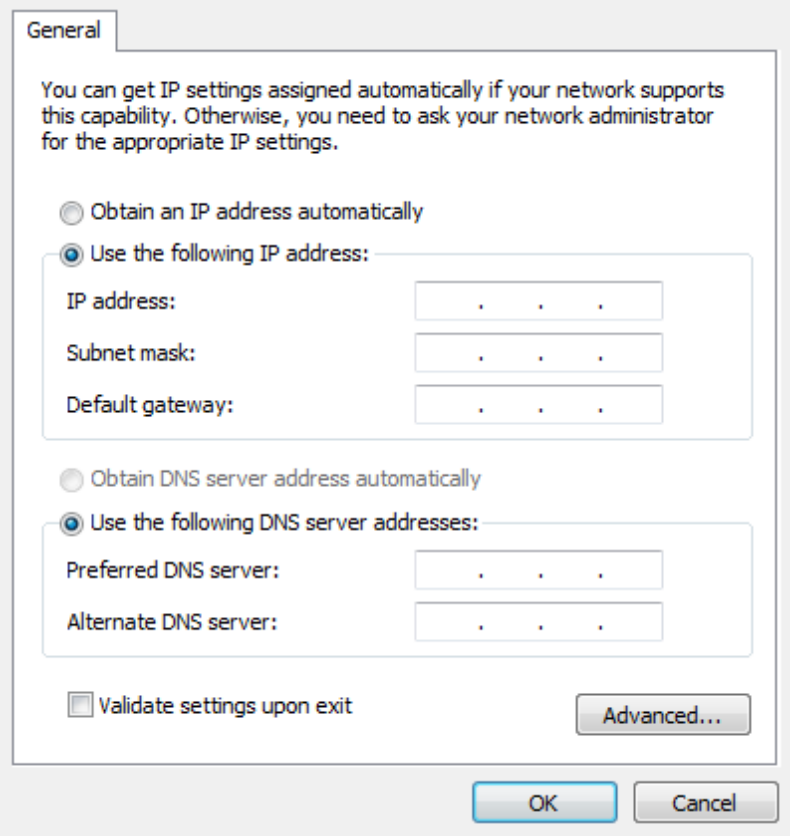
- Click **Properties**.




- 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**.




- Restart both of the computer and the mobile DVR.
- To access the mobile DVR from the computer, simply open Internet Explorer and in the address bar type: http://192.168.1.3

Chapter
3

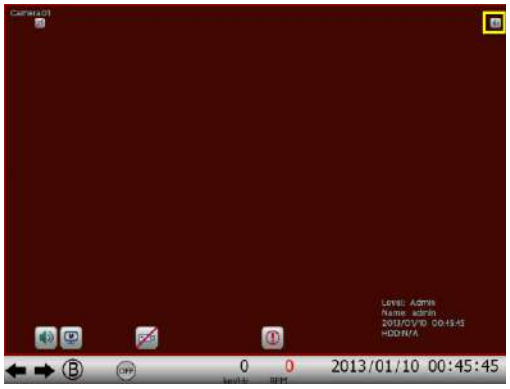
# 3. General Operation

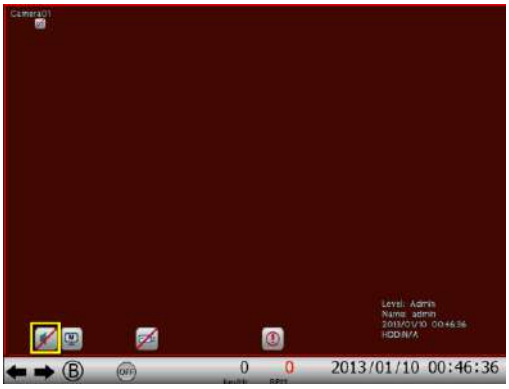
There are two ways to control the OSD menu of the mobile DVRs: with a **Mouse** or the supplied handheld **IR Remote Control**. For details on the IR remote control, please refer to *Appendix E, IR Remote Control*. This chapter will discuss the basic operations using the mouse.

## 3.1 USB Mouse Operation

### 3.1.1 How to Select a Channel / Enable Audio Out

- To select a channel, on the Live View window, single-click on the desired channel screen. The selected screen will be highlighted by a red frame.
- To toggle full screen of a channel, double-click on a desired channel.
- To switch the Audio Output channel, single-click on the desired channel screen, the highlighted channel will be automatically applied with the Audio Output function (an audio icon will be displayed on the upper-right corner of the channel). To turn on/off the Audio Output function, click the Audio Icon at lower-left side of the monitor.



### 3.1.2 OSD Root Menu

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

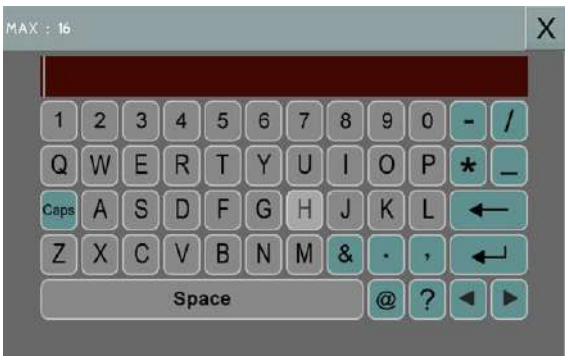
2. Click on any icon to enter to the setup menus.
3. Click the button on the top-right corner or right-click to close the OSD Root Menu.

### 3.1.3 Field Input Options

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.

**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.

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

**Button:** Click the button to execute the function.

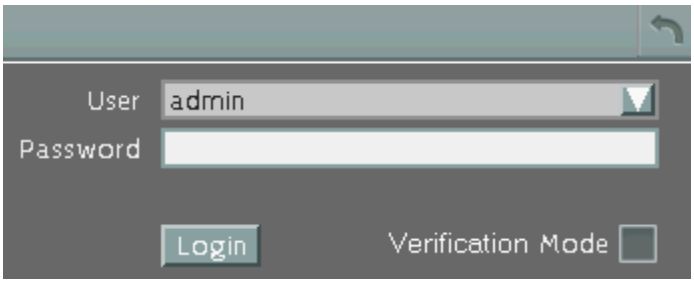
**Bar:** Slide the bar to the left or right for adjusting the set point.

## 3.2 General Operation

### 3.2.1 Login

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

1. Right click on the screen to display the Root Menu. The following window appears.



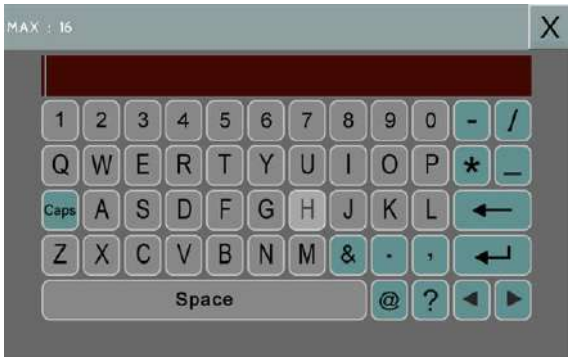

2. Select the user name from the User name drop-down list and input the password. The default user name and password are:

   **User Name:** admin

   **Password:** 11111111

> **Note:** For details on setting up multiple user accounts, please refer to *6.9.4 User Management*.

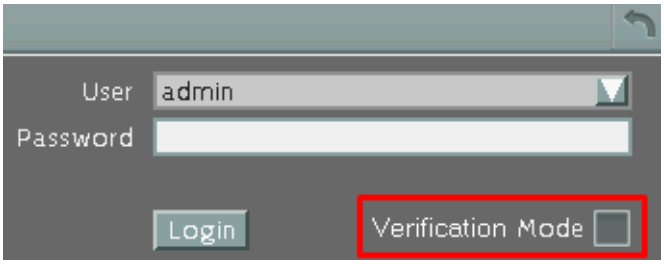
To input the password, click the Password field to bring up the on-screen keyboard. Click on each button to input the desired characters. When finished, click to confirm the password.




3. Click the **Login** button to log in the system.

### 3.2.2 Forget Your Password

1. If you forget your password, please email the **Serial Number** of the mobile DVR to ts@everfocus.com.tw , and then EverFocus will send you a verification code.
2. Input this verification code in the **Password** field of the Login window within 24 hours, and check the **Verification Mode** box.




3. Click **Login** to log in the mobile DVR.

**Note:** This verification code is effective within 24 hours only, so please set up a new password in the System Setting page (refer to *6.9.4 User Management*).

### 3.2.3 Camera Selection

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

Click a camera on the screen, and the selected camera will be highlighted with a red frame. All cameras will be selected when you scrolling the mouse up / down between the first and the last channel.

### 3.2.4 Audio Selection

In order to utilize the audio function, please follow the instructions below before switching on the audio function.

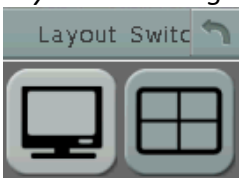
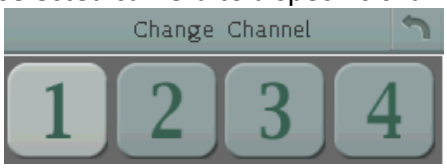
**Note:** The Audio function is unavailable for Germany.

1. Connect the audio source and/or audio output amplifier to the mobile DVR.
2. Go to Camera setting menu (OSD Root Menu > System > Camera > Basic).
3. Select a camera from the Camera drop-down list.
4. Check the box to enable the **Record Audio** option and select an audio input device. You can select multiple cameras to one single audio input device.

Note that the mobile DVR only provide one channel audio output. You can switch the Audio Output function to either one from the cameras. To switch the Audio Output function to the desired camera:

On the bottom of the live view screen, click the Audio icon to switch on the Audio Output function, and then select a desired camera to apply the Audio function by directly clicking on a channel. The clicked (selected) channel will be applied with the Audio function.

# 4. OSD Root Menu

| No | Name | Description |
|---|---|---|
| 1 | **Playback** | Click to display the Playback Bar for viewing the recording videos. For details, please refer to *5. Search and Playback.* |
| 2 | **PTZ** | Click to display the PTZ Control Panel for controlling the connected PTZ cameras. For details, please refer to *4.1 PTZ.* |
| 3 | **Layout** | Click to display the Layout Switch 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.*   |
| 4 | **Change Channel** | Click to display the Channel Changing Bar as shown below. To switch the selected camera to a specific channel, please refer to *4.3 Channel Switching*.   |

| | | |
|---|---|---|
| **5** | **Display** | Click to display system information icons or status icons on the live view screen. For details, please refer to *4.4 Display*. |
| **6** | **Sequence** | Click to enter the auto sequential switching mode. Click again to disable. For setting up the sequencing order, please refer to *6.6.2 Monitor Sequence*. |
| **7** | **Monitor** | Click to switch to the call monitor settings. On the OSD Root Menu, click the Monitor button to switch to the Call monitor. On the OSD Root Menu, the Playback, PTZ, Zoom, Search, Copy, System and Exit icons will gray out. You can only configure the Layout, Channel, Display and Sequence settings for the Call Monitor. To switch to the Main Monitor, click the button. Note that the Call Monitor can only be used to display camera views. The functions including the layout, channel switching, icon display, sequencing mode of the Call Monitor can only be configured on the Main Monitor. |
| **8** | **Zoom** | Click to enter the Zoom mode. You can zoom in the camera view up to x4 and navigate the camera view. For details, please refer to *4.6 Zoom*. |
| **9** | **Search** | Click to display the Search menu for setting up the Search mode for playing back. For details, please refer to *5.3 Searching the Recordings for Playback Back.* |
| **10** | **Copy** | Click to display the Copy menu for archiving the recordings or log data to the USB storage device or FTP. For details, please refer to *4.7 Archiving the Recordings or Log Data to the USB or FTP.* |
| **11** | **System** | Click to enter the System Setting menu. Please refer to *6. System*. |
| **12** | **Exit** | Click to bring up the Logout Confirmation window and then click **Yes** to log out the system (see *4.8 Logout*). To log in, please refer to *3.2.1 Login*. |

## 4.1 PTZ

You can use the PTZ Control Panel to control the connected PTZ cameras. To bring up the PTZ control panel, on the OSD Root Menu, click the PTZ button .

The following actions can be performed using the PTZ Control Panel:

1. To bring up the PTZ OSD menu (only supported for EverFocus eZ.HD PTZ cameras):
   a. Click the **Preset** button.
   b. Click the Preset number 95.
   c. Click the **Set** button.
   d. To close the OSD menu, click the **IRIS –** button.
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:
   e. Click the **Preset** button.
   f. Click the desired Preset number.
   g. 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.

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

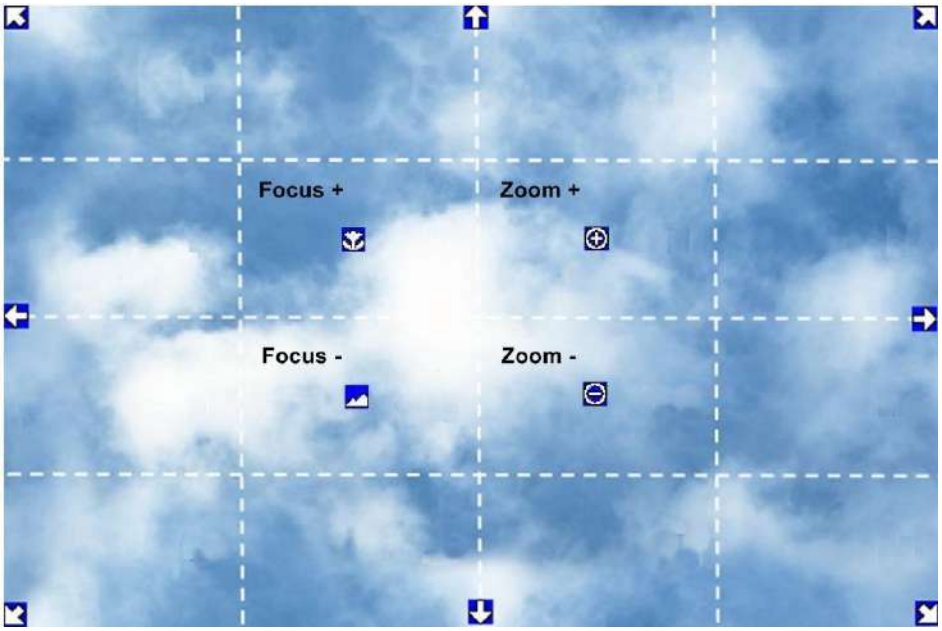
Click at the top-right corner to hide the PTZ Control Panel (see *4.1.1 Express Control of PTZ*). To display the PTZ Control Panel, right-click on the screen.

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

**Note:** Before start using the Auto Pan, Pattern and Tour functions, you have to configure the related settings for the connected PTZ cameras. Please refer to 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.



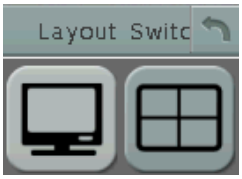

**Direction Controls:** When your mouse cursor turns into a direction icon, click on the screen will force the camera to turn in that direction.

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

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

## 4.2 Layout Switching

The mobile DVR have 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.
2. Click the Layout icon.
3. 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 **Change 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 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.

| | | | | | |
|---|---|---|---|---|---|
| Recording | Playback | Fast forward | Fast backward | Back | pause |
| Alarm | Motion | Video loss | Uninstall | Audio On | Audio In |

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

| | | | | |
|---|---|---|---|---|
| Audio On | Audio Off | Alarm | Motion | Video loss |
| No network | Main Monitor | Call Monitor | Sequence | Storage failure |
| Storage temp. too high | Event | GPS | G-sensor | SD Card Recording |

4. The following icons will be displayed at the bottom of the monitor to show the CAN bus status. To enable CAN bus status, please consult EverFocus for more details ts@everfocus.com.tw

| | | | | | |
|---|---|---|---|---|---|
| Turn Left | Turn Right | Reverse | Brake | 3G Network | 4G Network |
| WiFi Network | GPS | No Signal of Wireless Network | Wireless Network Off | Low Beams | High Beams |

## 4.5 Sequence

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

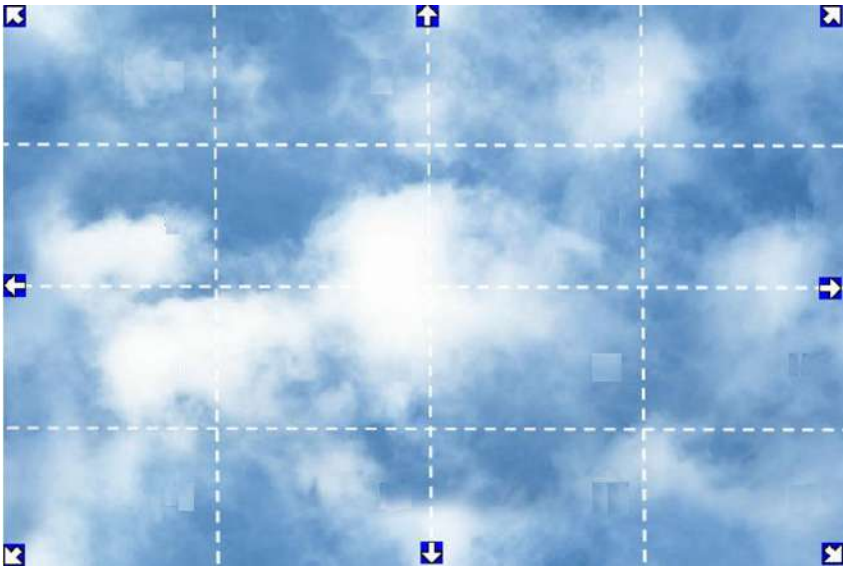
Click the Sequence button to enter the sequential switching mode. The mobile DVR will display one channel at a time in full screen. The channels will be displayed in the sequence and for the amount of time as configured in the System > Display Setting > Monitor Sequence submenu. The default setting is channels 1~4 with a dwell time of 3 seconds each – repeated. Please refer to *6.6.2 Monitor Sequence* for detailed information.

## 4.6 Zoom

You can zoom in the camera view up to 4X and navigate the camera view using the mouse.

To enter the Zoom mode:

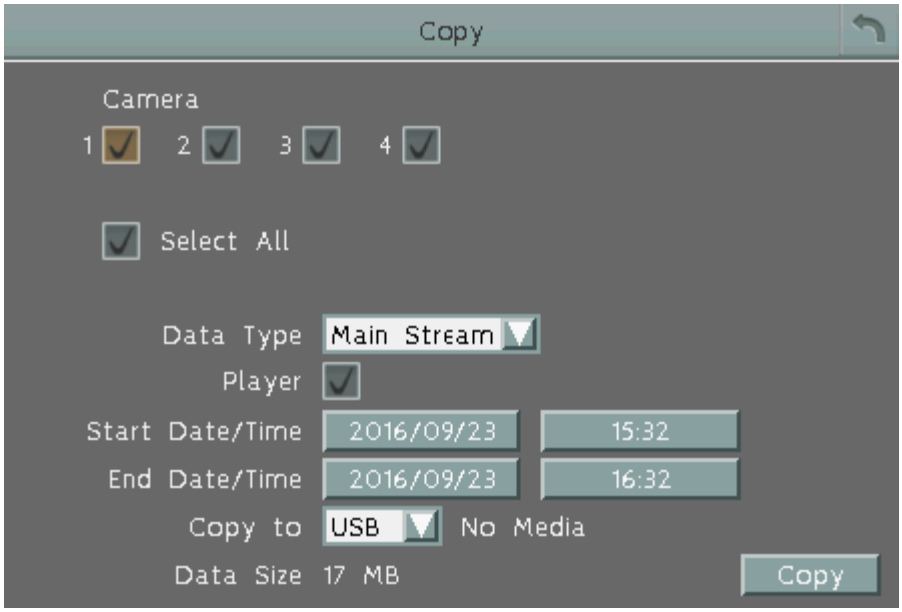
1. Select a camera and then click the **Zoom** button on the OSD Root Menu to zoom in the camera view to 2X. The ZOOM 2X stamp will be displayed on the top screen.
2. Navigate the camera view to the desired position by moving your mouse cursor over the camera view. The mouse cursor will turn into a direction icon when you move your mouse cursor to different portion on the camera view. Click directly on the screen can move to that direction.



3. Right-click the screen, the Zoom Bar appears in the middle of the screen.
4. Click to zoom in the camera view up to 4X.
5. Click the **Logout** button to log out the Zoom mode.

## 4.7 Archiving the Recordings or Log Data to the USB or FTP

You can archive the recordings or log data (event and motion) to the USB storage device. On the OSD Root Menu, click the **Copy** icon , the following menu appears.




**Camera:** Select the desired cameras.

**Data Type:** You can copy the recordings of selected cameras from main stream, or sub stream.

**Player:** Check the box to include the **EFPlayer** program in the copy. You can use the EFPlayer on a computer to play back the recordings. Please see the instruction the next page.

**Start Date / Time:** Click to bring up the on-screen keyboard / clock to select the start date / time.

**End Date / Time:** Click to bring up the on-screen keyboard / clock to select the end date / time.

**Copy To:** Select a destination (USB or FTP) for the recordings or log data to be archived to.

**Copy:** Click to start archiving.

## EFPlayer:

Unzip the EFPlayer file and double-click to open it as below. The EFPlayer can only display up to 16 channels at one time.

| No. | Name | Function Description |
|---|---|---|
| 1 | **Information** | Shows the recording information of the device, including model of the recorder, recording start time / date, current playback time, recording end time / date. |
| 2 | **Load** | Click to select a recording file and open it. |
| 3 | **Save as AVI** | Click to archive the recording file of 1 channel and save as AVI format. |
| 4 | **Time Search** | Click to search a recording from a selected time. |
| 5 | **Channel Switch** | Click to switch channel bar between CH1~16 and CH17~32. |
| 6 | **Time Bar** | Move the time bar to a desired time to play back the recording from that time. |
| 7 | **Playback Controls** | : Click to fast reverse / fast forward.<br>: Click to reverse play /play.<br>: Click to pause playing back. |
| 8 | **Snapshot** | Click to take a snapshot of the channels displayed on the UI. You can save the snapshot file to a desired location. |

| | | |
|---|---|---|
| **9** | **Mute** | Click to mute; click again to turn off the mute function. |
| **10** | **Volume** | Drag to increase or lower the volume. |
| **11** | **Scale Out / In** | Click to adjust time scale. |
| **12** | **Screen Division** | : Click to display the channels to fit the screen. : Click to select a desired screen division display mode (1, 4, 9, 16 screen division display modes). If the channels are more than the screen divisions, you can select the same screen division display mode to change the channels on the screen. |
| **13** | **Speed** | Shows the fast reverse / forward speed (up to 64X). |

## 4.8 Logout

You can log out the mobile DVR by clicking the **Exit** icon on the OSD Root Menu to bring up the Logout Confirmation window. Click "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 *6.9.4 User Management*.

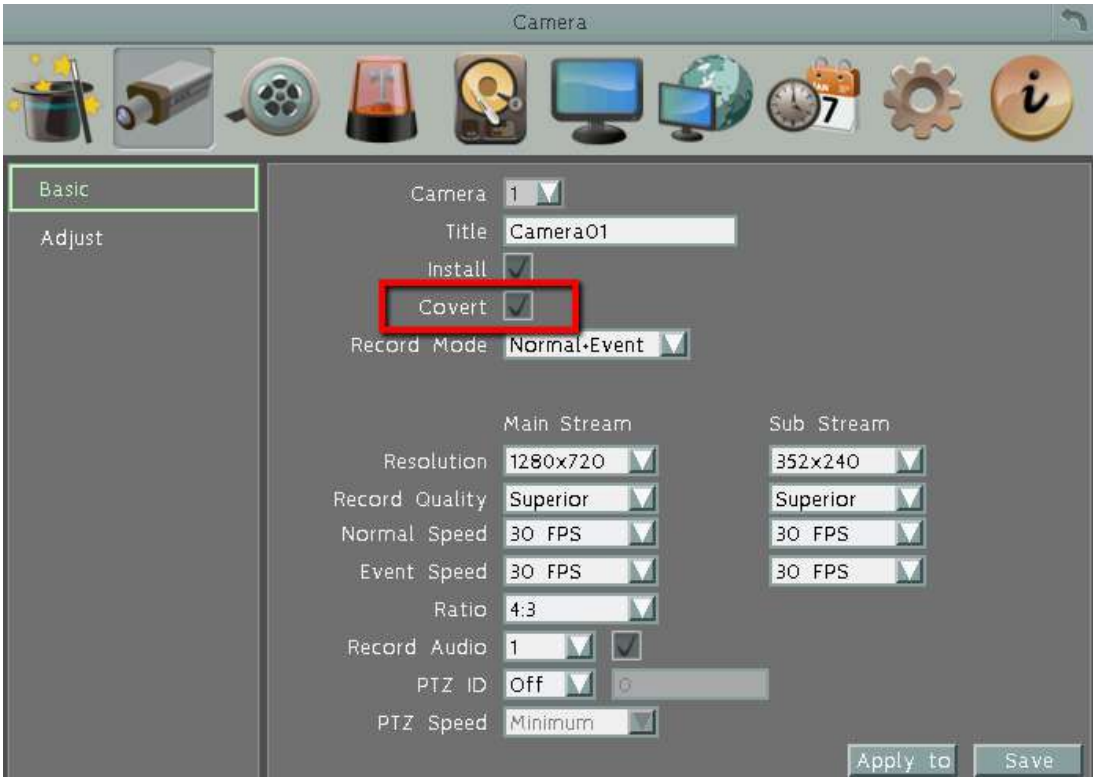
### 4.8.1 Temporarily Logout

You can temporarily log out the mobile DVR by clicking the **Exit** icon on the OSD Root Menu. This function is designed for use in conjunction with the **Covert Camera** function. Once you click the **Exit** icon, the camera streams will be hidden on the Live View / Sequence Mode. However, the mobile DVR will still record the videos and the recordings can be played back.

To enable the Temporarily Logout function, follow the steps below:

1. Ensure the Login box is **Unchecked** (OSD Root Menu > System > System Setting > User Management).

2. Select the cameras to be hidden once enabling the Temporarily Logout function and then check the **Covert** box (OSD Root Menu > System > Camera > Basic).




3. Click the **Exit** icon on the OSD Root Menu, the Logout menu appears.

4. Click the **Yes** button and the selected camera streams will be hidden on the Live View / Sequence Mode.

5. To disable the Temporarily Logout function, simply right-click the screen to bring up the OSD Root Menu, and then you can start controlling the mobile DVR.

# 5. Search and Playback

You can use the Quick Playback function to play back the recordings start from the pre-configured time or use the Search functions to search for the desired recordings for playing back.

## 5.1 Quick Playback

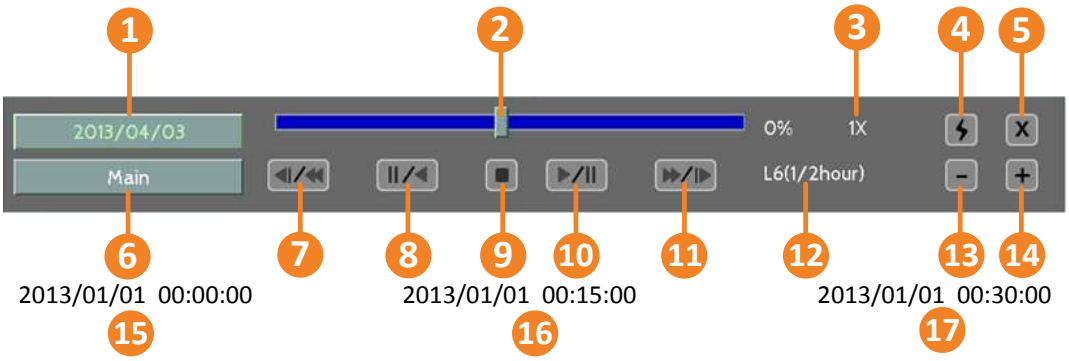
To start using the Quick Playback function, follow the steps below:

1. To set up the start time of the playback recording, check the **Quick Playback** box in the **Record** setting page (OSD Root Menu > Express) to enable the configured time in the field below.

2. Enter the desired time for playing back the recording. Take 60 seconds for example, if the current system clock time is 17:35:00, the start time for the playback recording will start from 17:34:00 (60 seconds ago from 17:35:00).
3. On the Live View Window, select a desired camera, right-click to bring up the OSD Root Menu and then click the **Playback** button .
4. The recording should be played back and the Playback Bar appears on the bottom of the screen.

## 5.2 Playback Bar

The playback bar is the fastest way to show video from the exact time which users want to see. The playback bar allows users to see both a timeline and the current playback indicator. Users can then click the timeline to move the indicator to the desired position.




| No. | Name | Description |
|---|---|---|
| 1 | **Date/Time** | Click to set up the start time of playback recording. |
| 2 | **Time Bar** | Move the slider to the left / right on the Time Bar to select the time for playing back. The status of each camera is presented by different colors on the Time Bar. Green→Normal, Orange→Motion, Blue→Video Loss, Red→Alarm Event. |
| 3 | **Playback Speed** | Indicates the current Playback Speed. |
| 4 | **Express Copy** | Click to bring up the Copy menu for archiving the recordings / log data to the USB storage device or DVD burner. For details, please refer to *4.7 Archiving the Recordings or Log Data to the USB or FTP.* |
| 5 | **Close** | Click to hide the Playback Bar. To bring up the Playback Bar again, move your cursor to the lower side of the screen. |
| 6 | **Main /Sub Stream** | Click to select the recorded data from main or sub stream. This function is only functional for single view in the Quick Playback mode. To operate this function, on the Live View Window, double-click a channel to display its single view, right-click to bring up the OSD Root Menu and then click the **Playback** button . |
| 7 | **Fast Reverse** | Click to play the recorded data in fast reverse. |
| 8 | **Reverse Play/Pause** | Click to play the recorded data in reverse at normal speed. Click this button again to Pause the reverse playback. Click the **Stop** button to stop all playback actions and exit the playback area. |

| No. | Name | Description |
|---|---|---|
| 9 | **Stop** | Click to stop all playback actions and exit the playback mode. |
| 10 | **Play/Pause** | Click to play the recorded data forward. Click this button again to Pause the playback. |
| 11 | **Fast Forward** | Click to play the recorded data in fast forward. |
| 12 | **Time Scale** | L1: Entire Time Bar scale is 30 days.<br>L2: Entire Time Bar scale is 2 weeks.<br>L3: Entire Time Bar scale is 1 week.<br>L4: Entire Time Bar scale is 1 day.<br>L5: Entire Time Bar scale is 1 hour.<br>L6: entire Time Bar scale is 30 minutes. |
| 13 | **Time Bar Scale** | Use the **+** and **-** buttons to adjust the time scale range for the bar. The scale range includes 6 options (levels). When changing the level, the Start Time and End Time will change. |
| 14 | | |
| 15 | **Start Time** | Indicates the playback start time. |
| 16 | **Current Playback Time** | Indicates the current playback time. |
| 17 | **End time** | Indicates the playback end time. |

## 5.3 Searching the Recordings for Playing Back

You can search the recordings for playing back by using the **Search** menu. On the left side of the Search menu, select **Time Search**, **Event Search** , **Smart Search** or **Snapshot Search** to enter the setup menu.

To bring up the **Search** menu, right-click to bring up the OSD Root Menu, and then click the **Search** button .

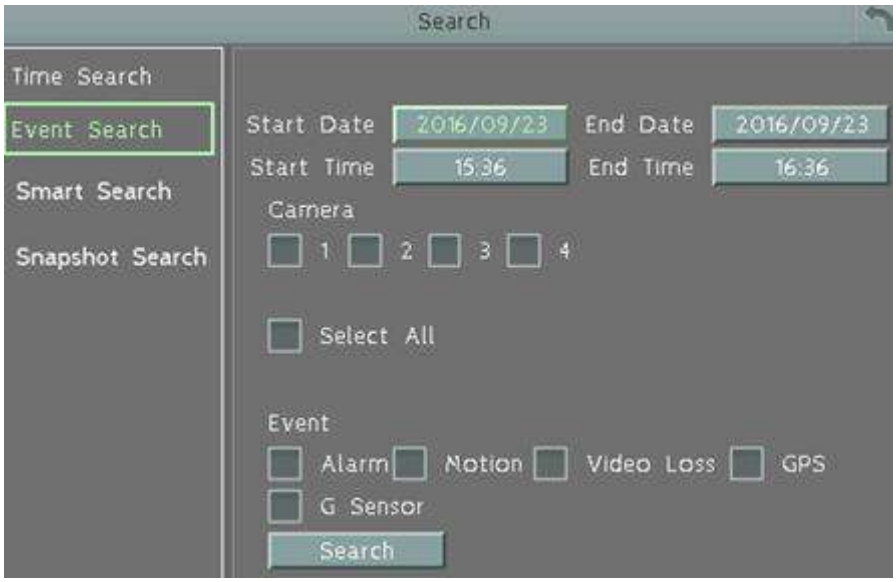
### 5.3.1 Time Search

**Start Date:** Click to bring up the on-screen keyboard to select the date.

**Start Time:** Click to bring up the on-screen clock to select the time.

**Play:** Click to start playing back.

### 5.3.2 Event Search



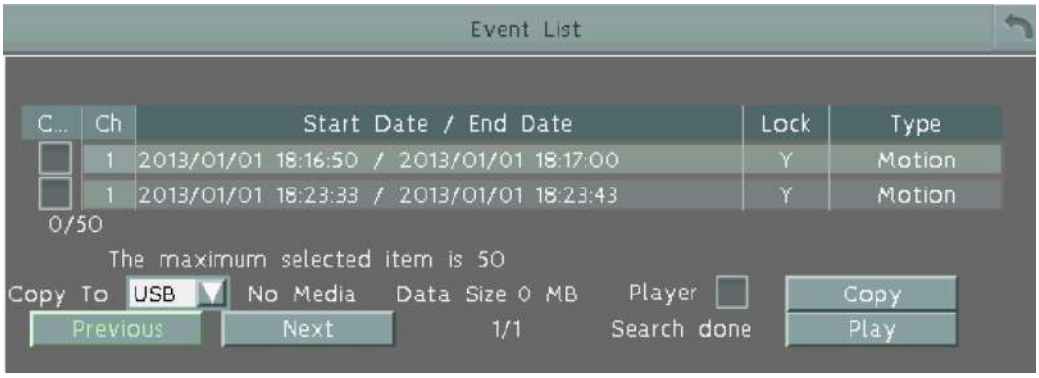

**Start Date / End Date:** Click to bring up the on-screen keyboard to select the start / end date.

**Start Time / End Time:** Click to bring up the on-screen clock to select the start / end time.

**Camera:** Select the desired cameras to be searched.

**Event:** Select an event type to be searched.

**Search:** Click to start searching. The search results will be listed in the Event List menu as shown below.




**Copy to:** Select a copy destination (USB or FTP) to copy the selected recordings to.

**Player:** Check the box to include the EFPlayer program in the copy. You can use the EFPlayer on a computer to play back the recordings. To use the program, please refer to 4.*7 Archiving the Recordings or Log Data to the USB or FTP*.

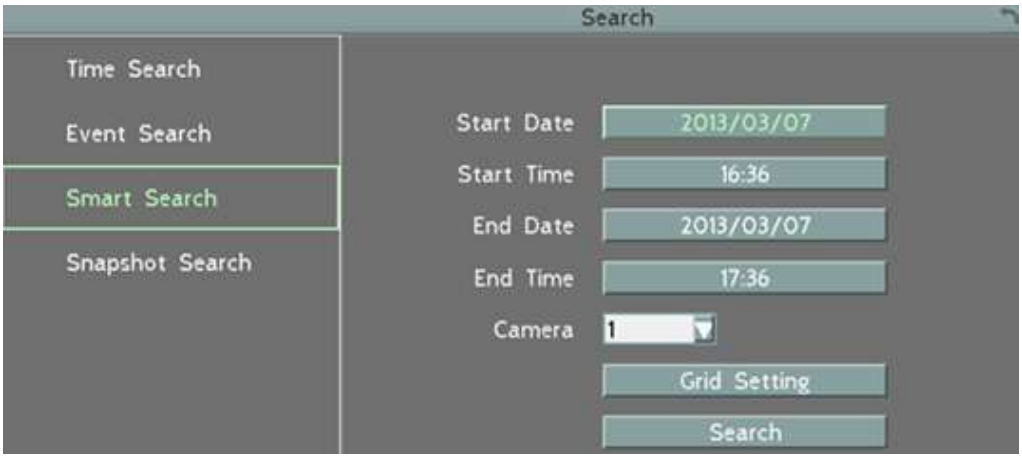
**Copy:** Click to start copying the event recording files.

