EMV401 / 801 / 1601 Hybrid Mobile DVR

4 / 8 / 16CH, H.264, Real Time at D1/WD1/1080P

User's Manual

EverFocus®

Release Date: October, 2014

EVERFOCUS ELECTRONICS CORPORATION

EMV401 / 801 / 1601 Hybrid Mobile DVR

User's Manual

Release Date: October, 2014

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 hybrid mobile DVR at temperatures within -40°C~55°C / -40°F~131°F (Storage). The input power source is between 10V DC and 35V DC.

- **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.

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.

TABLE OF CONTENTS

1. Introduction 1

1.1 Features 3
1.2 Packing List 4
1.3 Optional Accessories 4
1.4 Front Panel 5
1.5 Rear Panel 6

2. Getting Started 7

2.1 Installation 7
2.1.1 Mounting 8
2.2 Hard Disk Installation 9
2.3 Vehicle Connection 11
2.3.1 Connecting to a Truck with 24 VDC 11
2.3.2 Connecting to a Car with 12 VDC 12
2.4 Basic Connection 13
2.4.1 Power Harness Cable 14
2.4.2 Video Cable 15
2.4.3 Audio Cable 16
2.4.4 Alarm Cable 17
2.4.5 RS-232 / RS485 Cable 18
2.5 Monitor Connection 19
2.6 Turning On / Off the Power 19
2.7 Checking the Dynamic IP Address 20
2.8 Connecting the Hybrid Mobile DVR to the Network 23
2.8.1 Router or LAN Connection 23
2.8.2 Direct High-Speed Connection 26
2.8.3 One-to-One Connection 27

3. General Operation 31

3.1 USB Mouse Operation 31
3.1.1 How to Select a Channel / Enable Audio Out 31
3.1.2 OSD Root Menu 31
3.1.3 Field Input Options 32
3.2 General Operation 33
3.2.1 Login 33
3.2.2 Forget Your Password 34
3.2.3 Camera Selection 34
3.2.4 Audio Selection 35

4. OSD Root Menu 36

4.1 PTZ 38
4.1.1 Express Control of PTZ 40
4.2 Layout Switching 41
4.3 Channel Switching 41
4.4 Display 42
4.5 Sequence 43
4.6 Monitor Switching 43
4.7 Zoom 43
4.8 Archiving the Recordings or Log Data to the USB 45
4.9 Logout 48
4.9.1 Temporarily Logout 49

5. Search and Playback 51

5.1 Quick Playback 51
5.2 Playback Bar 52
5.3 Searching the Recordings for Playing Back 54
5.3.1 Time Search 54
5.3.2 Event Search 55
5.3.3 Snapshot Search 56

6. Configuration 58

6.1 Camera 61
6.1.1 Camera Status 61
6.1.1.1 Manually Add an IP Camera: 62
6.1.1.2 Add and Configure the Analog Camera: 65
6.1.2 Auto Search 68
6.1.3 PTZ 71
6.1.4 Tracking 74
6.1.5 Pattern Tour 76
6.1.6 Adjust Setting 78
6.2 Record & Playback 80
6.2.1 Alarm 80
6.2.2 Playback 81
6.3 Event 82
6.3.1 Alarm 82
6.3.2 Video Loss 84
6.3.3 Motion 86
6.3.4 GPS Event 89
6.3.5 G-Sensor Event 91
6.3.6 Other 93

6.4 Hard Disk 102
6.4.1 Disk 102
6.4.2 Lock/Format 103
6.5 Display Setting 104
6.5.1 Monitor OSD 104
6.5.2 M/T SEQ 105
6.6 Network Settings 106
6.6.1 LAN 106
6.6.2 Wireless 110
6.6.3 Mobile 112
6.6.4 Email 113
6.6.5 DDNS 114
6.6.6 FTP 117
6.6.7 Alarm Server 118
6.6.8 Network Testing 119
6.7 Schedule Setting 120
6.7.1 Express Setup 120
6.7.2 Holidays 121
6.7.3 Schedule 122
6.8 System Setting 125
6.8.1 Date / Time 125
6.8.2 Daylight Saving 127
6.8.3 User Group 128
6.8.4 User Management 129
6.8.5 I/O Control 132
6.8.6 EKB200 Setting 134
6.8.7 Miscellaneous 136
6.9 Information 138
6.9.1 System 138
6.9.2 Log 140

7. Remote Access to the Mobile DVR 141

7.1 Accessing the Mobile DVR on the Network 141
7.2 Install JAVA Runtime 143
7.3 Browser Security Setting 145
7.3.1 Installing ActiveX Controls 145
7.3.2 Enabling ActiveX Controls 146
7.4 Remote Live View 149
7.5 Menu Bar 151
7.6 How to Add Camera from Remote Side 152
7.6.1 Camera Status 152

7.6.1.1 Manually Add an IP Camera from Remote Side 153
7.6.1.2 Add an Configure an Analog Camera from Remote Side 155
7.6.2 Auto Search 158
7.7 PTZ 160
7.8 Remote Playback 162
8. Specifications 163
9. Troubleshooting 166
Appendix A: Network Overview 167
Appendix B: Linksys & D-Link Port Forwarding 171
Appendix C: Timing of Alarm Modes 175
Appendix D: Express Setup Recording Value Selection Rules 178
Appendix E: IR Remote Control 180

Chapter

1

1. Introduction

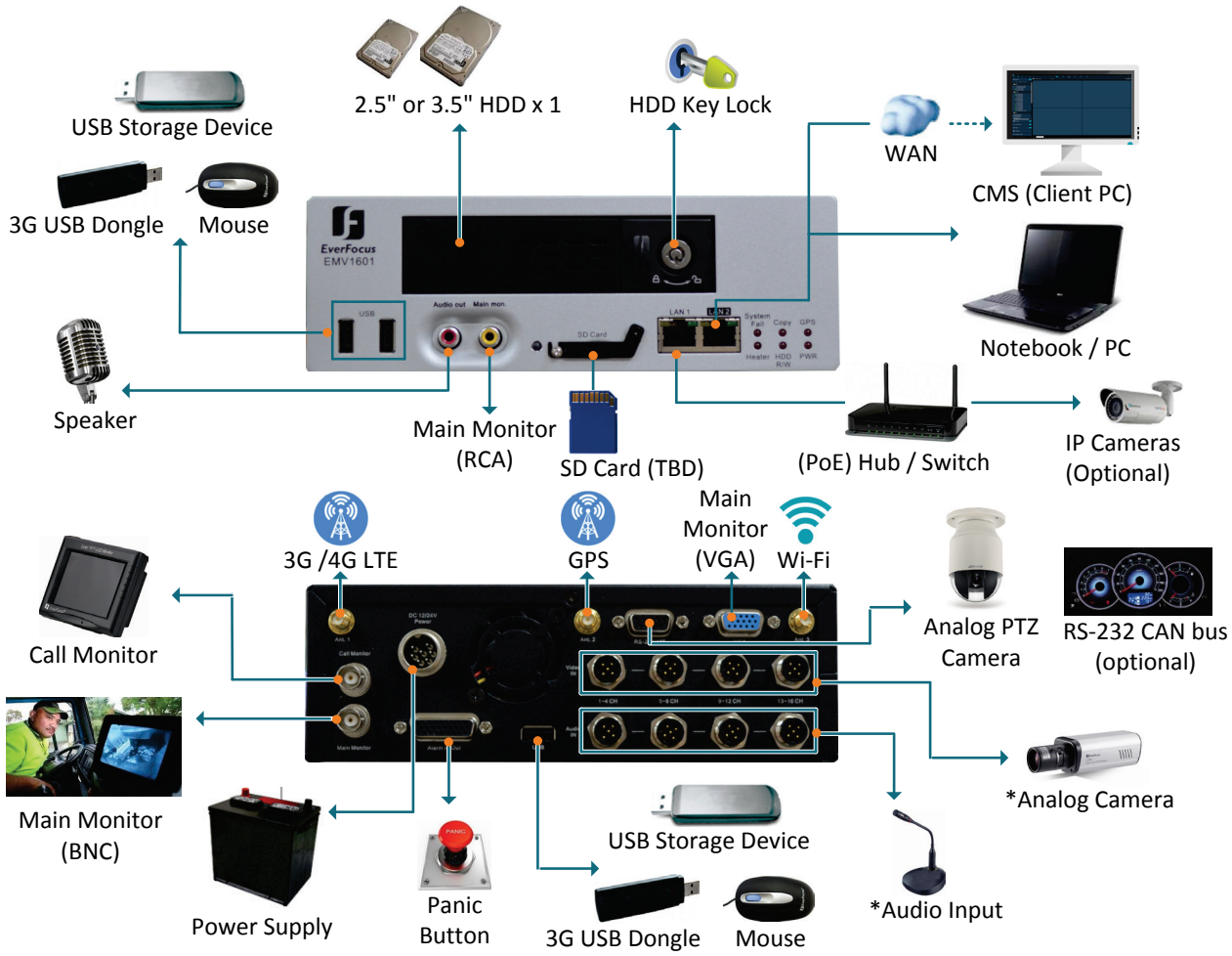
The latest EverFocus hybrid digital video recorder generation is based on H.264 compression technology, resulting in enhanced recording capacity and improved network image transmission speed with high image quality.

The hybrid mobile DVR EMV401 / 801 / 1601 can support 4 / 8 / 16 channels in combination of analog and IP cameras, (EMV1601 supports maximum 8 channels of IP cameras). EMV401 / 801 / 1601 can deliver and record at real-time WD1 resolution of each analog camera and real-time 1080p resolution of each IP camera.

Its comprehensive features along with the embedded 3-axis g-sensor function enable the almost universal application of this mobile DVR series. With EMV401 / 801 / 1601, you can install either one 3.5”hard disk or one 2.5” hard disk as an option. It supports various interfaces such as three USB ports / RS-485 / RS-232 / Panic Button / CAN bus / GPS, 3G, 4G and Wi-Fi Antenna. The design of RCA video/audio outputs at front panel makes your installation easy. The User Interface has been specially designed to fit mobile small-sized monitor.

EMV401 / 801 / 1601 are anti-shock and vibration due to the Molex connectors equipped. The power supply supports voltage regulator, and delay on/off. In addition, EMV401 / 801 / 1601 can be equipped with an explosion-proof black box to keep the last minute recording clip for testimony.

System Diagram



* This diagram uses EMV1601 as an example. The EMV401 / EMV801 have 4 / 8 video inputs and 4 / 8 audio inputs respectively.

1.1 Features

- 4 / 8 / 16-Ch hybrid mobile DVR with independent audio-in per channel
- Support 4 / 8 / 16 channels in combination of analog and IP cameras, (EMV1601 supports maximum 8 channels of IP cameras)
- Recording Resolution:
  - Analog: D1/WD1 resolution
  - IP: Up to 1080p resolution (depend on IP Camera)
- H.264 video compression format for better transmission and efficient storage
- Supports HDD up to 4TB
- Multiple serial interfaces
- Two 1Gb Ethernet ports
- 3-Axis G-Sensor embedded
- Internal temperature control
  - Built-in two heaters (heater on: below 0°C / heater off: above 7°C)
- Shock and vibration resistant audio, video, alarm and power socket connectors
- Linux-based system
- Archives recordings to the USB storage device
- Supports multi-languages
- Supports EverFocus' CMS and Mobile Applications (MobileFocus)
- IR Remote Control
- Certificates: CE, FCC, EN50155, E-Mark
- Supports 3G USB dongle (Optional) *
- 3G, 4G LTE function / GPS function / Wi-Fi function (Optional) **

* 3G USB dongles tested by EverFocus include Huawei E161 / E173 / E180 / E220.

** Requires an external 3G / 4G / GPS / Wi-Fi antenna, please refer to *1.3 Optional Accessories*. For using 3G function, you can either use a 3G dongle or our 3G Receiver.

1.2 Packing List

- EMV401 / 801 / 1601 Hybrid Digital Video Recorder x 1
- HDD Tray (with 2 keys and 8 screws for 3.5” HDD, 6 screws for 2.5” HDD) x 1
- Z-Type Bracket x 2
- Long Screw (with 4 washers) x 4
- Short Screw (with 4 washers) x 4
- IR Remote Control (with two AAA batteries) x 1
- Power Harness Cable x 1
- Video Cable x 4 (EMV1601); x2 (EMV801); x1 (EMV401)
- Audio Cable x 4 (EMV1601); x2 (EMV801); x1 (EMV401)
- Alarm Cable x 1
- RS232/485 Cable x 1
- CD x 1 (Please see Note 3.)
- Quick Installation Guide x 1

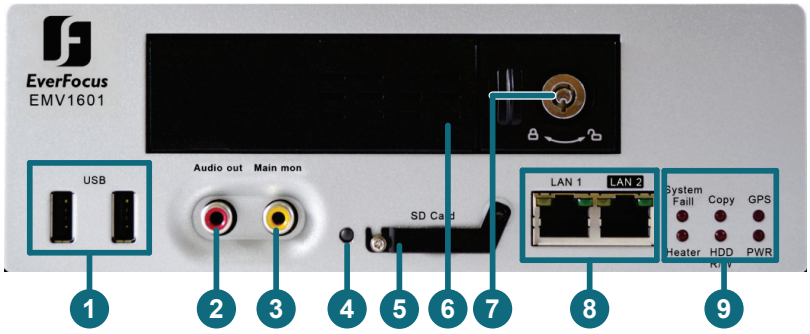
Note:

1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
2. Contact the shipper if any items appear to have been damaged in the shipping process.
3. The CD contains the IP Utility software, User Manual and Quick Installation Guide.
4. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
   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

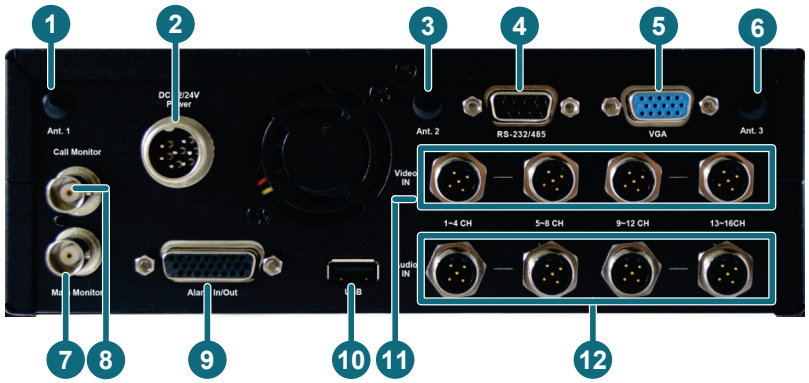
- 3G Receiver: For using 3G network function.
- 4G Receiver: For using 4G LTE network function.
- GPS Receiver: For using GPS function.
- Wi-Fi Antenna: For using Wi-Fi function.

1.4 Front Panel



No.	Name	Description
1	**USB2.0 Port**	Two USB2.0 ports for connecting to the 3G USB dongle, USB storage device or mouse.
2	**Audio Out**	RCA audio output for connecting to the speakers. The audio output only works during playback.
3	**Main Monitor**	RCA video output for connecting to a monitor for live view, playback and displaying OSD. **Note** this mobile DVR has two Main Monitor outputs (one on the front panel and the other on the rear panel). All of the Main Monitor ports can be connected simultaneously.
4	**IR Receiver**	Receives data from the infrared remote control.
5	**SD Card (TBD)**	Insert a SD card for data storage. **It is currently reserved.**
6	**HDD Drive Tray**	Installs a 3.5” or 2.5” HDD for recording.
7	**HDD Key Lock**	Locks and unlocks the HDD tray.
8	**Ethernet Port**	Two RJ-45 ports for connecting to the network. It’s recommended to use LAN 1 for connecting to the IP cameras via a hub or switch, and use LAN 2 for WAN connection.
8	**System LEDs**	• **GPS LED:** Turns on when the mobile DVR is receiving the GPS data. • **Power LED:** Turns on when the power is supplied. • **Copy LED:** Turns on when the mobile DVR is archiving data to the USB storage device. • **HDD R/W LED:** Turns on when the HDD is reading or writing. • **System Fail LED:** Turns on when these events occur: HDD Full / Fan Fail / HD Temperature. • **Heater LED:** Turns on when the mobile DVR is overheating.

1.5 Rear Panel



No.	Name	Description
1	**Antenna 1 (3G/4G)**	Connects to the 3G or 4G Receiver for using 3G / 4G LTE function.
2	**DC Power Input**	Power harness cable for connecting to 12 VDC ~ 24 VDC power source. For details, please refer to *2.4.1 Power Harness Cable*.
3	**Antenna 2 (GPS)**	Connects to the GPS Receiver for using GPS function.
4	**RS-232/485**	Connects to RS-232 (CAN bus) or RS-485 device (such as analog PTZ cameras), please refer to *2.4.5 RS-232 /RS-485 Cable*.
5	**Main Monitor (VGA)**	VGA video output for connecting to the main monitor for live view, playback and displaying OSD.
6	**Antenna 3 (Wi-Fi)**	Connects to the Wi-Fi antenna for using Wi-Fi function.
7	**Main Monitor (BNC)**	BNC video output for connecting to the main monitor for live view, playback and displaying OSD. **Note** this mobile DVR has 3 Main Monitor outputs (one on the front panel and the other 2 on the rear panel). All of the Main Monitor ports can be connected simultaneously.
8	**Call Monitor (BNC)**	BNC video output for connecting to the call monitor for displaying the live view.
9	**Alarm In / Out**	D-Sub connector for connecting to the supplied Alarm Cable. For details, please refer to *2.4.4 Alarm Cable*.
10	**USB2.0 Port**	USB2.0 ports for connecting to the 3G USB dongle, USB storage device or mouse.
11	**Video Input**	M12 connector for connecting to the supplied Video Cable. For details, please refer to *2.4.2 Video Cable*.
12	**Audio Input**	M12 connector for connecting to the supplied Audio Cable. For details, please refer to *2.4.3 Audio Cable*.

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 fan vents. Inadequate or improper air flow can impede proper operation of the hybrid mobile DVR

Please **avoid** installing the hybrid 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 hybrid mobile DVR
- Next to a heater duct

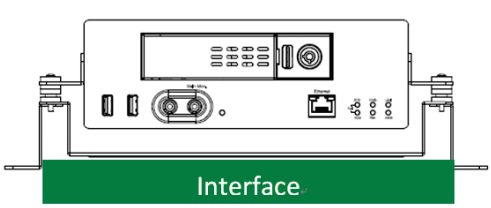
The following table lists the recommended location options in the vehicle:

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

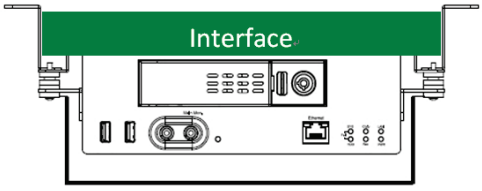
Note: Do not install the hybrid mobile DVR on the floor or on the transmission access hatch. These locations have the highest levels of vibration and may be subject to water damage.

2.1.1 Mounting

The EMV401 / 801 /1601 can be mounted horizontally. Two mounting types are available: **Support-Mount** and **Suspend-Mount**.



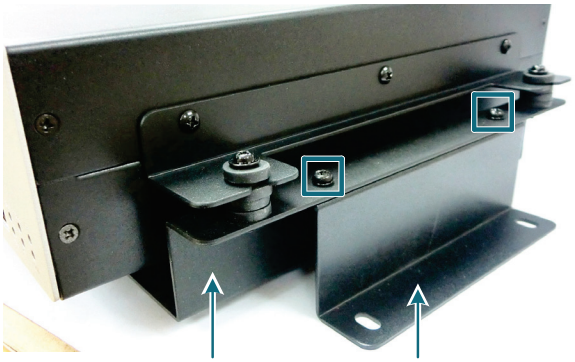
Support-Mount



Suspend-Mount

To install the L-type brackets to the hybrid mobile DVR for mounting:

1. Attach the supplied two L-Type Brackets to the Fixing Bracket on the hybrid mobile DVR. Use the supplied four short screws with washers to screw the L-Type Brackets to the Fixing Bracket.



Fixing Bracket L-Type Bracket

2. Screw the hybrid mobile DVR to the interface using the supplied four Long Screws with washers.

2.2 Hard Disk Installation

The EMV401 / 801 / 1601 supply with a 3.5” HDD tray for inserting a Hard Disk for video recordings. Please follow the steps below to install the Hard Disk.

Note:

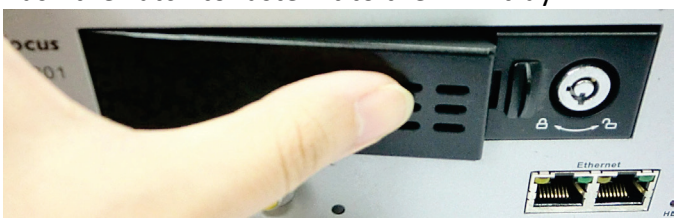
1. If you want to use a 2.5” HDD, make sure to use the supplied 2.5” HDD tray screws to secure the HDD to the HDD tray.
2. The EMV401 / 801 / 1601 does not support hot swap for the hard disk. Ensure to power off the hybrid mobile DVR before removing the hard disk. Also ensure to remove the hard disk only after the power was completely shut off. This would protect and extend the operating life of the hard disk.

1. Make sure the hybrid mobile DVR is power-off.

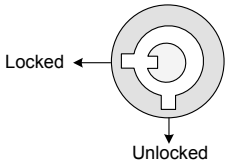
2. Place the hard disk in the HDD tray, secure the HDD with the supplied HDD Screws (8 for 3.5” HDD and 6 for 2.5” HDD) on the bottom of the HDD tray.

3. Insert the HDD tray to the hybrid mobile DVR.

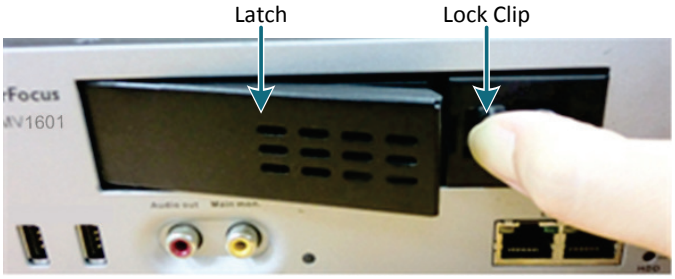
4. Push the Latch to fasten it to the HDD tray.



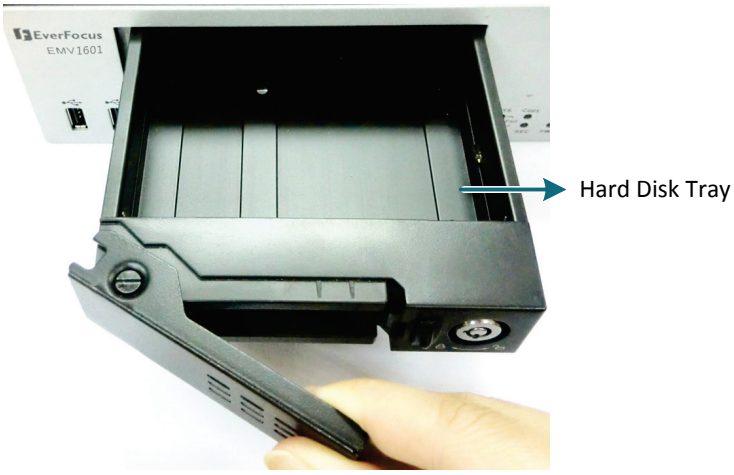
5. Lock the HDD tray using the supplied key.



6. To remove the HDD tray, slightly push the Lock Clip to loosen the Latch of the HDD tray.



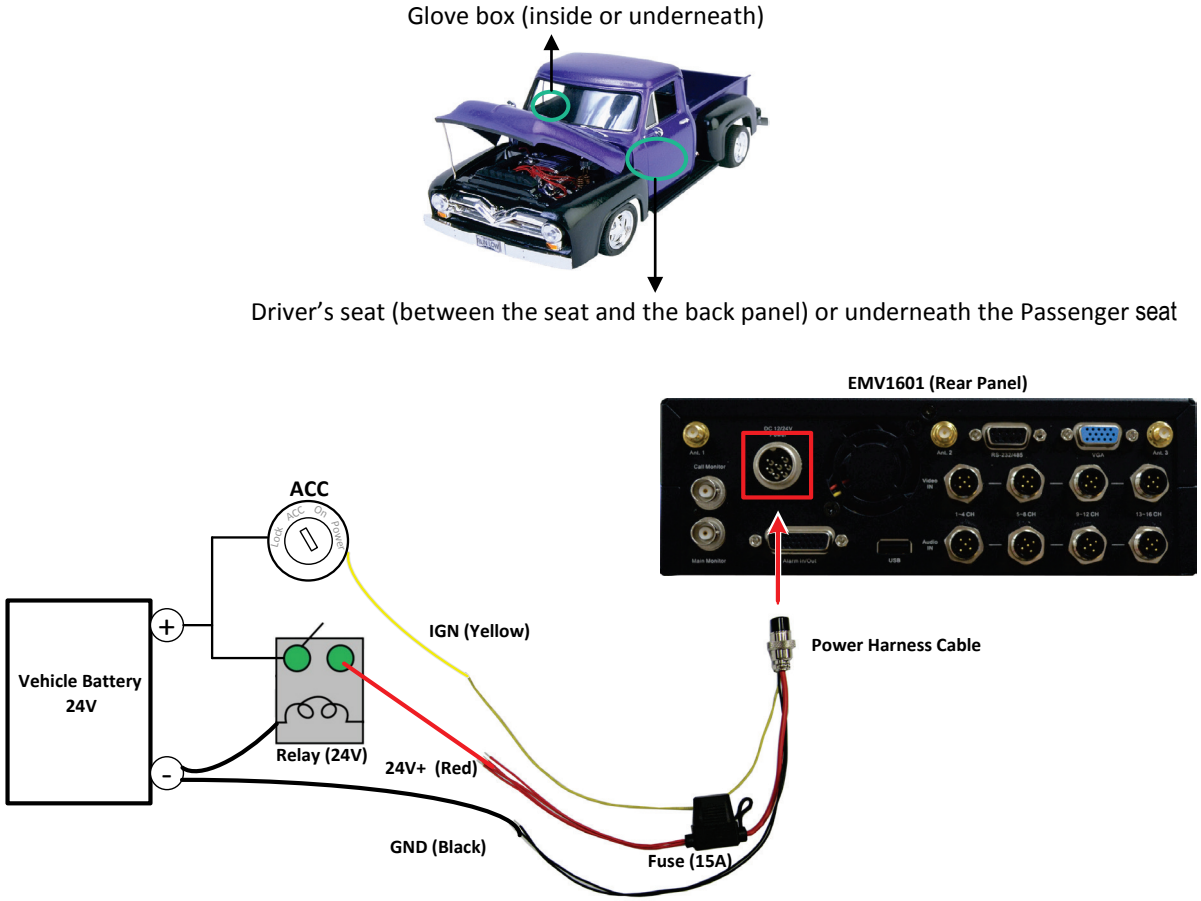
7. Pull out the HDD tray.



2.3 Vehicle Connection

The EMV401 / 801 / 1601 supports input power voltage between 10 VDC ~ 32 VDC. You can install the hybrid 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 EMV1601 for example; the differences among the three models are the video / audio / alarm inputs numbers.

