EMV1200FHD-N / EMV800FHD-N

12CH/8CH Hybrid Mobile DVR

User's Manual

EverFocus

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EVERFOCUS ELECTRONICS CORPORATION

EMV1200FHD-N / EMV800FHD-N
Hybrid Mobile DVR

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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 9-36 VDC.

- **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

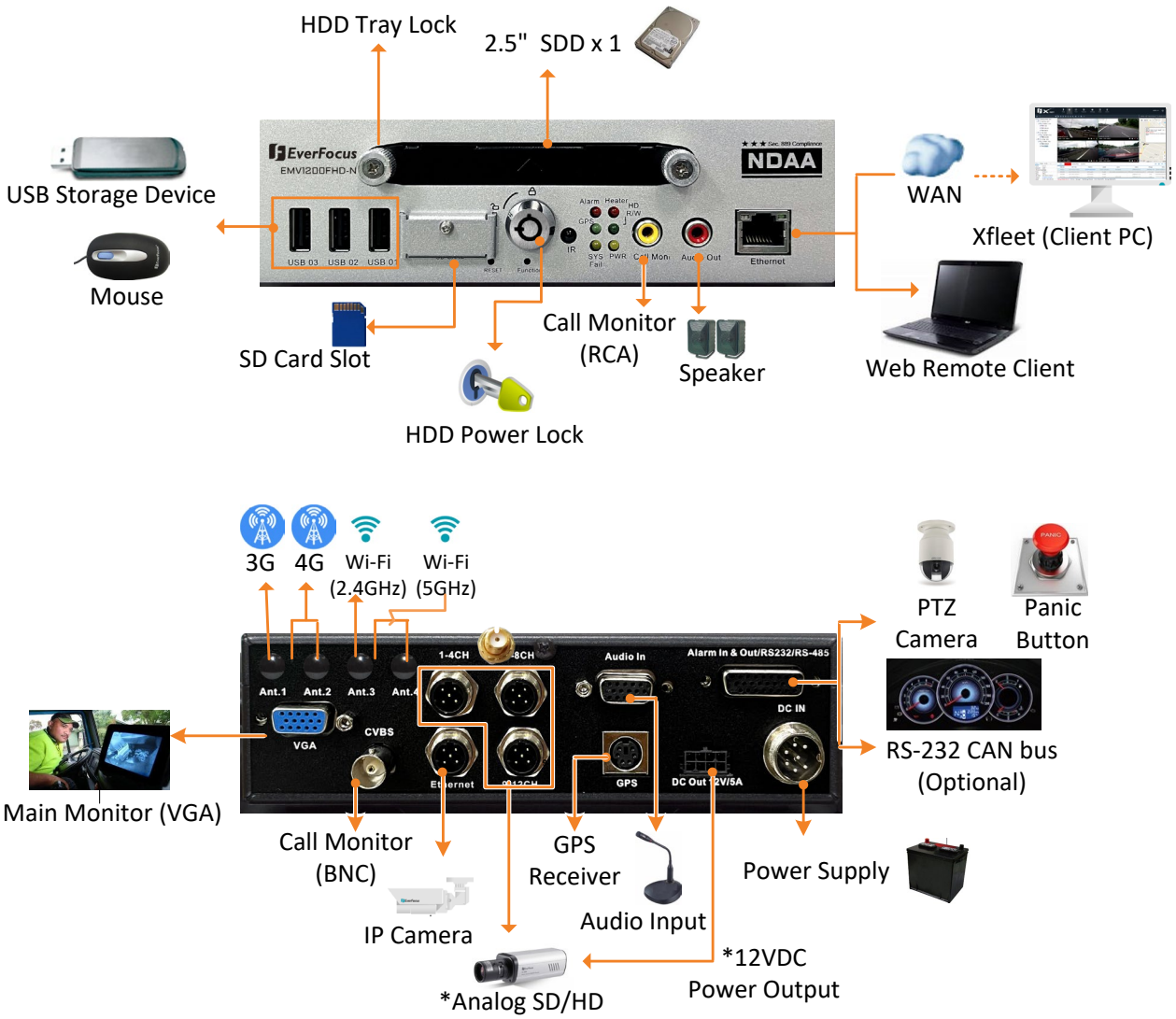
The latest EverFocus digital video recorder generation is based on H.264 compression technology, resulting in enhanced recording capacity and improved network image transmission speed with high image quality. The EMV800FHD-N / EMV1200FHD-N can support both of analog (AHD/TVI/SD) and IP cameras, delivering up to 1080p (analog) and up to 4MP (IP) image quality.

Its comprehensive features along with the embedded 3-axis g-sensor function enable the almost universal application of this mobile DVR series. It supports various interfaces such as alarm I/O, three USB ports, one RS-485 and three RS-232 for connecting to devices such as Panic Button or CAN bus. You can also optionally connect GPS receiver, 3G, 4G and Wi-Fi Antenna to the mobile DVR. The design of RCA video/audio outputs at front panel makes your installation easy. You can install one 2.5”hard disk or SSD in the mobile DVR. You can also install one SD Card for alarm event backup recording. The User Interface has been specially designed to fit mobile small-sized monitor.

EMV800FHD-N / EMV1200FHD-N are equipped with anti-shock and anti-vibration housing. The aviation M12 connectors are also equipped. The power supply supports voltage regulator, and delay on/off. In addition, the mobile DVRs are SAE-J1455, EN50155, E-Mark, 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. You can also use EverFocus EF-Reader to remotely back up recordings from the HDD/SD card of the mobile DVRs. The mobile DVR series is the ideal solution for your mobile surveillance needs.

System Diagram



* The EMV800FHD-N / EMV1200FHD-N have 4 power output sets (+/-) to power-up the connected cameras. A total of 12VDC, 5A power output is provided. Please refer to *2.5.2 Video Cable / Power-Out Cable* for more details.

1.1 Features

- Supports AHD/TVI/SD analog (up to 1080p)
- eZ.Controller function: Control camera OSD settings and PTZ operation directly from DVR (refer to *6.1.5.1 eZ.Controller*)
- Supports r SSD (up to 4TB)
- Provides one 2Gb Ethernet port (RJ45&M12)
- 3-axis G-sensor embedded
- Internal temperature control (built-in 2 heaters)
- IR remote control function
- M12 Aviation connectors adopted
- Supports mobile applications (MobileFocus)
- Certificates: CE, FCC, EN50155, E-Mark, MIL-STD-810G (shock & vibration only)*
- 4G,5G LTE function / GPS function / Wi-Fi function (Optional) **

* Requires an external 4G / Wi-Fi antenna and GPS receiver. Please refer to *1.3 Optional Accessories*.

1.2 Packing List

- Mobile DVR x 1
- HDD Tray Lock Key x 2 (with 4 screws for screwing HDD. See *2.2 Hard Disk Installation*)
- HDD Power Lock Key x 2 (with 4 black screws and 8 spacers for mounting the mobile DVR. See *2.1.1 Mounting*)
- IR Remote Control (with two AAA batteries. See Note 4) x 1
- Power Harness Cable x 1
- Video Cable x 3 (EMV1200FHD-N); x2 (EMV800FHD-N) (see *2.5.2 Video Cable / Power-Out Cable*)
- Audio Cable x 1 (see *2.5.3 Audio Cable*)
- D-Sub Cable x 1 (see *2.5.4 D-Sub Cable*)
- Power-Out Cable x 1 (see *2.5.2 Video Cable / Power-Out Cable*)

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

1.3 Optional Accessories

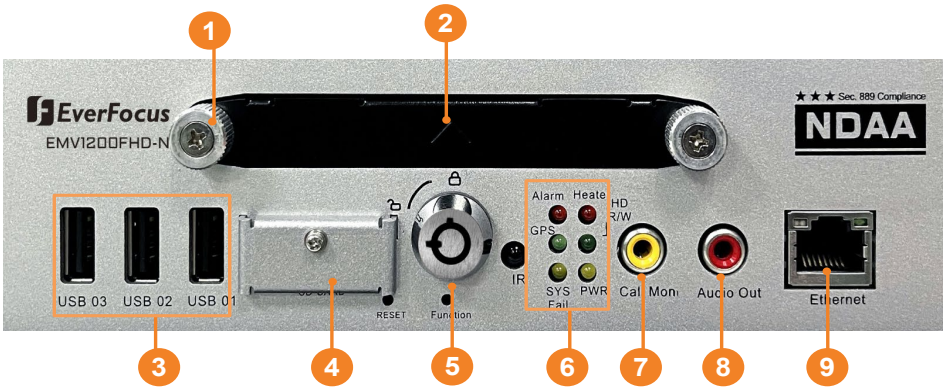
The mobile DVRs feature Wi-Fi/4G function. You can optionally connect Wi-Fi/4G module and antenna to the mobile DVR for networking, or connect a GPS receiver for GPS function.

- **GPS Receiver (LS23035):** For using GPS function

- **4G Antenna:** For using 4G LTE network (LTE frequency bands differ among regions)

- **Wi-Fi Antenna:** For using Wi-Fi function

1.4 Front Panel



EMV800FHD-N / EMV1200FHD-N

No.	Name	Description
1	**HDD Tray Lock**	Lock or unlock the HDD tray. To power on the HDD, the **HDD Power Lock** (No.1) has to be locked.
2	**HDD Tray**	Install a 2.5" HDD (up to 2TB) or SSD (up to 4TB) for recording.
3	**USB2.0 Port**	Three USB2.0 ports for connecting to the USB storage device or mouse.
4	**SD Card Slot**	Insert a SD / SDHC card (up to 128GB) for alarm event backup recording (see *2.3 SD Card Installation*). To see the SD card info, see *6.4.2 SD Card*. To enable the SD card function, see *6.3.1 Alarm*. You can also download the **Storage Compatibility Table** from EverFocus' Website www.everfocus.com, and go to Support > Product Marketing to search for and download the Storage Compatibility Table.
5	**HDD Power Lock**	Lock to power on the HDD. After locking the **HDD Tray Lock** (No.2), lock the **HDD Power Lock** to power on the HDD. The HDD power indicator will light in blue to indicate the HDD power is on. **Note:** Only when the **HDD Power Lock** is locked will the system start to record on the HDD.
6	**System LEDs**	• **Alarm:** Turns on when the connected alarm I/O is triggered; turns off when the alarm I/O stops being triggered. • **GPS:** Turns on continuously when the mobile DVR is receiving GPS data. • **System Fail:** Turns off when system is acting normally. Turns on when these events occur: System Clock Error / Fan Fail / Disk Temperature Over / Disk Fail / Disk Off / Network Loss. • **Heater:** Blinks when heater on; off blinking when heater off. • **HD R/W:** Blinks when the HDD is reading or writing. • **Power:** Turns on continuously when the power is supplied. Blinks when Battery power error occurs (lower than 9V or higher than 36V) or 12VDC power supply error.
7	**Call Monitor (RCA)**	By default, this port is set to a Call monitor output. Connects to a Call monitor using a RCA cable. **Note:** You can optionally switch this port from Call monitor to Main monitor. Please refer to *2.6 Monitor Connection* for more details.
8	**Audio Out**	RCA audio output for connecting to the speakers. The audio output only works during playback. Speakers with a (built-in) amplifier and external power supply are required.
9	**Ethernet Port (WAN)**	One RJ-45 port for connecting to the network.

1.5 Rear Panel

EMV800FHD-N

EMV1200FHD-N

No.	Name	Description
1	**Antenna 1 (3G/4G)**	Connects to the 3G or 4G Antenna for using 3G / 4G LTE function.
2	**Antenna 2 (4G)**	Connects to the 4G Antenna for using 4G LTE function. Note that the 4G function is required to use both Antenna 1 and 2.
3	**Antenna 3 (Wi-Fi) (2.4GHz / 5GHz)**	Connects to the Wi-Fi Antenna for using Wi-Fi (2.4GHz / 5GHz) function.
4	**Antenna 4 (Wi-Fi) (5GHz)**	Connects to the Wi-Fi Antenna for using Wi-Fi (5GHz) function. Note that the 5GHz Wi-Fi function is required to use both Antenna 3 and 4.
5	**Audio Input**	D-Sub connector for connecting to the supplied Audio Cable. For details, please refer to *2.5.3 Audio Cable*. Microphones with a (built-in) amplifier and external power supply are required.
6	**D-Sub Connector**	D-Sub connector for connecting to the Alarm I/O, RS-232 (CAN bus) or RS-485 devices (such as analog PTZ cameras). For details, please refer to *2.5.4 D-Sub Cable*.
7	**Main Monitor (VGA)**	By default, this port is set to a Main monitor output. Connects to a Main monitor using a VGA cable.

		Note: You can optionally switch this port from Main monitor to Call monitor. Please refer to *2.6 Monitor Connection* for more details.
8	**Call Monitor (CVBS)**	By default, this port is set to a Call monitor output. Connects to a Call monitor using a BNC cable. **Note:** You can optionally switch this port from Call monitor to Main monitor. Please refer to *2.6 Monitor Connection* for more details.
9	**Ethernet Port (LAN)**	M12 connector for connecting to IP cameras. For details, please refer to *2.5.5 Ethernet Cable*.
10	**Video Input**	M12 connector for connecting to the supplied Video Cable. You can then connect analog HD / SD cameras to the Video Cable. Please refer to *2.5.2 Video Cable / Power-Out Cable*.
11	**GPS Data Input**	Connector for connecting to the GPS receiver. For details, please refer to *2.5.7 GPS Cable*.
12	**12VDC Power Outputs**	A total of 12VDC, 5A power supply to the connected cameras. Please refer to *2.5.2 Video Cable / Power-Out Cable*.
13	**DC Power Input**	Use the supplied Power Harness Cable for connecting to 9 ~ 36VDC power source. For details, please refer to *2.4 Vehicle Connection*.

Chapter 2

2. Getting Started

2.1 Installation

Before installation, choose a location in the vehicle where it can:

- Provide convenient access for installing or removing the hard disk
- Allow air to flow around the device. Inadequate or improper air flow can impede proper operation of the mobile DVR

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

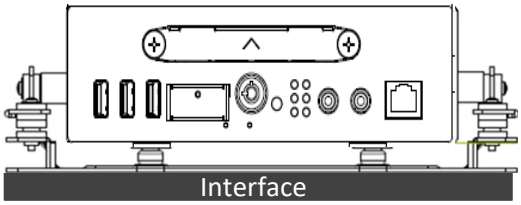
The following table lists the recommended location options in the vehicle:

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

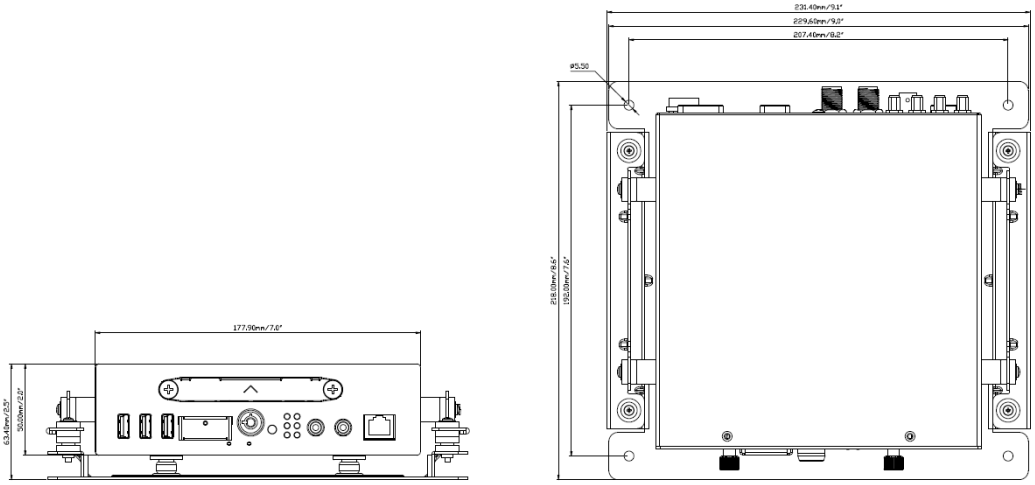
Note: Do not install the mobile DVR on the floor or on the transmission access hatch. These locations have the highest levels of vibration and may be subject to water damage.

2.1.1 Mounting

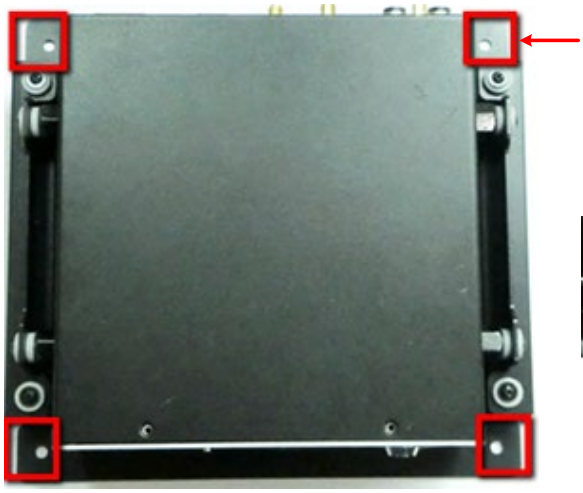
You can mount the mobile DVR onto a surface inside the vehicle. Please note that to meet the MIL-STD-810G standard for the mobile DVR, the **Bracket** on the MDVR is required to be used.

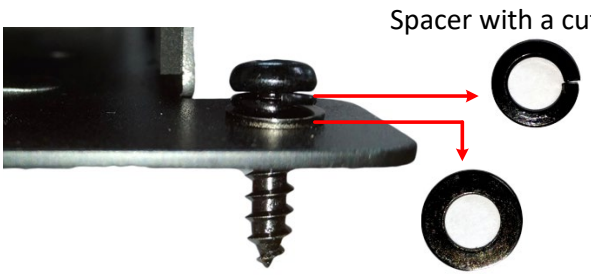


- **Dimensions:**



Installation: The **Bracket** is already installed on the mobile DVR. To mount the mobile DVR onto a surface, use the supplied 4 black screws and 8 spacers (place 2 spacers on each screw hole).





2.2 Hard Disk Installation

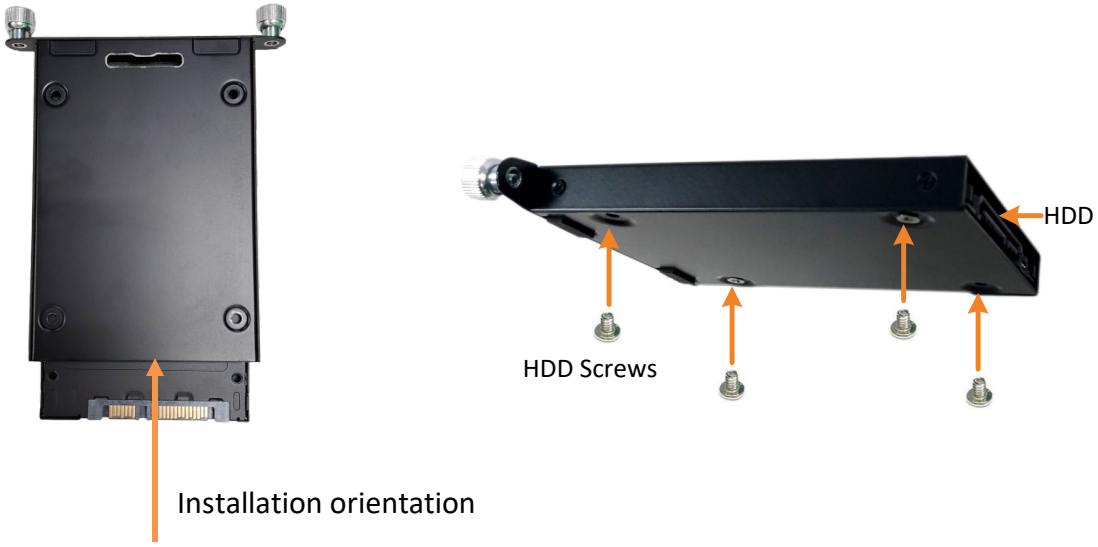
You can insert a 2.5” HDD (up to 2TB) or SSD (up to 4TB) into the HDD tray for video recording. Please follow the steps below.

Note:

1. The mobile DVR does not support hot swap for the hard disk. Ensure to power off the mobile DVR before removing the hard disk. Also ensure to remove the hard disk only after the power is completely shut-off. This would protect and extend the operating life of the hard disk.
2. Please go to EverFocus’ Website www.everfocus.com.tw, and go to Support > Product Marketing to search for and download the Storage Compatibility Table. It’s recommended to use the HDD/SSD models listed on the Storage Compatibility List to ensure your storage will be compatible.

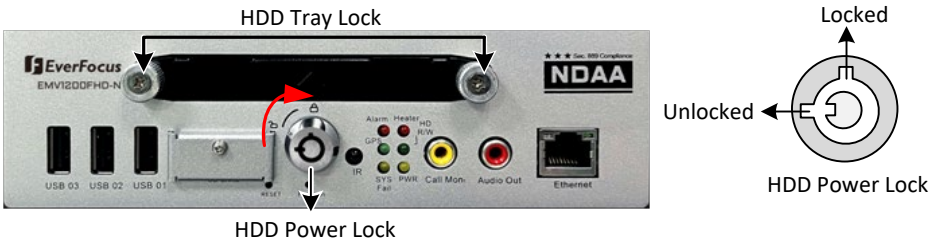
1. Make sure the mobile DVR is powered-off. Unlock the HDD Power Lock using the supplied **HDD Power Lock Key**. Use the supplied **HDD Tray Lock Key** to unlock the HDD Tray.

2. Insert a HDD in the HDD Tray and then screw the HDD to the tray with the supplied 4 screws.



3. Insert the HDD Tray into the drive bay and close the **Locking Arm.** Please place it in the correct orientation according to the arrow direction.

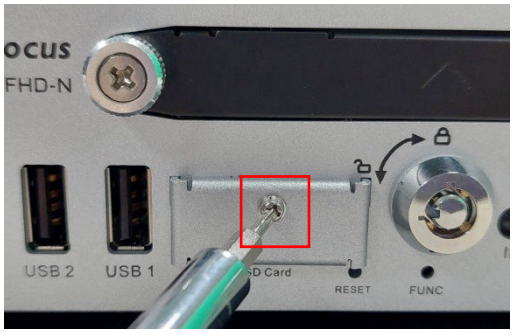
4. Lock the **HDD Tray Lock** and **HDD Power Lock** before you power on the mobile DVR.



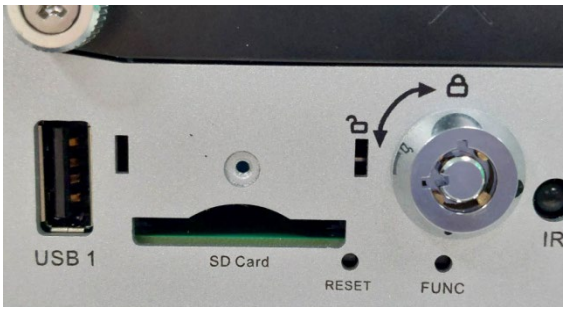
2.3 SD Card Installation

The mobile DVRs provide SD card function for Alarm event backup recording. Please follow the steps below to install the SD Card. Up to 128 GB SD / SDHC cards are supported. You can also download the **Storage Compatibility Table** from the product page (click Download) to see the tested card brands. www.everfocus.com.tw

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



2. Insert a SD card.

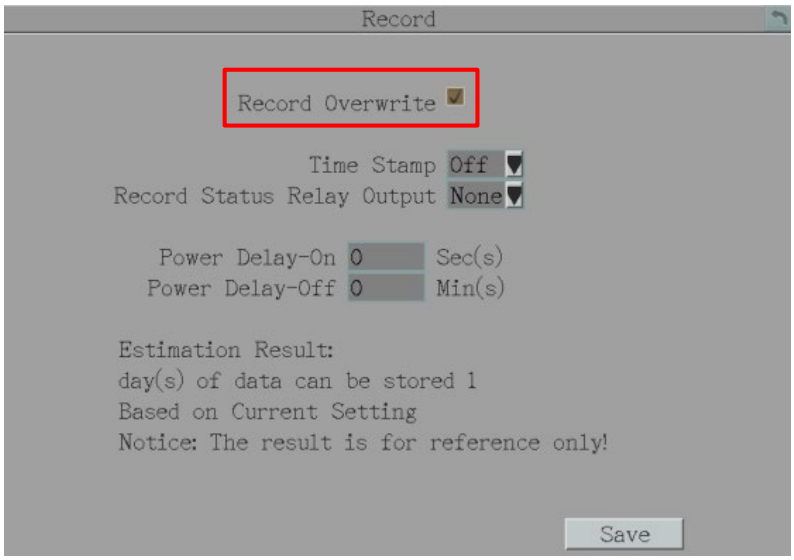


3. Screw back the SD card protection plate. The SD card installation is now complete.

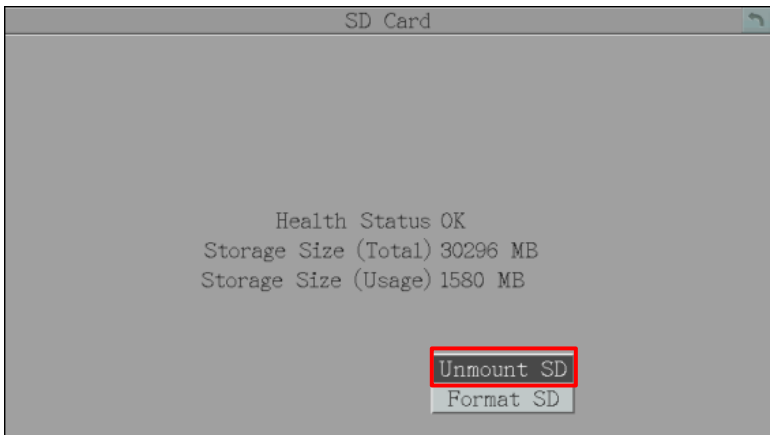
The Mobile DVR will automatically detect when a new SD card has been inserted and the below SD card format message will pop-up. Click **Yes** to format the SD card. The formatting process will take about 30 ~ 60 seconds. Note that only the formatted SD card can be used for alarm event backup recording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

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

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



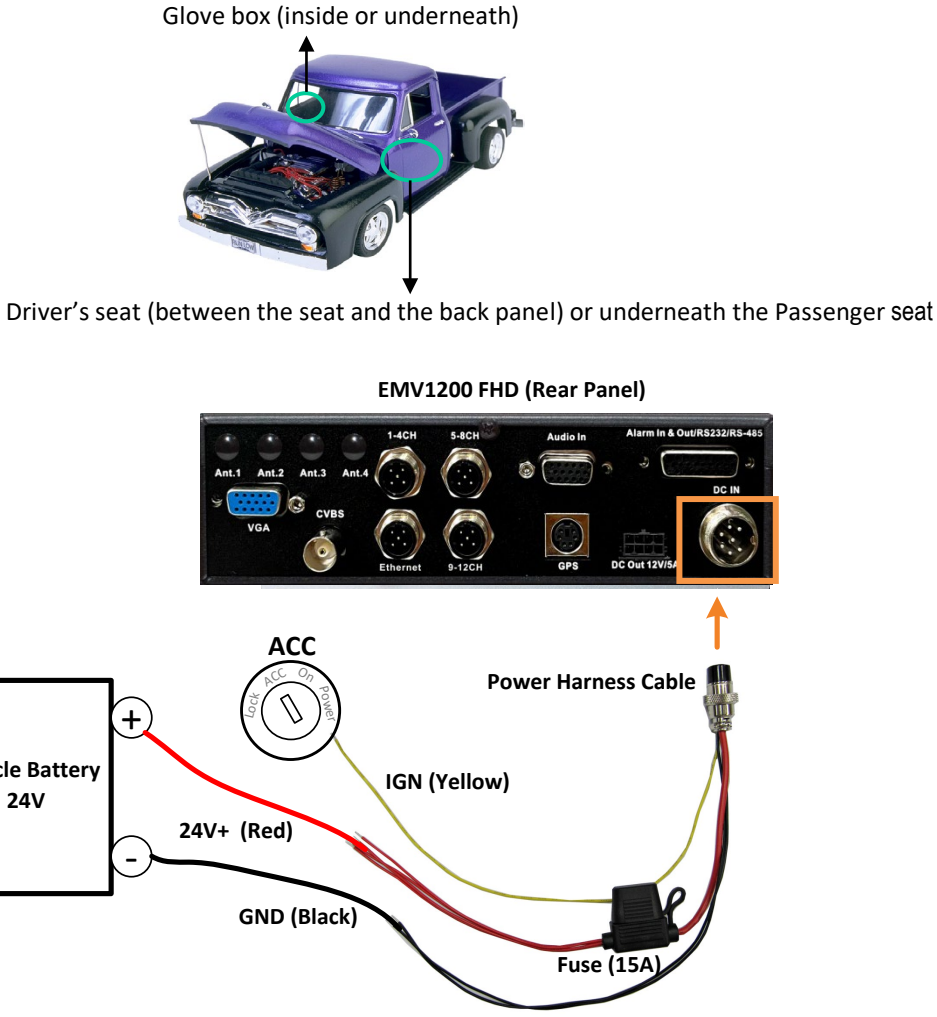
To remove the SD card, please go to the OSD menu: System < Storage < SD Card, and click the **Unmount SD** button. Then you can safely remove the SD card from the mobile DVR.



2.4 Vehicle Connection

The mobile DVR supports input power voltage between 9 VDC ~ 36 VDC. 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 car / truck with 12 VDC / 24 VDC.
* The following figures are using EMV1200FHD-N for example; the differences between the two models are the numbers of video input and audio input.

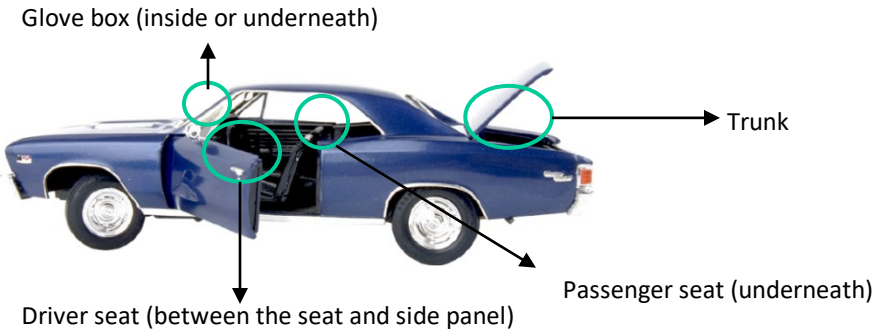
2.4.1 Connecting to a Truck with 24 VDC

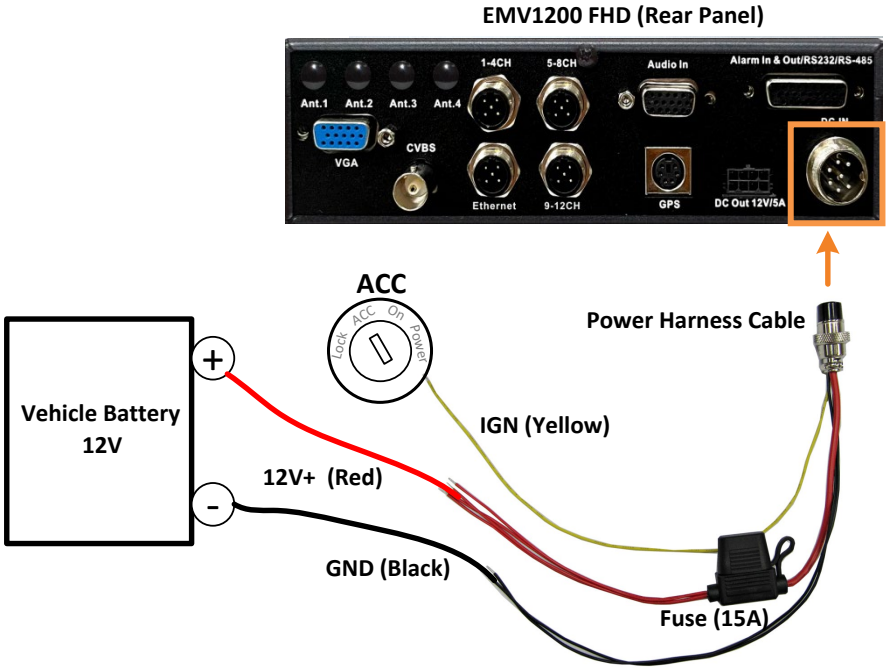


Note:

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. Please note that since the power of mobile DVR is directly connected to the vehicle battery, the mobile DVR will always draw power (2.5mA) from the vehicle battery.

2.4.2 Connecting to a Car with 12 VDC



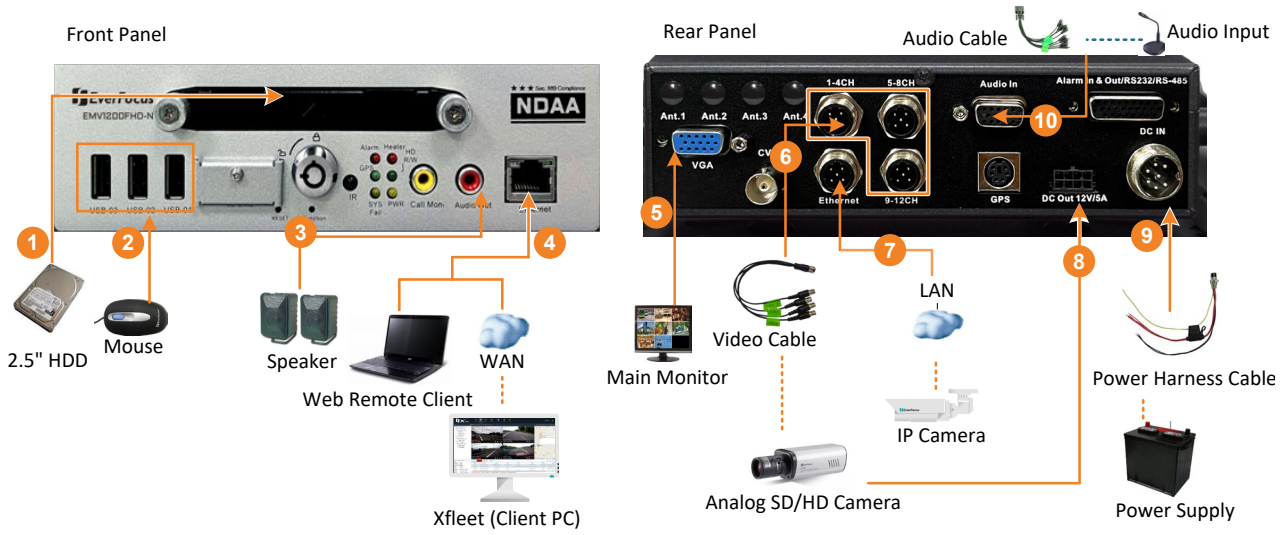


Note:

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. Please note that since the power of mobile DVR is directly connected to the vehicle battery, the mobile DVR will always draw power (2.5mA) from the vehicle battery.

2.5 Basic Connection

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



1. To record videos, insert a 2.5” HDD (or SSD) to the HDD tray. Remember to lock the HDD Key Lock after inserting the HDD or the recording will not start (see *2.2 Hard Disk Installation*).
2. To control the system, connect a mouse to the mobile DVR or use the supplied IR Remote Control.
3. To listen to audio of video source, connect a speaker to the Audio-out RCA socket. Note that the speaker with a (built-in) amplifier and external power is required.
4. To manage the mobile DVR over network, use a standard RJ-45 cable to connect the mobile DVR to the network.

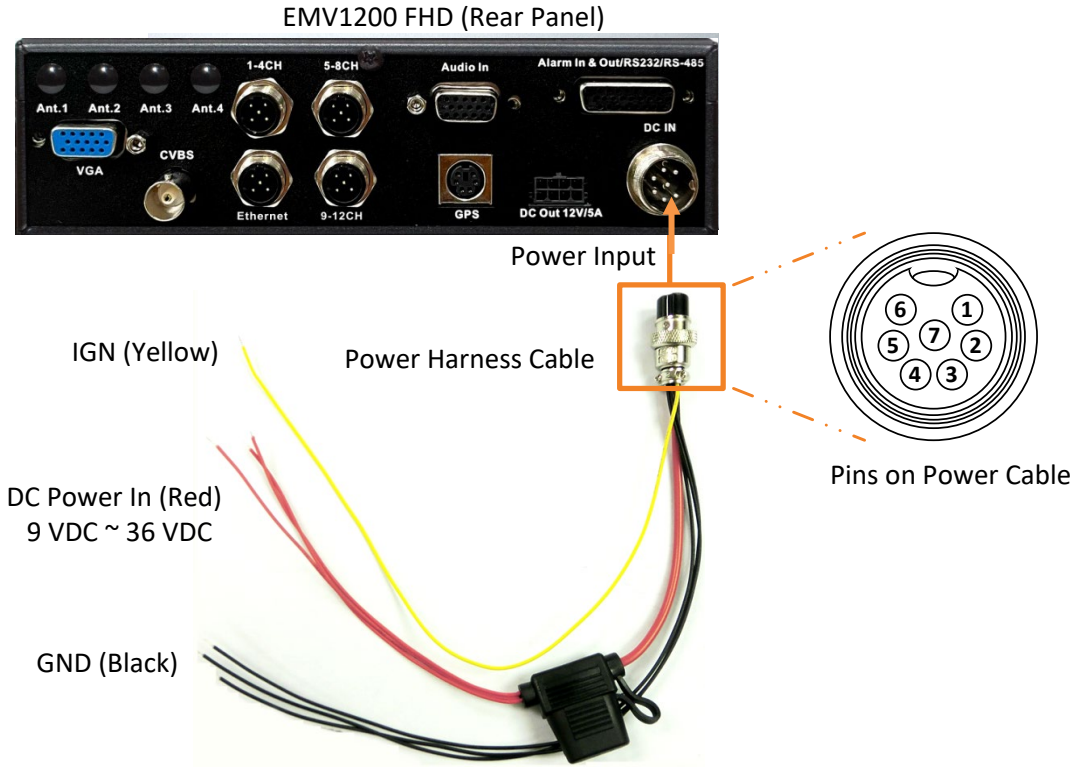
   Note: The mobile DVRs feature Wi-Fi/3G/4G function. You can optionally connect Wi-Fi/3G/4G module and antenna to the mobile DVR for networking.

5. To view videos, connect a monitor to the VGA port using the VGA cable supplied by the monitor manufacturer. You can also connect the monitor to other video out ports, please refer to *2.6 Monitor Connection*.
6. Connect the mobile DVR to the network for connecting to the IP cameras.
7. Connect the cameras to the mobile DVR using the supplied Video Cable. Please refer to *2.5.2 Video Cable / Power-Out Cable.*
8. To power on the cameras, connect the power inputs of the cameras to the 12VDC power outputs of the mobile DVR using the supplied Power-Out Cable, please refer to *2.5.2 Video Cable / Power-Out Cable.*
9. Connect the audio input devices to the mobile DVR using the supplied Audio Cable. Please refer to *2.5.3 Audio Cable*. Note that the microphone with a (built-in) amplifier and external power is required.
10. Connect the supplied Power Harness Cable to the power supply in the vehicle for powering the mobile DVR. For details on vehicle connection, please refer to *2.4 Vehicle Connection*.

2.5.1 Power Harness Cable

You can connect the mobile DVR to a power source between 9 VDC ~ 36 VDC.

(The following figure uses EMV1200FHD-N as an example)



Pin Assignment

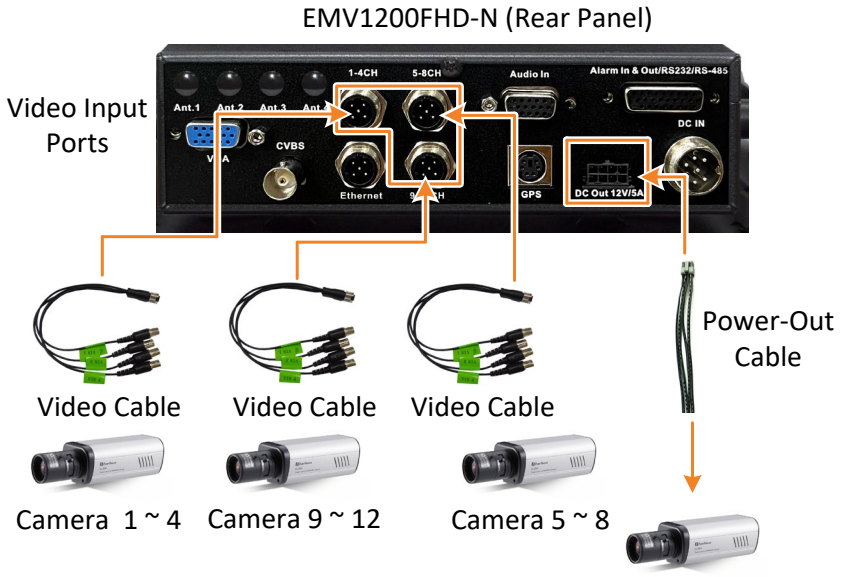
No.	Color	Description	No.	Color	Description
1	**Red**	DC Power Input	**5**	**Black**	GND
2	**Red**	DC Power Input	**6**	**Black**	GND
3	**Red**	DC Power Input	**7**	**Yellow**	IGN
4	**Black**	GND			

2.5.2 Video Cable / Power-Out Cable

You can use the supplied **Video Cables** to connect the analog cameras to the MDVR. EMV800FHD-N has 2 **Video In Ports** for connecting to 8 analog cameras; while EMV1200FHD-N has 3 **Video In Ports** for connecting to 12 analog cameras.

The Video Cables are all labeled with VIN 1~ VIN 4, and you can connect any Video Cable to any of the Video In ports on the mobile DVR. If the Video Cable connects to 5-8 CH Video In port, the cable labeled as VIN 1 will be channel 5 and so forth.

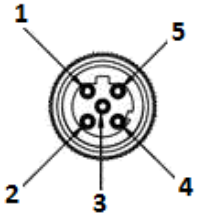
(The following figure uses EMV1200FHD-N as an example).



You can also use the supplied Power-Out Cable to power on the connected cameras. The Power-Out Cable provides four set of power output wires (+/-). A total of 12VDC, 5A power output is provided. You can optionally prepare the wires and connect the wires to the Power-Out pins for powering up more cameras.