**Previous / Next:** Click to go to the previous / next page.

**Play:** Click to playback the selected items.

### 5.3.3 Smart Search

The Smart Search function allows users to search for the motion event recordings. You can set up the motion areas in this setup menu and then search for the motion events within the specified time.




**Start Date / End Date:** Click to bring up the on-screen keyboard to select the start / end date.

**Start Time / End Time:** Click to bring up the on-screen clock to select the start / end time.

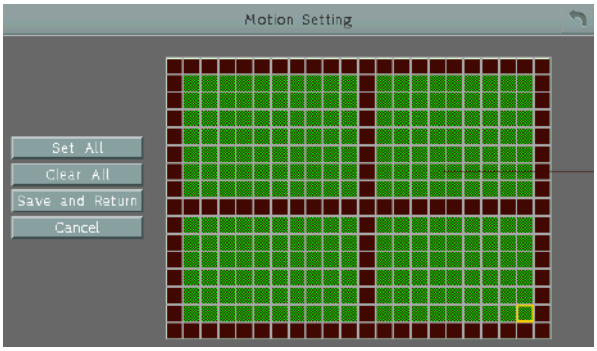
**Camera:** Select a desired camera to be searched.

**Grid Setting:** Click to set up the motion areas. The Motion Grid Setup menu appears.

**Search:** Click to start searching. The search results will be listed in the Event List menu.

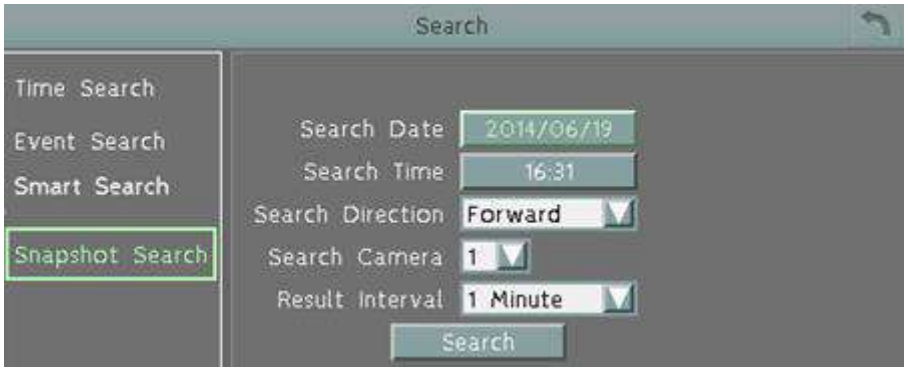
To set up the Motion Grid:

1. To set up a motion area, drag a rectangle with your mouse (from top to bottom / upper-left to lower-right). The selected areas will be highlighted in green (see image below). You can also click the **Set All** button to select all grids.
2. To delete a motion area, drag a rectangle with your mouse (from bottom to top / lower-right to upper-left). You can also click the **Clear All** button to clear all grids.
3. Follow Step 1 to set up multiple motion areas if necessary.
4. Click the **Save & Return** button to save the settings and then return to the Smart Search menu.



### 5.3.4 Snapshot Search

You can display video frames in snapshot and resume a video from where the snapshot has been set up.




**Search Date:** Click to bring up the on-screen keyboard to select the date.

**Search Time:** Click to bring up the on-screen clock to select time.

**Search Direction:** Click to search forward / backward based on the setup time above.

**Search Camera:** Select a desired camera to be searched.

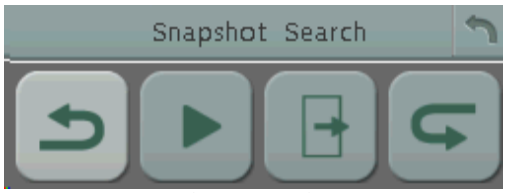
**Result Interval:** Click to set up the interval for the snapshots. For example, if you select 5 minutes, the video frame will be snapshotted with 5-minute interval (see image below).

**Search:** Click to start searching. The search results will be displayed (see image below).

To resume the video:

1. Click the **Search** button, the search results will be displayed. In this picture, you can see the time layouts on the upper-left corner of each snapshot, which are set up with 5-minute interval. To change the interval, configure **Result Interval** on the Snapshot Search page.

2. Right-click on the screen, the Resume Playback Bar appears in the middle of the screen.




3. Click the **Previous** or **Next** buttons to display the previous / next snapshots.
4. Select a snapshot by clicking on the snapshot, the selected snapshot will be highlighted with a white frame.
5. Click the **Play** button to resume the video.
6. Click the **Close** button to close the Resume Playback Bar and then return to the Snapshot Search menu.

Chapter

6

# 6. System

The mobile DVRs can be configured through a series of menus on screen by using a **Mouse** or the supplied **IR Remote Control**. The following operations are examples of using a Mouse. This chapter describes the functions and options of the System Setting in the on-screen display (OSD) menus.

Right-click the mouse, the OSD Root Menu appears. Click the **System** button , the following Configuration Menu displayed with 10 setup options appears.

**List of Configuration Options:**

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

| | |
|---|---|
| **6.1 Express** | |
| **6.2 Camera** | 6.2.1 Basic Setting<br>6.2.2 Adjust Setting |
| **6.3 Record** | 6.3.1 Record<br>6.3.2 Playback |
| **6.4 Event** | 6.4.1 Alarm<br>6.4.2 Video Loss<br>6.4.3 Motion<br>6.4.4 GPS Event<br>6.4.5 G-Sensor Event<br>6.4.6 Other |
| **6.5 Storage** | 6.5.1 Disk<br>6.5.2 SD Card<br>6.5.3 Lock/Format |
| **6.6 Display Setting** | 6.6.1 Monitor OSD<br>6.6.2 Monitor Sequence |
| **6.7 Network** | 6.7.1 LAN<br>6.7.2 Wireless<br>6.7.3 Mobile<br>6.7.4 Email<br>6.7.5 DDNS<br>6.7.6 FTP<br>6.7.7 Alarm Server<br>6.7.8 Remote/Mobile<br>6.7.9 Network Test<br>6.7.10 Xfleet |
| **6.8 Schedule** | 6.8.1 Express Setup<br>6.8.2 Holidays<br>6.8.3 Schedule |
| **6.9 System Setting** | 6.9.1 Date / Time<br>6.9.2 Daylight Saving Time<br>6.9.3 User Group<br>6.9.4 User Management<br>6.9.5 I/O Control<br>6.9.6 EKB200 Setting<br>6.9.7 Miscellaneous |
| **6.10 System Information** | 6.10.1 System<br>6.10.2 Log |

## 6.1 Express

This menu is used to configure global express settings for all cameras.

**Date:** Click to bring up the on-screen keyboard to set up the system date.

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

**Record Mode:** Select a recording mode from the drop-down list.

Blank: Select this option for all cameras to keep the current individual record settings without any changes. Please refer to *6.8.1 Express Setup* for more details.

Normal+Event: Set all cameras to the Continuous and Event recording mode. Set up the estimated number of hours per day for event recording. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

Event Only: Set all cameras to the Event only recording mode. Set up the estimated number of hours per day for event recording. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

Schedule Record: Set all cameras to the Schedule recording mode. To set up schedule recording, please refer to *6.8.3 Schedule*.

**Record With:** Select a record method.

Blank: Select this option for all cameras to keep the current individual record method without any changes.

Preset Settings: Select this option and further set up the recording quality. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

Recording Days: This option is not available for Schedule Record. Set up the maximum recording days. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

**Miscellaneous:**

**Quick Playback:** Check the box to enable the Quick Playback function as described below.

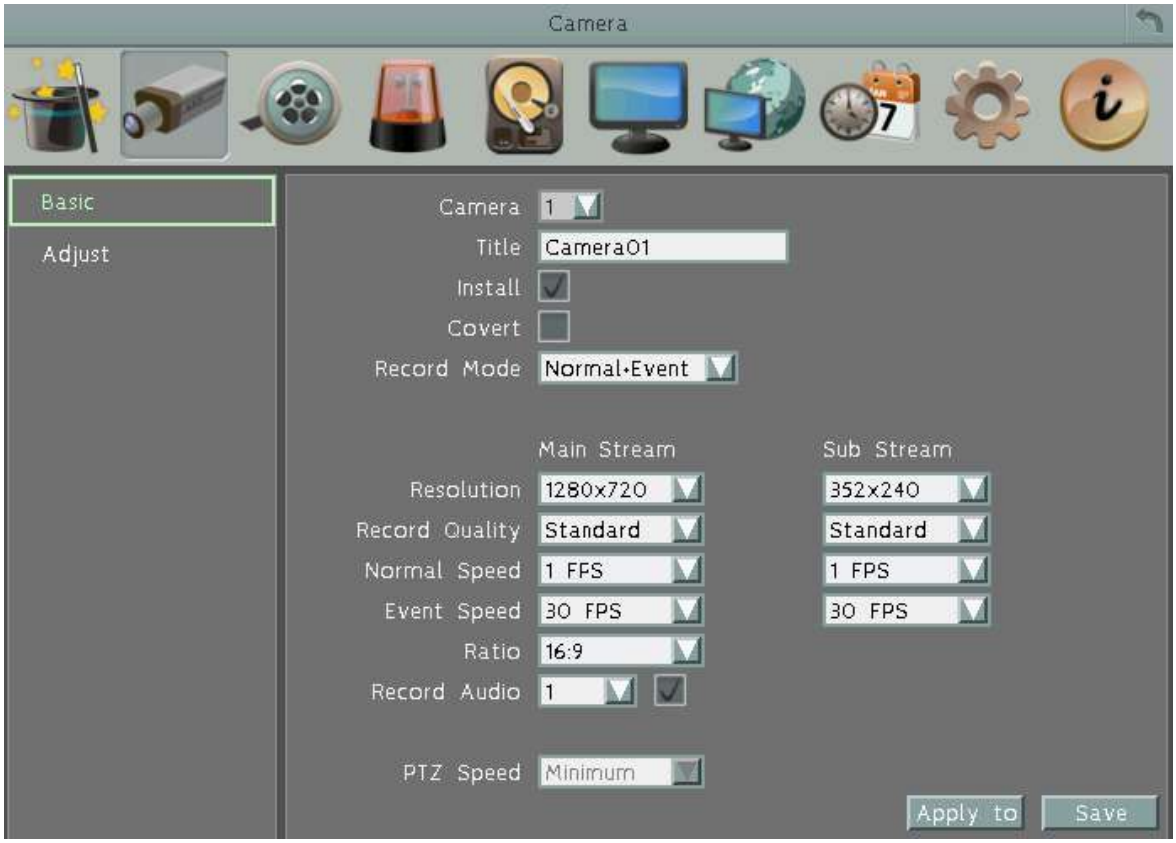
**Playback From X Seconds ago:** When the DVR is put into playback mode, it will begin playing from the selected time. Choose from 60 to 3600 seconds prior to the present time.

**Save:** Click to save and apply the settings to the DVR. The system will automatically adjust the recording frame rate according to your settings.

## 6.2 Camera

You can configure the settings for individual cameras.

### 6.2.1 Basic Setting




**Camera:** Select a camera to be configured.

**Title:** Click to bring up the on-screen keyboard for assigning a title for the selected camera. Each title supports up to 16 characters.

**Install:** Check the box to enable the selected camera. If this box is unchecked, the mobile DVR will not get the camera streaming.

**Covert:** Check the box to hide the camera stream in Live View and Sequence modes. However, the MDVR will still record the videos and the recordings can be played back by users who have the privilege to playback. For details on enabling the Covert function, please refer to *4.8.1 Temporarily Logout*.

**Record Mode:** Select a record mode from the drop-down list.

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

**Main / Sub Resolution:** Select the most suitable resolution for the Main Stream and Sub Stream. If you connect eZ.HD cameras (1080p) to the MDVR, the main stream resolution option will display 1920x1080 only. If you connect eZ.HD cameras (720p) to the MDVR, the main stream resolution option will display 1280x720 only. The Sub Stream is designed for remote operation, such as remote live view and remote playback. Please refer to *7.2 Remote Live View* for more details.

| Main Stream | Sub Stream |
|---|---|
| eZ.HD Camera (1080p): 1920x1080<br>eZ.HD Camera (720p): 1280x720<br>WD1 or D1 Camera: 960x480 / 704x480 / 352x240 | 352x240 / 176x120 |

**Record Quality:** Select a recording quality for the Main Stream and Sub Stream. The options include Low, Basic, Standard, High and Superior. The higher the quality, the more the storage space is used.

**Normal Speed:** Select a frame rate per second (FPS) for continuous recording. The speed is limited by the maximum total recording capacity of the MDVR as allocated across all the installed cameras, with upper limit of 30 FPS (NTSC) / 25 FPS (PAL) per individual camera respectively (real time recording).

**Event Speed:** Select a frame rate per second (FPS) for event recording.

**Ratio:** Select 4:3, 16:9 or Stretch for camera display on the layout screen. For more information about 4:3 and 16:9 aspect ratio, please refer to *6.2.1.1 Display Aspect Ratio*.

**Record Audio:** Check the box to enable audio recording on the MDVR, and then select an audio input device.

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

**Apply To:** Click the button to apply the same settings to the desired cameras. Note that only the cameras support the same resolution can be applied with the same settings.

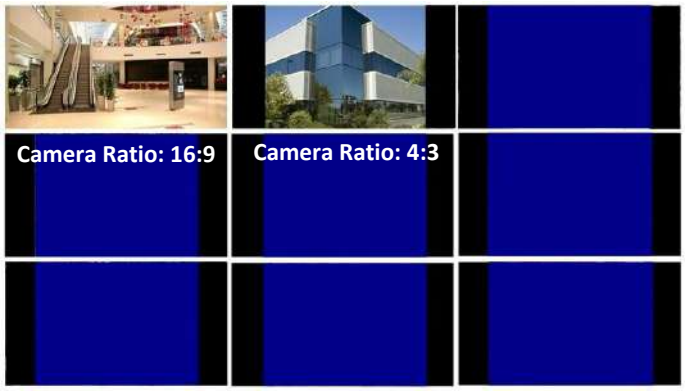
**Save:** Click to save the settings.

#### 6.2.1.1 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.

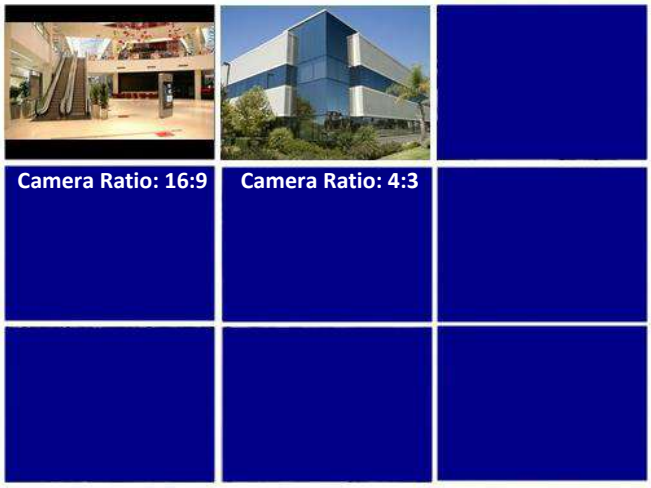
If you select 1920x1080 (16:9) screen resolution in the **Screen Mode** drop-down list (see *6.6.1 Monitor OSD*), it is recommended to also change the camera live view display to 16:9 aspect ratio in the **Ratio** drop-down list (see *6.2.1 Basic Setting*).

**Screen Mode: 1920x1080 (16:9)**




If you select 800x600, 1024x768 or 1280x1024 (4:3) screen resolution in the **Screen Mode** drop-down list (see *6.6.1 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 *6.2.1 Basic Setting*).

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



### 6.2.2 Adjust Setting

You can adjust the Brightness, Contrast and Color of the selected camera.

**Camera:** Select a camera to adjust the following settings.

**Brightness:** Move the bar to adjust the brightness.

**Contrast:** Move the bar to adjust the contrast.

**Color:** Move the bar to adjust the color.

**Advanced:** Click to bring up the **UTC Panel** and then click the **Enter** button to enter the camera's OSD menu for controlling and adjusting the camera setting. All EverFocus' eZ.HD cameras and other brands' AHD cameras enabled with UTC function are supported. For more details about eZ.Controller function, please refer to *1.2 eZ.Controller Function Description*.

1. Use the direction buttons on the **UTC Panel** to control the camera's OSD setting menu.
2. To exit the camera OSD setting, click the **Exit** button to return to the **Adjust** setting page.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

## 6.3 Record & Playback

### 6.3.1 Record

You can configure the basic recording settings on the storage.

**Record Overwrite:** Check the box to overwrite the storage (SSD and SD card) when it is full. Note that unless this box is checked, or the mobile DVR will stop recording when the storage is full. The use of record overwrite is strongly recommended. If you do not use this feature, please be sure to enable the Event setting for Storage Full for notification (see *6.4.6 Other*).

**Schedule Record:** Check the box to record by the schedule to the storage. Please see *6.8 Schedule Setting* for more details.

**Time Stamp:** Select **Top / Bottom** to overlay time information on the top / bottom of the recording streams. Select **Off** to disable the function.

**Record Status Relay Output:** Select a number to monitor the recording status of the selected alarm relay. The recording status (Recording On / Recording Off) of the selected alarm relay will be transmitted to the alarm output device.

**Power Delay-On:** Set the delay time to supply power to the mobile DVR in order to avoid excess consumption surge at ignition.

**Power Delay-Off:** Set the delay time to power off the mobile DVR after ignition off. It can extend the recording time after ignition off.

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

## 6.4 Event

You can configure the Alarm, Video Loss, Motion and Other settings in this menu.

### 6.4.1 Alarm

**Alarm:** Select an Alarm input number from 1 to 16.

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

**Log:** Check the box to record alarm events to log data.

**Pre-alarm Record:** Check the box to start copying the recordings to the storage from 5 seconds before the alarm event occurs. The pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.2.1 Basic Setting*). Note that the Pre-Alarm recording time may be reduced from 5 seconds when the system loading is too heavy, e.g., when all channels are triggered for pre-alarm recording simultaneously.

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

**Email Notify:** Check the box to send email notification with a snapshot file when an alarm event is detected. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when an alarm event occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Auto Lock:** Check the box and the events will be recorded in a write protected segment of the storage (will not be overwritten). The mobile DVR will lock a period of time when the alarm occurs. The length of the time depends on mobile DVR setting (see *6.5.3 Lock / Format*).

**SD Backup:** This function is only available for EMV400SSD. Check the box to enable Alarm event backup recordings to the SD card. When an alarm is triggered, the mobile DVR will record the alarm event to the SD card for 60 seconds start from the triggered time. The SD card will start recording the next alarm event only when the recording process is done (the alarm events occurred during the SD card recording process will be ignored and not be recorded). Up to four alarm events can be simultaneously recorded if the alarms are triggered at the same time.

**FTP Upload:** Check the box to enable uploading recordings to the FTP server function. To setup the FTP server, please refer to *6.7.6 FTP*.

**Send to Xfleet:** Check the box to send the alarm data to the Xfleet system. Note that for the Xfleet system to receive alarm data from the mobile DVR in order to perform the alarm event actions on Xfleet system, this function must be enabled.

**FTP Upload File Type:** Select MP4 file type to upload videos to FTP server; select JPEG file type to upload snapshots to the FTP server.

**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 motion event. The alarm output will last for the setup duration time between 1 and 150 seconds.

**Main Monitor/Call Monitor:** Select **Full Screen** to force the 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 field above.

**Record:** Select a camera to start recording when the associated alarm number is triggered.

**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. For example, if you set up an external motion detector near Camera 2, you can select Camera 2 in this field. The alarm will be associated with this camera for full screen display, event logging and PTZ actions.

**PTZ:** If the Active Camera selected above is a PTZ camera, you can further set up the PTZ actions in this field.

**The following time synchronization function must work with the radio-controller clock.**

**Time Sync Enable:** Check to enable the time synchronization with the connected radio-controlled clock.

**Time Sync Interval:** Select a time sync interval time (by hour) for the MDVR to synchronize the time with the radio-controlled clock.

**Time Sync Range:** The time sync range means the allowed time difference between the MDVR and the radio clock. If the time difference exceeds the entered time sync range (by second), the MDVR cannot be synchronized unless you manually set up the exact same time as the clock or within the time sync range.

For example, if the radio-controlled clock time is 12:00:00 and you enter 30 seconds for the time sync range, the allowed time difference between the MDVR and the clock should be within 30 seconds which means the MDVR time can be 11:59:30 ~ 12:00:30.

| Time Sync Range | 30 Seconds | 60 Seconds |
|---|---|---|
| Radio-controlled Clock time | 12:00:00 | 12:00:00 |
| DVR time | 11:59:30~12:00:30 | 11:59:00~12:01:00 |

**First Sync of:** Enter a first sync start time.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

### 6.4.2 Video Loss

You can enable the Video Loss Event function and configured the video loss event notifications in this menu.

**Camera:** Select a camera to be configured.

**Enable:** Check the box to enable the Video Loss event settings for the selected camera.

**Log:** Check the box to record video loss events to log data.

**Pre-alarm Record:** Check the box to start copying the recordings to the storage from 5 seconds before the alarm event occurs. The pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.2.1 Basic Setting*). Note that the Pre-Alarm recording time may be reduced from 5 seconds when the system loading is too heavy, e.g., when all channels are triggered for pre-alarm recording simultaneously.

**Buzzer:** Check the box to enable the buzzer when a video loss event is triggered.

**Email Notify:** Check the box to send email notification when a video loss event is detected. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when video loss event occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**Alarm Output:** Select an alarm output number. When an alarm is triggered, the signal will be transmitted through the 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 (10 ~ 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 (10 ~ 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 motion event. The alarm output will last for the setup duration time between 10 and 150 seconds.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

### 6.4.3 Motion

You can enable the Motion Event function and configured the related settings including motion event notifications and motion areas in this menu.

**Camera:** Select a camera to be configured.

**Enable:** Check the box to enable the Motion Event settings for the selected camera.

**Log:** Check the box to record motion events to log data.

**Pre-alarm Record:** Check the box to start copying the recordings to the storage from 5 seconds before the alarm event occurs. The pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.2.1 Basic Setting*). Note that the Pre-Alarm recording time may be reduced from 5 seconds when the system loading is too heavy, e.g., when all channels are triggered for pre-alarm recording simultaneously.

**Buzzer:** Check the box to enable the buzzer when a motion event is triggered.

**Email Notify:** Check the box to send email notification when a motion event is detected. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when motion occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Auto Lock:** Check the box and the events will be recorded in a write protected segment of the storage (will not be overwritten). The mobile DVR will lock a period of time when the alarm occurs. The length of the time depends on mobile DVR setting (see *6.5.3 Lock / Format*).

**FTP Upload:** Check the box to enable uploading recordings to the FTP server function. To setup the FTP server, please refer to *6.7.6 FTP*.

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**FTP Upload File Type:** Select MP4 file type to upload videos to FTP server; select JPEG file type to upload snapshots to the FTP server.

**Alarm Output:** Select an alarm output relay. 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 (10 ~ 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 (10 ~ 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 motion event. The alarm output will last for the setup duration time between 10 and 150 seconds.

**Main Monitor/Call Monitor:** Select **Full Screen** to force the camera which detects motion to display full screen on the monitor. The full screen camera view will last according to the Output Type selected in the field above.

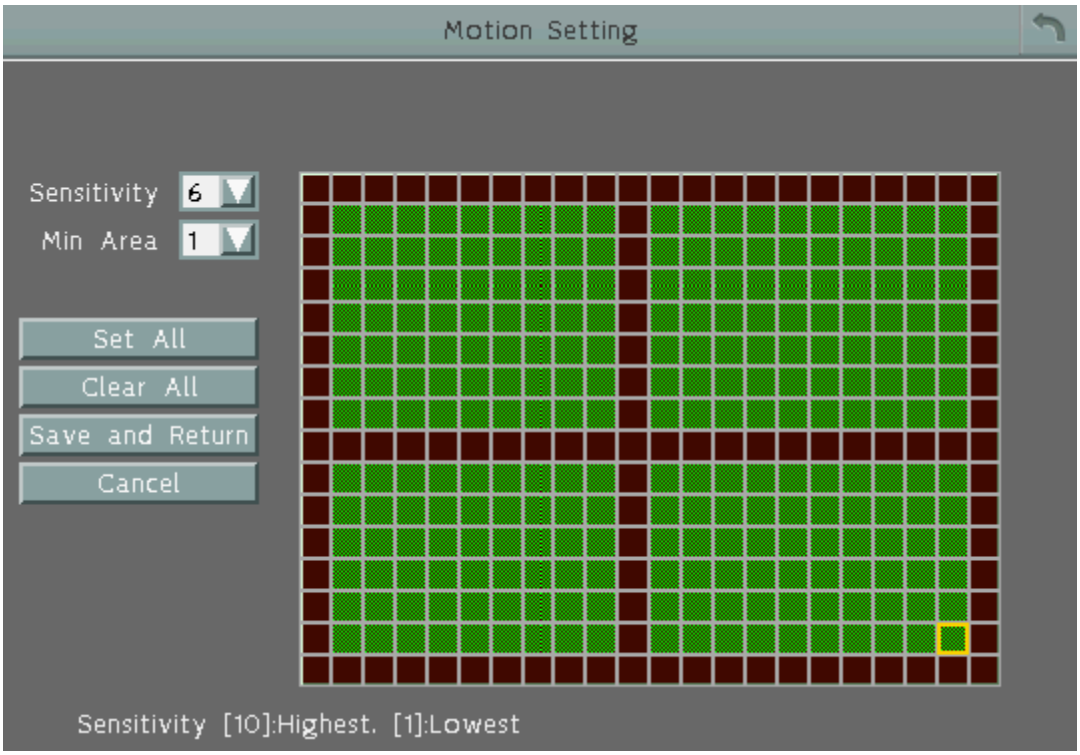
**Edit Motion Grid:** Press the button to bring up the Motion Setting menu. To edit the motion grids, please refer to the instructions later in this section.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

**To Edit the Motion Grids:**

1. Click the **Edit Motion Grid** button, the Motion Setting menu appears.




2. To set up a motion area, drag a rectangle with your mouse (from top to bottom / upper-left to lower-right). The selected areas will be highlighted in green and are applied with the motion detection function (see image above). You can also click the **Set All** button to select all areas.
3. To delete a motion area, drag a rectangle with your mouse (from bottom to top / lower-right to upper-left). You can also click the **Clear All** button to clear all areas.
4. Follow Step 2 to set up multiple motion areas if necessary.
5. Sets up the Sensitivity and Min Area for the motion grids.

   Sensitivity: Sets up the motion sensitivity for the grids. The larger the number, the higher the sensitivity.

   Min Area: This function is designed to prevent false detections caused by small objects. If you select 2, only the object size larger than 2-grid size can be detected.
6. Click the **Save and Return** button to save the settings and then return to the Motion menu.

### 6.4.4 GPS Event

You can configure the GPS settings to display the vehicle speed on the live view / recordings, or to set up the GPS events including higher speed limit / GPS fencing for alarm notifications.

【**Event Action**】: You can configure the alarm types for GPS events.

**Email Notify:** Check box to enable email notification when GPS event occurs. Email operation requires valid email settings entered in the Email setup screen (see *6.7.4 Email*).

**Network Alarm:** Check box to send out a network alarm to the client PC. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server)*.

**Alarm Output:** This will transmit a signal through the alarm output relay. It can be set to either "NONE" (not active), "1" (active) or "2" (active).

**Output Type:** Output action when alarm is triggered.

Timeout: Alarm output lasts for the set time duration.

Permanent: Alarm will be continuously active until user presses the "Enter" key or resets the alarm remotely.

Transparent: Alarm output remains active until event ends.

Trans+Timeout: Alarm output continues until event ends, then continues for the set time duration.

**Timeout Duration:** The amount of time the buzzer sounds when GPS event occurs.

【**GPS Fencing**】: You can set up the geo-fencing event for alarm notification.

**GPS Alarm:** Select On / Off to enable / disable GPS Fencing alarm.

**GPS Border Type:** Select **Circle** or **Rectangle** for the GPS border type.

**Coordinate Express:** Select **DMS** to set up the latitude and longitude of the border in Degrees / Minutes / Seconds; or select **Decimal Degrees** to set up the border in decimal degrees.

If you select **Circle** in the GPS Border Type field, the following settings will appear:

**Center Latitude:** Select S (South) or N (North) and then set the latitude.

**Center Longitude:** Select E (East) or W (West) and then set the latitude.

**Radius:** Select radius value from kilometer (Km) or mile (Mi).

If you select **Rectangle** in the GPS Border Type field, the following settings will appear:

**Upper Left Latitude.:** Select S (South) or N (North) and then set the latitude.

**Upper Left Longitude:** Select E (East) or W (West) and then set the latitude.

**Lower Right Latitude:** Select S (South) or N (North) and then set the latitude.

**Lower Right Longitude:** Select E (East) or W (West) and then set the latitude.

【**GPS Speed**】: You can display the vehicle speed on the live view / recordings or to set up the higher speed limit event for alarm notification.

**GPS Speed:** Select whether to display the vehicle speed or not.

**Speed Higher Limit:** Set the vehicle speed to determine at which level the alarm will be triggered. Once the vehicle reaches the setup speed, the alarm will be triggered.

**Speed Unit:** Select **KPH** (kilometer per hour) or **MPH** (mile per hour) to display the vehicle speed on live view or recordings.

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

### 6.4.5 G-Sensor Event

You can configure the gravity value of the X, Y and Z-axial, once the vehicle reach the setup value, the alarm will be triggered.

**G-Sensor:** Select On / Off to enable / disable G-Sensor function.

**Email Notify:** Check box to enable email notification when GPS is lost. Email operation requires valid email settings entered in the Email setup screen (see *6.7.4 Email*).

**Network Alarm:** Check box to send out a network alarm to the client PC. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server)*.

**XY Axial Trigger Value:** Set XY Axial trigger value, alarm will be triggered when acceleration reaches this value in horizontal direction with respect to the horizon. The available setup value is between 0 ~127 (1000mg = 1 Gravity).

**Z Axial Trigger Value:** Set Z Axial trigger value, alarm will be triggered when vertical acceleration reaches this value. The available setup value is between 0 ~127 (1000mg = 1 Gravity).

**Alarm Output:** This will transmit a signal through the alarm output relay. It can be set to either "NONE" (not active), "1" (active) or "2" (active).

**Output Type:** Output action when alarm is triggered.

Timeout: Alarm output lasts for the set time duration.

Permanent: Alarm will be continuously active until user presses the "Enter" key or resets the alarm remotely.

Transparent: Alarm output remains active until event ends.

Trans+Timeout: Alarm output continues until event ends, then continues for the set time duration.

**Timeout Duration:** The amount of time the buzzer sounds when GPS is lost. Duration selectable from 1 to 150 seconds.

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

### 6.4.6 Other

You can configure the system event settings and enable the Buzzer or Email alert for notifications.

#### 6.4.6.1 Storage Temperature.

This function is only available for EMV400SSD.

**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when System / Storage temperature is over the "Temp. Warning Limit".

**Email Notify:** Check the box to send email notification when system / Storage temperature is over the "Temp. Warning Limit". Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Stop Recording:** Check box to stop recording when System / Storage's temperature is over the "Temp. Warning Limit".

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**Temp. Warning Limit:** Sets the trigger temperature for System / Storage Temperature event actions. Choose between 45°C /113°F and 70°C /158°F.

**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:** Output action will be Transparent and cannot be changed (alarm output remains as long as the alarm condition is active).

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

#### 6.4.6.2 Storage Failure

**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when storage fails.

**Email Notify:** Check the box to send email notification when storage fails. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when storage fails. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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:** Output action will be Transparent and cannot be changed (alarm output remains as long as the alarm condition is active).

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

### 6.4.6.3 Storage Full

**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when storage is full.

**Email Notify:** Check the box to send email notification when storage is full. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when storage is full. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 storage is full.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

#### 6.4.6.4 Storage Off

**Buzzer:** The buzzer will activate when storage is off.

**Email Notify:** Check the box to send email notification when storage is off. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when storage is off. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 storage is off.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

#### 6.4.6.5 Unmount SD

This function is only available for EMV400SSD.

**Log:** Check the box to record alarm events to log data.

**Buzzer:** The buzzer will activate when SD card is unmounted.

**Email Notify:** Check the box to send email notification when SD card is unmounted. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when SD card is unmounted. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 SD card is unmounted.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

#### 6.4.6.6 Power Loss

**Log:** Check the box to record alarm events to log data.

**Email Notify:** Check the box to send email notification when power has been restored. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

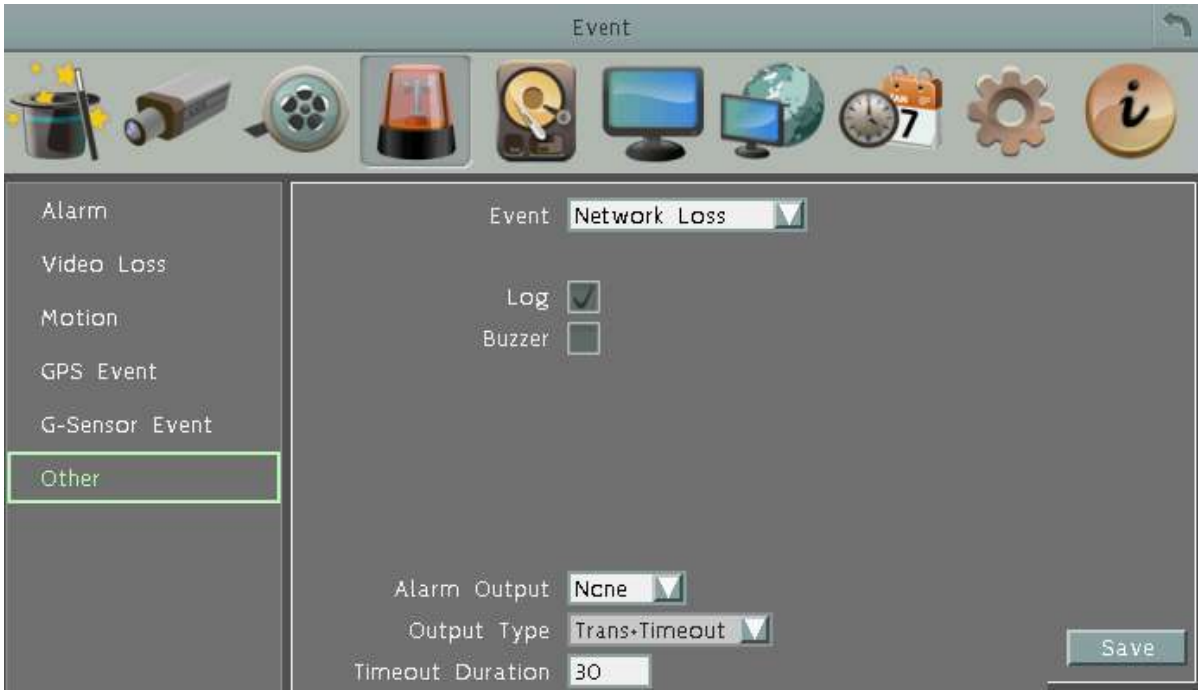
**Network Alarm:** Check the box to send out a network alarm to a client PC when power has been restored. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**Note:** As alarms and emails cannot be transmitted without power, the log entry is made when power is restored, and any notifications cannot be made until that time.

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

#### 6.4.6.7 Network Loss




**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when network is lost.

**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 the network is lost.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

**Note:** This function only checks the physical connection (link) to the network. Any network behavior that blocks data connectivity (blocked ports, IP addressing errors, etc.) is not detected by this function.

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

#### 6.4.6.8 GPS Loss

**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when GPS is lost.

**Email Notify:** Check the box to send email notification when GPS is lost. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when GPS is lost. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 the GPS is lost.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

## 6.5 Storage

The Storage menu is used to review the mobile DVR's storage settings and status. No value in this menu can be configured by the operator.