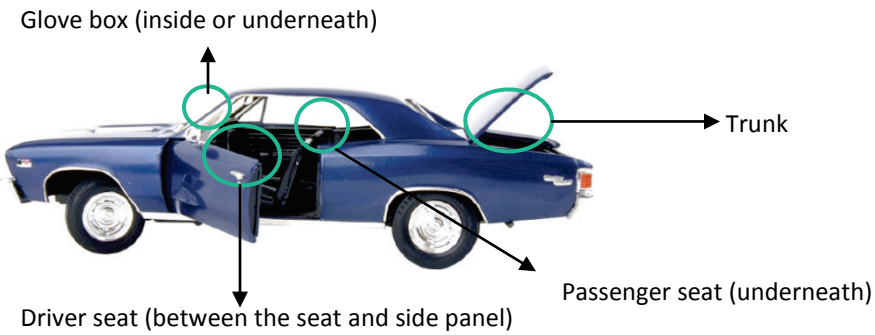
2.3.1 Connecting to a Truck with 24 VDC

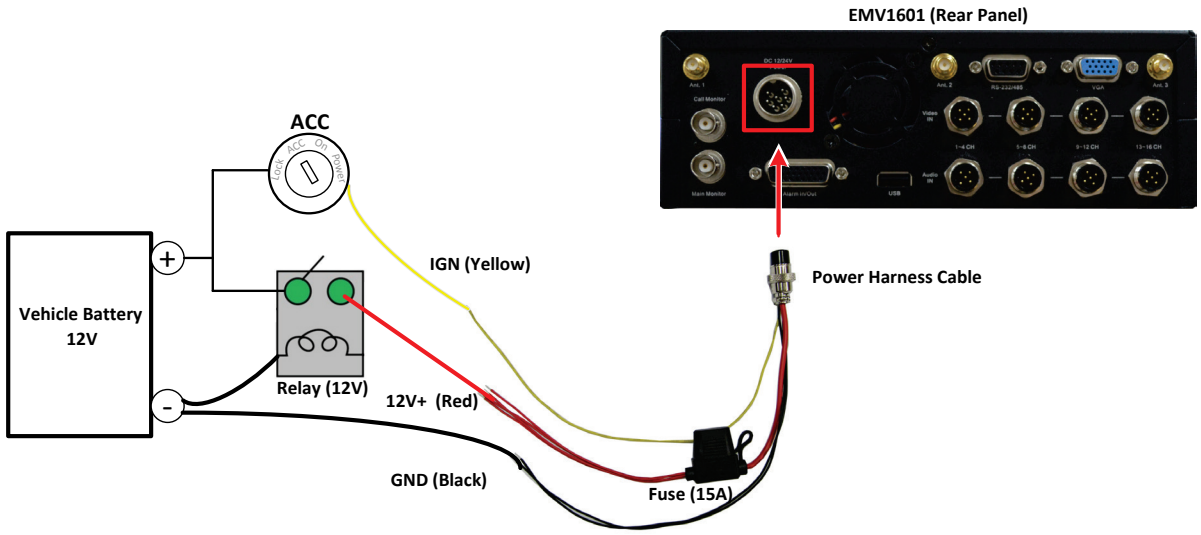


Note:

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. It is suggested to use a relay in the installation. Otherwise, the mobile DVR will always draw the power from the vehicle battery.

2.3.2 Connecting to a Car with 12 VDC



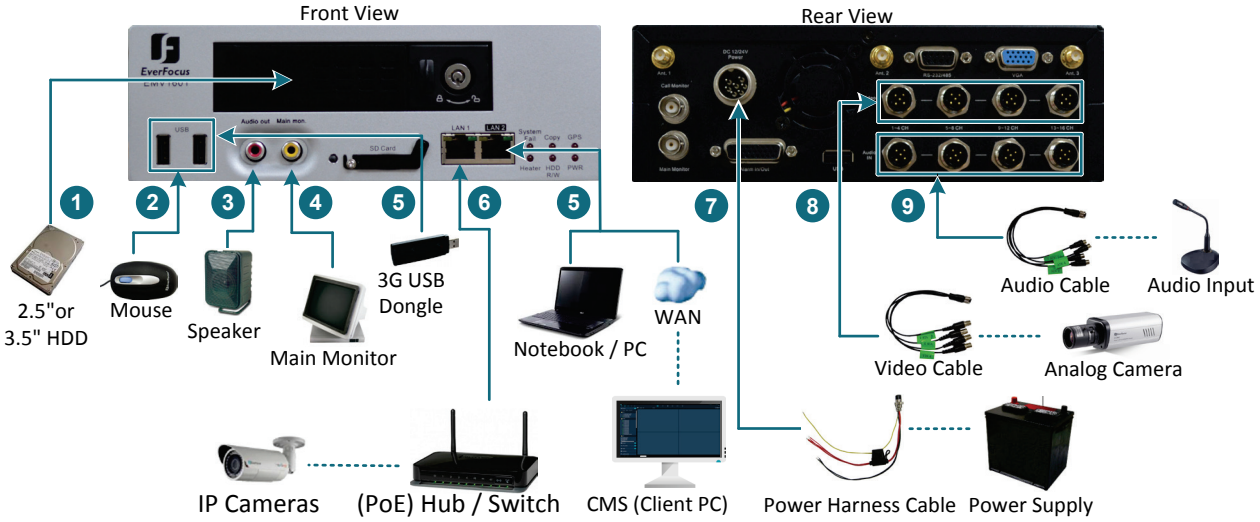


Note:

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. It is suggested to use a relay in the installation. Otherwise, the mobile DVR will always draw the power from the vehicle battery.

2.4 Basic Connection

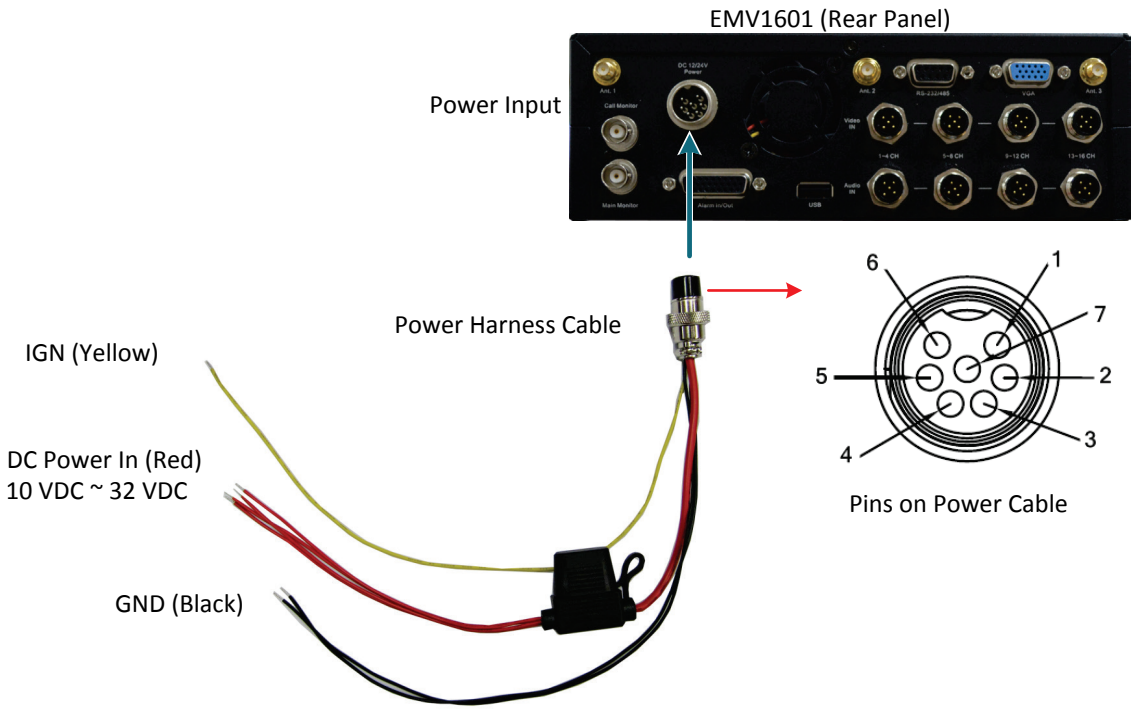
After installing the EMV401 / 801 / 1601 in the vehicle, you can start connecting the hybrid mobile DVR to the external devices. The instructions below describe the basic connection to the EMV401 / 801 / 1601. For details on cable connections, please refer to the following sections.



1. To record videos, insert a 2.5” or 3.5” HDD 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 hybrid 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 view videos, connect a monitor to the RCA port using the RCA cable supplied by the monitor manufacturer. You can also connect other video out ports, please refer to *2.5 Monitor Connection*.
5. To manage the hybrid mobile DVR over network:
   a. Use a standard RJ-45 cable to connect the hybrid mobile DVR to the network.
   b. Connect a 3G USB dongle to the USB port on the hybrid mobile DVR. For details on 3G wireless network settings, please refer to *6.6.3 Mobile*.
6. You can optionally connect a (PoE) switch / hub to the LAN1 port of the hybrid mobile DVR using a standard RJ-45 Ethernet cable for connecting the IP cameras.
7. Connect the supplied Power Harness Cable to the power supply in the vehicle for powering the hybrid mobile DVR and the connected cameras. For details on vehicle connection, please refer to *2.3 Vehicle Connection*.
8. Connect the cameras to the hybrid mobile DVR using the supplied Video Cable.
9. Connect the audio input devices to the hybrid mobile DVR using the supplied Audio Cable.

2.4.1 Power Harness Cable

You can connect the mobile DVR to a power source between 10 VDC ~ 32 VDC.



Pin Assignment

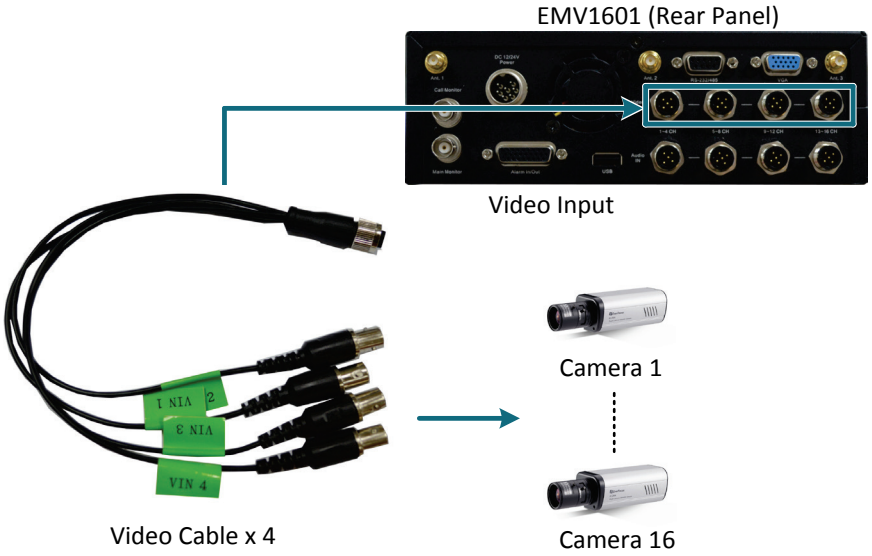
No.	Color	Description	No.	Color	Description
1	**Red**	DC Power Input	**5**	**Black**	GND
2	**Red**	DC Power Input	**6**	**Black**	GND
3	**Red**	DC Power Input	**7**	**Yellow**	IGN
4	**Red**	DC Power Input			

2.4.2 Video Cable

The EMV401 / 801 / 1601 have 1 / 2 / 4 Video In ports for connecting 4 / 8 / 16 analog cameras using the supplied Video Cables.

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 EMV1601 as an example).

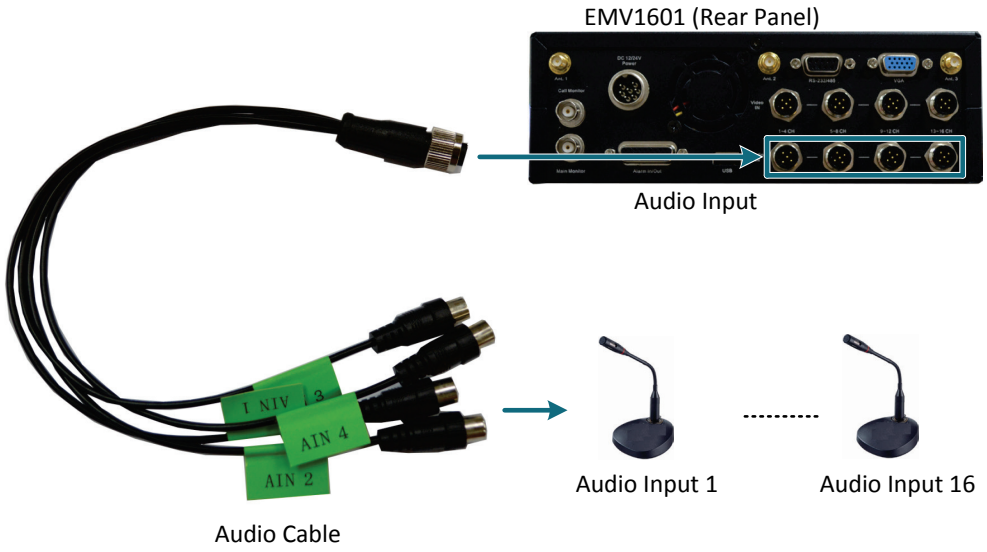


2.4.3 Audio Cable

The EMV401 / 801 / 1601 have 1 / 2 / 4 Audio In ports for connecting 4 / 8 / 16 microphones using the supplied Audio Cables.

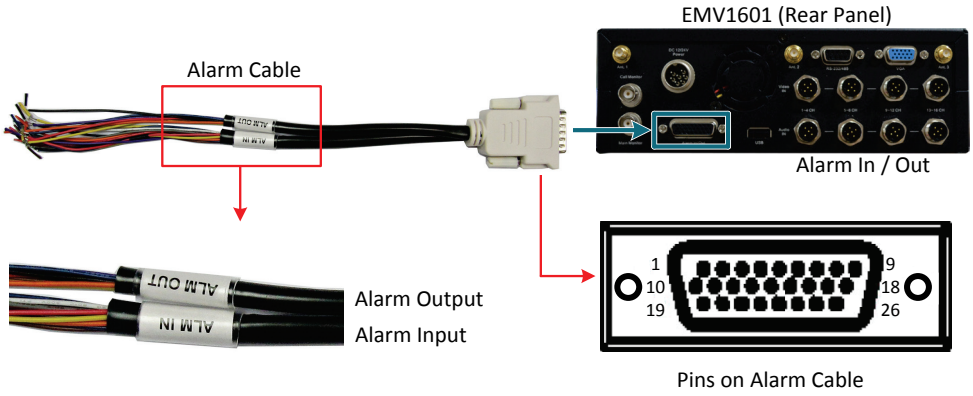
The Audio Cables are all labeled with AIN 1~ AIN 4, and you can connect any Audio Cable to any of the Audio In ports on the mobile DVR. If the Audio Cable connects to 5-8 CH Audio In port, the cable labeled as AIN 1 will be channel 5 and so forth.

(The following figure uses EMV1601 as an example).



2.4.4 Alarm Cable

You can connect the hybrid mobile DVR to 16 / 8 / 4 alarm inputs and 2 alarm outputs.



Alarm Input

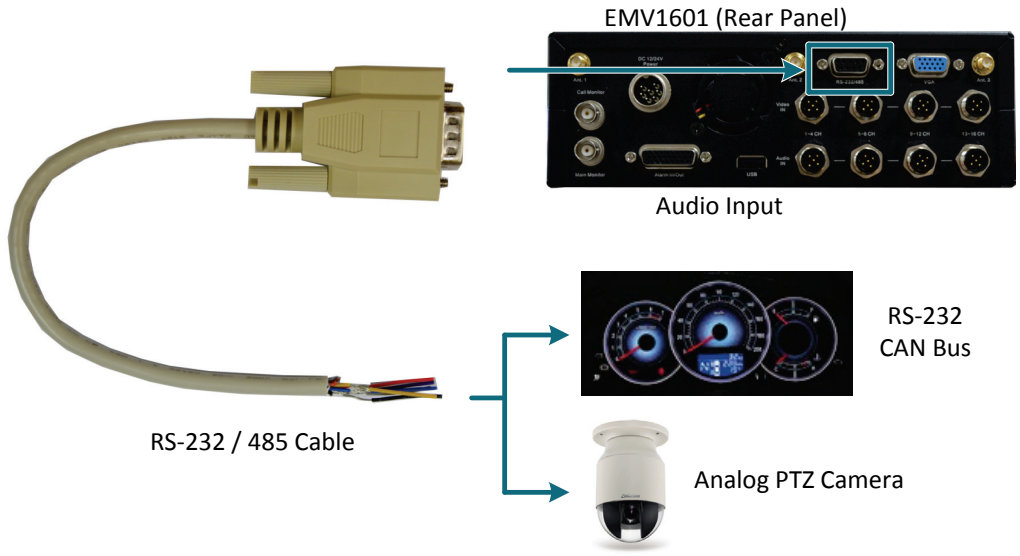
No.	Color	Description	No.	Color	Description
1	**Blue**	ALM_IN1	**10**	**Black**	GND
2	**Purple**	ALM_IN2	**11**	**Purple**	ALM_IN9
3	**Orange**	ALM_IN3	**12**	**Green**	ALM_IN10
4	**Gray**	ALM_IN4	**13**	**Red**	ALM_IN11
5	**Brown**	ALM_IN5	**14**	**Brown**	ALM_IN12
6	**Red**	ALM_IN6	**15**	**Blue**	ALM_IN13
7	**Yellow**	ALM_IN7	**16**	**Yellow**	ALM_IN14
8	**White**	ALM_IN8	**17**	**Black**	ALM_IN15
9	**Black**	GND	**18**	**Orange**	ALM_IN16

Alarm Output

No.	Color	Description	No.	Color	Description
19	**Black**	GND	**23**	**Red**	ALM1-NC
20	**Black**	GND	**24**	**Blue**	ALM2-NO
21	**Orange**	ALM1-COM	**25**	**Brown**	ALM2-NC
22	**Yellow**	ALM2-COM	**26**	**Purple**	ALM1-NO

2.4.5 RS-232 / RS485 Cable

You can connect the I/O devices such as a CAN Bus / analog PTZ cameras using the RS-232 / RS-485 Cable.



RS-232 / RS-485

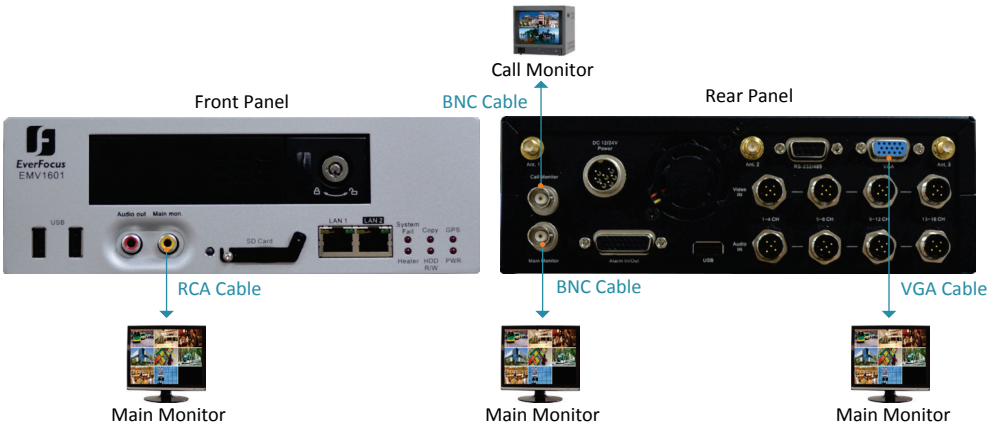
No.	Color	Description	No.	Color	Description
1	**-**	-	**6**	**-**	
2	**Blue**	RS-232_RX	**7**	**Purple**	RS-485B (-)
3	**Yellow**	RS-232_TX	**8**	**Gray**	RS-485A (+)
4	**-**		**9**	**Black**	GND
5	**Red**	GND			

2.5 Monitor Connection

The EMV401 / 801 / 1601 have 3 Main Monitor ports and 1 Call Monitor port. You can connect the monitors to the BNC, VGA or RCA Main Monitor and BNC Call Monitor ports of the hybrid mobile DVR. All of the Main and Call Monitor ports can be used simultaneously.

The configuration can only be operated on the Main Monitors, and the 3 Main Monitor outputs have the identical functionality.

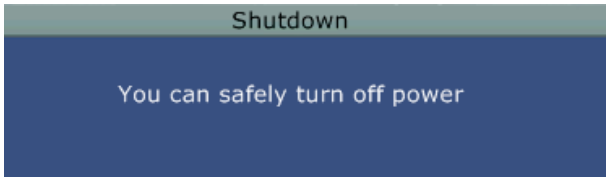
Make sure that the connected monitor's specifications comply with these resolution requirements. (This figure uses EMV1601 hybrid mobile DVR as an example).



2.6 Turning On / Off the Power

Before powering on the hybrid 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 hybrid mobile DVR. Simply plug in the power source. The POWER LED will light up if power is normal. Once the system has finished loading, you can begin to set up the menu options for the hybrid mobile DVR.

To turn off the power, please go to OSD Root Menu > System Setting > Miscellaneous setting page, and click **Shutdown** (refer to *6.8.7 Miscellaneous*). After the message pops up as below, you can now turn off the power source.

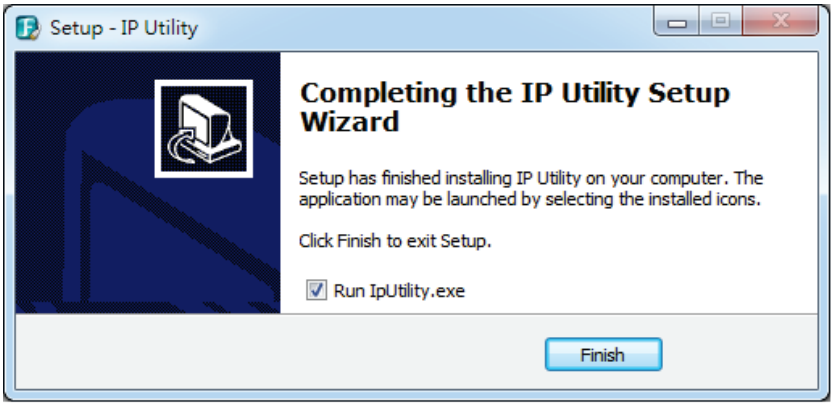


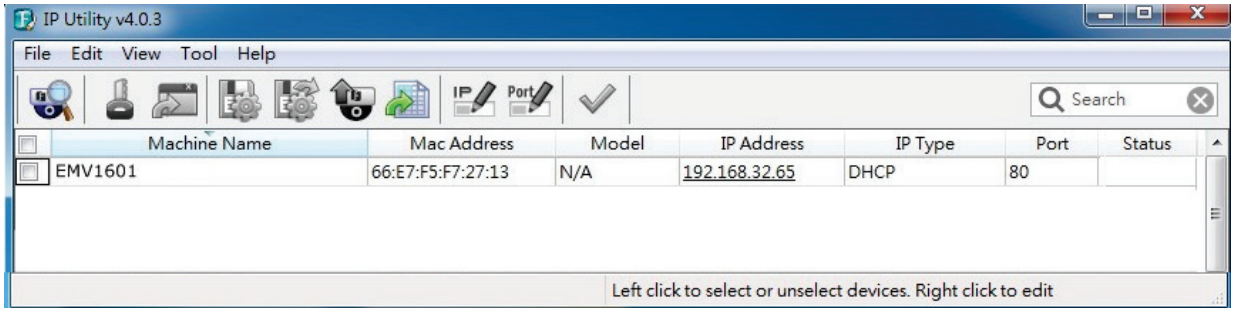
Note that when the hybrid mobile DVR is placed in an environment where the temperature is very low (for example, -40°C, the hybrid mobile DVR will NOT turn on immediately.)

2.7 Checking the Dynamic IP Address

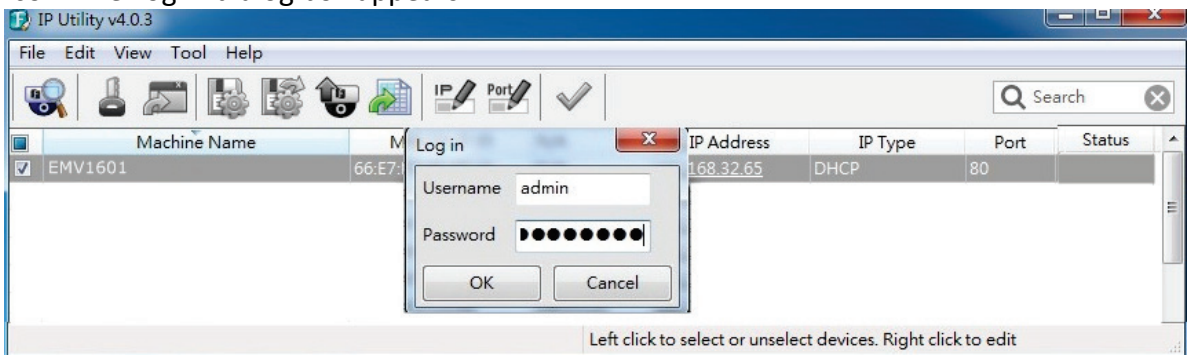
You can look up the IP address and access the Web interface of the hybrid mobile DVR using the **IP Utility (IPU)** program, which can be downloaded from EverFocus' Website: http://www.everfocus.com/HQ/Support/DownloadCenter_p1.aspx. Please connect the hybrid mobile DVR in the same LAN of your computer.

1. Save **IP Utility Setup AutoRun.exe** in your computer. Double click the .exe file and follow the on-screen instructions. Check **Run IPUtility.exe** and click the **Finish** button, the IP Utility will be launched to search the IP devices connected in the same LAN automatically.

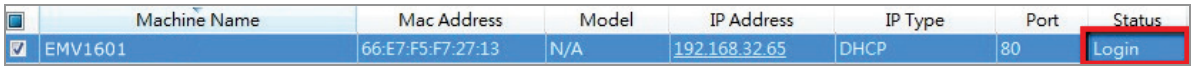




2. To optionally configure the Machine Name, IP Address, IP Type or Port Number using the IPU:
   a. Log in the hybrid mobile DVR by checking the desired model and then click the **Log in** icon. The Log in dialog box appears.

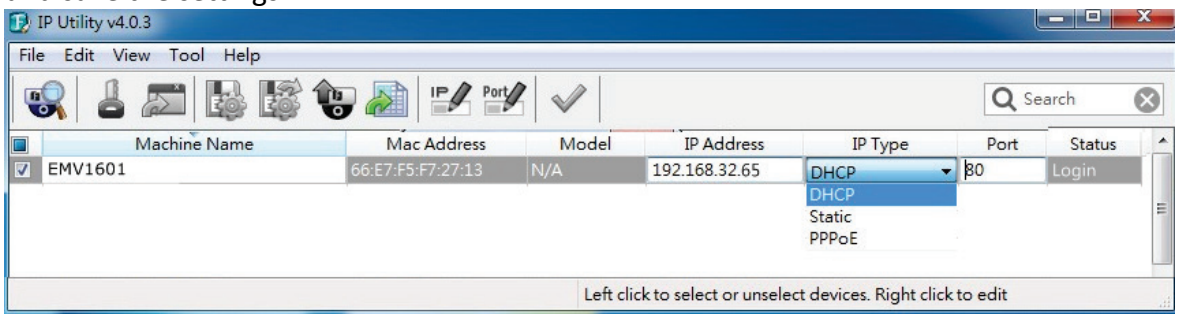


b. Type the Username and Password. Click the **OK** button, the status of the selected camera will display **Login**.



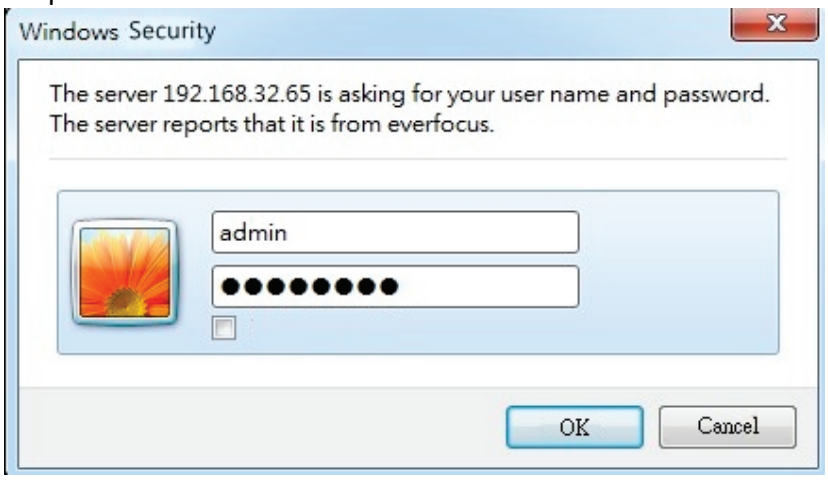
Note:
1. The default user ID is **admin** and the default password is **11111111**.
2. If you select more than one hybrid mobile DVRs that have the same user ID / password, you will be able to log in several hybrid mobile DVRs at once.