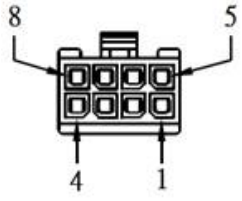
- (black)
+ (black with white stripe)

Video Input Pin Assignment



M12-5	1	2	3	4	5
Video	Vin1	Vin2	GND	Vin3	Vin4

Power-Out Pin Assignment

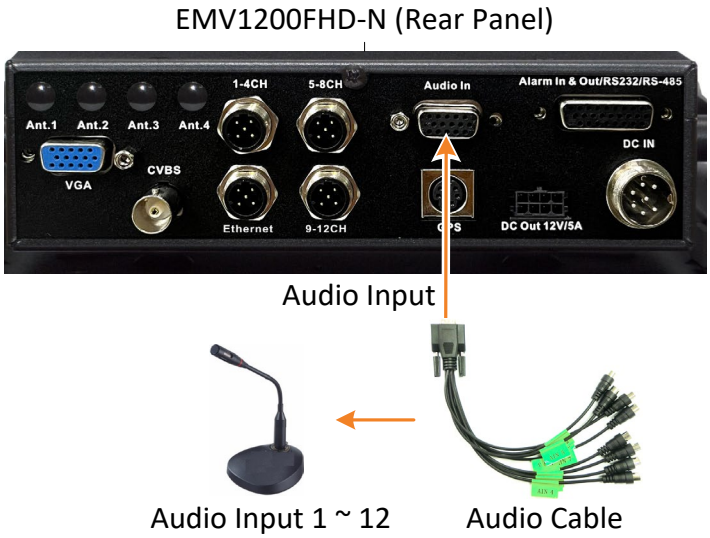


Pin 5 ~ 8: 12V
Pin 1 ~ 4: GND

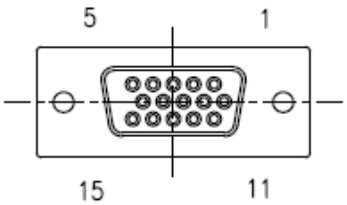
2.5.3 Audio Cable

The mobile DVRs have 1 Audio In port for connecting to microphones using the supplied **Audio Cable**. The Audio Cable is labeled with AIN 1~ AIN 12. Please be noted that Microphones with a (built-in) amplifier and external power supply are required.

The following figure uses EMV1200FHD-N as an example. The EMV1200FHD-N provides 12 audio inputs; while the EMV800FHD-N provides 8 audio inputs.



Pin Assignment



EMV800FHD-N

D-SUB	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Audio	Ain1	Ain2	Ain3	Ain4	Ain5	Ain6	Ain7	Ain8	GND	GND	GND	GND	GND	GND	GND

EMV1200FHD-N

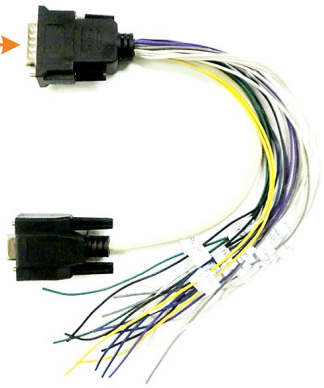
D-SUB	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Audio	Ain1	Ain2	Ain3	Ain4	Ain5	Ain6	Ain7	Ain8	Ain9	Ain 10	Ain 11	Ain 12	GND	GND	GND

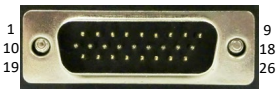
2.5.4 D-Sub Cable

You can connect the mobile DVR to the Alarm I/O, RS-232 or RS-485 devices using the supplied **D-Sub Cable**. The mobile DVR provides 8 alarm inputs, 2 alarm outputs, 3 RS-232 and 1 RS-485 connections. After connecting the devices to the system, please go to *6.7.5 I/O Control* to configure the settings.

EMV1200 FHD (Rear Panel)

D-Sub Cable





Pins on D-Sub Cable

RS-232 Tx/Rx #1 (D-Sub)
RS-232 Tx/Rx #2 (yellow wires)
RS-232 Tx/Rx #3 (green wires)
RS-485 (blue wires)
GND (black wires)
Alarm In 1 ~ 8 (white wires)
Alarm Out 1 (gray wires)
Alarm Out 2 (purple wires)

26 Pins on D-Sub Cable					
Pin	**Pin Assignment**		**Pin**	**Pin Assignment**	
1	Alarm Output	N.O. 1	**14**	Alarm Input	Alarm in 5
2		COM 1	**15**		Alarm in 6
3		N.C. 1	**16**		Alarm in 7
4		N.O. 2	**17**		Alarm in 8
5		COM 2	**18**	GND	
6		N.C. 2	**19**	RS-232 Tx #2 (see Note 2)	
7	D-Sub (see Note 1)	RS-232 Tx #1	**20**	RS-232 Rx #2 (see Note 2)	
8		RS-232 Rx #1	**21**	GND	
9		GND	**22**	RS-232 Tx #3	
10	Alarm Input	Alarm in 1	**23**	RS-232 Rx #3	
11		Alarm in 2	**24**	GND	
12		Alarm in 3	**25**	RS-485_A (+)	
13		Alarm in 4	**26**	RS-485_B (-)	

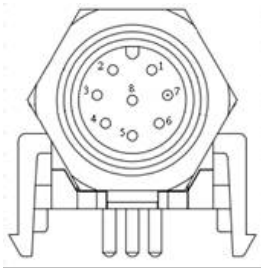
Note:

1. If you want to connect OBDII or CAN bus, please use RS-232 #1 (D-Sub connector). The OBDII and CAN bus should be the EverFocus approved ones. Please contact EverFocus for more details. ts@everfocus.com.tw
2. For TPMS connection, please use RS-232 #2 (PIN19/PIN20).

2.5.5 Ethernet Cable

The Ethernet Port (M12) on the rear panel can be used to connect to LAN network for connecting to IP cameras.

Pin Assignment



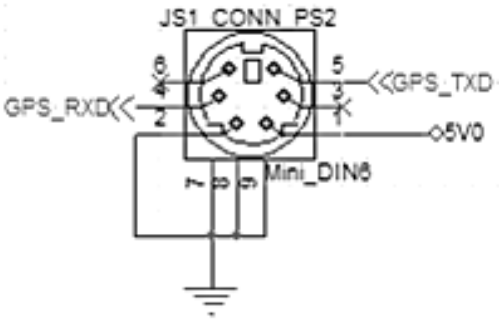
1	2	3	4
MX1+	MX1-	MX2+	MX2-
5	6	7	8
MX4+	MX4-	MX3-	MX3+

2.5.6 GPS Cable

Connect the GPS Receiver to the GPS port on the rear panel of the mobile DVR.

Note: To perform the GPS function, you will have to apply for the GPS Receiver (refer to *1.3 Optional Accessories*) and then configure the GPS settings (please refer to *6.7.5 I/O Control*) and GPS event setting (please refer to *6.3.4 GPS*) in advance.

Pin Assignment

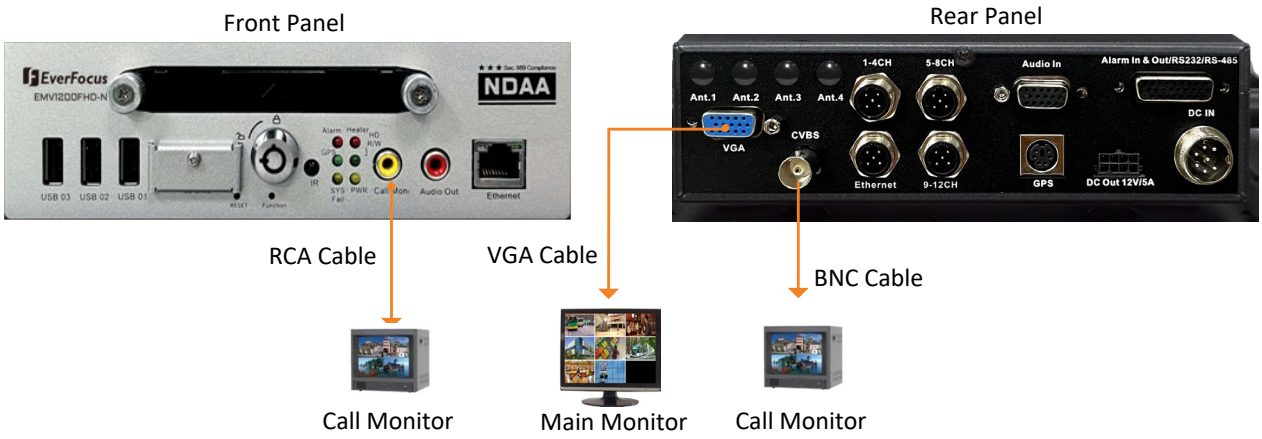


2.6 Monitor Connection

By default, the mobile DVRs provide 1 Main Monitor port (VGA) and 2 Call monitor ports (BNC and RCA). All of the Main and Call Monitor ports can be used simultaneously.

System configuration can only be operated on the Main Monitor. Call monitor can only display camera streams or perform sequence display mode. The two call monitor outputs provide the identical functionality.

Make sure that the connected monitor's specifications comply with these resolution requirements. (This figure uses EMV1200FHD-N mobile DVR as an example).

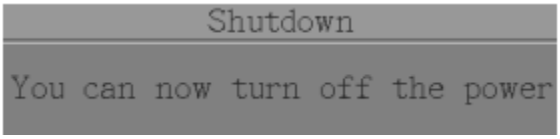


You can also optionally switch the RCA / BNC video output from call monitor to main monitor; and mean while, switch the VGA video output from main monitor to call monitor. To do this, press the **Function Key** on the front panel for 3 seconds, the system will start rebooting. Once the system reboot process is complete, the Main and Call monitors will be switched (see image below). To switch back the main and call monitors, press the button for 3 seconds again.

2.7 Turning On / Off the Power

Before powering on the mobile DVR, please make sure the internal HDD 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 start setting up the menu options for the mobile DVR.

To turn off the power, please go to OSD Root Menu > System > Sys Setting > Miscellaneous setting page, and click **Shutdown** (refer to *6.7.7 Miscellaneous*). After the message pops up as below, you can now turn off the power source.



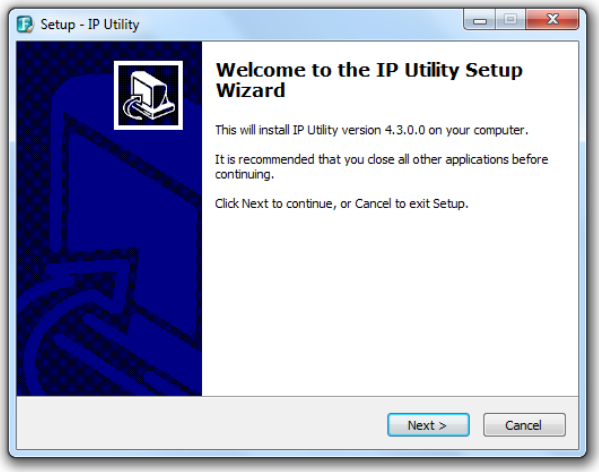
Note that when the mobile DVR is placed in an environment where temperature is very low (for example, -40°C, the mobile DVR will NOT turn on immediately.)

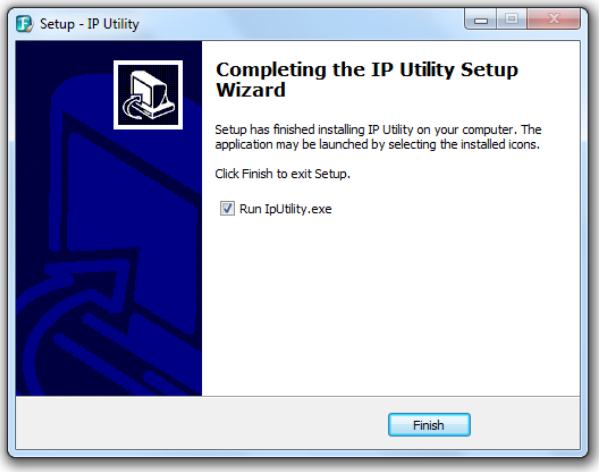
2.8 Accessing the Mobile DVR

You can look up the IP address and access the Web interface of the mobile DVR using the **IP Utility (IPU)** program, which is included in the software CD. The IP Utility can also be downloaded from EverFocus' Website EverFocus website (key word search: "IP Utility").

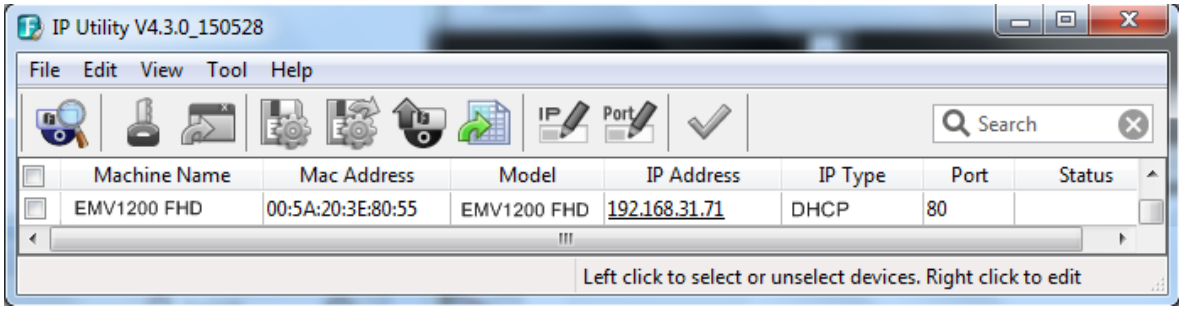
Please connect the mobile DVR on the same LAN of your computer.

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.

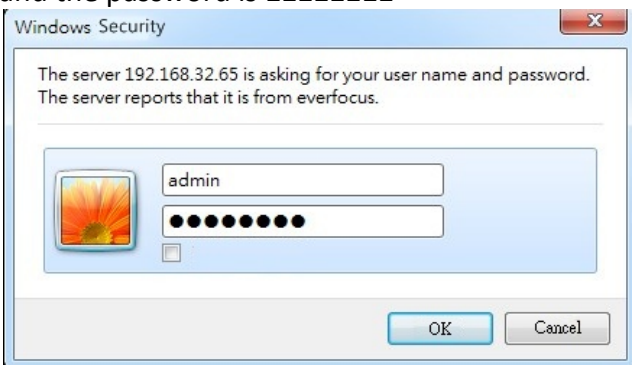




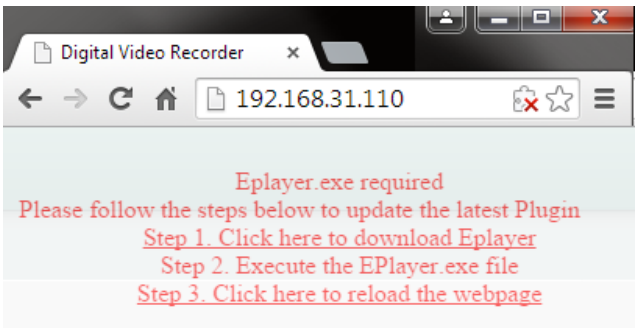
2. Click the **Finish** button, the IP Utility will be automatically launched to search the IP devices connected on the same LAN.

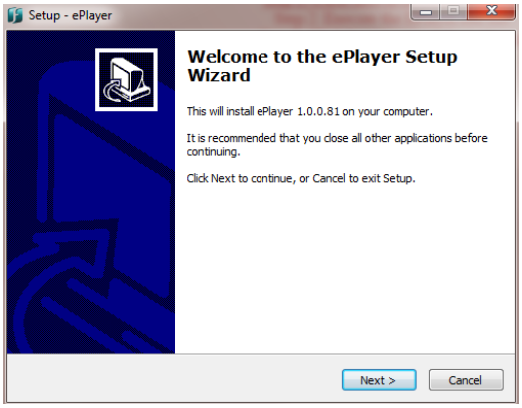


3. To access the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the use r ID is **admin** and the password is **11111111**



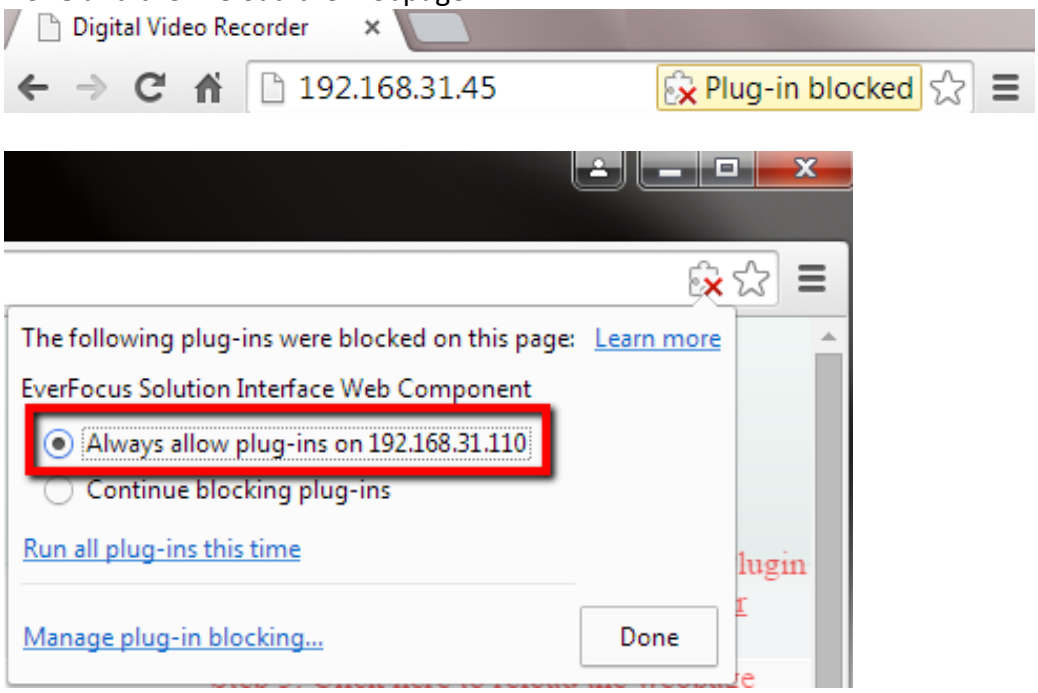
4. If you log in for the first time, follow the instruction steps on the interface to update the latest Plugin version (ePlayer). After reloading the webpage, the login window pops up again. Type the user ID and password to log in again. By default, the user ID is **admin** and the password is **11111111**





Note for the first time login:

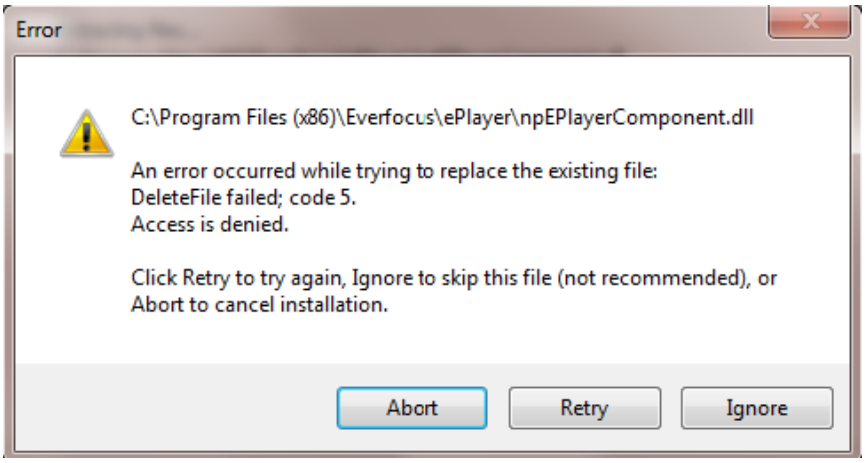
- The "Download ePlayer Instruction" page will only be prompted for the first time login in order to update the system to the latest plugin version.
- When the Plug-in blocked appears on the browser, select **Always allow plug-ins on xxx**, click **Done** and then reload the webpage.

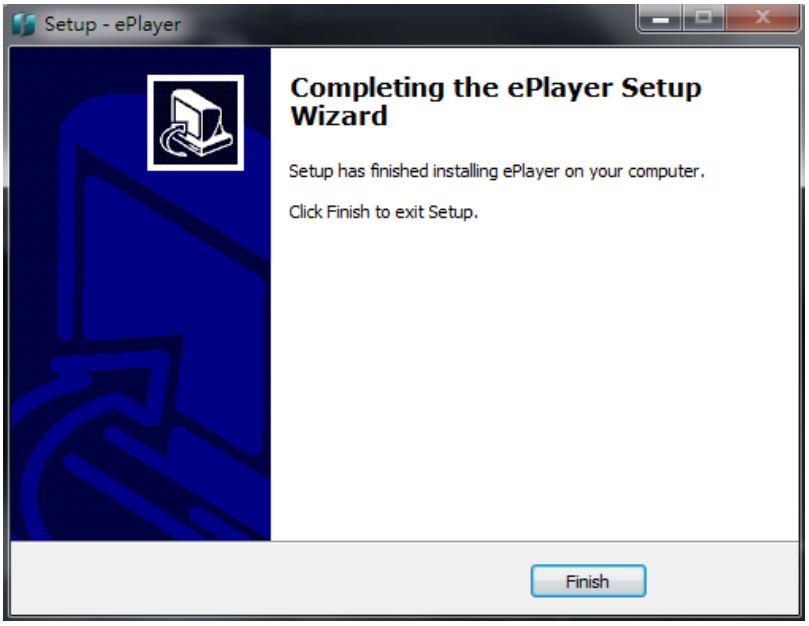


5. Now you will be able to see the remote live page.

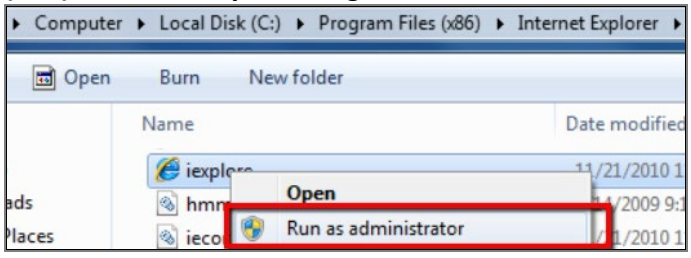
If you encounter the following problem or still can't access the remote Web interface, please see below:

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



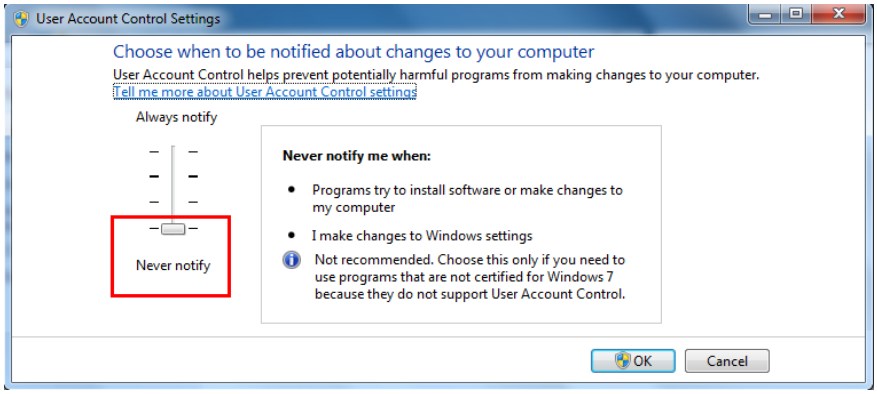


- If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.



- You may need to turn off the firewall and turn **User Account Control** off if you still can't see the Remote Live View.
  To turn **User Account Control** off, on the computer, click **Start > Control Panel > System and Security > Action Center** (click Change User Account Control Settings), the **User Account**

Control Settings window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.



Chapter
3

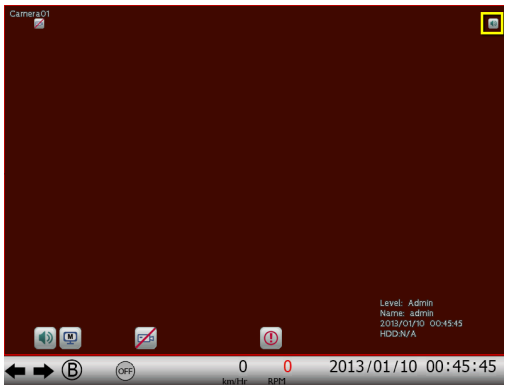
3. General Operation

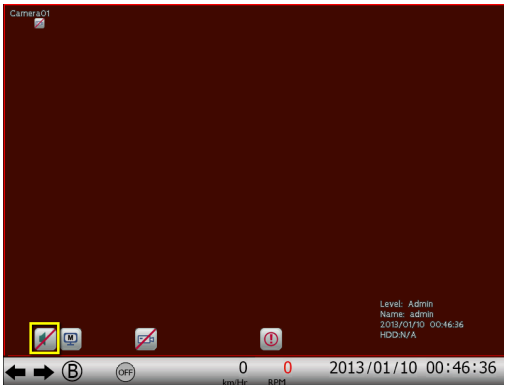
There are two ways to control the OSD menu of the mobile DVRs: with a **Mouse** or the supplied handheld **IR Remote Control**. For details on the IR remote control, please refer to *Appendix D, IR Remote Control*. This chapter will discuss the basic operations using the mouse.

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 its setup menu.
3. Click the button on the top-right corner or right-click to close the OSD Root Menu.

3.1.3 Field Input Options

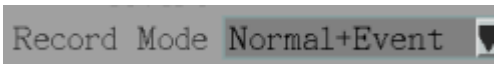
You may found the following fields in the Configuration menu. Follow the instructions below to configure the settings.

Text Box: Click on the input box, 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 or right
Space	Enter a space
EN	Select English or Chinese.

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.

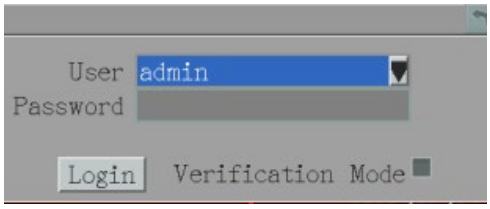
Bar: Slide the bar to the left or right for adjusting the value.

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

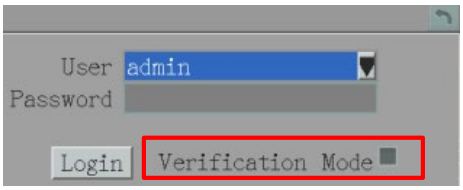
> **Note:** For details on setting up multiple user accounts, please refer to *6.7.4 User Management*.

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 *6.7.4 User Management*).

3.2.3 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 devices to the mobile DVR. Note that Speakers/Microphones with a (built-in) amplifier and external power supply are required.
2. Go to Camera setting menu (OSD Root Menu > System > Camera > Analog Camera). Check the **Record Audio** box to enable the option and select an 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:

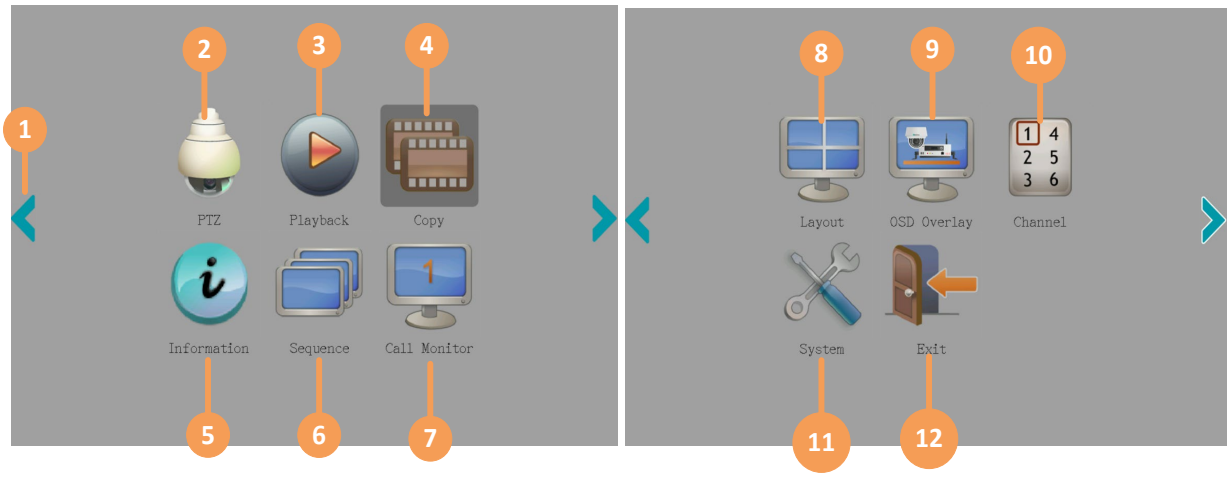
Turn on the Audio Output function by clicking the Audio Icon at lower-left side of the monitor. Single-click on the desired channel screen, the highlighted channel will be automatically applied with the Audio Output function (an audio icon will be displayed on the upper-right corner of the channel).

To turn off the Audio Output function, click the Audio Icon at lower-left side of the monitor again.

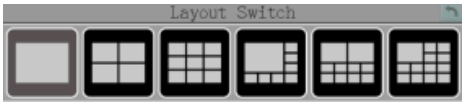
Chapter

4

4. OSD Root Menu



No.	Name	Description
1	**Previous / Next**	Click to turn to the previous or next page.
2	**PTZ**	Click to display the PTZ Control Panel for controlling the connected PTZ cameras. For details, please refer to *4.1 PTZ.*
3	**Playback**	Click to enter the search page for playing back recordings. For details, please refer to *5. Search and Playback.*
4	**Copy**	Click to enter the Copy menu for archiving the recordings to the USB storage device or FTP. For details, please refer to *4.7 Archiving the Recordings to the USB or FTP.*
5	**Information**	Click to enter the system info and log info menu. For details, please refer to *4.9 Information.*
6	**Sequence**	Click to activate the Sequence function. Click again to end the Sequence function. For setting up the sequencing order, please refer to *6.5.2 Sequence.*

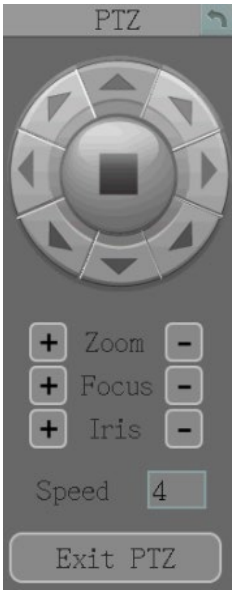
7	**Call Monitor**	Click  to switch to the Call monitor settings. Click  to switch to the Main monitor settings. After switching to Call monitor, users can only operate the Information, Sequence, Layout, Display, Channel and Main Monitor buttons on the OSD Root Menu; the other buttons will gray out. Note that the Call Monitor can only be used to display camera views and cannot be used to configure any settings. To perform functions such as Sequence function on Call monitor, please configured the sequence function settings under Main Monitor in advance.
8	**Layout**	Click to display the Layout Bar as shown below. Select a layout type for the live view display on the Main Monitor. For details, please refer to *4.2 Layout Switching.* 
9	**OSD Overlay**	Click to display system or camera icons/info on the live view screen. For details, please refer to *4.4 OSD Overlay*.
10	**Channel**	Click to display the Change Channel Bar as shown below. To switch the selected camera to a specific channel, please refer to *4.3 Channel Switching*. 
11	**System**	Click to enter the System Setting menu. Please refer to *6. System Configuration*.
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 (analog/IP speed dome) cameras. Before using this function, please connect the PTZ camera to the system and configure the PTZ settings in advance (please refer to **PTZ ID** in *6.1.1 Analog Camera*).

To bring up the PTZ control panel, on the OSD Root Menu, click the PTZ button  .

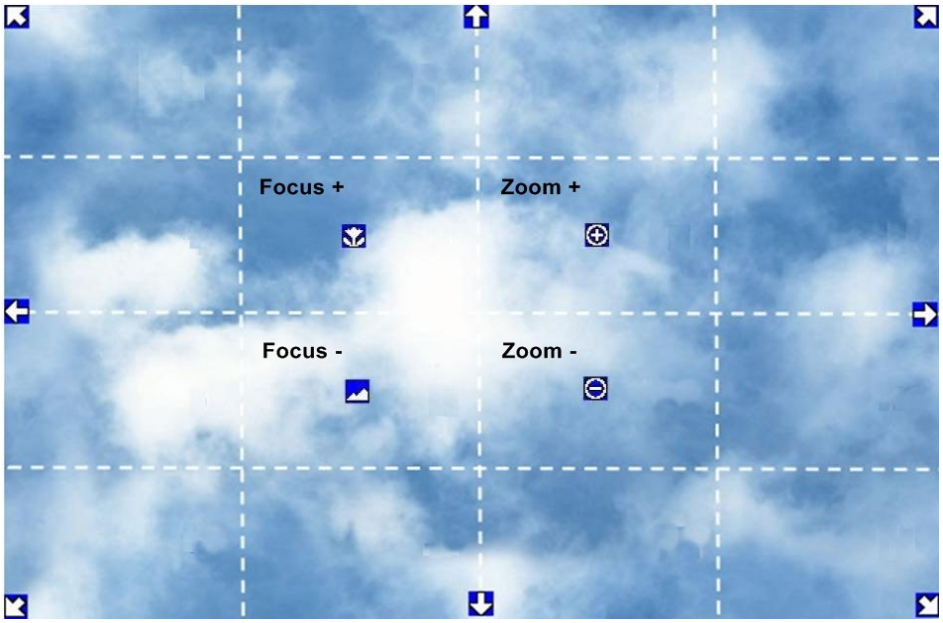
The following actions can be performed using the PTZ Control Panel:



1. To move the camera to the desired direction and angle, click the **Direction** buttons.
2. To zoom in / out the camera view, click the **Zoom +/-** buttons.
3. To adjust camera focus, click the **Focus +/-** buttons.
4. To adjust Iris open to increase / decrease the amount of light in, click the **Iris +/-** buttons.
5. To adjust the moving speed of the PTZ camera, input a number in the **Speed** input box.
6. Click  at the top-right corner to hide the PTZ Control Panel. To display the PTZ Control Panel, right-click on the screen. You can also drag the PTZ Control Panel and drop it to the desired position on the screen.
7. Click **Exit PTZ** to close the PTZ Control Panel and exit the PTZ mode.

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.

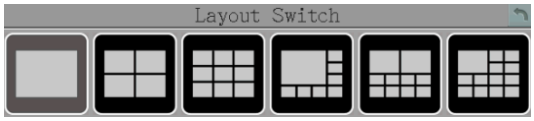
Focus Controls: When your mouse cursor turns into , click on the screen will focus closer the image. When your mouse cursor turns into , click on the screen will focus farther the image.

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.

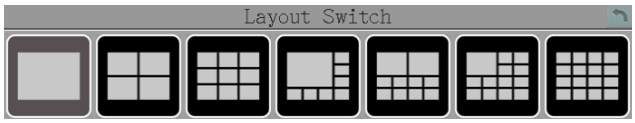
4.2 Layout Switching

The mobile DVRs have several screen layout options. Layout options may differ based on different Device Modes and models.

DVR/Hybrid Mode



NVR Mode



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 **Channel** icon 

, the Change Channel Bar appears.

Note: Channel options may differ based on different Device Modes (DVR/NVR/Hybrid) selected or different models.

4. Select a channel by clicking on it, the selected camera will be switched to that channel.

4.4 OSD Overlay

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

1. You can decide whether to display only the system icons, only the camera icons/info, both of system and camera icons/info; or display no icon/info on the screen by clicking the OSD Overlay button. The OSD Overlay button will be switched to different modes every time you click on it.

			
Both of System & Camera	System Only	Camera Only	No OSD Overlay

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

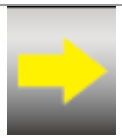
 Recording	 Playback	 Fast forward	 Fast backward	 Back	 pause
 Alarm	 Video loss	 Uninstall	 Audio On	 Audio In	

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

 Audio On	 Audio Off	 Alarm	 Video loss	 Event
 No network 1	 No network 2	 Main	 Call	 Sequence
 HDD failure*	 HD temp. too high	 GPS	 G-sensor	 SD Card Recording

* The MDVR features Auto HDD Retry mechanism. Once the HDD has been installed, when encounter HDD fail error, the MDVR will automatically reboot to detect the installed HDD up to 3 times. Please refer to *Appendix G: Auto HDD Retry Mechanism* for more details.

4. The following icons will be displayed at the bottom of the monitor to show the OBDII / CAN bus status. To enable OBDII / 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
					
Tire No.	Tire Pressure	Tire Temp.	Battery	Speed	RPM

To display the Tire Pressure icons, Please check (enable) the **OBDII** checkbox on the **Monitor OSD** setting page (OSD Root Menu > System > Display > Monitor OSD). The status icons will be automatically displayed in sequence every 5 seconds.

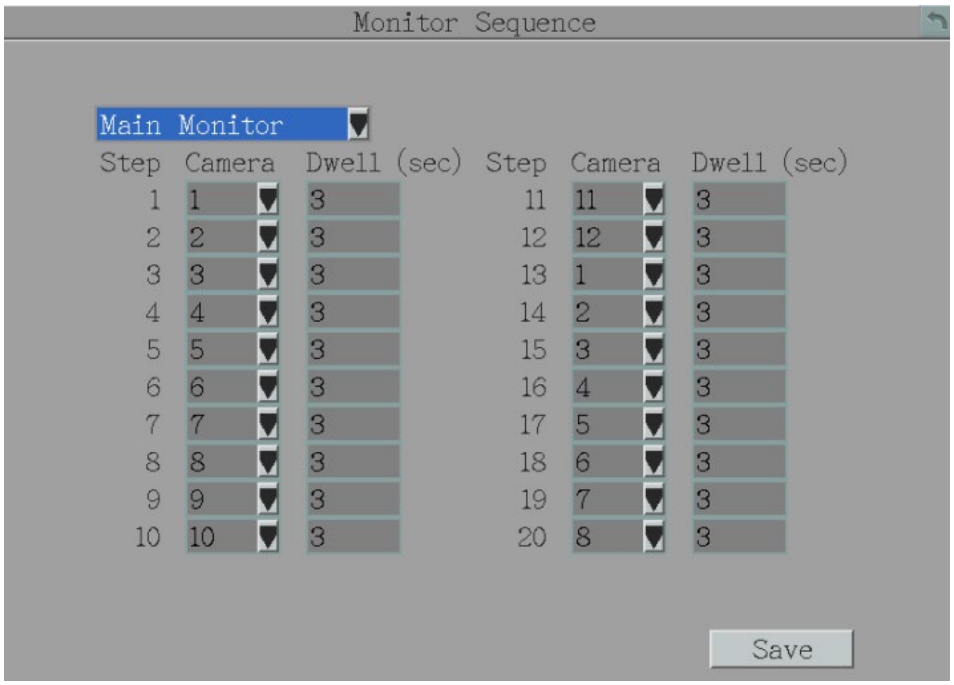
4.5 Sequence

The sequence function is used to display each channel in sequence order with a pre-setup dwell time. The system will display one channel at a time in full screen. Dwell time of each channel is set up with 3 seconds by default. Please refer to *6.5.2 Sequence* for detailed information.

To perform the Sequence function:

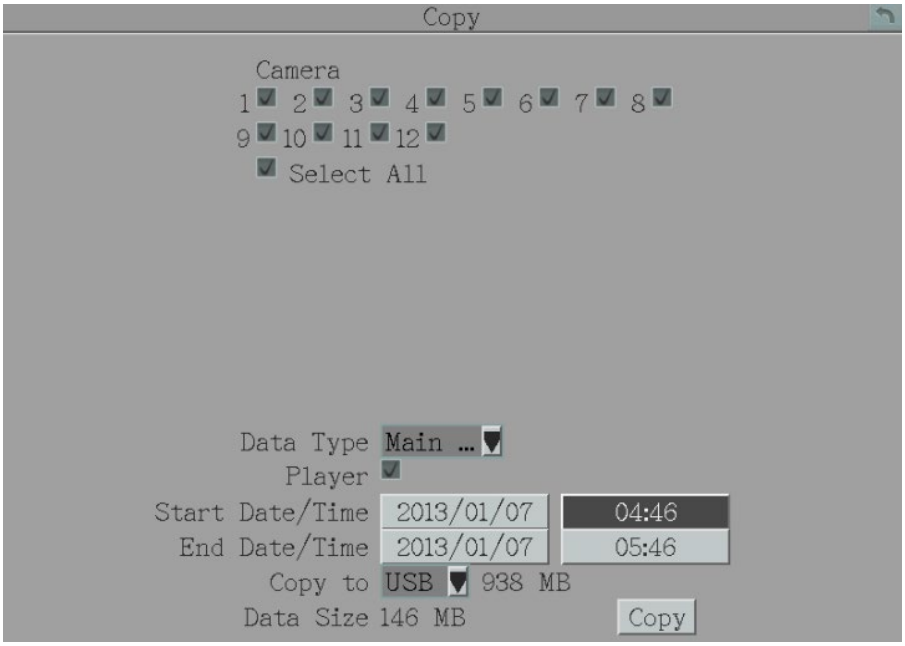
1. Configure the Sequence settings in advance (refer to *6.5.2 Sequence*).

2. To activate the Sequence function, on the OSD Root Menu, click the **Sequence** button  .
   To stop the Sequence function, click the **Sequence** button again.



4.6 Archiving the Recordings to the USB or FTP

You can archive the recordings to the USB storage device or FTP. 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 to play back the recordings stored in your computer. Please see the instructions on the next page.

Start (End) Date/Time: Click to bring up the on-screen keyboard/clock to select the start (end) date/time. Note the maximum archiving period is one day.

Copy To: Select a destination (USB or FTP) for the recordings to be archived to. If a USB device is connected, the system will automatically detect the device and display the available capacity. You can also set up the file format (MP4 or JPEG) for FTP archiving (refer to **FTP Upload File Type** in *6.3.1 Alarm*).