### 6.5.1 Storage

**Record Time (Start):** Shows the earliest recording time of the mobile DVR.

**Record Time (End):** Shows the latest or most current time on the mobile DVR.

**Storage:** Select a storage number.

**Health Status:** Displays the current status of the selected storage.

**Storage Temperature:** Displays the current temperature of the selected storage (only available for EMV400SSD).

**Storage Size (Total):** Shows the total space of the selected storage.

**Storage Size (Usage):** Shows the used space of the selected storage.

### 6.5.2 SD Card

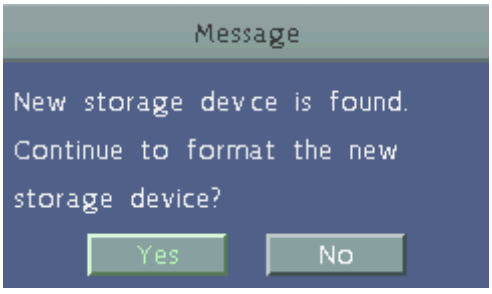
This page is only available for EMV400SSD. On this page, you can see the SD card information including the status, disk size and usage. You can also format the SD card using the Format SD button.

The SD card can be used for alarm event backup recording function. To activate the function, insert a SD card to the SD card slot on the front panel of the mobile DVR (see *2.3.1 SD Card Installation*) and then configure the alarm settings (see *6.4.1 Alarm*).

**Unmount SD:** Before removing the SD card from the mobile DVR, please click the **Unmount SD** button first for data safety purpose.

**Format SD:** Click the button to format the SD card. After formatting the SD card, all the recordings will be erased and 5% of the card space will be reserved for system use. If you want to back up the recordings, you can use EverFocus EF-Reader to remotely/locally back up the recordings from the SD card (see *Appendix H Recording Backup through EF-Reader*).

The Mobile DVR will automatically detect when a new SD card has been inserted and the below SD card format message will pop-up. Click **Yes** to format the SD card. The formatting process will take about 30 ~ 60 seconds. Note that only the formatted SD card can be used for event recording function.



### 6.5.3 Lock/Format

You can control the percentage of the storage space reserved for Locked Event Recordings. You can also format the storage if necessary.

**Maximum Lock (%):** Sets the maximum percentage of the storage space reserved for Locked Event Recordings. To set up the Locked Event Recordings, please select the **Auto Lock** item in *6.4.3 Motion* or *6.4.1 Alarm*.

**Current Lock (%):** Displays the current percentage of the locked event recordings in the storage. If the amount of locked event recordings has reached the maximum lock percentage, the mobile DVR will be unable to lock new event recordings.

**Unlock All:** Click this button to unlock the locked part of storage.

**Delete All:** Click this button to delete all the unlocked data in the storage. WARNING: This will effectively ERASE the storage's contents, except for the locked portion.

**Format Storage:** Click this button to format the whole storage. WARNING: This will effectively ERASE the ENTIRE storage!! If you want to back up the recordings, you can use EverFocus EF-Reader to remotely/locally back up the recordings from the storage (see *Appendix H Recording Backup through EF-Reader*).

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

## 6.6 Display Setting

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

### 6.6.1 Monitor OSD

Check the boxes under the Main Monitor / Call Monitor fields will display the selected items on the live view image.

**Main Monitor / Call Monitor**

**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.

**Storage Status:** Check the box to display storage status.

**Playback Date/Time:** Check the box to display playback date/time (only for main monitor).

**Playback Status:** Check the box to display playback status (only for main monitor).

**GPS Status:** Check the box to display GPS status (only for main monitor).

**G-Sensor Status:** Check the box to display G-Sensor status (only for main monitor).

**Screen Mode:** Select the suitable screen mode. Selections are: 1920x1080; 1280x1024; 1024x768; 800x600 (only for main monitor). Please refer to *6.2.1.1 Display Aspect Ratio* for more details.

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

### 6.6.2 Monitor Sequence

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

**Monitor Drop-Down:** Select Main Monitor or Call Monitor.

**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.

## 6.7 Network Settings

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

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

### 6.7.1 LAN

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

**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.

**IP address:** Displays the mobile DVR's current IPv4 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 mobile DVR 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 mobile DVR 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 (see *6.7.5 DDNS*).

**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 mobile DVR is allowed to use on the network. This is a useful function when connecting the mobile DVR to busy or heavily loaded networks, or when accessing the mobile DVR(s) over a WAN.

**Network ID:** The network ID is an identifier for the alarm transmitter (mobile DVR sending the alarm).

**Anonymous viewer login:** Check the box to allow the unauthorized persons to log in the Web page of the DVR. Note that to protect your DVR 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 mobile DVR Network Menu according to the instructions detailed in the Networking chapter of this mobile DVR'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 mobile DVR 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 mobile DVR changes, you may have difficulties accessing your mobile DVR locally and/or remotely. It is strongly recommended that you assign a fixed (static) IP address to your mobile DVR, 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 mobile DVR 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 mobile DVR 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 mobile DVR, 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 mobile DVR. 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 mobile DVR 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 mobile DVR 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 mobile DVR, 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

### 6.7.2 Wireless

**Wireless Mode:** Three options are selectable: **Disable**, **Static IP** and **DHCP**.

Disable: Select to disable the wireless mode.

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.

**IP address:** Displays the mobile DVR's current IPv4 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 mobile DVR 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 mobile DVR 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 (see *6.7.5 DDNS*).

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

**Network Mode:** Select a wireless networking standard.

**SSID:** Enter the name (SSID) of the wireless network.

**Shared Key:** Enter the password of the wireless network.

**Change Channel:** Select a wireless channel for the mobile DVR. It's recommended to select **Auto** when there is more than one mobile DVR set up in the same wireless network environment.

**Security Mode:** Select a wireless encryption protocol: WEP, WPA and WPA2.

**WPA Algorithms:** This option is only available when **WPA / WPA2** is selected from the Security Mode drop-down list. Select a WPA algorithm from the drop-down list.

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

### 6.7.3 Mobile

After connecting the 3G / 4G Receiver to the mobile DVR, you have to set up the mobile settings for the mobile DVR to connect to the wireless network. Follow the steps below:

1. Connect the 3G / 4G Receiver to the mobile DVR. Please refer to the *User's Manual* of the *3G / 4G Antenna Module*.
2. Select **On** from the GPRS Service drop-down list and select an authentication (**CHAP** or **PAP**).
3. Insert the APN, Dial Number, User Name and Password provided by the network service provider and then click the **Save** button.

   The connection status will be displayed in the **Status** field below. If it's connected successfully, the status will display "OK". And the data rate information will be displayed in the fields below. The information about the Internet Service Provider (ISP) along with the signal type (3G/4G) and signal strength (0~98) will be displayed in the **ISP**, **Type** and **Signal** fields.

**Note:** If a message window pops up "Please insert a 3G modem", please reboot the mobile DVR.

### 6.7.4 Email

You can configure the Email settings for mobile DVR to send Email alert when an event occurs.

**SMTP Server:** Assign the SMTP (e-mail) server's name. Note that for more reliable email service, use the server's IP address.

**SMTP Port:** Assign the port number used by the SMTP server.

**Authentication:** Check this box if the SMTP server requires authentication (user name / password).

**SSL:** Check the box if mail server needs communication to be encrypted by SSL.

**User Name:** Input the login user name if the SMTP server requires authentication.

**Password:** Input the password if the SMTP server requires authentication.

**Confirm:** Input the password again to confirm the password.

**Sender Email:** Input the e-mail address of the sender (the mobile DVR). Sender's e-mail address has to match the user name and password above.

**Receiver Email 1:** Input the first e-mail address that event messages are sent to.

**Receiver Email 2:** Input the second e-mail address that event messages are sent to.

**Receiver Email 3:** Input the third e-mail address that event messages are sent to.

**Email Subject:** Input email subject.

**E-Mail test:** You can click the button to test the email function. If the function works fine, a Pass message will be displayed; otherwise, a Fail message will be displayed.

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

### 6.7.5 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 mobile DVR.

DDNS assigns a domain name (URL) to the mobile DVR, 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 mobile DVR 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 two 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 mobile DVR.

#### 6.7.5.1 EverFocus DDNS

Note that the **DNS Server 1** (*6.6.1 LAN*) should be set up correctly or the DDNS will not work.

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

**MVR Name:** Input the desired name for the mobile DVR, 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 mobile DVR cannot include a space, underline or any special characters particularly _~ ! @ # $ % ^ & * ( ) + < > " ; : . ,

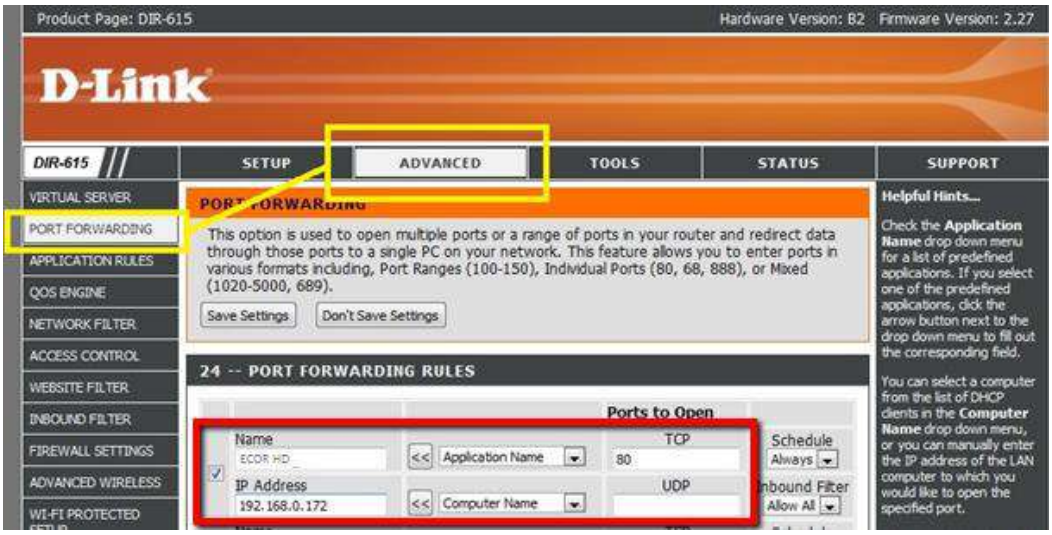
**Save:** Click to save the settings.

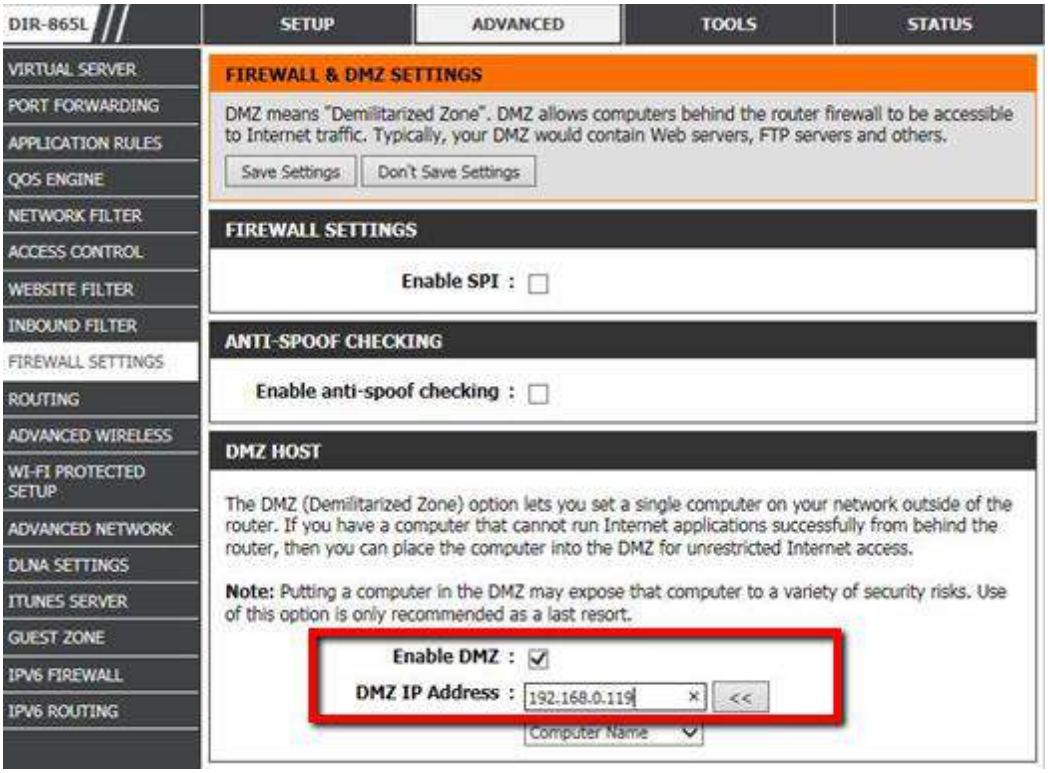
**Note:**

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 mobile DVR'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.

**To set up DDNS function:**

1. In order to allow remote access to the MDVR from outside of the local network, enable either the **Port Forwarding** or **DMZ** function of your router. Please refer to the manual of your router for more details.

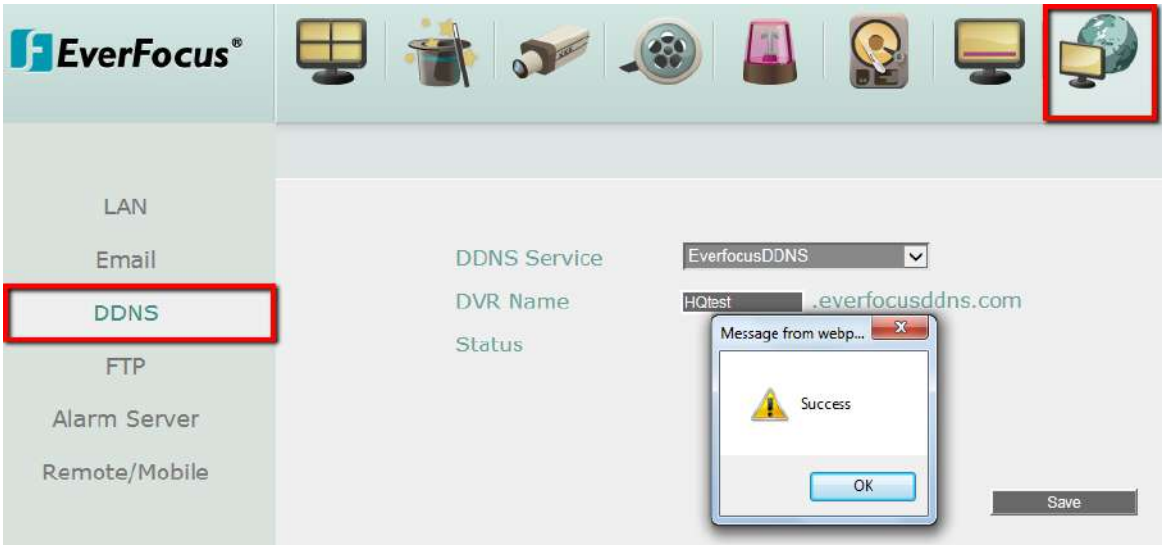


2. On the Network Setting page of MDVR (Network > LAN), configure the LAN settings, keep HTTP port “80” and then click the **Save** button.

- If **Static IP** is selected: Enter the IP address, subnet mask, default gateway and the DNS Server 1. Please consult with your ISP service provider for the information of subnet mask, default gateway and the DNS Server 1.
- If **DHCP** is selected: The IP address, subnet mask, default gateway and the DNS Server 1 will be assigned automatically by DHCP server.
- If **PPPoE** is selected: Enter the User Name (e.g. xxxx@hinet.net) and Password provided by your ISP service provider.

3. On the DDNS setting page, register a free host name from EverFocus DDNS and then click the **Save** button.



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

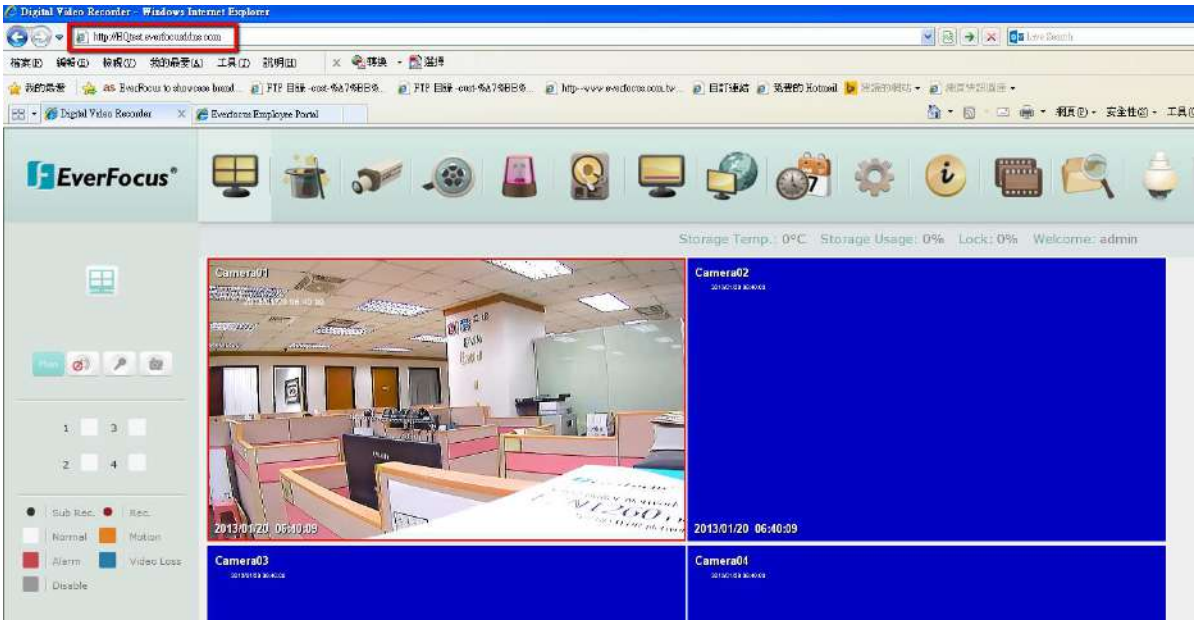
b. Enter a desired host name in the DVR Name field. If the host name is available, a "Success" window will appear. Click **OK**. If not, try another host name until the "Success" window appears.

> **Note:** The host name should not include a space, underline or any special characters particularly _~ ! @ # $ % ^ & * ( ) + < > " ; : . ,

c. Click **Save**.

4. The DDNS setup is now complete. Open a browser and enter the domain name (http://[host name].everfocusddns.com) in the address field. The Web interface of the MDVR should be displayed.

   For example, if you've obtained the host name "HQtest" from EverFocus DDNS server, enter http://HQtest.everfocusddns.com in the address field of the browser.



### 6.7.5.2 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.
**Save:** Click to save the settings.

**Setup Steps:**

1. Apply for a host name from www.dyndns.org.
2. Make sure that the DNS Server 1 is set up correctly (see DNS Server 1 in *6.7.1 LAN*) 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 mobile DVR cannot include a space, underline 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 mobile DVR 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 mobile DVR is 80. To set up Port Forwarding, please consult the manual of the router.

### 6.7.6 FTP

Set up the FTP server settings to enable the FTP function. The function is for users to upload the alarm / motion recordings or snapshots from sub stream to the FTP server. You can choose to upload either the recordings or snapshots, please see *6.4.1 Alarm* and *6.4.3 Motion.*

**FTP Server:** Enter the IP address or the host name of the FTP server.

**Port:** Enter the port number for the FTP server. Default is 21.

**User Name:** Set FTP User's name.

**Password:** Set FTP password.

**Confirm:** Input the FTP password again to confirm.

**File Name:** Enter the file name.

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

**Note:** If you want to upload recordings to the FTP, please go to the Remote / Mobile setting page to select H.264 codec.

### 6.7.7 Alarm Server

You can send out the alarm notifications to EverFocus's CMS software. Please also consult the CMS's user manual for network alarm settings.

**Server IP1~3:** IP address of client PC. The network alarm can be transmitted to up to 3 addresses.

**Protocol:** Select the protocol type for alarm transmission. Note the protocol selected here should match the protocol set up for the CMS alarm server.

UDP: User Datagram Protocol.

TCP: Transmission Control Protocol.

**Port:** Select the transmission port for network alarm messages. The port setup here should match the port set up for the CMS alarm server.

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

### 6.7.8 Remote/Mobile

You can configure the compression format for the sub-stream for mobile phone access. Select **H.264** or **MJPEG** codec to enable the mobile phone access function. Note that if you also want to use the FTP function for uploading the recordings (MP4 video format), please select the H.264 codec.

**H.264:** The H.264 codec is compatible with iOS and Android MobileFocus applications and IE Web browser viewing on iPhone, iPod touch, iPad, Android, and BlackBerry.

**MJPEG:** The MJPEG codec is compatible with iOS and Android MobileFocus applications and IE Web browser viewing on iPhone, iPod touch, iPad, Android, and BlackBerry.

### 6.7.9 Network Test

The Ping utility is useful in diagnosing connectivity problems by obtaining responses from nodes progressively farther along the network. DNS functionality can also be confirmed by entering a valid DNS name instead of an IP address.

To verify basic network connectivity between the mobile DVR and other LAN or WAN nodes, click the **Ping** button.

### 6.7.10 Xfleet

You can use EverFocus Xfleet system for fleet management.

Xfleet is a Web-based fleet management system which integrates GPS positioning, 3G/4G mobile wireless communication and GIS (Geographic Information System) techniques, allowing users to easily track, monitor and manage any type of fleet vehicles on a Web browser anywhere and anytime.

With Xfleet, not only can you reduce overall costs by effectively utilizing resources such as vehicles, fuel, and manpower, but you can improve the management efficiency and business performance by keeping and analyzing the historical records (graphical reports) of the vehicle data as needed.

To successfully establish the connection between the MDVR and Xfleet system, enter the IP Address, Port Number, account ID and Password of the Xfleet server. Click **Save** to save the settings.

## 6.8 Schedule Setting

You can set up the recording schedule with the desired time, event types or FPS.

### 6.8.1 Express Setup

You can set up a weekly recording schedule for the mobile DVR to automatically record videos.

**Weekend Start:** Select a start date and time for the weekend.

**Weekend End:** Select an end date and time for the weekend.

**Daytime Starts:** Select a weekday start time (Nighttime schedule ends when Daytime begins). Click the button to bring up the time window. Use the up and down buttons to configure a desired time. The scale of the Hour is 1-hour; while the scale of the Minute is 30-minute.

**Daytime Ends:** Select a weekday end time (Nighttime schedule ends when Daytime ends). Click the button to bring up the time window. Use the up and down buttons to configure a desired time. The scale of the Hour is 1-hour; while the scale of the Minute is 30-minute.

**Record Type:** Select a recording type for each time period.

Disable: No recording during the scheduled time period.

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

**Normal (FPS):** Set up the fps for continuous recording.

**Event (FPS):** Set up the fps for event recording.

**Activities:** Check the box to enable the Buzzer, Alarm Out, E-mail and Network actions selected in *6.3 Event* when an event occurs during the selected time period.

**Note:** For **Holiday** and **Others**, you can set up the recording schedule in *6.7.2 Holidays*.

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

### 6.8.2 Holidays

In addition to set up a weekly recording schedule, you can also set up a holiday recording schedule to automatically record videos on a specific day of the year.

**Date Type:** Select **Holiday** or **Others** if you have configured the settings in *6.7.1 Express Setup*. The Holiday and Others are two different groups designed for you to assign special days independently.

**Recurrent Type:** Select a date layout for the selected group above.

Disabled: Select to disable the Holiday / Others recording schedule.

One time: Select this option and then set up the specific date and year in the Details field. The mobile DVR will start recording on this specific date.

Month/date: Select this option and then set up the specific date in the Details field. The mobile DVR will start recording on this date yearly.

Month/Weekday: Select this option and then set up the specific date in the Details field. The mobile DVR will start recording on this specific date.

**Details:** Click to specify the date for the selected group above.

**Previous:** Previous Page (30 Holidays Total).

**Next:** Next Page (30 Holidays Total).

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

### 6.8.3 Schedule

You can set up the camera recording mode by time of day on specific days of the week and/or holidays and other days. Please note that after the configuration, you have to check the **Schedule Record** box in the Record setting page to enable the schedule recording mode.

**Camera:** Select a camera number to change the schedule for the selected camera. Each camera can be controlled during a 24-hour time block for Holiday (Hol), Other (Oth), Sunday (Sun), Monday (Mon), Tuesday (Tue), Wednesday (Wed), Thursday (Thu), Friday (Fri), or Saturday (Sat).

**Time (0~23):** The numbers represent the 24 hours of a day.

**Time Bar:** The time bar uses three different colors to distinguish each recording mode.

Gray (No Rec): No recording during this time block.

Pink (E): Only events are recorded during this time block.

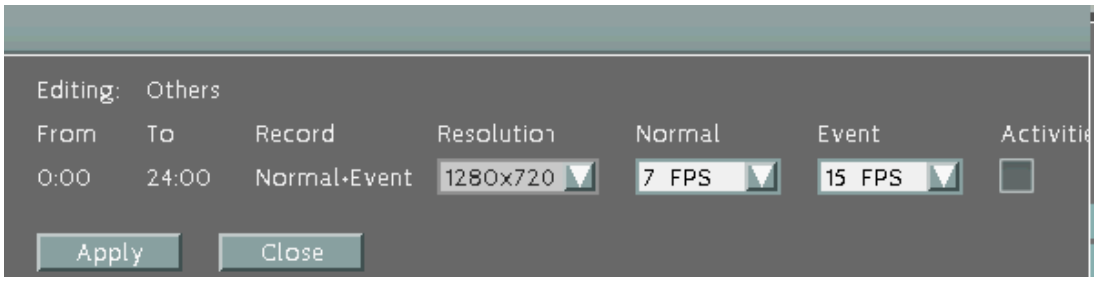
Blue-green (N+E): (Default) Normal and event recording during this time block.

There are 48 blocks on the time bar, and each block represents half hour respectively. When moving the cursor onto the time bar, the exact time will appear at the right side of the time bar (shown as the above figure).

**Schedule setting**

1. Select a camera first and click on desired start time block (no number on it) on a time bar. At this time, the selected time block will be highlighted in yellow frame and the entire time bar will be highlighted by red frame.
2. Click the desired start time block again to confirm, and this block (shows a new sequence number on it) and all the following blocks will turn to gray. This means the grey time blocks has been set to No Recording mode.
3. To change the time blocks to different record mode (which shows a different color), users need to click again on the block (with number on it) of any section. Every time the user clicks the first block of a section, the color switches from gray->pink ->blue-green.
4. Repeat the above steps to configure the record modes. You can configure up to six record modes on each time bar.

Click the "**Edit Timezone**" button to edit the recording parameters for a time zone.




**Editing Timezone**:

**From:** Displays time zone start time.

**To:** Displays time zone end time.

**Record:** Displays Record mode.

**Resolution:** Recording resolution is displayed.

**Normal:** Frame rate in FPS for continuous recording. It is important to keep track of the normal recording resources being allocated at each hours of the day. Increasing the Normal recording resolution and/or rate can inadvertently request more recording resources than the mobile DVR is capable of delivering, or allocate so much of the mobile DVRs resources that there is no excess available for increased FPS rate and/or resolution in response to an Event.

The speed is limited by the maximum total recording capacity of the mobile DVR as allocated across TV standard in global setting, all the installed cameras, with an upper limit of 30 FPS (NTSC – 25 PAL) per individual camera (real time recording).

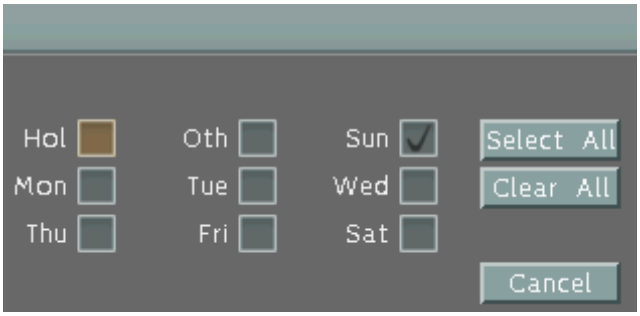
Since EverFocus mobile DVRs have the capability to change the FPS rate in response to events, it may be advisable to reserve some recording capacity for event response.

**Event:** *Maximum* desired frame rate in frames per second (FPS) for event recording; if more than one camera requires simultaneous event recording, the total for all cameras cannot

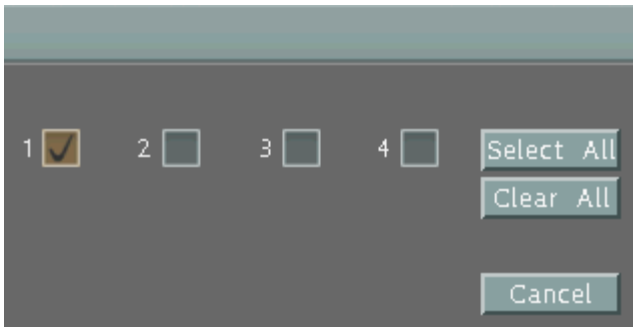
exceed the maximum available FPS for the mobile DVR at the corresponding resolution setting, and *the available FPS may be divided across the cameras responding to an event.*

**Activities**: Check this box to enable notifications enabled elsewhere (Buzzer, Alarm out, E-mail, and Network Alarm) when an event occurs.

**Apply to Days:** This button can be used to copy schedules to other days. Select which days you wish to copy to. "Select All" selects all days, “Clear All” deselects all days. Click “OK” to copy the settings or "Cancel" to exit without copying.




**Apply to Cameras:** This button can be used to copy schedules to other cameras. Select which cameras you wish to copy to. "Select All" selects all cameras, “Clear All” deselects all cameras. Click “OK” to copy the settings or "Cancel" to exit without copying.



## 6.9 System Setting

You can configure the general settings for the mobile DVR in this menu.

### 6.9.1 Date / Time

You can set up the date and time for the mobile DVR.

**Note:** Clicking **Save** at this page will disable the **Daylight Saving** function if this function has been enabled. Therefore, after setting up the time at this page, you need to go to *Daylight Saving* page to reset and enable the daylight saving time if the function is needed. Please refer to *6.9.2 Daylight Saving* for detailed information.

**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 mobile DVR to adjust to when updating from the time server.

**Time Sync:** You can synchronize the MDVR time with NTP server or GPS time.

- Disable: Select to disable the time synchronization function.
- NTP: Select to synchronize the MDVR time with NTP server. You will have to further set up the **NTP Server** and **NTP Update Interval** settings below.
- GPS: Select to synchronize the MDVR time with GPS time. For this function to work, a GPS receiver is required to connect to the MDVR to receive GPS signal.

**NTP Server:** If **NTP** is selected from the **Time Sync** drop-down list above, you will have to further select a **NTP Server**. The NTP Server displays the time server address that the mobile DVR uses for time synchronization. For this function to work, operating network configuration and WAN or LAN access to a compatible NTP server is required. The default NTP address is the NTP server in Taiwan. To find a compatible NTP address of the mobile DVR'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:** If **NTP** is selected from the **Time Sync** drop-down list above, you will have to further set up the **NTP Update Interval**, which is 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.

### 6.9.2 Daylight Saving

You can configure the settings for mobile DVR 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 and time settings first in **Date/Time** page. Because if you change any setting or just click **Save** in **Date/Time** page, the **Daylight Saving** function will be disabled.

**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.

### 6.9.3 User Group

This setting page is used for configuring the privilege of the three access levels: Administrator, Manager and Operator. Check the boxes under an access level to enable the privileges of that access level. For example, if you check the **Clear Log** box under the Operator access level, only the Operator has the privilege to clear log.

**Manage User at Own Level:** Check this box for the user of an access level to be able to configure other users' settings of the same level at the User Management setting page (see *6.9.4 User Management*). For example, if this box under the Operator level has been checked, any user with the Operator privilege can go to the User Management setting page to set up the settings of other Operators.

**User Management:** Check this box under an access level to enable the users of that level to access the User Management and User Group setting page.

**Previous:** Click to return to the previous page.

**Next:** Click to enter the next page.

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

**Important Notes for Account Privilege Definition**

Users with the Administrator account have full privileges, so the checkboxes under the Administrator access level will always be grayed out. The Administrator can grant privileges to both the Manager and Operator while the Manager and Operator can also give certain privileges to the lower level accounts based on the following rules.

- **Account Viewing:**
  Administrator: The Administrator account has the privilege to view all the user accounts.
  Manager: The Manager account can only view its own and the Operator accounts.
  Operator: The Operator account can only view its own account.

- **Camera Access:**
  Administrator: The Administrator account has the privilege to set up Camera Access right to all the user accounts.
  Manager: The Manager account can set up Camera Access right (cameras enabled by the Administrator account) to itself and Operator accounts.
  Operator: The Operator account can only set up its own Camera Access right.

- **Change Password:**
  Administrator: The Administrator account has the privilege to change password to all the user accounts.
  Manager: The Manager account can change password to itself and Operator accounts.
  Operator: The Operator account can only change its own password.

- **Edit User Rights:**
  Administrator: The Administrator account has the privilege to edit user rights to all the user accounts.
  Manager: The Manager account can only edit user rights to Operator accounts.
  Operator: The Operator account cannot edit user rights to any accounts.

### 6.9.4 User Management

You can create multiple user accounts (max: 20 user accounts) with different privileges. The mobile DVR 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

**Previous:** Click to return to the previous page.

**Next:** Click to enter the next page.

**Login:** Check the box to enable the User Login function after logging out the mobile DVR. For details on logging in the mobile DVR, please refer to *3.2.1 Login*.

**Auto User Log Off:** Check the box to automatically logoff the mobile DVR after 3 minutes of inactivity.

**Password Renew after xx days:** Input a number of days to renew the password of the MDVR.

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".

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

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

1. Click on 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). There are three options: Administrator, Manager and Operator. The Administrator has the highest user privilege level, the Operator has the lowest user privilege level, and Manager is in the middle.

**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 the Camera Access setting page, and check the boxes to enable the live, playback or PTZ functions of the cameras for local or remote access.

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

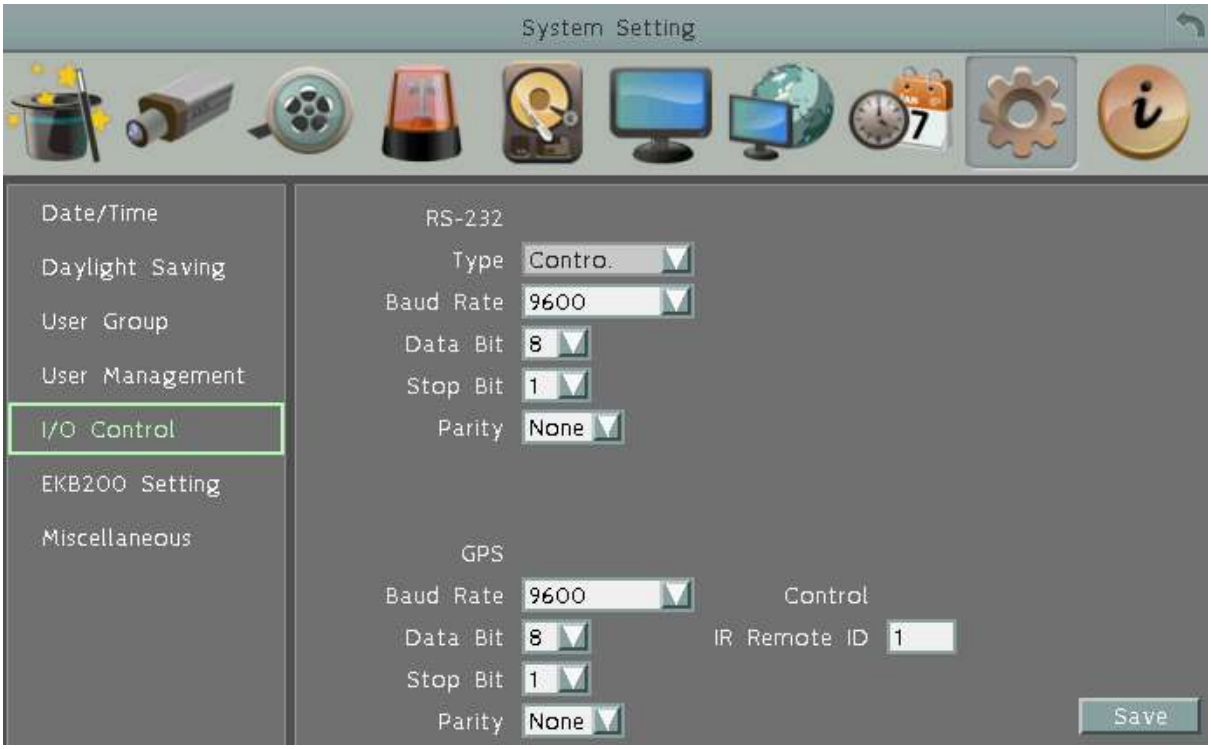
**Previous:** Click to return to the previous page.