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



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

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

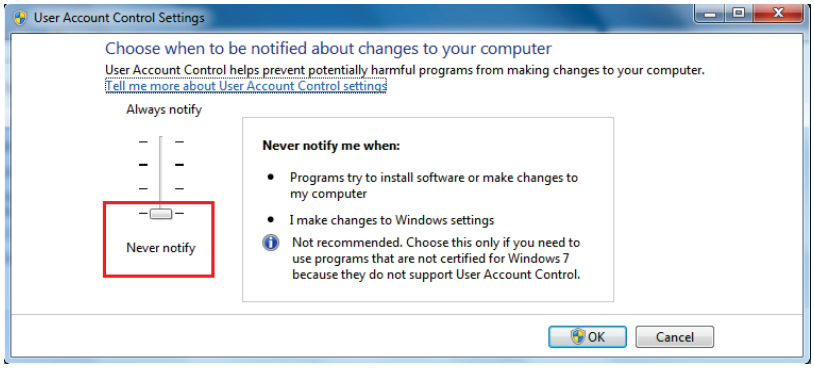


4. When first connecting to the hybrid mobile DVR's IP address, the following dialog will appear. Please check the box and click the **Run** button to run the EverFocus Viewer application.

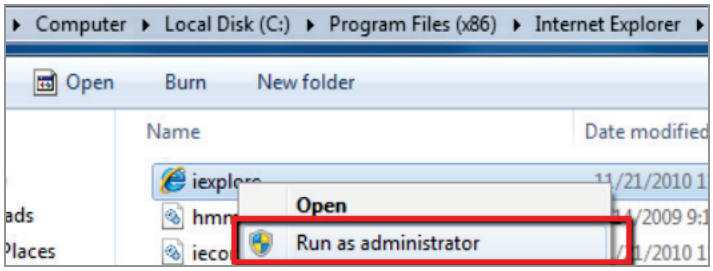
5. You might be required to download **ActiveX** and **JAVA software** for viewing the camera feed. If asked, click **Yes**. For more details, please refer to *7.3.1 Installing ActiveX Controls*.

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

7. 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.



8. 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**.



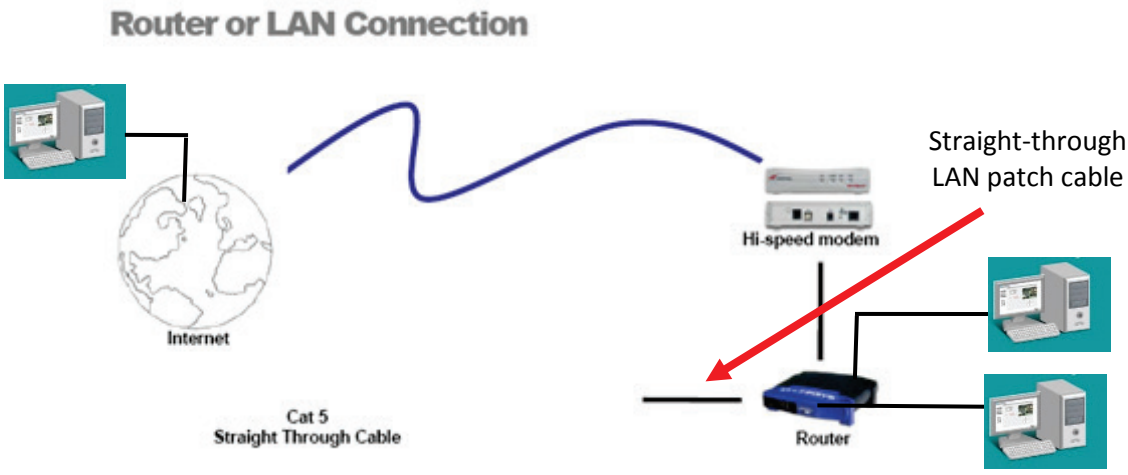
9. Now you will be able to see the remote live page.

2.8 Connecting the Hybrid Mobile DVR to the Network

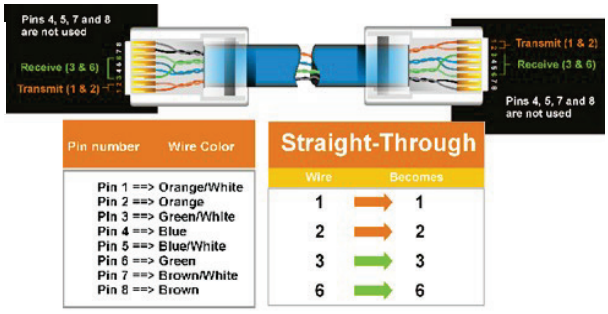
There are three methods to connect the hybrid mobile DVR to the network: **Router or LAN Connection**, **Direct High-Speed Connection** and **One-to-One Connection**. For more information of the network, please refer to *Appendix A. Network Overview*.

2.8.1 Router or LAN Connection

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



Right: Pinout of a straight-through cable.



Connection Procedure:

- The First step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross-over network cable for this application.
- Once you have a straight through cable plug one end into the LAN port on the back of the recorder and the other into the router.
- Log into the EverFocus hybrid mobile DVR menu and go to the Network Setting Menu.
- To let the router automatically assign an address:
  - Set the Network Type to DHCP. Make sure to write down the IP address and the Gateway.
  - Exit from the Menu to save settings.

To manually assign an address:

- Go to a computer connected on the same network as the mobile DVR.
- Click on the Start button and choose Run.

  If using Windows Vista, choose Search instead.
- Type “command” and click on OK.

  In Vista, you will need to double-click on the “Command Prompt” file to open it.
- In the DOS prompt, type “ipconfig” and press Enter.
- The network information will be displayed on a screen similar to the one below.

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

- Take the values for Subnet Mask and Default Gateway and input them into the hybrid mobile DVR; these values should be exactly the same in both devices. However, you should change the last number of the IP address. For example, if the IP address of the computer is 192.168.2.101, the hybrid mobile DVR's IP address should be 192.168.002.050.

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

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

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

To set the hybrid mobile DVR for Internet Connection through router:

➢ The next step is to open ports within your router. Log into the router using a PC and open the following ports.

- Ports to open: 80
- If your Internet service provider blocks port 80, you can change it to a different port in the hybrid mobile DVR's Network Menu Setup; open/forward that port instead.
- If you are using a Linksys or D-Link router, see Chapter 8 for basic support on setting up ports. For any other router, you will need to contact the manufacturer for support.

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

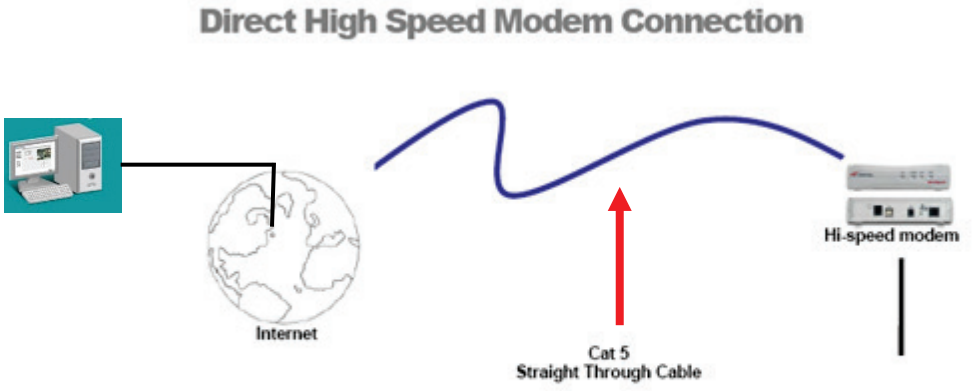
http:// (the IP address given by your internet service provider)

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

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

2.8.2 Direct High-Speed Connection

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



Connection Procedure:

- The first step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross-over network cable for this application
- Once you have a straight through cable plug one end into the LAN port on the back of the recorder and the other into the high speed modem.
- Log into the EverFocus hybrid mobile DVR menu and go to the Network Setting Menu.
- Input the Static IP address, the Subnet Mask, and the Gateway that you obtained from the internet service provider.

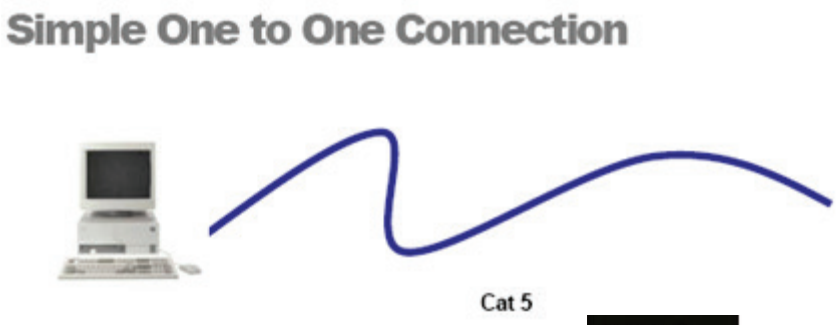
Note: If you have a dynamic IP address, you can set the mobile DVR to DHCP to automatically detect the network settings. Therefore, it can use a dynamic IP address.

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

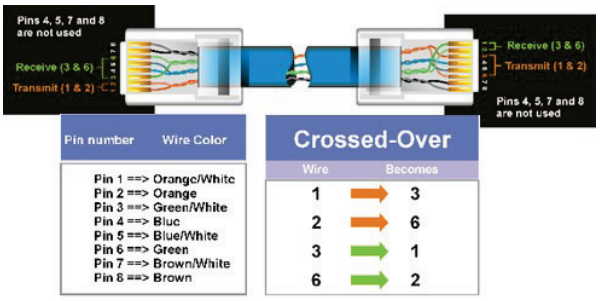
Note: When using this type of connection, only one device can be connected to the modem at a time. You will need to use a computer at a different location to test the connection s.

2.8.3 One-to-One Connection

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



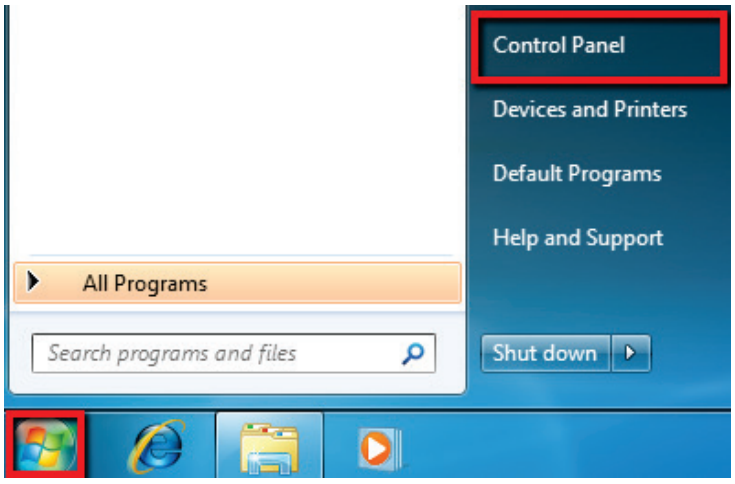
Right: Pinout of a crossed-over cable.



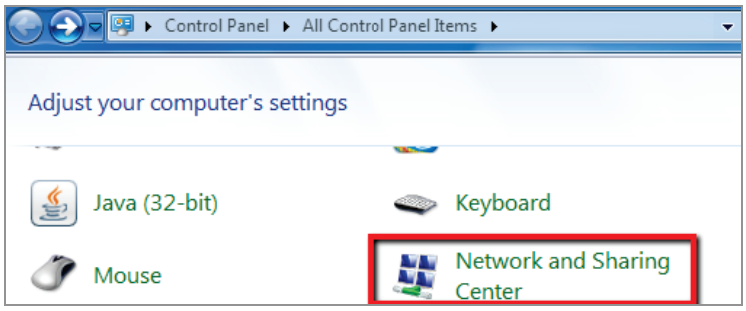
Connection Procedure:

- The First step is to purchase or make a cross-over cable. We recommend purchasing one if you have never made a cross-over cable. Please remember you can not use a straight through network cable for this application.
- Once you have a cross-over cable plug one end into the LAN port on the back of the hybrid mobile DVR and the other into the network card on the back of the computer.
- Log into the EverFocus hybrid mobile DVR menu and go to the Network Setting Menu.
- You must use the Static IP option for this type of connection.
- Assign an IP of 192.168.001.003, a Subnet Mask of 255.255.255.000, and a Gateway of 192.168.001.001. You can ignore DNS Server.
- The next step is to set the computer's network settings to match those of the hybrid mobile DVR. You will need Administrator privileges on your Windows machine to do this.
- To assign a fixed IP address in Windows 2000/XP, follow the instructions below:

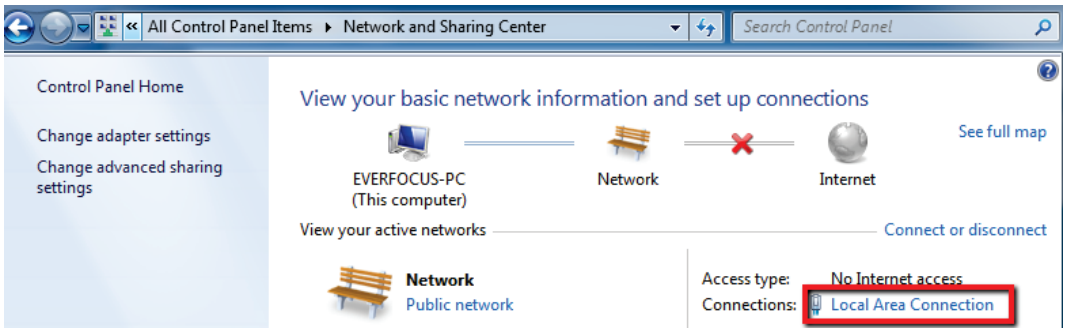
- Go to **Start**. Double-click on **Control Panel**.



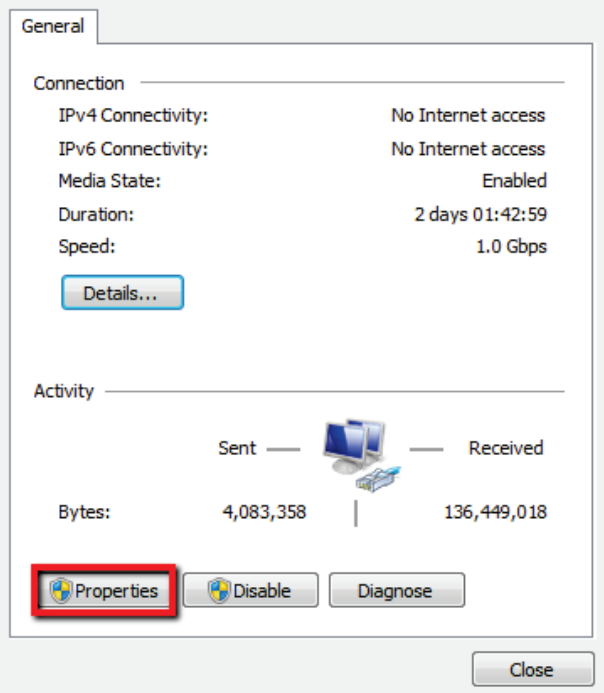
- Click **Network and Sharing Center**.



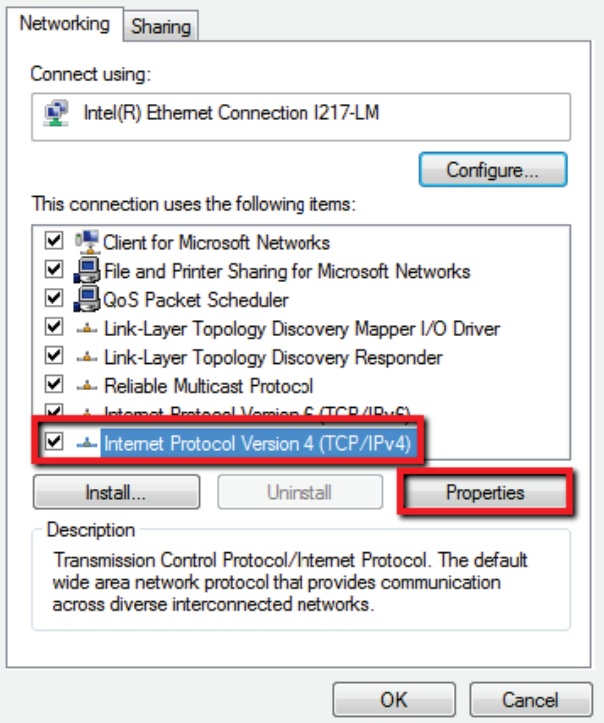
- Click **Local Area Connection**.



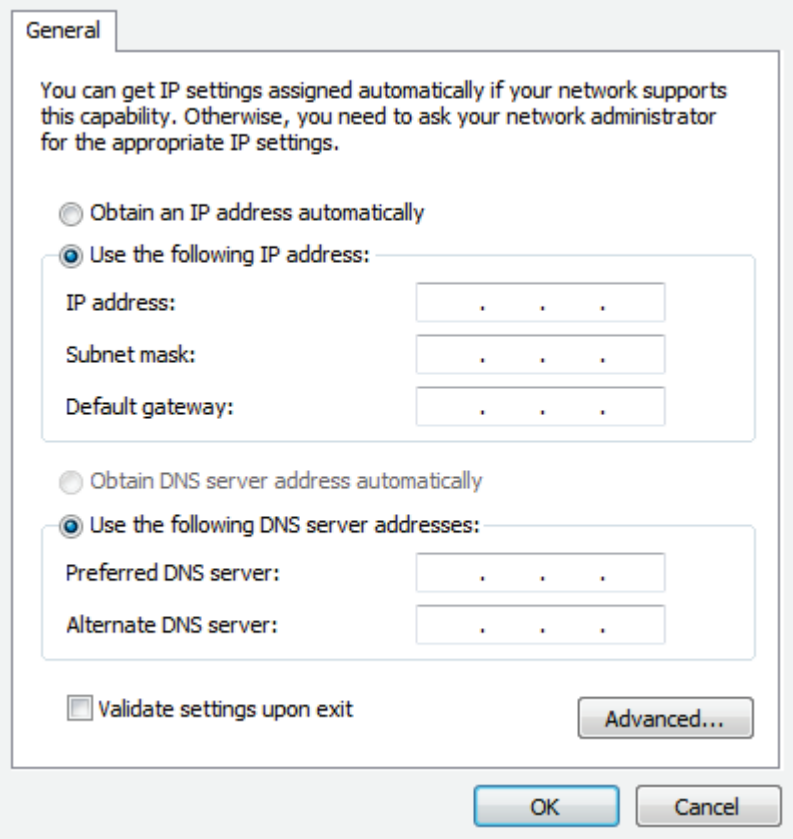
- Click **Properties**.



- Click on **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.



- Select **Use the following IP address**. Assign an IP address of 192.168.1.2, a Subnet Mask of 255.255.255.0, and a Default Gateway of 192.168.1.1 and then click **OK**.



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

3. General Operation

There are two ways to control the OSD menu of the EMV401 / 801 / 1601: with a **Mouse** or the supplied handheld **IR Remote Control**. For details on the IR remote control, please refer to *Appendix E, IR Remote Control*. This chapter will discuss the basic operations using the mouse.

3.1 USB Mouse Operation

3.1.1 How to Select a Channel / Enable Audio Out

1. In the Live View window, you can select a channel by clicking once on the desired channel screen. The selected screen will be highlighted by a red frame.
2. Double clicking on a channel screen will display full screen for this channel.
3. To enable audio out, click the Audio Icon at lower-left side of the screen to switch the Audio Output function to the desired channel or disable the Audio Output function.

3.1.2 OSD Root Menu

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

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

3.1.3 Field Input Options

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

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

On-Screen Keyboard: Click on a button to input that character. The buttons on the right and bottom have the following functions:

Caps	Switch to capital letters
←	Delete the letter backwards
↵	Confirm the selection
◄	Move to left
►	Move to right
Space	Enter a space

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

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

Button: Click the button to execute the function.

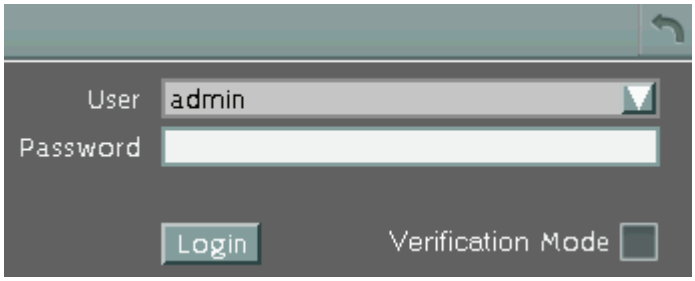
Bar: Slide the bar to the left or right for adjusting the set point.

3.2 General Operation

3.2.1 Login

In order to access EMV401 / 801 / 1601, 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 *6.8.4 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 hybrid mobile DVR to techsupport@everfocus.com, 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 hybrid 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 *6.8.4 User Management*).

3.2.3 Camera Selection

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

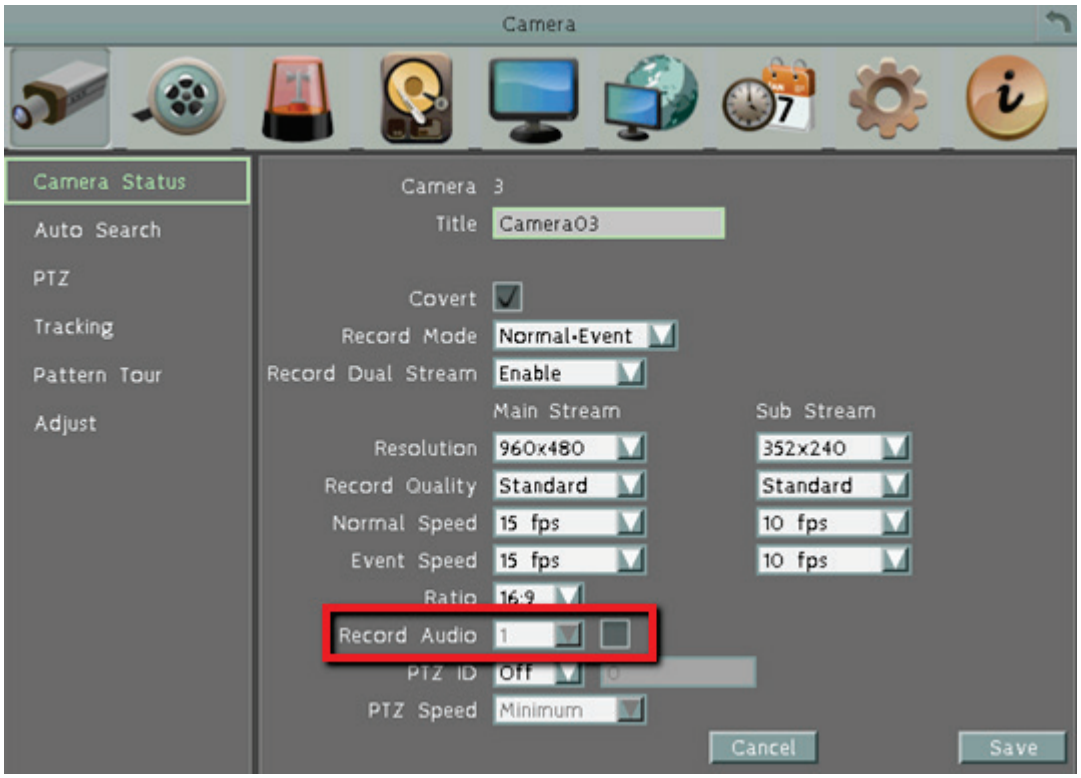
Click a camera on the screen, and the selected camera will be highlighted with a red frame. All cameras will be selected when you scrolling the mouse up / down between the first and the last channel.

3.2.4 Audio Selection

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

Note: The Audio function is unavailable for Germany.

1. Connect the audio source and/or audio output amplifier to the hybrid mobile DVR.
2. Go to Camera setting menu (OSD Root Menu > System > Camera > Camera Status).
3. Click the **Set** button of the analog camera.
4. Check the box to enable the **Record Audio** option and select an audio input device. You can select multiple cameras to one single audio input device.



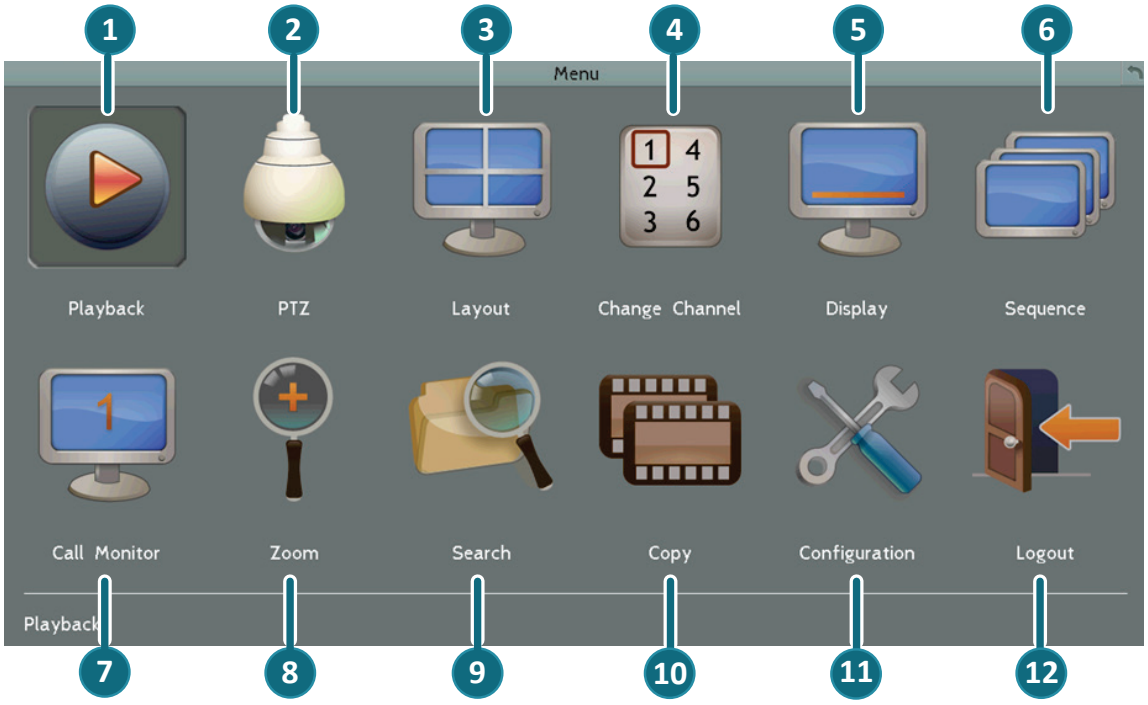
Note that the hybrid mobile DVR only provide one channel audio output. You can switch the Audio Output function to either one from the 16 cameras. To switch the Audio Output function to the desired camera:

On the bottom of the live view screen, click the Audio icon to switch the Audio Output function to the desired camera or disable the Audio Output function.

Chapter

4

4. OSD Root Menu



No	Name	Description
1	**Playback**	Click to display the Playback Bar for viewing the recording videos. For details, please refer to *5. Search and Playback*.
2	**PTZ**	Click to display the PTZ Control Panel for controlling the connected PTZ cameras. For details, please refer to *4.1 PTZ.*
3	**Layout**	Click to display the Layout Bar as shown below. Select a layout type for the live view display on the Main Monitor. For details, please refer to *4.2 Layout Switching.* 

4	**Change Channel**	Click to display the Channel Changing Bar as show below. To switch the selected camera to a specific channel, please refer to *4.3 Channel Switching*. 
5	**Display**	Click to display system information icons or status icons on the live view screen. For details, please refer to *4.4 Display*.
6	**Sequence**	Click to enter the auto sequential switching mode. Click again to disable. For setting up the sequencing order, please refer to *6.5.2 M/T*
7	**Monitor**	Click to switch to the call monitor settings. For details, please refer to *4.6 Monitor Switching*.
8	**Zoom**	Click to enter the Zoom mode. You can zoom in the camera view up to x4 and navigate the camera view. For details, please refer to *4.7 Zoom*.
9	**Search**	Click to display the Search menu for setting up the Search mode for playing back. For details, please refer to *5.3 Searching the Recordings for Playback Back.*
10	**Copy**	Click to display the Copy menu for archiving the recordings or log data to the USB storage device or DVD. For details, please refer to *4.8 Archiving the Recordings or Log Data to the USB or DVD.*
11	**Configuration**	Click to enter the Configuration menu. Please refer to *6. Configuration*.
12	**Logout**	Click to bring up the Logout Confirmation window and then click Yes to log out the system (see *4.9 Logout*). To log in, please refer to *3.2.1 Login*.