Note:

1. If the Archiving Recording to the FTP server is working in progress, the **FTP Upload** function (refer to *6.3.1 Alarm*) will stop. The system will start the FTP Upload function when the Archiving Recording to the FTP progress is complete.
2. Once you have clicked the **Copy** button to start archiving, you can only wait until the copy process is done to start the next copy action.

Copy: Click to start archiving.

EFPlayer:

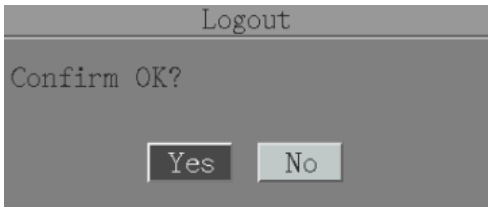
Unzip the EFPlayer file and double-click to open it as below. The EFPlayer can only display up to 16 channels at one time.

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. : Click to reverse play /play. : Click to pause playing back.

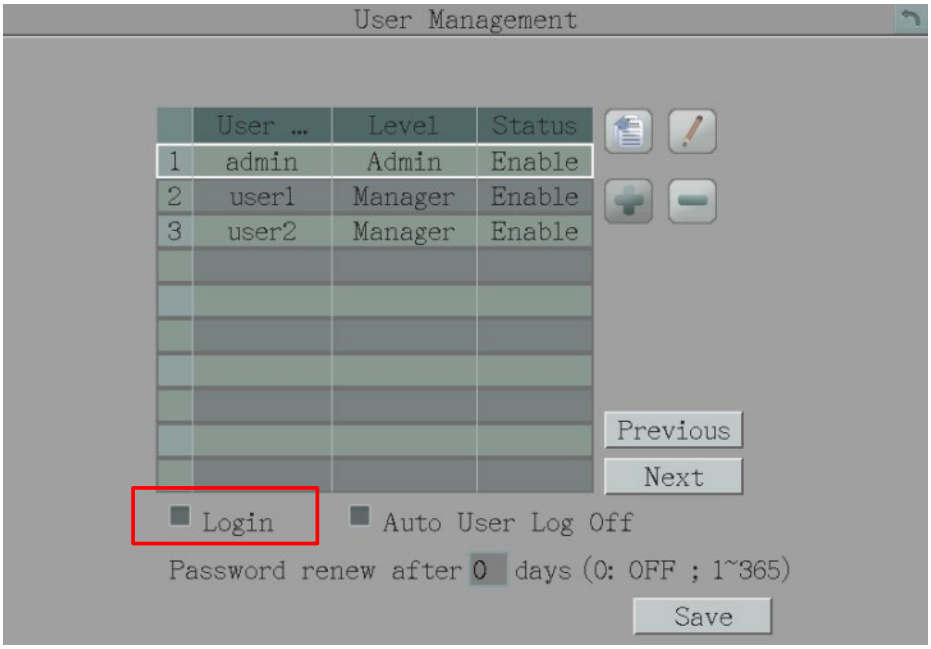
8	**Snapshot**	Click to take a snapshot of the channels displayed on the UI. You can save the snapshot file to a desired location.
9	**Mute**	Click to mute; click again to turn off the mute function.
10	**Volume**	Drag to increase or lower the volume.
11	**Scale Out / In**	Click to adjust time scale.
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).

4.7 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 OSD Root Menu, please uncheck the **Login** box on the User Management setting page. For more details, please refer to *6.7.4 User Management*.

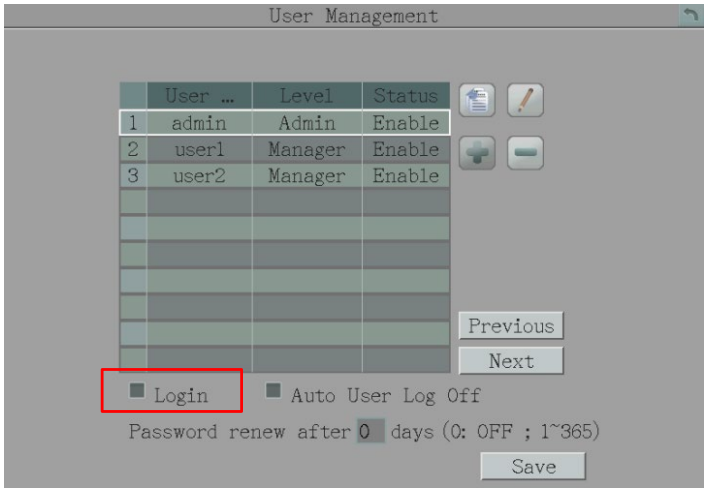


4.7.1 Temporarily Logout

You can temporarily log out the mobile DVR with covert streams (analog cameras) 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:

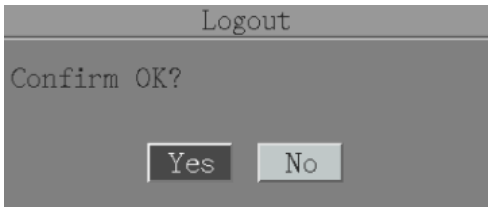
1. Ensure the **Login** box is **Unchecked** (OSD Root Menu > System > Sys Setting > User Management).



2. Enable the **Covert** function for the desired cameras. The cameras will be hidden once enabling the Temporarily Logout function.

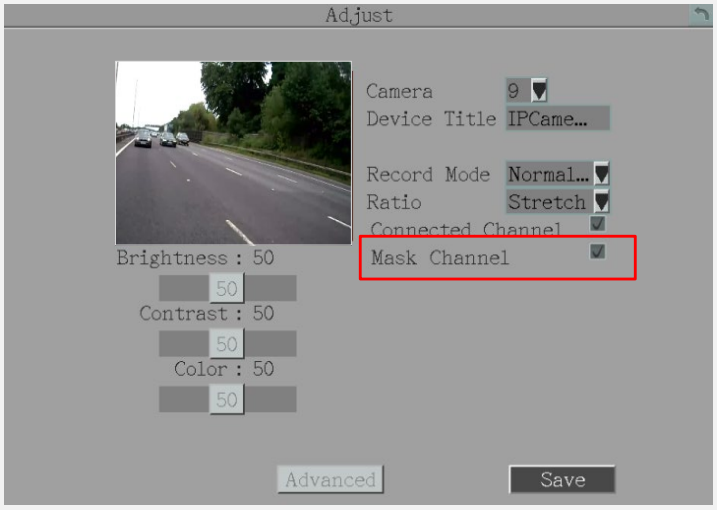
   Go to OSD Root Menu > System > Camera > Analog Camera. Select an analog camera from the **Camera** drop-down list and then check the **Covert** checkbox.

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



4. Click the **Yes** button and the selected camera streams will be hidden on the Live View / Sequence Mode.
5. To display the camera streams again, simply right-click the screen to bring up the Login window, input the User Name and Password to log in. The camera streams will be displayed.

Note: IP cameras also support the **Covert** function. You can simply go to OSD Root Menu > System > Camera > Adjust, select an IP camera from the **Camera** drop-down list and then check the **Mask Channel** checkbox. The IP 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.

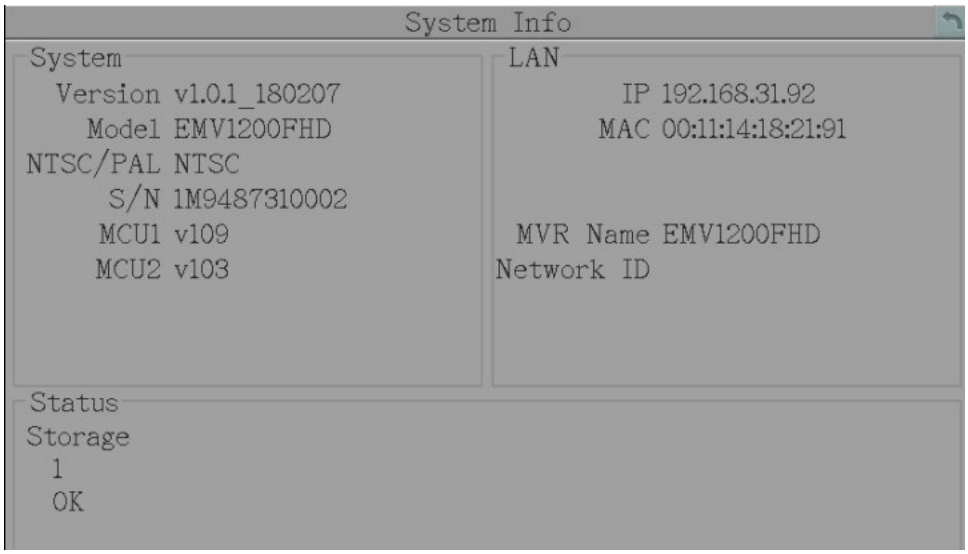


4.8 Information

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

4.8.1 System Info

In the System Menu, you can only see the information of the mobile DVR, Network or HDD. No configuration can be done on this page.



【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 1 / IP 2: Displays the IP address of LAN 1 / LAN 2 set up in the Network menu.

MAC 1 / MAC 2: Displays the MAC address of LAN 1 / LAN2. This option cannot be changed.

MVR Name: Displays the DDNS name if configured.

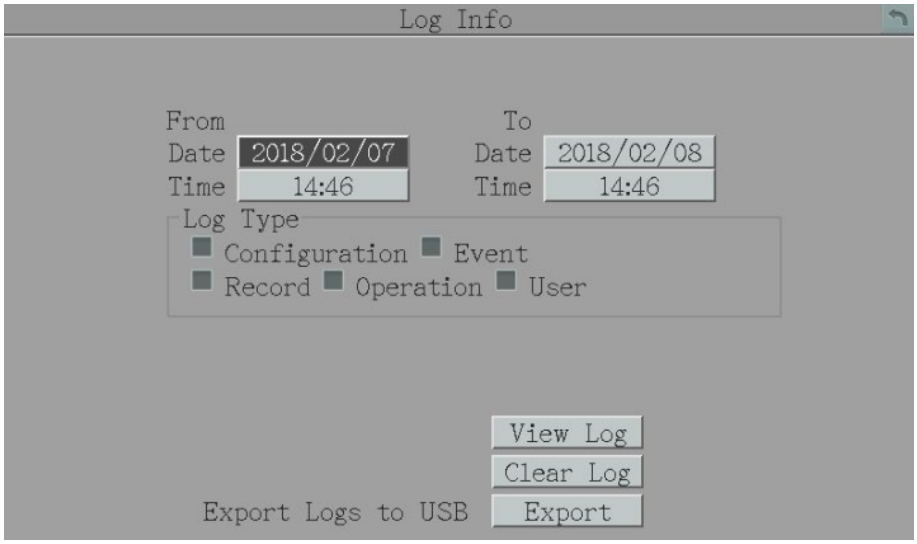
Network ID: The ID number set up on the LAN setup page.

【Status】

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

4.8.2 Log Info

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

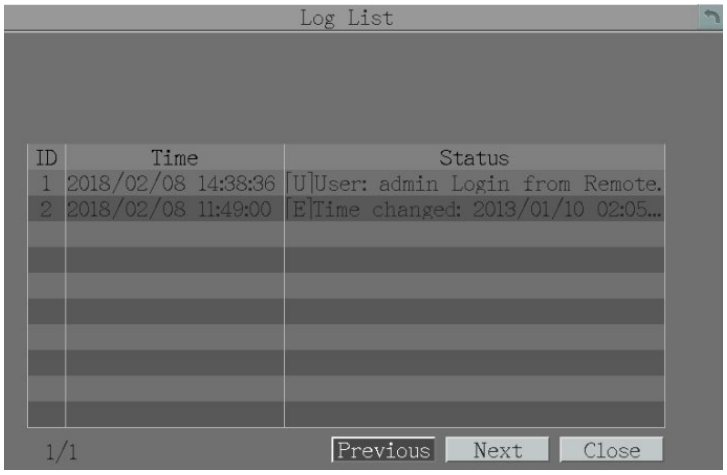


Start Date / End Date: Click to bring up the on-screen keyboard to set up the start / end date.

Start Time / End 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.



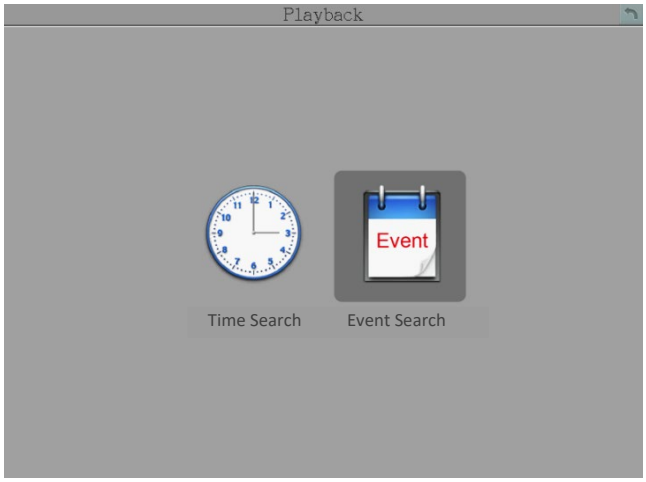
Clear Log: Click to delete all the selected log data.

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

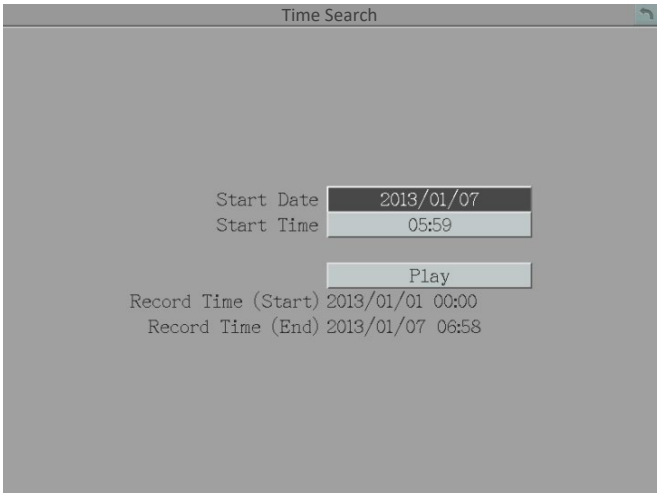
Chapter
5

5. Search and Playback

You can use the Search functions to search for the desired recordings for playing back. On the OSD Root Menu, click the Playback button  to enter the playback search window.



5.1 Time Search

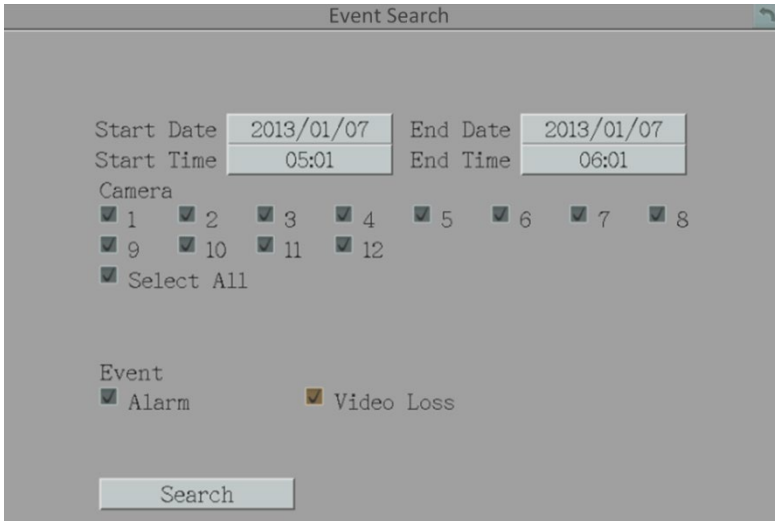


Start Date: Click to bring up the on-screen keyboard to select the date.

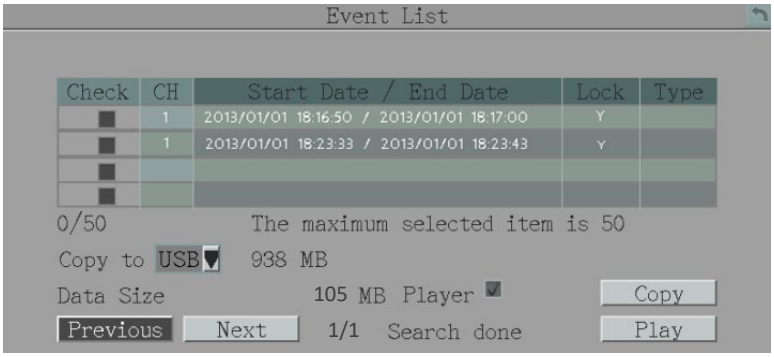
Start Time: Click to bring up the on-screen clock to select the time.

Play: Click to start playing back.

5.2 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 the desired event types to be searched.
Search: Click to start searching. The search results will be listed on the Event List.



Copy to: Select a destination (USB or FTP) for the recordings to be copied to.

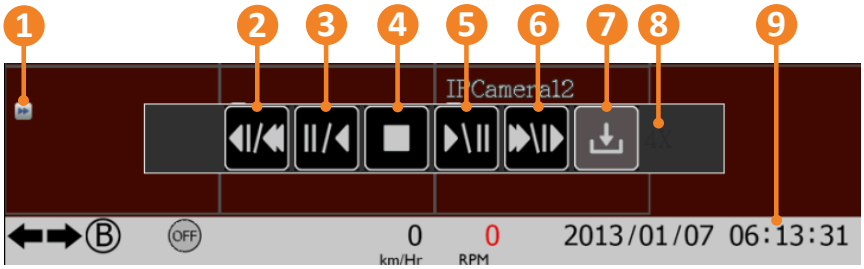
Note:

1. If the Archiving Recording to the FTP server is working in progress, the **FTP Upload** function (refer to *6.3.1 Alarm*) will stop. The system will start the FTP Upload function when the Archiving Recording to the FTP progress is complete.
2. Once you have clicked the **Copy** button to start archiving, you can only wait until the copy process is done to start the next copy action.

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 to the USB or FTP*.
Copy: After selecting the event checkboxes and destination, click **Copy** to start copying.
Previous / Next: Click to go to the previous / next page.
Play: Click to playback the selected items.

5.3 Playback Bar

Users can use the **Playback Bar** to play back recordings on the system. After clicking the **Play** button on the **Time Search** or **Event Search** window, the Playback Bar will be displayed on the bottom of the screen.



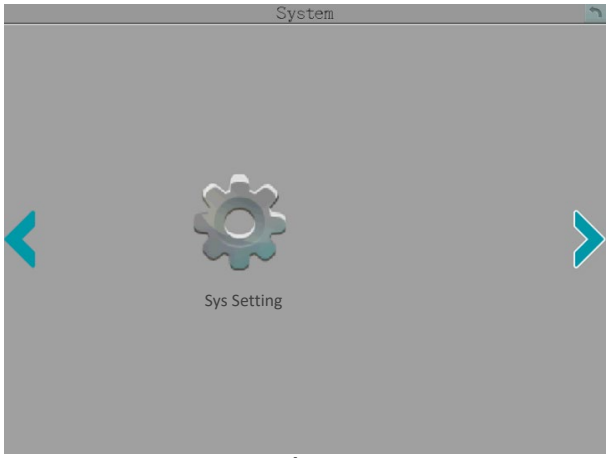
No.	Name	Description
1	**Playback Icon**	When the system is under the Playback mode, the **Playback Icon** will be displayed on the screen.
2	**Fast Reverse**	Click to play the recordings in fast reverse. You can click the button continuously to adjust the play speed. The speed will be displayed on the right-side of the bar (**No.8**).
3	**Reverse Play / Pause**	Click to play the recordings 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 mode.
4	**Stop**	Click to stop all playback actions and exit the playback mode.
5	**Play / Pause**	Click to play the recordings forward. Click this button again to Pause the playback.
6	**Fast Forward**	Click to play the recordings in fast forward. You can click the button continuously to adjust the play speed. The speed will be displayed on the right-side of the bar (**No.8**).
7	**Express Copy**	Click to bring up the Copy menu for archiving the recordings to the USB storage device or FTP. For details, please refer to *4.7 Archiving the Recordings to the USB or FTP.*
8	**Playback Speed**	Indicates the current Playback Speed. Click the **No.2** or **No.6** buttons continuously can adjust the play speed.
9	**Playback Time**	Displays the current playback time.

Chapter
6

6. System Configuration

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 on the on-screen display (OSD) menus. Right-click the mouse, the OSD Root Menu appears. Click the **System** button  , the below sub configuration menu appears.

First Page



Second Page

List of Configuration Options:

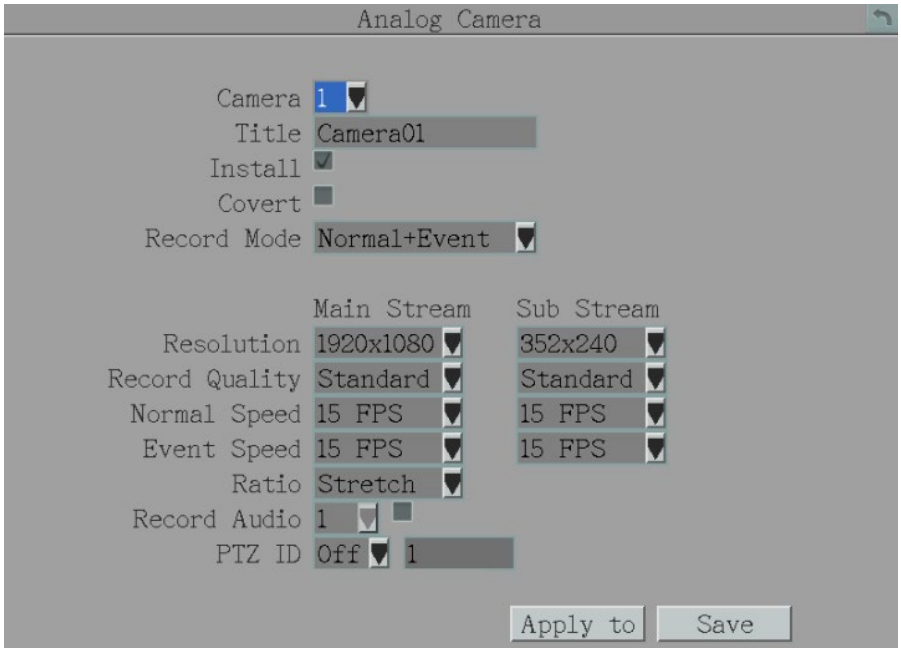
Please find the topic of interest by referring to the section prefixed to each option.

6.1 Camera	6.1.1 Analog Camera 6.1.2 Add IP Camera 6.1.3 IP Camera 6.1.4 Camera Info 6.1.5 Adjust
6.2 Record	-
6.3 Event	6.3.1 Alarm 6.3.2 Video Loss 6.3.3 G Sensor 6.3.4 GPS Event 6.3.5 Other
6.4 Storage	6.4.1 Storage Info 6.4.2 SD Card 6.4.3 Lock/Format
6.5 Display	6.5.1 Monitor OSD 6.5.2 Sequence
6.6 Network	6.6.1 LAN 6.6.2 Wireless 6.6.3 Mobile 6.6.4 Email 6.6.5 DDNS 6.6.6 FTP 6.6.7 Alarm Server 6.6.8 Remote/Mobile 6.6.9 Network Test 6.6.10 Xfleet
6.7 Sys Setting	6.7.1 Date/Time 6.7.2 Daylight Saving 6.7.3 User Group 6.7.4 User Management 6.7.5 I/O Control 6.7.6 EKB200 Setting 6.7.7 Miscellaneous

6.1 Camera

You can configure the settings for individual cameras.

6.1.1 Analog Camera



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 on Live View and Sequence modes. However, the MDVR will still record the videos and the recordings can be played back by users who have playback privilege. 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 eZ.HD Camera (720p): 1280x720 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 HDD 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 cameras displaying on the layout screen. For more information about 4:3 and 16:9 aspect ratio, please refer to *6.1.1.1 Display Aspect Ratio*.

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

PTZ ID: Select On or Off.

- Select **On** if the PTZ camera is connected to the DVR through RS-485. To allow the DVR to recognize and then control the connected PTZ camera, you have to set up an ID for the PTZ camera. Select On and then enter an ID for the camera in the input box. This ID must match the ID address set up on the PTZ camera. For setting up the ID address on the PTZ camera, please refer to the User's Manual of your PTZ camera.
- Select **Off** if the PTZ camera is connected to the DVR through coaxial cable (BNC Video Input), so users can then operate Zoom, Focus, Iris and Direction functions to the PTZ camera through DVR directly.

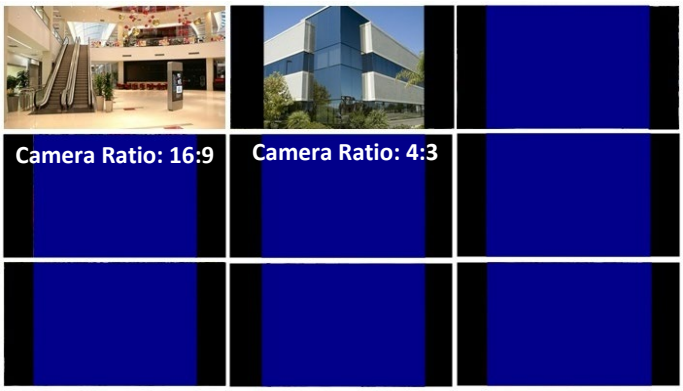
Save: Click to save the settings.

6.1.1.1 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 shown as images below.

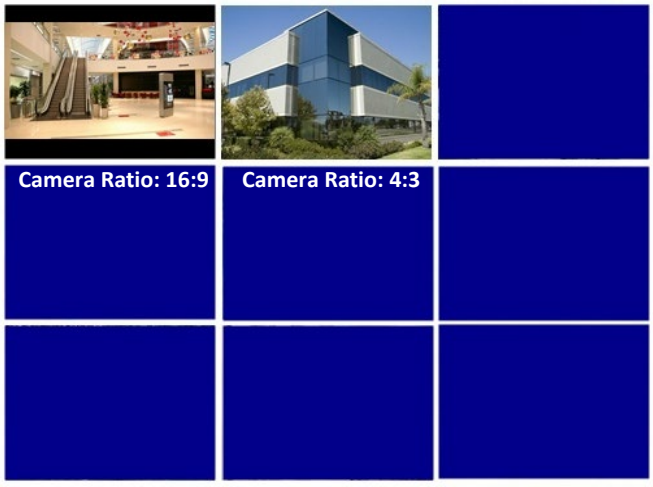
If you select 1920x1080 (16:9) screen resolution on the **Screen Mode** drop-down list (see *6.5.1 Monitor OSD*), it is recommended to also change the camera live view display to 16:9 aspect ratio on the **Ratio** drop-down list (see *6.1.1 Analog Camera*).

Screen Mode: 1920x1080 (16:9)



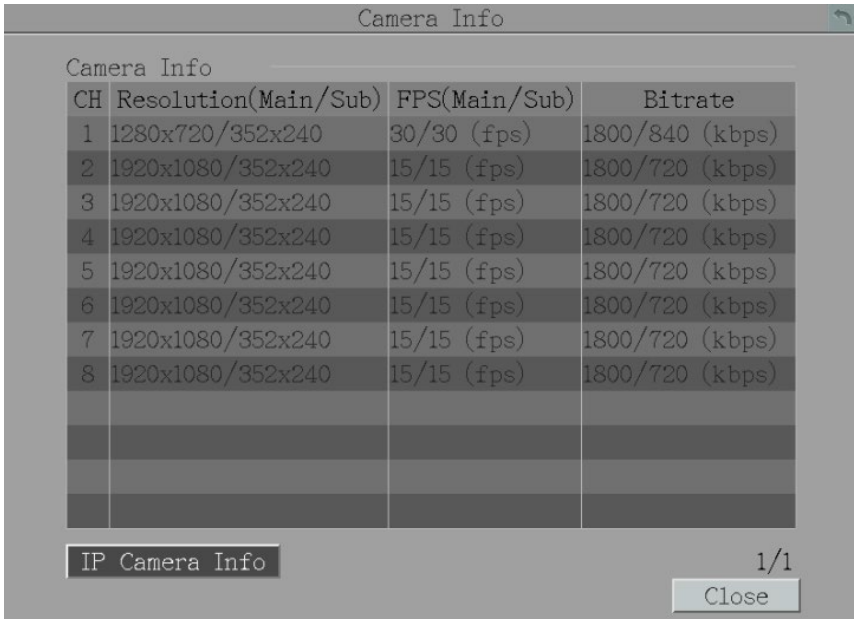
If you select 800x600, 1024x768 or 1280x1024 (4:3) screen resolution on the **Screen Mode** drop-down list (see *6.5.1 Monitor OSD*), it is recommended to also change the camera live view display to 4:3 aspect ratio on the **Ratio** drop-down list (see *6.1.1 Analog Camera*).

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



6.1.2 Camera Info

You can view the info of the connected analog cameras.



6.1.3 Adjust

You can adjust some image settings for the analog cameras.

Camera: Select a camera to adjust the following settings.

Dev ice Title: Displays the title of the selected camera.

Mirror: This function is only available for analog cameras. Check the checkbox and then click **Save** to rotate the image horizontally around a vertical axis.

Flip: This function is only available for analog cameras. Check the checkbox and then click **Save** to rotate the image vertically around a horizontal axis.

Record Mode: This function is only available for IP cameras. Select a record mode from the drop-down list.

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

Ratio: This function is only available for IP cameras. Select 4:3, 16:9 or Stretch for cameras displaying on the layout screen. For more information about 4:3 and 16:9 aspect ratio, please refer to *6.1.1.1 Display Aspect Ratio*.

Connected Channel: This function is only available for IP cameras. Check the box to enable the selected camera. If this box is unchecked, the mobile DVR will not get the camera streaming.

Mask Channel: This function is only available for IP cameras. Check the box to hide the camera stream on Live View and Sequence modes. However, the MDVR will still record the videos and the recordings can be played back by users who have playback privilege.

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 Control Panel** and then click the **Enter** button to enter the camera's OSD menu for controlling and adjusting 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 *6.1.5.1 eZ Controller*.

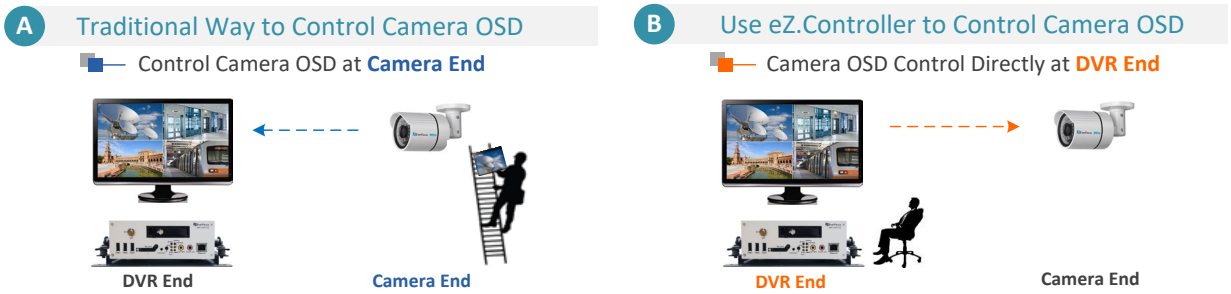
Apply to: This function is only available for analog cameras. Click the button to apply the same settings to the desired cameras.

Save: Click to save the settings.

6.1.3.1 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.

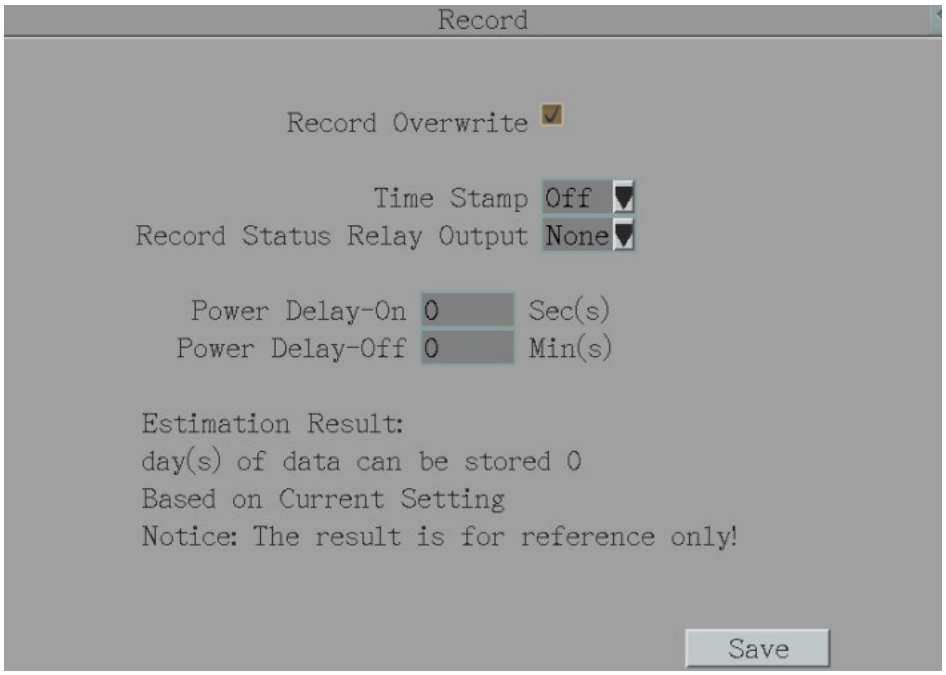
Now, EverFocus' **eZ.Controller** allows users to control the camera OSD simply on the monitor at the DVR end as illustrated in ***Diagram B***.



1. On the **Adjust** setting page. Select the camera you want to adjust.
2. Click the **Advanced** button to bring up the **UTC Control Panel**.
3. Click the **Enter** button, the camera OSD menu appears.
4. Use the direction buttons on the **UTC Control Panel** to operate camera's OSD menu.
5. To exit the OSD menu, click the **Exit** button to return to the **Adjust** setting page.

6.2 Record

You can configure the basic record settings on this page.



Record Overwrite: Check the box to overwrite the hard disk / SD card when it is full. Note that unless this box is checked, or the mobile DVR will stop recording when the hard disk / SD card 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 *6.3.5 Other*). For SD card, when the card is full, the "SD Card Disk Full" message will automatically pop-up.

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 of the selected alarm relay will be transmitted to the alarm output device.

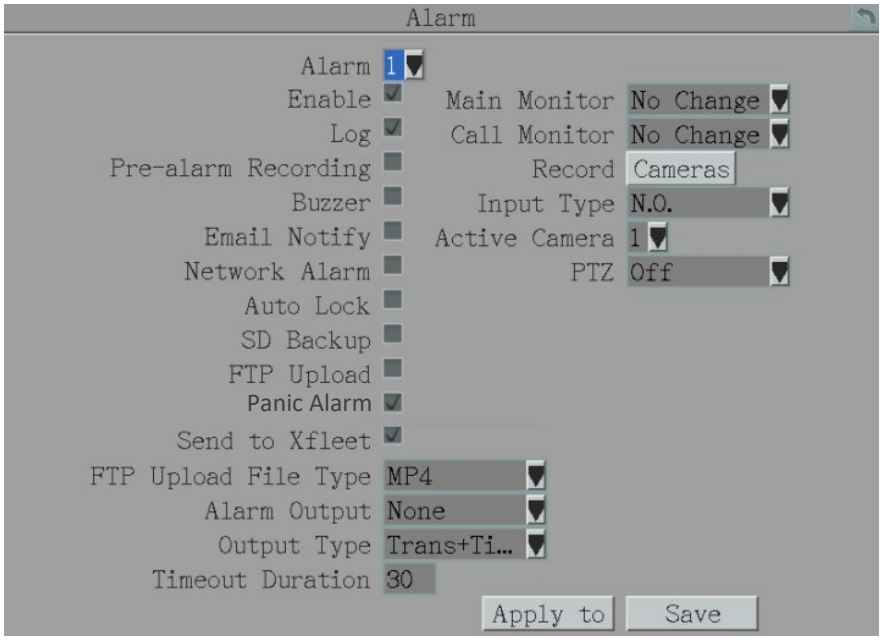
- **Power Delay-On:** Set the delay time to supply power to the mobile DVR in order to avoid excess consumption surge at ignition.
- **Power Delay-Off:** Set the delay time to power off the mobile DVR after ignition off. It can extend the recording time after ignition off.

Save: Click to save the settings.

6.3 Event

You can configure the Alarm, Video Loss, G Sensor, GPS Event and Other alarms on this page.

6.3.1 Alarm



Alarm: Select an Alarm input number.

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. For analog cameras, the pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.1.1 Analog Camera*). 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 *6.6.4 Email*).

Network Alarm: Check the box to send out a network alarm to a client PC when alarm events occur. 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 *6.6.7 Alarm Server*).

Auto Lock: Check the box and the events will be recorded in a write protected segment of the hard disk (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 *6.4.3 Lock / Format*).

SD Backup: 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 *6.6.6 FTP*.

Note:

1. If the Archiving Recording to the FTP server function (refer to *4.7 Archiving the Recordings to the USB or FTP*) is working in progress, the FTP Upload function will stop. The system will start the FTP Upload function when the Archiving Recording to the FTP progress is complete.
2. If multiple alarms have been triggered, up to 10 alarm recordings can be simultaneously uploaded to the FTP server at once.

Panic Alarm: Check the box to send panic alarm data to the Xfleet system.

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 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 alarm 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.

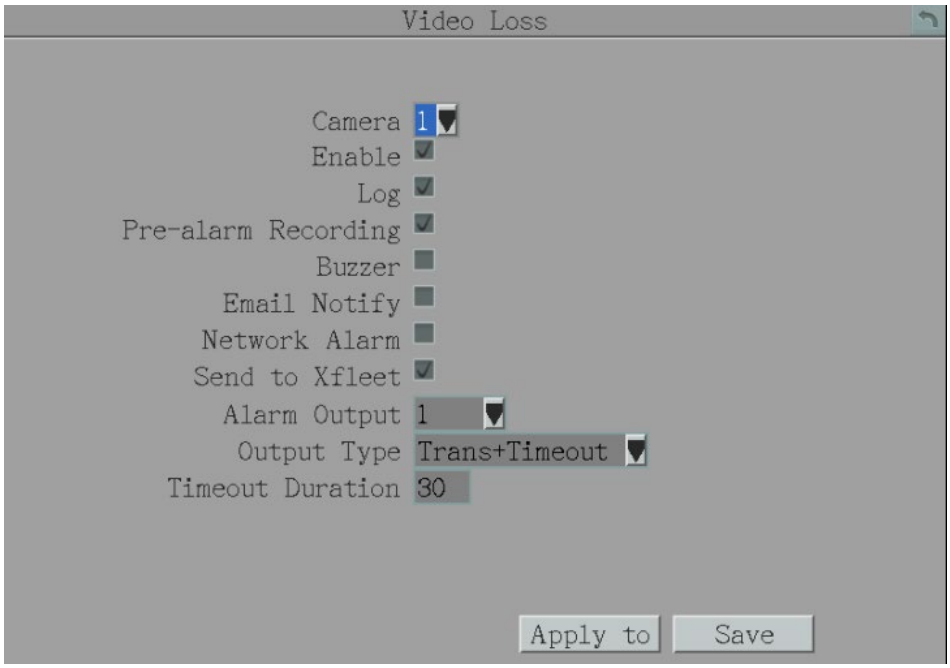
PTZ: If the Active Camera selected above is a PTZ camera, you can further set up the PTZ actions in this field.

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

Save: Click to save the settings.

6.3.2 Video Loss

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



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. For analog cameras, the pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.1.1 Analog Camera*). 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 *6.6.4 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 *6.6.7 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).

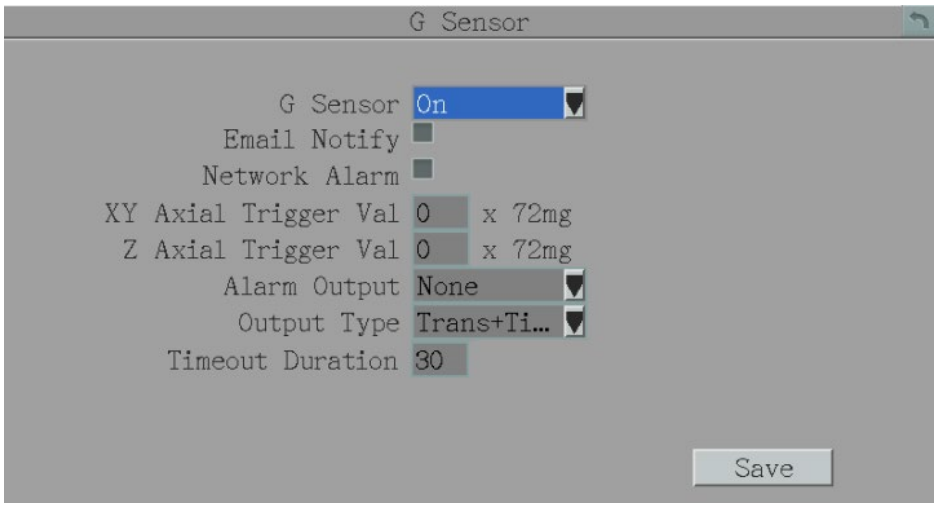
Timeout Duration: This function only appears when you select **Timeout** or **Trans + Timeout** options in the Output Type drop-down list. Select a duration time for the event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

Save: Click to save the settings.

6.3.3 G Sensor

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 *6.6.4 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 *6.6.7 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.

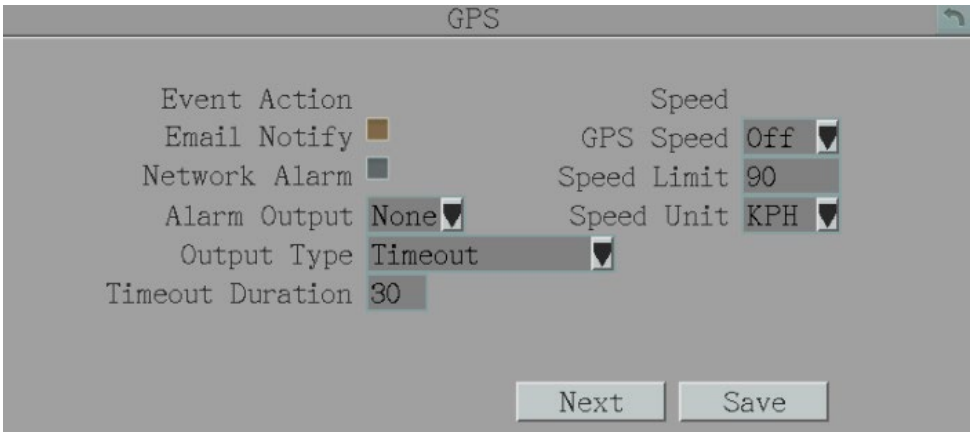
Trans+Timeout: Alarm output continues until event ends, then continues for the set time duration.