**Next:** Click to enter the next page.

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

### 6.9.5 I/O Control

The I/O Control setup menu is used to define the settings for controlling the mobile DVR through RS-232 communication protocol. Please note that to perform the I/O function, the optional accessory, External I/O Box, is required.




**RS-232**

**Type:** Select Control or Text Insert.

**Baud Rate:** This field is to set the speed at which is used to transmit instruction or information through the RS-232 port on the mobile DVR. 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 RS-232 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.

**Note:** For details on the RS-232 related settings, please consult the Technical Support Department of EverFocus.

**GPS**

**Baud Rate:** This field is to set the speed at which is used to transmit instruction or information. 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 mobile DVRs. The mobile DVR to be addressed is selected by pressing the key corresponding to its ID number on the IR Remote control. Please refer to *Appendix E: IR Remote Control*.

**IR Controller ID:** Set up an ID for the mobile DVR and allow the IR remote control to control this mobile DVR.

### 6.9.6 EKB200 Setting

You can connect an EKB200, which is EverFocus' USB keyboard, to the USB port on the DVR 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 *4.1 PTZ*.

The control keys on the EKB200

After connecting the EKB200 keyboard to the DVR 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.
【**Activities**】 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*).

### 6.9.7 Miscellaneous

You can upgrade the latest firmware, restore the factory default settings to the mobile DVR, upload / save the mobile DVR configuration settings from / to the USB or change the language in this setup menu.

**Firmware**

**Current Firmware Version:** Shows the current firmware version of the mobile DVR.

**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 mobile DVR.

**Configurations**

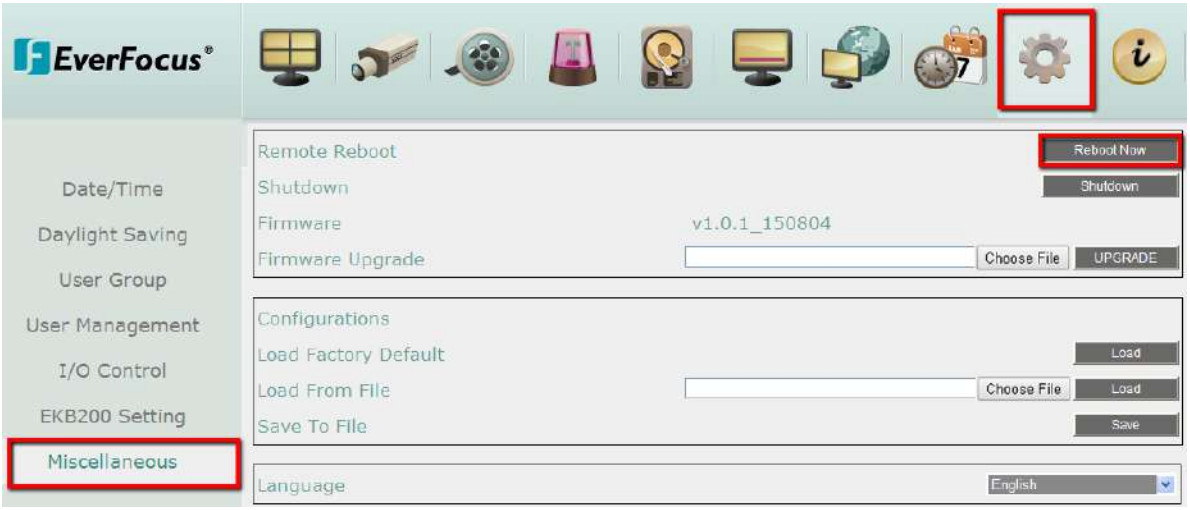
**Load Factory Default:** Click to restore the mobile DVR to factory default settings. The User Account, Network IP Settings, and Time settings will not be affected.

**Load From USB:** Click to upload the mobile DVR configurations restored in the USB flash device.

**Save To USB:** Click to save the mobile DVR configurations to the USB flash device.

**Language:** Choose which language the mobile DVR uses.

**Remote Reboot:** Check the box to enable restarting the mobile DVR via the Web UI.




**Shutdown:** Click the **Shutdown** button if you need to turn off the mobile DVR. When the message as below pops up on the screen, you can now turn off the mobile DVR.

## 6.10 Information

You can see the mobile DVR information and Log data in this menu. Or export the log data to the USB storage device.

### 6.10.1 System

In the System Menu, you can only see the information of the mobile DVR, Network or Storage status. No configuration can be done in this menu.

**【System】**

**Version:** Displays the firmware version.

**Model:** Displays the model name of the mobile DVR.

**NTSC / PAL:** Displays the current video format automatically detected by the mobile DVR.

**S/N:** Display the serial number of the mobile DVR.

**【LAN】**

**IP:** Displays the IP address set up in the Network or Express menu.

**MAC:** Displays the MAC address. This option cannot be changed.

**MVR Name:** Displays the DDNS name if configured.

**Network ID:** The ID number for EverFocus' CMS as set up in the LAN menu.

**【Status】**

Displays the status of the internal storage. Normal storage operation is indicated by "OK".

### 6.10.2 Log

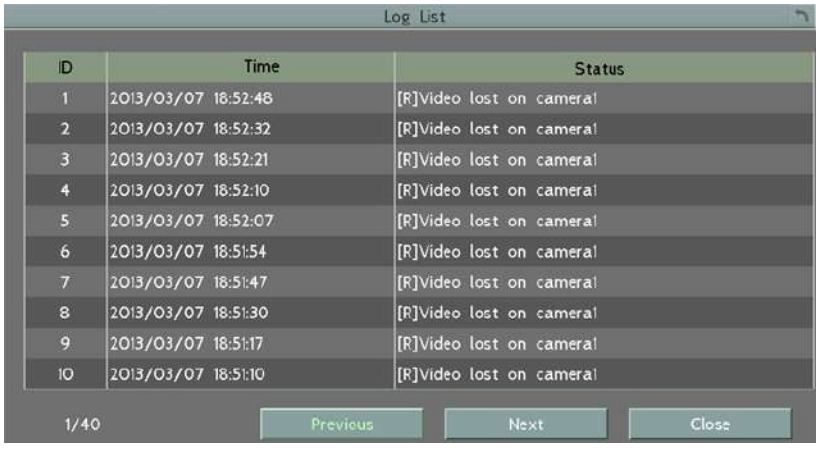
You can choose, display or export log data using this menu.

**From Date / To Date:** Click to bring up the on-screen keyboard to set up the start / end date.

**From Time / To Time:** Click to bring up the on-screen clock to set up the start / end time.

**Log Type:** Select the desired log types.

**View Log:** Click to bring up the Log List shown as below.




**Clear Log:** Click to delete all the selected log data.

**Export Log to USB:** Click the **Export** button to export the log data to the USB storage device.

# 7. Remote Access to the Mobile DVR

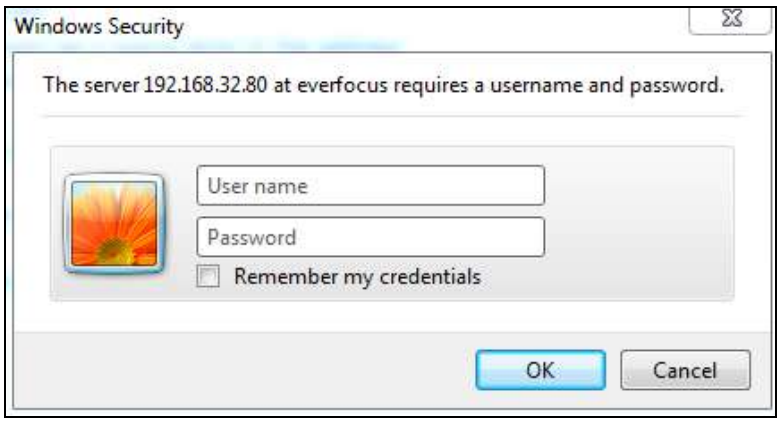
## 7.1 Accessing the Mobile DVR on the Network

Follow the steps below to access the mobile DVR 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 mobile DVR'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

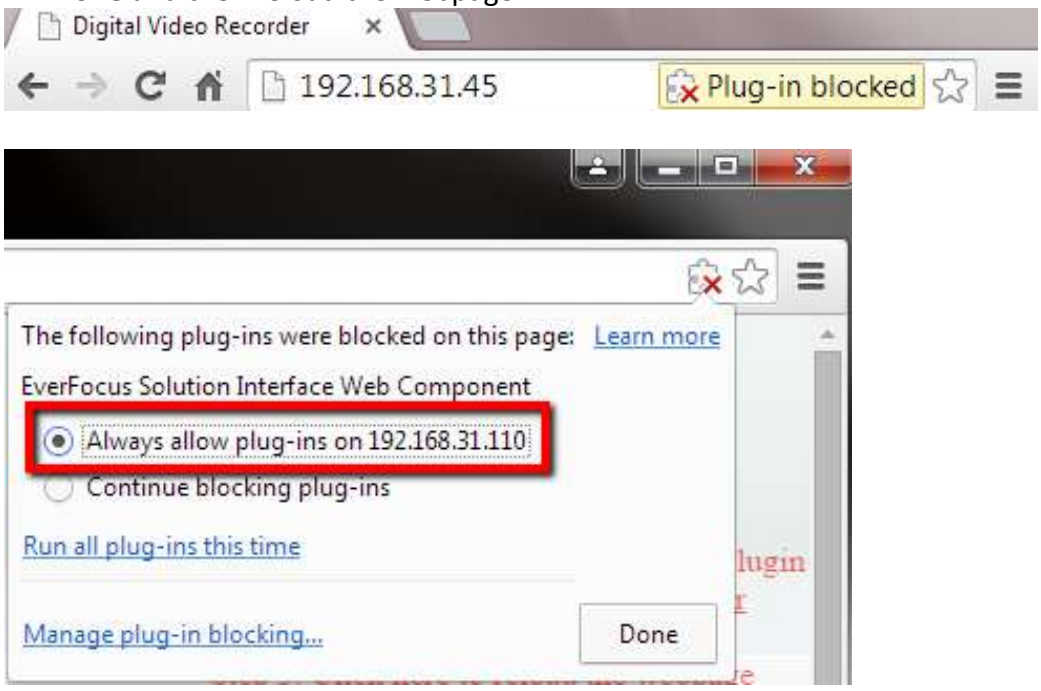
2. The Login window pops up. Type the User Name and Password. The default User Name is **admin**, while the password is **11111111**. Click **OK**.



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:**

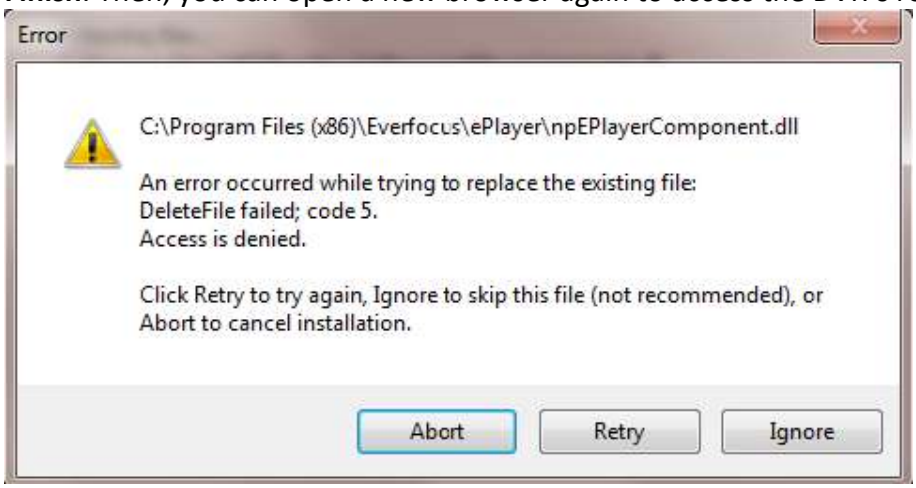
- The "Download ePlayer Instruction" page will only be prompted for the first time login in order to update the system to the latest plugin version.
- When the Plug-in blocked appears on the browser, select **Always allow plug-ins on xxx**, click **Done** and then reload the webpage.

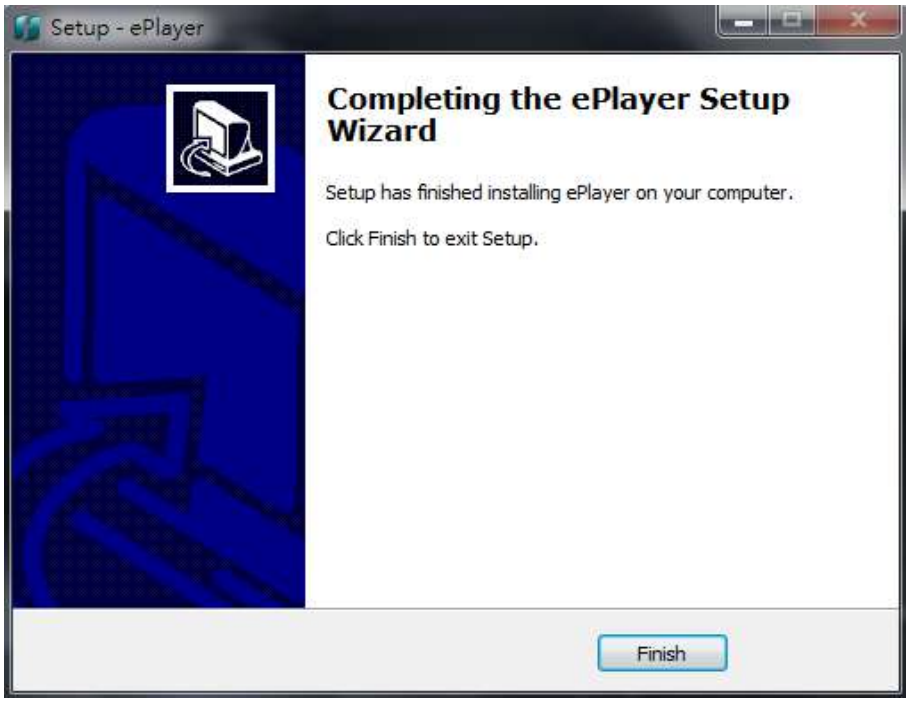



4. Now you will be able to see the remote live page.

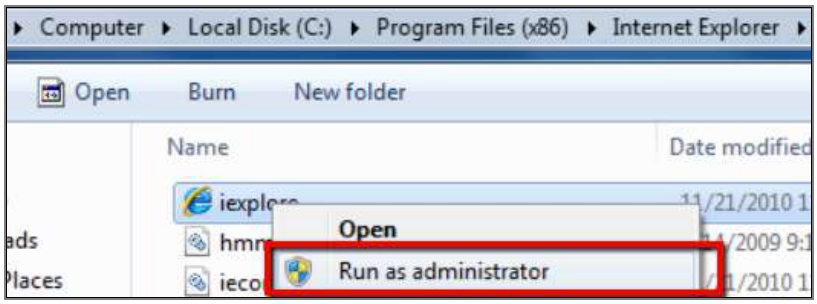
**If you encounter the following problem or still can't access the remote Web interface, please see below:**

- 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.

## 7.2 Remote Live View

| No. | Name | Description |
|---|---|---|
| 1 | **Menu Bar** | For configuring the mobile DVR. Please refer to *7.3 Menu Bar*. |
| 2 | **Layout** | Click to select a desired layout. |
| 3 | **Sub / Main** | Click to switch between the Main stream and Sub stream. |
| 4 | **Speaker / Microphone / Snapshot** | Click the **Speaker** button to transfer audio to the client side from mobile DVR if there is a speaker on the PC and a microphone and preamp attached to the mobile DVR, and audio recording is enabled on the mobile DVR.<br>Click the **Microphone** button to transfer audio to mobile DVR from client side if there is a microphone attached to the PC and an amplifier and speaker attached to the mobile DVR.<br>Click the **Snapshot** button to save a snapshot of the video image currently being displayed. |
| 5 | **Channel Buttons** | Click to display the channel in full screen. |
| 6 | **Status Highlight** | Black Circle: Indicates the mobile DVR is recording in sub-stream.<br>Red Circle: Indicates the mobile DVR is recording in main-stream.<br>White: Indicates the live view is in a normal status.<br>Orange: Indicates a motion event is being detected.<br>Blue: Indicates video loss.<br>Red: Indicates an alarm / event is triggered.<br>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. |

## 7.3 Menu Bar

| No | Name | Description |
|---|---|---|
| 1 | **Live View** | Click to display the live view window. |
| 2 | **Express** | Click to configure global express settings for all cameras. Please refer to *7.3.1 Express*. |
| 3 | **Camera** | Click to configure the camera settings. Please refer to *7.3.2 Camera.* |
| 4 | **Record** | Click to configure the record settings. Please refer to *7.3.3 Record.* |
| 5 | **Event** | Click to configure the alarm / event settings. Please refer to *7.3.4 Event*. |
| 6 | **Storage** | Click to display the storage information. Please refer to *7.3.5 Storage.* |
| 7 | **Display Setting** | Click to configure the display settings for displaying the camera information on the camera live view. Please refer to *7.3.6 Display Setting*. |
| 8 | **Network** | Click to configure the network settings. Please refer to *7.3.7 Network.* |
| 9 | **Schedule** | Click to configure the recording schedule. Please refer to *7.3.8 Schedule.* |
| 10 | **System Setting** | Click to configure the Mobile DVR time / user privilege / IO control / UI language or upgrading firmware and etc. Please refer to *7.3.9 System Setting.* |
| 11 | **System Information** | Displays the system information. Please refer to *7.3.10 Information.* |
| 12 | **Copy** | Click to archive the recordings from the Mobile DVR to the client PC. Please refer to *7.3.11 Copy.* |
| 13 | **Search** | Search the recordings for remote playback. Please refer to *7.3.12 Search.* |
| 14 | **PTZ** | Click to control the connected PTZ cameras. Please refer to *7.3.13 PTZ.* |

### 7.3.1 Express

This menu is used to configure global express settings for all cameras.

**Date:** Click to bring up the on-screen keyboard to set up the system date.

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

**Record Mode:** Select a recording mode from the drop-down list.

Blank: Select this option for all cameras to keep the current individual record settings without any changes. Please refer to *7.3.1 Express* for more details.

Normal+Event: Set all cameras to the Continuous and Event recording mode. Set up the estimated number of hours per day for event recording. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

Event Only: Set all cameras to the Event only recording mode. Set up the estimated number of hours per day for event recording. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

Schedule Record: Set all cameras to the Schedule recording mode. Please refer to *7.3.8.3 Schedule* for more details.

**Record With:** Select a record method.

Blank: Select this option for all cameras to keep the current individual record method without any changes.

Preset Settings: Select this option and further set up the recording quality. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

Recording Days: This option is not available for Schedule Record. Set up the maximum recording days. For details, please refer to *Appendix D. Express Setup Recording Value Selection Rules.*

**Miscellaneous:**

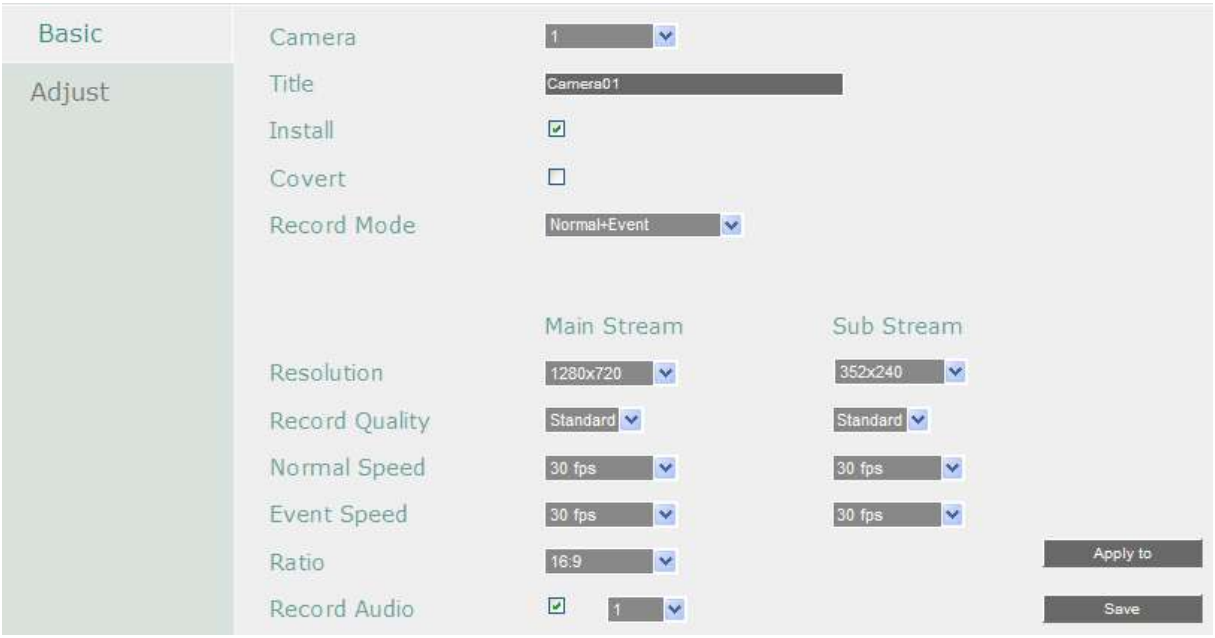
**Quick Playback:** Check the box to enable the Quick Playback function as described below.

**Playback From X Seconds ago:** When the DVR is put into playback mode, it will begin playing from the selected time. Choose from 60 to 3600 seconds prior to the present time.

**Save:** Click to save and apply the settings to the DVR. The system will automatically adjust the recording frame rate according to your settings.

## 7.3.2 Camera

### 7.3.2.1 Basic Setting




**Camera:** Select a camera to be configured.

**Title:** Click to bring up the on-screen keyboard for assigning a title for the selected camera. Each title supports up to 16 characters.

**Install:** Check the box to enable the selected camera. If this box is unchecked, the mobile DVR will not get the camera streaming.

**Covert:** Check the box to hide the camera stream in Live View and Sequence modes. However, the MDVR will still record the videos and the recordings can be played back by users who have the privilege to playback. For details on enabling the Covert function, please refer to *4.8.1 Temporarily Logout*.

**Record Mode:** Select a record mode from the drop-down list.

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

**Main / Sub Resolution:** Select the most suitable resolution for the Main Stream and Sub Stream. If you connect eZ.HD cameras (1080p) to the MDVR, the main stream resolution option will display 1920x1080 only. If you connect eZ.HD cameras (720p) to the MDVR, the main stream resolution option will display 1280x720 only. The Sub Stream is designed for remote operation, such as remote live view and remote playback. Please refer to *7.2 Remote Live View* for more details.

| Main Stream | Sub Stream |
|---|---|
| eZ.HD Camera (1080p): 1920x1080<br>eZ.HD Camera (720p): 1280x720<br>WD1 or D1 Camera: 960x480 / 704x480 / 352x240 | 352x240 / 176x120 |

**Record Quality:** Select a recording quality for the Main Stream and Sub Stream. The options include Low, Basic, Standard, High and Superior. The higher the quality, the more the storage space is used.

**Normal Speed:** Select a frame rate per second (FPS) for continuous recording. The speed is limited by the maximum total recording capacity of the MDVR as allocated across all the installed cameras, with upper limit of 30 FPS (NTSC) / 25 FPS (PAL) per individual camera respectively (real time recording).

**Event Speed:** Select a frame rate per second (FPS) for event recording.

**Ratio:** Select 4:3, 16:9 or Stretch for camera display on the layout screen. For more information about 4:3 and 16:9 aspect ratio, please refer to *6.2.1.1 Display Aspect Ratio*.

**Record Audio:** Check the box to enable audio recording on the MDVR, and then select an audio input device.

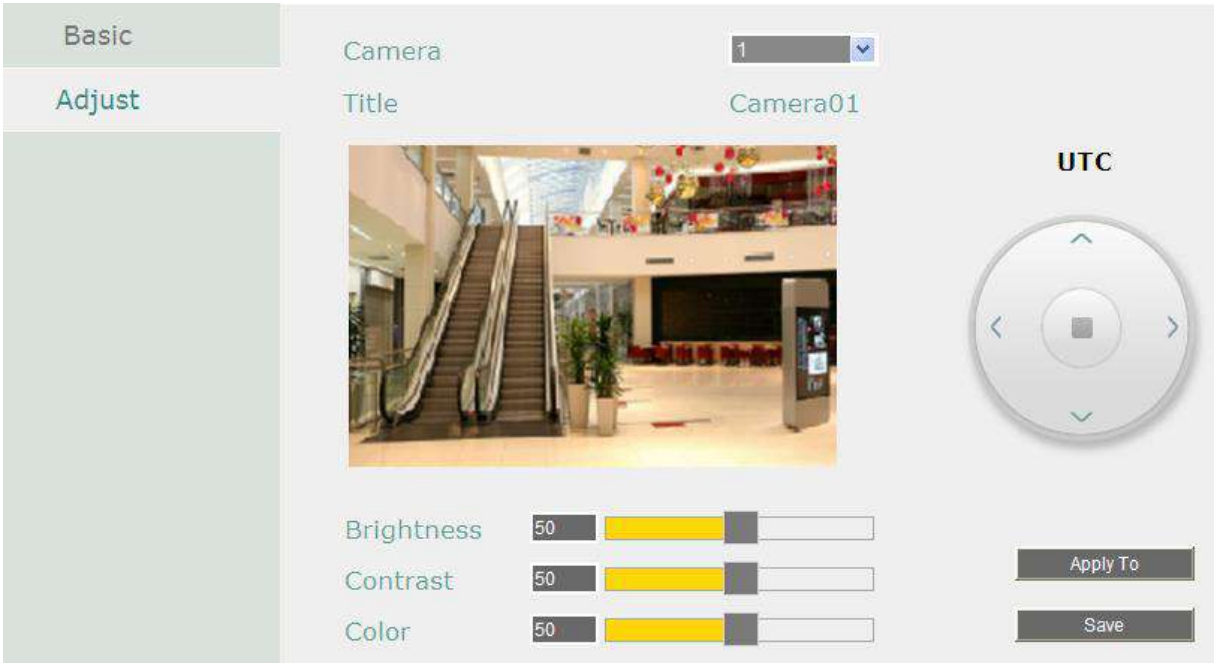
**PTZ Speed:** Select a PTZ speed from the PTZ Speed drop-down list for the camera to move to the directions when you use the direction buttons during the configuration period.

**Apply To:** Click the button to apply the same settings to the desired cameras. Note that only the cameras support the same resolution can be applied with the same settings.

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

#### 7.3.2.2 Adjust Setting

You can adjust the Brightness, Contrast and Color of the selected camera.




**Camera:** Select a camera to adjust the following settings.

**Brightness:** Move the bar to adjust the brightness.

**Contrast:** Move the bar to adjust the contrast.

**Color:** Move the bar to adjust the color.

**UTC:** You can use the UTC panel to bring up the camera OSD here. Please see the figure and instructions on the next page.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

## eZ Controller (Control Camera OSD Setting from DVR End)

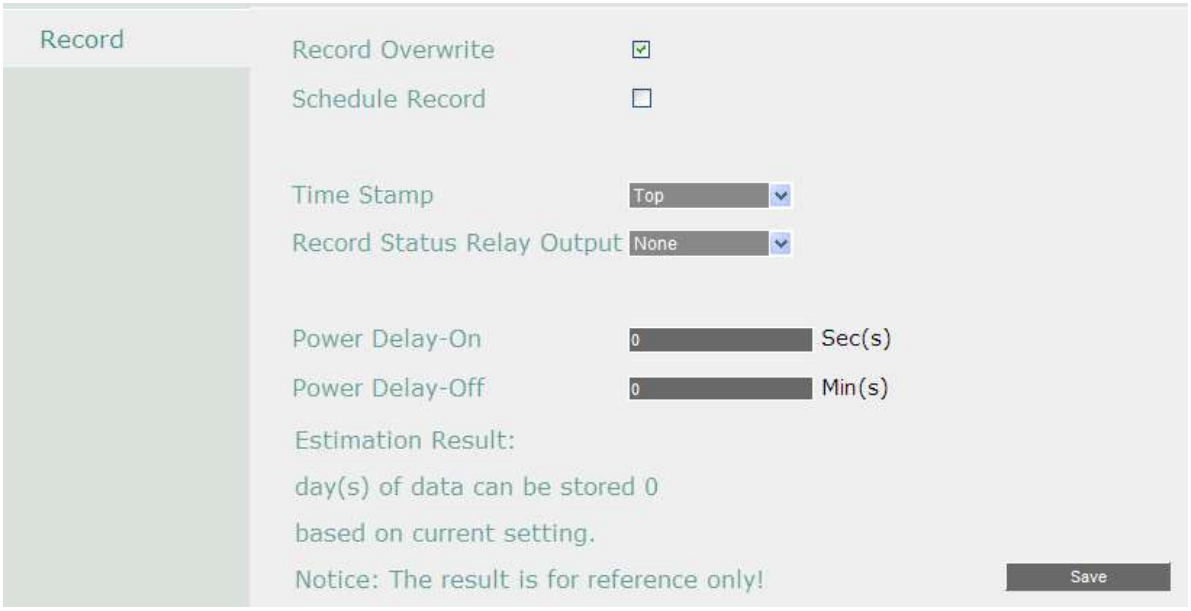
Traditionally, the CCTV installer needs to take a portable monitor to connect to the camera for controlling the camera OSD at the camera installation site as the ***Diagram A*** below. It will take extra effort, time and people to adjust the camera.

Now, EverFocus' **eZ.Controller** allows users to control the camera OSD simply on the monitor at the DVR end as illustrated in ***Diagram B***.

1. On the **Adjust** setting page. Select the camera you want to adjust.
2. Click the button, and the camera OSD menu will be displayed.
3. You can easily use the direction buttons on the **UTC Panel** to control the camera's OSD setting menu.
4. To exit the setting, click the **Left** button.

### 7.3.3 Record

You can configure the basic recording settings.




**Record Overwrite:** Check the box to overwrite the storage when it is full. Note that unless this box is checked, or the mobile DVR will stop recording when the storage is full. The use of record overwrite is strongly recommended. If you do not use this feature, please be sure to enable the Event setting for Storage Full for notification (see *7.3.4.6 Other*).

**Schedule Record:** Check the box to record by the schedule to the storage. Please see *.7.3.8 Schedule Setting* for more details.

**Time Stamp:** Select **Top / Bottom** to overlay time information on the top / bottom of the recording streams. Select **Off** to disable the function.

**Record Status Relay Output:** Select a number to monitor the recording status of the selected alarm relay. The recording status (Recording On / Recording Off) of the selected alarm relay will be transmitted to the alarm output device.

**Power Delay-On:** Set the delay time to supply power to the mobile DVR in order to avoid excess consumption surge at ignition.

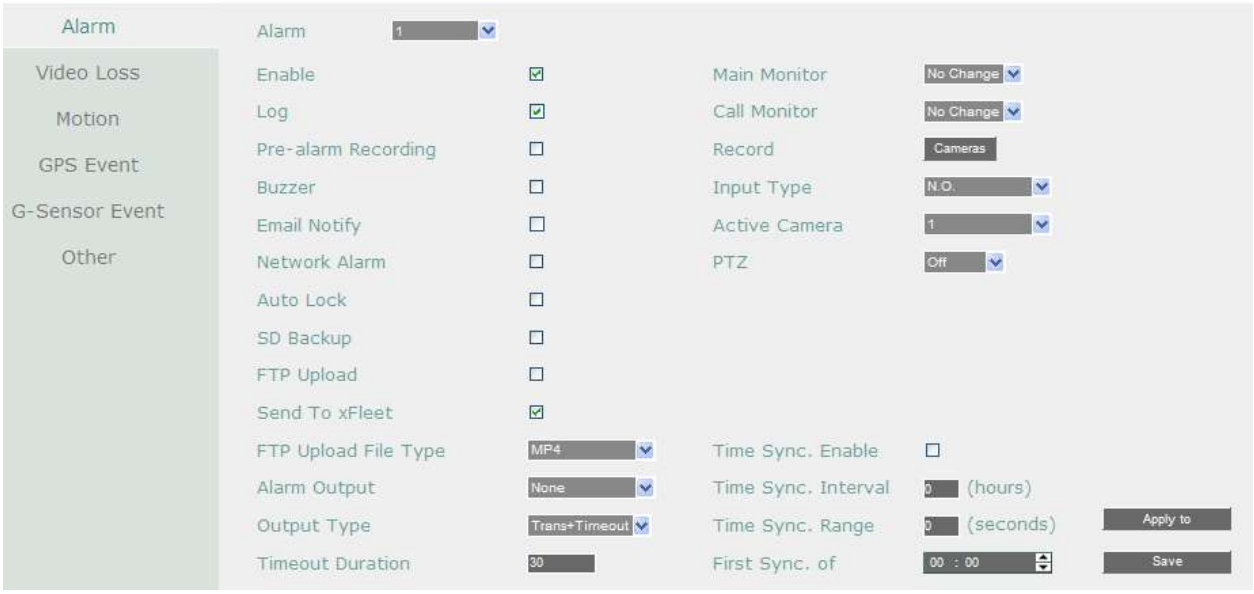
**Power Delay-Off:** Set the delay time to power off the mobile DVR after ignition off. It can extend the recording time after ignition off.

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

### 7.3.4 Event

You can configure the Alarm, Video Loss, Motion and Other settings in this menu.

#### 7.3.4.1 Alarm




**Alarm:** Select an Alarm input number from 1 to 16.

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

**Log:** Check the box to record alarm events to log data.

**Pre-alarm Record:** Check the box to start copying the recordings to the storage from 5 seconds before the alarm event occurs. The pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *7.3.2.1 Basic Setting*). Note that the Pre-Alarm recording time may be reduced from 5 seconds when the system loading is too heavy, e.g., when all channels are triggered for pre-alarm recording simultaneously.

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

**Email Notify:** Check the box to send email notification with a snapshot file when an alarm event is detected. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when an alarm event occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Auto Lock:** Check the box and the events will be recorded in a write protected segment of the storage (will not be overwritten). The mobile DVR will lock a period of time when the alarm occurs. The length of the time depends on mobile DVR setting (see *7.3.5.3 Lock / Format*).

**SD Backup:** This function is only available for EMV400SSD. Check the box to enable Alarm event backup recordings to the SD card. When an alarm is triggered, the mobile DVR will record the alarm event to the SD card for 60 seconds start from the triggered time. The SD card will start recording the next alarm event only when the recording process is done (the alarm

events occurred during the SD card recording process will be ignored and not be recorded). Up to four alarm events can be simultaneously recorded if the alarms are triggered at the same time.

**FTP Upload:** Check the box to enable uploading recordings to the FTP server function. To setup the FTP server, please refer to *7.3.7.6 FTP*.

**Send to Xfleet:** Check the box to send the alarm data to the Xfleet system. Note that for the Xfleet system to receive alarm data from the mobile DVR in order to perform the alarm event actions on Xfleet system, this function must be enabled.

**FTP Upload File Type:** Select MP4 file type to upload videos to FTP server; select JPEG file type to upload snapshots to the FTP server.

**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 motion event. The alarm output will last for the setup duration time between 1 and 150 seconds.

**Main Monitor/Call Monitor:** Select **Full Screen** to force the 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 field above.

**Record:** Select a camera to start recording when the associated alarm number is triggered.

**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. For example, if you set up an external motion detector near Camera 2, you can select Camera 2 in this field. The alarm will be associated with this camera for full screen display, event logging and PTZ actions.

**PTZ:** If the Active Camera selected above is a PTZ camera, you can further set up the PTZ actions in this field.

### The following time synchronization function must work with the radio-controller clock.

**Time Sync Enable:** Check to enable the time synchronization with the connected radio-controlled clock.

**Time Sync Interval:** Select a time sync interval time (by hour) for the MDVR to synchronize the time with the radio-controlled clock.

**Time Sync Range:** The time sync range means the allowed time difference between the MDVR and the radio clock. If the time difference exceeds the entered time sync range (by second), the MDVR cannot be synchronized unless you manually set up the exact same time as the clock or within the time sync range.