4.1 PTZ

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

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

1. To 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 the camera focus, click the Focus buttons.
4. To adjust the Iris open to increase / decrease the amount of light in, click the **Iris** buttons.
5. To program a Preset Position (if supported by the camera):
   a. Move the PTZ camera to the desired position.
   b. Click the **Preset** button.
   c. Set up a preset number for the current position by clicking the number buttons. The number will be displayed in the number box.
   d. Click the **Set** button to save the settings.
6. To jump to a Preset Position:
   a. Click the **Preset** button.
   b. Click the desired Preset number.
   c. Click the **Go** button.
7. Shortcut for Preset 1 ~ 9:
   a. Click digit 1 ~ 9 button without clicking any other buttons.
   b. The camera will seek that Preset Position.
8. To delete a Preset Position (if supported by the camera):
   a. Click the **Preset** button.
   b. Click the desired Preset number.
   c. Click the **Delete** button.

9. To operate the Auto Pan function, click the **Auto Pan** button.
10. To operate the Pattern function, click the **Pattern** button. The Pattern is the "0" Tour in Everfocus and Pelco PTZ cameras.
11. To operate the Tour function:
    a. Click the **Tour** button.
    b. Click the desired Tour number.
    c. Click the **Go** button.
12. To remove a pre-configured Tour (if supported by the camera):
    a. Click the **Tour** button.
    b. Click the desired Tour number.
    c. Click the **Delete** button.

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

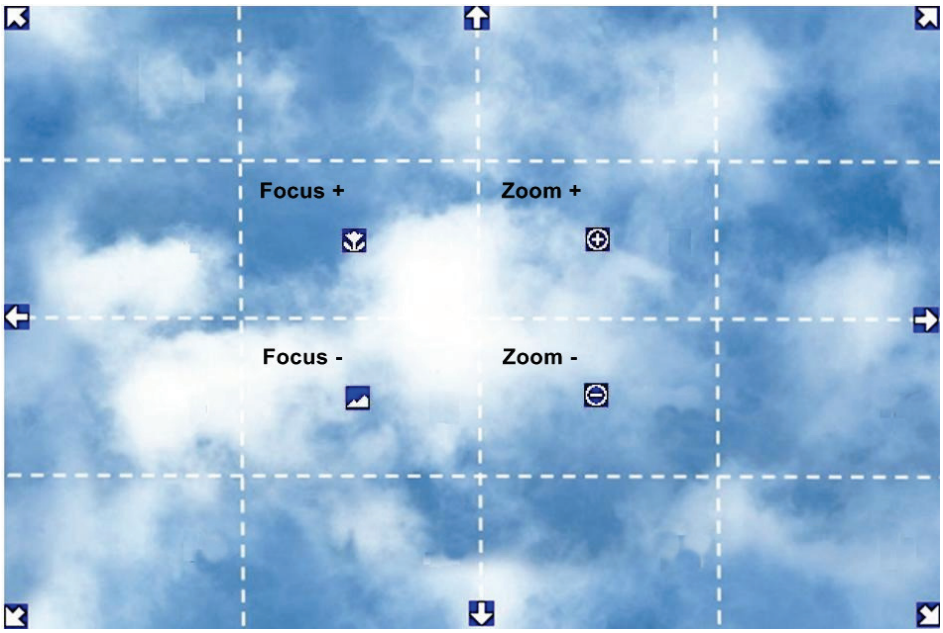
Click  at the top-right corner to hide the PTZ Control Panel (see *4.1.1 Express Control of PTZ*). To display the PTZ Control Panel, right-click on the screen.

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

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

4.1.1 Express Control of PTZ

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



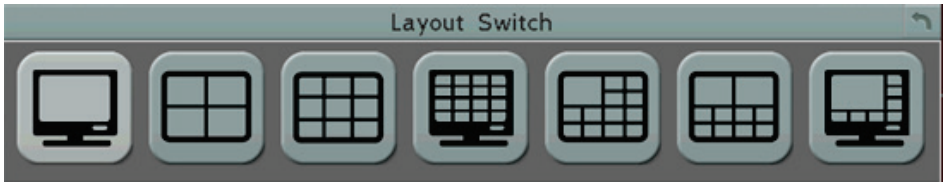
Direction Controls: When your mouse cursor turns into a direction icon, click on the screen will force the camera to turn in that direction.

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

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

4.2 Layout Switching

The hybrid mobile DVR have 7 screen division types available. The seven layouts are shown as below:



To change layout, follow the steps below:

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

4.3 Channel Switching

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

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

, the Channel Bar appears.

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

4.4 Display

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

1. Click the Display button  on the OSD Root Menu or press the Display button on the front panel to display the system and camera status. Click the button to choose the desired display mode:

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

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

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

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

4. There are four display modes, and you can click the Display button to change the display mode: (1) Display both the camera and system status icons. (2) Display only the camera status icons. (3) Display only the system status icons. (4) Hide both the camera and system status icons.

4.5 Sequence

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

Click the Sequence button  to enter the sequential switching mode. The hybrid mobile DVR will display one channel at a time in full screen. The channels will be displayed in the sequence and for the amount of time as configured in the System > Display Setting > M/T SEQ submenu. The default setting is channels 1~16 with a dwell time of 3 seconds each – repeated. Please refer to *6.5.2 M/T SEQ* for detailed information.

4.6 Monitor Switching

You can simultaneously connect Main and Call monitors to the hybrid mobile DVR.

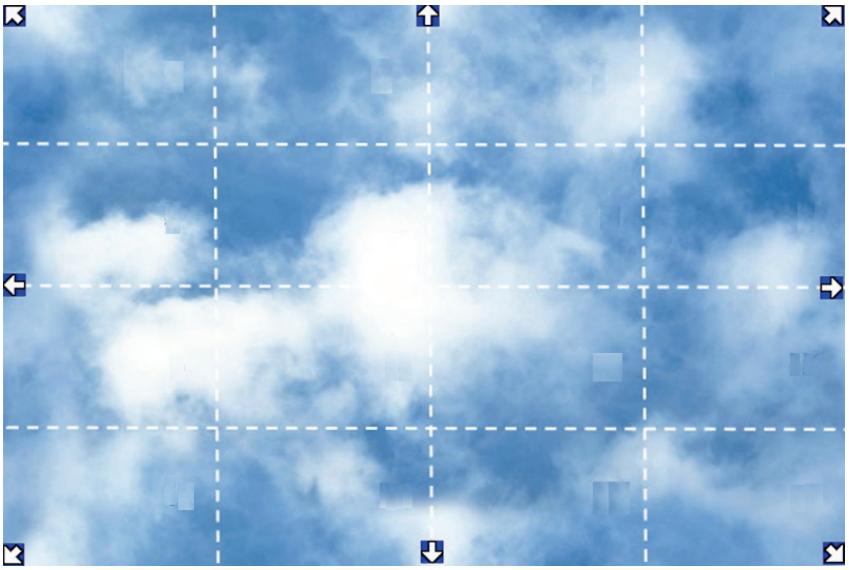
On the OSD Root Menu, click the Monitor button  to switch to the Call monitor. On the OSD Root Menu, the Playback, PTZ, Zoom, Search, Copy, System and Exit icons will gray out. You can only configure the Layout, Channel, Display and Sequence settings for the Call Monitor. To switch to the Main Monitor, click the  button.

4.7 Zoom

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

To enter the Zoom mode:

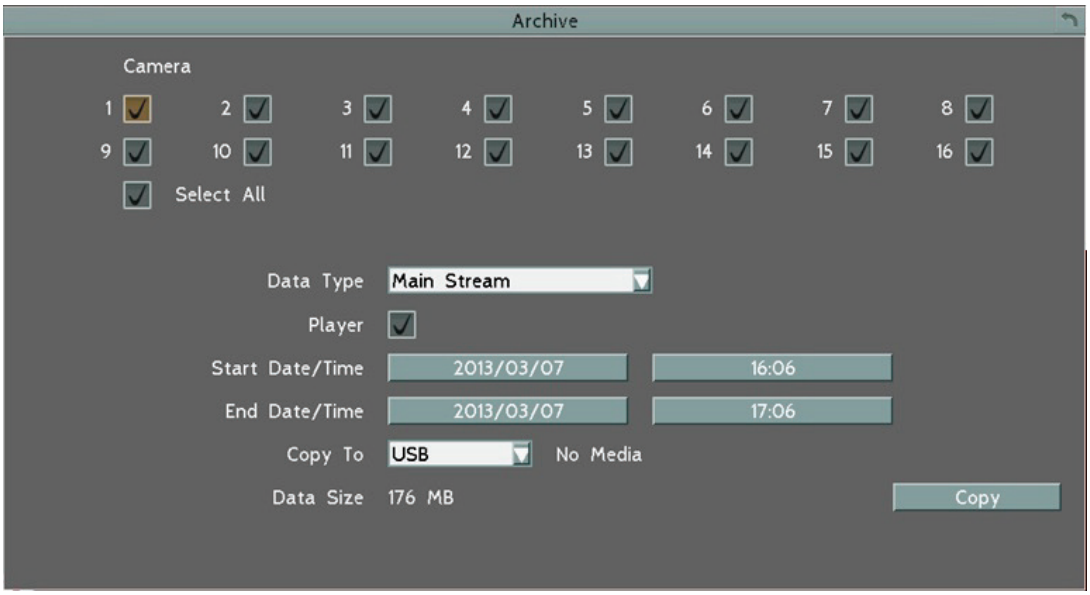
1. Select a camera and then click the **Zoom** button  on the OSD Root Menu to zoom in the camera view to 2X. The ZOOM 2X stamp will be displayed on the top screen.
2. Navigate the camera view to the desired position by moving your mouse cursor over the camera view. The mouse cursor will turn into a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



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

4.8 Archiving the Recordings or Log Data to the USB

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



Camera: Select the desired cameras.

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

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

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

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

Copy To: The log data can only be archived to the USB storage device.

Copy: Click to start archiving.

EFPlayer:

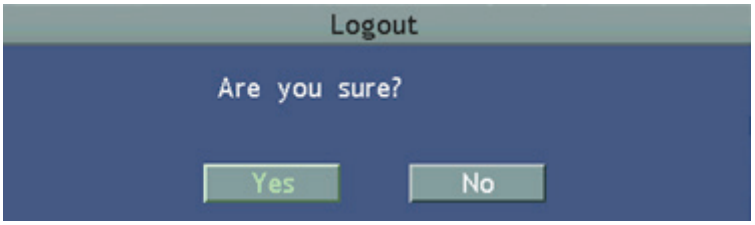
Unzip the EFPlayer file and double-click to open it as below. The EFPlayer can only display up to 16 channels at one time.

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 play backing.
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).

4.9 Logout

You can log out the hybrid mobile DVR by clicking the Logout icon  on the OSD Root Menu to bring up the Logout Confirmation window as Figure 4-9. Press "Yes" when you are ready to logout of the system. You will need to login again before accessing the OSD Root Menu.



If you do not need the Login / Logout step before entering the Root Menu, please uncheck the **Login** box in the User Management setting page. For more details, please refer to *6.8.4 User Management*.

4.9.1 Temporarily Logout

You can temporarily log out the hybrid mobile DVR by clicking the Logout icon on the OSD Root Menu. This function is designed for use in conjunction with the **Covert Camera** function, but it only supports analog camera streams only. Once you click the **Logout** icon, the analog camera streams will be hidden on the Live View / Sequence Mode.

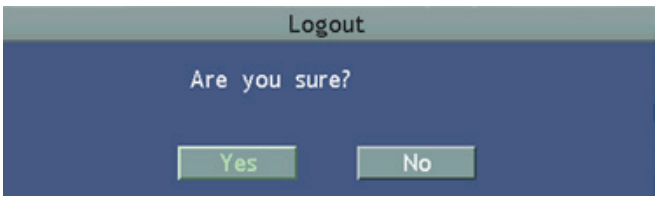
However, the hybrid mobile DVR will still record the videos and the recordings can be played back. To enable the Temporarily Logout function, follow the steps below:

Ensure the User Login box is **Unchecked** (please refer to *6.8.4 User Management*).

1. Go to Camera Setting > Camera Status, and then click **Set** of the Analog Camera which you want to hide from the screen when you log out.

2. Check the **Covert** box.

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



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

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

Chapter

5

5. Search and Playback

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

5.1 Quick Playback

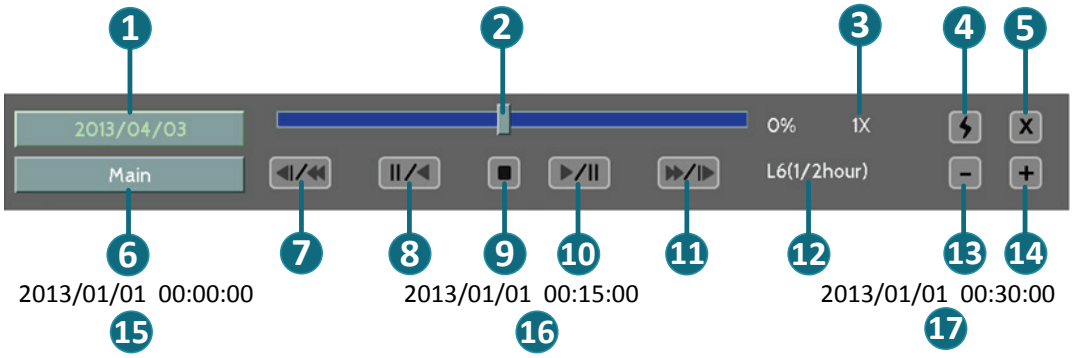
To start using the Quick Playback function, follow the steps below:

1. To set up the start time of the playback recording, check the **Quick Playback** box in the **Record** setting page (OSD Root Menu > System > Record & Playback > Playback) to enable the configured time in the field below.
2. Enter the desired time for playing back the recording. Take 60 seconds for example, if the current system clock time is 17:35:00, the start time for the playback recording will start from 17:34:00 (60 seconds ago from 17:35:00).

3. On the Live View Window, select a desired camera, right-click to bring up the OSD Root Menu and then click the Playback button  .
4. The recording has been playing back and the Playback Bar appears on the bottom of the screen.

5.2 Playback Bar

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



No.	Name	Description
1	**Date/Time**	Click to set up the start time of playback recording.
2	**Time Bar**	Move the slider to the left / right on the Time Bar to select the time for playing back. The status of each camera is presented by different colors on the Time Bar. Green→Normal, Orange→Motion, Blue→Video Loss, Red→Alarm Event.
3	**Playback Speed**	Indicates the current Playback Speed.
4	**Express Copy**	Click to bring up the Copy menu for archiving the recordings / log data to the USB storage device or DVD burner. For details, please refer to *4.8 Archiving the Recordings or Log Data to the USB or DVD.*
5	**Close**	Click to hide the Playback Bar. To bring up the Playback Bar again, move your cursor to the lower side of the screen.
6	**Main /Sub Stream**	Click to select the recorded data from main or sub stream
7	**Fast Reverse**	Click to play the recorded data in fast reverse.
8	**Reverse Play/Pause**	Click to play the recorded data in reverse at normal speed. Click this button again to Pause the reverse playback. Click the **Stop** button to stop all playback actions and exit the playback area.
9	**Stop**	Click to stop either the Reverse, Fast Reverse, Play, and Fast Forward functions, if that function is active. This button stops all Play functions, but no Recording functions.

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

5.3 Searching the Recordings for Playing Back

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

To bring up the **Search** menu:

By Mouse: Right-click to bring up the OSD Root Menu, and then click the **Search** button  .

By Front Panel: Press the **Search** button.

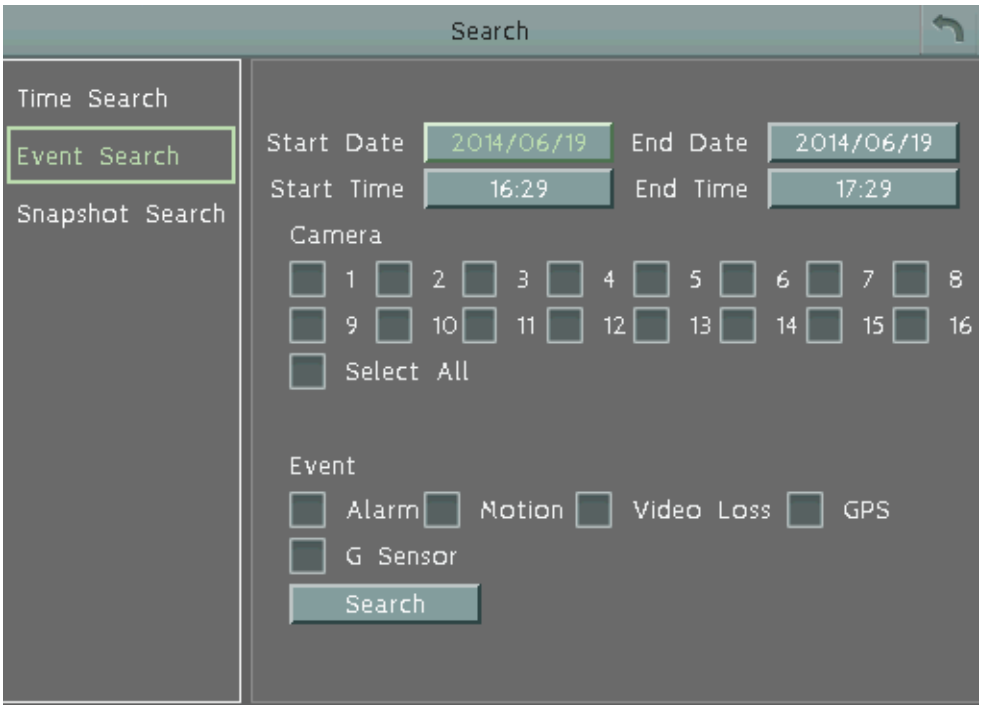
5.3.1 Time Search

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

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

Play: Click to start playing back.

5.3.2 Event Search



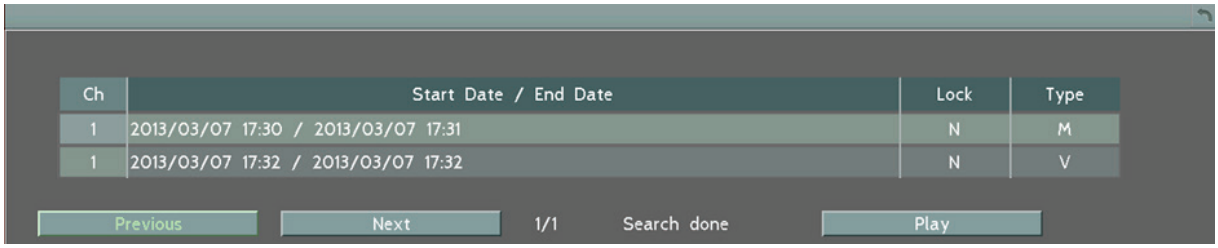
Start Date / End Date: Click to bring up the on-screen keyboard to select the start / end date.

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

Camera: Select the desired cameras to be searched.

Event: Select an event type to be searched.

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

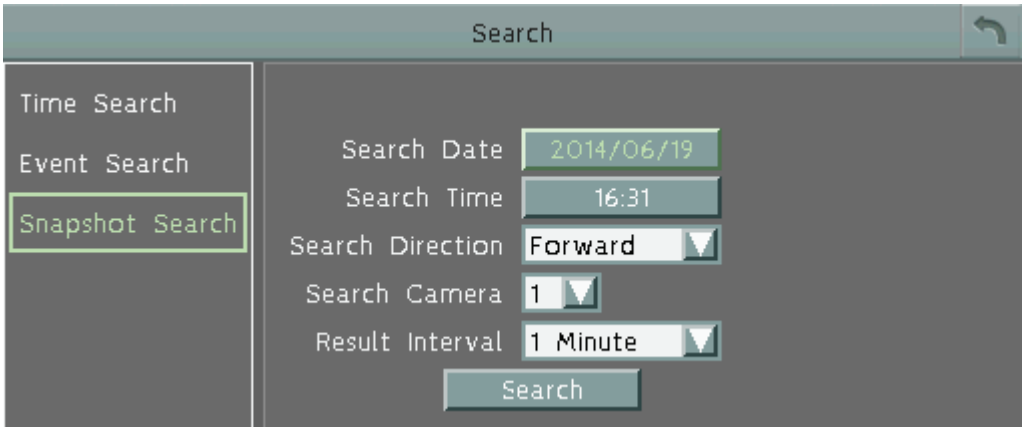


Previous / Next: Click to go to the previous / next page.

Play: Click to playback the selected items.

5.3.3 Snapshot Search

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



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

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

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

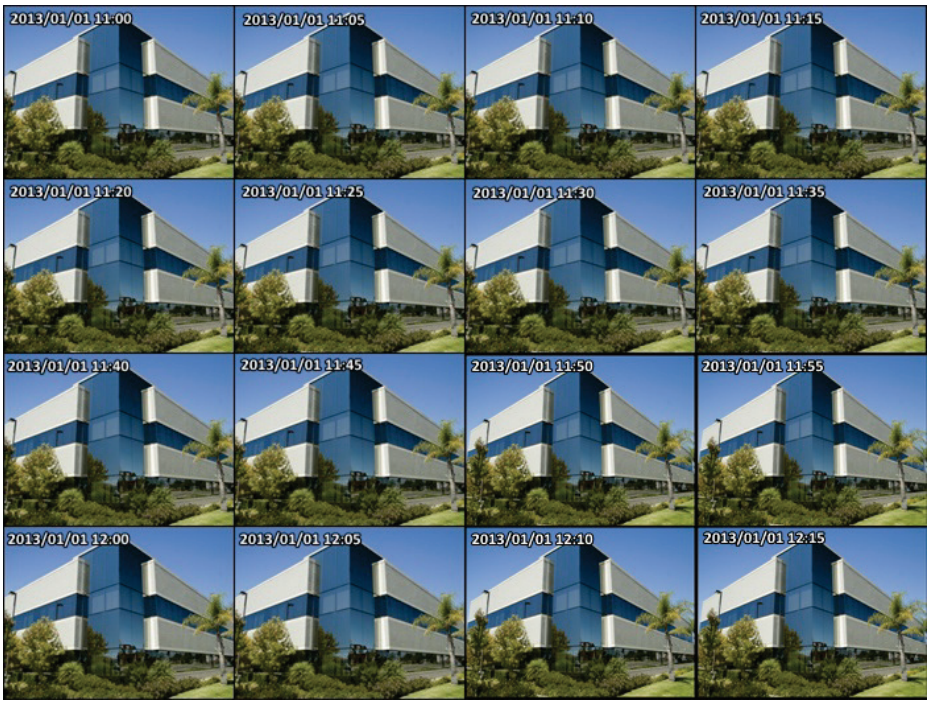
Search Camera: Select a desired camera to be searched.

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

Search: Click to start searching. The search results will be displayed in 16 screen division (see image below).

To resume the video:

1. Click the **Search** button, the search results are displayed in 16 screen division. In this picture, you can see the time layouts on the upper-left corner of each snapshot, which are set up with 5-minute interval.



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

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

Chapter

6

6. Configuration

The EMV401/801/1601 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 Configuration Setting in the on-screen display (OSD) menus. Right-click the mouse, the OSD Root Menu appears. Click the **System** button  , the following Configuration Menu displayed with 9 setup options appears.

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 Camera Status 6.1.2 Auto Search 6.1.3 PTZ 6.1.4 Tracking 6.1.5 Pattern Tour 6.1.6 Adjust
6.2 Record	6.2.1 Record 6.2.2 Playback
6.3 Event	6.3.1 Alarm 6.3.2 Video Loss 6.3.3 Motion 6.3.4 GPS Event 6.3.5 G-Sensor Event 6.3.6 Other
6.4 Hard Disk	6.4.1 Disk 6.4.2 Lock/Format
6.5 Display Setting	6.5.1 Monitor OSD 6.5.2 M/T SEQ
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 Network Test
6.7 Schedule	6.7.1 Express Setup 6.7.2 Holidays 6.7.3 Schedule
6.8 System Setting	6.8.1 Date / Time 6.8.2 Daylight Saving Time 6.8.3 User Group 6.8.4 User Management

	6.8.5 I/O Control 6.8.6 EKB200 Setting 6.8.7 Miscellaneous
6.10 System Information	6.10.1 System 6.10.2 Log

6.1 Camera

You can add IP cameras automatically by search or manually in these settings, and you can configure the settings for each analog and IP cameras. You can also set up the PTZ, Tracking, Pattern and Tour functions only for IP PTZ cameras.

6.1.1 Camera Status

Channel: Displays the channel number.

Type: Click to select the type of the camera for this channel. The options are IP, Analog and Mask. If you select **Mask**, there will be no video image showing on the live view.

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

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

REC: Shows the recording status.

Connect: Shows the connection status.

Add: Click to manually add an IP camera. Please see the instruction below.

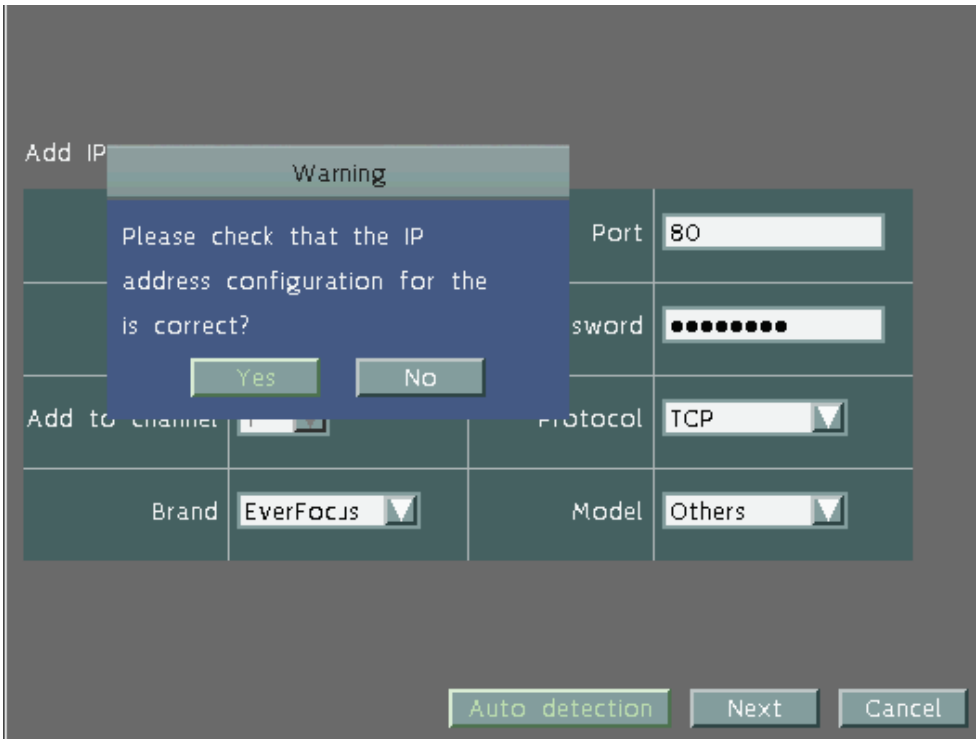
Set: Click to set up the detail settings of the analog or IP cameras.

6.1.1.1 Manually Add an IP Camera:

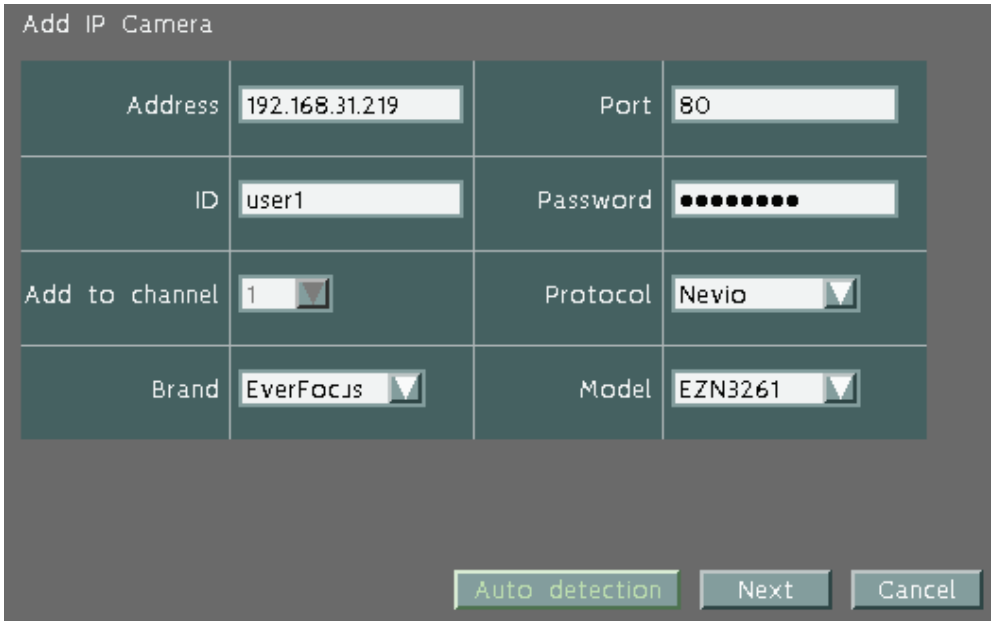
1. On the channel which you want to add an IP camera, click to select **IP** from the **Type** option, and click the **Add** button. (For EMV1601, you can only add up to 8 IP cameras).