Timeout Duration: The amount of time the buzzer sounds when GPS is lost. Duration selectable from 10 to 150 seconds.

Save: Click to save the settings.

6.3.4 GPS

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 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 *6.6.4 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 *6.6.7 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 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 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.

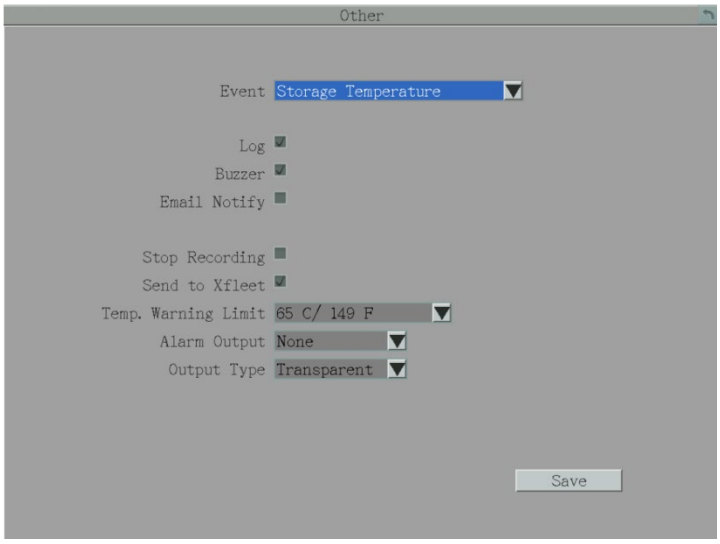
Speed Unit: Select **KPH** (kilometer per hour) or **MPH** (mile per hour) to display the vehicle speed on live view or recordings.

Save: Click to save the settings.

6.3.5 Other

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

6.3.5.1 Storage Temperature.



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 *6.6.4 Email*).

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.

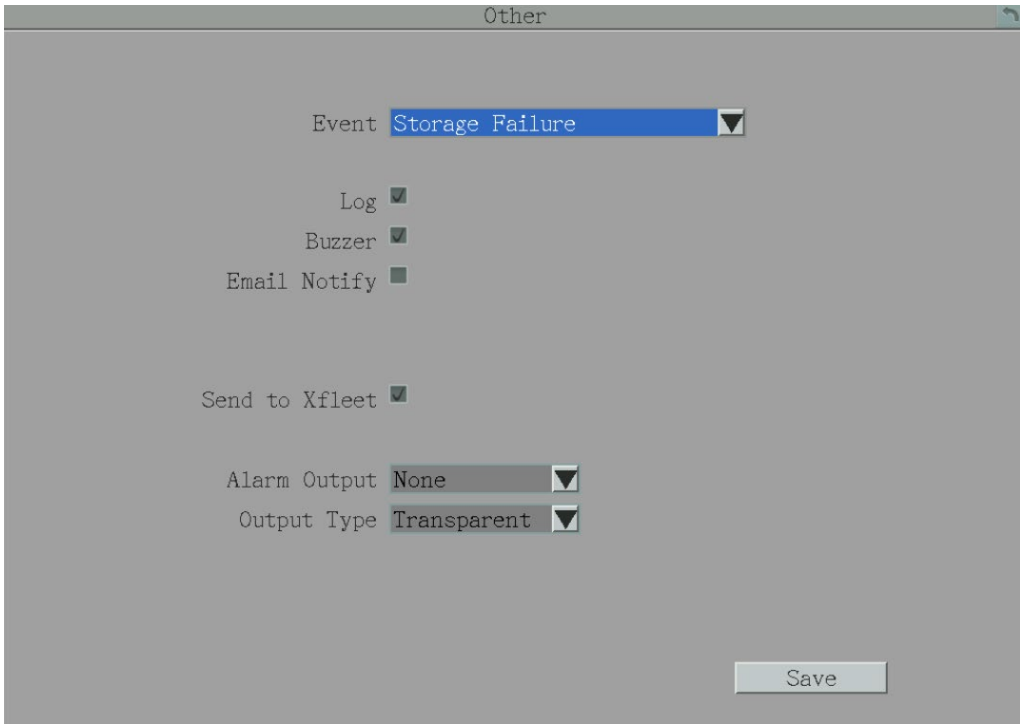
Temp. Warning Limit: Sets the trigger temperature for System / Storage Temperature event actions. Choose between 45°C /113°F and 70°C /158°F.

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.

6.3.5.2 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 *6.6.4 Email*).

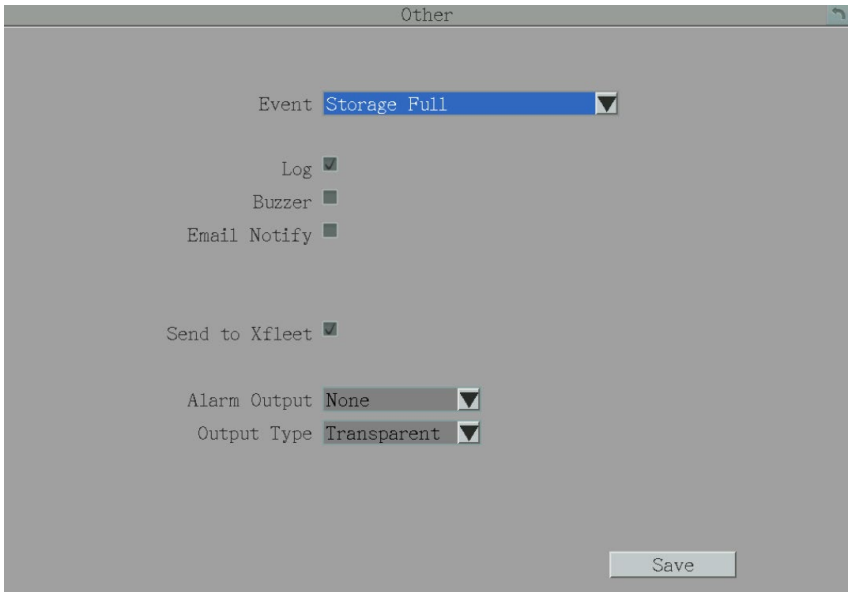
Send to Xfleet: Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

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.

6.3.5.3 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 *6.6.4 Email*).

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.

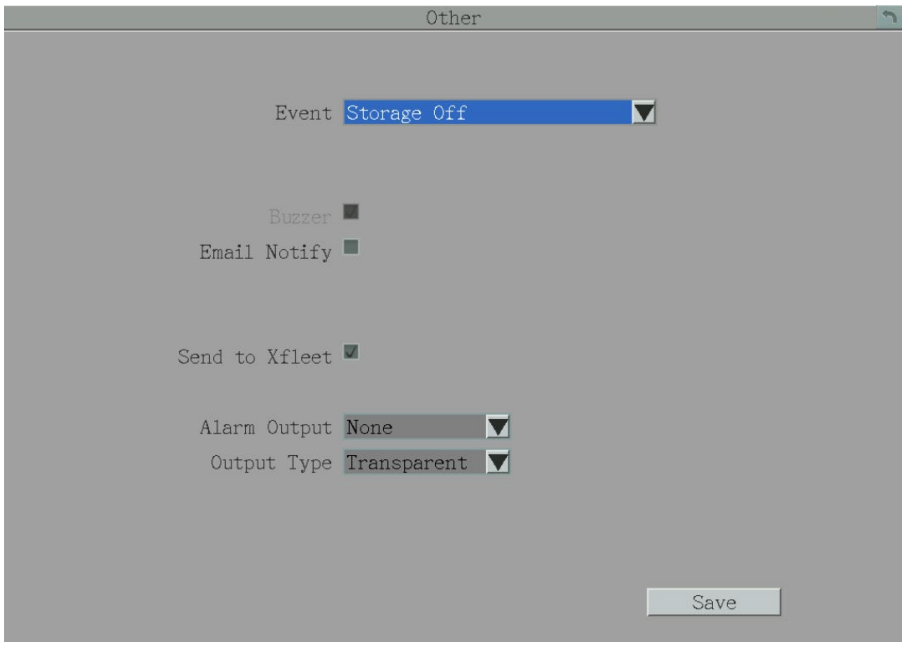
Transparent: Alarm output remains as long as the alarm input is active.

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.

6.3.5.4 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 *6.6.4 Email*).

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.

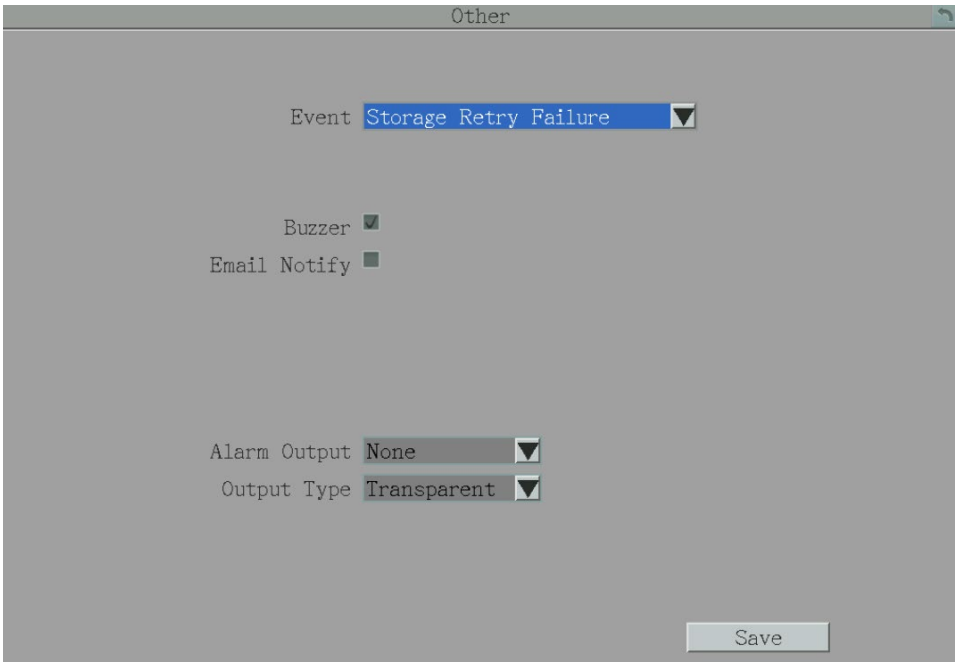
Transparent: Alarm output remains as long as the alarm input is active.

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.

6.3.5.5 Storage Retry Failure



Buzzer: The buzzer will activate when fan is not working.

Email Notify: Check the box to send email notification when Disk Retry Failure occurs. Email operation requires valid email entered in the Email setup menu (see *6.6.4 Email*).

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 Disk Retry Failure occurs.

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.

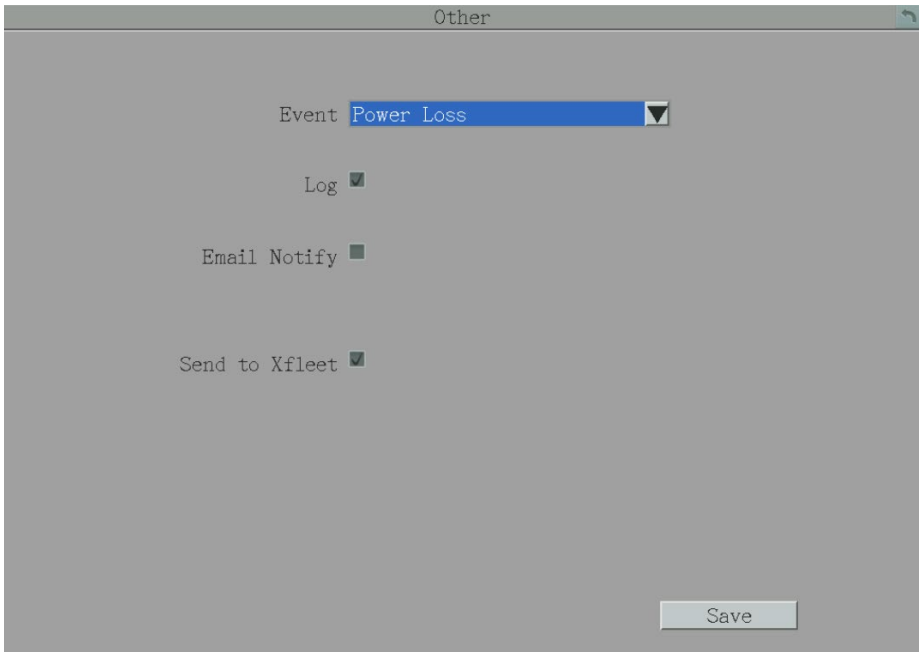
Transparent: Alarm output remains as long as the alarm input is active.

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.

6.3.5.6 Power Loss



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

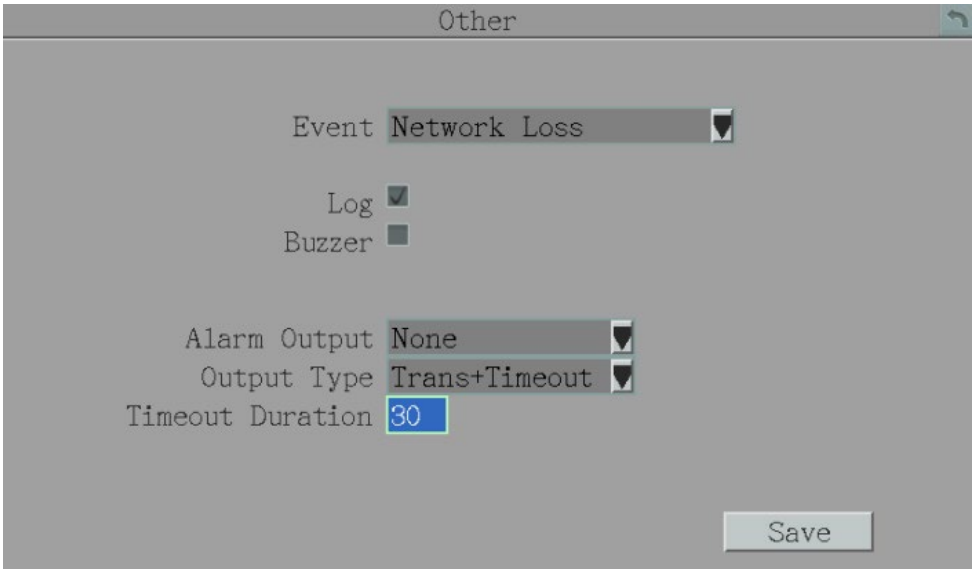
Email Notify: Check the box to send email notification when power has been restored. Email operation requires valid email entered in the Email setup menu (see *6.6.4 Email*).

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.

6.3.5.7 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.

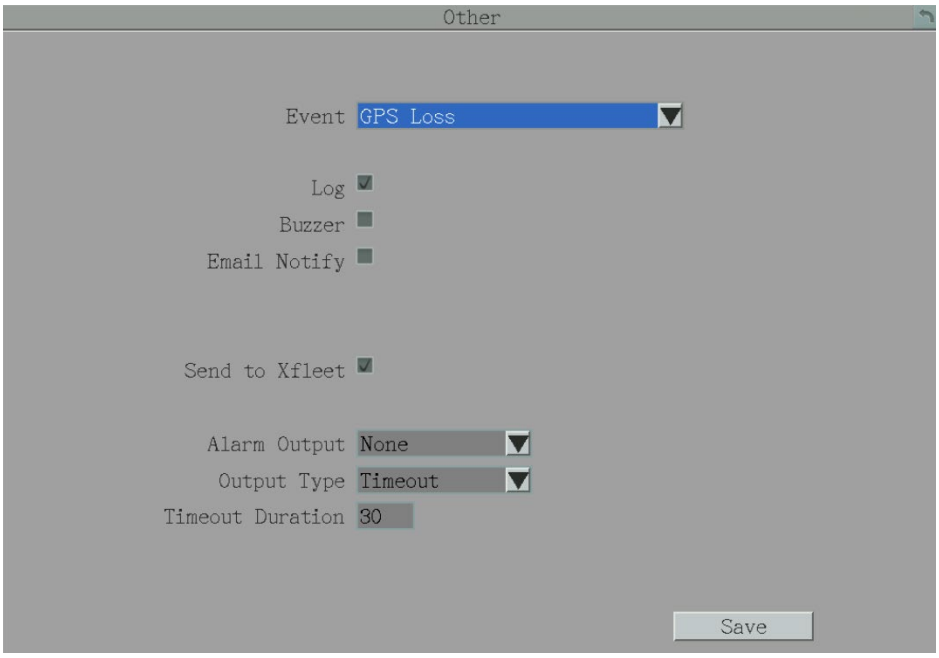
Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (10 ~ 150 seconds).

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.

6.3.5.8 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 *6.6.4 Email*).

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.

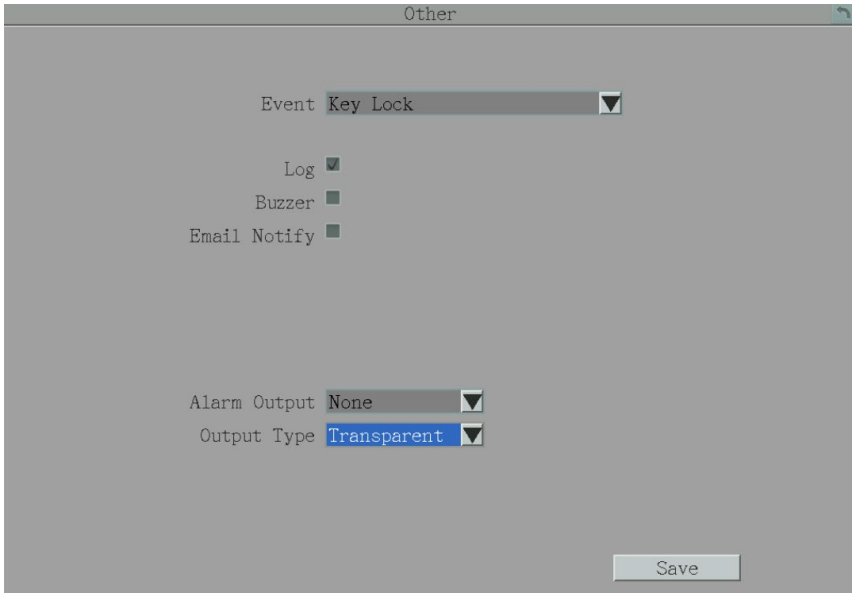
Transparent: Alarm output remains as long as the alarm input is active.

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.

6.3.5.9 Key Lock



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 *6.6.4 Email*).

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.

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

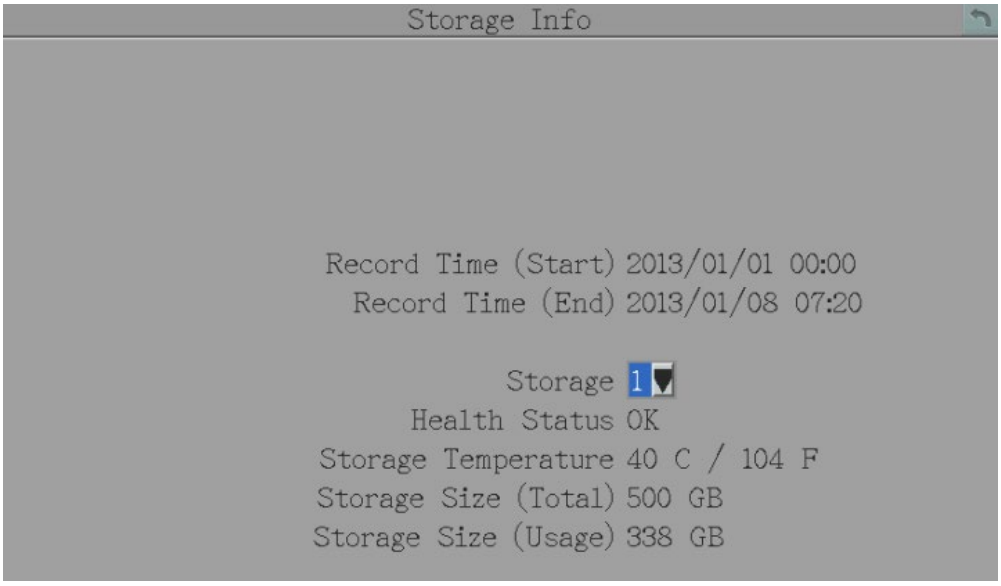
Save: Click to save the settings.

6.4 Storage

The Storage menu is used to review the mobile DVR's hard drive settings and status.

6.4.1 Storage Info

The storage information will be displayed here. No value in this menu can be configured by the operator.



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.

Disk Temperature: Displays the current temperature of the selected storage.

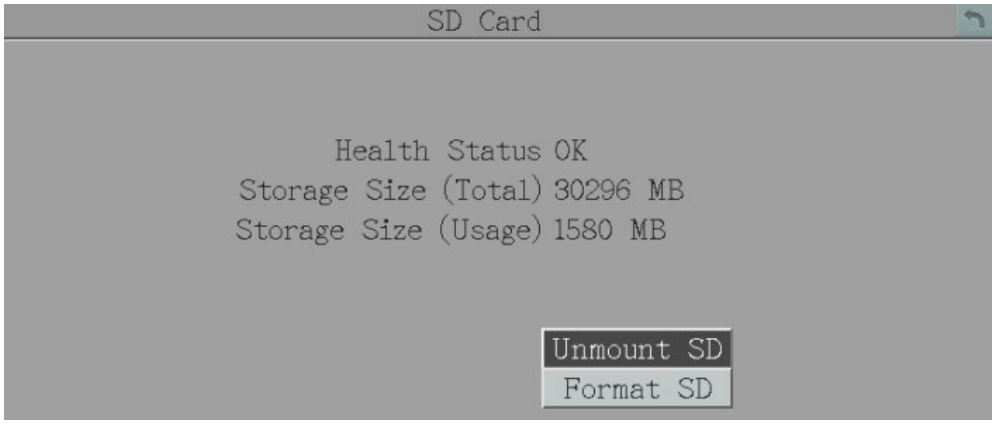
Disk Size (Total): Shows the total space of the selected storage.

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

6.4.2 SD Card

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 SD Card Installation*) and then configure the alarm settings (see *6.3.1 Alarm*).



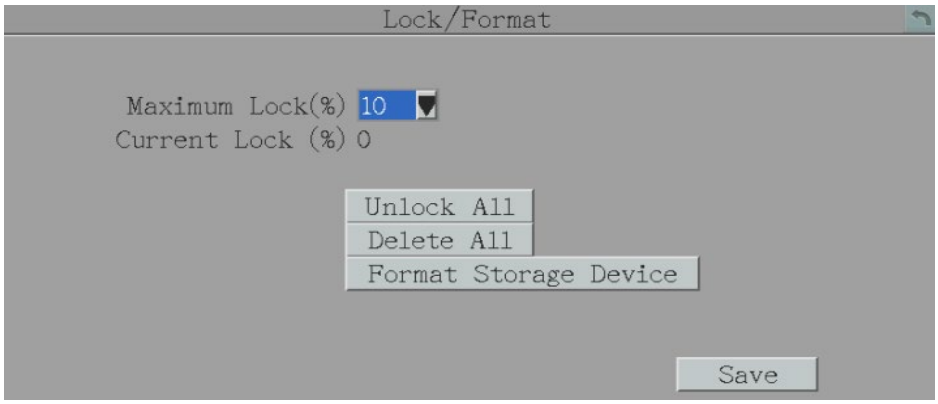
Unmount SD: Before removing the SD card from the mobile DVR, please click the **Unmount SD** button first for data safety purpose.

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 F 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.

6.4.3 Lock/Format

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



Maximum Lock (%): Sets the maximum percentage of the hard disk space reserved for Locked Event Recordings. To set up the Locked Event Recordings, please select the **Auto Lock** item in *6.3.1 Alarm*.

Current Lock (%): Displays the current percentage of the locked event recordings in the hard disk. 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 hard disk.

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

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

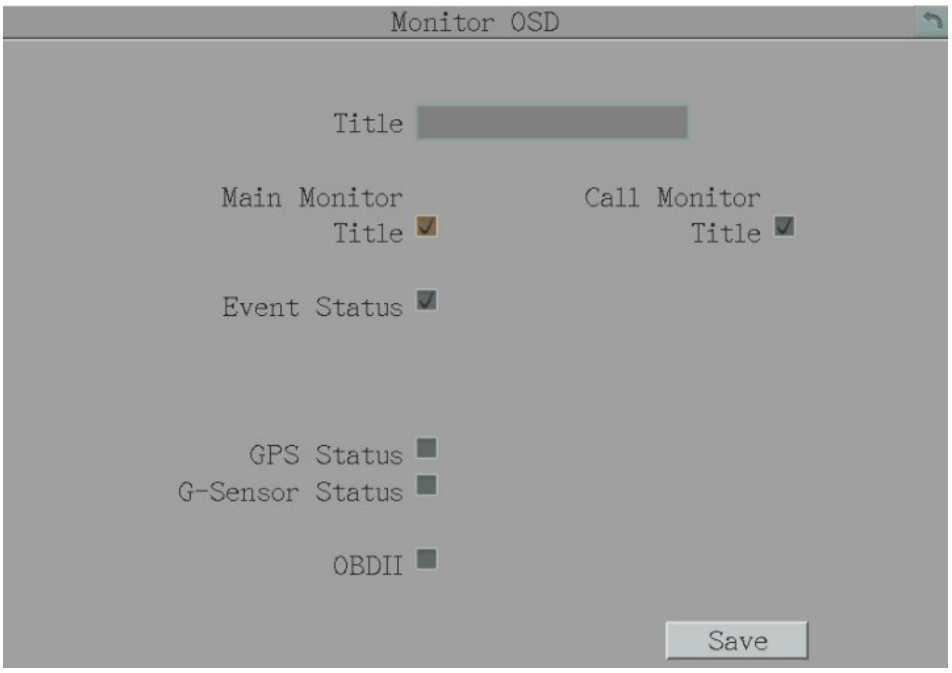
Save: Click to save the settings.

6.5 Display

You can configure the settings for displaying system status or a title on the live view image. You can also set up the sequencing order for the Main / Call monitor.

6.5.1 Monitor OSD

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



Title: Input a title to be displayed on the upper-middle of the live view screen.

【Main Monitor / Call Monitor】: Select the below items to be displayed on the live view image.

Title: Check the box to display camera titles. Please input a title in the **Title** input box in advance.

Event Status: Check the box to display event status (only for main monitor).

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

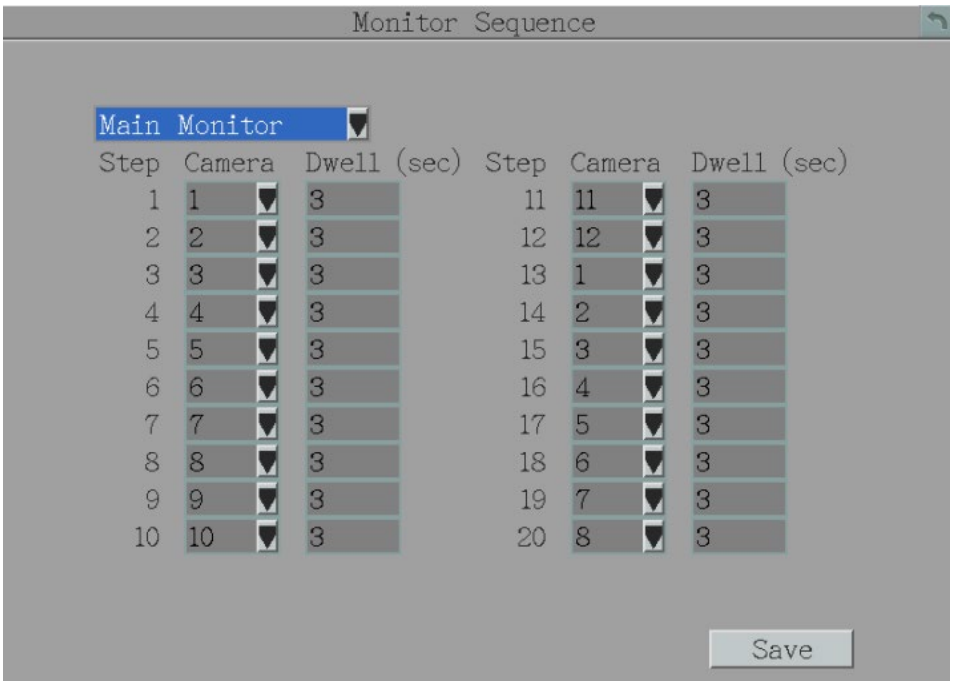
G-Sensor Status: Check the box to display G-Sensor status (only for main monitor).

OBDII: Check the box to display OBDII info (only for main monitor).

Save: Click to save the settings.

6.5.2 Sequence

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



Monitor Drop-Down: Select Main Monitor or Call Monitor for setting up the below parameters.

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.

After setting up the parameters, you can perform the Sequence function. To activate the Sequence function, on the OSD Root Menu, click the **Sequence** button  , the sequence function will start. You can see the **Sequence** status icon  displaying on the bottom of the screen. To end the sequence function, on the OSD Root Menu, click the **Sequence** button again.

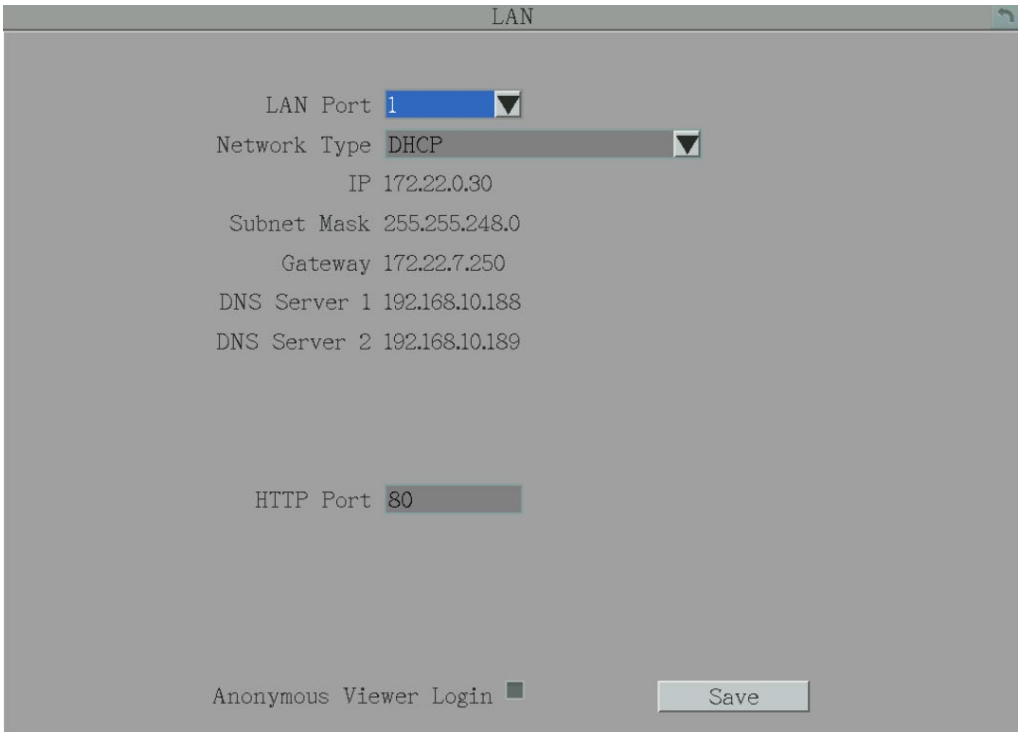
6.6 Network

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 smart phone.

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.

6.6.1 LAN

The mobile DVR provides two network ports: WAN (LAN1) on the front panel, and LAN (LAN2) on the rear panel.



LAN Port: The mobile DVR supports WAN and LAN network connections. Select **1** (WAN) or **2** (LAN) from the drop down list and further set up the below network settings.

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: This is only available for LAN1 (WAN) and is 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 *6.6.5 DDNS*).

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

HTTP Port: Port number for HTTP/WEB communication.

Anonymous Viewer Login: Check the box to allow the unauthorized persons to log in the Web page of the mobile DVR. Note that to protect your mobile 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.
    c. 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.

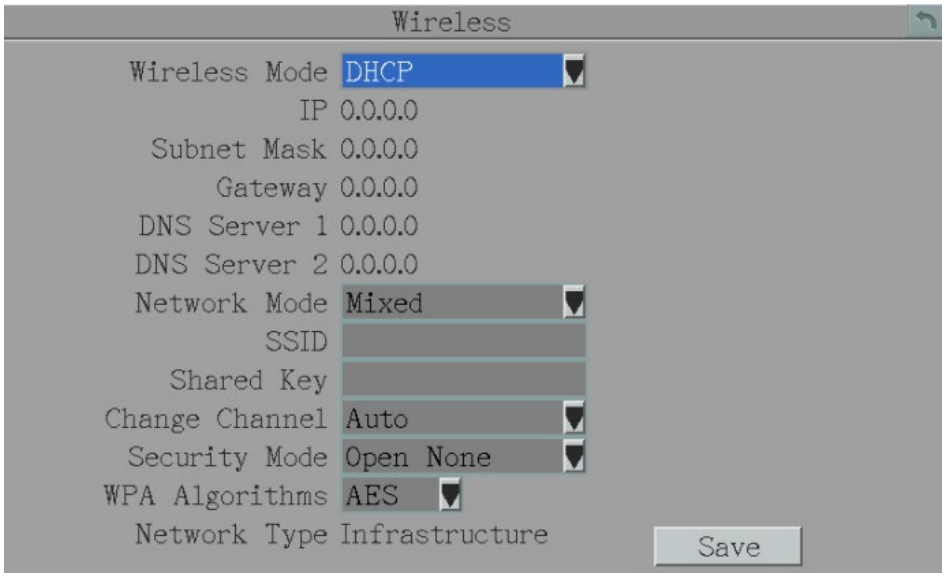
   What port(s) should be used? There are 65,535 valid IP ports to choose from. These are broken down into three groups:

   - 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

6.6.2 Wireless

You can set up the Wi-Fi network on this page.



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

Disable: Select to disable this function.

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 *6.6.5 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.

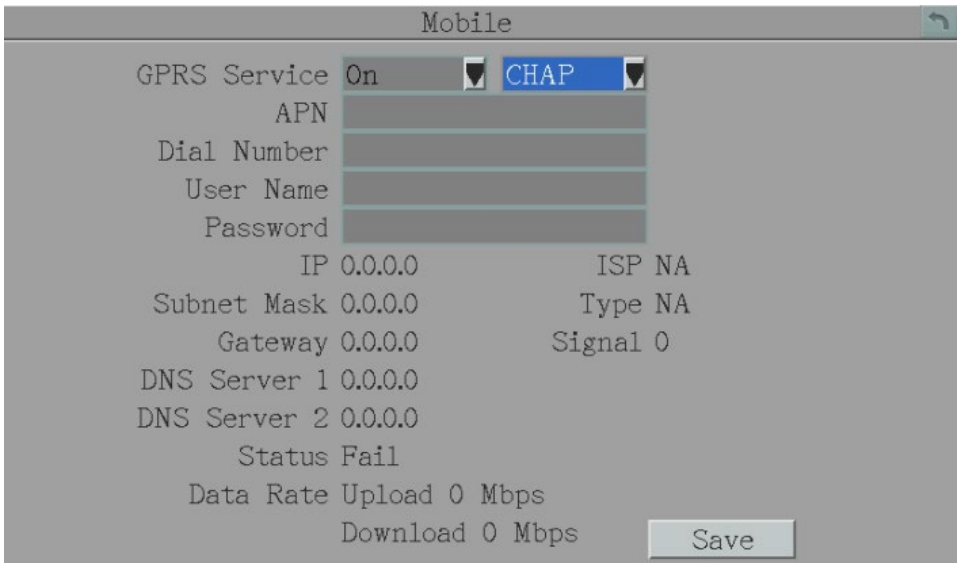
Security Mode: Select a wireless encryption protocol: WEP, WPA and WPA2.

WPA Algorithms: Select a WPA algorithm from the drop-down list.

Save: Click to save the settings.

6.6.3 Mobile

After connecting the 3G / 4G Antenna 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 Antenna 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.

   Status: If the connection is established, the status will display "Success".

   Date Rate: If the connection is established, the Data Rate information will be displayed.

   ISP: Displays the information of the internet service provider.

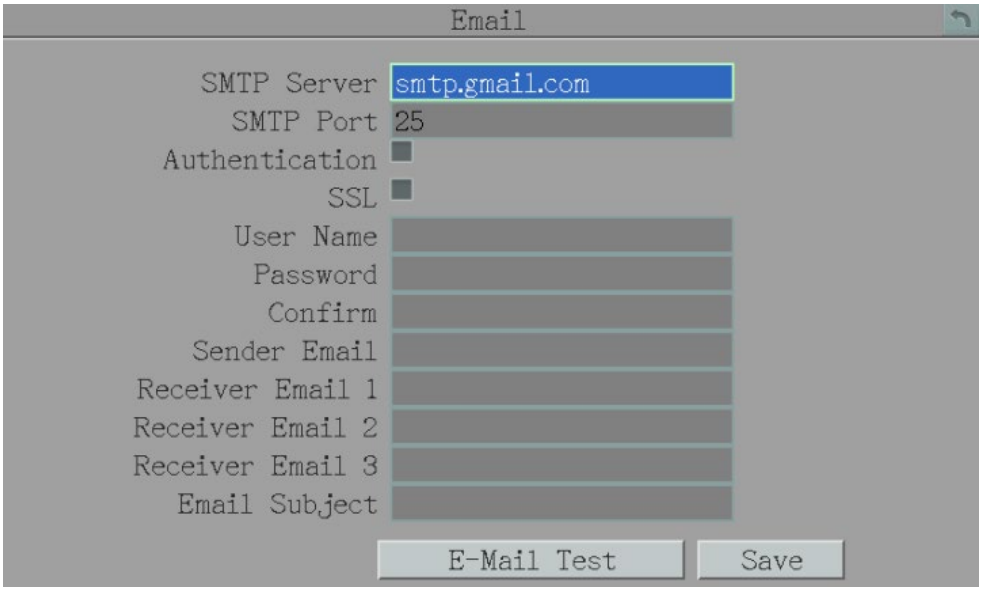
   Type: Displays the network type, such as 3G or 4G.

   Signal: Displays the signal strength (0~98). The higher the value, the stronger the strength.
4. You can now use the IP for remote access to the mobile DVR.

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

6.6.4 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.

After configuring the above Email settings, you have to enable **Email Notify** function to activate the Email Notify function. Please refer to *6.3 Event*.

6.6.5 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.

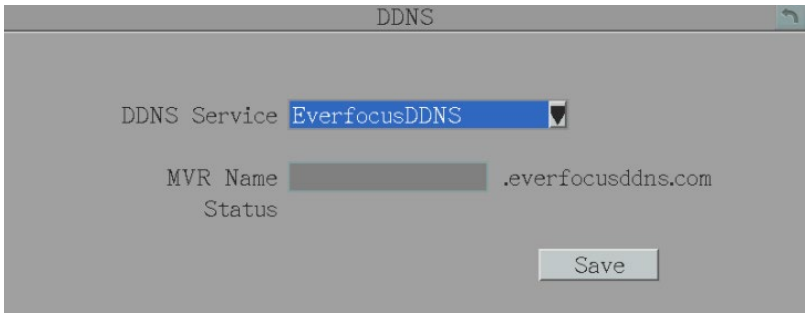
DDNS assigns a domain name (URL) to the mobile DVR, so that the user does not need to go through the trouble of checking if the IP address assigned by DHCP Server has changed. Once the IP is changed, the mobile DVR will automatically update the information to the DDNS to ensure it is always available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

6.6.5.1 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.