For example, if the radio-controlled clock time is 12:00:00 and you enter 30 seconds for the time sync range, the allowed time difference between the MDVR and the clock should be within 30 seconds which means the MDVR time can be 11:59:30 ~ 12:00:30.

| Time Sync Range | 30 Seconds | 60 Seconds |
|---|---|---|
| Radio-controlled Clock time | 12:00:00 | 12:00:00 |
| DVR time | 11:59:30~12:00:30 | 11:59:00~12:01:00 |

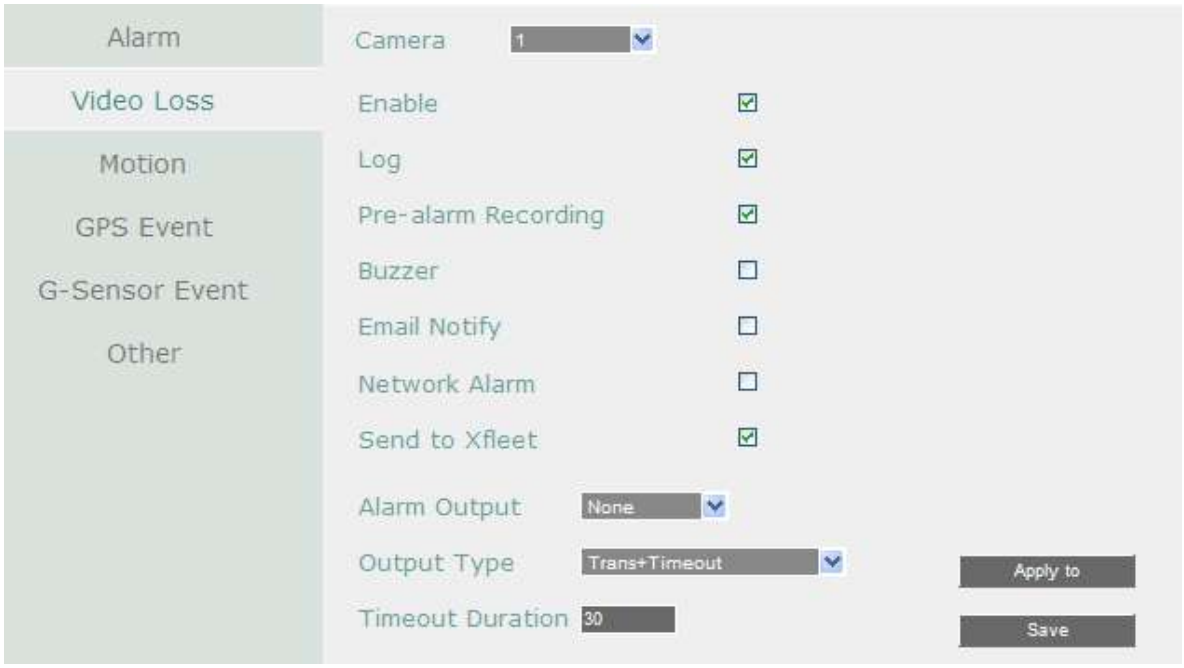
**First Sync of:** Enter a first sync start time.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

#### 7.3.4.2 Video Loss

You can enable Video Loss Event function and configure video loss notifications in this menu.




**Camera:** Select a camera to be configured.

**Enable:** Check the box to enable the Video Loss event settings for the selected camera.

**Log:** Check the box to record video loss events to log data.

**Pre-alarm Record:** Check the box to start copying the recordings to the storage from 5 seconds before the alarm event occurs. The pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *7.3.2.1 Basic Setting*). Note that the Pre-Alarm recording time may be reduced from 5 seconds when the system loading is too heavy, e.g., when all channels are triggered for pre-alarm recording simultaneously.

**Buzzer:** Check the box to enable the buzzer when a video loss event is triggered.

**Email Notify:** Check the box to send email notification when a video loss event is detected. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when video loss event occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**Alarm Output:** Select an alarm output number. When an alarm is triggered, the signal will be transmitted through the 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 (10 ~ 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 (10 ~ 150 seconds).

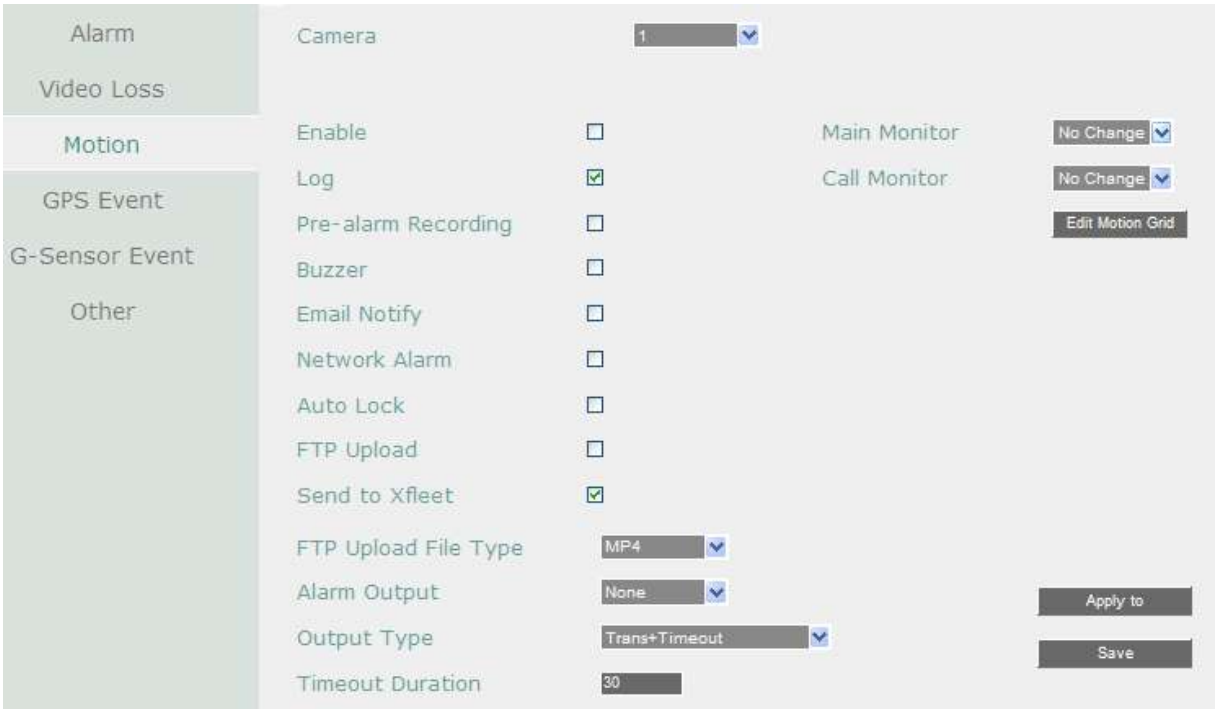
**Timeout Duration:** This function only appears when you select **Timeout** or **Trans + Timeout** options in the Output Type drop-down list. Select a duration time for the motion event. The alarm output will last for the setup duration time between 10 and 150 seconds.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

### 7.3.4.3 Motion

You can enable the Motion Event function and configured the related settings including motion event notifications and motion areas in this menu.




**Camera:** Select a camera to be configured.

**Enable:** Check the box to enable the Motion Event settings for the selected camera.

**Log:** Check the box to record motion events to log data.

**Pre-alarm Record:** Check the box to start copying the recordings to the storage from 5 seconds before the alarm event occurs. The pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *7.3.2.1 Basic Setting*). Note that the Pre-Alarm recording time may be reduced from 5 seconds when the system loading is too heavy, e.g., when all channels are triggered for pre-alarm recording simultaneously.

**Buzzer:** Check the box to enable the buzzer when a motion event is triggered.

**Email Notify:** Check the box to send email notification when a motion event is detected. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when motion occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Auto Lock:** Check the box and the events will be recorded in a write protected segment of the storage (will not be overwritten). The mobile DVR will lock a period of time when the alarm occurs. The length of the time depends on mobile DVR setting (see *7.3.5.3 Lock / Format*).

**FTP Upload:** Check the box to enable uploading recordings to the FTP server function. To setup the FTP server, please refer to 7.3.*7.6 FTP*.

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**FTP Upload File Type:** Select MP4 file type to upload videos to FTP server; select JPEG file type to upload snapshots to the FTP server.

**Alarm Output:** Select an alarm output relay. 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 (10 ~ 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 (10 ~ 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 motion event. The alarm output will last for the setup duration time between 10 and 150 seconds.

**Main Monitor/Call Monitor:** Select **Full Screen** to force the camera which detects motion to display full screen on the monitor. The full screen camera view will last according to the Output Type selected in the field above.

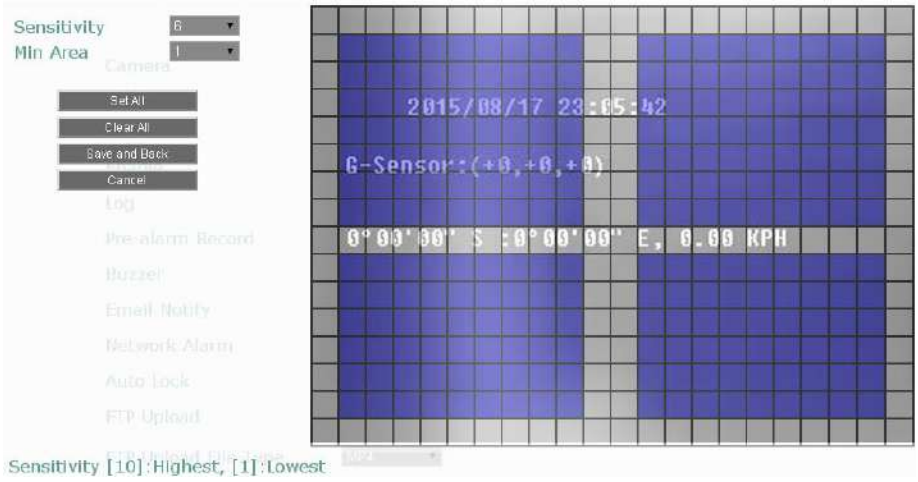
**Edit Motion Grid:** Press the button to bring up the Motion Setting menu. To edit the motion grids, please refer to the instructions later in this section.

**Apply To:** Click the button to apply the same settings to the desired cameras.

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

**To Edit the Motion Grids:**

1. Click the **Edit Motion Grid** button, the Motion Setting menu appears.



2. Click **Set All** to set all area for motion detection, the selected area will be highlighted in purple. Click **Clear All** to clear all the selected area.
   You can also customize the motion area by clicking on each grid. Or drag a rectangle with your mouse to enable (from top to bottom / upper-left to lower-right) or disable the motion area (from bottom to top / lower-right to upper-left).
3. Set up the Sensitivity and Min Area for the motion grids.

   Sensitivity: Sets up the motion sensitivity for the grids. The larger the number, the higher the sensitivity.

   Min Area: This function is designed to prevent false detections caused by small objects. If you select 2, only the object size larger than 2-grid size can be detected.
4. Click the **Save and Back** button to save the settings and then return to the Motion menu.

#### 7.3.4.4 GPS Event

You can configure the GPS settings to display the vehicle speed on the live view / recordings, or to set up the GPS events including higher speed limit / GPS fencing for alarm notification.

【**Event Action**】: You can configure the alarm types for GPS events.

**Email Notify:** Check box to enable email notification when GPS event occurs. Email operation requires valid email settings entered in the Email setup screen (see *7.3.7.4 Email*).

**Network Alarm:** Check box to send out a network alarm to the client PC. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server)*.

**Alarm Output:** This will transmit a signal through the alarm output relay. It can be set to either "NONE" (not active), "1" (active) or "2" (active).

**Output Type:** Output action when alarm is triggered.

Timeout: Alarm output lasts for the set time duration.

Permanent: Alarm will be continuously active until user presses the "Enter" key or resets the alarm remotely.

Transparent: Alarm output remains active until event ends.

Trans+Timeout: Alarm output continues until event ends, then continues for the set time duration.

**Timeout Duration:** The amount of time the buzzer sounds when GPS event occurs.

【**Fencing**】: You can set up the geo-fencing event for alarm notification.

**GPS Alarm:** Select On / Off to enable / disable GPS Fencing alarm.

**GPS Border Type:** Select **Circle** or **Rectangle** for the GPS border type.

**Coordinate Express:** Select **DMS** to set up the latitude and longitude of the border in Degrees / Minutes / Seconds; or select **Decimal Degrees** to set up the border in decimal degrees.

If you select **Circle** in the GPS Border Type field, the following settings will appear:

**Center Latitude:** Select S (South) or N (North) and then set the latitude.

**Center Longitude:** Select E (East) or W (West) and then set the latitude.

**Radius:** Select radius value from kilometer (Km) or mile (Mi).

If you select **Rectangle** in the GPS Border Type field, the following settings will appear:

**Upper Left Latitude:** Select S (South) or N (North) and then set the latitude.

**Upper Left Longitude:** Select E (East) or W (West) and then set the latitude.

**Lower Right Latitude:** Select S (South) or N (North) and then set the latitude.

**Lower Right Longitude:** Select E (East) or W (West) and then set the latitude.

【**Speed**】: You can display the vehicle speed on the live view / recordings or to set up the higher speed limit event for alarm notification.

**GPS Speed:** Select whether to display the vehicle speed or not.

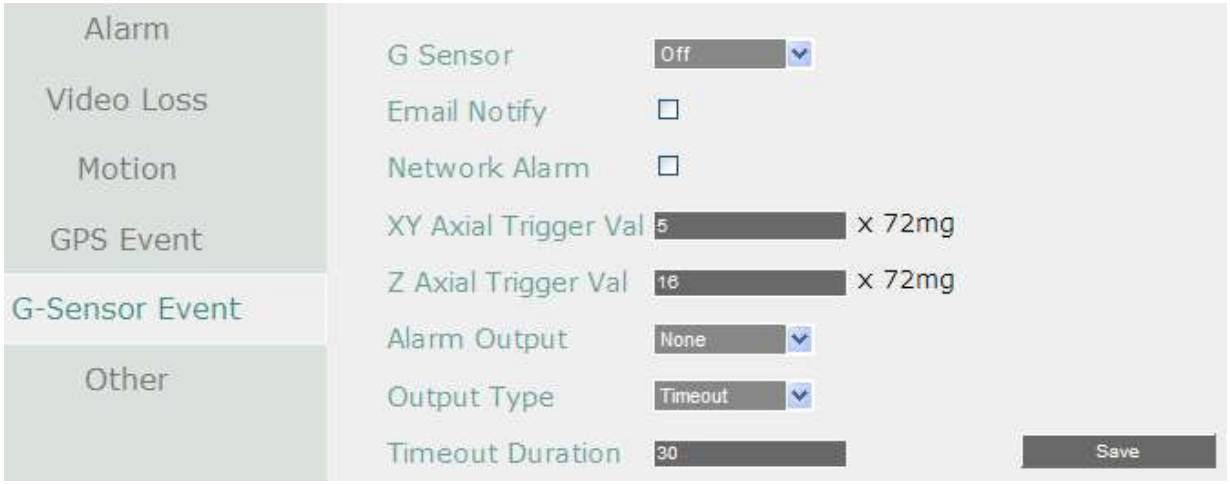
**Speed Higher Limit:** Set the vehicle speed to determine at which level the alarm will be triggered. Once the vehicle reaches the setup speed, the alarm will be triggered.

**Speed Unit:** Select **KPH** (kilometer per hour) or **MPH** (mile per hour) to display the vehicle speed on live view or recordings.

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

#### 7.3.4.5 G-Sensor Event

You can configure the gravity value of the X, Y and Z-axial, once the vehicle reach the setup value, the alarm will be triggered.




**G-Sensor:** Select On / Off to enable / disable G-Sensor function.

**Email Notify:** Check box to enable email notification when GPS is lost. Email operation requires valid email settings entered in the Email setup screen (see *7.3.7.4 Email*).

**Network Alarm:** Check box to send out a network alarm to the client PC. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server)*.

**XY Axial Trigger Value:** Set XY Axial trigger value, alarm will be triggered when acceleration reaches this value in horizontal direction with respect to the horizon. The available setup value is between 0 ~127 (1000mg = 1 Gravity).

**Z Axial Trigger Value:** Set Z Axial trigger value, alarm will be triggered when vertical acceleration reaches this value. The available setup value is between 0 ~127 (1000mg = 1 Gravity).

**Alarm Output:** This will transmit a signal through the alarm output relay. It can be set to either "NONE" (not active), "1" (active) or "2" (active).

**Output Type:** Output action when alarm is triggered.

Timeout: Alarm output lasts for the set time duration.

Permanent: Alarm will be continuously active until user presses the "Enter" key or resets the alarm remotely.

Transparent: Alarm output remains active until event ends.

Trans+Timeout: Alarm output continues until event ends, then continues for the set time duration.

**Timeout Duration:** The amount of time the buzzer sounds when GPS is lost. Duration selectable from 1 to 150 seconds.

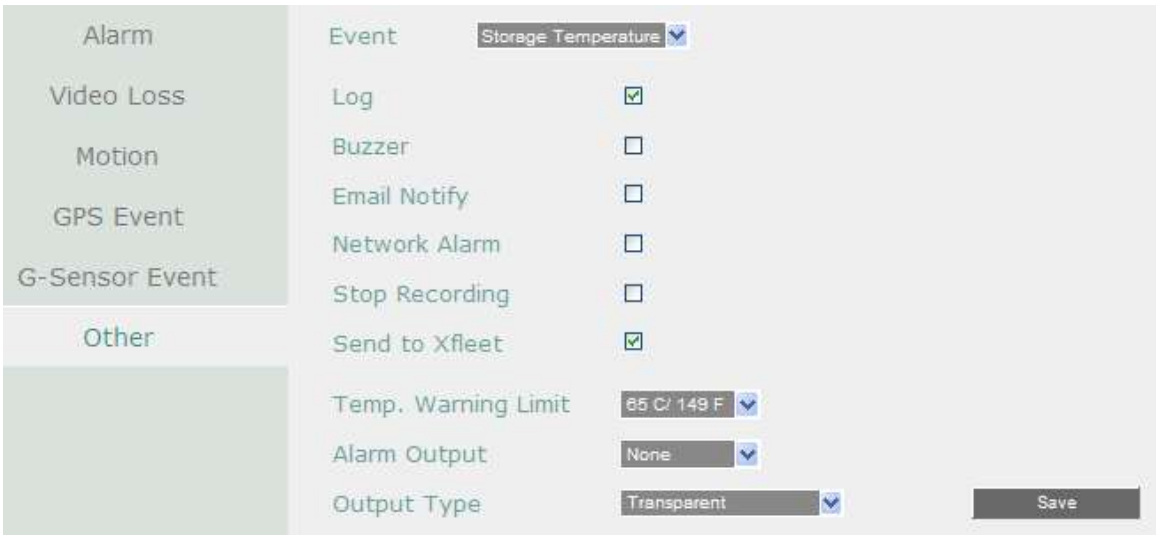
**Save:** Click to save the settings.

#### 7.3.4.6 Other

You can configure the system event settings and enable the Buzzer or Email alert for notifications.

**Storage Temperature**

This function is only available for EMV400SSD.




**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when System / storage's emperature is over the "Temp. Warning Limit".

**Email Notify:** Check the box to send email notification when system / storage temperature is over the "Temp. Warning Limit". Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Stop Recording:** Check box to stop recording when System / HD's temperature is over the "Temp. Warning Limit".

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**Temp. Warning Limit:** Sets the trigger temperature for System / HD Temperature event actions. Choose between 45°C /113°F and 70°C /158°F.

**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:** Output action will be Transparent and cannot be changed (alarm output remains as long as the alarm condition is active).

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

### Storage Failure

**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when storage fails.

**Email Notify:** Check the box to send email notification when HD fails. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when HD fails. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

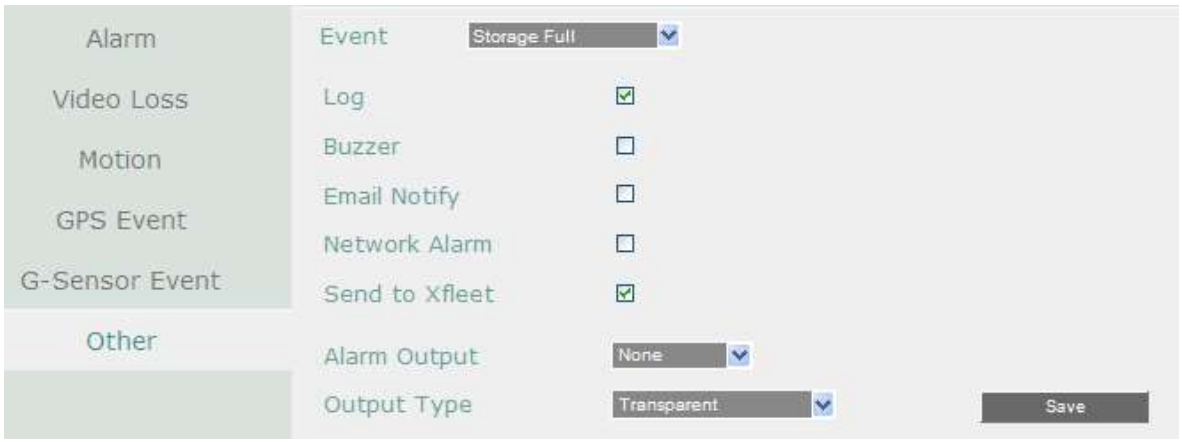
**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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:** Output action will be Transparent and cannot be changed (alarm output remains as long as the alarm condition is active).

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

### Storage Full




**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when storage is full.

**Email Notify:** Check the box to send email notification when storage is full. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when storage is full. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 storage is full.

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 (10 ~ 150 seconds).

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

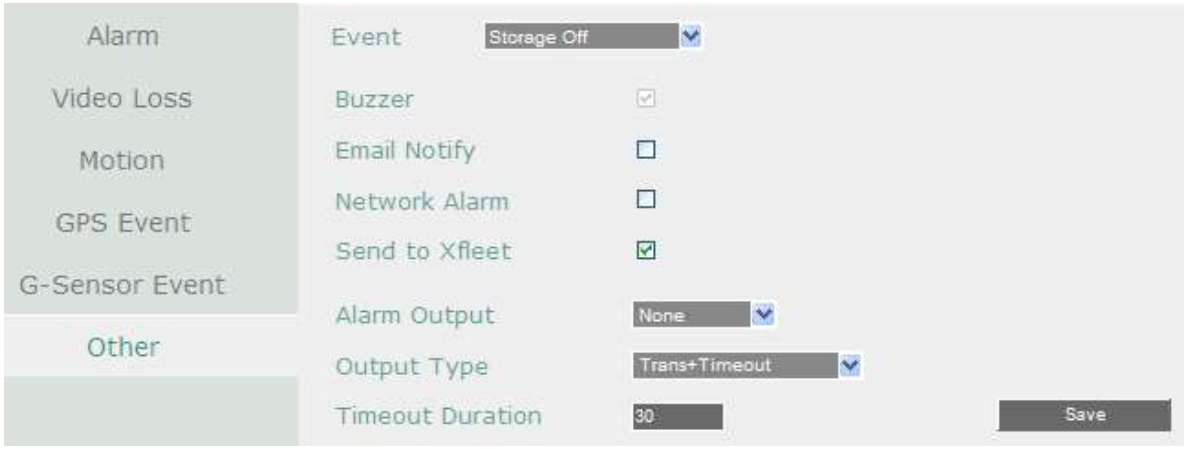
Transparent: Alarm output remains as long as the alarm input is active.

Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

### Storage Off




**Buzzer:** The buzzer will activate when storage off.

**Email Notify:** Check the box to send email notification when storage is off. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when storage is off. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 storage is off.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

### Unmount SD

This function is only available for EMV400SSD.

**Log:** Check the box to record alarm events to log data.

**Buzzer:** The buzzer will activate when SD card is unmounted.

**Email Notify:** Check the box to send email notification when SD card is unmounted. Email operation requires valid email entered in the Email setup menu (see *6.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when SD card is unmounted. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 SD card is unmounted.

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 (10 ~ 150 seconds).

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

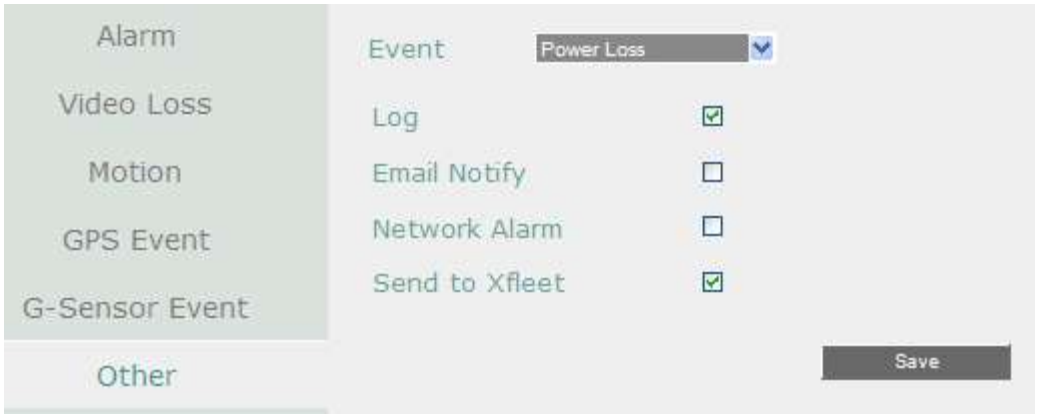
Transparent: Alarm output remains as long as the alarm input is active.

Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

Power Loss




**Log:** Check the box to record alarm events to log data.

**Email Notify:** Check the box to send email notification when power has been restored. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

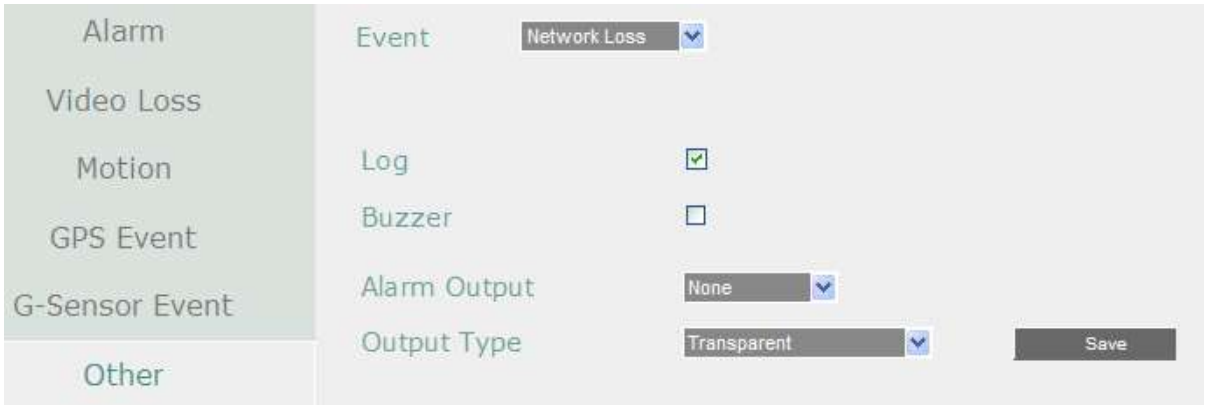
**Network Alarm:** Check the box to send out a network alarm to a client PC when power has been restored. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**Note:** As alarms and emails cannot be transmitted without power, the log entry is made when power is restored, and any notifications cannot be made until that time.

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

### Network Loss




**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when network is lost.

**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 the network is lost.

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 (10 ~ 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.

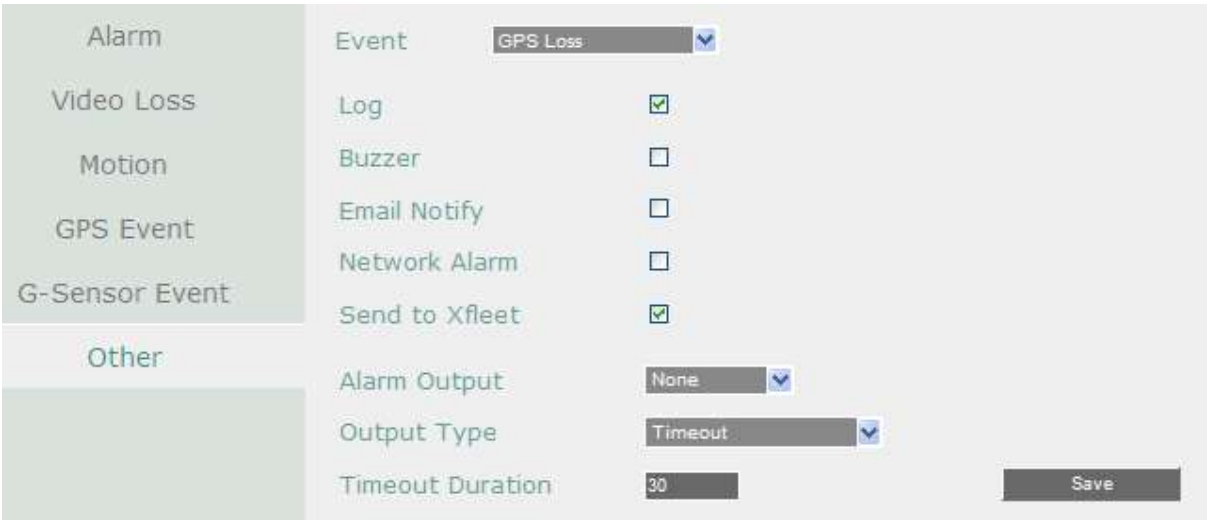
Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (10 ~ 150 seconds).

**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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

**Note:** This function only checks the physical connection (link) to the network. Any network behavior that blocks data connectivity (blocked ports, IP addressing errors, etc.) is not detected by this function.

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

GPS Loss




**Log:** Check the box to record alarm events to log data.

**Buzzer:** Check the box to enable buzzer when GPS is lost.

**Email Notify:** Check the box to send email notification when GPS is lost. Email operation requires valid email entered in the Email setup menu (see *7.3.7.4 Email*).

**Network Alarm:** Check the box to send out a network alarm to a client PC when GPS is lost. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *7.3.7.7 Alarm Server*).

**Send to Xfleet:** Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

**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 the GPS is lost.

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 (10 ~ 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 (10 ~ 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 event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

### 7.3.5 Storage

The Disk menu is used to review the mobile DVR's storage settings and status. No value in this menu can be configured by the operator.

#### 7.3.5.1 Storage

**Record Time (Start):** Shows the earliest recording time of the mobile DVR.

**Record Time (End):** Shows the latest or most current time on the mobile DVR.

**Storage:** Select a storage number.

**Health Status:** Displays the current status of the selected storage.

**Storage Temperature:** Displays the current temperature of the selected storage. (only available for EMV400SSD).

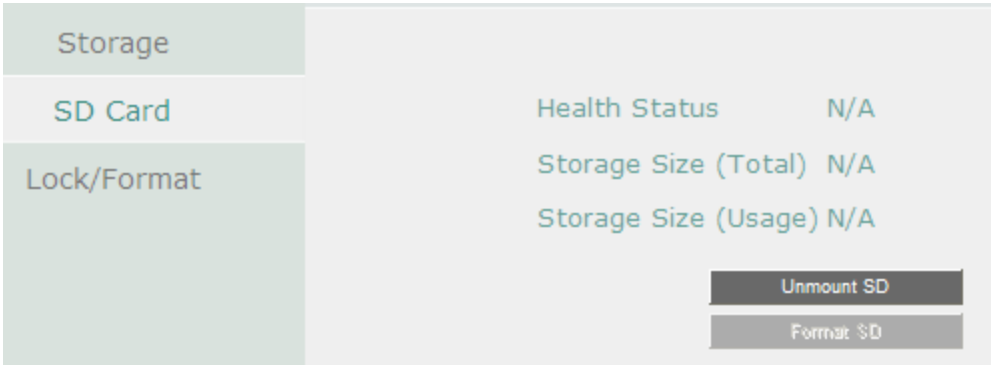
**Storage Size (Total):** Shows the total space of the selected storage.

**Storage Size (Usage):** Shows the used space of the selected storage.

#### 7.3.5.2 SD Card

This page is only available for EMV400SSD. On this page, you can see the SD card information including the status, storage size and usage. You can also format the SD card using the Format SD button.

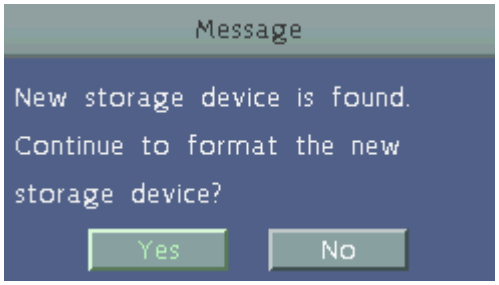
The SD card can be used for alarm event backup recording function. To activate the function, insert a SD card to the SD card slot on the front panel of the mobile DVR (see *2.3.1 SD Card Installation*) and then configure the alarm settings (see 7*.3.4.1 Alarm*).




**Unmount SD:** Before removing the SD card from the mobile DVR, please click the **Unmount SD** button first for data safety purpose.

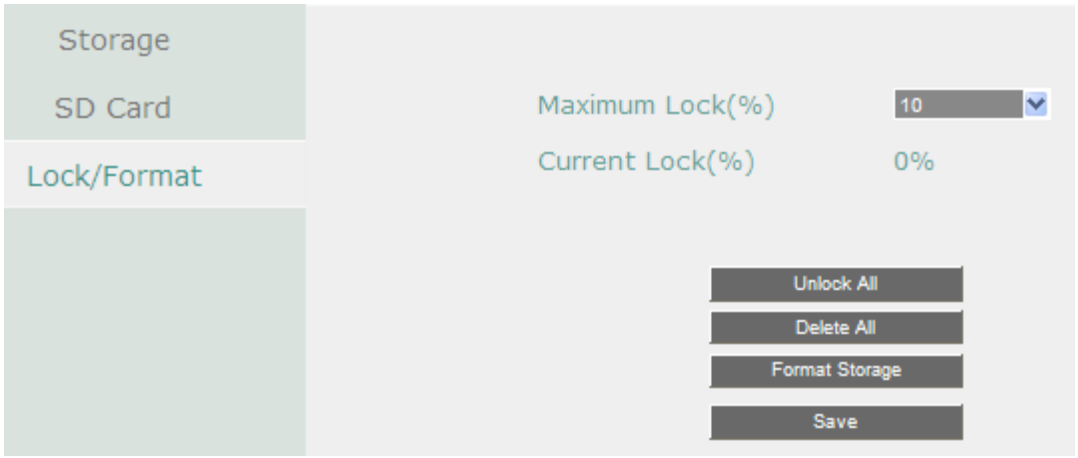
**Format SD:** Click the button to format the SD card. After formatting the SD card, all the recordings will be erased and 5% of the card space will be reserved for system use. If you want to back up the recordings, you can use EverFocus EF-Reader to remotely/locally back up the recordings from the SD card (see *Appendix H Recording Backup through EF Reader*).

The Mobile DVR will automatically detect when a new SD card has been inserted and the below SD card format message will pop-up on the local screen. Click **Yes** to format the SD card. The formatting process will take about 30 ~ 60 seconds. Note that only the formatted SD card can be used for event recording function.



### 7.3.5.3 Lock/Format

You can control the percentage of the storage space reserved for Locked Event Recordings. You can also format the storage if necessary.




**Maximum Lock (%):** Sets the maximum percentage of the storage space reserved for Locked Event Recordings. To set up the Locked Event Recordings, please select the **Auto Lock** item in *7.3.3.3 Motion* or *7.3.3.1 Alarm*.

**Current Lock (%):** Displays the current percentage of the locked event recordings in the storage. If the amount of locked event recordings has reached the maximum lock percentage, the mobile DVR will be unable to lock new event recordings.

**Unlock All:** Click this button to unlock the locked part of the storage.

**Delete All:** Click this button to delete all the unlocked data in the storage. WARNING: This will effectively ERASE the storage's contents, except for the locked portion.

**Format Storage:** Click this button to format the whole storage. WARNING: This will effectively ERASE the ENTIRE storage!!