2. Enter the **IP Address**, **Port** (default: 80), **ID**, **Password** of the camera.

3. Click **Auto Detection** to auto detect the **Protocol**, **Brand** and **Model** of the camera. Then, there will be a message popping up to remind you to check the settings in step 2, if they are correct, just click **Yes** to continue.



4. After the Protocol, Brand and Model name of the camera are automatically detected and displayed as below, click **Next** to continue.



5. You can just click **Save** to add this camera, or you can also configure the detailed settings before saving.

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

Camera Channel: Show the camera channel number.

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

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

Resolution: Select a desired recording resolution.

Quality: Select an image quality of the camera.

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

6.1.1.2 Add and Configure the Analog Camera:

1. On the channel which you want to connect and display an analog camera, click to select the **Analog** from the **Type** option.

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

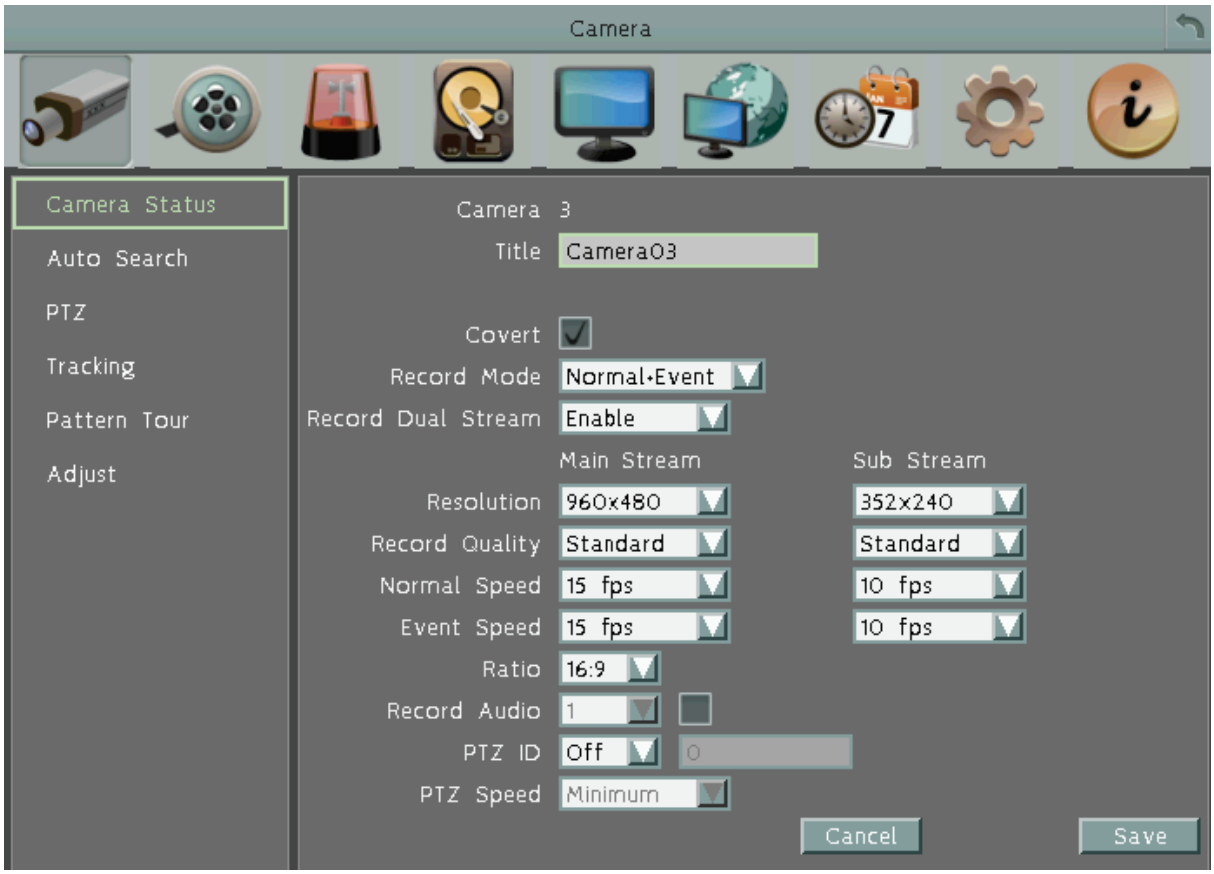
3. Connect the analog camera to the video input which corresponds to the channel that you select to display an analog camera view.

   For example: If you select channel 3 and 4 to display analog camera views as the figure above, you need to connect the analog cameras to video input 3 and 4. (The video cables are all attached with a label to show you the channel number, please refer to *2.4.2 Video Cable*.)

4. You can now see its live view on the screen.

You can set up the detail settings of the analog camera by click the **Set** S button. Please see the settings as follows:

Analog Camera Settings:



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.

Covert: Check the box to hide the analog camera stream in Live View and Sequence modes. However, the mobile DVR will still record the videos and the recordings can be played back by users who have the privilege to playback. For details on enabling the **Covert** function, please refer to *4.9.1 Temporarily Logout*. To hide the IP camera streams, please refer to *6.1.6 Adjust*.

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

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

Record Dual Stream: Click to enable / disable the dual stream recording function. And then configure the following settings for the Main Stream and Sub Stream.

Resolution: Select a recording resolution for the Main Stream and Sub Stream.

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 mobile DVR 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 or 16:9 display aspect ratio of a camera, and its video will be displayed in 4:3 or 16:9 format on that channel screen.

Record Audio: Check the box to enable audio recording on the mobile DVR, and then select an audio input device. Note that the Audio function is unavailable for Germany.

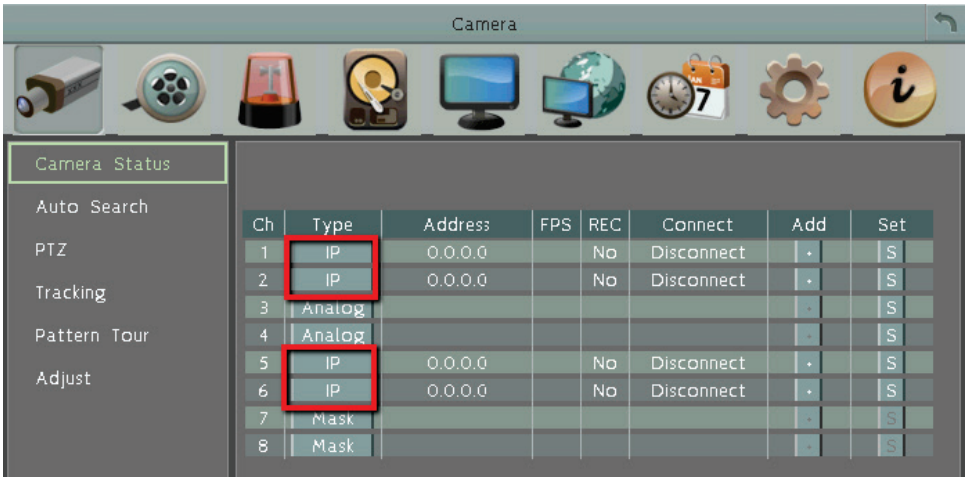
PTZ ID: To allow the mobile DVR to recognize and then control the connected PTZ camera, you have to set up an ID for the PTZ camera. Select **On** and then enter an **ID** for the camera. This ID must match the ID address set up on the PTZ camera. For setting up the ID address on the PTZ camera, please refer to the User's Manual of your PTZ camera.

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

6.1.2 Auto Search

This function allows you to automatically search and add the IP cameras connected in the same LAN network. Please see the steps below.

1. Before using the **Auto Search** function, you need to configure which channels you want to display IP camera live view from the **Camera Status** setting page, please refer to *6.1.1 Camera Status*.



2. On the **Auto Search** page, click the **Search** button, and the IP cameras connected in the same network will show up in the **Camera List**.

3. <u>To add cameras, there are two methods:</u>

   A. Click **Auto Assign**, the system will automatically add the cameras from the top on this camera list to the channels that you have selected in **Camera Status** page. Then, click **Save** to save it.

B. You can also add the desired camera to channel one by one.

a. Click on a desired camera, and then click **Add** to add that camera to the channel.

b. Click on a desired channel, and click **Add** to add the camera to that channel.

c. Click **Save** to save the setting and it will return to the search page for you to add another camera. You can also click **Cancel** to return to previous setting.

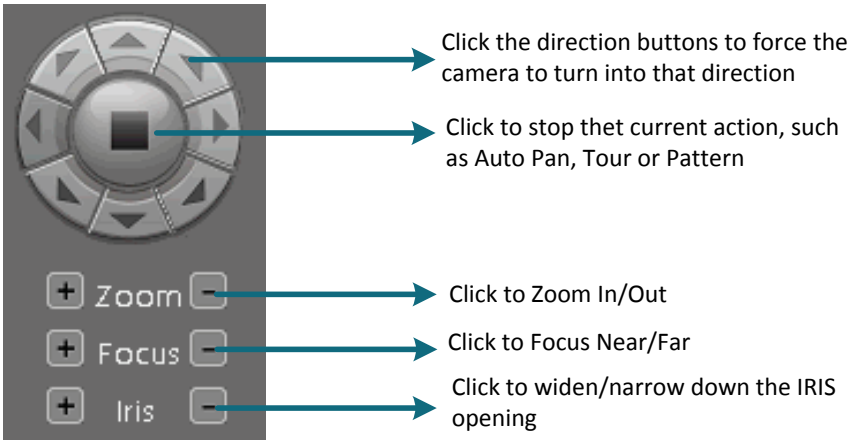
6.1.3 PTZ

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

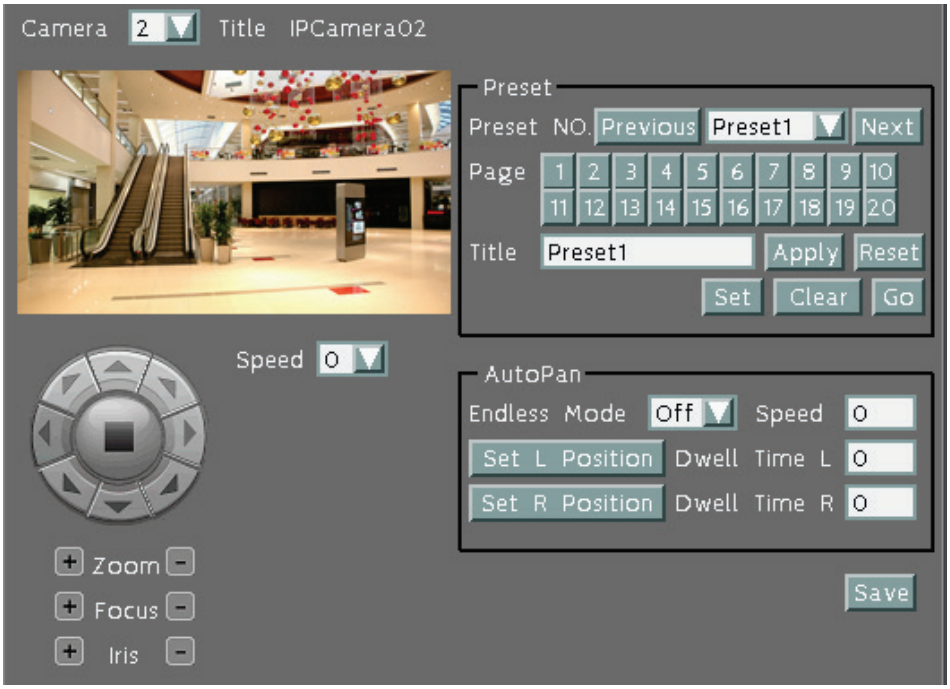
【Camera】: Select a PTZ camera.

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

【PTZ Control Pad】:



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



To set up a Preset Positions:

1. Adjust the camera view to a desired position using the direction button. You can select the pan / tilt speed from the **Speed** drop-down list for controlling the direction buttons. Adjust zoom, focus and Iris if necessary.
2. To set up the current camera view as a preset position, select a preset number from the **Preset No** drop-down list for the current camera view.
3. Optionally set up a title for this preset position in the **Title** field .Click **Apply** to save the title name or click **Reset** to reset the current changes.
4. Click **Set** to save the current position as the Preset Number you have selected.
5. Follow Step 1 to 4 to set up another preset position. You can click the **Next** button to go to the next page and then click the Preset No drop-down list to select a number. Or click on the number in the Page field to select a preset number.

To activate the Preset function on the PTZ Live View window, click the PTZ  icon on the OSD Root Menu. Click the **Preset** button, click on the numeric buttons to select a Preset number and then click the **Go** button. The selected Preset position should be displayed on the camera view. Please refer to *4.1 PTZ* for detailed instructions.

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

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

To set up an Auto Pan Sequence:

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

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

6.1.4 Tracking

To set up the Auto Tracking function:

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

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

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

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

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

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

6.1.5 Pattern Tour

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

To set up a Pattern Sequence:

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

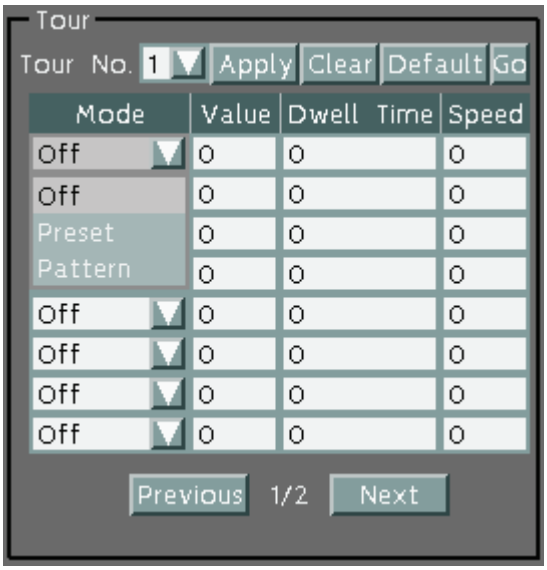
Click **Clear** can void the configuration for the entered Pattern No. Click **Go** to view/test the configured Pattern sequence.

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

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

To set up a Pattern Sequence:

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



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

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

6.1.6 Adjust Setting

You can adjust the detail camera settings in this page.

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

Device Title: Enter a camera title.

Record Dual Stream: Select to enable or disable the dual streams recording function. (IP camera only)

Record Mode: Select a recording mode from the drop-down list. (IP camera only)

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

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

Ratio: Select 4:3 or 16:9 display aspect ratio of a camera, and its video will be displayed in 4:3 or 16:9 format on that channel screen.

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

Mask Channel: Check the box to hide the IP camera's live view on the screen, but the recording function is still on. (IP camera only). To hide the analog camera's live view, please refer to *6.1.1.2 Add and Configure the Analog Camera*.

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

* **Profile Setting:** Select **Day Mode** or **Night Mode.** It is designed for user to easily have a best image quality of the IP camera in the daytime and night time. (IP camera only)

* **Profile Mode:** Select a desired profile mode (Vivid/High Contrast, Standard, More Detail and User Define) to adjust image quality. (IP camera only)

* **Flicker:** Check the box to enable the Flicker function. Please enable this function only if flicker artifacts are observed. (IP camera only)

* **【Exposure Settings】** This setting is used to adapt to the amount or type of light used by the camera.

* **Mode:**
  - **ALC (Shutter Priority):** Selecting ALC (Automatic Light Control) allows the camera circuitry to either take bright spots more into consideration (peak), bringing out detail in bright areas, or less into consideration (average) bringing out detail in shadows. (IP camera only)
  - **AES (Iris Priority):** Selecting AES (Auto Electronic Shutter) disables the Shutter setting below this setting. In this mode, the camera measures the light level and decides whether it needs more or less light and then automatically adjusts the shutter speed accordingly. You can further adjust the Iris (P-Iris) value. (IP camera only)
  - **Auto:** Selecting Auto for the camera to automatically adjust the Iris and Shutter based on the measured light level. (IP camera only)

* **Shutter:** If enabled, this setting lets you set the shutter speed yourself (measured in fractions of a second). (IP camera only)

* **Flickerless:** The function is only activated if you select **Auto** in the Mode field. Choose between OFF, 50HZ, 60HZ, 50HZ (High Luminance) or 60HZ (High Luminance). (IP camera only)

Brightness: Move the bar to adjust the brightness.

Contrast: Move the bar to adjust the contrast. (The function can only be used when the camera has the contrast function)

Color: Move the bar to adjust the color.

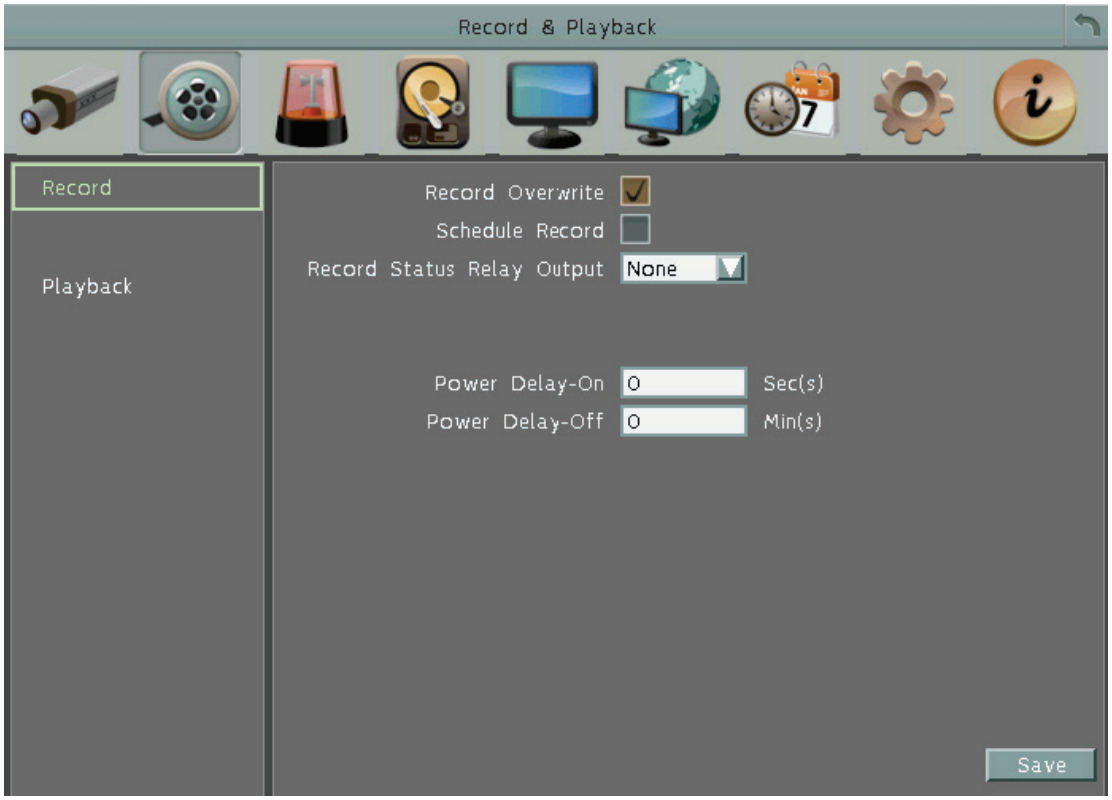
Sharpness: Move the bar to adjust the sharpness.

Save: Click to save the settings.

6.2 Record & Playback

6.2.1 Alarm

You can configure the basic recording settings on the hard disk.



Record Overwrite: Check the box to overwrite the hard disk when it is full. Note that unless this box is checked, or the mobile DVR will stop recording when the hard disk 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 Disk Full for notification (see *6.3.6 Other*).

Schedule Record: Check the box to record by the schedule. Please see *6.7 Schedule Setting* for more details.

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.

6.2.2 Playback

You can set up the quick playback time on this page. For using this function, please refer to *5.1 Quick Playback*.

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

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

6.3 Event

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

6.3.1 Alarm

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

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

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

Pre-alarm Record: Check the box to start copying the recordings to the hard disk from 5 seconds before the alarm event occurs. Note that the pre-alarm recording rate will follow the **Normal Speed** configured in the earlier section (see *6.1.1 Basic Setting*).

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 an alarm event occurs. This feature works with EverFocus' CMS software. You will need to configure

the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 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 *6.4.2 Lock / Format*).

FTP Upload: Check the box to enable uploading recordings to the FTP server function. To setup the FTP server, please refer to *6.6.6 FTP*.

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 (10 ~ 150 seconds).

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

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

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

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

Main Monitor: Select **Full Screen** to force the camera associated with the selected alarm number to display full screen on the Main Monitor. The full screen camera view will last according to the Output Type selected in the field above.

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

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

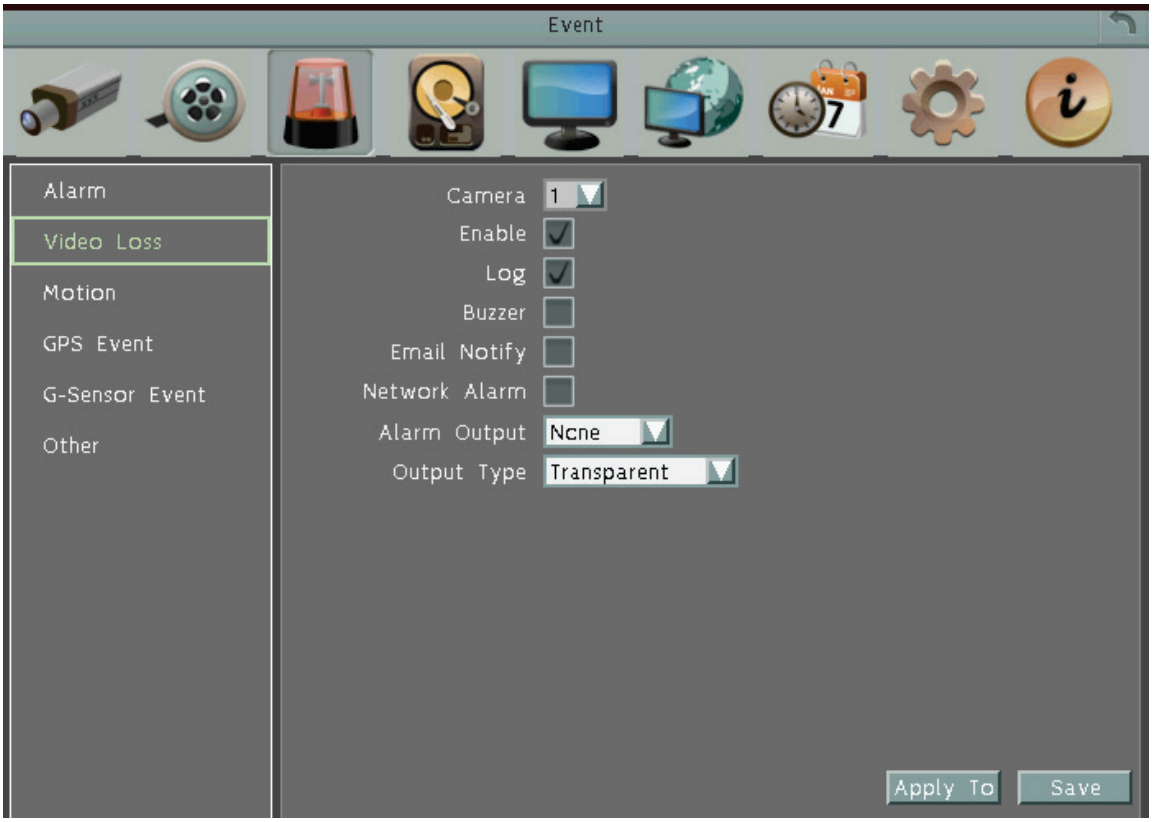
Active Camera: This function is for associating an alarm trigger with a specific camera. For example, if you set up an external motion detector near Camera 2, you can select Camera 2 in this field. The alarm will be associated with this camera for full screen display, event logging and PTZ actions.

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

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

6.3.2 Video Loss

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



Camera: Select a camera to be configured.

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

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

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*).

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

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

Timeout: Select this option and then set up the Timeout Duration in the field below, the alarm output will last for the setup duration time (10 ~ 150 seconds).

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

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

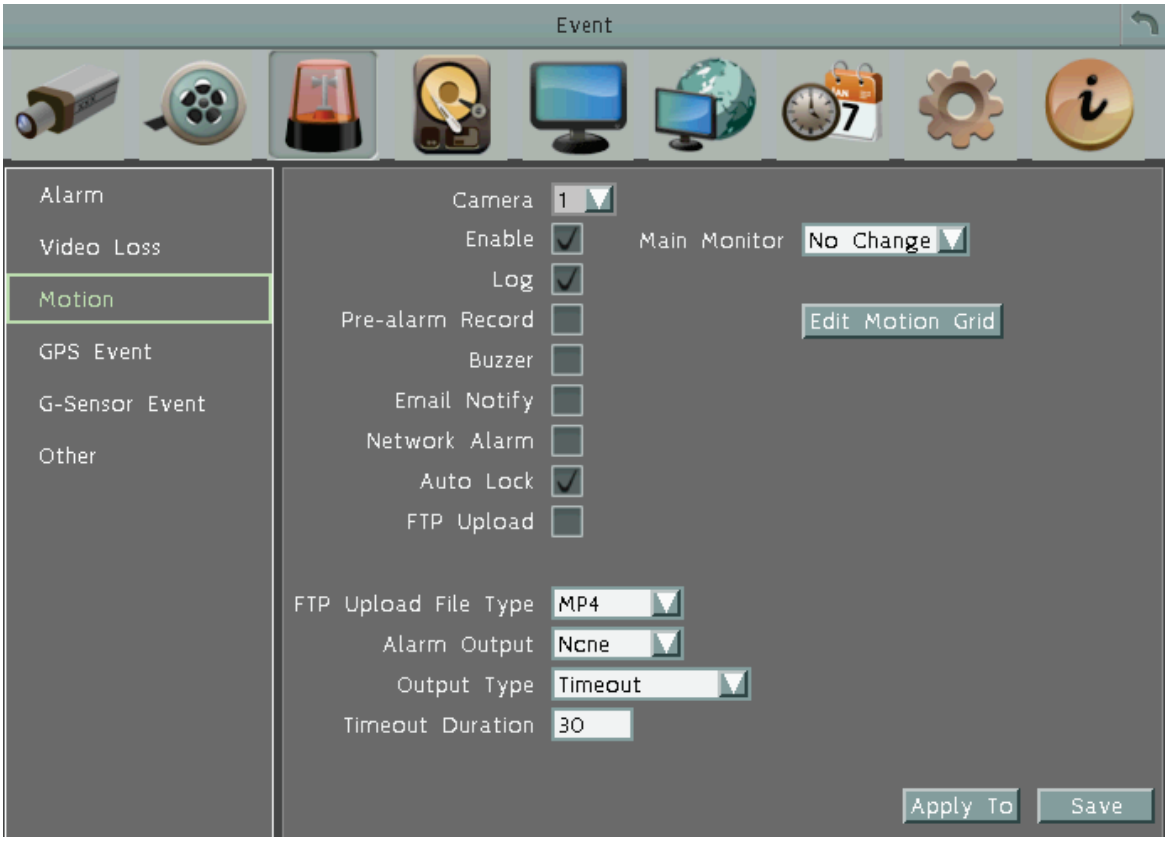
Trans + Timeout: Alarm output continues until event ends, then continues for the setup duration time (10 ~ 150 seconds).