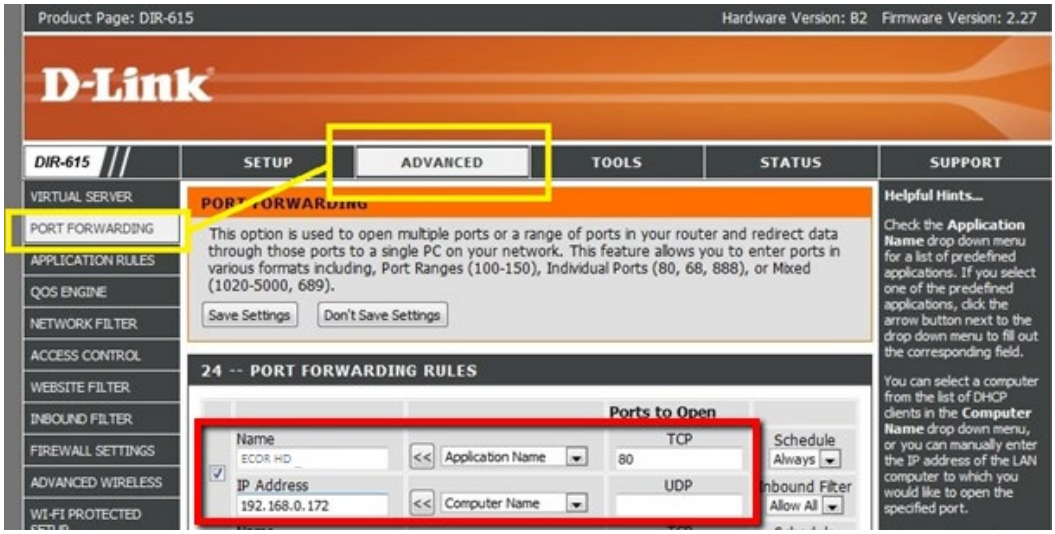
Note that the name of the mobile DVR cannot include a space, underline or any special characters particularly _~ ! @ # $ % ^ & * ( ) + < > " ; : . ,

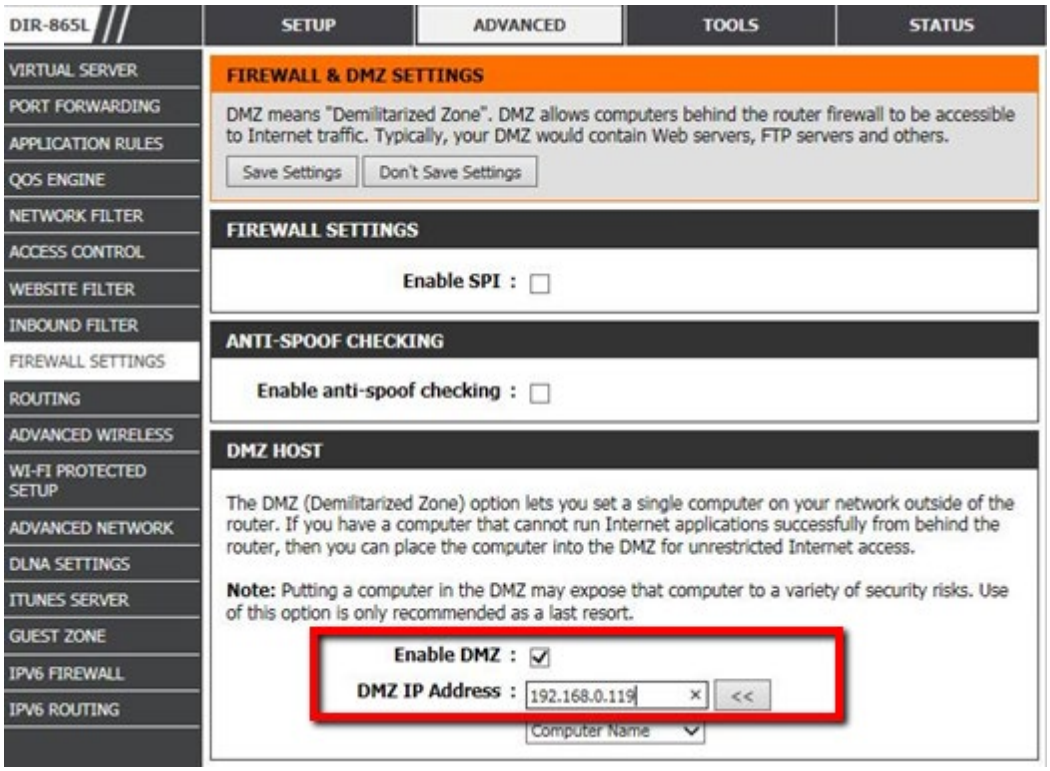
Save: Click to save the settings.

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.

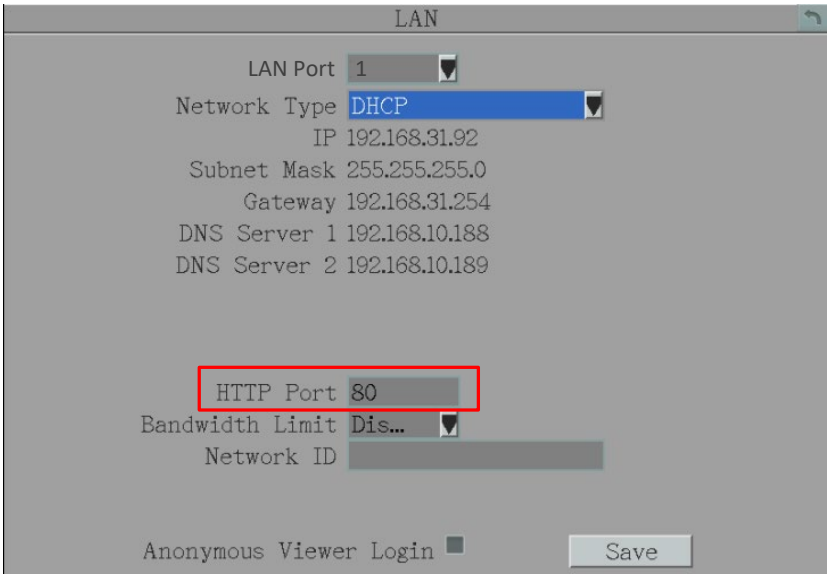
To set up DDNS function:

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.



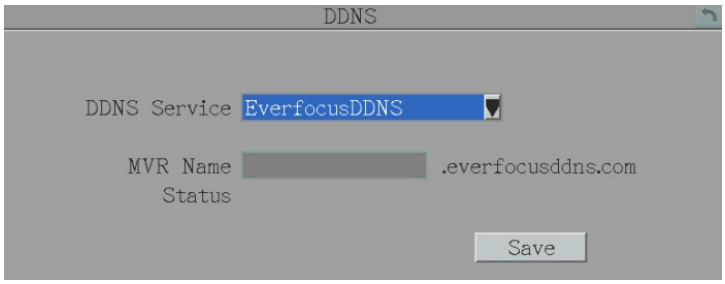


2. On the Network Setting page of MDVR (OSD Root Menu > System > Network > LAN), configure the LAN settings, keep HTTP port “80” and then click the **Save** button.



- 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 (OSD Root Menu > System > Network > DDNS), register a free host name from EverFocus DDNS and then click the **Save** button.



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

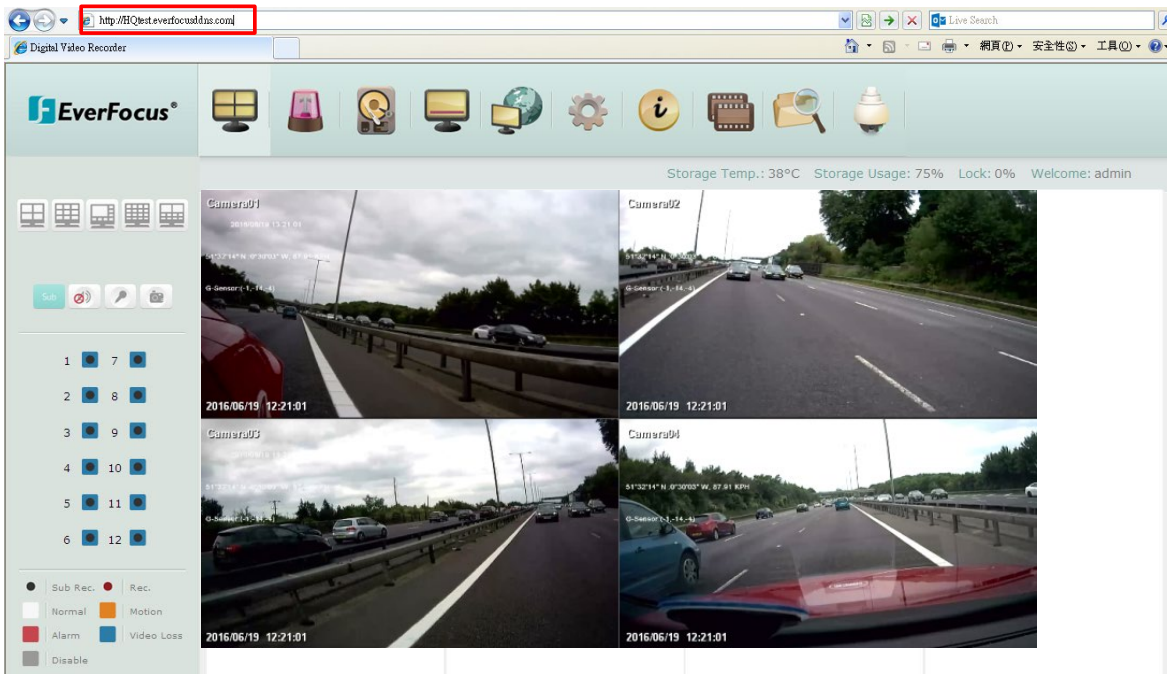
b. Enter a desired host name in the DVR Name field. If the host name is available, a “Success” window will appear. Click **OK**. If not, try another host name until the “Success” window appears.

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

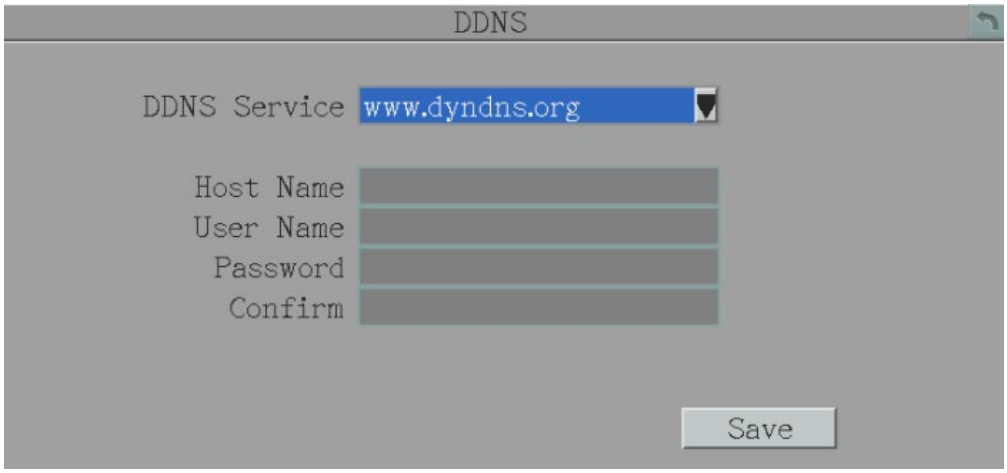
c. Click **Save**.

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.



6.6.5.2 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.

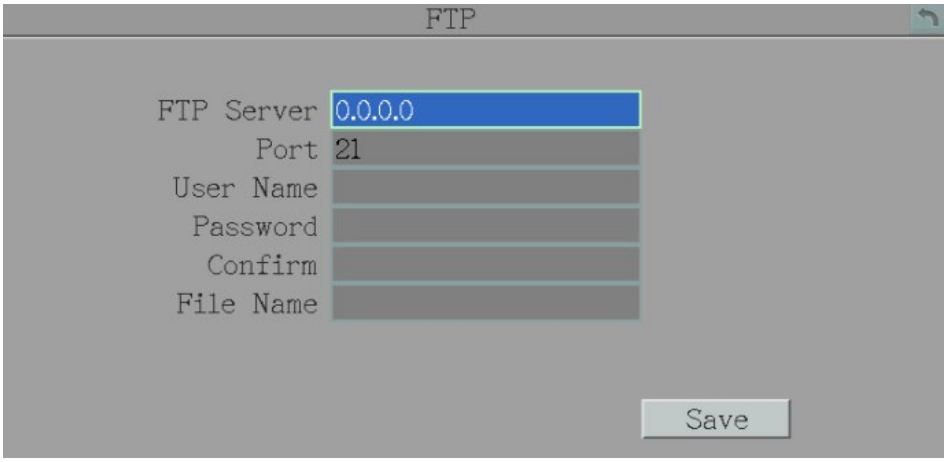
Setup Steps:

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 *6.6.1 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.

6.6.6 FTP

Set up the FTP server settings to enable the FTP function. The function is for users to upload the alarm recordings (MP4) or snapshots (JPEG) from sub stream to the FTP server. You can choose to upload either the recordings or snapshots, please see *6.3.1 Alarm.*



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.

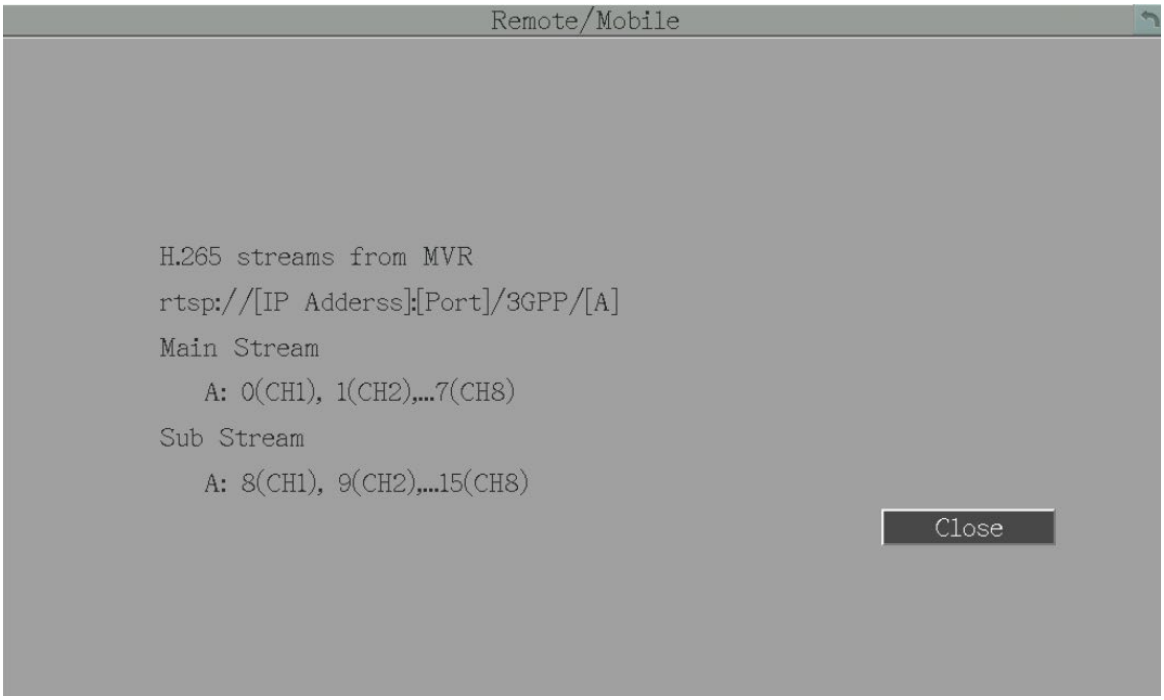
Confirm: Input the FTP password again to confirm.

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.

6.6.7 Remote/Mobile



You can confirm the RTP URL of your device.

For example:

rtsp://[IP Address]:[Port]/3GPP/[A]

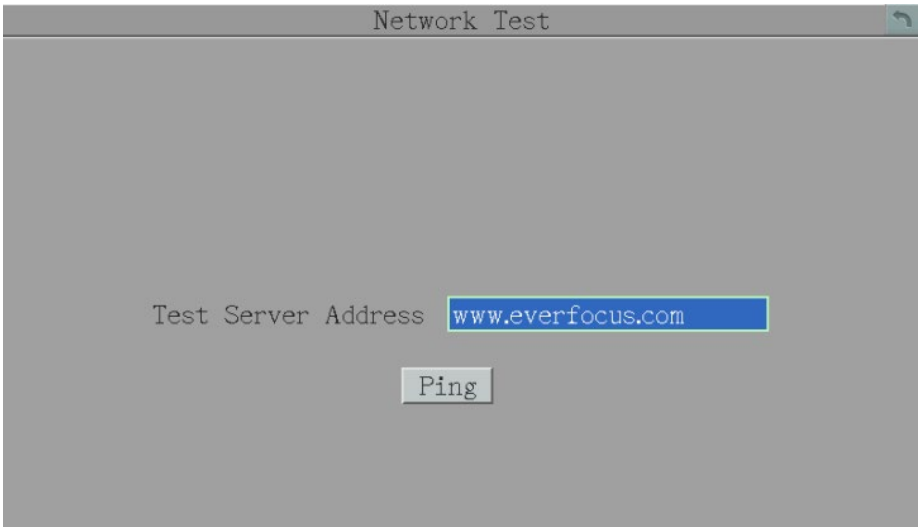
rtsp://192.168.31.33:554/3GPP/0

* IP Address: The IP address of the device.

* A: Channel number. 01 (ch1), 02 (ch2), and so on

6.6.8 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.



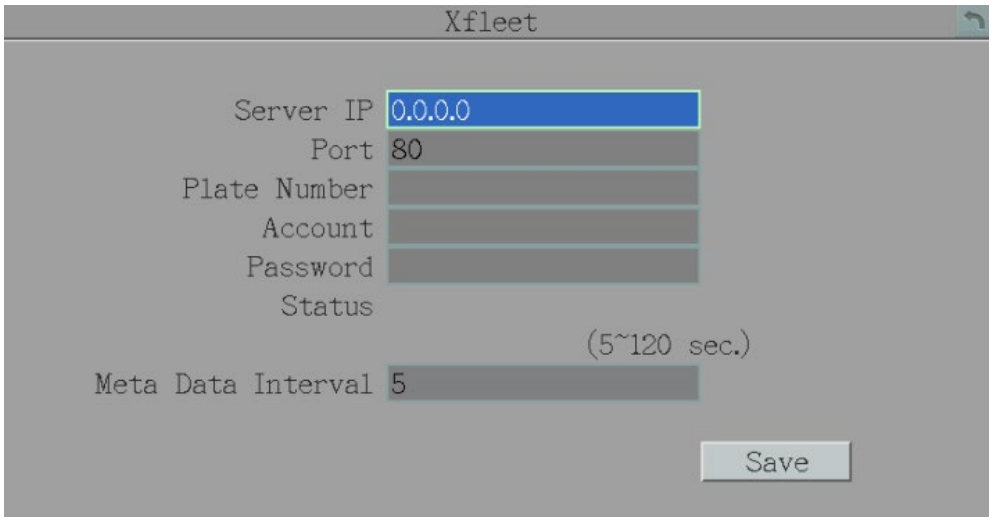
To verify basic network connectivity between the mobile DVR and other LAN or WAN nodes, click the **Ping** button.

6.6.9 Xfleet

You can use EverFocus Xfleet2.0 system for fleet management.

Xfleet 2.0 is a centralized management platform which is well designed to not only monitor fleets, but also to track driver statistics, maintenance records, fuel statistics and plenty of other in-depth analytics reports that assist you to make decisions and eventually reduce overall costs.

With Xfleet 2.0, making prediction and optimizing business performance will no longer be a burden as it provides timely response on the demands you need, creating long term value for clients across industries.



Server IP: Input the IP address of the Xfleet2.0 system.

Port: Input 6608 port and do not change the port as it is set up by default.

Plate Number: Optionally input the plate number.

Account: Input the user name of the Xfleet2.0 system.

Password: Input the password of the Xfleet2.0 system.

Meta Data Interval: Input an interval for mobile DVR to send meta data to the Xfleet2.0 system.

Save: Click to save the settings.

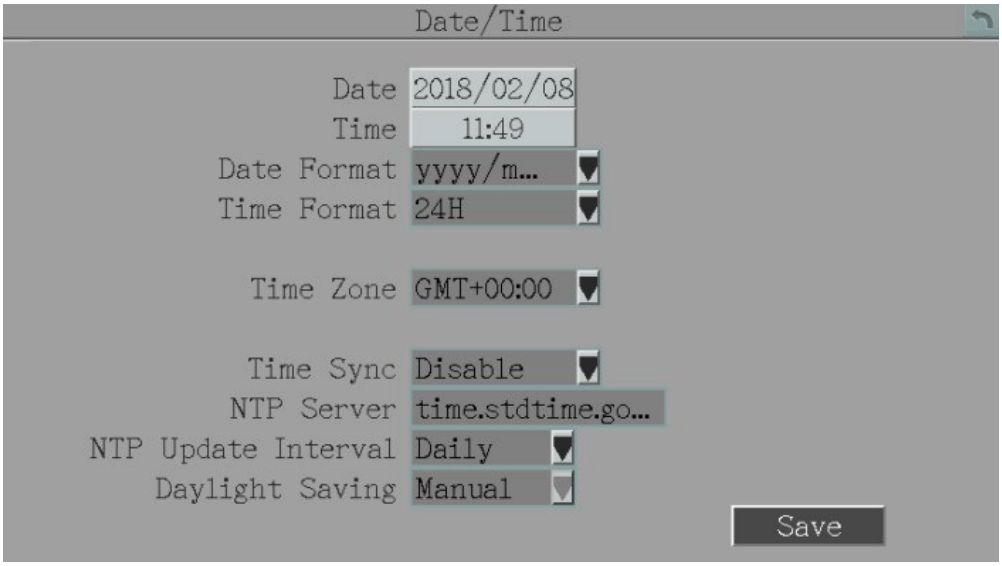
6.7 Sys Setting

You can configure general settings for the mobile DVR on this page.

6.7.1 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 *6.7.2 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 antenna 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 *6.7.2 Daylight Saving*).

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

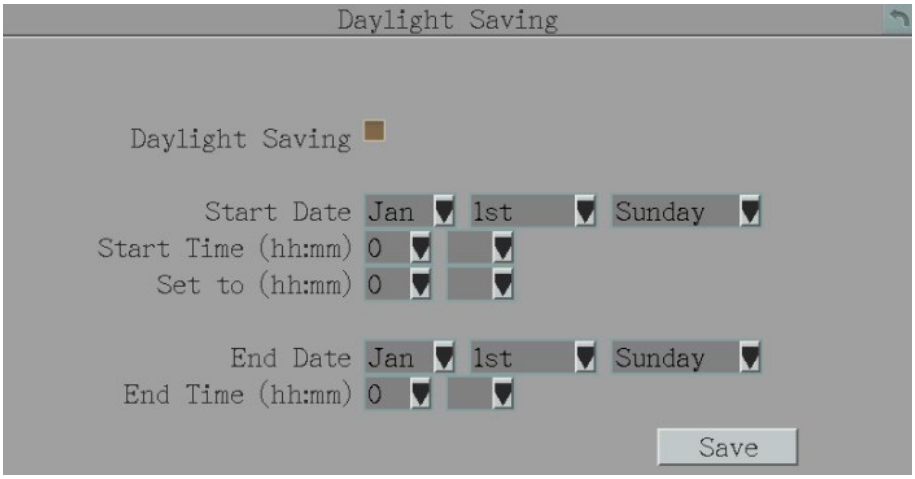
1. Select a U.S Time zone (GMT -05:00 ~ GMT -08:00).
2. Enable the **NTP**.
3. Enter a NTP server IP address in United States.
4. Select **Auto** in the **Daylight Saving** drop-down list.
5. Click **Save** to save the settings.
6. The Daylight Saving setting page (refer to *6.7.2 Daylight Saving*) will be grayed out and automatically set to the correct daylight saving time.

6.7.2 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 *6.7.1 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.

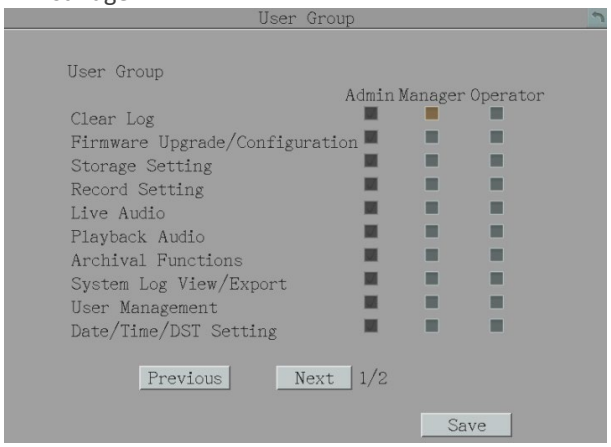
The time change difference on the End Date will be the same as the difference between the Start Time and End Time entered for the Start Date (typically 1 hour as in the example shown).

Save: Click to save the settings.

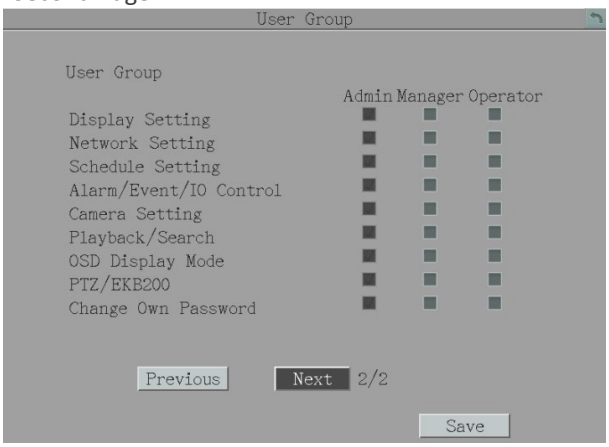
6.7.3 User Group

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, the Operator will have the privilege to clear log.

First Page



Second 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.

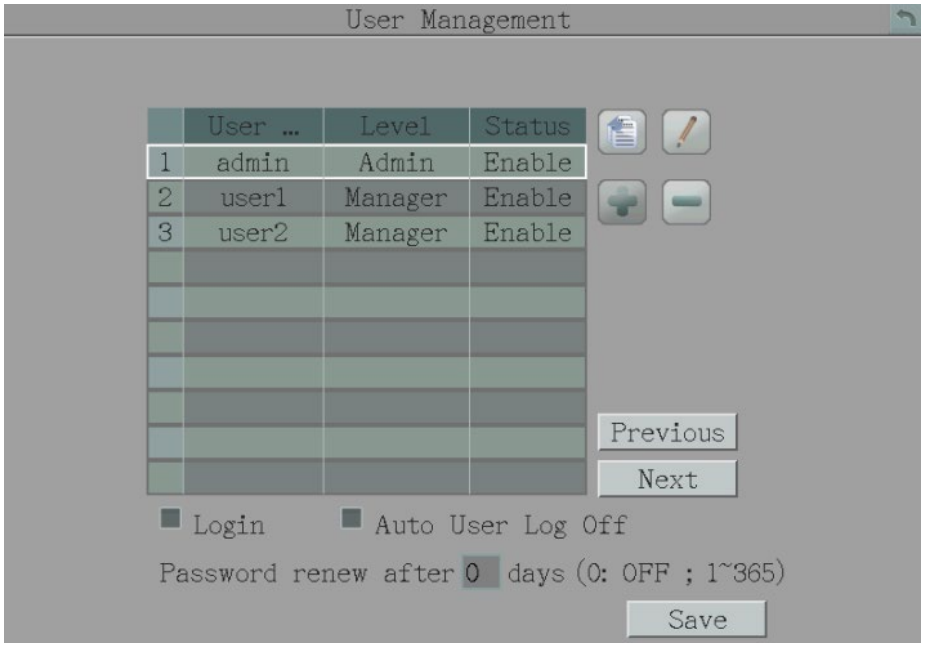
- **Camera Access:**
  Administrator: The Administrator account has the privilege to set up Camera Access right to all the user accounts.
  Manager: The Manager account can set up Camera Access right (cameras enabled by the Administrator account) to itself and Operator accounts.
  Operator: The Operator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

6.7.4 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 log off 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.

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 Rights: Check the boxes to enable the functions for the user account.

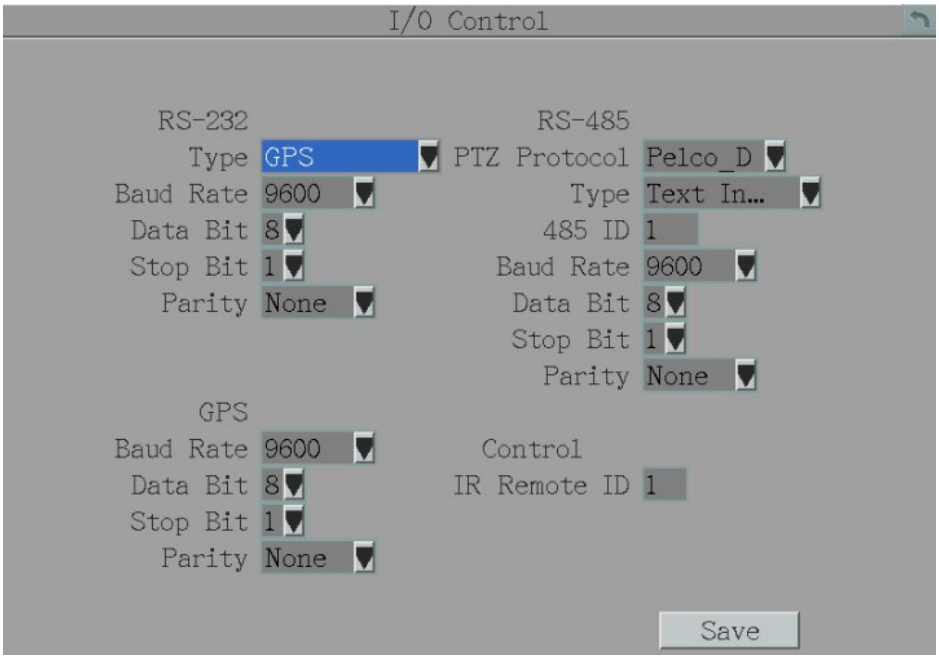
Previous: Click to return to the previous page.

Next: Click to enter the next page.

Save: Click to save the settings.

6.7.5 I/O Control

You can configure the connected device settings such as RS-232, RS-485 or GPS on this page. Please connect the devices to the system before configuring the I/O Control settings. Please refer to *2.5.4 D-Sub* Cable for device connection.



【RS-232】

Type: Select a type.

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 ts@everfocus.com.tw

【RS-485】

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

Type: Select a type.

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

Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the 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 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.

【GPS】: If you are using EverFocus GPS Receiver (please refer to *1.3 Optional Accessories*), please configure the settings below for GPS function to work.

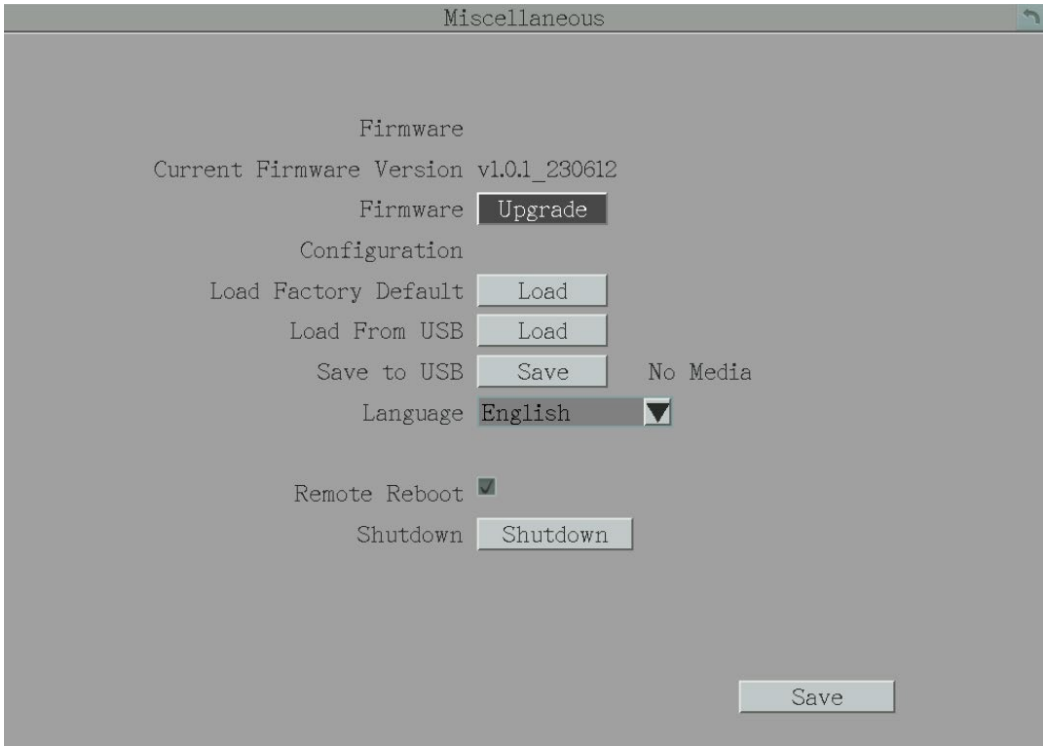
Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the mobile DVR. There are eight different speeds: 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, 38400 BPS, 57600 BPS and 115200 BPS.
Data Bit: This field is the data bit at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

6.7.6 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.

Firmware (Upgrade): Click to upgrade the latest firmware. Note that before clicking the Upgrade button, you will need to store the firmware file to the USB storage device and then connect the USB storage device to the mobile DVR.

【Configuration】

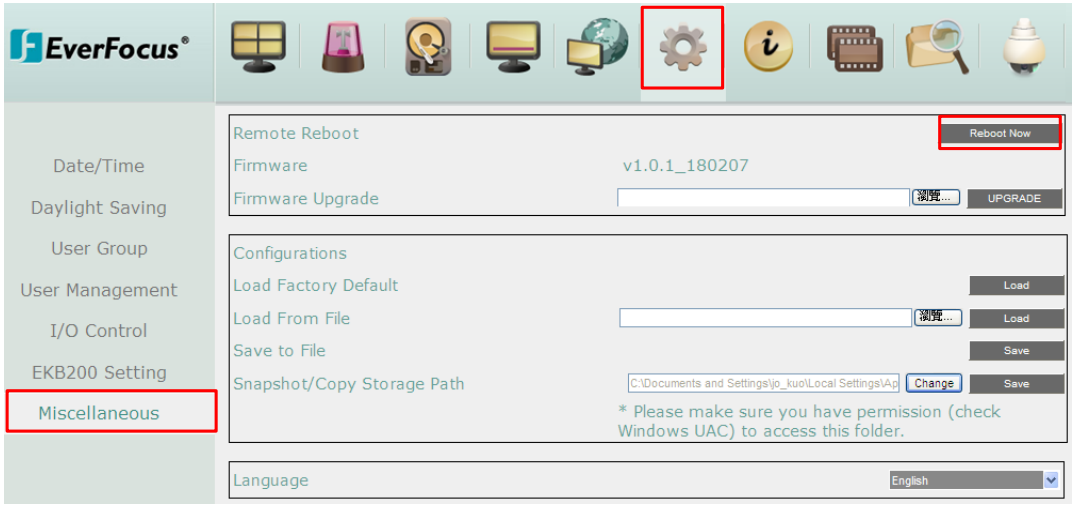
Load Factory Default: Click to restore the mobile DVR to factory default settings. The User Account, Network IP Settings, and Time settings will not be affected.

Load From USB: Click to upload the system configurations restored in the USB storage device. Note that you can only upload the system configurations to the same device mode. For example, if the system configurations downloaded is under NVR mode, you can only upload this system configuration to the mobile DVR under NVR mode.

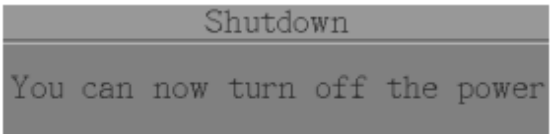
Save To USB: Click to save the mobile DVR configurations to the USB storage device.

Language: Choose which language the mobile DVR uses.

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



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.



Save: Click to save the settings.

Chapter 7

7. Remote Access to the Mobile DVR

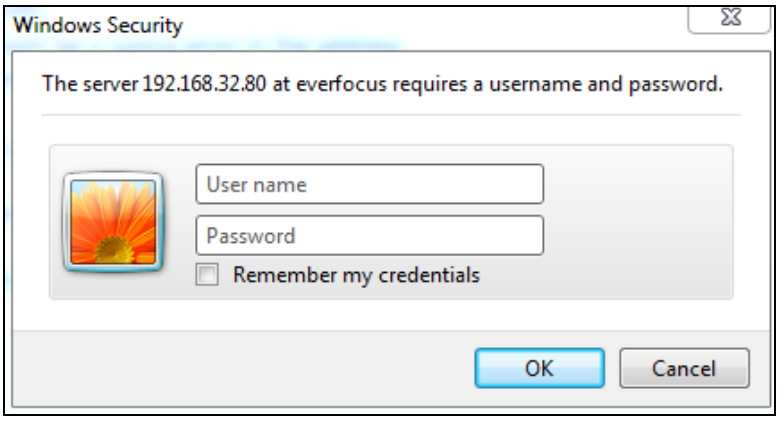
7.1 Accessing the Mobile DVR on the Network

Follow the steps below to access the mobile DVR from a computer.

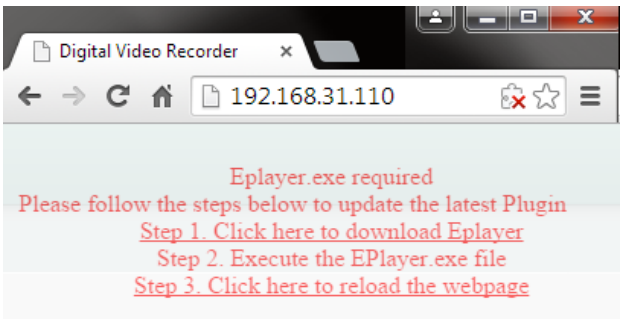
1. Open an Internet Explorer window and in the address bar type the IP address.
   Local connection:
   http:// (IP address from the mobile DVR's Network Menu): IP port used
   e.g. http://192.168.1.163:2468

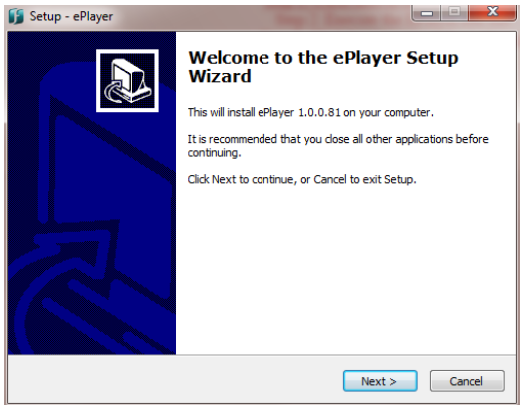
   Internet connection:
   http:// (IP address given by your Internet Service Provider): IP port used
   e.g. http://57.182.67.204:2468

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** to login.



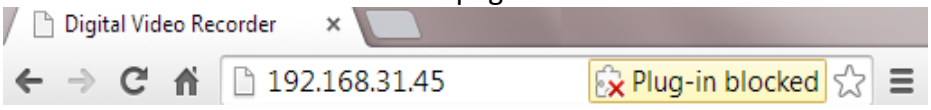
3. If you log in for the first time, follow the instruction steps on the interface to update the latest Plugin version (ePlayer). After reloading the webpage, the login window pops up again. Type the user ID and password to log in again. By default, the user ID is **admin** and the password is **11111111**.

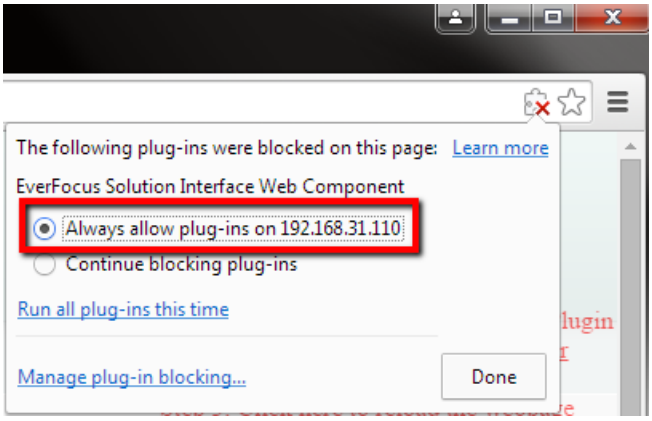




Note for the first time login:

- 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.

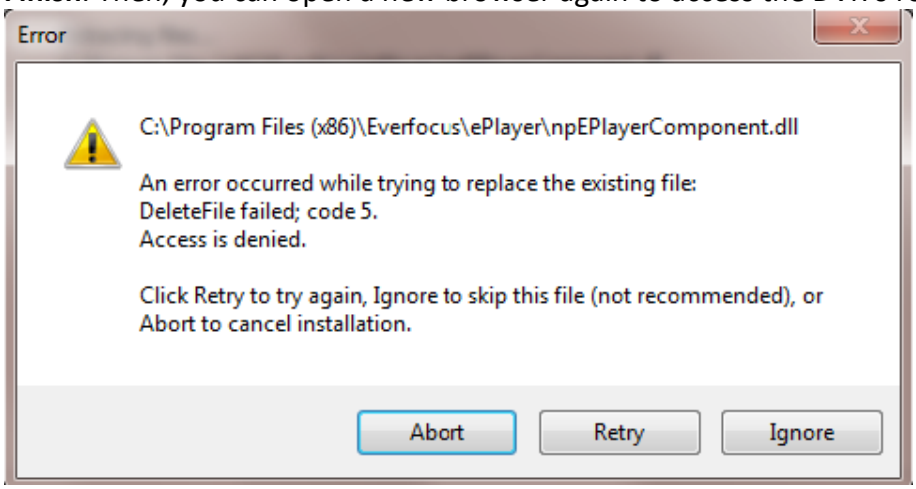


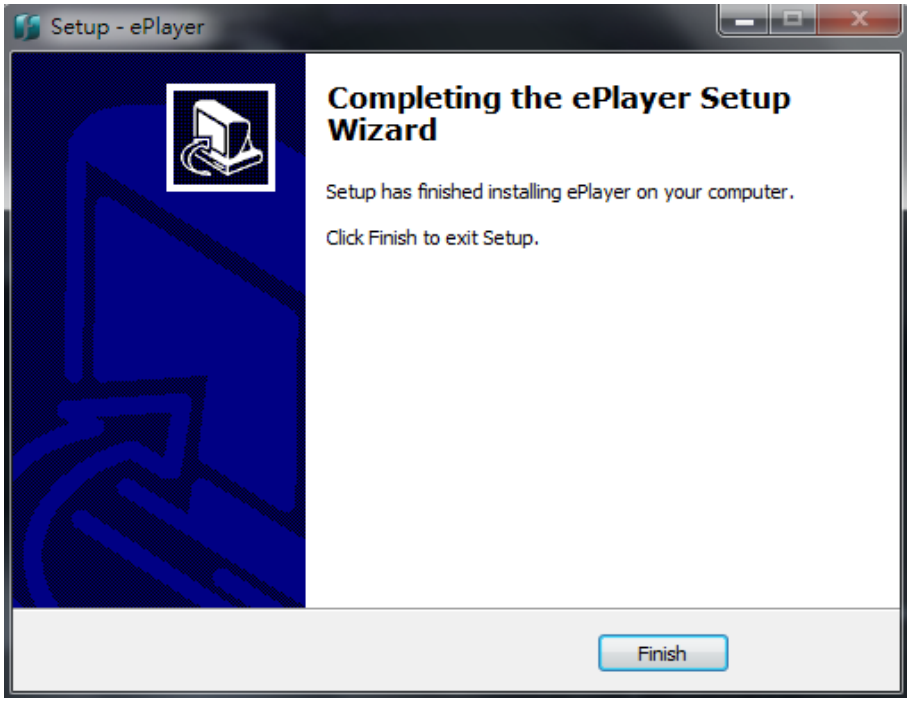


4. Now you will be able to see the remote live page.

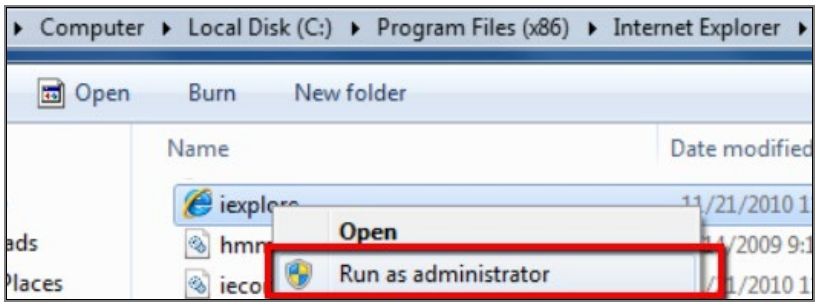
If you encounter the following problem or still can't access the remote Web interface, please see below:

- 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.