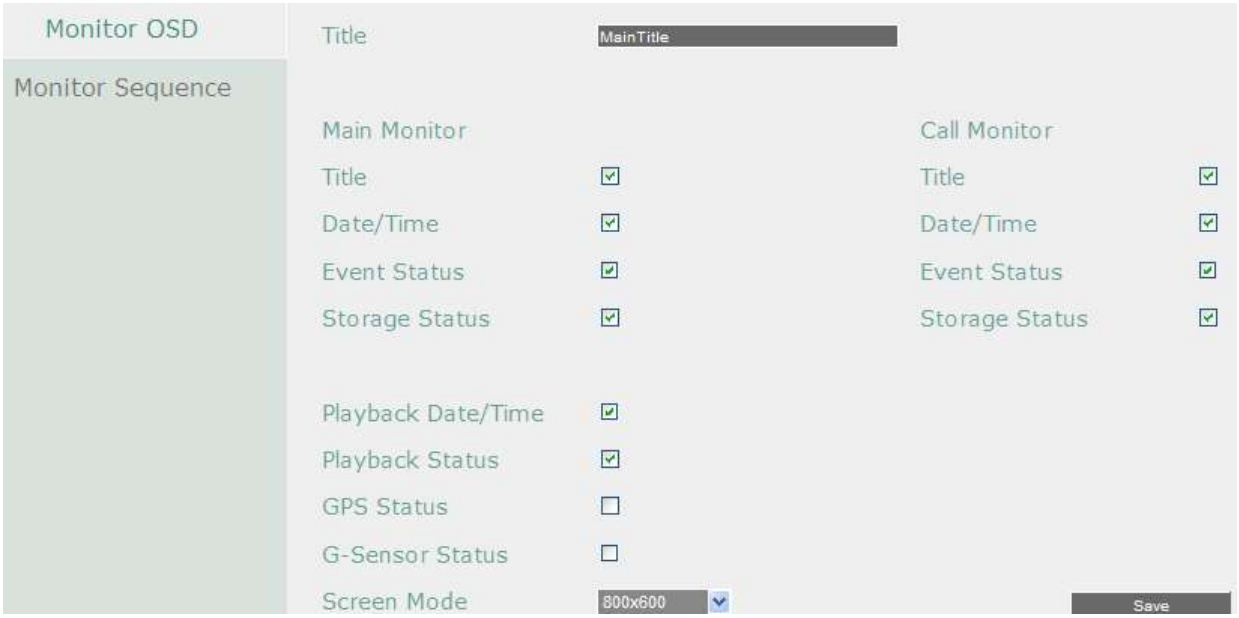
**Save:** Click to save the settings.

### 7.3.6 Display Setting

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

#### 7.3.6.1 Monitor OSD

Check the boxes under the Main Monitor / Call Monitor fields will display the selected items on the live view image.




**Main Monitor / Call Monitor**

**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.

**Storage Status:** Check the box to display storage status.

**Playback Date/Time:** Check the box to display playback date/time (only for main monitor).

**Playback Status:** Check the box to display playback status (only for main monitor).

**GPS Status:** Check the box to display GPS status (only for main monitor).

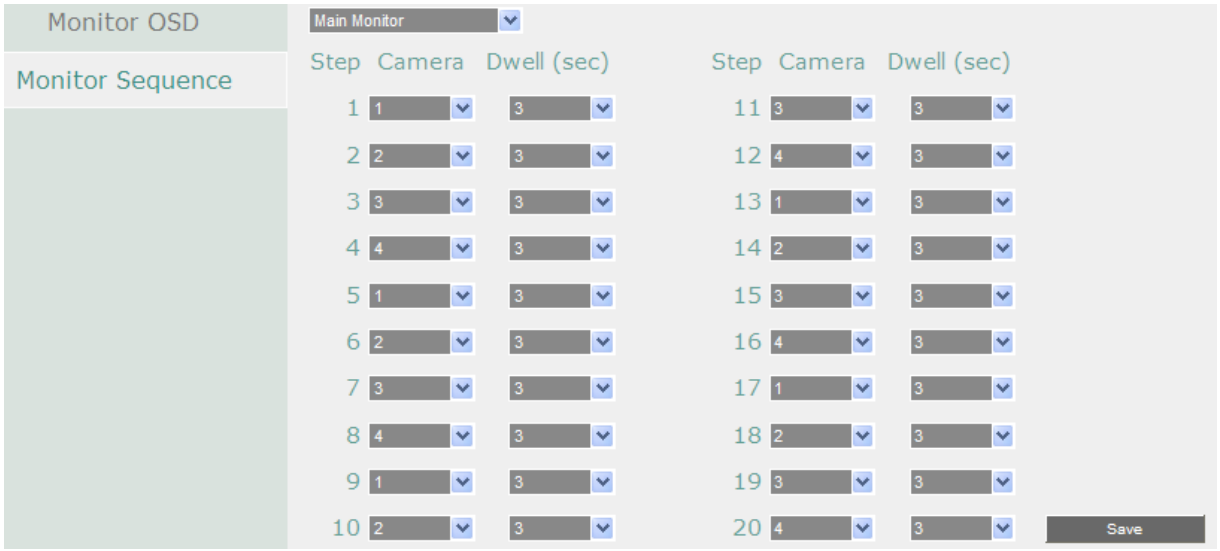
**G-Sensor Status:** Check the box to display G-Sensor status (only for main monitor).

**Screen Mode:** Select the suitable screen mode. Selections are: 1920x1080; 1280x1024; 1024x768; 800x600 (only for main monitor). Please refer to *6.2.1.1 Display Aspect Ratio* for more details.

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

### 7.3.6.2 Monitor Sequence

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




**Monitor:** Select Main Monitor or Call Monitor.

**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.

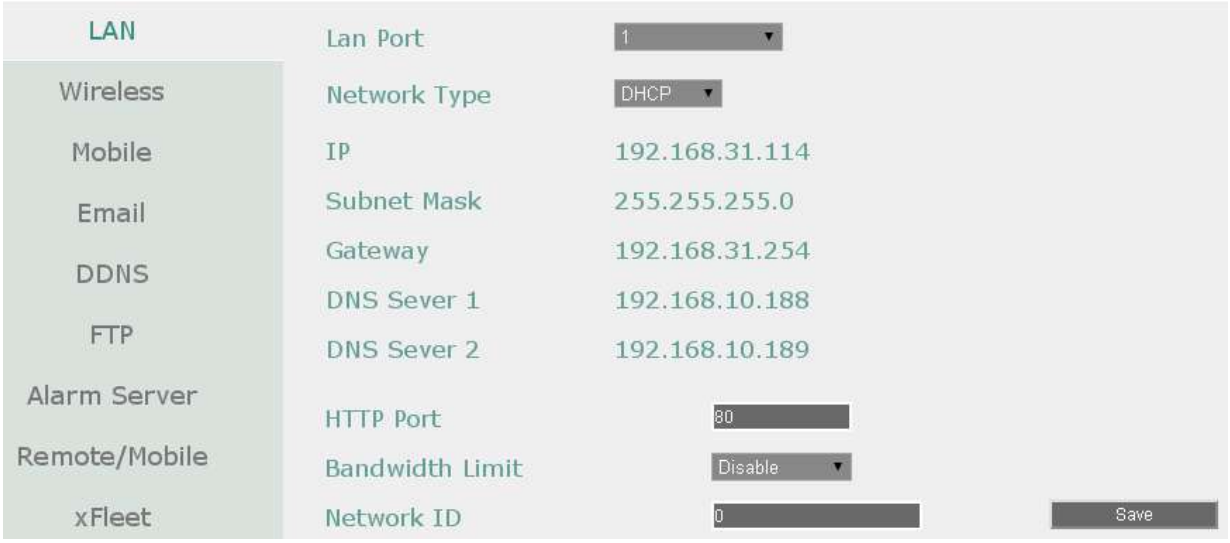
### 7.3.7 Network

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

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

#### 7.3.7.1 LAN

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




**LAN Port:** Select 1 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.

**IP address:** Displays the mobile DVR's current IPv4 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 mobile DVR 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 mobile DVR 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 (see *7.3.7.5 DDNS*).

**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 mobile DVR is allowed to use on the network. This is a useful function when connecting the mobile DVR to busy or heavily loaded networks, or when accessing the mobile DVR(s) over a WAN.

**Network ID:** The network ID is an identifier for the alarm transmitter (mobile DVR sending the alarm).

**Anonymous viewer login:** Check the box to allow the unauthorized persons to log in the Web page of the DVR. Note that to protect your DVR 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 mobile DVR Network Menu according to the instructions detailed in the Networking chapter of this mobile DVR'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 mobile DVR 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 mobile DVR changes, you may have difficulties accessing your mobile DVR locally and/or remotely. It is strongly recommended that you assign a fixed (static) IP address to your mobile DVR, 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 mobile DVR 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 mobile DVR 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 mobile DVR, 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 mobile DVR. 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 mobile DVR 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 mobile DVR 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 mobile DVR, 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

### 7.3.7.2 Wireless

**Wireless Mode:** Three options are selectable: **Disable**, **Static IP** and **DHCP**.

Disable: Select to disable the wireless mode.

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.

**IP address:** Displays the mobile DVR's current IPv4 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 mobile DVR 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 mobile DVR 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 (see *7.3.7.5 DDNS*).

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

**Network Mode:** Select a wireless networking standard.

**SSID:** Enter the name (SSID) of the wireless network.

**Shared Key:** Enter the password of the wireless network.

**Change Channel:** Select a wireless channel for the mobile DVR. It's recommended to select **Auto** when there is more than one mobile DVR set up in the same wireless network.

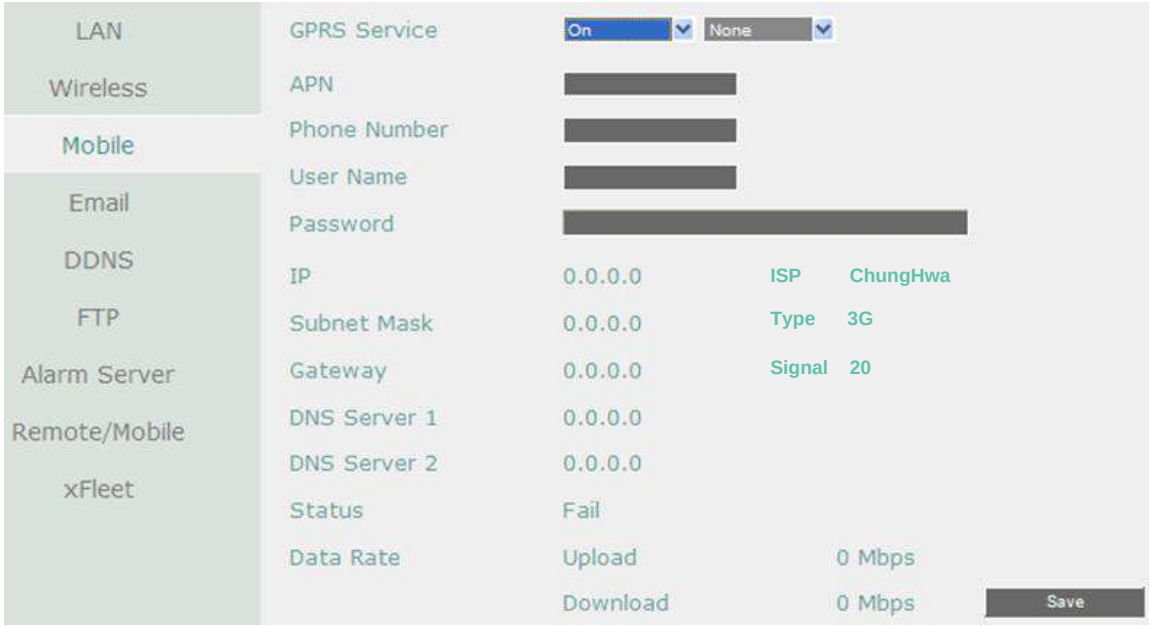
**Security Mode:** Select a wireless encryption protocol: WEP, WPA and WPA2.

**WPA Algorithms:** Select a WPA algorithm.

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

### 7.3.7.3 Mobile

After connecting the 3G / 4G Receiver to the mobile DVR, you have to set up the mobile settings for the mobile DVR to connect to the wireless network. Follow the steps below:




1. Connect the 3G / 4G Receiver to the mobile DVR. Please refer to the *User's Manual* of the *3G / 4G Antenna Module*.
2. Select **On** from the GPRS Service drop-down list and select an authentication (**CHAP** or **PAP**).
3. Insert the APN, Dial Number, User Name and Password provided by the network service provider and then click the **Save** button.

   The connection status will be displayed in the **Status** field below. If it's connected successfully, the status will display "OK". And the data rate information will be displayed in the fields below. The information about the Internet Service Provider (ISP) along with the signal type (3G/4G) and signal strength (0~98) will be displayed in the **ISP**, **Type** and **Signal** fields.

**Note:** If a message window pops up "Please insert a 3G modem", please reboot the mobile DVR.

#### 7.3.7.4 Email

You can configure the Email settings for mobile DVR to send Email alert when an event occurs.

**SMTP Server:** Assign the SMTP (e-mail) server's name. Note that for more reliable email service, use the server's IP address.

**SMTP Port:** Assign the port number used by the SMTP server.

**Authentication:** Check this box if the SMTP server requires authentication (user name / password).

**SSL:** Check the box if mail server needs communication to be encrypted by SSL.

**User Name:** Input the login user name if the SMTP server requires authentication.

**Password:** Input the password if the SMTP server requires authentication.

**Confirm:** Input the password again to confirm the password.

**Sender Email:** Input the e-mail address of the sender (the mobile DVR). Sender's e-mail address has to match the user name and password above.

**Receiver Email 1:** Input the first e-mail address that event messages are sent to.

**Receiver Email 2:** Input the second e-mail address that event messages are sent to.

**Receiver Email 3:** Input the third e-mail address that event messages are sent to.

**Email Subject:** Input email subject.

**E-Mail test:** You can click the button to test the email function. If the function works fine, a Pass message will be displayed; otherwise, a Fail message will be displayed.

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

#### 7.3.7.5 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 mobile DVR.

DDNS assigns a domain name (URL) to the mobile DVR, 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 mobile DVR 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 two 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 mobile DVR.

##### EverFocus DDNS

Note that the **DNS Server 1** (*7.3.6.1 LAN*) should be set up correctly or the DDNS will not work.

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

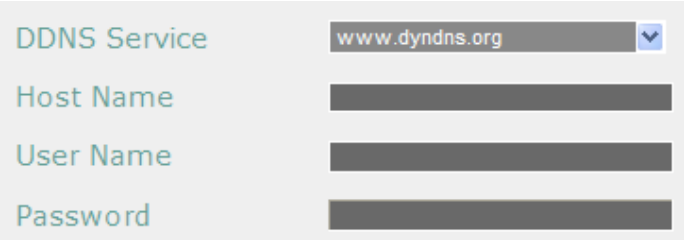
**MVR Name:** Input the desired name for the mobile DVR, and you can enter up to 32 letters. If the length of the name exceeds the text field size on the OSD, you can move your cursor onto the text field to display the entire name on the OSD.

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

**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 mobile DVR'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.

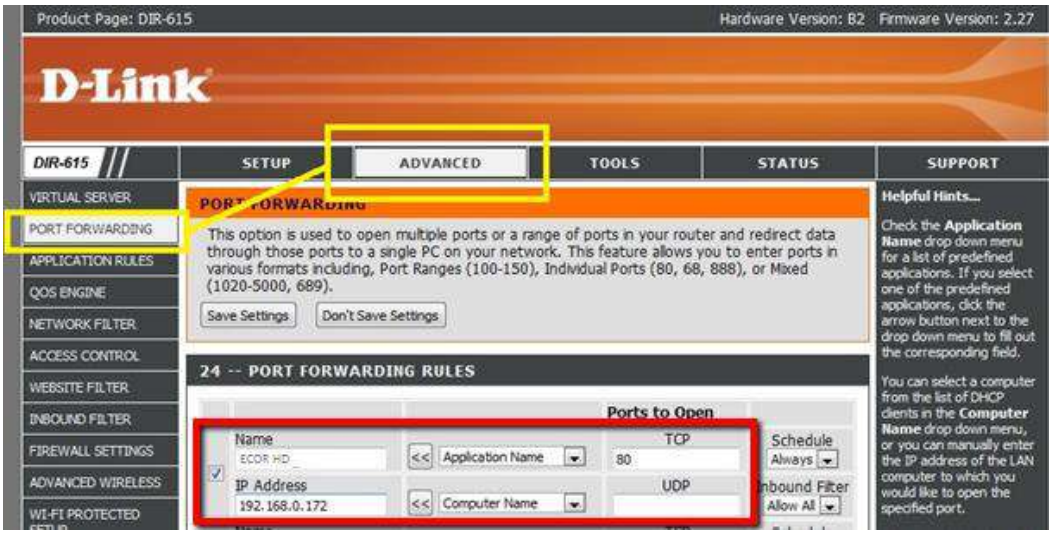
**Setup Steps:**

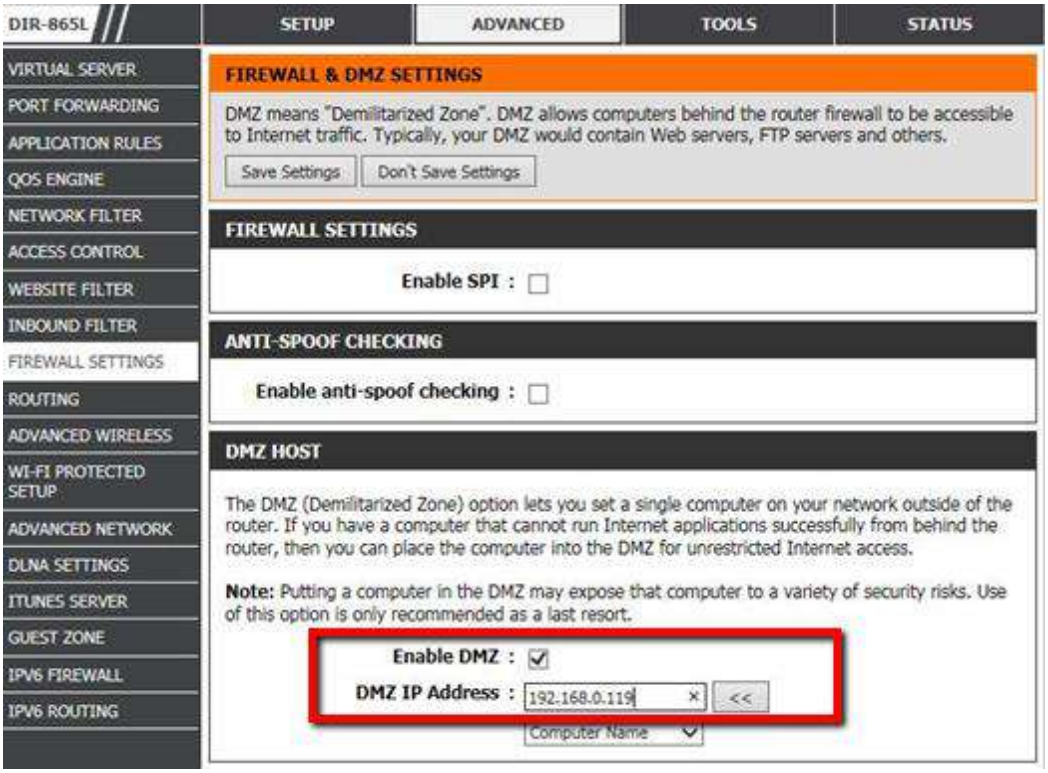
1. Apply for a host name from www.dyndns.org.
2. Make sure that the DNS Server 1 is set up correctly (see DNS Server 1 in *7.3.7.1 LAN*) or the DDNS will not work.
3. Select www.dyndns.org from the DDNS Service drop-down list.
4. Enter the host name in the Host Name field. Note that the name of the mobile DVR 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 mobile DVR 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 mobile DVR is 80. To set up Port Forwarding, please consult the manual of the router.

**To set up DDNS function:**

1. In order to allow remote access to the MDVR from outside of the local network, enable either the **Port Forwarding** or **DMZ** function of your router. Please refer to the manual of your router for more details.

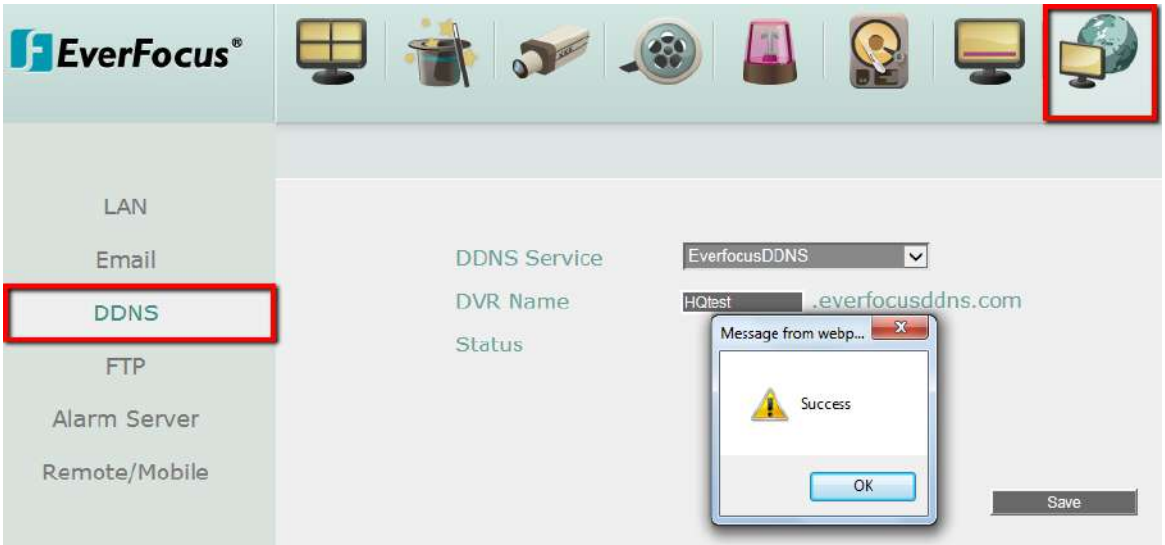


2. On the Network Setting page of MDVR (Network > LAN), configure the LAN settings, keep HTTP port “80” and then click the **Save** button.

- If **Static IP** is selected: Enter the IP address, subnet mask, default gateway and the DNS Server 1. Please consult with your ISP service provider for the information of subnet mask, default gateway and the DNS Server 1.
- If **DHCP** is selected: The IP address, subnet mask, default gateway and the DNS Server 1 will be assigned automatically by DHCP server.
- If **PPPoE** is selected: Enter the User Name (e.g. xxxx@hinet.net) and Password provided by your ISP service provider.

3. On the DDNS setting page, register a free host name from EverFocus DDNS and then click the **Save** button.




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

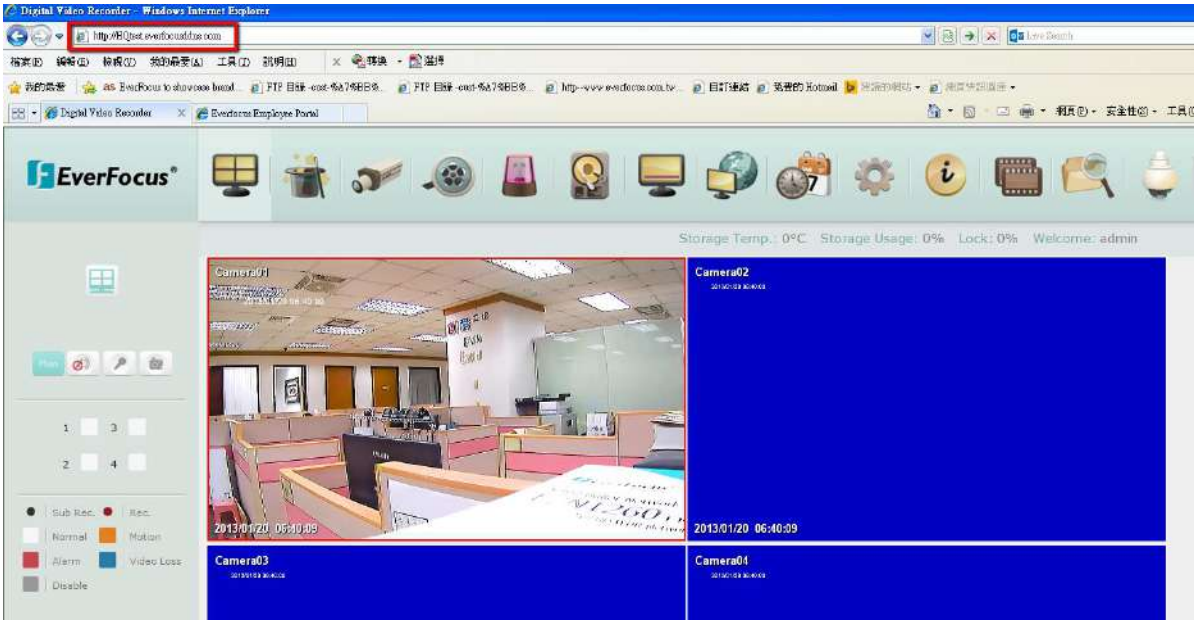
b. Enter a desired host name in the DVR Name field. If the host name is available, a "Success" window will appear. Click **OK**. If not, try another host name until the "Success" window appears.

> **Note:** The host name should not include a space, or a dot (period) or any special characters particularly _~ ! @ # $ % ^ & * ( ) + < > " ; : . ,

c. Click **Save**.

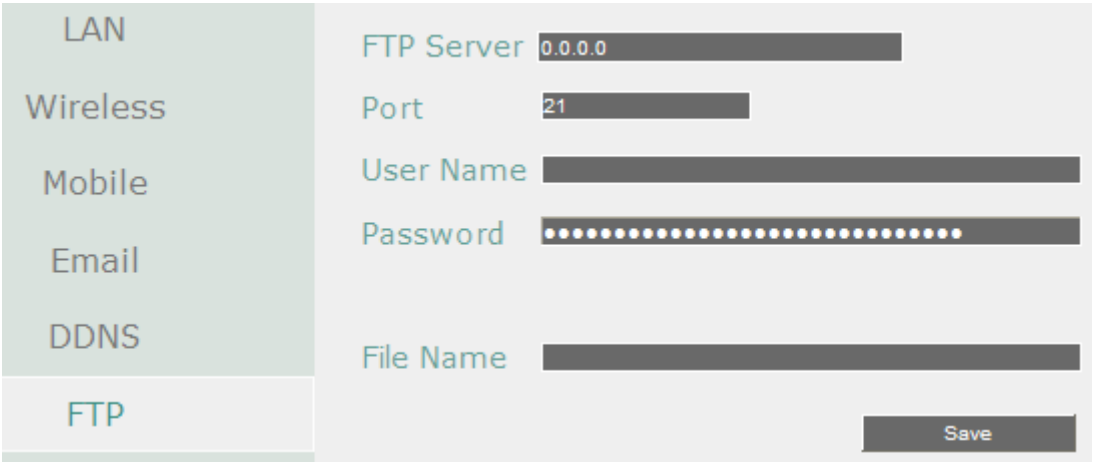
4. The DDNS setup is now complete. Open a browser and enter the domain name (http://[host name].everfocusddns.com) in the address field. The Web interface of the MDVR should be displayed.

   For example, if you've obtained the host name "HQtest" from EverFocus DDNS server, enter http://HQtest.everfocusddns.com in the address field of the browser.



#### 7.3.7.6 FTP

Set up the FTP server settings to enable the FTP function. The function is for users to upload the alarm / motion recordings or snapshots from sub stream to the FTP server. You can choose to upload either the recordings or snapshots, please see *7.3.3 Record and 7.3.4.3 Motion*.




**FTP Server:** Enter the IP address or the host name of the FTP server.

**Port:** Enter the port number for the FTP server. Default is 21.

**User Name:** Set FTP User's name.

**Password:** Set FTP password.

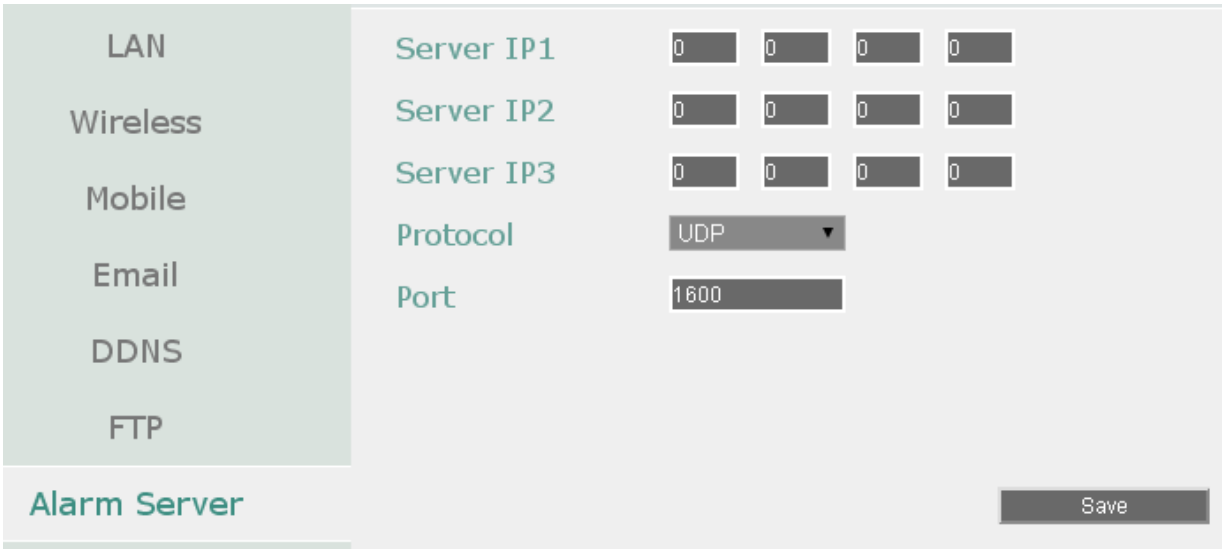
**File Name:** Enter the file name.

**Note:** If you want to upload recordings to the FTP, please go to the Remote / Mobile setting page to select H.264 codec.

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

#### 7.3.7.7 Alarm Server

You can send out the alarm notifications to EverFocus's CMS software. Please also consult the CMS's user manual for network alarm settings.




**Server IP1~3:** IP address of client PC. The network alarm can be transmitted to up to 3 addresses.

**Protocol:** Select the protocol type for alarm transmission. Note the protocol selected here should match the protocol set up for the CMS alarm server.

UDP: User Datagram Protocol.

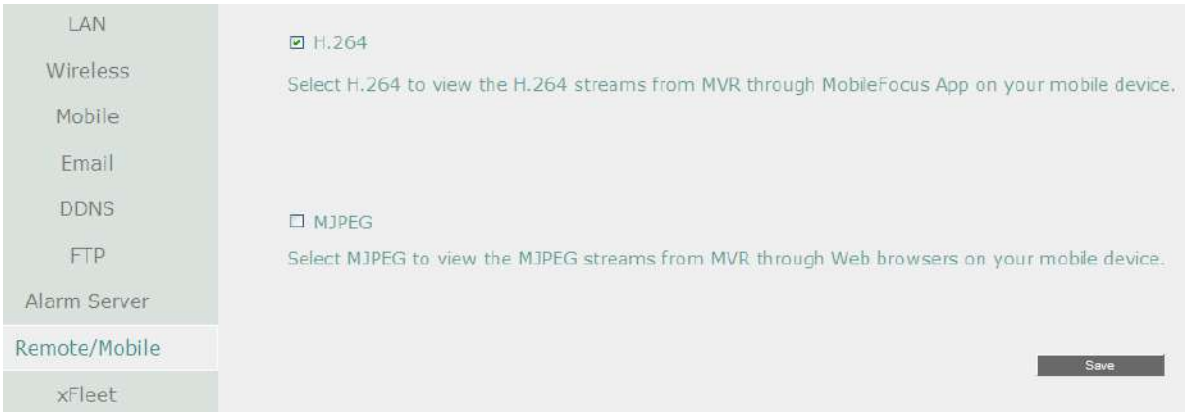
TCP: Transmission Control Protocol.

**Port:** Select the transmission port for network alarm messages. The port setup here should match the port set up for the CMS alarm server.

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

### 7.3.7.8 Remote/Mobile

You can configure the compression format for the sub-stream for mobile phone access. Select **H.264** or **MJPEG** codec to enable the mobile phone access function. Note that if you also want to use the FTP function for uploading the recordings (MP4 video format), please select the H.264 codec.




**H.264:** The H.264 codec is compatible with iOS and Android MobileFocus applications and IE Web browser viewing on iPhone, iPod touch, iPad, Android, and BlackBerry.

**MJPEG:** The MJPEG codec is compatible with iOS and Android MobileFocus applications and IE Web browser viewing on iPhone, iPod touch, iPad, Android, and BlackBerry.

#### 7.3.7.9 Xfleet

You can use EverFocus Xfleet system for fleet management.

Xfleet is a Web-based fleet management system which integrates GPS positioning, 3G/4G mobile wireless communication and GIS (Geographic Information System) techniques, allowing users to easily track, monitor and manage any type of fleet vehicles on a Web browser anywhere and anytime.

With Xfleet, not only can you reduce overall costs by effectively utilizing resources such as vehicles, fuel, and manpower, but you can improve the management efficiency and business performance by keeping and analyzing the historical records (graphical reports) of the vehicle data as needed.

To successfully establish the connection between the MDVR and Xfleet system, enter the IP Address, Port Number, account ID and Password of the Xfleet server. Click Save to save the settings.

## 7.3.8 Schedule

You can set up the recording schedule with the desired time, event types or FPS.

### 7.3.8.1 Express Setup

You can set up a weekly recording schedule for the mobile DVR to automatically record videos.

**Weekend Start:** Select a start date and time for the weekend.

**Weekend End:** Select an end date and time for the weekend.

**Daytime Start:** Select a weekday start time (Nighttime schedule ends when Daytime begins). Click the button to bring up the time window. Use the up and down buttons to configure a desired time. The scale of the Hour is 1-hour; while the scale of the Minute is 30-minute.

**Daytime End:** Select a weekday end time (Nighttime schedule ends when Daytime ends). Click the button to bring up the time window. Use the up and down buttons to configure a desired time. The scale of the Hour is 1-hour; while the scale of the Minute is 30-minute.

**Record Type:** Select a recording type for each time period.

Disable: No recording during the scheduled time period.

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

**Normal (FPS):** Set up the fps for continuous recording.

**Event (FPS):** Set up the fps for event recording.

**Activities:** Check the box to enable the Buzzer, Alarm Out, E-mail and Network actions selected in *7.3.3 Event* when an event occurs during the selected time period.

**Note:** For **Holiday** and **Others**, you can set up the recording schedule in *7.3.7.2 Holidays*.

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

### 7.3.8.2 Holiday

In addition to set up a weekly recording schedule, you can also set up a holiday recording schedule to automatically record videos on a specific day of the year.

**Date Type:** Select **Holiday** or **Others** if you have configured the settings in *7.3.7.1 Express Setup*. The Holiday and Others are two different groups designed for you to assign special days independently.

**Recurrent Type:** Select a date layout for the selected group above.

Disabled: Select to disable the Holiday / Others recording schedule.

One time: Select this option and then set up the specific date and year in the Details field. The mobile DVR will start recording on this specific date.

Month/date: Select this option and then set up the specific date in the Details field. The mobile DVR will start recording on this date yearly.

Month/Weekday: Select this option and then set up the specific date in the Details field. The mobile DVR will start recording on this specific date.

**Details:** Click to specify the date for the selected group above.

**Previous:** Previous Page (30 Holidays Total).

**Next:** Next Page (30 Holidays Total).

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

### 7.3.8.3 Schedule

You can set up the camera recording mode by time of day on specific days of the week and/or holidays and other days. Please note that after the configuration, you have to check the **Schedule Record** box in the Record setting page to enable the schedule recording mode.

**Camera:** Select a camera number to change the schedule for the selected camera. Each camera can be controlled during a 24-hour time block for Holiday (Hol), Other (Oth), Sunday (Sun), Monday (Mon), Tuesday (Tue), Wednesday (Wed), Thursday (Thu), Friday (Fri), or Saturday (Sat).

**Time (0~23):** The numbers represent the 24 hours of a day.

**Time Bar:** The time bar uses three different colors to distinguish each recording mode.

Gray (No Rec): No recording during this time block.

Pink (E): Only events are recorded during this time block.