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

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

6.3.3 Motion

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



Camera: Select a camera to be configured.

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

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

Pre-alarm Record: Check the box to start copying the recordings to the hard disk from 5 seconds before the motion event occurs. Note that the pre-alarm recording rate will follow the **Normal Speed** configured in the above section (see *6.1.1 Camera Status*).

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

Email Notify: Check the box to send email notification when a motion event is detected. Email operation requires valid email entered in the Email setup menu (see *6.6.4 Email*).

Network Alarm: Check the box to send out a network alarm to a client PC when motion occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 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 *6.4.2 Lock / Format*).

FTP Upload: Check the box to enable uploading recordings to the FTP server function. To setup the FTP server, please refer to *6.6.6 FTP*.

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

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

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

Timeout: Select this option and then set up the Timeout Duration in the field below, the alarm output will last for the setup duration time (10 ~ 150 seconds).

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

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

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

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

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

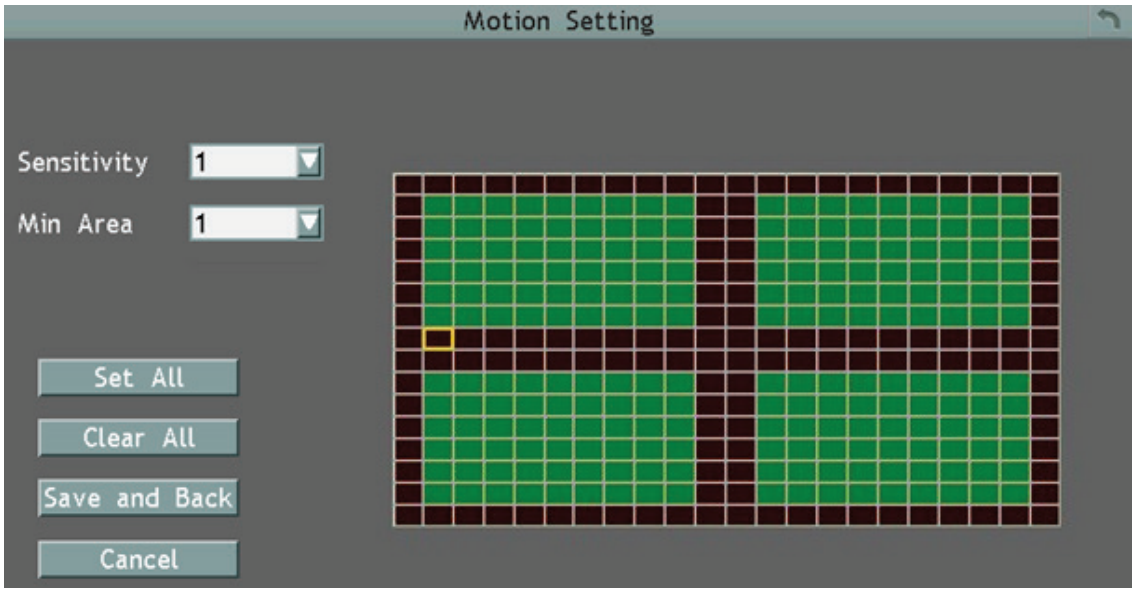
Edit Motion Grid: Press the button to bring up the Motion Setting menu. To edit the motion grids, please refer to the instructions later in this section.

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

To Edit the Motion Grids:

Note: The IP and analog camera motion setting methods are the same.

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



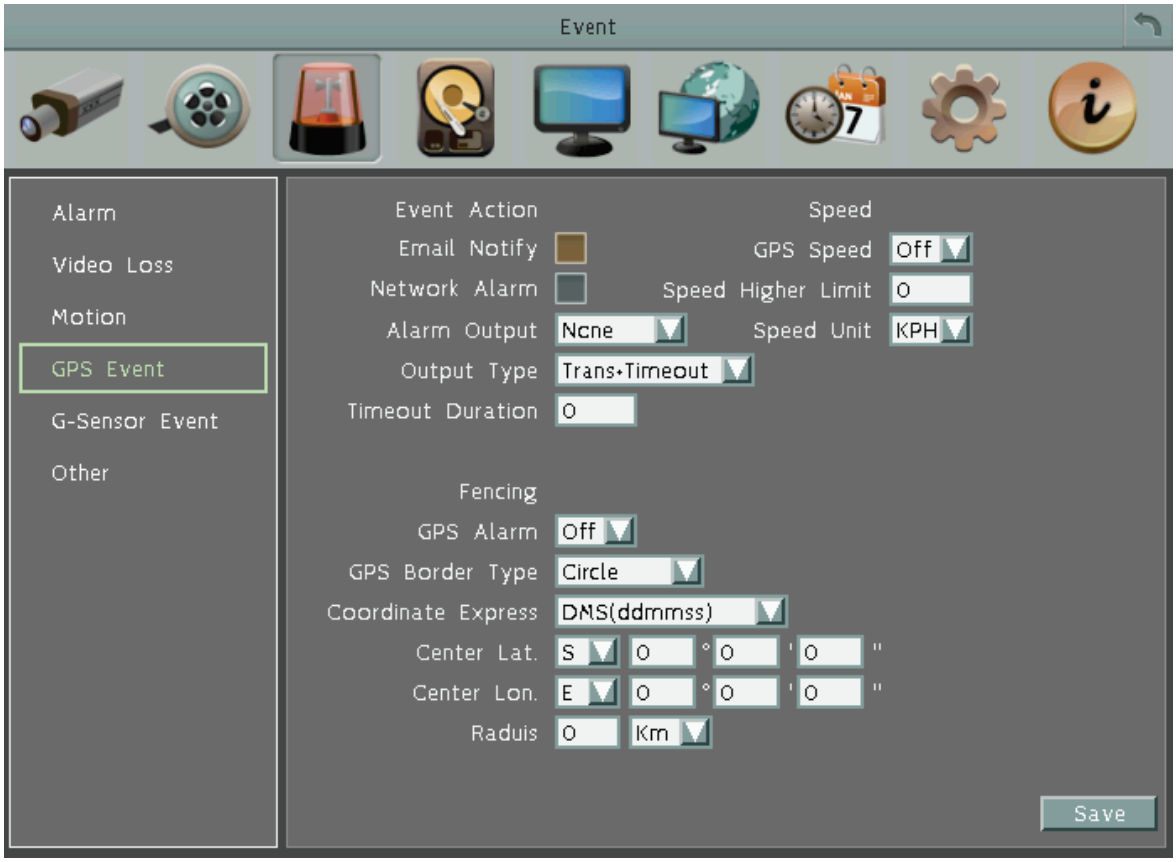
2. Click on the image and the grid will be displayed.
3. To set up a motion area, drag a rectangle with your mouse (from top to bottom / upper-left to lower-right). The selected areas will be highlighted in green (see image below).
4. To delete a motion area, drag a rectangle with your mouse (from bottom to top / lower-right to upper-left).
5. Follow Step 3 to set up multiple motion areas if necessary.
6. Sets up the Sensitivity, Min Area and Motion Delay for the motion grids.

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

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

6.3.4 GPS Event

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



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

Email Notify: Check box to enable email notification when GPS event occurs. Email operation requires valid email settings entered in the Email setup screen (see *6.6.4 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 Fencing**】: You can display the vehicle speed on the live view / recordings or to set up the higher speed limit event for alarm notification.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6.3.5 G-Sensor Event

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

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

Email Notify: Check box to enable email notification when GPS is lost. Email operation requires valid email settings entered in the Email setup screen (see *6.6.4 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 1 to 150 seconds.

6.3.6 Other

You can configure the event settings and enable the Buzzer or Email alert for notifications. The event options include: **Fan Failure**, **Disk Temperature**, **Disk Failure**, **Disk Full**, **Disk Off**, **Power Loss** and **Network Loss**.

6.3.6.1 Fan Failure

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

Buzzer: Check the box to enable buzzer when fan is not working.

Email Notify: Check the box to send email notification 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 an alarm event occurs. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 Alarm 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: Output action will be Transparent and cannot be changed (alarm output remains as long as the alarm condition is active).

6.3.6.2 Disk Temperature.

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

Buzzer: Check the box to enable buzzer when System / Hard Disk's (HD) temperature is over the "Temp. Warning Limit".

Email Notify: Check the box to send email notification when system / Hard Disk's (HD) temperature is over the "Temp. Warning Limit". 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. 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*).

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

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

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

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

6.3.6.3 Disk Failure

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

Buzzer: Check the box to enable buzzer when Hard Disk (HD) fails.

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

Network Alarm: Check the box to send out a network alarm to a client PC when HD fails. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 Alarm 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: Output action will be Transparent and cannot be changed (alarm output remains as long as the alarm condition is active).

6.3.6.4 Disk Full

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

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

Email Notify: Check the box to send email notification when HD is full. 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 HD is full. This feature works with EverFocus' CMS software, including PowerCom and PowerVideo Plus. 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*).

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 HD 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.

6.3.6.5 Disk Off

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

Email Notify: Check the box to send email notification when Hard Disk (HD) is off. 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 HD is off. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 Alarm 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 HD 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.

6.3.6.6 Power Loss

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

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

Network Alarm: Check the box to send out a network alarm to a client PC when power has been restored. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 Alarm Server*).

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.

6.3.6.7 Network Loss

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

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

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

Output Type: Select an output type when the network is lost.

Timeout: Select this option and then set up the Timeout Duration in the field below, the alarm output will last for the setup duration time (10 ~ 150 seconds).

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

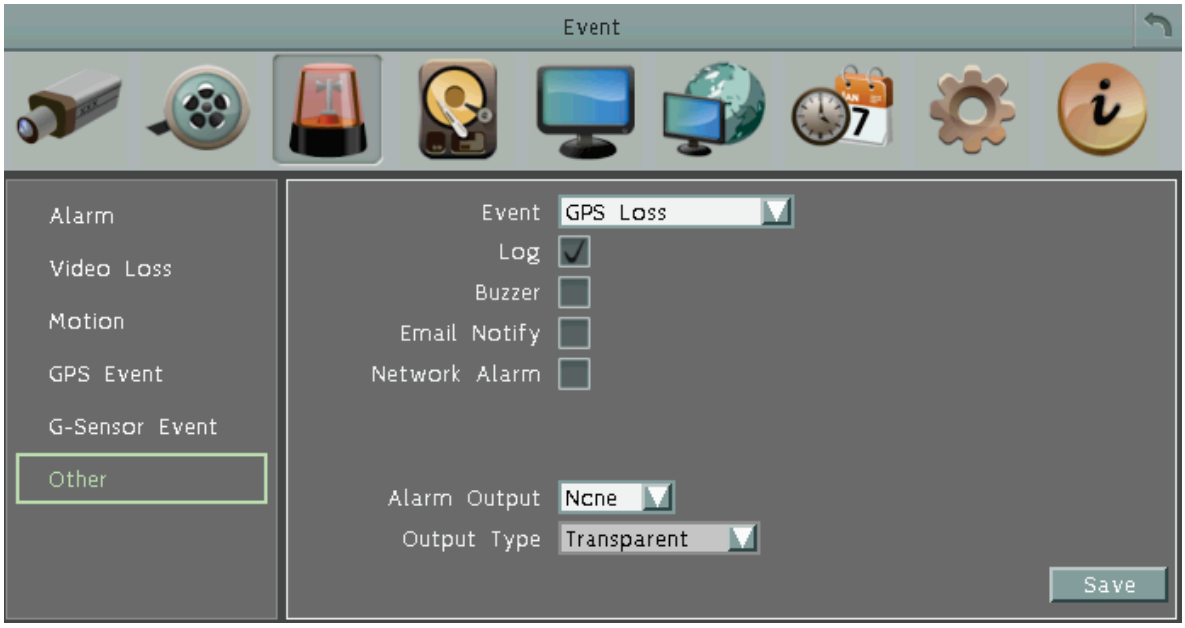
Transparent: Alarm output remains as long as the alarm input is active.

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

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

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

6.3.6.8 GPS Loss



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

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

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*).

Network Alarm: Check the box to send out a network alarm to a client PC when HD is off. This feature works with EverFocus' CMS software. You will need to configure the Alarm Server for the mobile DVR to send network alarms to the client PC (see *6.6.7 Alarm 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 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.

6.4 Hard Disk

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

6.4.1 Disk

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.

6.4.2 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.

Figure 6-25

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 *6.4.3 Motion* or *6.4.1 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!!

6.5 Display Setting

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

6.5.1 Monitor OSD

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

Figure 6-28

Main Monitor / Call Monitor

Title: Check the box to display camera titles.

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

Event Status: Check the box to display event status.

HDD Status: Check the box to display hard drive status.

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

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

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

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

6.5.2 M/T SEQ

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.

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.

6.6 Network Settings

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

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

6.6.1 LAN

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

LAN Port: Select LAN1 or LAN2 from the drop down list. It's recommended to use LAN 1 for connecting to the IP cameras via a hub or switch, and use LAN 2 for WAN connection.

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

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

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

PPPoE: For direct connection to the DSL only. Verify with your ISP if they use PPPoE (The option is only for Lan2).

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.

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

Additional information:

1. Set up the mobile DVR Network Menu according to the instructions detailed in the Networking chapter of this mobile DVR's manual.
   a. If using DHCP, all settings will be detected automatically. While DHCP is a useful tool for determining the network settings, if you set up your mobile DVR in this manner its IP address may change at different times for different reasons, particularly after a power failure. If the IP address of the mobile DVR changes, you may have difficulties accessing your mobile DVR locally and/or remotely. It is strongly recommended that you assign a fixed (static) IP address to your mobile DVR, and that in order to avoid address conflicts the IP address assigned be outside of the DHCP range of addresses your router issues to DHCP clients. Please do not set the DHCP address issued to the mobile DVR by the router as its static IP address unless you take specific steps that program your router to prevent such address conflicts.
   b. If using a Fixed IP (recommended), you will need to input the information manually. In order for DDNS to work, you must enter valid data, compatible with your network, for all four of the network setting fields: IP address, subnet mask, default gateway and the DNS Address (depending on your network hardware and IP configuration this may be the IP address of your router/gateway, or it may be the actual IP address of the local DNS server). The DNS server IP is required because your DNS server provides critical information necessary for the mobile DVR to communicate with the DDNS server.

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

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

   The default port for the mobile DVR is: 80

   Note: Port 80 is the default port used for Web browsing. Because of this, in order to prevent the average user from hosting a Web server, most ISPs BLOCK traffic using port 80 from reaching the average site. If you only plan to view your mobile DVR on a LAN, you can use port 80, and don't have to concern yourself with DDNS or routers. However, if you desire **remote access** to your mobile DVR, perhaps using DDNS (optional), you MUST

select functional ports and set up the port forwarding in your router. Other ports, such as 8080 and 8000 are sometimes blocked by ISPs as well.

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

- Well Known Ports 0 thru 1023
- Registered Ports 1024 thru 49151
- Dynamic and/or Private Ports 49152 thru 65535

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

6.6.2 Wireless

Wireless Mode: Two options are selectable: **Static IP** and **DHCP**.

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.

6.6.3 Mobile

After connecting the 3G USB dongle or connect the 3G Receiver to Antenna 1 port of 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 USB dongle to the USB port or connect a 3G Receiver to the on the mobile DVR.
2. Select **On** from the GPRS Service drop-down list and select an authentication (**CHAP** or **PAP**).
3. Click the **Save** button, the mobile DVR will automatically search the network data provided by the network service provider. Type the User Name and Password if provided by the network service provider and then click the **Save** button.

Note that the APN, Phone Number, User Name and Password should be provided by the network service provider. After clicking the **Save** button, the network information will be displayed on this window. You can now use the IP for remote access to the mobile DVR.

Note: If a message window pops up "Please insert a 3G modem", 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.

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** (*6.7.1 LAN*) should be set up correctly or the DDNS will not work.

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

mobile 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.com to check the DDNS name can be registered or not.

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.

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, 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.

6.6.6 FTP

Set up the FTP server settings to enable the FTP function. The function is for users to upload the alarm / motion recordings or snapshots from sub stream to the FTP server. You can choose to upload either the recordings or snapshots, please see *6.2.1 Alarm* and *6.3.3 Motion.*

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

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

User Name: Set FTP User's name.

Password: Set FTP password.

Confirm: Input the FTP password again to confirm.

File Name: Enter the file name.

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 Alarm Server

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

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

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

UDP: User Datagram Protocol.

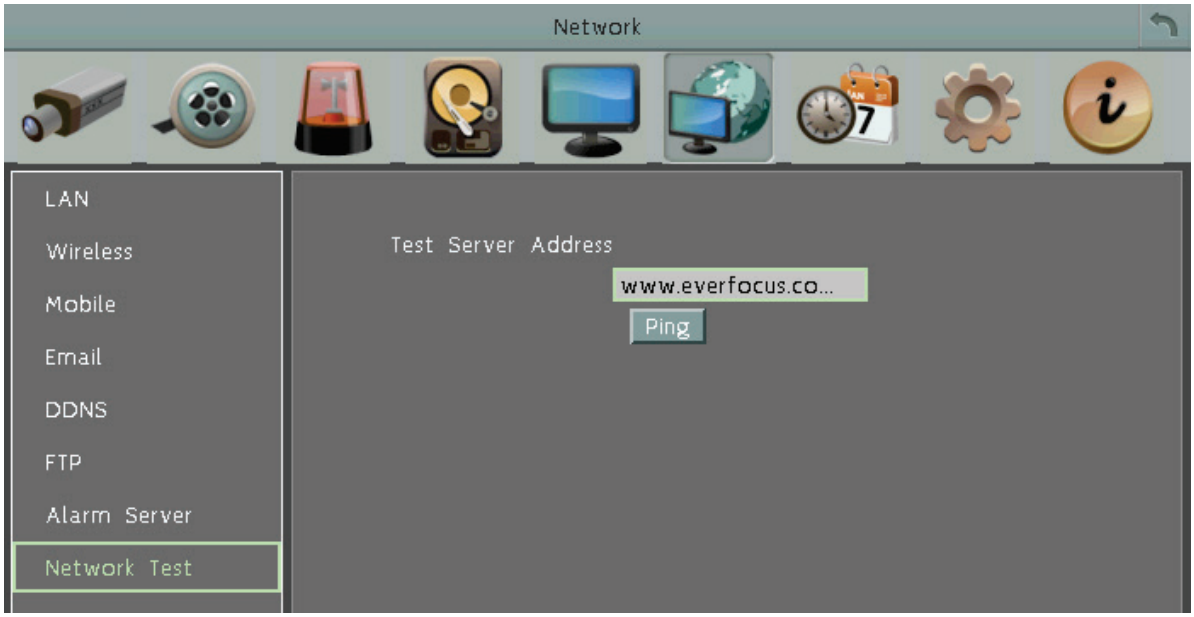
TCP: Transmission Control Protocol.

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

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

6.6.8 Network Testing

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



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

6.7 Schedule Setting

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

6.7.1 Express Setup

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

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

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

Daytime Start: Select a weekday start time (Nighttime schedule ends when Daytime begins).

Daytime End: Select a weekday end time (Nighttime schedule ends when Daytime ends).

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

Disable: No recording during the scheduled time period.

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

Action: Check the box to enable the Buzzer, Alarm Out, E-mail and Network actions selected in *6.4 Event* when an event occurs during the selected time period.

Note: For **Holiday** and **Others**, you can set up the recording schedule in *6.8.2 Holidays*.

6.7.2 Holidays

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

Date Type: Select **Holiday** or **Others** if you have configured the settings in *6.8.1 Express Setup*. The Holiday and Others are two different groups designed for you to assign special days independently.

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

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

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

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

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

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

Previous: Previous Page (30 Holidays Total)

Next: Next Page (30 Holidays Total)

6.7.3 Schedule

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

Camera (1~16): Select a camera number to change the schedule for the selected camera. Each camera can be controlled during a 24-hour time block for Holiday (Hol), Other (Oth), Sunday (Sun), Monday (Mon), Tuesday (Tue), Wednesday (Wed), Thursday (Thu), Friday (Fri), or Saturday (Sat).

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

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

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

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

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

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

Schedule setting using Mouse

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

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

IP Camera:

Analog Camera:

Editing Timezone:

From: Displays time zone start time.

To: Displays time zone end time.

Record: Displays Record mode.

Resolution: Recording resolution is displayed.

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

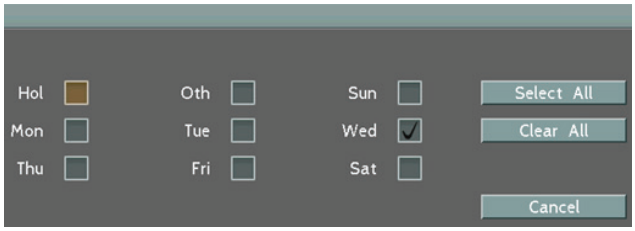
The speed is limited by the maximum total recording capacity of the mobile DVR as allocated across TV standard in global setting, all the installed cameras, with an upper limit of 30 FPS (NTSC – 25 PAL) per individual camera (real time recording). The PARAGON960 x4 can record 480 fps (NTSC) / 400 fps (PAL) at WD1.

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

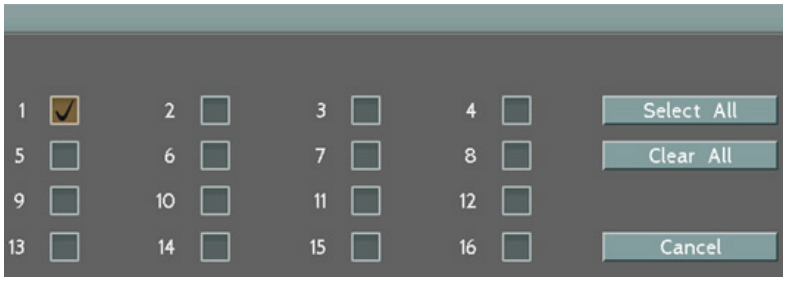
Event: *Maximum* desired frame rate in frames per second (FPS) for event recording; if more than one camera requires simultaneous event recording, the total for all cameras cannot exceed the maximum available FPS for the mobile DVR at the corresponding resolution setting, and *the available FPS may be divided across the cameras responding to an event.*

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

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



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



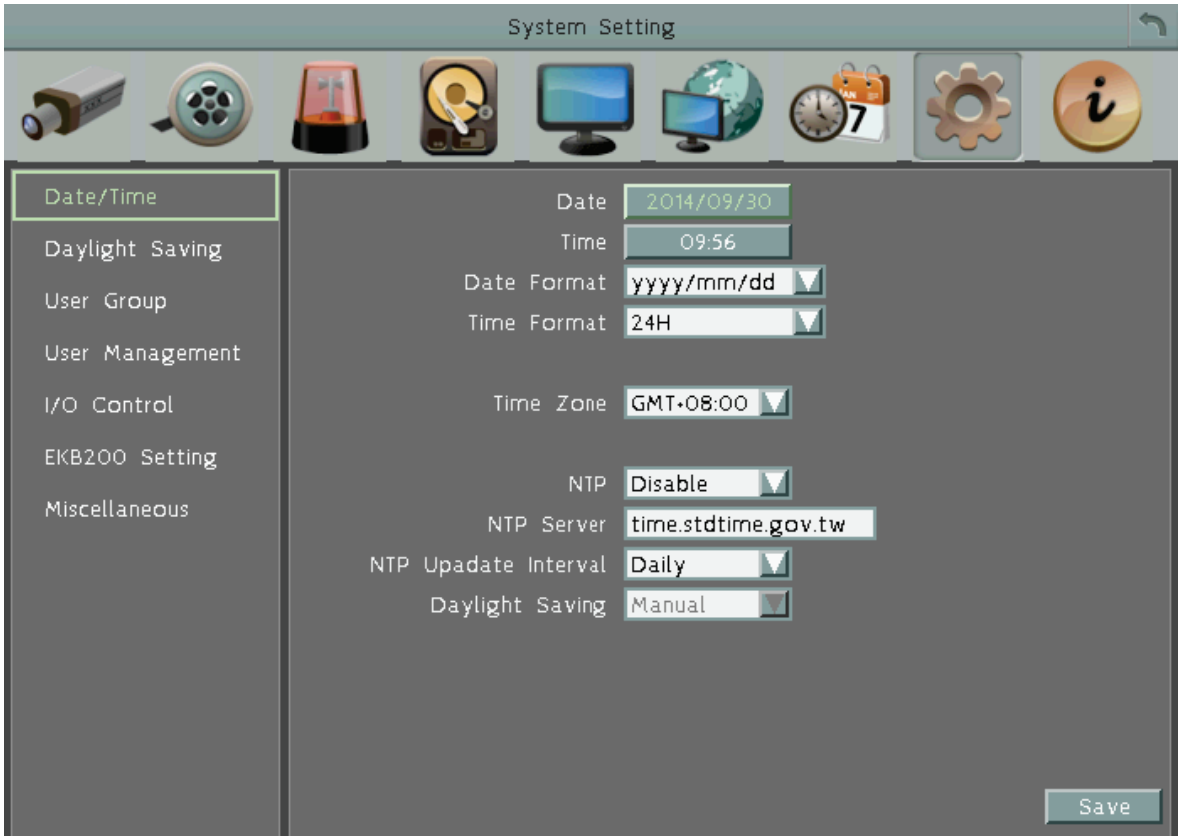
6.8 System Setting

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

6.8.1 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 *6.8.2 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.

NTP: Select Disable / Enable for NTP time synchronization.

NTP Server: Displays the time server address that the mobile DVR uses for time synchronization. Requires operating network configuration and WAN or LAN access to a compatible NTP server. The default NTP address is the NTP server in Taiwan. To find a compatible NTP address of the 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: 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 *6.8.2 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 *6.8.2 Daylight Saving*) will be grayed out and automatically set to the correct daylight saving time.

6.8.2 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 *6.8.1 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).

6.8.3 User Group

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

Manage User at Own Level: Check this box for the user of an access level to be able to configure other users' settings of the same level at the User Management setting page (see *6.8.4 User Management*). For example, if this box under the Operator level has been checked, any user with the Operator privilege can go to the User Management setting page to set up the settings of other Operators.

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

Note: 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 can only give privileges to the Operator. The Operator has no right to configure this page.

6.8.4 User Management

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

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

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

Add: Click the  button to add a new user.

Delete: Click the  button to delete

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

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

Previous: Click to return to the previous page.

Next: Click to enter the next page.

Apply: Click to apply all the settings.

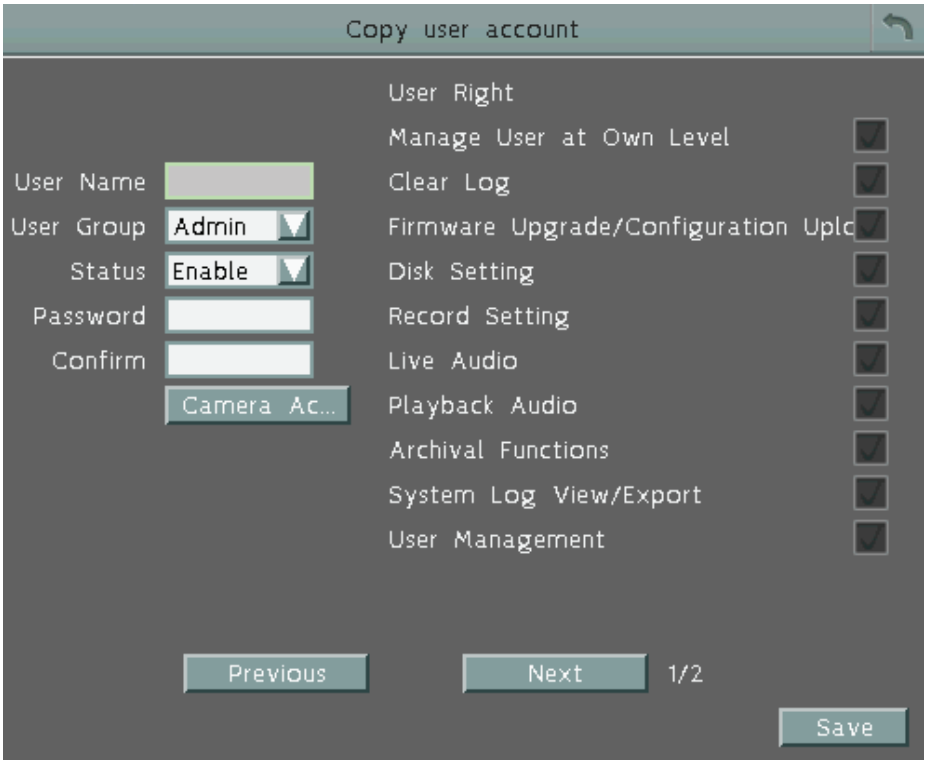
Previous: Click to return to the previous page.