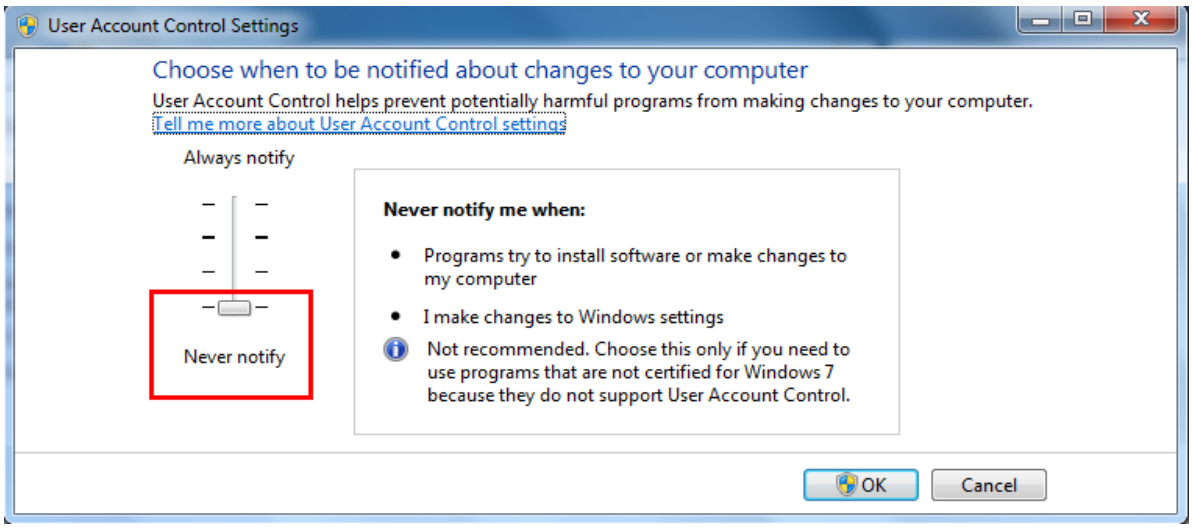




- If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.



- 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. Ensure there is a speaker on the PC; a microphone and preamp attached to the mobile DVR; and audio recording is enabled on the mobile DVR. Click the **Microphone** button to transfer audio to mobile DVR from client side. Ensure there is a microphone attached to the PC; and an amplifier and speaker attached to the mobile DVR. 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. Red Circle: Indicates the mobile DVR is recording in main-stream. White: Indicates the live view is in a normal status. Blue: Indicates video loss. Red: Indicates an alarm / event is triggered. Grey: Indicates the live view is disabled.
7	**Live View Window**	Double-click on a camera image to enlarge the current display to full screen; double-click again to return to the normal view.

7.3 Menu Bar

No.	Name	Description
1	**Live View**	Click to display the live view window.
2	**Event**	Click to configure the alarm / event settings. Please refer to *7.3.1 Event*.
3	**Storage**	Click to display the Storage information. Please refer to *7.3.2 Storage.*
4	**Display Setting**	Click to configure the display settings for displaying the camera information on the camera live view. Please refer to *7.3.3 Display Setting*.
5	**Network**	Click to configure the network settings. Please refer to *7.3.4 Network.*
6	**System Setting**	Click to configure the Mobile DVR time / user privilege / IO control / UI language or upgrading firmware and etc. Please refer to *7.3.5 System Setting.*
7	**System Information**	Displays the system information. Please refer to *7.3.6 Information.*
8	**Copy**	Click to archive the recordings from the Mobile DVR to the client PC. Please refer to *7.3.7 Copy.*
9	**Search**	Search the recordings for remote playback. Please refer to *7.3.8 Search.*
10	**PTZ**	Click to control the connected PTZ cameras. Please refer to *7.3.9 PTZ*.

7.3.1 Event

You can configure the Alarm, Video Loss and Other settings on this page.

7.3.1.1 Alarm

Alarm: Select an Alarm input number.

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. For analog cameras, the pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.1.1 Analog Camera*). 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 *7.3.4.4 Email*).

Auto Lock: Check the box and the events will be recorded in a write protected segment of the hard disk (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 *7.3.2.3 Lock / Format*).

SD Backup: 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*.4.6 FTP*.

Note:

1. If the Archiving Recording to the FTP server function (refer to *4.7 Archiving the Recordings to the USB or FTP*) is working in progress, the FTP Upload function will stop. The system will start the FTP Upload function when the Archiving Recording to the FTP progress is complete.
2. If multiple alarms have been triggered, up to 10 alarm recordings can be simultaneously uploaded to the FTP server at once.

Panic Alarm: Check the box to send panic alarm data to the Xfleet system.

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 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 alarm 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.

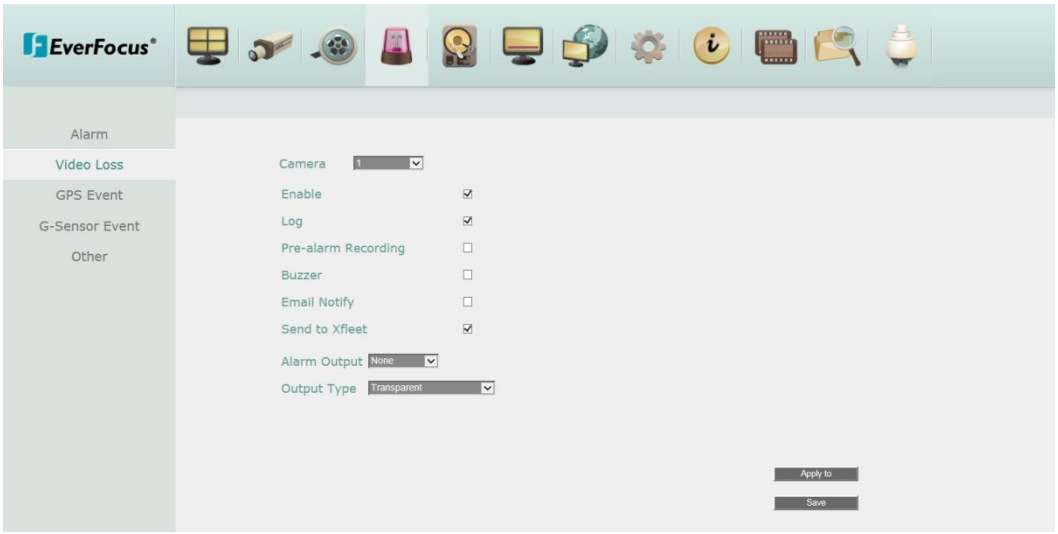
PTZ: If the Active Camera selected above is a PTZ camera, you can further set up the PTZ actions in this field.

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

Save: Click to save the settings.

7.3.1.2 Video Loss

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



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. For analog cameras, the pre-alarm recording rate will follow the Normal Speed configured in the earlier section (see *6.1.1 Analog Camera*). 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 *7.3.4.4 Email*).

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).

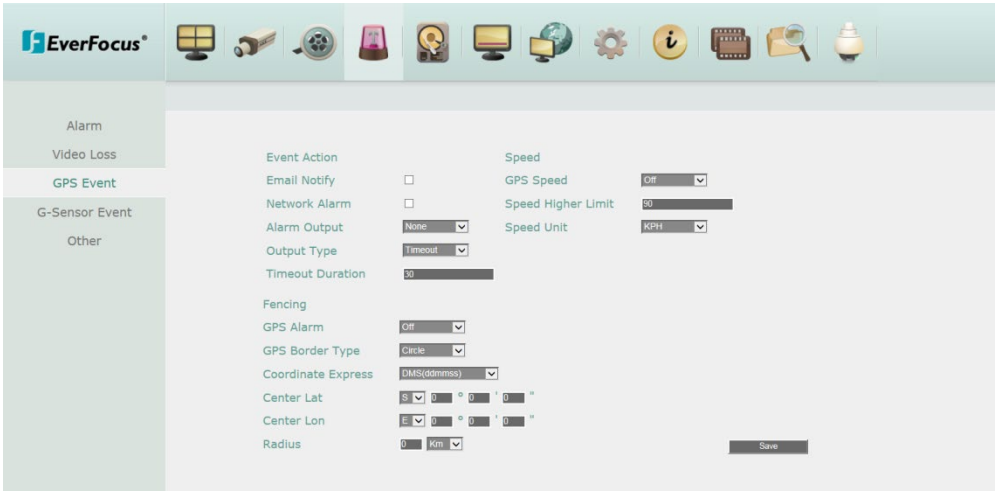
Timeout Duration: This function only appears when you select **Timeout** or **Trans + Timeout** options in the Output Type drop-down list. Select a duration time for the event. The alarm output will last for the setup duration time between 10 and 150 seconds.

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

Save: Click to save the settings.

7.3.1.3 GPS 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.



【**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 *7.3.4.4 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.

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 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.

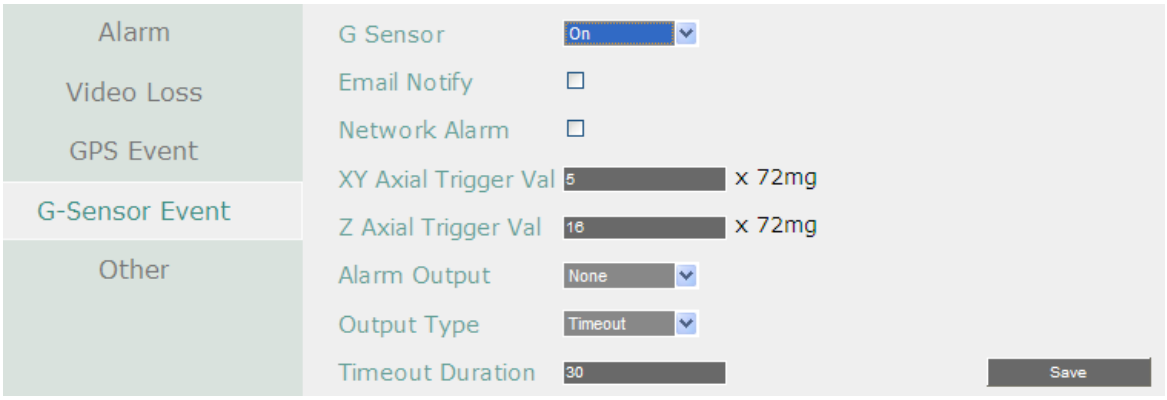
Speed Limit: Set the vehicle speed to determine at which level the alarm will be triggered. Once the vehicle reaches the setup speed, the alarm will be triggered.

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.

7.3.1.4 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 *7.3.4.4 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 .

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.

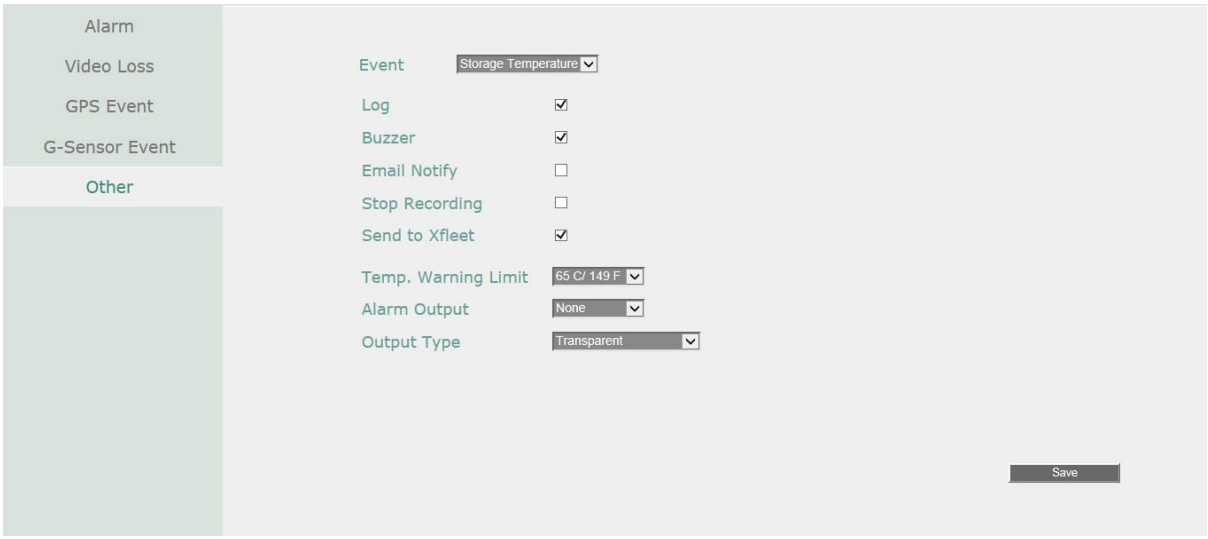
Timeout Duration: The amount of time the buzzer sounds when GPS is lost. Duration selectable from 10 to 150 seconds.

Save: Click to save the settings.

7.3.1.5 Other

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

7.3.1.1 Storage Temperature.



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 *7.3.4.4 Email*).

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.

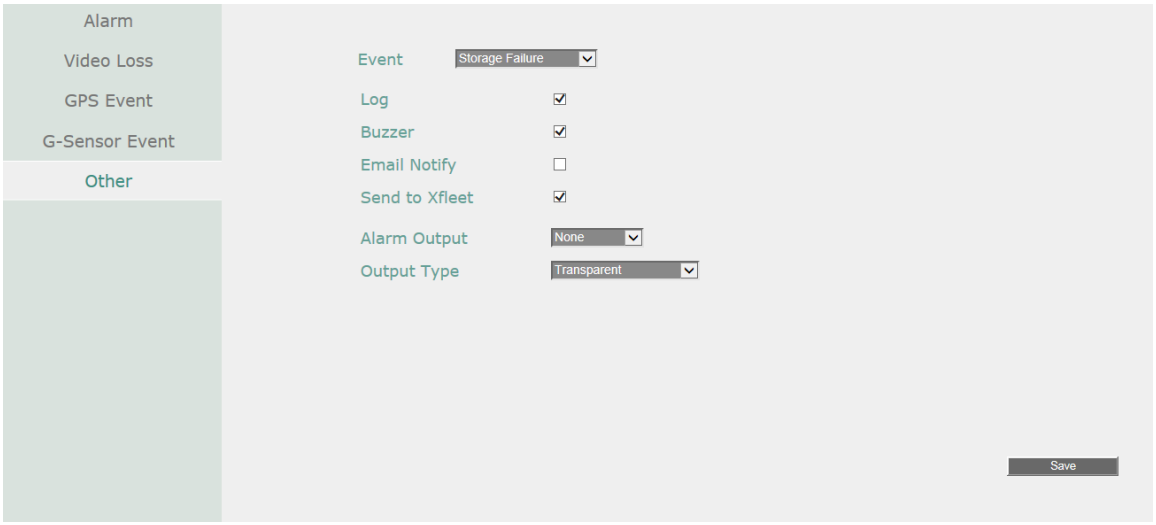
Temp. Warning Limit: Sets the trigger temperature for System / Storage Temperature event actions. Choose between 45°C /113°F and 70°C /158°F.

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.

7.3.1.2 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 *7.3.4.4 Email*).

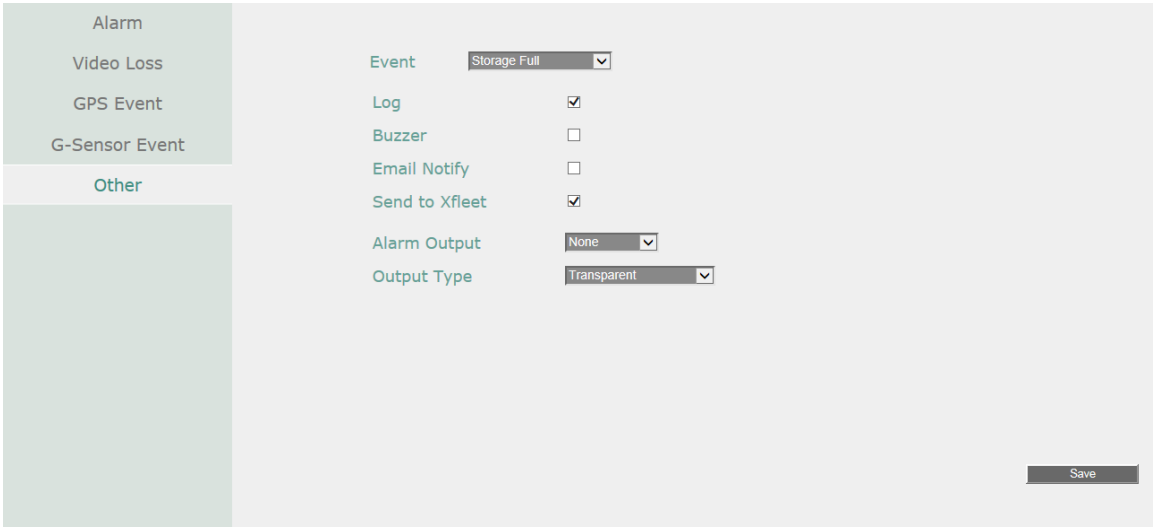
Send to Xfleet: Check the box to send the event data to the Xfleet system. Note that for the Xfleet system to receive event data from the mobile DVR in order to perform the event actions on Xfleet system, this function must be enabled.

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.

7.3.1.3 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 *7.3.4.4 Email*).

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.

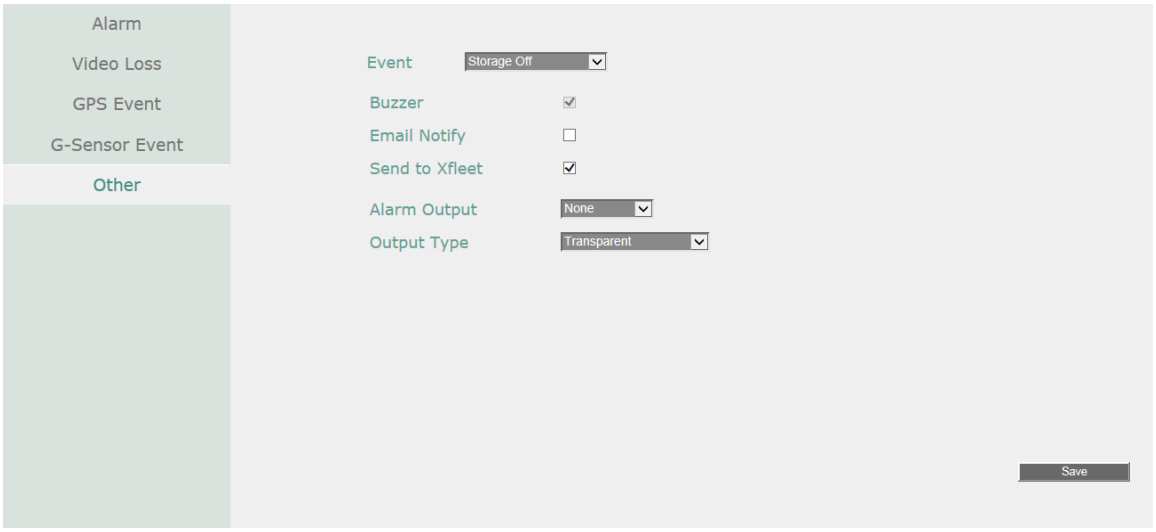
Transparent: Alarm output remains as long as the alarm input is active.

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.

7.3.1.4 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 *7.3.4.4 Email*).

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.

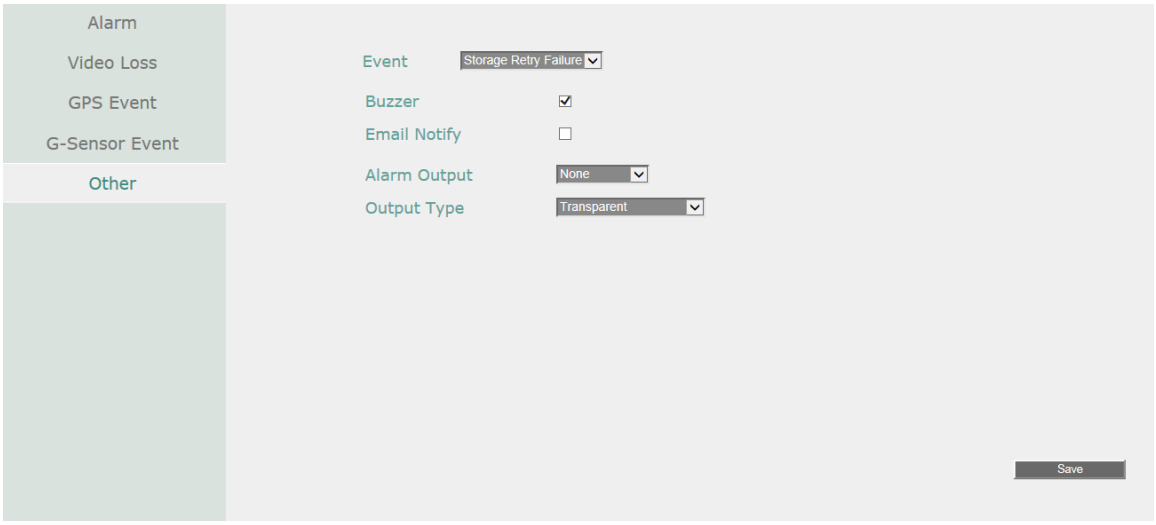
Transparent: Alarm output remains as long as the alarm input is active.

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.

7.3.1.5 Storage Retry Failure



Buzzer: The buzzer will activate when fan is not working.

Email Notify: Check the box to send email notification when Disk Retry Failure occurs. Email operation requires valid email entered in the Email setup menu (see *7.3.4.4 Email*).

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 Disk Retry Failure occurs.

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.

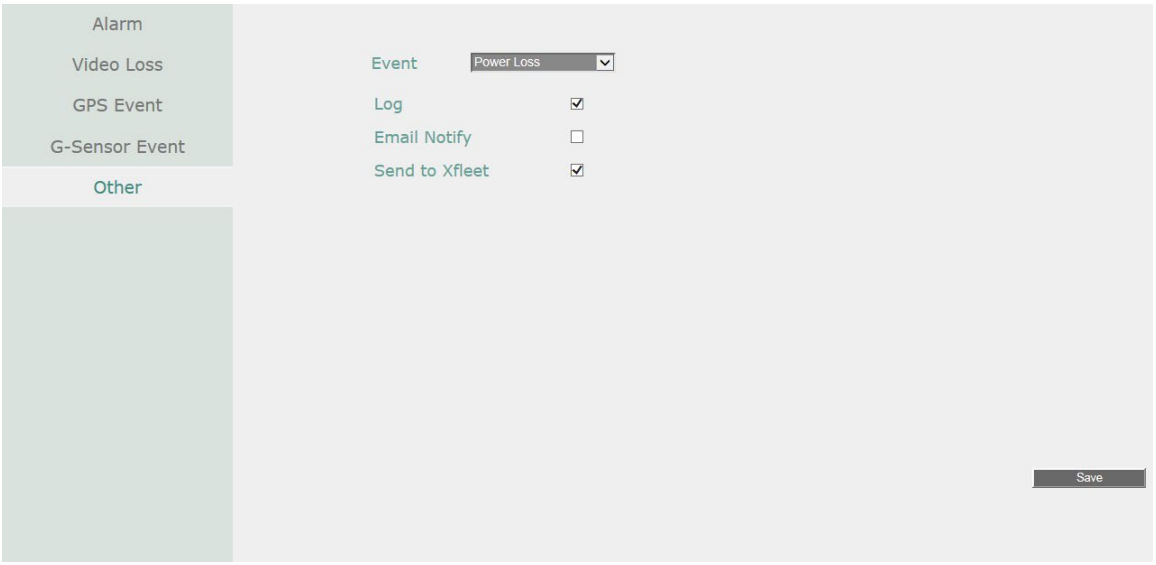
Transparent: Alarm output remains as long as the alarm input is active.

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.

7.3.1.6 Power Loss



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

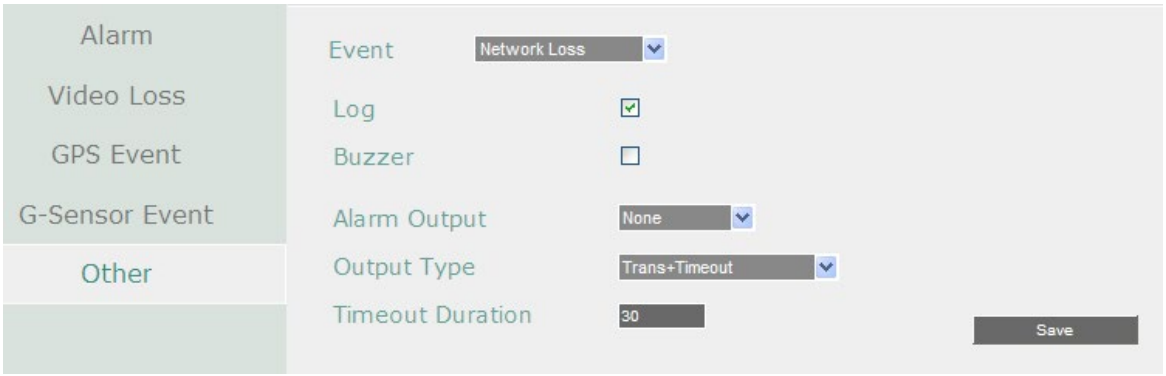
Email Notify: Check the box to send email notification when power has been restored. Email operation requires valid email entered in the Email setup menu (see *7.3.4.4 Email*).

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.

7.3.1.7 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.

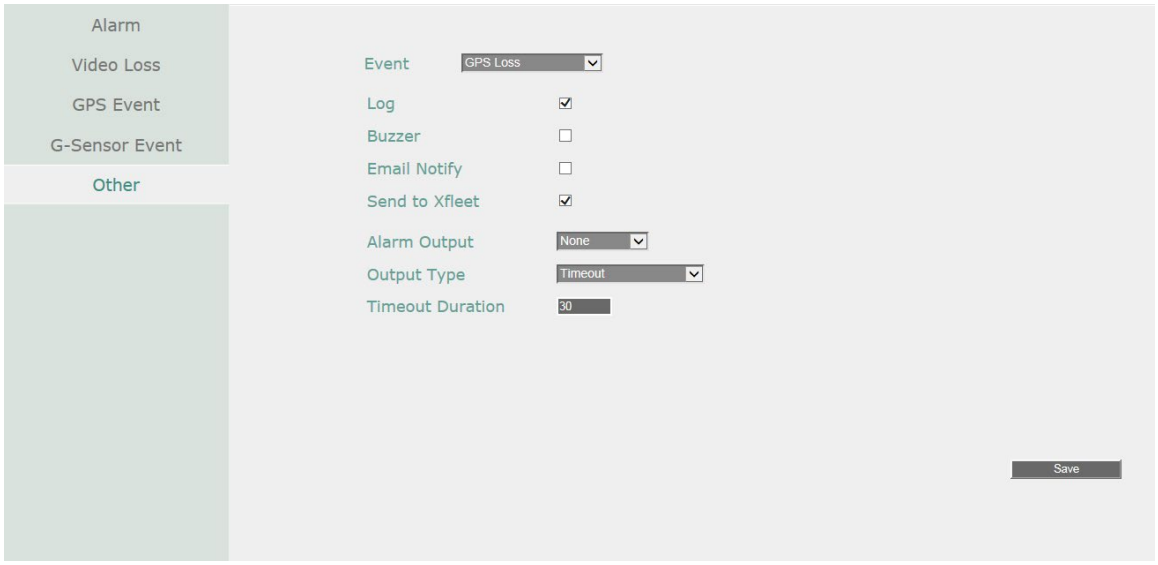
Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (10 ~ 150 seconds).

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.

7.3.1.8 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 *7.3.4.4 Email*).

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).

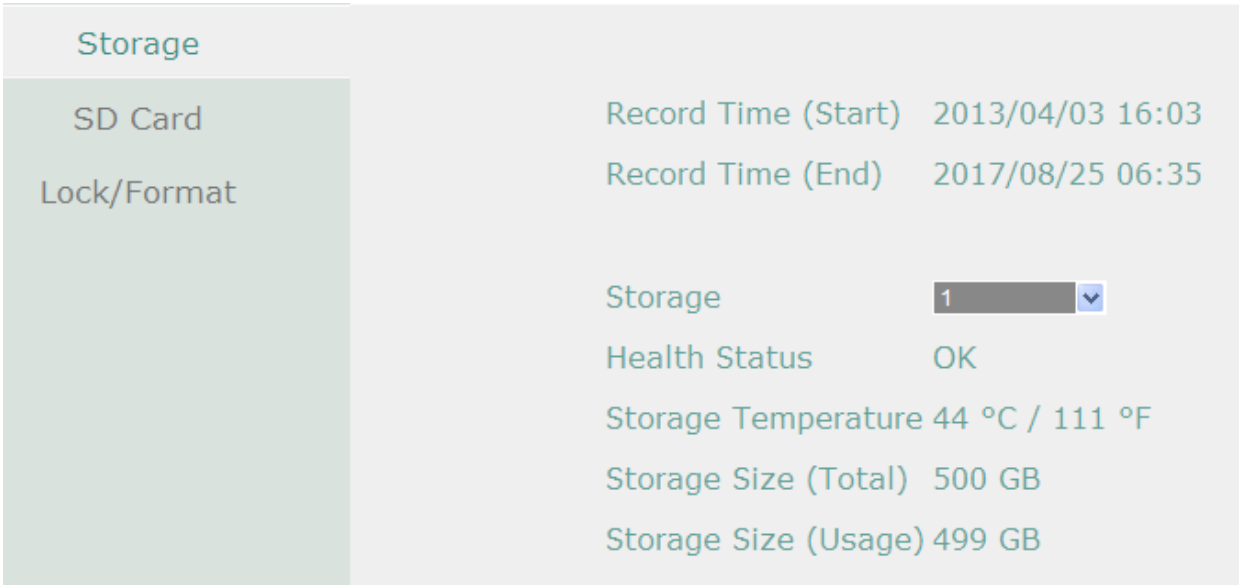
Timeout Duration: This function only appears when you select **Timeout** or **Trans + Timeout** options in the Output Type drop-down list. Select a duration time for the event. The alarm output will last for the setup duration time between 10 and 150 seconds.

Save: Click to save the settings.

7.3.2 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.

7.3.2.1 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.

Disk: Select a disk number.

Health Status: Displays the current status of the selected disk.

Disk Temperature: Displays the current temperature of the selected disk.

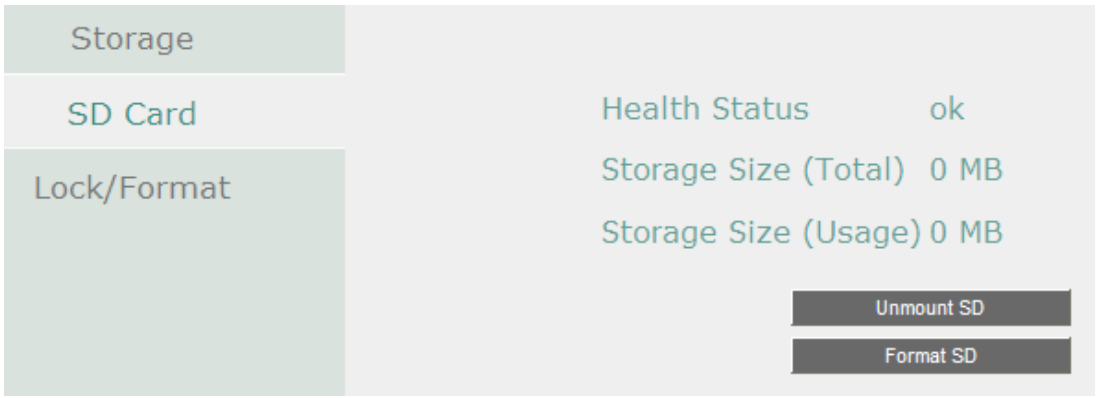
Disk Size (Total): Shows the total space of the selected disk.

Disk Size (Usage): Shows the used space of the selected disk.

7.3.2.2 SD Card

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 SD Card Installation*) and then configure the alarm settings (see *7.3.1 Event*).



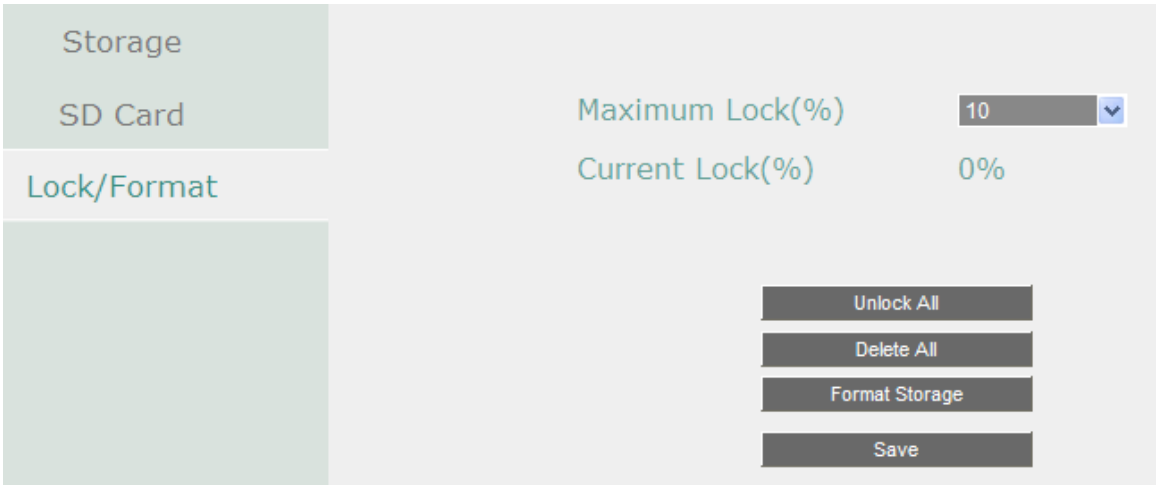
Unmount SD: Before removing the SD card from the mobile DVR, please click the **Unmount SD** button first for data safety purpose.

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 F 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.

7.3.2.3 Lock/Format

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



Maximum Lock (%): Sets the maximum percentage of the hard disk space reserved for Locked Event Recordings. To set up the Locked Event Recordings, please select the **Auto Lock** item in *7.3.1.1 Alarm*.

Current Lock (%): Displays the current percentage of the locked event recordings in the hard disk. 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 hard disk.

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

Format Disk: Click this button to format the whole HDD. WARNING: This will effectively ERASE the ENTIRE hard disk!!

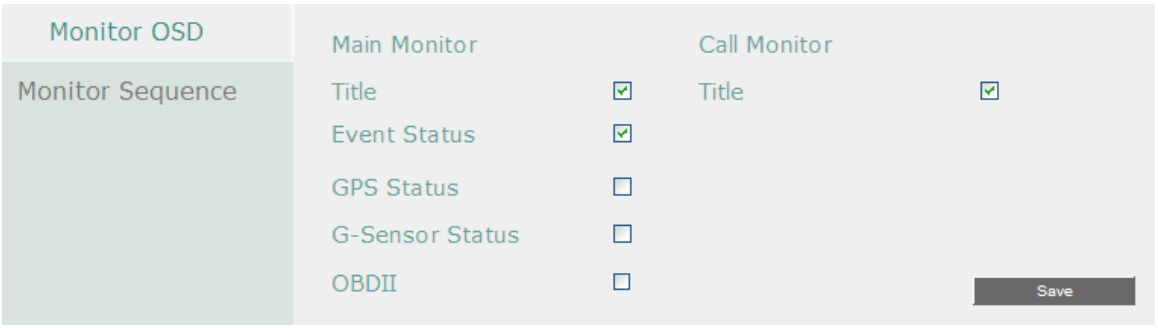
Save: Click to save the settings.

7.3.3 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.

7.3.3.1 Monitor OSD

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



Title: Input a title to be displayed on the upper-middle of the live view screen.

【Main Monitor / Call Monitor】: Select the below items to be displayed on the live view image.

Title: Check the box to display camera titles. Please input a title in the **Title** input box in advance.

Event Status: Check the box to display event 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).

OBDII: Check the box to display OBDII info (only for main monitor).

Save: Click to save the settings.

7.3.3.2 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.

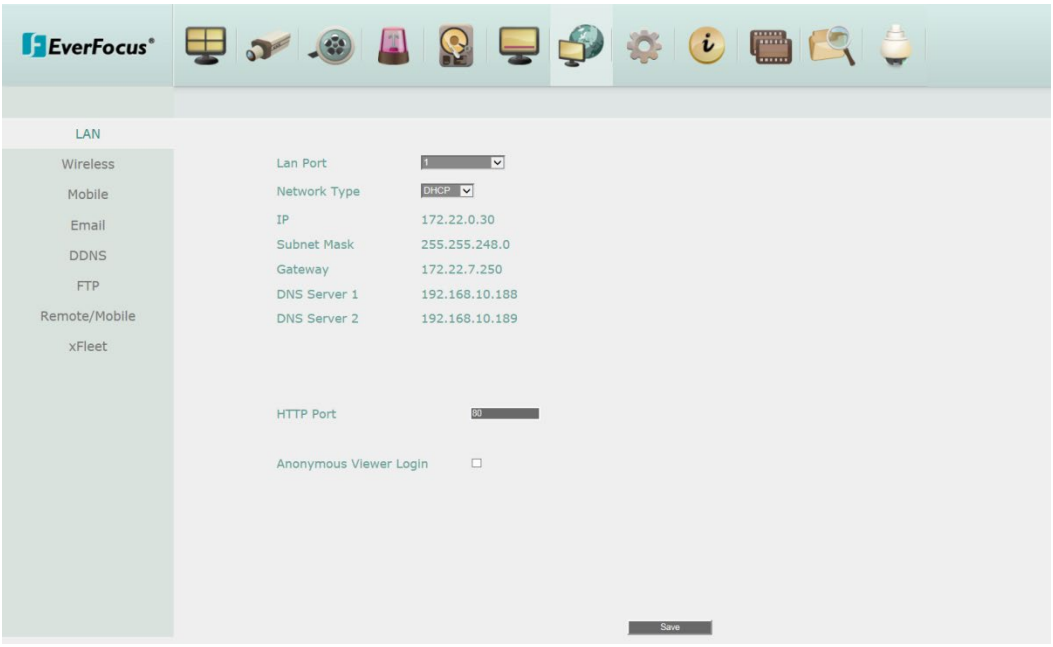
7.3.4 Network

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 smart phone.

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.

7.3.4.1 LAN

The mobile DVR provides two network ports: WAN (LAN1) on the front panel, and LAN (LAN2) on the rear panel.



LAN Port: The mobile DVR supports WAN and LAN network connections. Select **1** (WAN) or **2** (LAN) from the drop down list and further set up the below network settings.

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: This is only available for LAN1 (WAN) and is 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 *7.3.4.5 DDNS*).

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

HTTP Port: Port number for HTTP/WEB communication.

Anonymous Viewer Login: Check the box to allow the unauthorized persons to log in the Web page of the mobile DVR. Note that to protect your mobile 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:

3. Set up the mobile DVR Network Menu according to the instructions detailed in the Networking chapter of this mobile DVR's manual.
   d. 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.
   e. 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.
   f. 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.

4. 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.

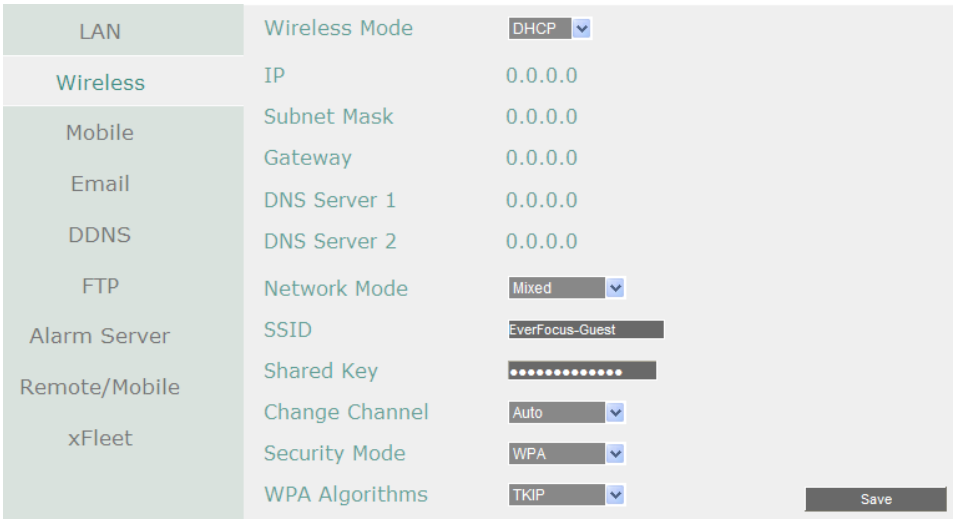
What port(s) should be used? There are 65,535 valid IP ports to choose from. These are broken down into three groups:

- 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

7.3.4.2 Wireless

You can set up the Wi-Fi network on this page.



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

Disable: Select to disable this function.

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 *7.3.4.5 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.