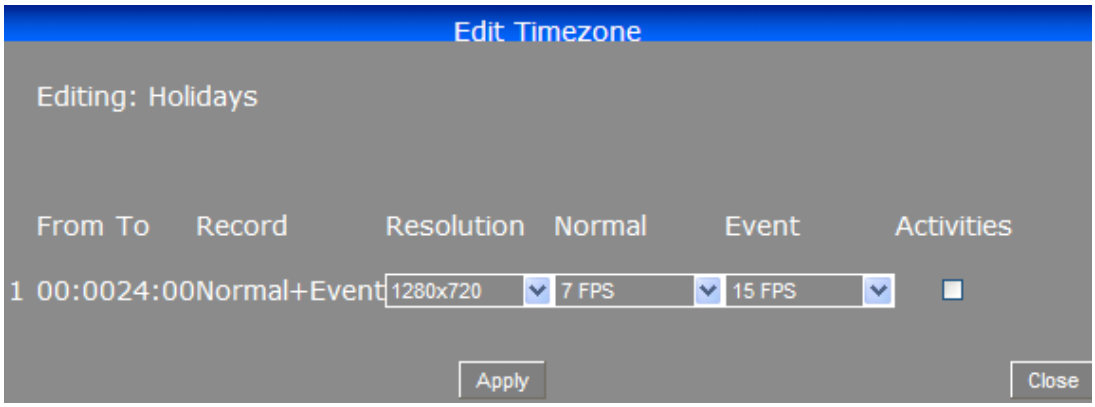
Blue-green (N+E): (Default) Normal and event recording during this time block.

There are 48 blocks on the time bar, and each block represents half hour respectively. When moving the cursor onto the time bar, the exact time will appear at the right side of the time bar (shown as the above figure).

**Schedule setting**

1. Select a camera first and click on desired start time block on a time bar. At this time, the entire time bar will be highlighted with a red frame.
2. Double-click the desired start time block, and this block (shows a new sequence number on it) and all the following blocks will turn to gray. This means the grey time blocks has been set to No Recording mode.
3. To change the time blocks to different recording mode (which shows a different color), users need to double-click on the block (with number on it) of any section. Every time the user double-clicks the first block of a section, the color switches from gray->pink ->blue-green.
4. Repeat the above steps to configure the recording modes. You can configure up to six record modes on each time bar.

Click the "**Edit Timezone**" button to edit the recording parameters for a time zone.




**Editing Timezone**:

**From:** Displays time zone start time.

**To:** Displays time zone end time.

**Record:** Displays Record mode.

**Resolution:** Recording resolution is displayed.

**Normal:** Frame rate in FPS for continuous recording. It is important to keep track of the normal recording resources being allocated at each hours of the day. Increasing the Normal recording resolution and/or rate can inadvertently request more recording resources than the mobile DVR is capable of delivering, or allocate so much of the mobile DVRs resources that there is no excess available for increased FPS rate and/or resolution in response to an Event.

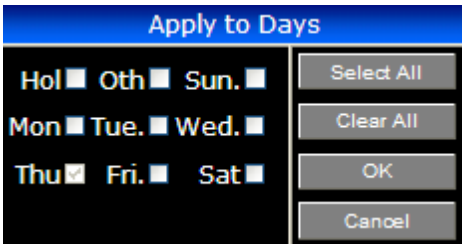
The speed is limited by the maximum total recording capacity of the mobile DVR as allocated across TV standard in global setting, all the installed cameras, with an upper limit of 30 FPS (NTSC – 25 PAL) per individual camera (real time recording).

Since EverFocus mobile DVRs have the capability to change the FPS rate in response to events, it may be advisable to reserve some recording capacity for event response.

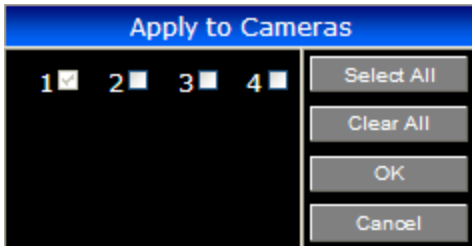
**Event:** *Maximum* desired frame rate in frames per second (FPS) for event recording; if more than one camera requires simultaneous event recording, the total for all cameras cannot exceed the maximum available FPS for the mobile DVR at the corresponding resolution setting, and *the available FPS may be divided across the cameras responding to an event.*

**Activities**: Check this box to enable notifications enabled elsewhere (Buzzer, Alarm out, E-mail, and Network Alarm) when an event occurs.

**Apply to Days:** This button can be used to copy schedules to other days. Select which days you wish to copy to. "Select All" selects all days, “Clear All” deselects all days. Click “OK” to copy the settings or "Cancel" to exit without copying.




**Apply to Cameras:** This button can be used to copy schedules to other cameras. Select which cameras you wish to copy to. "Select All" selects all cameras, “Clear All” deselects all cameras. Click “OK” to copy the settings or "Cancel" to exit without copying.




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

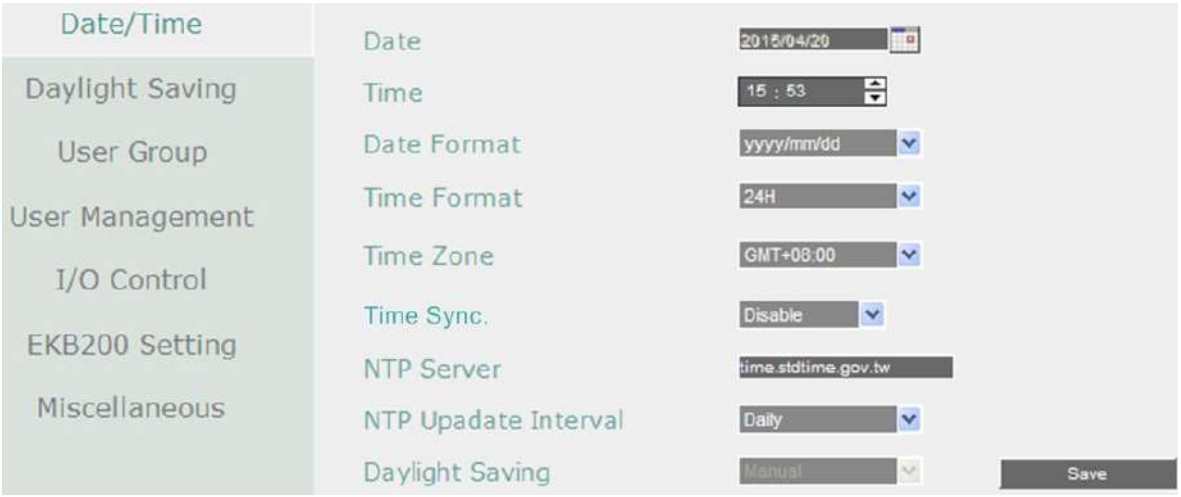
### 7.3.9 System Setting

You can configure the general settings for the mobile DVR in this menu.

#### 7.3.9.1 Date/Time

You can set up the date and time for the mobile DVR.

**Note:** Clicking **Save** at this page will disable the **Daylight Saving** function if this function has been enabled. Therefore, after setting up the time at this page, you need to go to *Daylight Saving* page to reset and enable the daylight saving time if the function is needed. Please refer to *7.3.9.2 Daylight Saving* for detailed information.




**Date:** Click to set up the date.

**Time:** Click 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 mobile DVR to adjust to when updating from the time server.

**Time Sync:** You can synchronize the MDVR time with NTP server or GPS time.

- Disable: Select to disable the time synchronization function.
- NTP: Select to synchronize the MDVR time with NTP server. You will have to further set up the **NTP Server** and **NTP Update Interval** settings below.
- GPS: Select to synchronize the MDVR time with GPS time. For this function to work, a GPS receiver is required to connect to the MDVR to receive GPS signal.

**NTP Server:** If **NTP** is selected from the **Time Sync** drop-down list above, you will have to further select a **NTP Server**. The NTP Server displays the time server address that the mobile DVR uses for time synchronization. For this function to work, operating network configuration and WAN or LAN access to a compatible NTP server is required. The default NTP address is the

NTP server in Taiwan. To find a compatible NTP address of the mobile DVR'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:** If **NTP** is selected from the **Time Sync** drop-down list above, you will have to further set up the **NTP Update Interval**, which is 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 *7.3.9.2 Daylight Saving*).

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

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

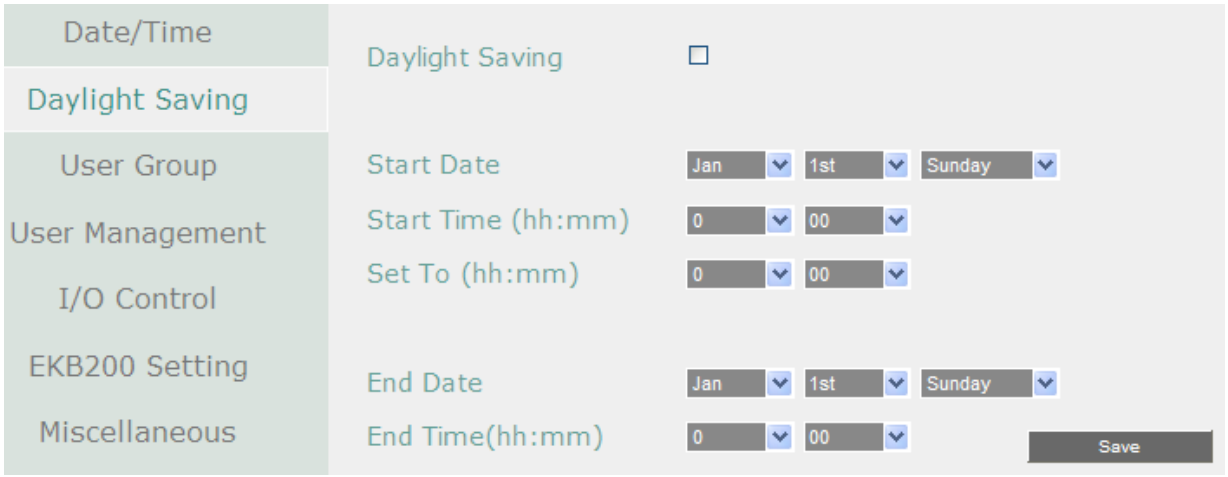
1. Select a U.S Time zone (GMT -05:00 ~ GMT -08:00).
2. Enable the **NTP**.
3. Enter a NTP server IP address in United States.
4. Select **Auto** in the **Daylight Saving** drop-down list.
5. Click **Save** to save the settings.
6. The Daylight Saving setting page (refer to 7.3.*9.2 Daylight Saving*) will be grayed out and automatically set to the correct daylight saving time.

### 7.3.9.2 Daylight Saving

You can configure the settings for mobile DVR 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 *7.3.9.1 Date/Time*.
2. If you need to use the **Daylight Saving** function, you must set up the date and time settings first in **Date/Time** page. Because if you change any setting or just click **Save** in **Date/Time** page, the **Daylight Saving** function will be disabled.




**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.

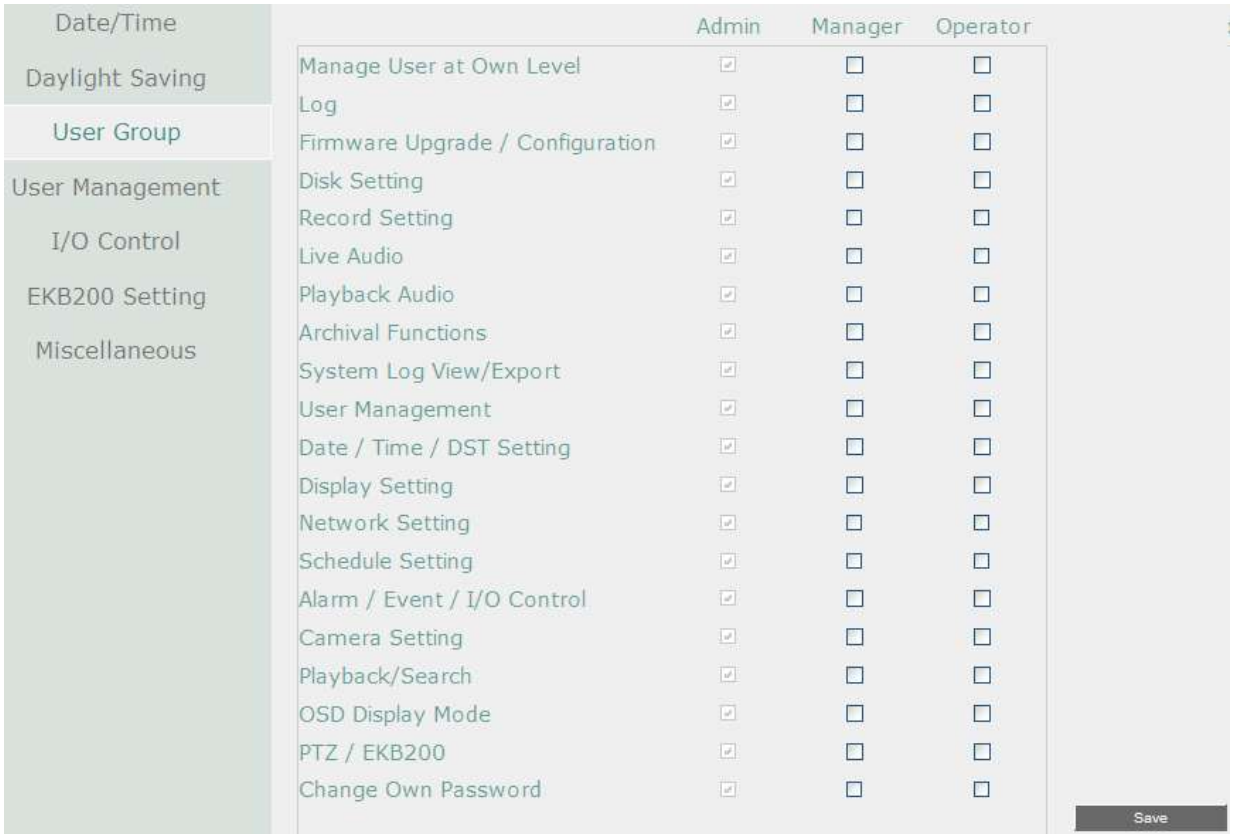
**End Time (hh:mm):** Set the time when daylight saving time ends.

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.

### 7.3.9.3 User Group

This setting page is used for configuring the privilege of the three access levels: Administrator, Manager and Operator. Check the boxes under an access level to enable the privileges of that access level. For example, if you check the **Log** (clear log) box under the Operator access level, only the Operator has the privilege to clear log.




**Manage User at Own Level:** Check this box for the user of an access level to be able to configure other users' settings of the same level at the User Management setting page (see *7.3.9.4 User Management*). For example, if this box under the Operator level has been checked, any user with the Operator privilege can go to the User Management setting page to set up the settings of other Operators.

**User Management:** Check this box under an access level to enable the users of that level to access the User Management and User Group setting page.

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

**Important Notes for Account Privilege Definition**

Users with the Administrator account have full privileges, so the checkboxes under the Administrator access level will always be grayed out. The Administrator can grant privileges to both the Manager and Operator while the Manager and Operator can also give certain privileges to the lower level accounts based on the following rules.

- **Account Viewing:**
  Administrator: The Administrator account has the privilege to view all the user accounts.
  Manager: The Manager account can only view its own and the Operator accounts.
  Operator: The Operator account can only view its own account.

- **Camera Access:**
  Administrator: The Administrator account has the privilege to set up Camera Access right to all the user accounts.
  Manager: The Manager account can set up Camera Access right (cameras enabled by the Administrator account) to itself and Operator accounts.
  Operator: The Operator account can only set up its own Camera Access right.

- **Change Password:**
  Administrator: The Administrator account has the privilege to change password to all the user accounts.
  Manager: The Manager account can change password to itself and Operator accounts.
  Operator: The Operator account can only change its own password.

- **Edit User Rights:**
  Administrator: The Administrator account has the privilege to edit user rights to all the user accounts.
  Manager: The Manager account can only edit user rights to Operator accounts.
  Operator: The Operator account cannot edit user rights to any accounts.

### 7.3.9.4 User Management

You can create multiple user accounts (max: 20 user accounts) with different privileges. The mobile DVR 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

**Login:** Check the box to enable the User Login function after logging out the mobile DVR. For details on logging in the mobile DVR, please refer to *3.2.1 Login*.

**Auto User Log Off:** Check the box to automatically logoff the mobile DVR after 3 minutes of inactivity.

**Password Renew after xx days:** Input a number of days to renew the password of the MDVR.

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".

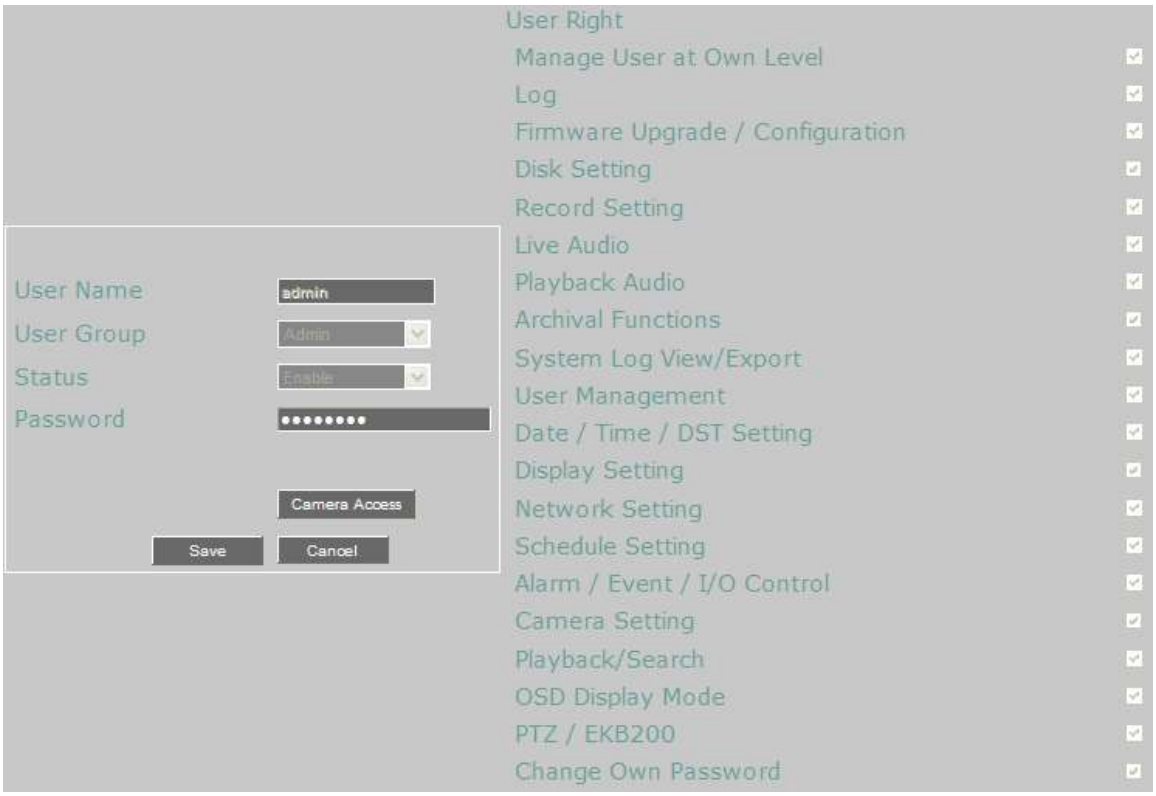
**Previous:** Click to return to the previous page.

**Next:** Click to enter the next page.

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

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

1. Click on 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.

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

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

Click the **Save** button to save the settings or **Cancel** to cancel the settings and return to the previous menu.

### 7.3.9.5 I/O Control

The I/O Control setup menu is used to define the settings for controlling the mobile DVR through RS-232 communication protocol. Please note that to perform the I/O function, the optional accessory, External I/O Box, is required.

**RS-232**

**Type:** Select Control or Text Insert.

**Baud Rate:** This field is to set the speed at which is used to transmit instruction or information through the RS-232 port on the mobile DVR. 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 RS-232 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.

**Note:** For details on the RS-232 related settings, please consult the Technical Support Department of EverFocus.

**GPS**

**Baud Rate:** This field is to set the speed at which is used to transmit instruction or information. 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 mobile DVRs. The mobile DVR to be addressed is selected by pressing the key corresponding to its ID number on the IR Remote control. Please refer to *Appendix E: IR Remote Control*.

**IR Controller ID:** Set up an ID for the mobile DVR and allow the IR remote control to control this mobile DVR.

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

### 7.3.9.6 EKB200 Setting

You can connect an EKB200, which is EverFocus' USB keyboard, to the USB port on the DVR 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 *7.3.13 PTZ.*

The control keys on the EKB200

After connecting the EKB200 keyboard to the DVR 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.
【**Activities**】 Select an item from the drop-down list to define the function for each key on the keyboard.

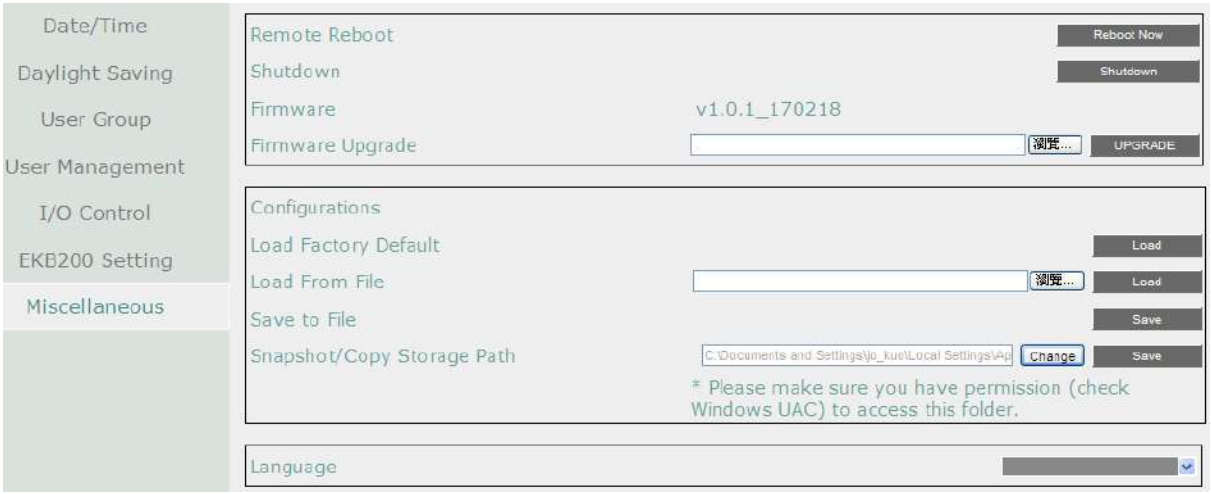
- **Set Preset:** You can use the joystick on the keyboard to select a position and then press this key to save the position as the Preset Position.
- **Go to Preset:** Press this key to let the camera go to the Preset Position number specified in the Value column.
- **Go to Home:** Press this key and 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 *7.3.13 PTZ*).

### 7.3.9.7 Miscellaneous

You can upgrade the latest firmware, restore the factory default settings to the mobile DVR, upload / save the mobile DVR configuration settings from / to the USB or change the language in this setup menu.




**Remote Reboot:** Click to restart the mobile DVR.

**Shutdown:** Click the **Shutdown** button if you need to turn off the mobile DVR. When the message as below pops up on the screen, you can now turn off the mobile DVR.

**Firmware Version:** Shows the current firmware version of the mobile DVR.

**Firmware Upgrade:** Click to select a firmware file and then click **UPGRADE** to upgrade the latest firmware.

**Configurations**

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

**Load From File:** Click to upload the mobile DVR configurations restored in the computer.

**Save To File:** Click to save the mobile DVR configurations to the computer.

**Snapshot/Copy Storage Path:** Click **Change** to select a storage path on your computer for the snapshot images and copy recordings, and then click **Save** to save the settings.

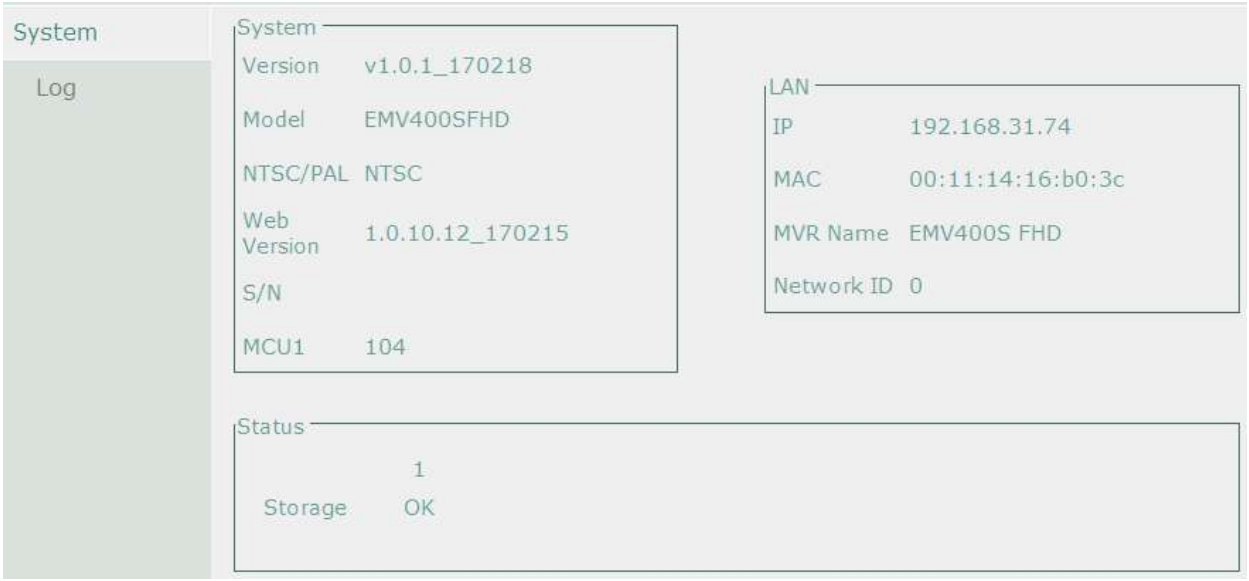
**Language:** Choose which language the mobile DVR uses.

### 7.3.10 Information

You can see the mobile DVR information and Log data in this menu. Or export the log data to your computer.

#### 7.3.10.1 System

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




**【System】**

**Version:** Displays the firmware version.

**Model:** Displays the model name of the mobile DVR.

**NTSC / PAL:** Displays the current video format automatically detected by the mobile DVR.

**S/N:** Display the serial number of the mobile DVR.

**【LAN】**

**IP:** Displays the IP address.

**MAC:** Displays the MAC address. This option cannot be changed.

**MVR Name:** Displays the DDNS name if configured.

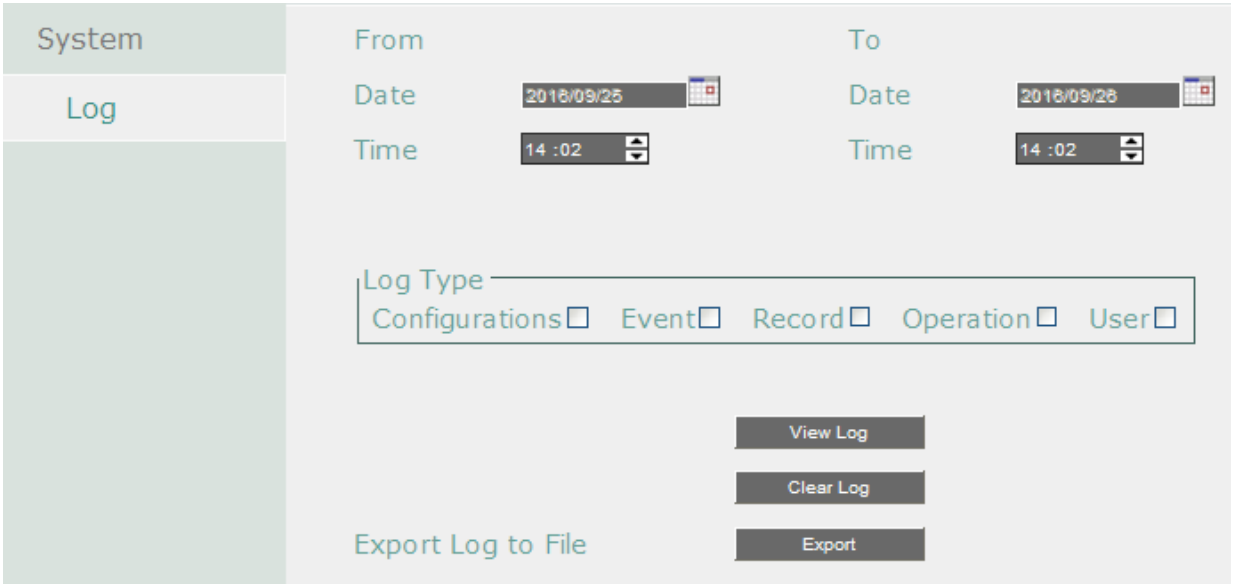
**Network ID:** The ID number for EverFocus' CMS as set up in the Alarm Server menu.

**【Status】**

Displays the status of the internal storage. Normal storage operation is indicated by "OK".

### 7.3.10.2 Log

You can choose, display or export log data using this menu.




**From Date / To Date:** Click to bring up the on-screen keyboard to set up the start / end date.

**From Time / To Time:** Click to bring up the on-screen clock to set up the start / end time.

**Log Type:** Select the desired log types.

**View Log:** Click to bring up the Log List shown as below.

| ID | Time | Status |
|---|---|---|
| 1 | 2015/04/20 17:47:59 | [E]GPS Loss. |
| 2 | 2015/04/20 17:47:49 | [O]Archive. |
| 3 | 2015/04/20 17:47:28 | [E]GPS Loss. |
| 4 | 2015/04/20 17:47:17 | [O]Archive. |
| 5 | 2015/04/20 17:46:57 | [E]GPS Loss. |
| 6 | 2015/04/20 17:46:45 | [O]Archive. |
| 7 | 2015/04/20 17:46:25 | [E]GPS Loss. |
| 8 | 2015/04/20 17:46:13 | [O]Archive. |
| 9 | 2015/04/20 17:45:54 | [E]GPS Loss. |
| 10 | 2015/04/20 17:45:41 | [O]Archive. |

Log:1/2233, Total:22326

Close

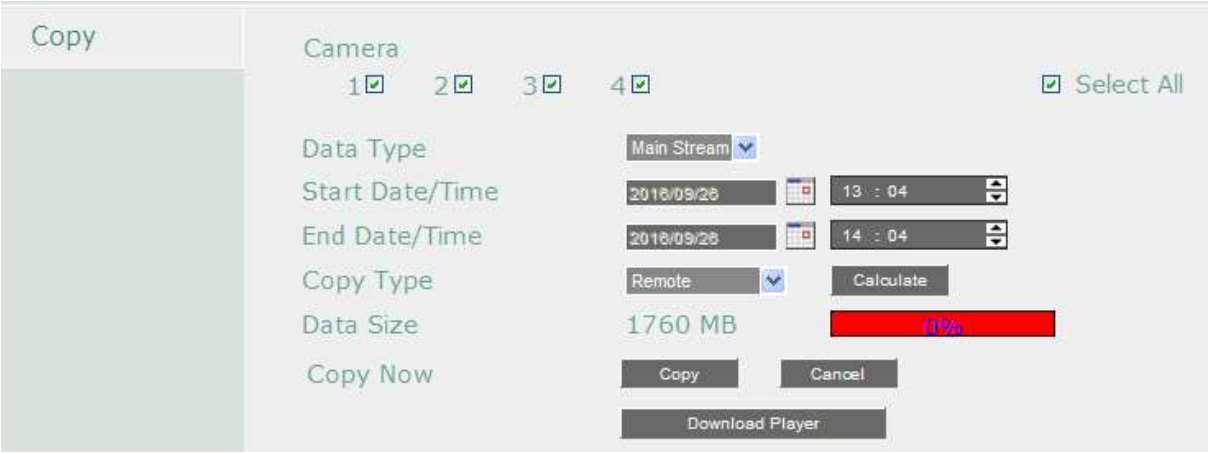
<< < 1 2 3 > >>

**Log:** Click to delete all the selected log data.

**Export Log to File:** Click the **Export** button to export the log data to the computer.

### 7.3.11 Copy

You can remotely archive the recordings to your computer or FTP server. The archived recordings will be stored in .arv format. You can download EFPlayer through this menu to play back the recordings. On the Menu Bar, click the **Copy** icon , the following menu appears.




**Camera:** Select the desired cameras.

**Data Type:** You can copy the recordings of selected cameras from main stream, or sub stream.

**Start Date / Time:** Click to select the start date / time.

**End Date / Time:** Click to select the end date / time.

**Copy Type:** Select **Remote** to remotely archive the recordings to your computer; or select **FTP** to archive the recordings to the FTP server.

**Data Size:** Indicates the data size of the selected camera recordings.

**Copy:** Click to select a storage path and start archiving.

**Cancel:** Click to cancel the archiving.

**Download Player:** Click to download the EFPlayer for playing back the archived recordings.

## EFPlayer:

Unzip the EFPlayer file and double-click to open it as below. The EFPlayer can only display up to 16 channels at one time.

| No. | Name | Function Description |
|---|---|---|
| 1 | **Information** | Shows the recording information of the device, including model of the recorder, recording start time / date, current playback time, recording end time / date. |
| 2 | **Load** | Click to select a recording file and open it. |
| 3 | **Save as AVI** | Click to archive the recording file of 1 channel and save as AVI format. |
| 4 | **Time Search** | Click to search a recording from a selected time. |
| 5 | **Channel Switch** | Click to switch channel bar between CH1~16 and CH17~32. |
| 6 | **Time Bar** | Move the time bar to a desired time to play back the recording from that time. |
| 7 | **Playback Controls** | : Click to fast reverse / fast forward.<br>: Click to reverse play /play.<br>: Click to pause playing back. |
| 8 | **Snapshot** | Click to take a snapshot of the channels displayed on the UI. You can save the snapshot file to a desired location. |

| | | |
|---|---|---|
| **9** | **Mute** | Click to mute; click again to turn off the mute function. |
| **10** | **Volume** | Drag to increase or lower the volume. |
| **11** | **Scale Out / In** | Click to adjust time scale. |
| **12** | **Screen Division** | : Click to display the channels to fit the screen. : Click to select a desired screen division display mode (1, 4, 9, 16 screen division display modes). If the channels are more than the screen divisions, you can select the same screen division display mode to change the channels on the screen. |
| **13** | **Speed** | Shows the fast reverse / forward speed (up to 64X). |

### 7.3.12 Search

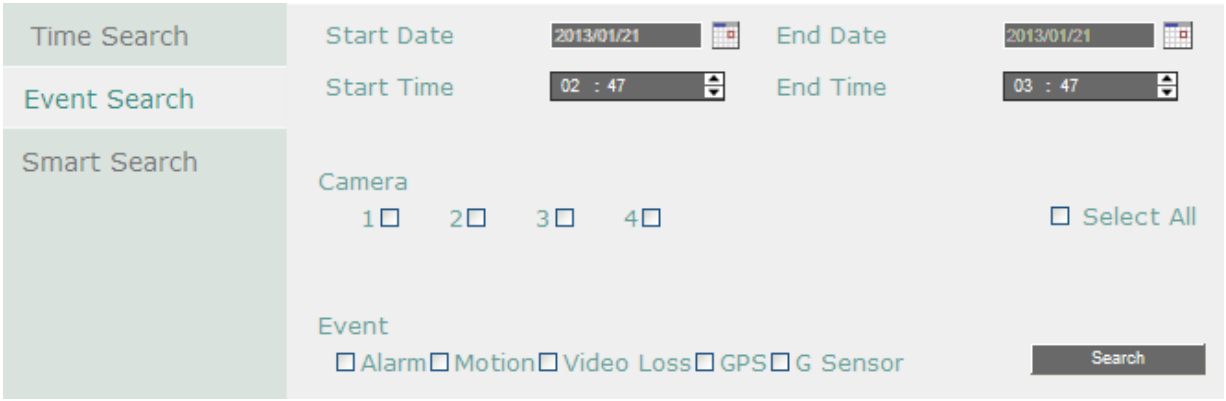
You can search the recordings for playing back by using the **Search** menu.