Next: Click to enter the next page.

Apply: Click to apply all 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).

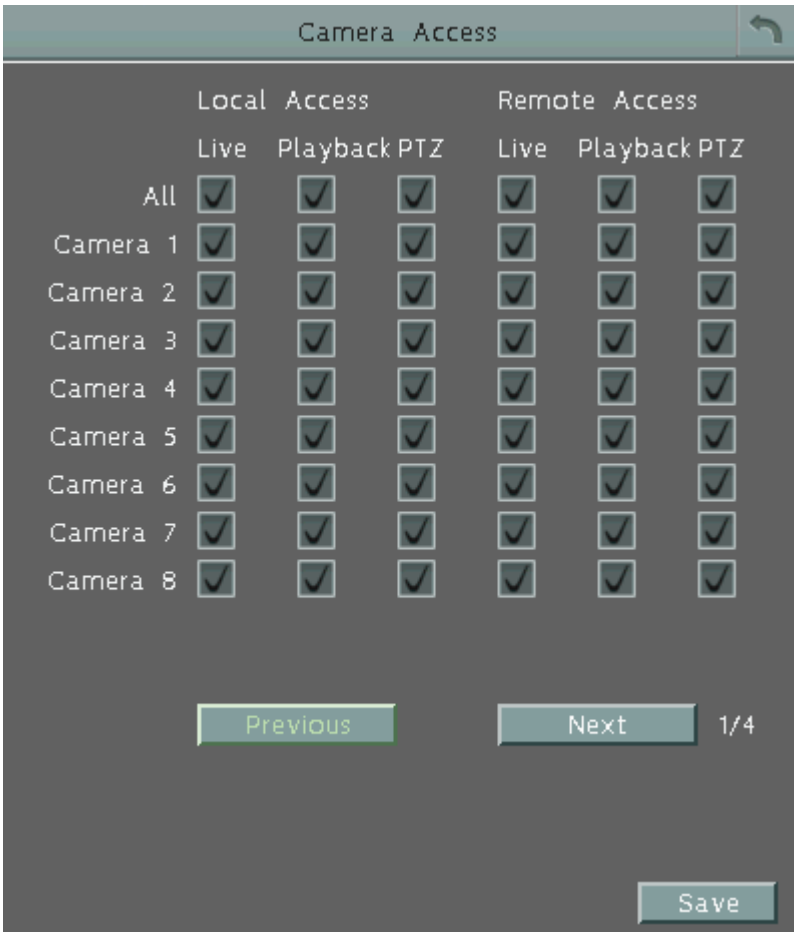
Status: Select to enable or disable the user account.

Password: Input the password.

Confirm: Enter the same password again to confirm.

Camera Access: Click to bring up a new setting page (figure 6-55), 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.


Camera Access
Local Access
Remote Access
Live
Playback
PTZ
Live
Playback
PTZ
All
Camera 1
Camera 2
Camera 3
Camera 4
Camera 5
Camera 6
Camera 7
Camera 8
Previous
Next
1/4
Save

6.8.5 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. Please note that the RS-232 port on the mobile DVR is currently reserved.

RS-232

Type: Select Control or Text Insert.

Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-232 port on the mobile DVR. There are eight different speeds: 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, 38400 BPS, 57600 BPS and 115200 BPS.

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

Stop Bit: This field is to set the stop bit for the RS-232 connection. There are two different stop bits, 1 or 2.

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

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

RS-485

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

485 ID: This is the ID used by the EKB500 to send commands to the 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

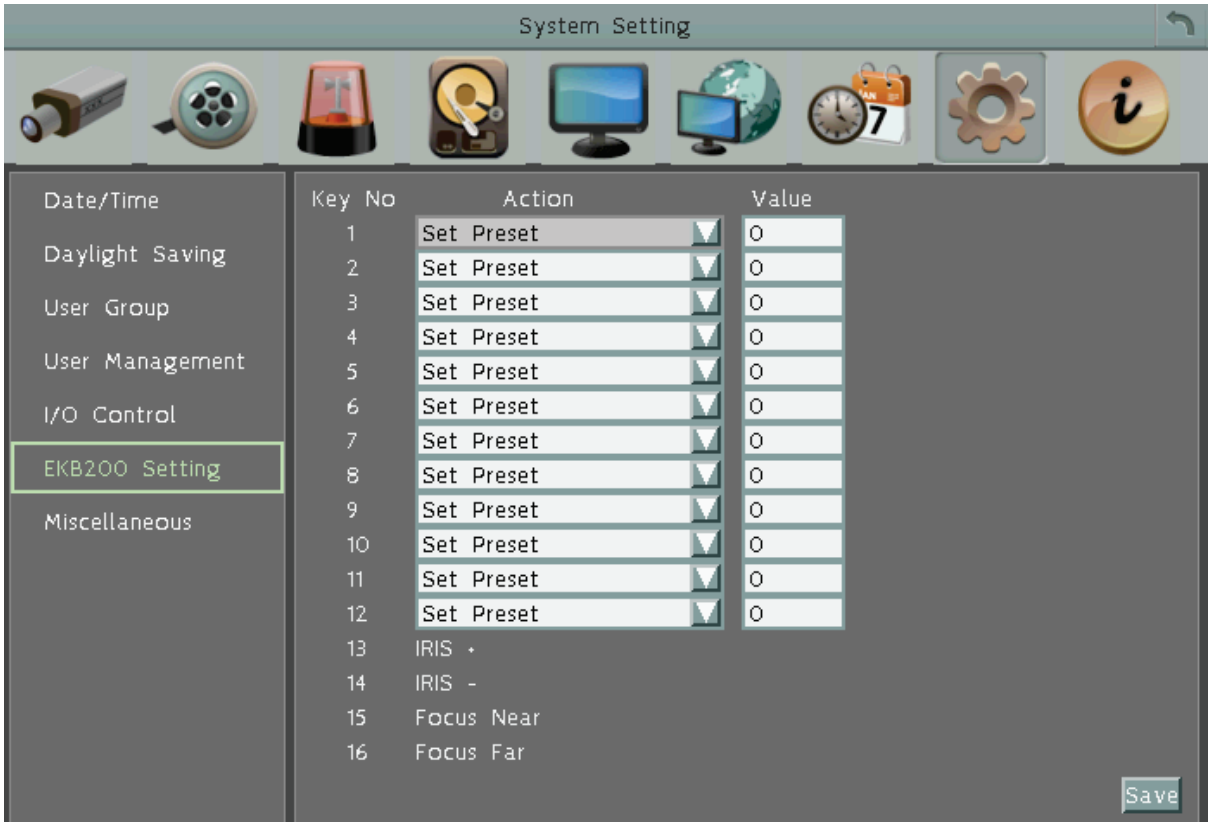
Baud Rate: This field is to set the speed at which is used to transmit instruction or information through the RS-485 port on the mobile DVR. There are eight different speeds: 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, 38400 BPS, 57600 BPS and 115200 BPS.
Data Bit: This field is the data bit at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

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

6.8.6 EKB200 Setting

You can connect an EKB200, which is EverFocus' USB keyboard, to the USB port on the DVR to control the Iris, focus or the pre-configured PTZ control functions of the connected cameras. For details on how to configure the PTZ control functions, including Preset Position, Auto Pan, Tour and Pattern, please refer to *4.1 PTZ Camera*.



The control keys on the EKB200

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

【**Key No**】 The control key number on the keyboard.
【**Action**】 Select an item from the drop-down list to define the function for each key on the keyboard.

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

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

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

6.8.7 Miscellaneous

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

Firmware

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

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

Configurations

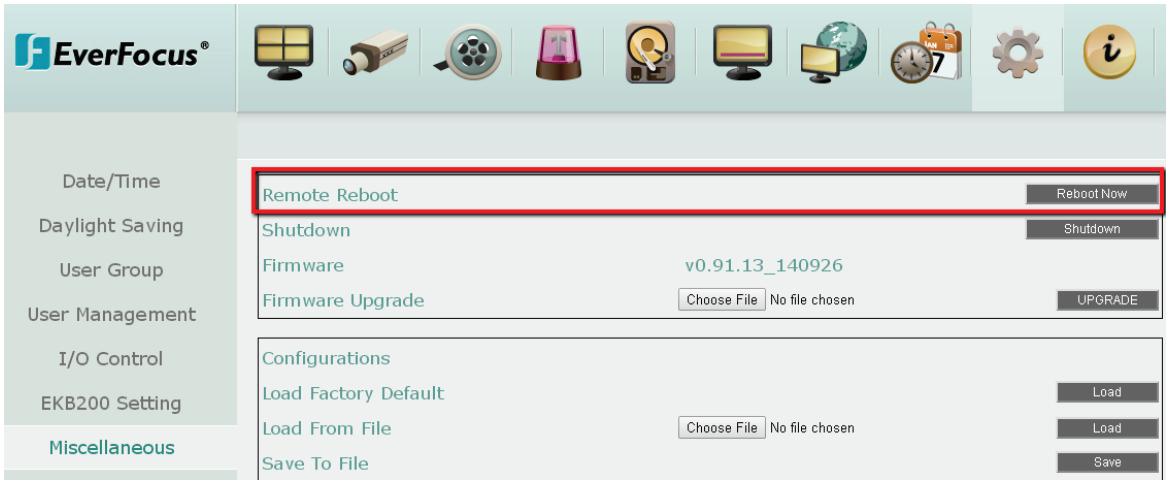
Load Factory Default: Click to restore the mobile DVR to factory default settings. The User Account, Network IP Settings, and Time settings will not be affected.

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

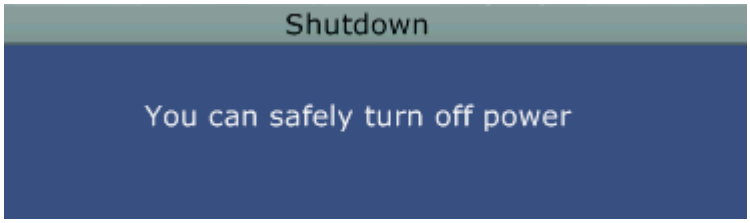
Save To USB: Click to save the mobile DVR configurations to the USB flash device.

Language: Choose which language the mobile DVR uses.

Allowed Remote Reboot: Check the box to enable restarting the mobile DVR via the Network.



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



6.9 Information

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

6.9.1 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 or Express menu.

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

mobile DVR Name: Displays the DDNS name if configured.

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

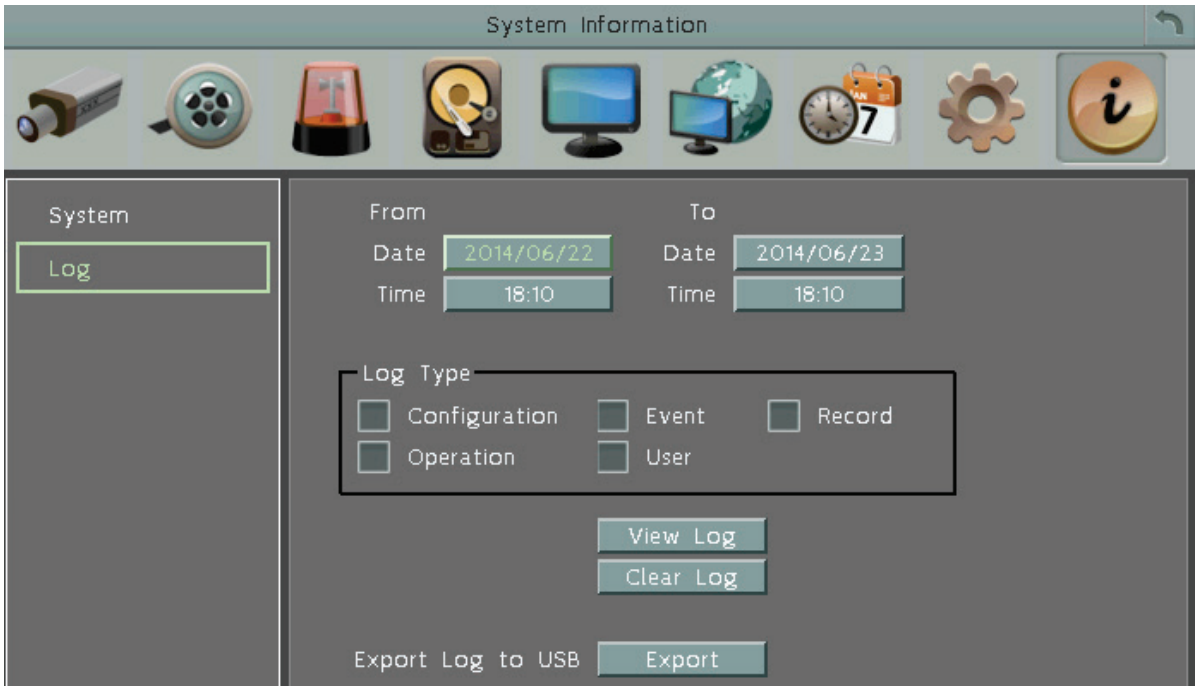
【Status】

Disk: Displays the status of the internal hard disks. Normal hard disk operation is indicated by "OK".

Fans: Displays the status of the internal fan. Normal fan operation is indicated by "OK".

6.9.2 Log

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

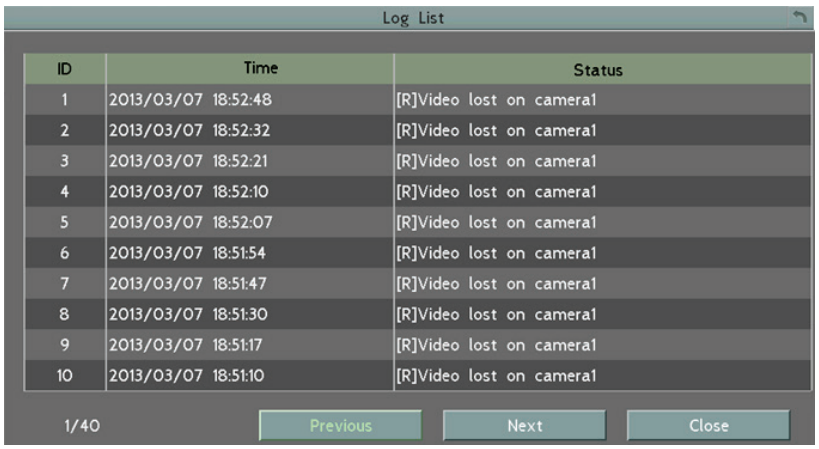


Start Date / End Date: Click to bring up the on-screen keyboard to set up the start / end date.

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.

7. Remote Access to the Mobile DVR

7.1 Accessing the Mobile DVR on the Network

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

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

   Local connection:

   http:// (IP address from the mobile DVR's Network Menu): IP port used

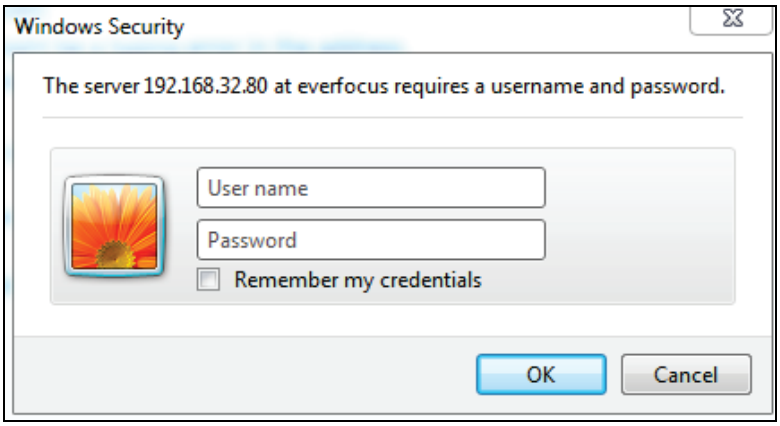
   e.g. http://192.168.1.163:2468

   Internet connection:

   http:// (IP address given by your Internet Service Provider): IP port used

   e.g. http://57.182.67.204:2468

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

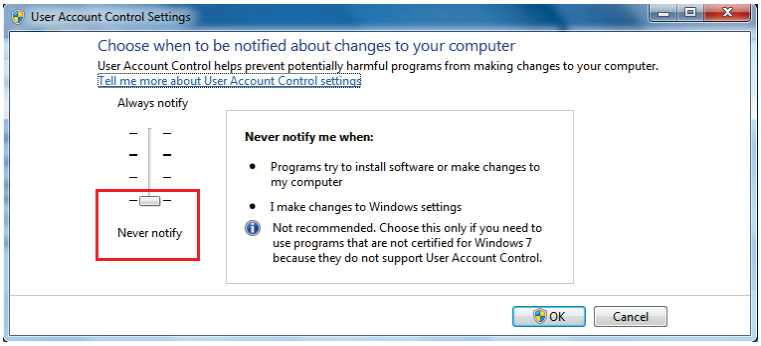


3. You might be required to download **ActiveX** and **JAVA software** for viewing the camera feed. If asked, click **Yes**. For more details, please refer to *7.2 Install JAVA Runtime* and *7.3 Browser Security Setting*.

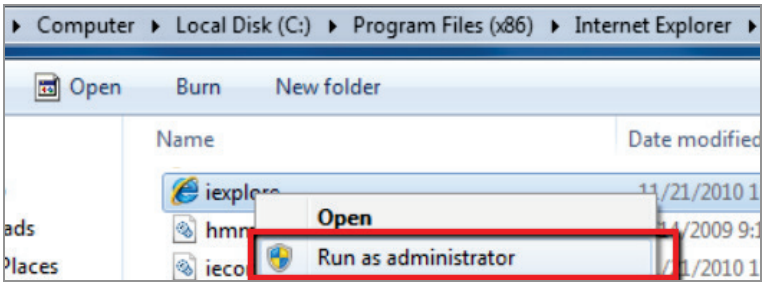
4. When first connecting to the mobile DVR's IP address, the following dialog may appear. Please check the "Always trust content from this publisher" box and click the **Run** button to run the EverFocus Viewer application.

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

6. 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.



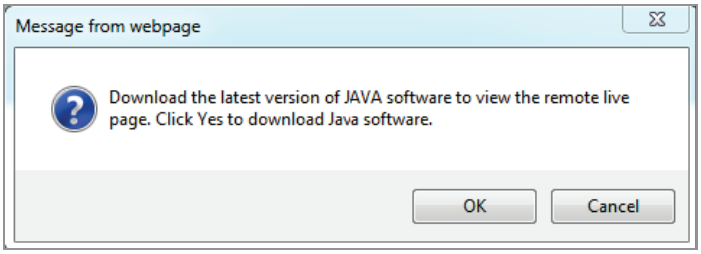
7. If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.



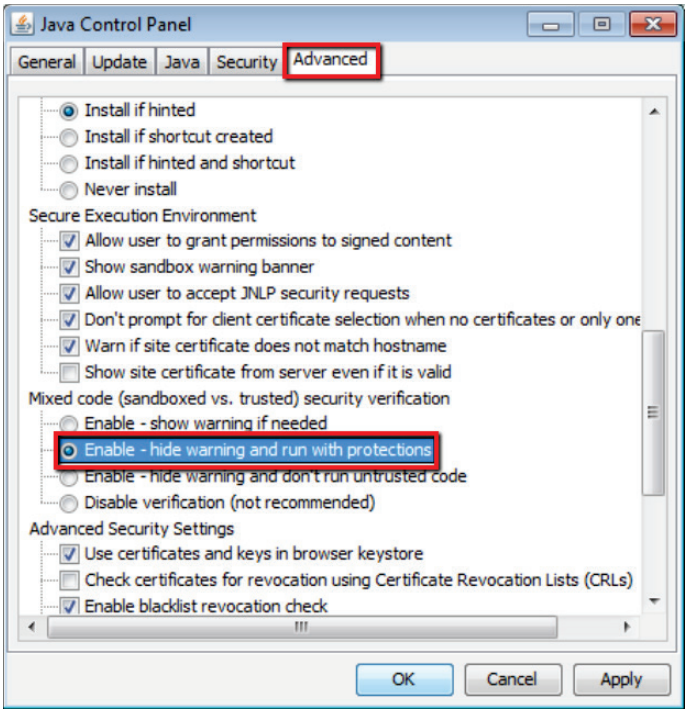
7.2 Install JAVA Runtime

You need to install the latest JAVA software for stable operation.

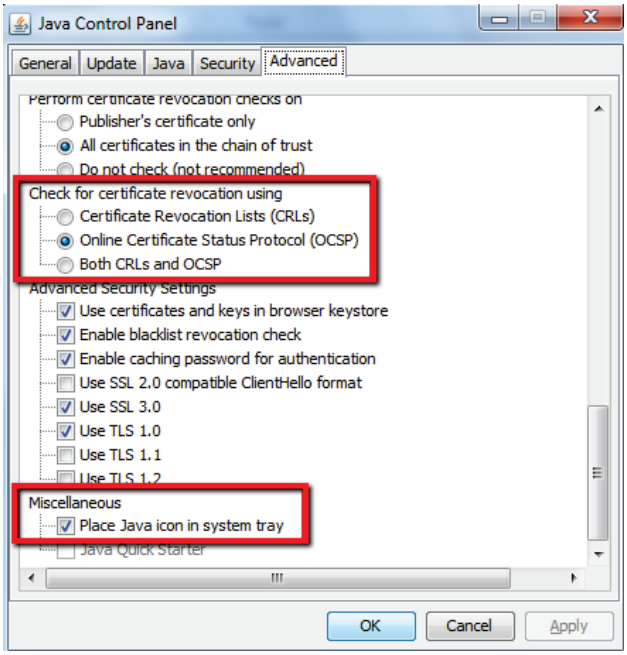
1. When first connecting to the mobile DVR's IP address, the following dialog will show up if you didn't install the JAVA software or its latest version on your computer.



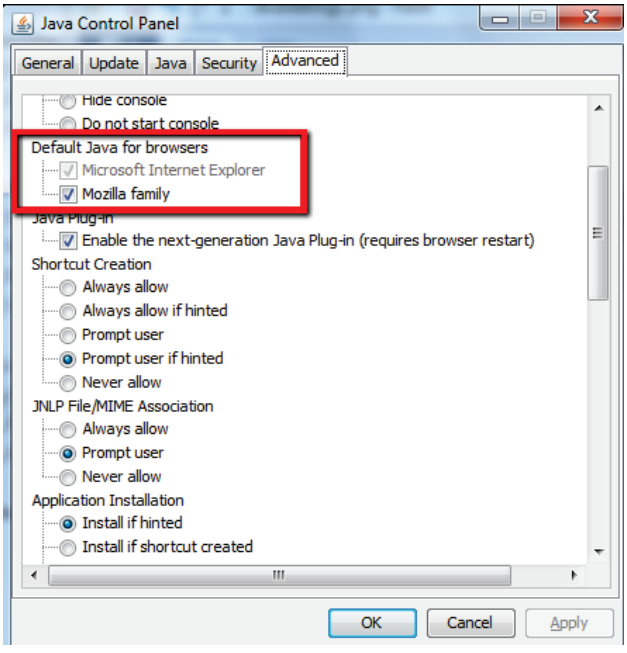
2. Please click **Update** to go to the JAVA website http://www.java.com/en/, and download the latest version of the JAVA software.
3. Please go to the Control Panel > JAVA Control Panel to change settings.
4. If you can't find the JAVA in the Control Panel, please go to Program Files > Java > jre7 > bin and double-click the **javacpl** (JAVA Control Panel).
5. Click **Advanced** tap on the top of the window, and scroll to "Mixed code (sandboxed vs. trusted) security verification", and select the **Enable – hide warning and run with protections**.



6. Scroll to “Check for certificate revocation using”, and select the **Online Certificate Status Protocol (OCSP)**. Also, check **Place JAVA icon in system tray** in “Miscellaneous” option.



7. Scroll to “Default JAVA for Browser” and check **Mozilla family**.



8. Connect the mobile DVR’s IP address again and the yellow bar may pop up on the top of the window. Please click it to run the JAVA application.

7.3 Browser Security Setting

7.3.1 Installing ActiveX Controls

Follow the steps below to install the ActiveX Controls when you first connect to the mobile DVR's IP address. If you do not see the images below, your security settings may be too high. If so, go to "Section *7.3.2 Enabling ActiveX Controls*."

1. You may also prompt to install the MSXML file. Please right-click the yellow bar and select "Run Add-on…"

2. Install the MSXML file when prompted to do so.

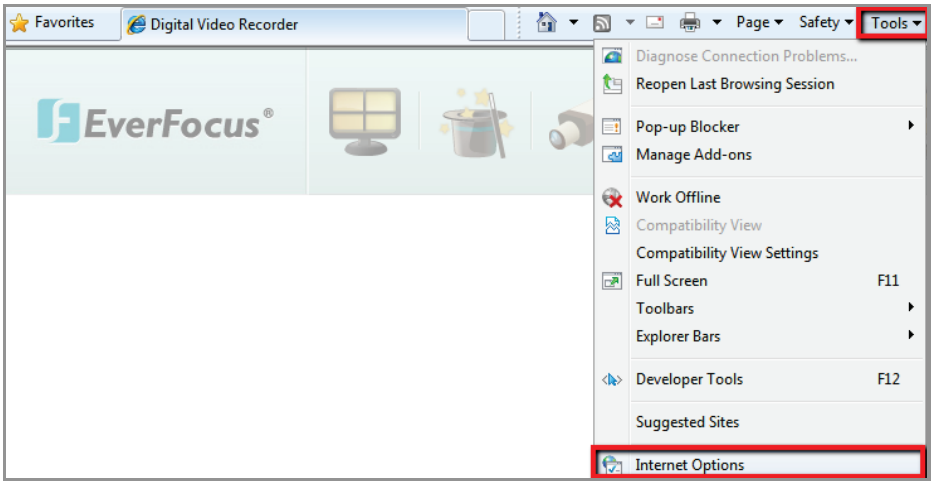
3. Now you will be able to see the remote live page.

4. Please refer to *2.7 Checking the Dynamic IP Address* to adjust the settings of the **User Account Control** if you still can't see the remote live view.

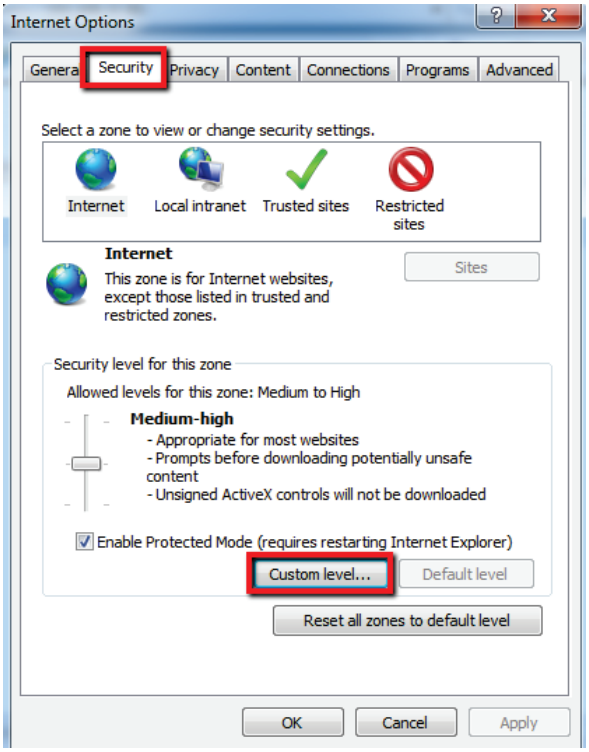
7.3.2 Enabling ActiveX Controls

Note this section is only necessary if you DO NOT see the image (in the step 1 of *7.3.1 Installing ActiveX Controls*) popping up when you first connect to the mobile DVR.