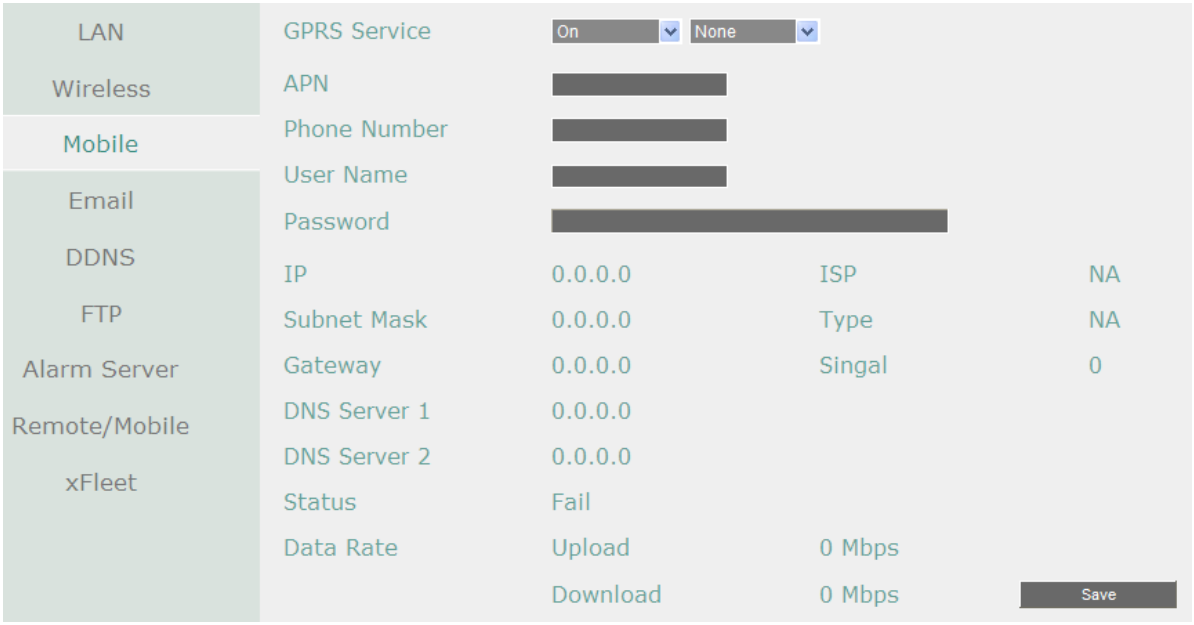
Security Mode: Select a wireless encryption protocol: WEP, WPA and WPA2.

WPA Algorithms: Select a WPA algorithm.

Save: Click to save the settings.

7.3.4.3 Mobile

After connecting the 3G / 4G Antenna 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 Antenna 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, Phone 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.

   Status: If the connection is established, the status will display "Success".

   Date Rate: If the connection is established, the Data Rate information will be displayed.

   ISP: Displays the information of internet service provider.

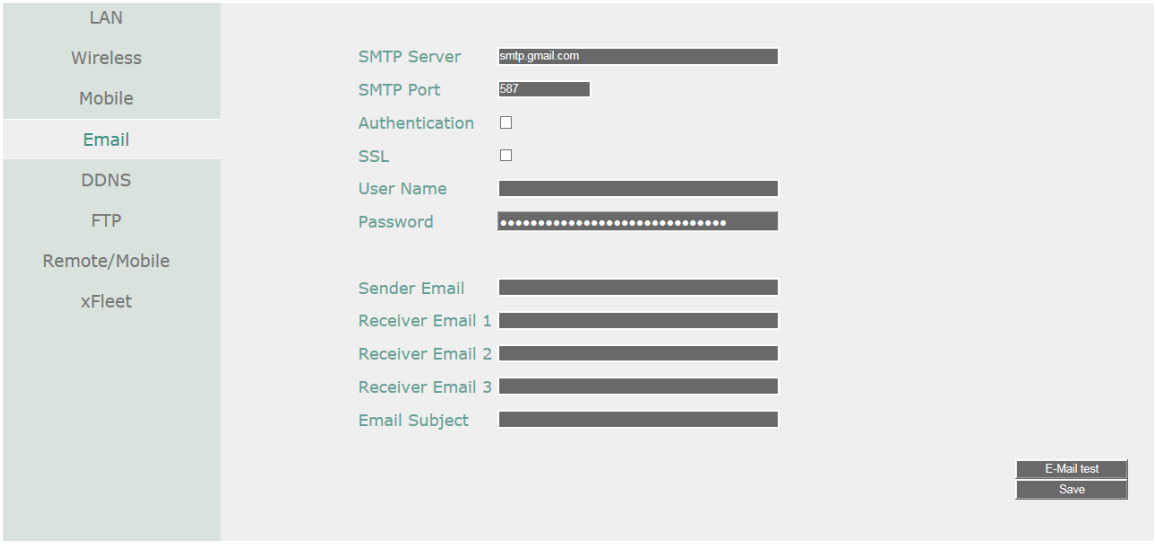
   Type: Displays the network type, such as 3G or 4G.

   Signal: Displays the signal strength (0~98). The higher the value, the stronger the strength.
4. You can now use the IP for remote access to the mobile DVR.

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

7.3.4.4 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.

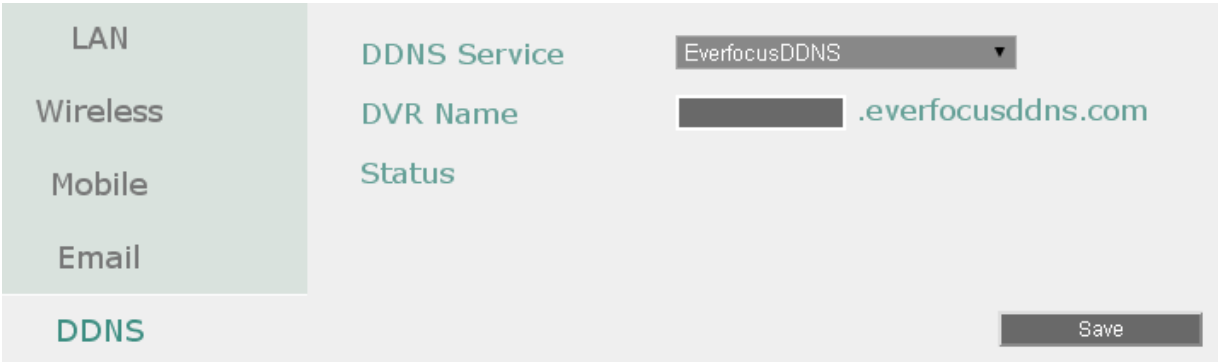
Email Subject: Input email subject.

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.

7.3.4.5 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: **http://www.everfocusddns.net** and **www.dyndns.com.**

Note: We highly recommend that you use **xxxx.everfocusddns.net** for the simplicity of setting up your mobile DVR.

EverFocus DDNS

Note that the **DNS Server 1** (*7.3.4.1 LAN*) should be set up correctly or the DDNS will not work.

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

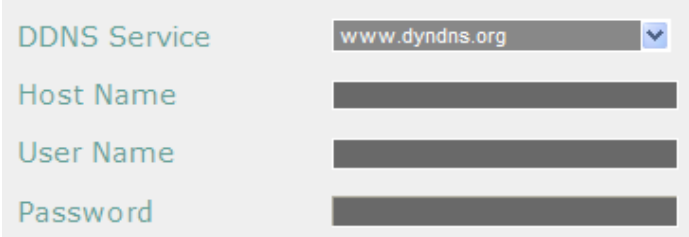
DVR Name: Input the desired name for the mobile DVR, and you can enter up to 32 letters. If the length of the name exceeds the text field size on the OSD, you can move your cursor onto the text field to display the entire name on the OSD.

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.net 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.

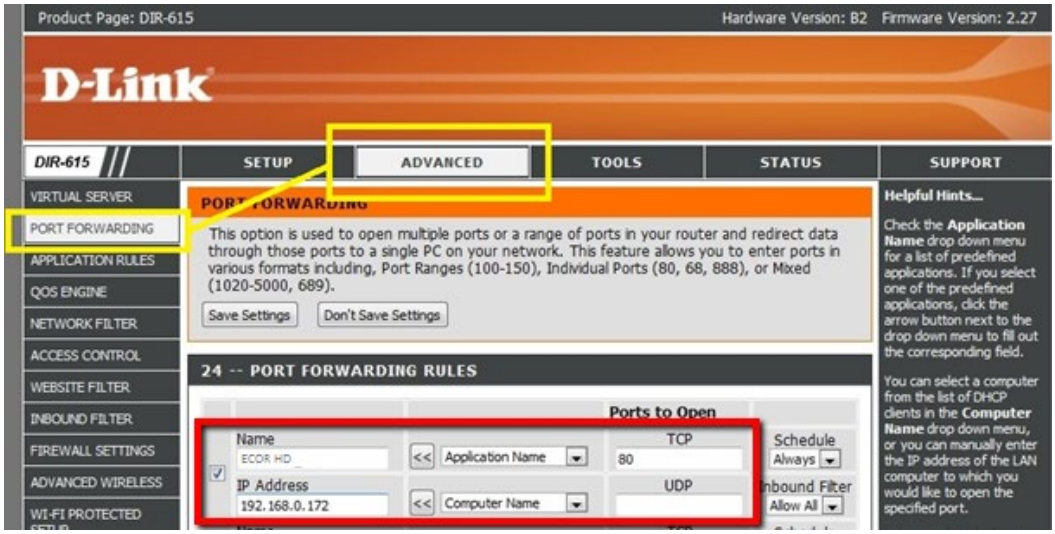
Setup Steps:

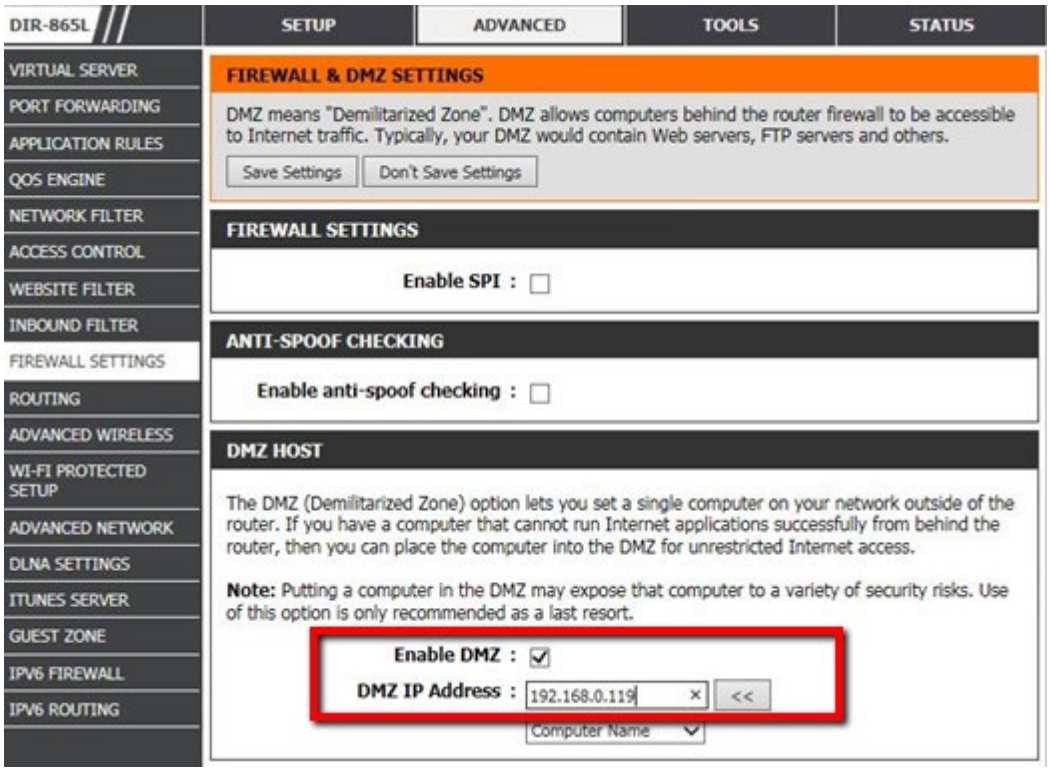
1. Apply for a host name from www.dyndns.org.
2. Make sure that the DNS Server 1 is set up correctly (see DNS Server 1 in *7.3.4.1 LAN*) or the DDNS will not work.
3. Select www.dyndns.org from the DDNS Service drop-down list.
4. Enter the host name in the Host Name field. Note that the name of the mobile 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.

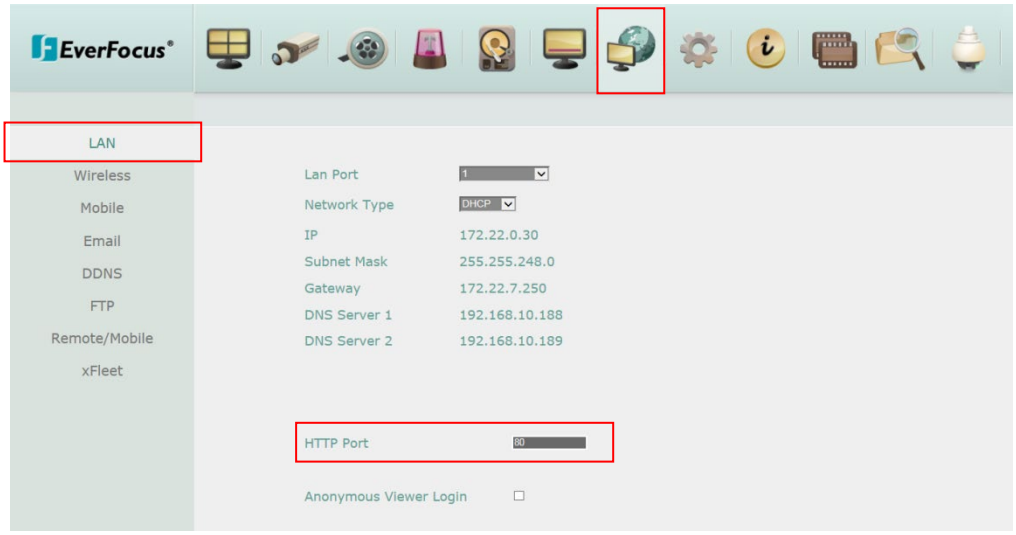
To set up DDNS function:

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.



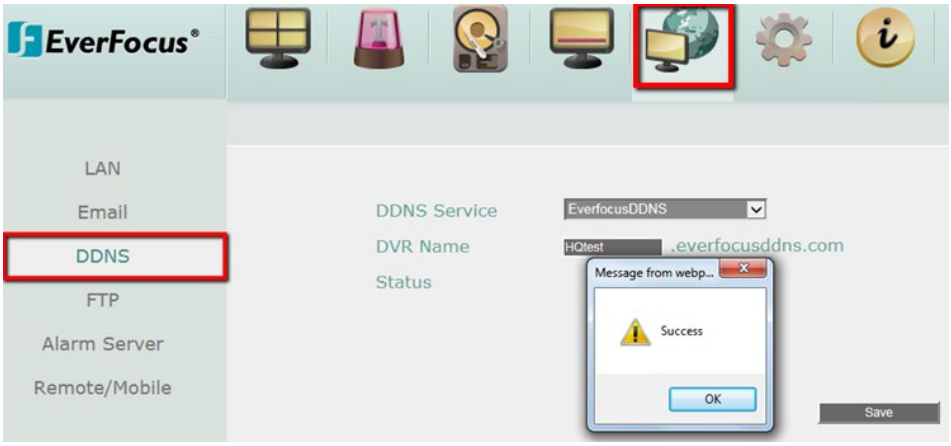


2. On the Network Setting page of MDVR (Network > LAN), configure the LAN settings, keep HTTP port “80” and then click the **Save** button.



- 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.

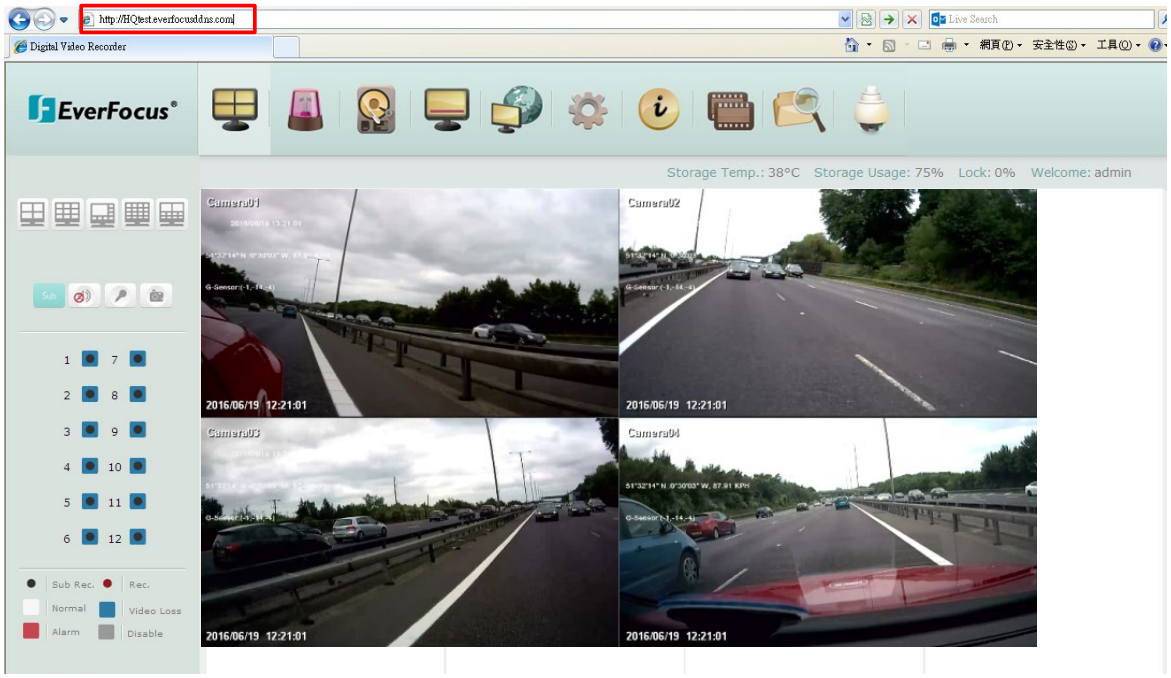
b. Enter a desired host name in the DVR Name field. If the host name is available, a “Success” window will appear. Click **OK**. If not, try another host name until the “Success” window appears.

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

c. Click **Save**.

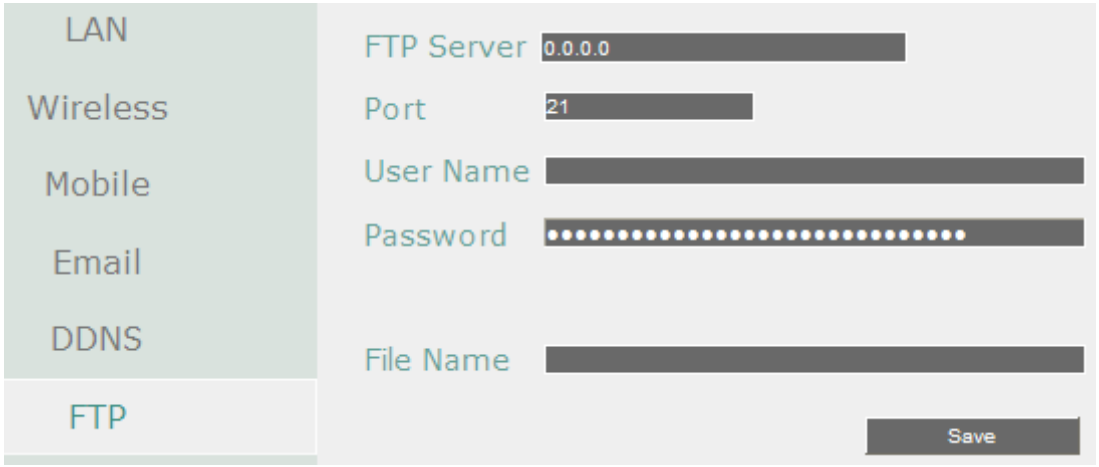
4. The DDNS setup is now complete. Open a browser and enter the domain name (http://[host name].everfocusddns.com) in the address field. The Web interface of the MDVR should be displayed.

   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.



7.3.4.6 FTP

Set up the FTP server settings to enable the FTP function. The function is for users to upload the alarm recordings (MP4) or snapshots (JPEG) from sub stream to the FTP server. You can choose to upload either the recordings or snapshots, please see *7.3.1 Event.*



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.

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.

7.3.4.7 Remote/Mobile

You can confirm the RTP URL of your device.

For example:

rtsp://[IP Address]:[Port]/3GPP/[A]

rtsp://192.168.31.33:554/3GPP/0

* IP Address: The IP address of the device.

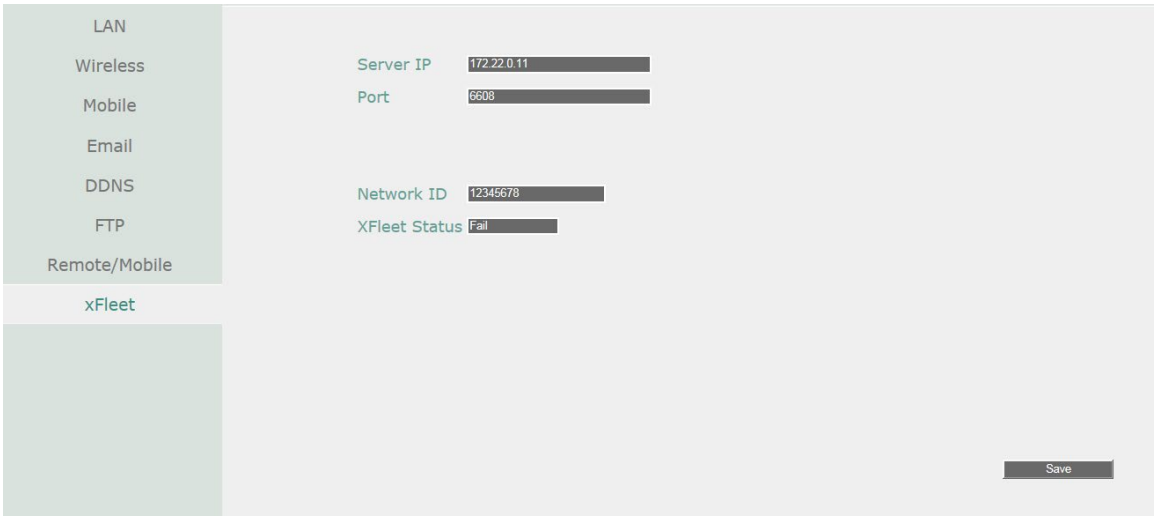
* A: Channel number. 01 (ch1), 02 (ch2), and so on

7.3.4.8 Xfleet

You can use EverFocus Xfleet2.0 system for fleet management.

Xfleet 2.0 is a centralized management platform which is well designed to not only monitor fleets, but also to track driver statistics, maintenance records, fuel statistics and plenty of other in-depth analytics reports that assist you to make decisions and eventually reduce overall costs.

With Xfleet 2.0, making prediction and optimizing business performance will no longer be a burden as it provides timely response on the demands you need, creating long term value for clients across industries.



Server IP: Input the IP address of the Xfleet system.

Port: Input 6608 port and do not change the port as it is set up by default.

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

XFleet Status: Displays the status of Xfleet2.0 system.

Save: Click to save the settings.

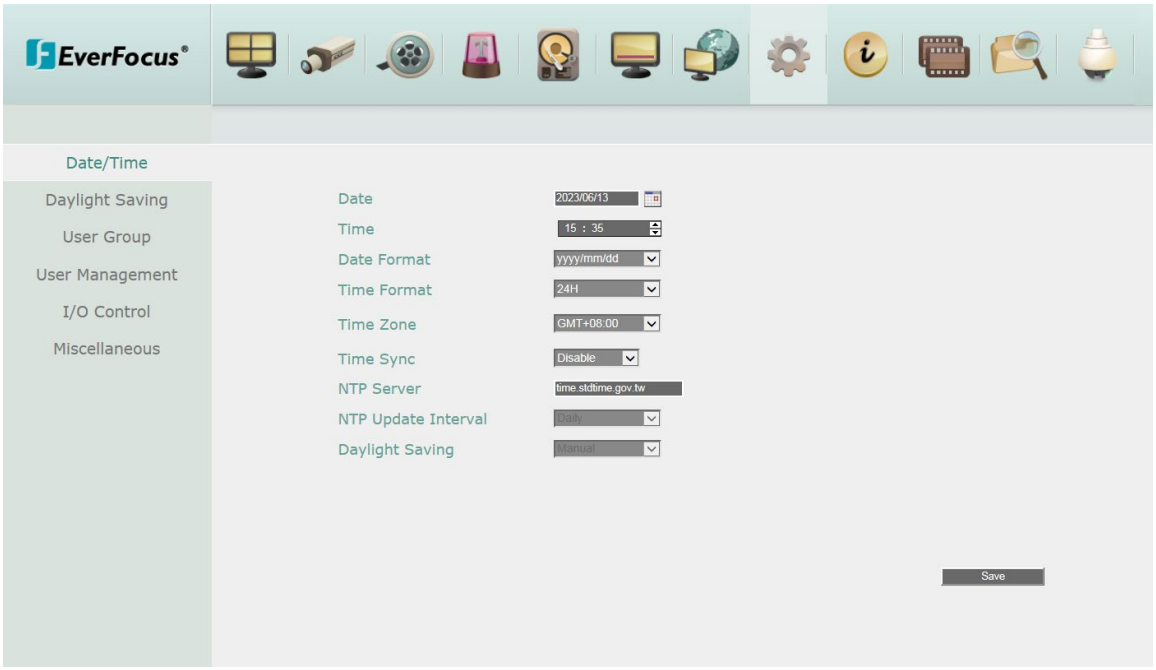
7.3.5 System Setting

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

7.3.5.1 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 *7.3.5.2 Daylight Saving* for detailed information.



Date: Click to set up the date.

Time: Click to set up th e 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 antenna 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 *7.3.5.2 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.*5.2 Daylight Saving*) will be grayed out and automatically set to the correct daylight saving time.

7.3.5.2 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 *7.3.5.1 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.

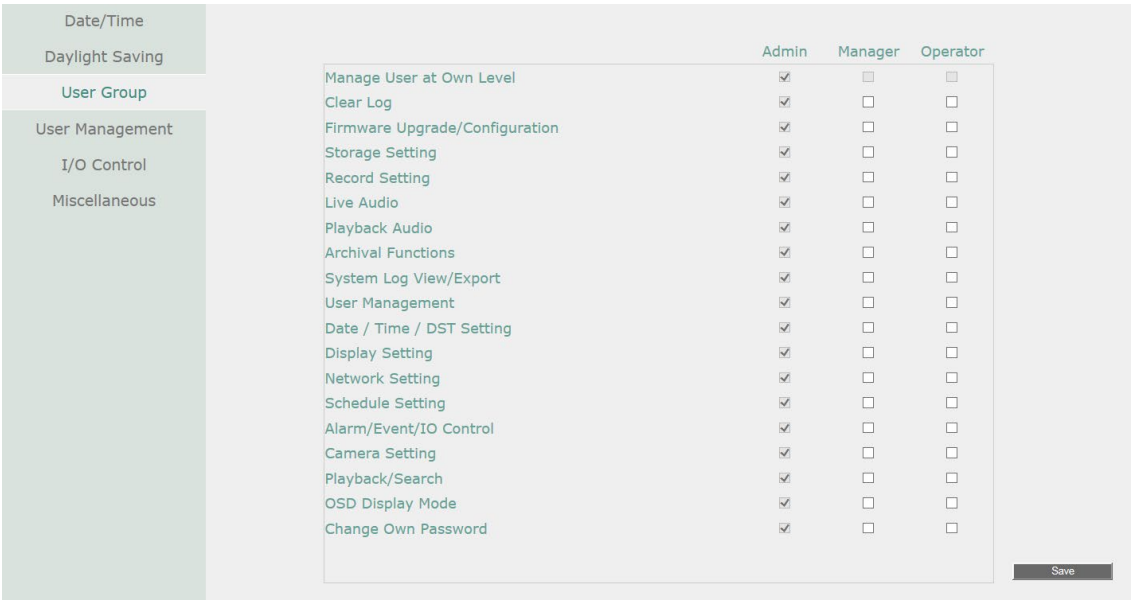
End Time (hh:mm): Set the time when daylight saving time ends.

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.

7.3.5.3 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, the Operator will have the privilege to clear log.



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.

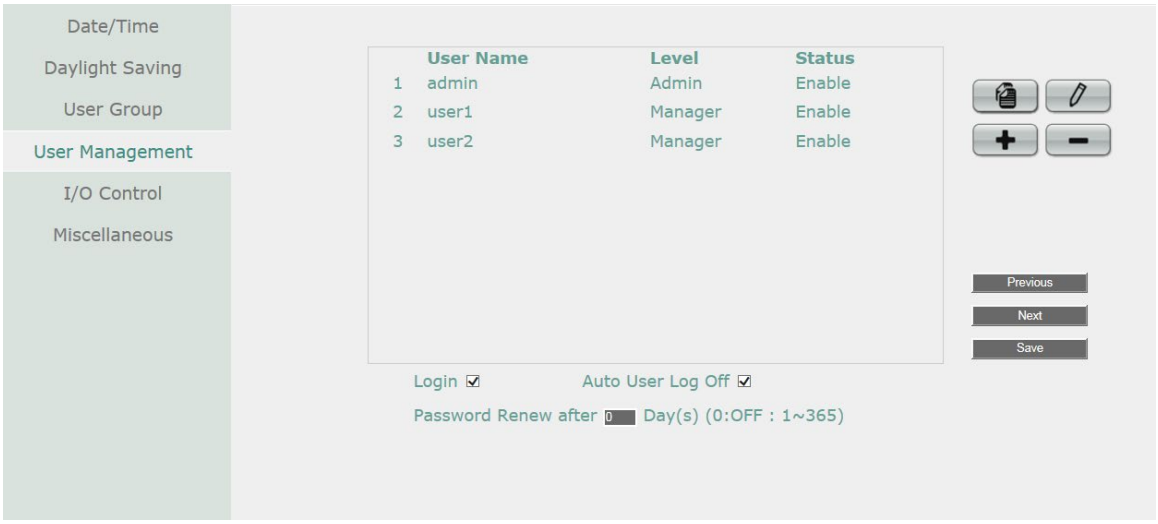
- **Camera Access:**
  Administrator: The Administrator account has the privilege to set up Camera Access right to all the user accounts.
  Manager: The Manager account can set up Camera Access right (cameras enabled by the Administrator account) to itself and Operator accounts.
  Operator: The Operator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

7.3.5.4 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*.

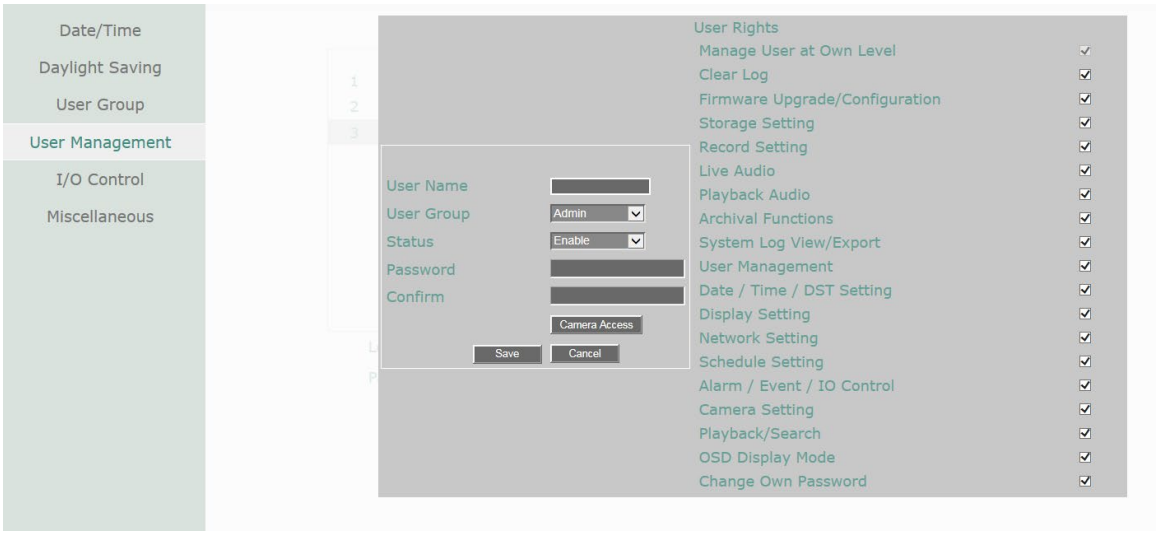
Auto User Log Off: Check the box to automatically logoff the mobile DVR after 3 minutes of inactivity.

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

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.

7.3.5.5 I/O Control

The I/O Control setup menu is used to define the settings for controlling the mobile DVR through RS-485 / RS-232 communication protocol and for mobile DVR to control the connected PTZ cameras.

【RS-232】

Type: Select a type.

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 ts@everfocus.com.tw

【RS-485】

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

Type: Select a type.

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

Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the 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 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.

【GPS】: If you are using EverFocus GPS Receiver (please refer to *1.3 Optional Accessories*), please configure the settings below for GPS function to work.

Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the 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 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.

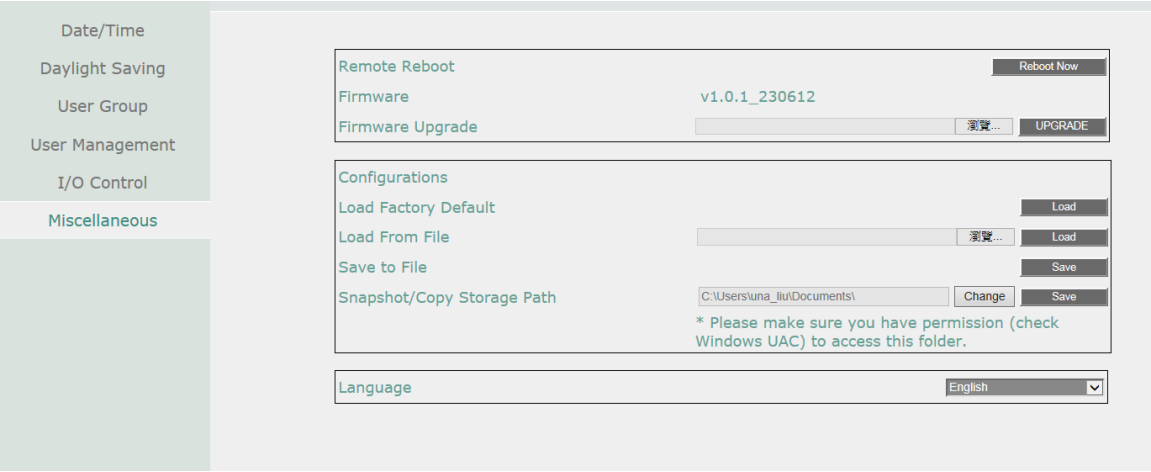
Control: One remote control can be used to operate four mobile DVRs. The mobile DVR to be addressed is selected by pressing the key corresponding to its ID number on the IR Remote control. Please refer to *Appendix D: IR Remote Control*.

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

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

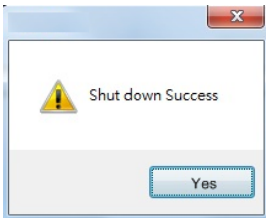
7.3.5.6 Miscellaneous

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: 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. Note that you can only upload the system configurations to the same device mode. For example, if the system configurations downloaded is under NVR mode, you can only upload this system configuration to the mobile DVR under NVR mode.

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.

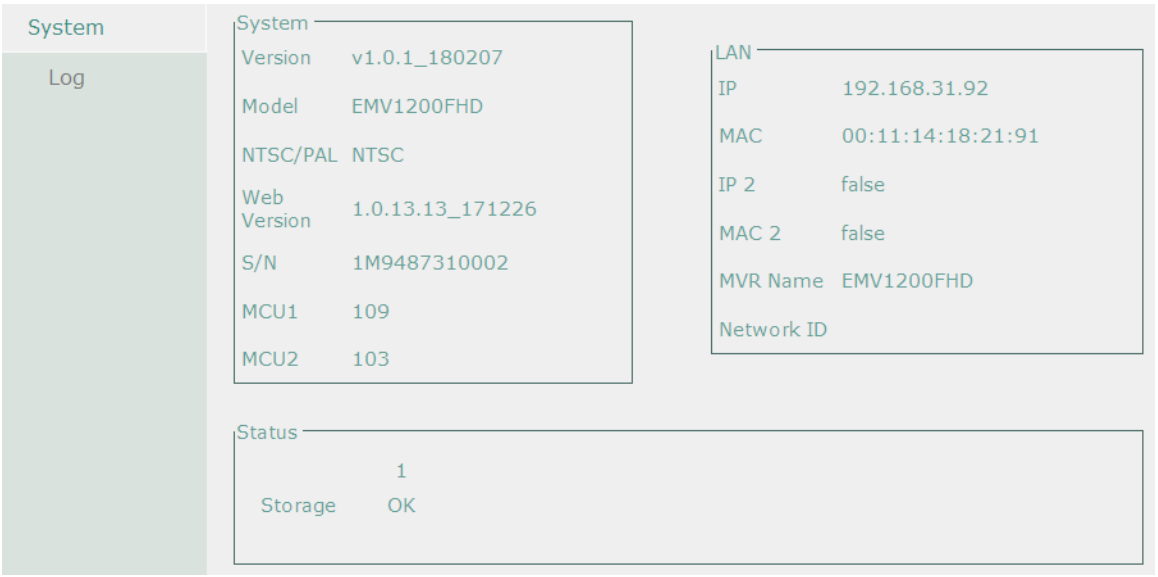
Language: Choose which language the mobile DVR uses.

7.3.6 Information

You can see the mobile DVR information and Log data in this menu. Or export the log data to your computer.

7.3.6.1 System

In the System Menu, you can only see the information of the mobile DVR, Network or HDD. 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 1 / IP 2: Displays the IP address of LAN 1 / LAN 2 set up in the Network menu.

MAC 1 / MAC 2: Displays the MAC address of LAN 1 / LAN2. This option cannot be changed.

MVR Name: Displays the DDNS name if configured.

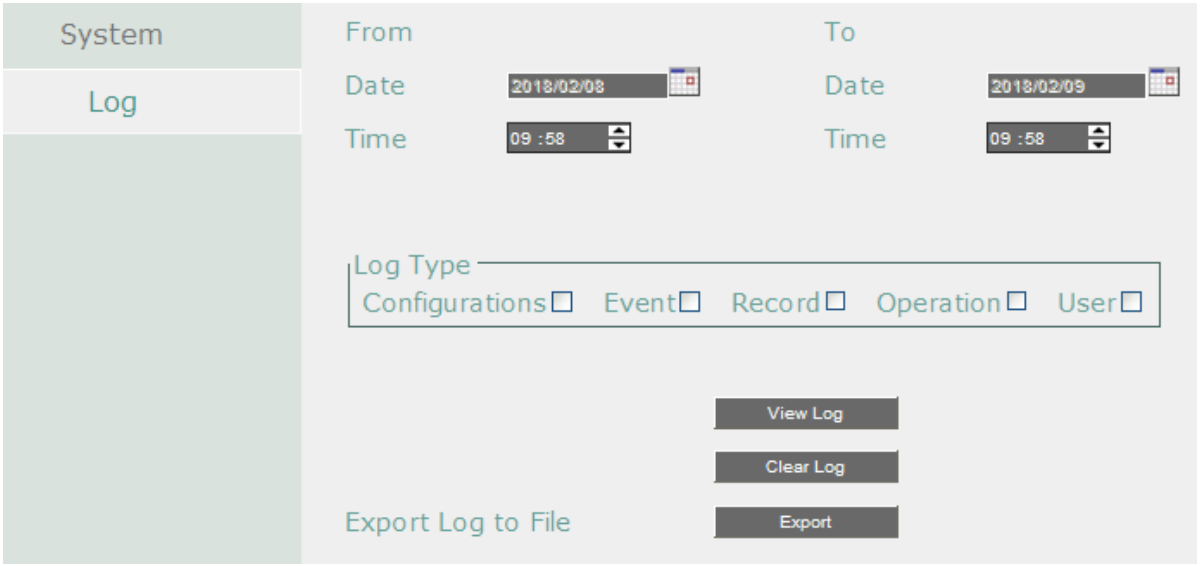
Network ID: The ID number set up on the Xfleet setup page.

【Status】

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

7.3.6.2 Log

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



Start Date / End Date: Click to set up the start / end date.

Start Time / End Time: Click 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

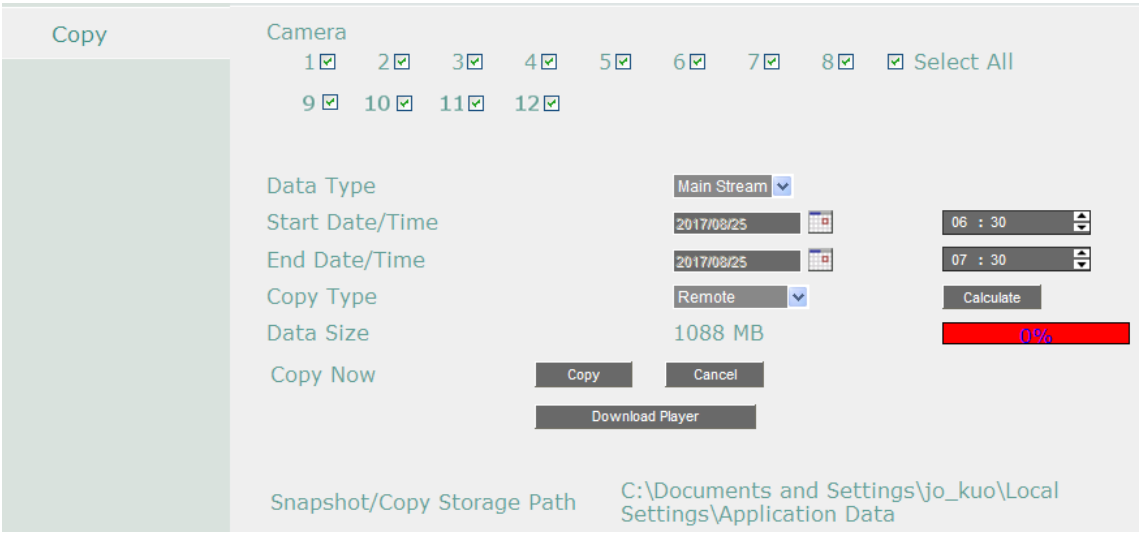
<< < 1 2 3 > >>

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.