#### 7.3.12.1 Time Search

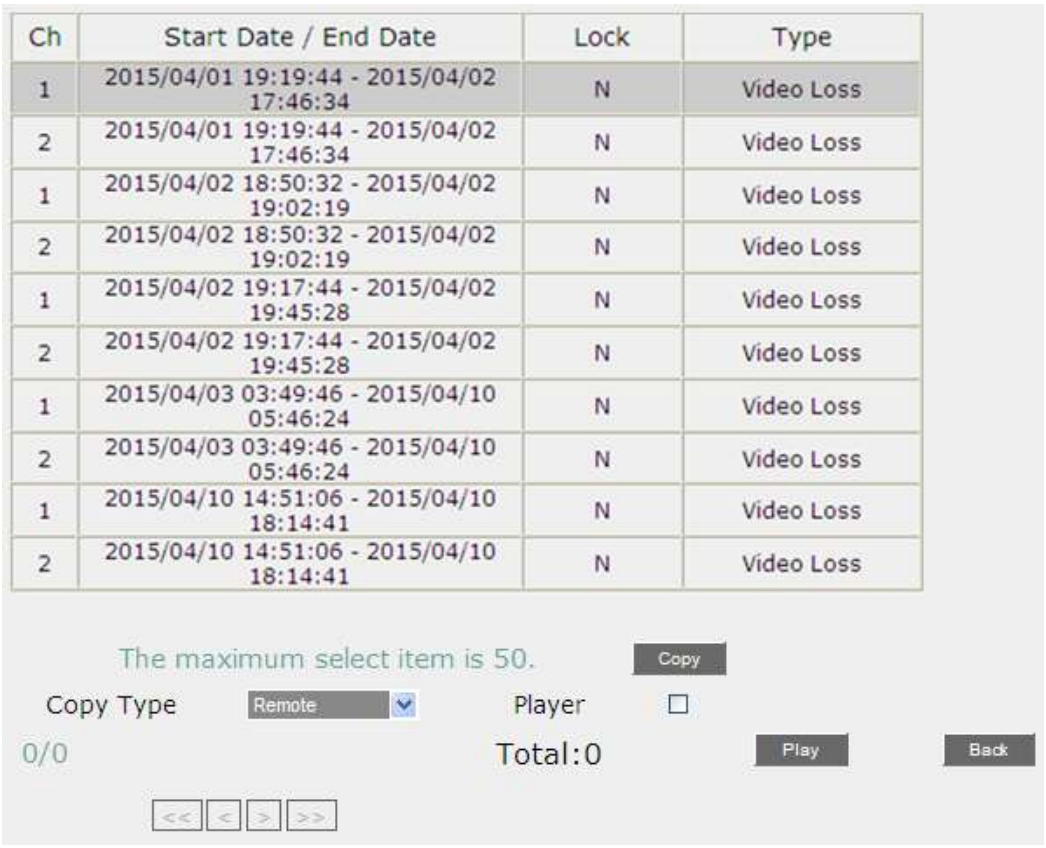
Select the Start Date and Time and then click the **Play** button to start playing back.

After clicking the **Play** button, the following Remote Playback Window appears.

### 7.3.12.2 Event Search




1. Select the Start/End Date/Time, select the desired cameras, select the desired event types and then click the **Search** button, the searched list appears.

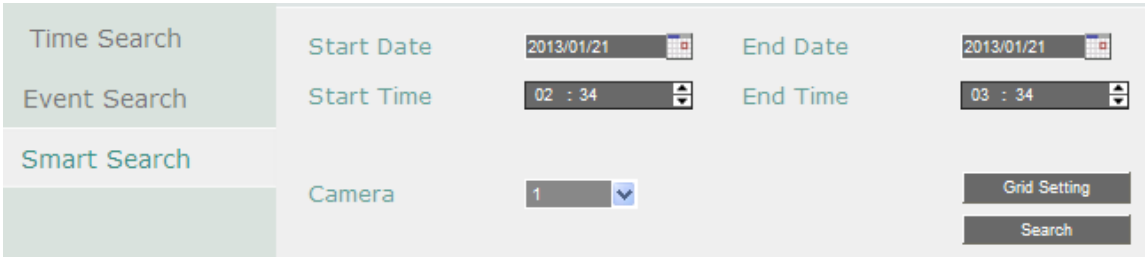


| Ch | Start Date / End Date | Lock | Type |
|---|---|---|---|
| 1 | 2015/04/01 19:19:44 - 2015/04/02 17:46:34 | N | Video Loss |
| 2 | 2015/04/01 19:19:44 - 2015/04/02 17:46:34 | N | Video Loss |
| 1 | 2015/04/02 18:50:32 - 2015/04/02 19:02:19 | N | Video Loss |
| 2 | 2015/04/02 18:50:32 - 2015/04/02 19:02:19 | N | Video Loss |
| 1 | 2015/04/02 19:17:44 - 2015/04/02 19:45:28 | N | Video Loss |
| 2 | 2015/04/02 19:17:44 - 2015/04/02 19:45:28 | N | Video Loss |
| 1 | 2015/04/03 03:49:46 - 2015/04/10 05:46:24 | N | Video Loss |
| 2 | 2015/04/03 03:49:46 - 2015/04/10 05:46:24 | N | Video Loss |
| 1 | 2015/04/10 14:51:06 - 2015/04/10 18:14:41 | N | Video Loss |
| 2 | 2015/04/10 14:51:06 - 2015/04/10 18:14:41 | N | Video Loss |

2. To copy the selected event to your computer or FTP server, select **Remote** or **FTP** from the Copy Type drop-down list. Check the **Player** box if you want to include the **EFPlayer** program in the copy. You can use the EFPlayer on a computer to play back the recordings. Please see the instruction the next page.
3. Select an event by clicking on the list and then click the **Copy** button.
4. To play back an event, select an event by clicking on the list and then click the **Play** button, the Remote Playback Window appears. You can now use the window to play back the recordings.

### 7.3.12.3 Smart Search

The Smart Search function allows users to search for the motion event recordings. You can set up the motion areas in this setup menu and then search for the motion events within the specified time.




**Start Date / End Date:** Click to bring up the on-screen keyboard to select the start / end date.

**Start Time / End Time:** Click to bring up the on-screen clock to select the start / end time.

**Camera:** Select a desired camera to be searched.

**Grid Setting:** Click to set up the motion areas. The Motion Grid Setup menu appears.

**Search:** Click to start searching. The search results will be listed in the Event List menu.

To set up the Motion Grid:

5. To set up a motion area, drag a rectangle with your mouse (from top to bottom / upper-left to lower-right). The selected areas will be highlighted in purple (see image below). You can also click the **Set All** button to select all grids.
6. To delete a motion area, drag a rectangle with your mouse (from bottom to top / lower-right to upper-left). You can also click the **Clear All** button to erase all grids.
7. Follow Step 1 and 2 to set up multiple motion areas if necessary.
8. Click the **Save & Back** button to save the settings and then return to the Smart Search menu.

### 7.3.13 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. To bring up the PTZ OSD menu (only supported for EverFocus eZ.HD PTZ cameras):
   a. Click the **Preset** button.
   b. Click the Preset number 95.
   c. Click the **Set** button.
   d. To close the OSD menu, click the **IRIS –** button.
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 **Track** 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.

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 *7.3.13 PTZ* or the User's Manual of your PTZ cameras.

Control 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 *7.3.13 PTZ* and *7.3.9.6 EKB200 Setting*). For information about the installation of the EKB200 keyboard, please refer to your EKB200 keyboard User's Manual.

Chapter

8

# 8. Specifications

| Model No. | | EMV400S FHD | EMV400SSD |
|---|---|---|---|
| Video Input | Number of Channels | 4CH | |
| | Video Compression | H.264 | |
| Audio | Audio Inputs | 4 | |
| | Output | RCA x 1 | |
| Video Output | Video Output (Main | VGA x 1 | |
| | Video Output (Call | BNC x 1 | |
| Recording | Recording Resolution | 1080p / 720p / 960H / D1 / CIF / QCIF | |
| | Recording Mode | Event, Normal + Event, Schedule | |
| | Recording Rate | 30fps/CH (NTSC), 25fps/CH (PAL) | |
| | Pre-Alarm Recording | Yes | |
| Playback | Playback Mode | Duplex | |
| | Playback Search | Time Search, Event Search | |
| Video Detection & Alarm | Alarm Inputs | Yes (additional External I/O Box is required) | |
| | Alarm Outputs | Yes (additional External I/O Box is required) | |
| | Video Loss Detection | Yes | |
| | Event Alarm | Yes | |
| Network | Ethernet | RJ-45 Port x 1 (10/100M) | |
| | Wi-Fi | Yes (Optional) | |
| | 3G / 4G | Yes (Optional) | |
| | GPS | Yes (Optional) | |
| Storage | SD Card | SD Card x 1 (SDHC/SDXC, max. 128GB) | |
| | SSD | - | 2.5” SSD x 1 (max. 4TB) |
| External Interface | Interfaces | RJ-45 x 1, USB2.0 x 1, External I/O Port x 1 | |
| General | G-Sensor | 3-Axis G-Sensor Embedded | |
| | System Control | IR Remote Control, Mouse, Web UI | |
| | PTZ Control | Yes | |
| | Power Source | 8-35VDC | |
| | Power Consumption | 10W | |
| | Operating Temperature | -40°C~55°C / -40°F~131°F | |
| | Dimensions (W x D x H) | 131 x 171.1 x 38.4mm / 5.16" x 6.74" x 1.51" | 131 x 166.4 x 49.7mm / 5.16” x 6.55” x 1.96” |
| | Weight | 690g / 1.52lb | 870g / 1.92lb |
| | Certificates | CE, FCC | CE, FCC |

| 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 | 1. EverFocus' Xfleet fleet management server system.<br>2. EverFocus' mobile app: MobileFocus (iOS and Android); |

Chapter

9

# 9. Troubleshooting

If you have problems with the system, run through the following checklist to see if you can solve the problem.

- **The mobile DVR will not go into record mode.**
  - Bring up the mobile DVR's Menu and check under the Camera Menu. Verify that all connected cameras are checked as "Installed" and that Record Mode is set to "Continuous".
  - Check the Storage or Information Menus and verify that the internal storage is being detected.
- **The mobile DVR displays nothing on the main monitor.**
  - Make sure the monitor is connected to either BNC Main Monitor port or the VGA port. If the monitor has multiple inputs, make sure it is on the correct input source and display setting (1024x768).
  - Check that the monitor cables are good and power is on.
  - Verify the recorder is getting the correct supply power.
- **There is no display coming from one of the channels on the mobile DVR.**
  - In the mobile DVR's Camera Menu, make sure that all cameras are checked as "Installed" and unchecked for "Covert".
  - If there is still no picture, switch ports or connect a working camera to the port that has no picture. If you get an image, the problem is coming from the camera or cable.
- **I cannot connect to the recorder via the internet.**
  - Check that you can connect to the mobile DVR on the LAN.
  - Check that the mobile DVR has a static IP address and the port used by the mobile DVR is forwarded correctly to that IP address in the router.
  - Verify that your Internet Service Provider does not block the IP port being used
  - Make sure you are using the correct WAN IP address given by the ISP, or, if you have a Dynamic IP, check if the IP address has changed; use DDNS to avoid problems caused by changing ISP addresses.

Appendix

A

# Appendix A: Network Overview

This chapter will give you a basic instruction on how to set up the mobile DVR 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 mobile DVR 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 mobile DVR. 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 *7.3.7.5 DDNS* for details on using EverFocus DDNS.

- What type of (mobile) DVR are you installing? _____

  The default ports are
  ECOR264: 80
  Paragon: 80
  ECOR: 80, 1600
  EDR/Emobile DVR: 80, 1600, and 37260 – 37263
  EMV: 80
  ELUX: 80
  If the ports were changed in the Network Setup, use those port numbers.

## Pre-Installation

EverFocus' mobile DVR 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 mobile DVR).

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 mobile DVR). 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 mobile DVR's to access each other as well as the Internet. It assigns different internal IP addresses to the computers.

Appendix

B

# Appendix B: Linksys & D-Link Port Forwarding

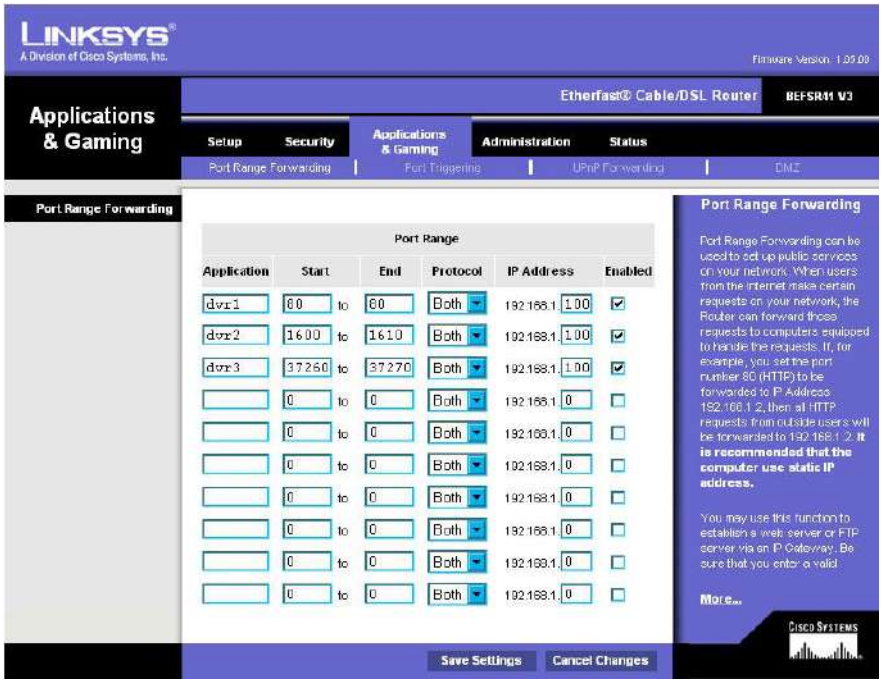
## Typical Linksys Port Forwarding

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 mobile DVR on the LAN, and the default port 80 is in use.

**Note:** ***If you changed port 80 in the mobile DVR’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 **Password** 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:

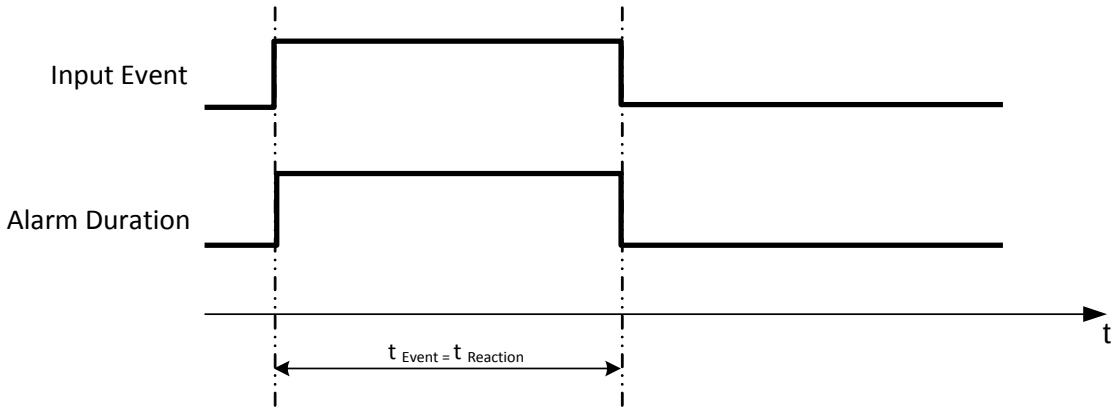
| Name | Private IP | Protocol | Private Port | Public Port | Schedule |
|---|---|---|---|---|---|
| HTTP | 192.168.1.50 | Both | 80 | 80 | Enable |

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

**Note:** ***If you changed port 80 in the mobile DVR's Network Menu, open that port instead of 80***.

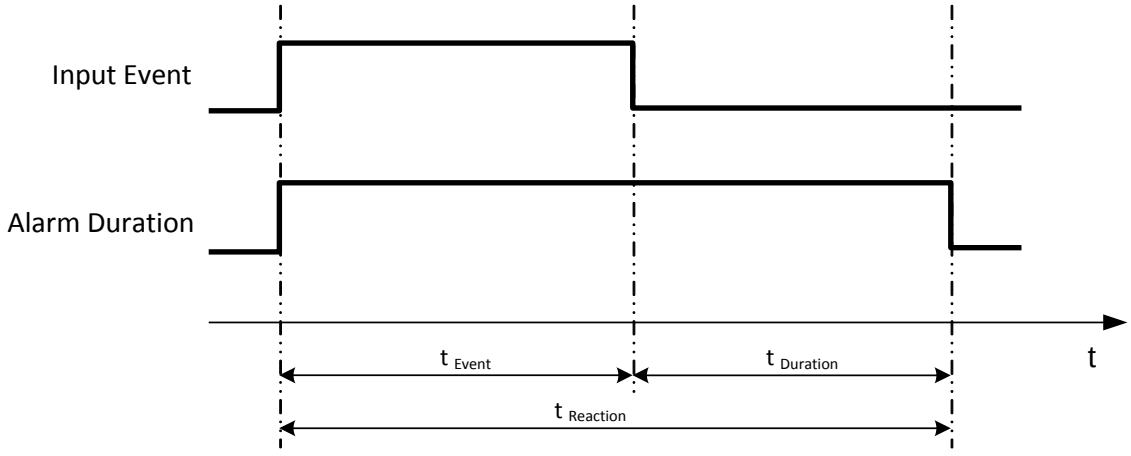
# Appendix C: Timing of Alarm Modes

**Transparent Mode**



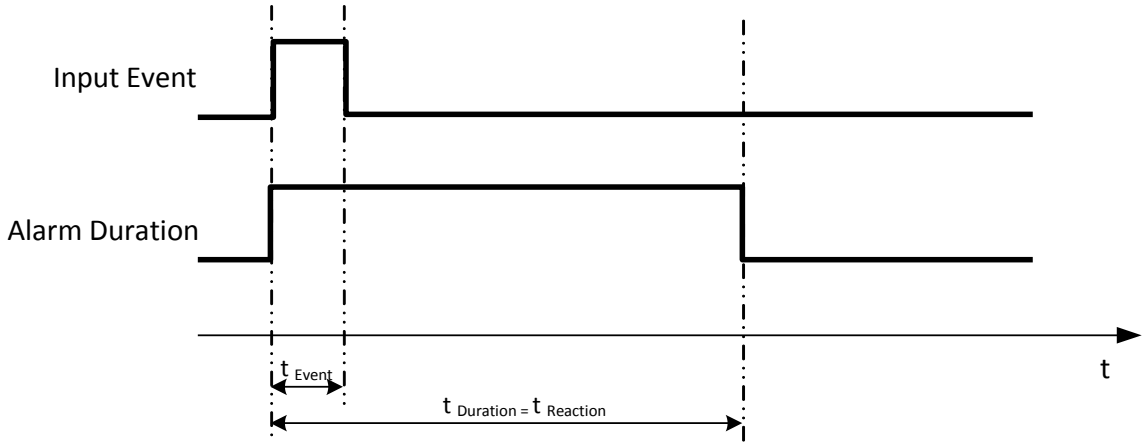

**t Event**: Duration of alarm input source (contact, system events...)
**t reaction**: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

**Timeout + Transparent Mode**



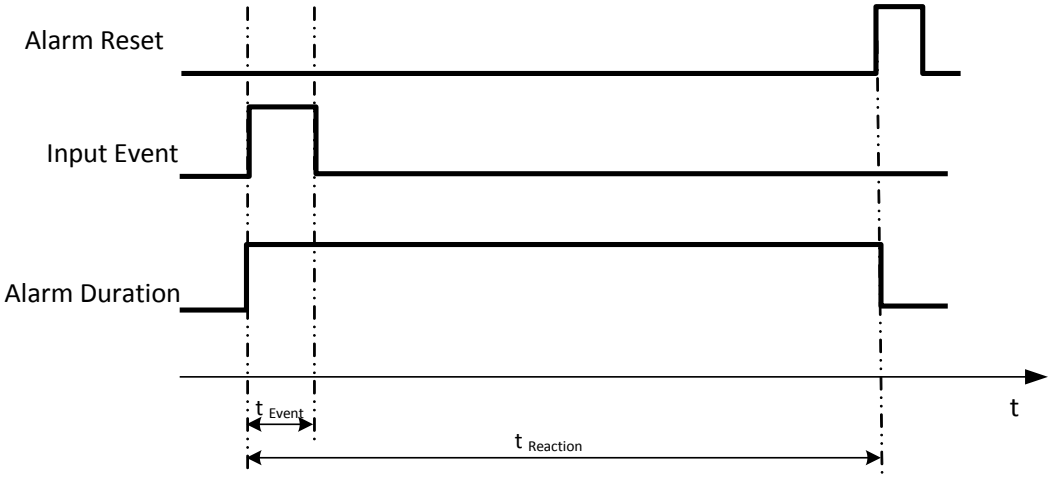

**t Event**: Duration of alarm input source (contact, system events...)
**t Duration**: Alarm duration for timeout, defined in the event setup menus
**t reaction**: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

## Timeout Mode




**t Event**: Duration of alarm input source (contact, system events...)
**t Duration**: Alarm duration for timeout, defined in the event setup menus
**t reaction**: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

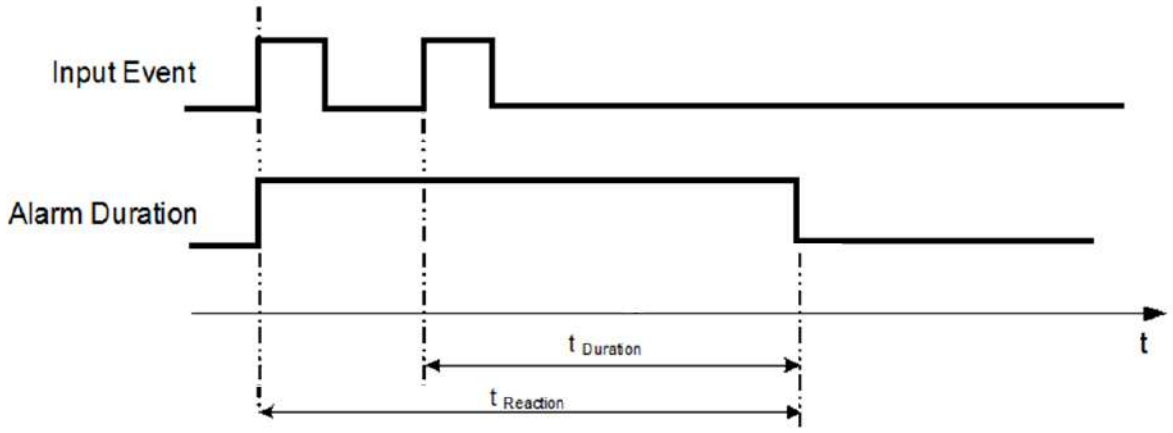
## Permanent Mode




**t Event**: Duration of alarm input source (contact, system events...)
**t Duration**: Alarm duration for timeout, defined in the event setup menus
**t reaction**: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

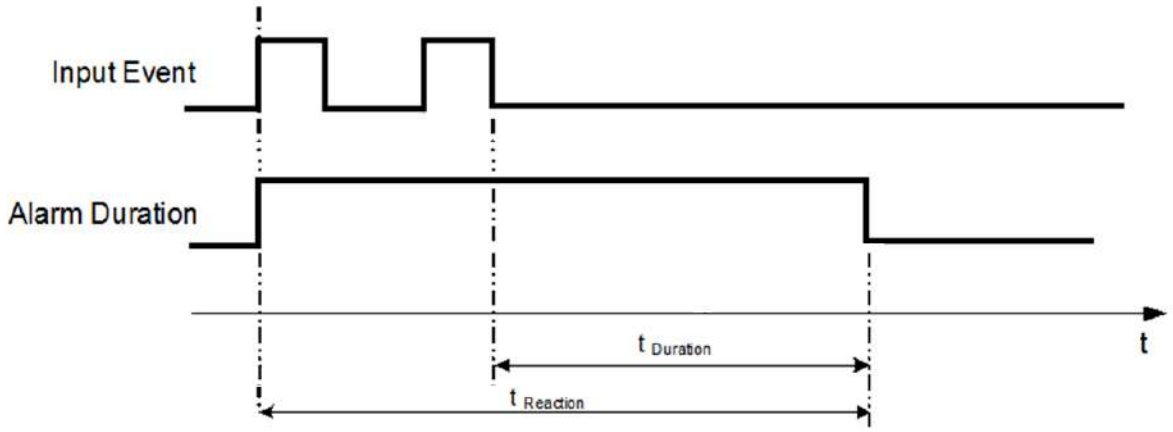
**Note:** Alarm will remain active until the user presses the “Enter” key on the IR Remote Control or resets the alarm remotely.

**Timeout Mode: Retrigger of Alarms**




$t_{Event}$: Duration of alarm input source (contact, system events...)
$t_{Duration}$: Alarm duration for timeout, defined in the event setup menus
$t_{reaction}$: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

**Timeout+Transparent Mode: Retrigger of Alarms**




$t_{Event}$: Duration of alarm input source (contact, system events...)

$t_{Duration}$: Alarm duration for timeout, defined in the event setup menus
$t_{reaction}$: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Appendix

D

# Appendix D: Express Setup Recording Value Selection Rules

### *Case 1:*

### *Record Mode: Normal + Event  Record With: Recording days*

**The mobile DVR will Auto adjust image Quality and Event frame rate to match the number of Recording days which user selected:**

According to resolution, event hours and other assumptions above, the mobile DVR will attempt to select one set of suitable quality and event frame rate by checking if set 1 meets the requirements, and proceed in order unit the requirements are met. If the mobile DVR can't match the required record days from one of the 8 sets, it will use set 8.

| Checking Order | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Normal Frame Rate | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Quality | Superior | Standard | Low | Low | Low | Low | Low | Low |
| Event Frame Rate | 30 | 30 | 30 | 15 | 10 | 7.5 | 5 | 1 |

### *Case 2:*

### *Record Mode: Event Only  Record With: Recording days*

**Mobile DVR will Auto adjust Quality and Event frame rate to match the Recording days which user need:**

According to resolution, event hours and other assumptions above, the mobile DVR will attempt to select one set of suitable quality and event frame rate by checking if set 1 meets the requirements, and proceed in order unit the requirements are met. If the mobile DVR can't match the required record days from one of the 8 sets, it will use set 8.

| Checking Order | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Quality | Superior | Standard | Low | Low | Low | Low | Low | Low |
| Event Frame Rate | 30 | 30 | 30 | 15 | 10 | 7.5 | 5 | 1 |

***Case 3:***

***Record Mode: Normal + Event or Event Only***

***Record With: Preset Setting***

Mobile DVR will apply the settings in the table below to all cameras according to the Preset Settings.

| Preset Setting Option | Camera Item | Apply Value |
|---|---|---|
| Best Quality | Quality | Superior |
| | Normal Frame Rate | Max recording frame rate of mobile DVR |
| | Event Frame Rate | 30 |
| Standard Quality | Quality | Standard |
| | Normal Frame Rate | Half of max recording frame rate of mobile DVR |
| | Event Frame Rate | 30 |
| Extended Quality | Quality | Basic |
| | Normal Frame Rate | 1 |
| | Event Frame Rate | 10 |

# Appendix E: IR Remote Control

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

**MDVR Device Number:** The ID number here must correspond to the "IR Remote ID" in "I/O Control Setup Menu". The buttons are used to select a mobile DVR when there is more than one unit. Selecting an incorrect unit ID will prevent the mobile DVR from responding to commands from the remote.

**Channel keys:** #1~4. Press to display that channel in full screen.

**To use the IR remote control, you need to set up the setting as below:**

1. On the OSD menu, go to **System** > **System Setting** > **IO Control**.
2. Set up an **IR Remote ID** (Range 1~4), for example, set up "2".
3. Click **Save**.
4. Take the remote control to aim at the IR receiver of the mobile DVR.
5. Press the **MDVR Device Number** button "2".
6. Now, you will be able to use this remote control to operate the mobile DVR.

Appendix

F

# Appendix F: RTSP URL Syntax

EverFocus provides 2 / 4 / 8 / 12 / 16 / 32 channels DVR, NVR or Mobile DVRs. The RTSP URL Syntax of EverFocus' DVR, NVR and Mobile DVR are listed as below:

**2CH MDVR:**

| | |
|---|---|
| Main Stream | rtsp://[device-ip-address]/3GPP/[channel-number 0~1]<br>* [device-ip-address] is the IP address of the MDVR<br>* [channel-number 0~1] is the channel number of the MDVR. 0 for channel 1, 1 for channel 2. |
| Sub Stream | rtsp://[device-ip-address]/3GPP/[channel-number 2~3]<br>* [device-ip-address] is the IP address of the MDVR<br>* [channel-number 2~3] is the channel number of the MDVR. 2 for channel 1, 3 for channel 2, and so on. |

**4CH DVR / NVR / MDVR:**

| | |
|---|---|
| Main Stream | rtsp://[device-ip-address]/3GPP/[channel-number 0~3]<br>* [device-ip-address] is the IP address of the DVR/NVR/MDVR<br>* [channel-number 0~3] is the channel number of the DVR/NVR/MDVR. 0 for channel 1, 1 for channel 2, and so on. |
| Sub Stream | rtsp://[device-ip-address]/3GPP/[channel-number 4~7]<br>* [device-ip-address] is the IP address of the DVR/NVR/MDVR<br>* [channel-number 4~7] is the channel number of the DVR/NVR/MDVR. 4 for channel 1, 5 for channel 2, and so on. |

**8CH DVR / NVR / MDVR:**

| | |
|---|---|
| Main Stream | rtsp://[device-ip-address]/3GPP/[channel-number 0~7]<br>* [device-ip-address] is the IP address of the DVR/NVR/MDVR<br>* [channel-number 0~7] is the channel number of the DVR/NVR/MDVR. 0 for channel 1, 1 for channel 2, and so on. |
| Sub Stream | rtsp://[device-ip-address]/3GPP/[channel-number 8~15]<br>* [device-ip-address] is the IP address of the DVR/NVR/MDVR<br>* [channel-number 8~15] is the channel number of the DVR/NVR/MDVR. 8 for channel 1, 9 for channel 2, and so on. |

**12CH MDVR:**

| | |
|---|---|
| Main Stream | rtsp://[device-ip-address]/3GPP/[channel-number 0~11]<br>* [device-ip-address] is the IP address of the MDVR<br>* [channel-number 0~11] is the channel number of the MDVR. 0 for channel 1, 1 for channel 2, and so on. |
| Sub Stream | rtsp://[device-ip-address]/3GPP/[channel-number 12~23]<br>* [device-ip-address] is the IP address of the MDVR<br>* [channel-number 12~23] is the channel number of the MDVR. 12 for channel 1, 13 for channel 2, and so on. |

**16CH DVR / NVR / MDVR:**

| | |
|---|---|
| Main Stream | rtsp://[device-ip-address]/3GPP/[channel-number 0~15]<br>* [device-ip-address] is the IP address of the DVR/NVR/MDVR<br>* [channel-number 0~15] is the channel number of the DVR/NVR/MDVR. 0 for channel 1, 1 for channel 2, and so on. |
| Sub Stream | rtsp://[device-ip-address]/3GPP/[channel-number 16~31]<br>* [device-ip-address] is the IP address of the DVR/NVR/MDVR<br>* [channel-number 16~31] is the channel number of the DVR/NVR/MDVR. 16 for channel 1, 17 for channel 2, and so on. |

**32CH DVR / NVR:**

| | |
|---|---|
| Main Stream | rtsp://[device-ip-address]/3GPP/[channel-number 0~31]<br>* [device-ip-address] is the IP address of the DVR/NVR<br>* [channel-number 0~31] is the channel number of the DVR/NVR. 0 for channel 1, 1 for channel 2, and so on. |
| Sub Stream | rtsp://[device-ip-address]/3GPP/[channel-number 32~63]<br>* [device-ip-address] is the IP address of the DVR/NVR<br>* [channel-number 32~63] is the channel number of the DVR/NVR. 32 for channel 1, 33 for channel 2, and so on. |

Appendix

G

# Appendix G: Tested Card Brands

The mobile DVRs support SD / SDHC card up to 128GB. The following brands of the SD cards have been tested by EverFocus and are recommended to work with EverFocus mobile DVRs.

| Brand | SanDisk | Teamgroup | SanDisk | SanDisk | Transcend |
|---|---|---|---|---|---|
| **Form Factor** | SDXC | SDXC | SDHC/SDXC | SDHC/SDXC | SDHC/SDXC |
| **Card Capacity** | 128 GB | 64 GB | 32 GB | 32 GB | 32 GB |
| **Card Rate Level** | Class 10 | UHS-1 | Class 10 U1 | Class 2 | Class 10 U1 |

| Brand | SanDisk | Toshiba | Kingston |
|---|---|---|---|
| **Form Factor** | SDHC/SDXC | SDHC/SDXC | SDHC/SDXC |
| **Card Capacity** | 16 GB | 16 GB | 16 GB |
| **Card Rate Level** | Class 10 U1 | U3 | Class 10 U1 |

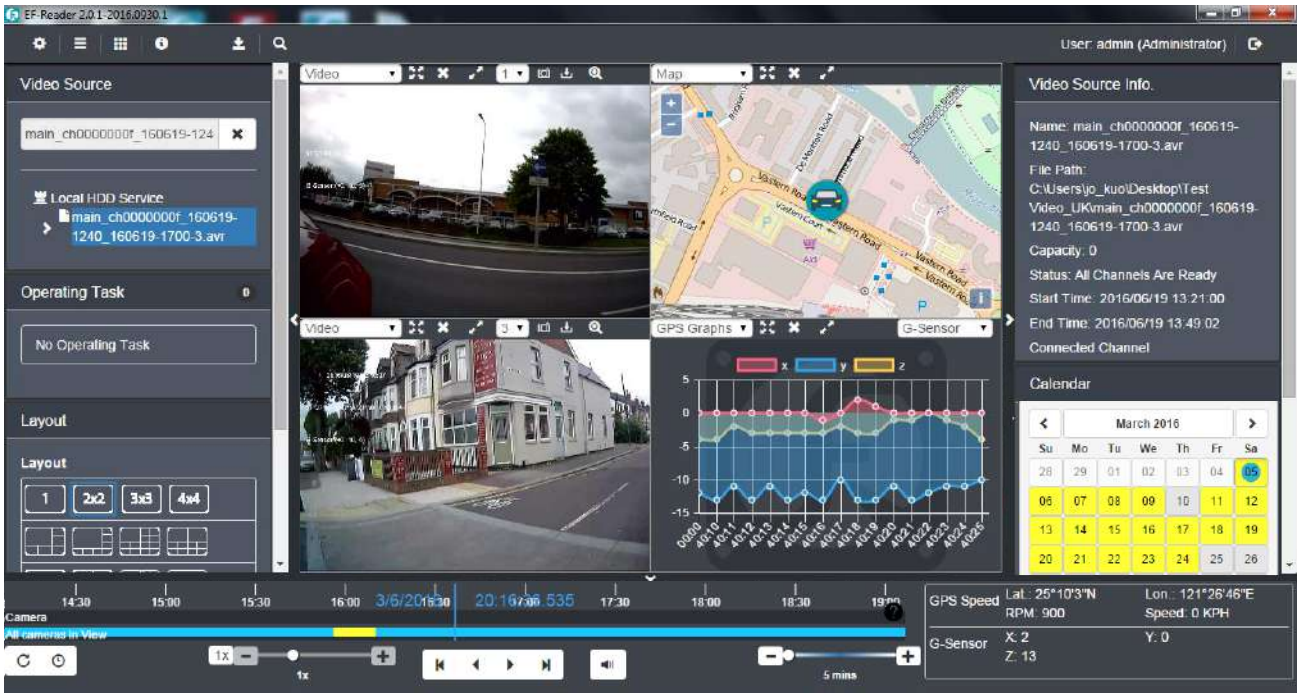
Appendix

H

# Appendix H: Recording Backup through EF-Reader

EverFocus EF-Reader is an enhanced HDD reader enabling users to access HDDs / SD cards locally or remotely and further play back the recordings. Users granted with privileges are allowed to log in the EF-reader and operate the specific functions. The EF-Reader supports AVI, MP4 and AVR file formats. Moreover, the meta data or the GPS data from the source recordings can also be played back on the Playback Window graphically; or be exported in .kml (GPS data) files.

The EF-Reader supports various functions including Event Search, Archive, AB Repeat Playback, Format Convert, Mask, Watermark and etc.. To know more about EF-Reader, please refer to *EF-Reader User's Manual*.



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