7.3.7 Copy

You can remotely archive the recordings to your computer. The archived recordings will be stored in .avr 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 a destination (Remote or FTP) for the recordings to be archived to. Select Remote to remotely archive the recordings to your computer. Select FTP to archive the recordings to FTP. You can also set up the file format (MP4 or JPEG) for FTP archiving (refer to **FTP Upload File Type** in *7.3.1 Event*).

Note:

1. If the Archiving Recording to the FTP server is working in progress, the **FTP Upload** function (refer to *7.3.1.1 Alarm*) will stop. The system will start the FTP Upload function when the Archiving Recording to the FTP progress is complete.
2. Once you have clicked the **Copy** button to start archiving, you can only wait until the copy process is done to start the next copy action.

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. : Click to reverse play /play.

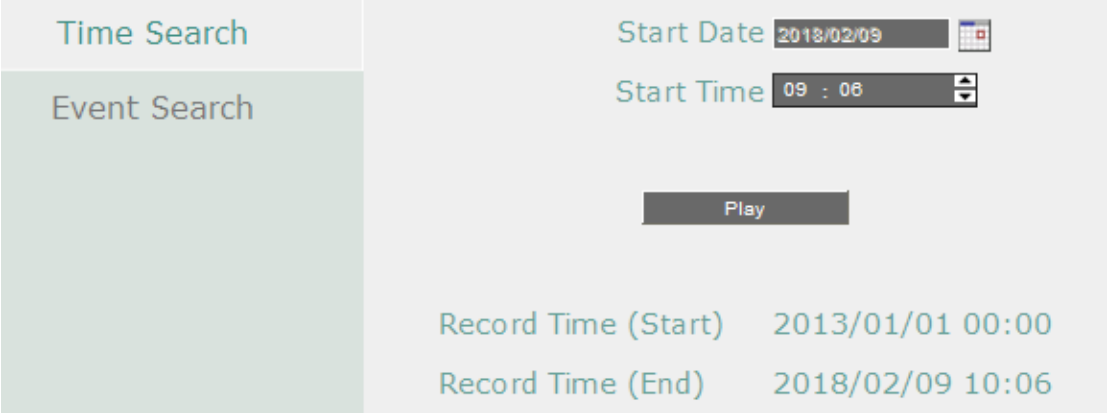
		 : Click to pause playing back.
8	**Snapshot**	Click to take a snapshot of the channels displayed on the UI. You can save the snapshot file to a desired location.
9	**Mute**	Click to mute; click again to turn off the mute function.
10	**Volume**	Drag to increase or lower the volume.
11	**Scale Out / In**	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).

7.3.8 Search

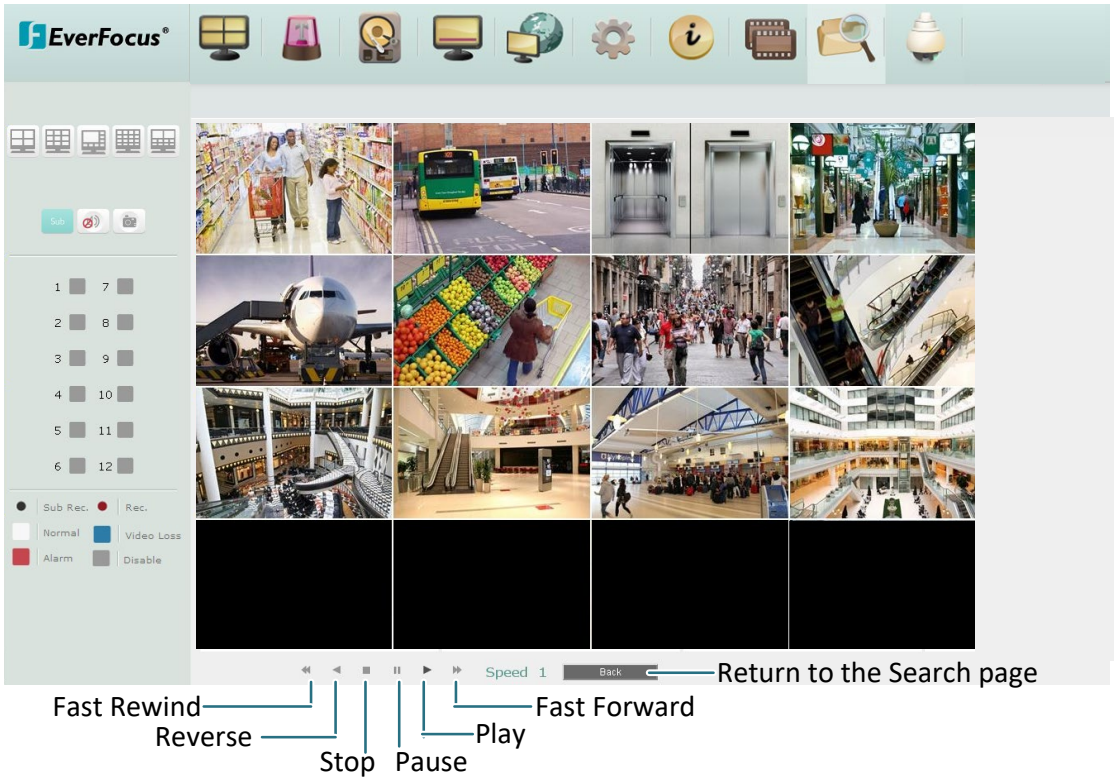
You can search the recordings for playing back by using the **Search** menu.

7.3.8.1 Time Search

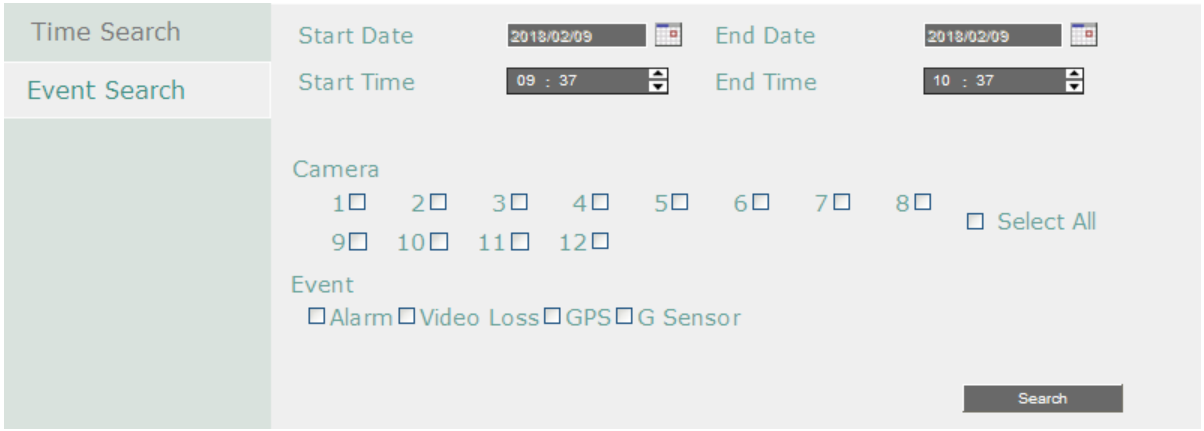
Select the Start Date and Time and then click the **Play** button to start playing back.



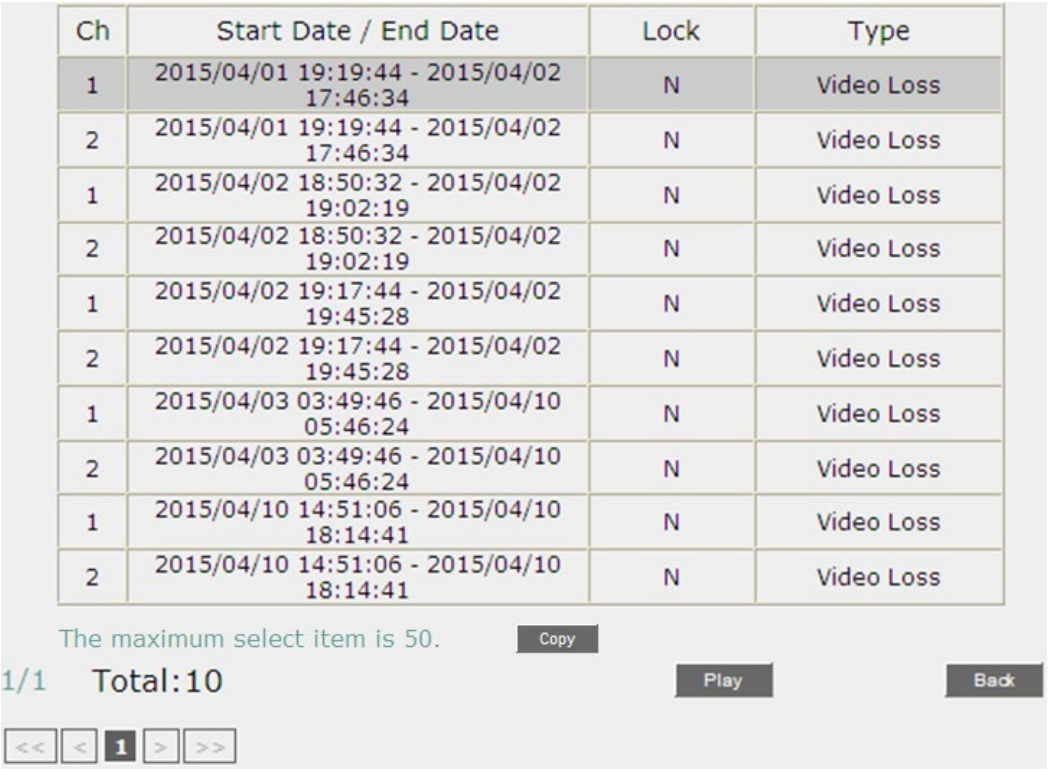
After clicking the **Play** button, the following Remote Playback Window appears.



7.3.8.2 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.



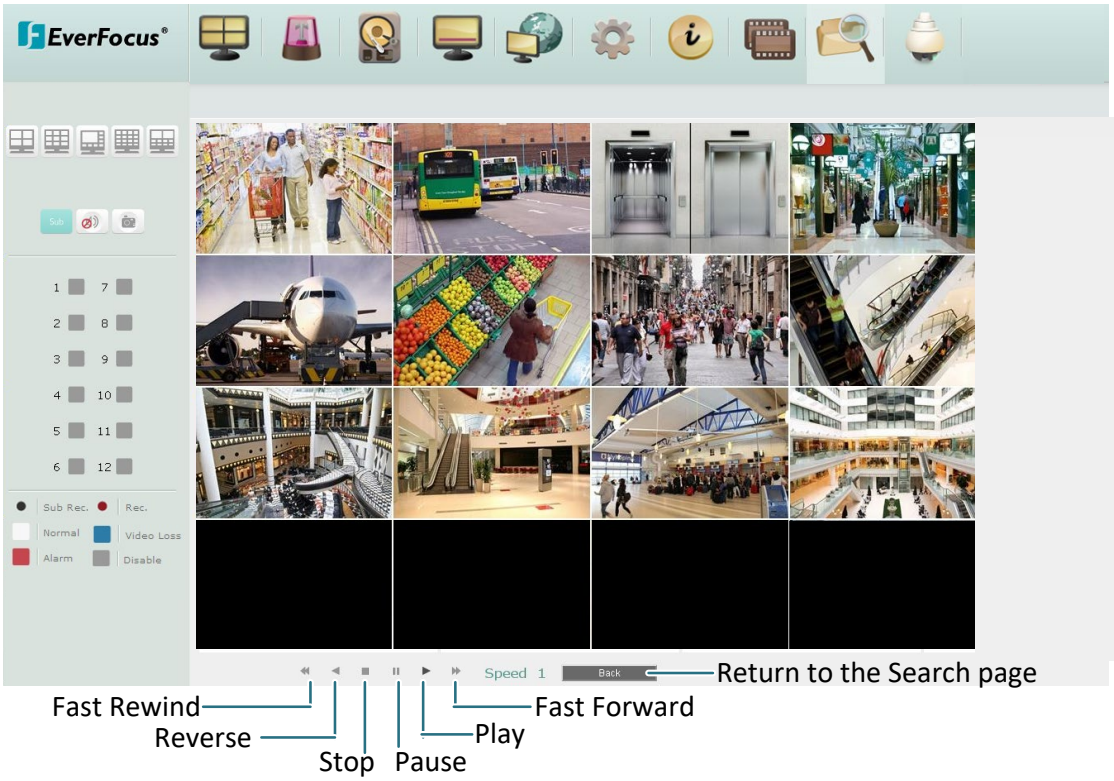
Ch	Start Date / End Date	Lock	Type
1	2015/04/01 19:19:44 - 2015/04/02 17:46:34	N	Video Loss
2	2015/04/01 19:19:44 - 2015/04/02 17:46:34	N	Video Loss
1	2015/04/02 18:50:32 - 2015/04/02 19:02:19	N	Video Loss
2	2015/04/02 18:50:32 - 2015/04/02 19:02:19	N	Video Loss
1	2015/04/02 19:17:44 - 2015/04/02 19:45:28	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.

Note:

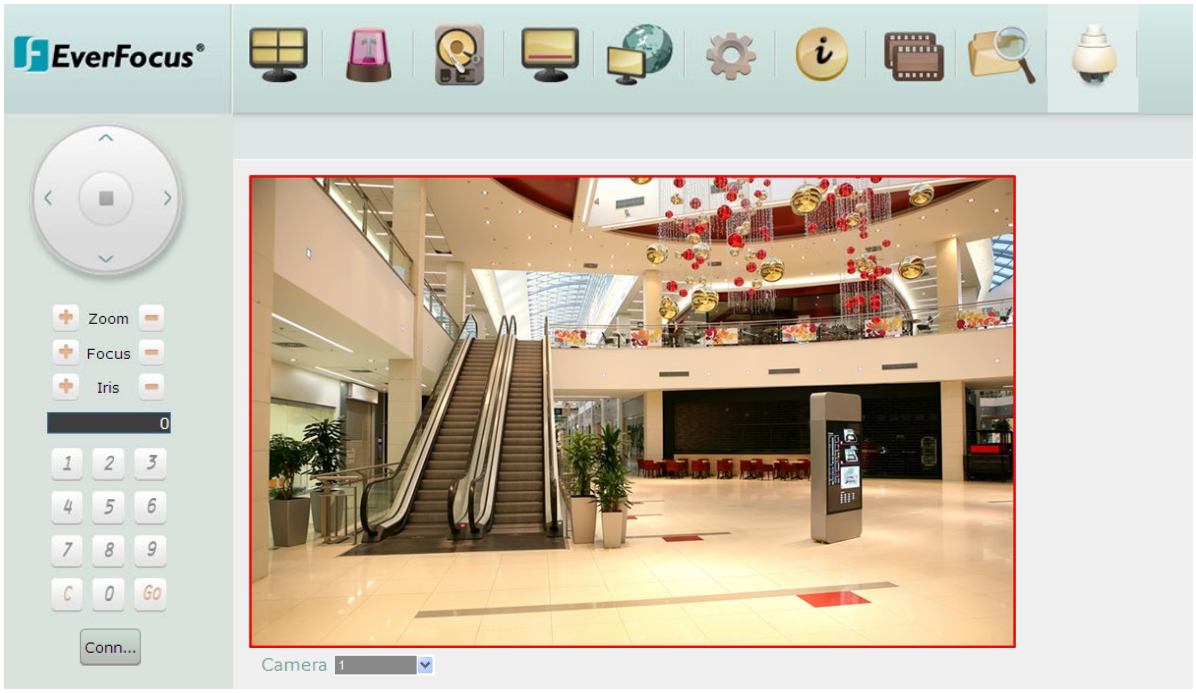
1. If the Archiving Recording to the FTP server is working in progress, the **FTP Upload** function (refer to *7.3.1.1 Alarm*) will stop. The system will start the FTP Upload function when the Archiving Recording to the FTP progress is complete.
2. Once you have clicked the **Copy** button to start archiving, you can only wait until the copy process is done to start the next copy action.

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.



7.3.9 PTZ

You can use the PTZ Control Panel to control the connected PTZ (analog/IP speed dome) cameras. Before using this function, please connect the PTZ camera to the system and configure the PTZ settings in advance (please refer to **PTZ ID** in *6.1.1 Analog Camera*).



To control the PTZ camera:

1. Select a connected PTZ camera in the **Camera** drop-down list first.
2. To move the camera to the desired direction and angle, click the **Direction** buttons.
3. To zoom in / out the camera view, click the **Zoom +/-** buttons.
4. To adjust the camera focus, click the **Focus +/-** buttons.
5. To adjust the Iris open to increase / decrease the amount of light in, click the **Iris +/-** buttons.

Control PTZ Camera over EKB200 Keyboard:

When using an EKB200 keyboard, you need to click the **Connect** button on the PTZ Control Panel. For information about the installation of the EKB200 keyboard, please refer to your EKB200 keyboard User's Manual.

Chapter 8

8. Specifications

8.1 EMV800FHD-N

Model Name			EMV800FHD-N
Video System			NTSC / PAL
Video Input	Video Compression		H.264
	Composite Video Input		Hybrid mode: 4 Analog + 4 IP DVR mode: 8 Analog NVR mode: 8 IP
Video Output	Main Monitor		VGA x 1
	Call Monitor		BNC x 1 / RCA x 1
Audio	Audio Input		8
	Output		1 (RCA)
Live	Resolution	Analog	1080p / 720p / 960H / D1
		IP	4MP / 3MP / 1080p / 720p / D1
	Frame Rate	Analog	25fps/CH (PAL) / 30fps/CH (NTSC)
		IP	25fps/CH (PAL) / 30fps/CH (NTSC)
	Layout Mode		1CH / 4CH / 8CH / 9CH / 10CH / 13CH / Sequence
Recording	Resolution	Analog	1080p / 720p / 960H / D1
		IP	4MP / 3MP / 1080p / 720p / D1
	Frame Rate	Analog	25fps/CH (PAL) / 30fps/CH (NTSC)
		IP	25fps/CH (PAL) / 30fps/CH (NTSC)
	Max. Bandwidth	Input	Hybrid mode: 32Mbps (4 IPcam); NVR mode: 64Mbps (8 IPcam)
		Output	64Mbps
	Recording Mode		Event, Normal + Event
	Pre Alarm Recording		Yes
Playback	Playback Search		Time Search, Event Search
Video Detection & Alarm	Alarm Inputs		8
	Alarm Outputs		2
	Video Loss Detection		Yes
	Event Alarm		Yes

Network	Ethernet	RJ-45 port x 1 (10/100/1000M), M12 port x 1 for IP Cameras (10/100M)
	Wi-Fi	Yes (Optional)
	3G / 4G	Yes (Optional)
	GPS	Yes (Optional)
Storage	HDD	2.5" HDD x 1 (Max. 2TB) or SSD (Max. 4TB)
	SD Card	SD/SDHC Card (Max. 128 GB) – for alarm event backup recording only
External Interface	Interfaces	RJ-45 x 1, RS-232 x 3, RS-485 x 1, USB x 3, USB(M12) x 1, LAN(M12) x 1
General	G-Sensor	3-Axis G-Sensor embedded
	System Control	IR Remote Control, Mouse, Web UI
	PTZ Control	Yes
	Power Source	9-36 VDC
	Power Consumption	20W / 60W (Heater On)
	Operating Temperature	-40°C~55°C / -40°F~131°F
	Dimensions (W x D x H)	229.6 x 218 x 63.4mm / 9.04" x 8.58" x 2.5"
	Weight	2.6kg / 5.73lb
	Certificates	CE, FCC, E-Mark, EN50155, SAE-J1455 (shock & vibration only)

8.2 EMV1200FHD-N

Model Name			EMV1200FHD-N
Video System			NTSC / PAL
Video Input	Video Compression		H.264
	Composite Video Input		Up to 12CH (Hybrid mode: 8 Analog + 4 IP or DVR mode: 12 Analog) Up to 16CH (NVR mode All IP)
Video Output	Main Monitor		VGA x 1
	Call Monitor		BNC x 1 / RCA x 1
Audio	Audio Input		12
	Output		1 (RCA)
Live	Resolution	Analog	1080p / 720p / 960H / D1
		IP	4MP / 3MP / 1080p / 720p / D1
	Frame Rate	Analog	1080p: 12fps/CH (PAL) / 15fps/CH (NTSC) 720p/960H/D1: 25fps/CH (PAL) / 30fps/CH (NTSC)
		IP	25fps/CH (PAL) / 30fps/CH (NTSC)
	Layout Mode		1CH / 4CH / 8CH / 9CH / 10CH / 13CH / 16CH / Sequence
Recording	Resolution	Analog	1080p / 720p / 960H / D1
		IP	4MP / 3MP / 1080p / 720p / D1
	Frame Rate	Analog	1080p: 12fps/CH (PAL) / 15fps/CH (NTSC) 720p/960H/D1: 25fps/CH (PAL) / 30fps/CH (NTSC)
		IP	25fps/CH (PAL) / 30fps/CH (NTSC)
	Max. Bandwidth	Input	Hybrid mode: 32Mbps (4 IPcam); NVR mode: 128Mbps (16 IPcam)
		Output	64Mbps
	Recording Mode		Event, Normal + Event
	Pre Alarm Recording		Yes
Playback	Playback Search		Time Search, Event Search
Video Detection & Alarm	Alarm Inputs		8
	Alarm Outputs		2
	Video Loss Detection		Yes
	Event Alarm		Yes
Network	Ethernet		RJ-45 port x 1 (10/100/1000M), M12 port x 1 for IP Cameras (10/100M)
	Wi-Fi		Yes (Optional)
	3G / 4G		Yes (Optional)
	GPS		Yes (Optional)
Storage	HDD		2.5" HDD x 1 (Max. 2TB) or SSD (Max. 4TB)
	SD Card		SD/SDHC Card (Max. 128 GB) – for alarm event backup recording only

External Interface	Interfaces	RJ-45 x 1, RS-232 x 3, RS-485 x 1, USB x 3, USB(M12) x 1, LAN(M12) x 1
General	G-Sensor	3-Axis G-Sensor embedded
	System Control	IR Remote Control, Mouse, Web UI
	PTZ Control	Yes
	Power Source	9-36 VDC
	Power Consumption	20W / 60W (Heater On)
	Operating Temperature	-40°C~55°C / -40°F~131°F
	Dimensions (W x D x H)	229.6 x 218 x 63.4mm / 9.04" x 8.58" x 2.5"
	Weight	2.6kg / 5.73lb
	Certificates	CE, FCC, E-Mark, EN50155, SAE-J1455 (shock & vibration only)

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 Disk or Information Menus and verify that the internal hard drive 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 *7.3.4.5 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

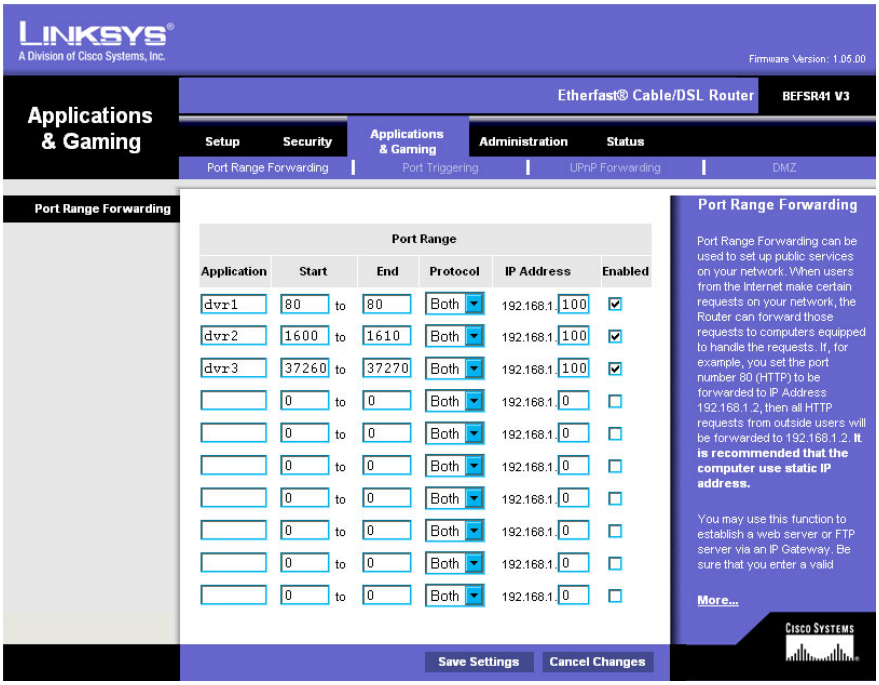
Typical Linksys Port Forwarding

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.

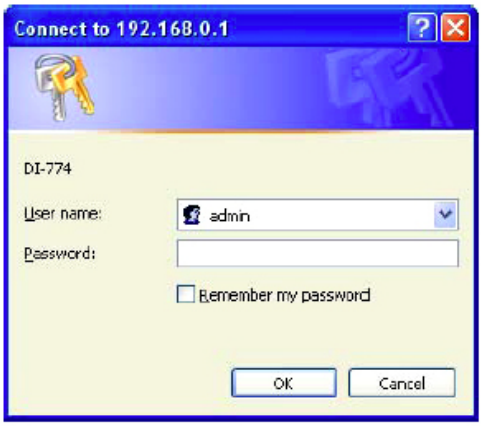
Note: ***If you changed port 80 in the mobile DVR’s Network Menu, open that port instead of 80.***

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

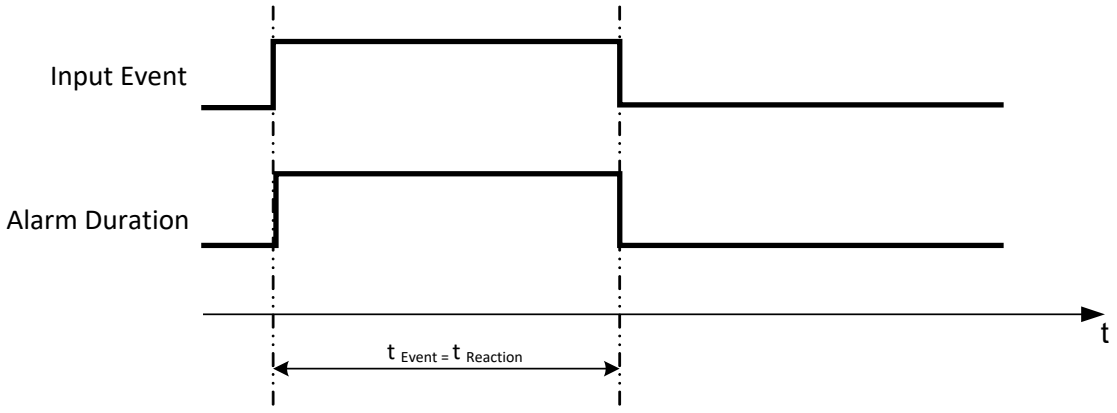
Where 192.168.1.50 is the IP address of the mobile DVR on the LAN, and the default port 80 is in use.

Note: ***If you changed port 80 in the mobile DVR's Network Menu, open that port instead of 80***.

Appendix C

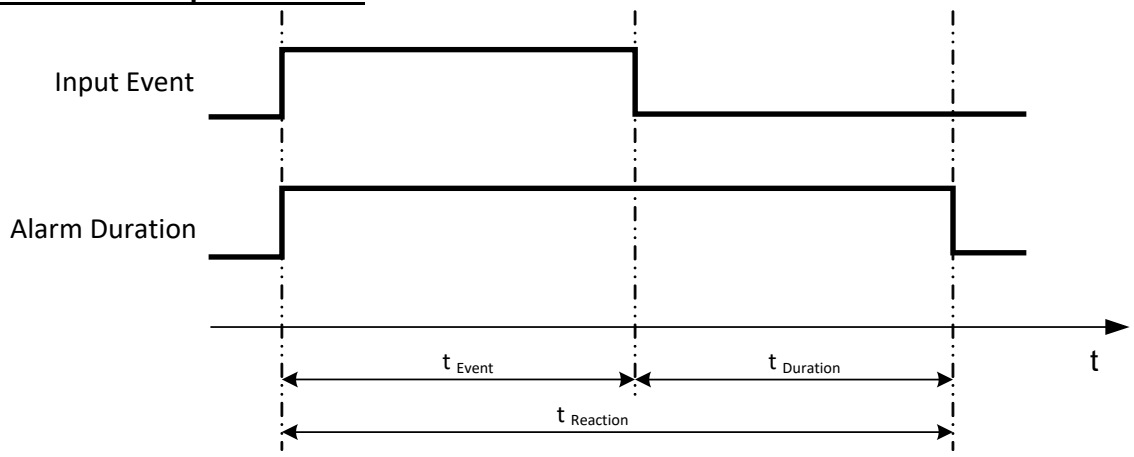
Appendix C: Timing of Alarm Modes

Transparent Mode



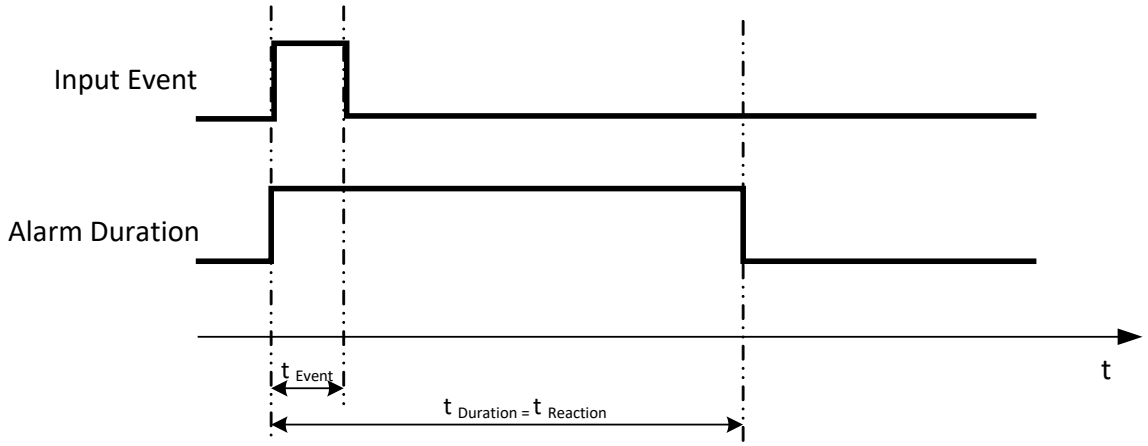
t Event: Duration of alarm input source (contact, system events...)
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Timeout + Transparent Mode



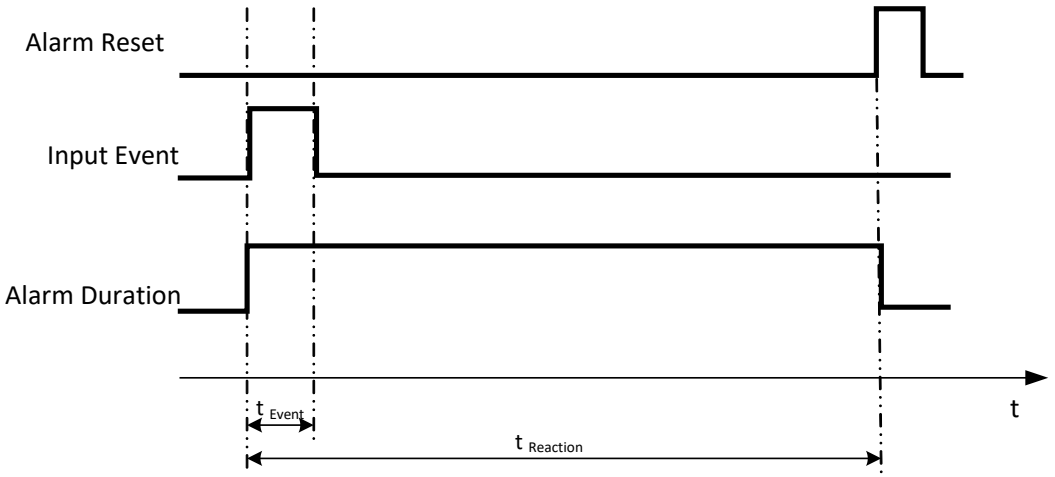
t Event: Duration of alarm input source (contact, system events...)
t Duration: Alarm duration for timeout, defined in the event setup menus
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Timeout Mode



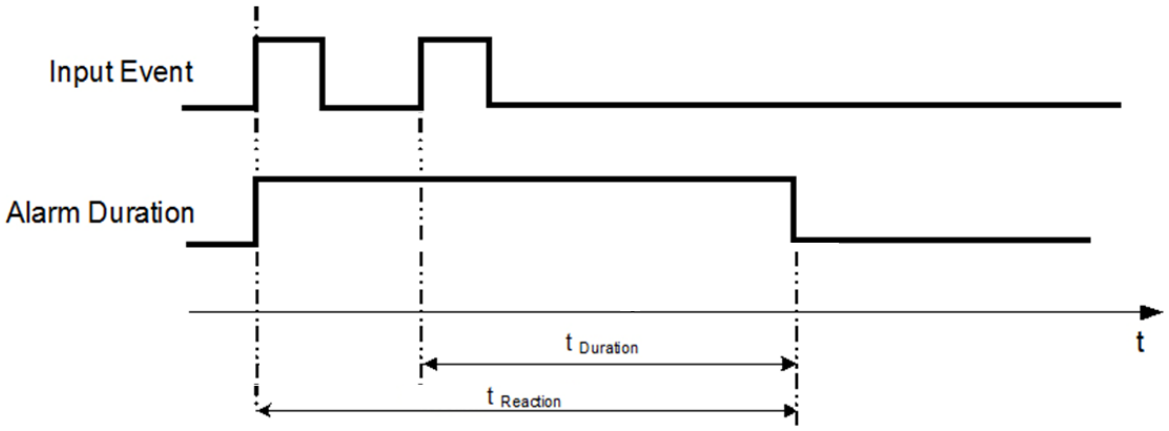
t Event: Duration of alarm input source (contact, system events...)
t Duration: Alarm duration for timeout, defined in the event setup menus
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Permanent Mode



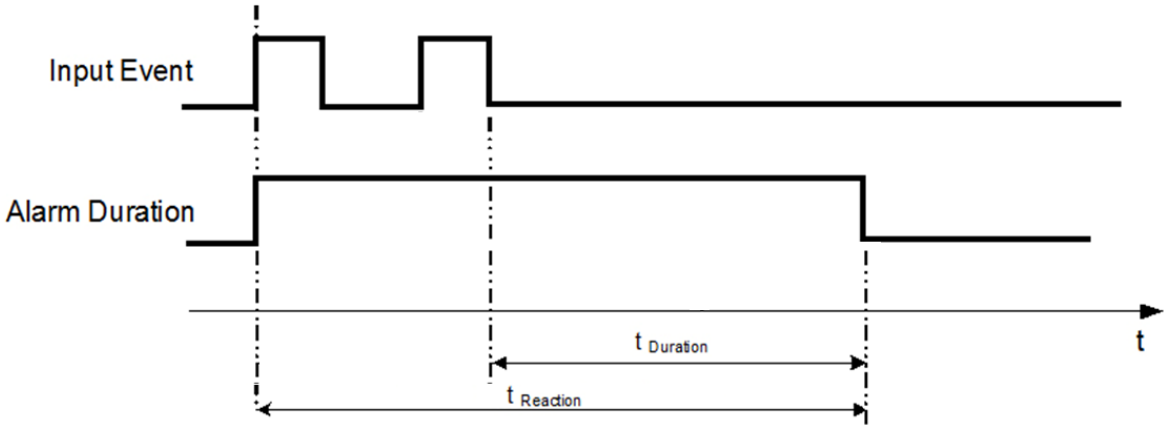
t Event: Duration of alarm input source (contact, system events...)
t Duration: Alarm duration for timeout, defined in the event setup menus
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

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: 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: Press to display the 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** > **Sys Setting** > **I/O 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

E

Appendix E: 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] * [device-ip-address] is the IP address of the MDVR * [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] * [device-ip-address] is the IP address of the MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR/MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR/MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR/MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR/MDVR * [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] * [device-ip-address] is the IP address of the MDVR * [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] * [device-ip-address] is the IP address of the MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR/MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR/MDVR * [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] * [device-ip-address] is the IP address of the DVR/NVR * [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] * [device-ip-address] is the IP address of the DVR/NVR * [channel-number 32~63] is the channel number of the DVR/NVR. 32 for channel 1, 33 for channel 2, and so on.

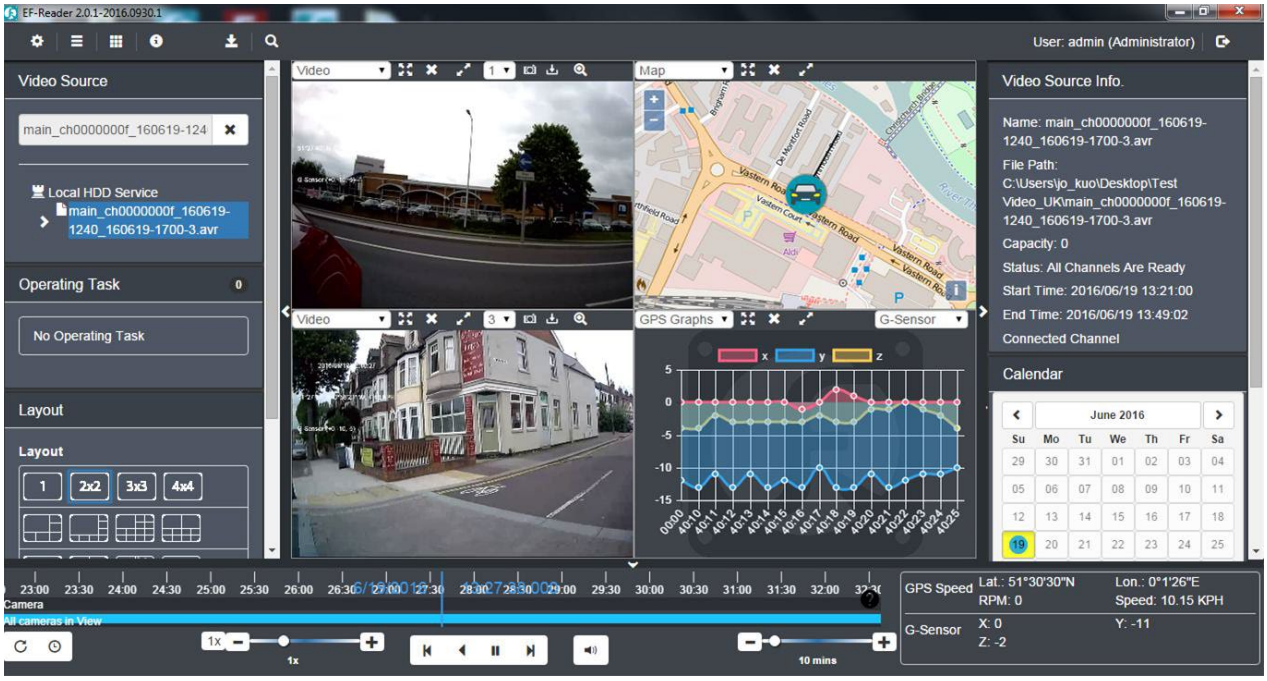
Appendix

F

Appendix F: 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*.



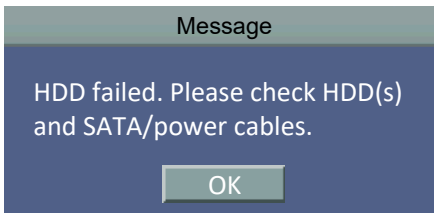
Appendix G

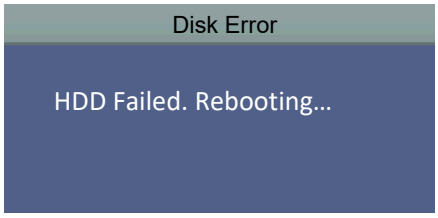
Appendix G: Auto HDD Retry Mechanism

The eZ.HD DVR/MDVR features Auto HDD Retry mechanism, which is designed to automatically reboot to detect the installed HDDs when encounter HDD fail error.

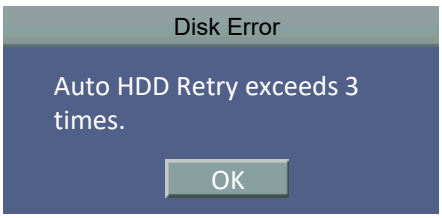
Note: The Auto HDD Retry mechanism will only activate when all of the HDDs installed in the DVR/MDVR are failed simultaneously. For example, if your DVR/MDVR installed one HDD, when one HDD fails, the Auto HDD Retry mechanism activates; if your DVR/MDVR installed three HDDs, when all of the 3 HDDs fail simultaneously, the Auto HDD Retry mechanism activates.

When a HDD fail error occurs, a HDD Failure icon will be displayed at the bottom of the monitor and a "*HDD Failed. Please check HDD(s) and SATA/power cables.*" message will pop-up. Owing to the Auto HDD Retry Mechanism, the DVR will then automatically reboot to detect the installed HDDs. If there is no HDD detected, the DVR will start rebooting to detect the HDDs again and again up to 3 times. During the rebooting process, a "*HDD Failed. Rebooting…*" message will be displayed. Once the HDDs have been detected, the recording function will automatically resume.





Note that the DVR/MDVR will automatically reboot to detect HDDs up to 3 times. If the Auto HDD Retry process exceeds 3 times and the DVR still cannot detect HDDs, an "*Auto HDD Retry exceeds 3 times.*" message will pop-up and a continuous beep sound will be played for notification. It's recommended to check the SATA and power cables connected to the HDDs; or replace new HDDs if necessary.



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