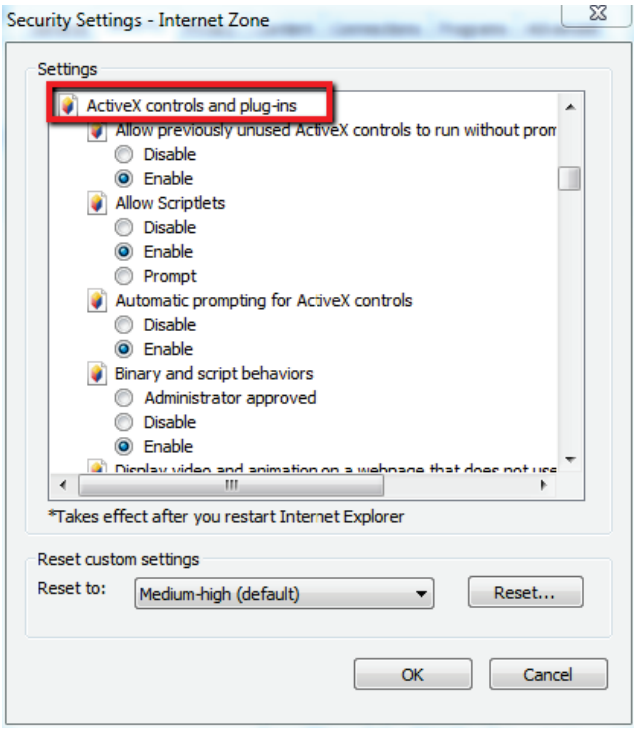
1. At the top of the Internet Explorer Window, click on **Tools** and then select **Internet Options**.



2. Click the **Security** tab at the top of the window and then click **Custom Level…**.



3. In the Security Settings window, scroll to “ActiveX controls and plug-ins”.



Set the controls as follows:

“**Enable**”:

- ✓ Allow previously unused ActiveX controls to run without prompt (*Internet Explorer 7 only*)
- ✓ Allow scriptlets (IE7 only)
- ✓ Automatic prompting for ActiveX controls
- ✓ Binary and script behaviors
- ✓ Display video and animation on a webpage that does not use external media player (*IE7 only*)
- ✓ Run ActiveX controls and plug-ins
- ✓ Script ActiveX controls marked safe for scripting
- ✓ Include local directory path when uploading files to a server

“**Prompt**”:

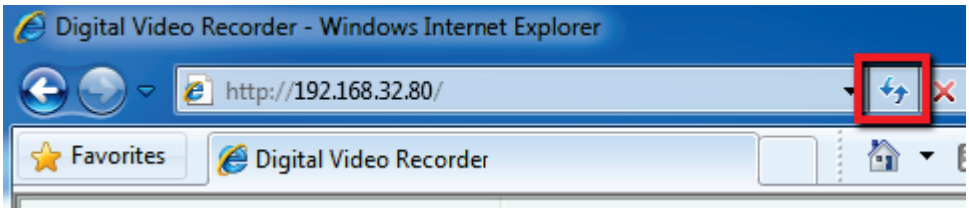
- ✓ Download signed ActiveX controls
- ✓ Download unsigned ActiveX controls

“**Disable**”:

Initialize and script ActiveX controls not marked as safe

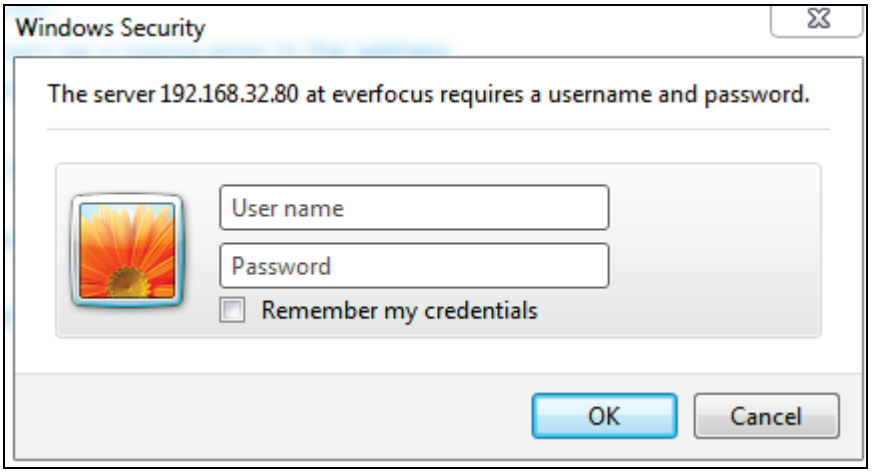
4. Click **OK** and then choose **Yes** to change the security settings.

5. Close the window so you are back at the login screen.
6. Click the **Refresh** button to reload the page.



7. You may need to run the EverFocusViewer application when prompted to do so.

8. The login page will show up. Type in the user name and password and click Login to view the cameras. The default User Name is **admin**, while the password is **11111111**.



7.4 Remote Live View

No.	Name	Description
1	**Menu Bar**	For configuring the mobile DVR. Please refer to *4. OSD Root Menu*.
2	**Layout**	Click a desired layout.
3	**Sub / Main**	Click to switch between the Main stream and Sub stream.
4	**Speaker / Microphone / Snapshot**	Click the **Speaker** button to transfer audio to the client side from mobile DVR if there is a speaker on the PC and a microphone and preamp attached to the mobile DVR, and audio recording is enabled on the mobile DVR. Click the **Microphone** button to transfer audio to mobile DVR from client side if there is a microphone attached to the PC and an amplifier and speaker attached to the mobile DVR. Click the **Snapshot** button to save a snapshot of the video image
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. Orange: Indicates a motion is being detected. 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.

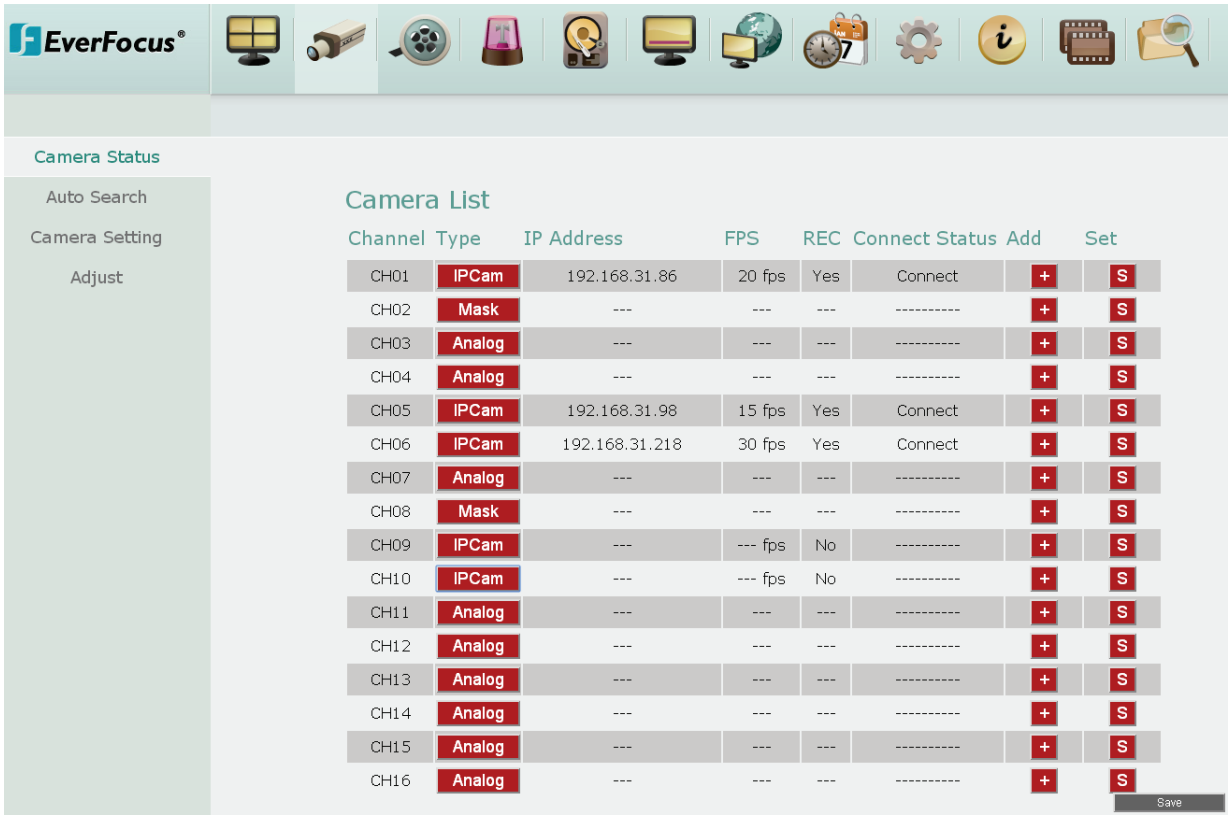
7.5 Menu Bar

No.	Name	Description
1	**Live View**	Click to display the live view window.
2	**Camera**	Click to configure the camera settings. Please refer to *6.1 Camera.*
3	**Record**	Click to configure the record settings. Please refer to *6.2 Record & Playback.*
4	**Event**	Click to configure the alarm / event settings. Please refer to *6.3 Event*.
5	**Hard Disk**	Click to display the HDD information. Please refer to *6.4 Hard Disk.*
6	**Display**	Click to configure the display settings for displaying the camera information on the camera live view. Please refer to *6.5 Display Settings.*
7	**Network**	Click to configure the network settings. Please refer to *6.6 Network Settings.*
8	**Schedule**	Click to configure the recording schedule. Please refer to *6.7 Schedule Setting.*
9	**System**	Click to configure the mobile DVR time / user privilege / IO control / UI language or upgrading firmware and etc. Please refer to *6.8 System Setting.*
10	**Information**	Displays the system information. Please refer to *6.9 Information.*
11	**Copy**	Click to archive the recordings from the mobile DVR to the client PC. Please refer to *4.8 Archiving the Recordings or Log Data to the USB or DVD.*
12	**Search**	Search the recordings for remote playback. Please refer to *7.8 Remote Playback*.
13	**PTZ**	Click to control the connected PTZ cameras. Please refer to *4.1 PTZ*.

7.6 How to Add Camera from Remote Side

You can add IP cameras automatically by search or manually in these settings, and you can configure the settings for each analog and IP cameras. Other settings are similar with settings in the local OSD menu, so please refer to Chapter 6.

7.6.1 Camera Status



Channel: Displays the channel number.

Type: Click to select the type of the camera for this channel. The options are IP, Analog and Mask. If you select **Mask**, there will be no video image showing on the live view.

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

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

REC: Shows the recording status.

Connect: Shows the connection status.

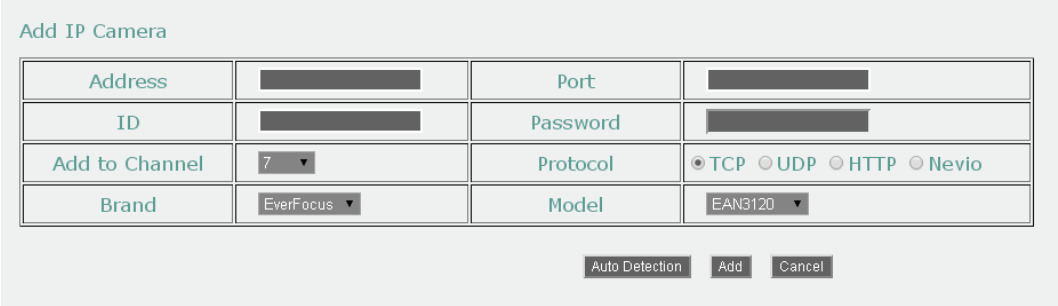
Add: Click to manually add an IP camera. Please see the instruction below.

Set: Click to set up the detail settings of the analog or IP cameras.

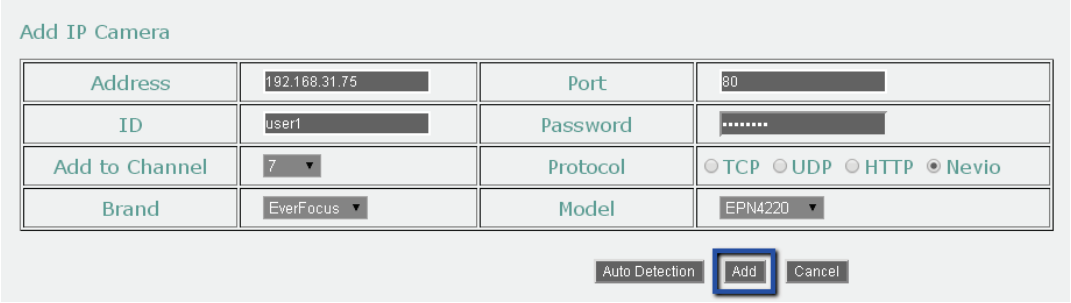
7.6.1.1 Manually Add an IP Camera from Remote Side

1. On the channel which you want to add an IP camera, click to select **IP** from the **Type** option, and click the **Add** + button. (For EMV1601, you can only add up to 8 IP cameras).

2. Enter the **IP Address**, **Port** (default: 80), **ID**, **Password** of the camera.



3. Click **Auto Detection** to automatically detect the **Protocol**, **Brand** and **Model** of the camera, and then click **Add** to continue.



4. You can just click **Save** to add this camera, or you can also configure the detailed settings before saving. Click **Cancel** to return to the previous setting.

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

Camera Channel: Show the camera channel number.

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

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

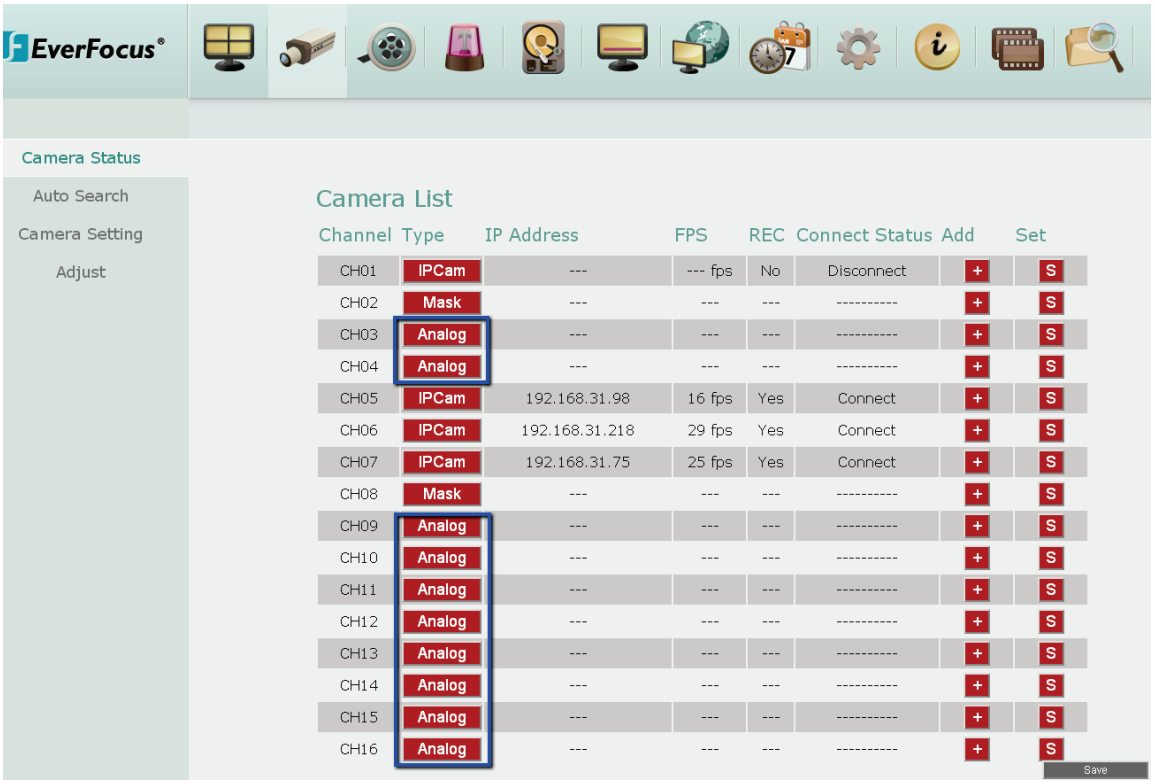
Resolution: Select a desired recording resolution.

Quality: Select an image quality of the camera.

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

7.6.1.2 Add an Configure an Analog Camera from Remote Side

1. On the channel which you want to connect and display an analog camera, click to select the **Analog** from the **Type** option.



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

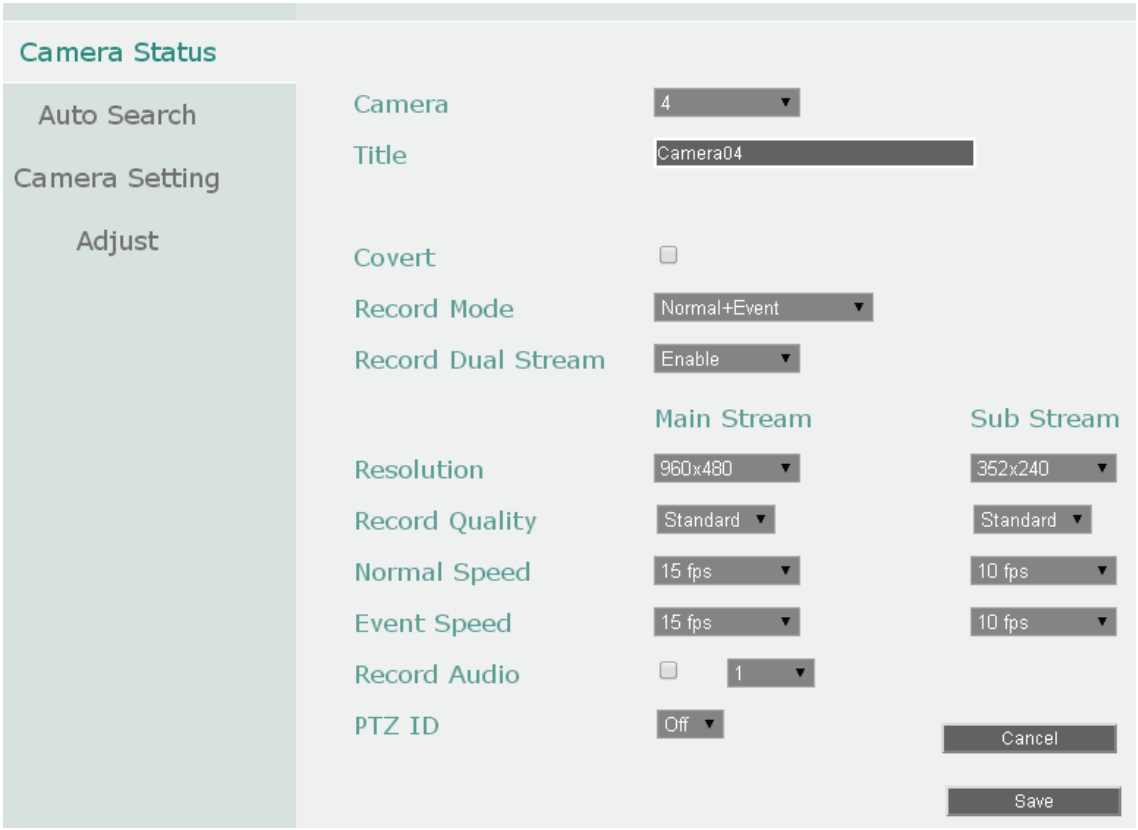
3. Connect the analog camera to the video input which corresponds to the channel that you select to display an analog camera view.

   For example: If you select channel 3 and 4 to display analog camera views as the figure above, you need to connect the analog cameras to video input 3 and 4. (The video cables are all attached with a label to show you the channel number, please refer to *2.4.2 Video Cable*.)

4. You can now see its live view on the screen.

You can set up the detail settings of the analog camera by click the **Set** S button. Please see the settings as follows:

Analog Camera Settings:



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.

Covert: Check the box to hide the analog camera stream in Live View and Sequence modes. However, the mobile DVR will still record the videos and the recordings can be played back by users who have the privilege to playback. For details on enabling the **Covert** function, please refer to *4.9.1 Temporarily Logout*. To hide the IP camera streams, please refer to *6.1.6 Adjust*.

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

Normal+Event: Continuous and Event recordings.

Event Only: Event recordings only.

Record Dual Stream: Click to enable / disable the dual stream recording function. And then configure the following settings for the Main Stream and Sub Stream.

Resolution: Select a recording resolution for the Main Stream and Sub Stream.

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 mobile DVR as allocated across all the installed cameras, with upper limit of 30 FPS (NTSC) / 25 FPS (PAL) per individual camera respectively(real time recording).

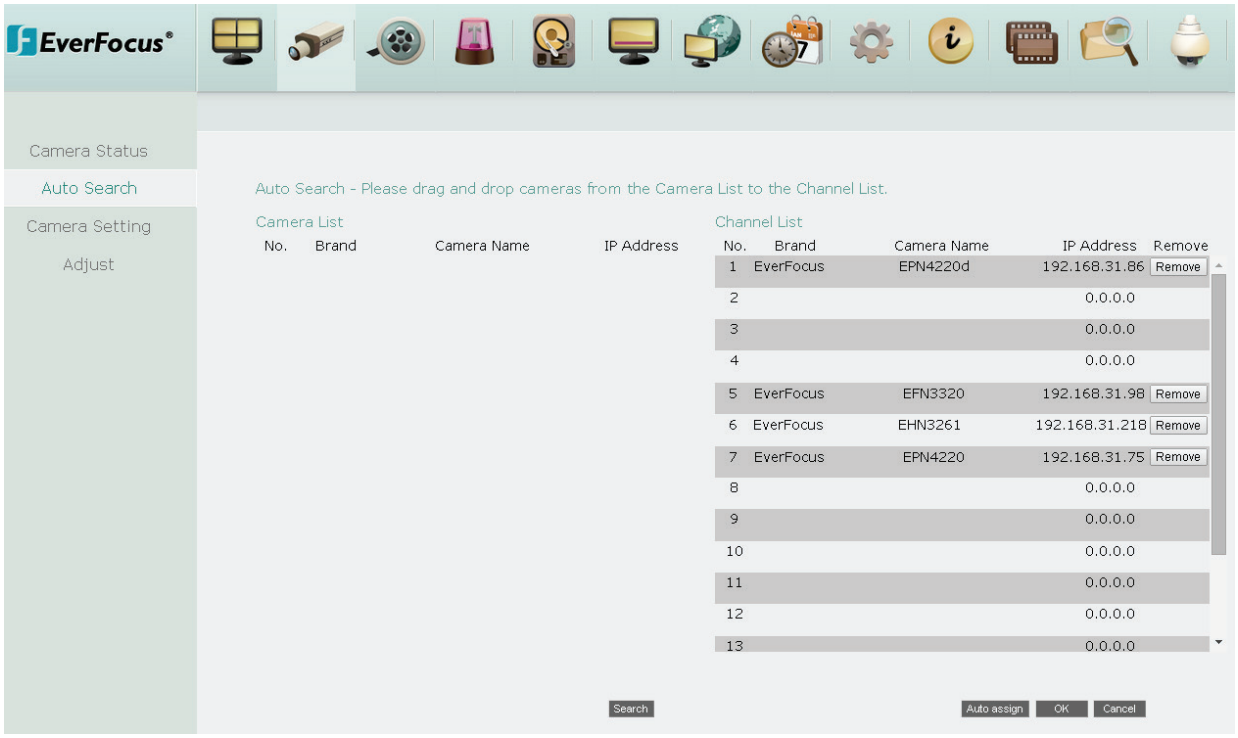
Event Speed: Select a frame rate per second (FPS) for event recording.

Record Audio: Check the box to enable audio recording on the mobile DVR, and then select an audio input device. Note that the Audio function is unavailable for Germany.

PTZ ID: To allow the mobile 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. 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.

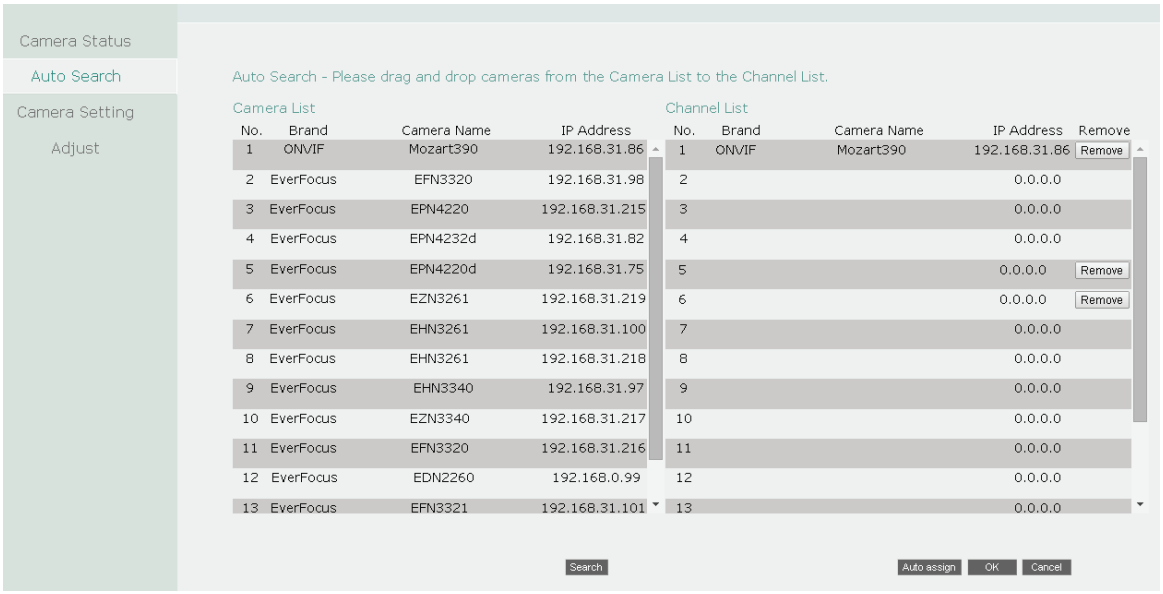
7.6.2 Auto Search

This function allows you to automatically search and add the IP cameras connected in the same LAN network. Please see the steps below.



1. Before using the **Auto Search** function, you need to configure which channels you want to display IP camera live view from the **Camera Status** setting page, please refer to *7.6.1 Camera Status*.

2. On the **Auto Search** page, click the **Search** button, and the IP cameras connected in the same network will show up in the **Camera List**.



3. <u>To add cameras, there are two methods:</u>

   A. Click **Auto Assign**, the system will automatically add the cameras from the top on this camera list to the channels that you have selected in **Camera Status** page. Then, click **Save** to save it.

   B. You can also add the desired camera to channel one by one. Drag a desired camera in the **Camera List**, and then drop and drop it onto the **Channel List**. Click **Save** to save the setting and it will return to the search page for you to add another camera. You can also click **Cancel** to return to previous setting.

7.7 PTZ

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

To control the PTZ camera:

1. Select a connected PTZ camera in the **Camera** drop-down list first.
2. To move the camera to the desired direction and angle, click the **Direction** buttons.
3. To zoom in / out the camera view, click the **Zoom** buttons.
4. To adjust the camera focus, click the **Focus** buttons.
5. To adjust the Iris open to increase / decrease the amount of light in, click the **Iris** buttons.
6. To program a Preset Position (if supported by the camera):
   a. Move the PTZ camera to the desired position.
   b. Click the **Preset** button.
   c. Set up a preset number for the current position by clicking the number buttons. The number will be displayed in the number box.
   d. Click the **Set** button to save the settings.
7. To jump to a Preset Position:
   a. Click the **Preset** button.
   b. Click the desired Preset number.
   c. Click the **Go** button.

8. Shortcut for Preset 1 ~ 9:
   a. Click digit 1 ~ 9 button without clicking any other buttons.
   b. The camera will seek that Preset Position.
9. To delete a Preset Position (if supported by the camera):
   a. Click the **Preset** button.
   b. Click the desired Preset number.
   c. Click the **Delete** button.
10. To operate the Auto Pan function, click the **Auto Pan** button.
11. To operate the Pattern function, click the **Pattern** button. The Pattern is the "0" Tour in EverFocus and Pelco PTZ cameras.
12. To operate the Tour function:
    a. Click the **Tour** button.
    b. Click the desired Tour number.
    c. Click the **Go** button.
13. To remove a pre-configured Tour (if supported by the camera):
    a. Click the **Tour** button.
    b. Click the desired Tour number.
    c. Click the **Delete** button.
14. To start the auto-tracking function, click the **Track** button.
15. To start tracking an object on the screen, click the **Object** button. When the object selection box displays on the screen, click to select an object to start auto tracking. Once the PTZ camera loses track of the object, the camera will return to the auto tracking start point. Please select forward position in the object movement path to get better tracking result.

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

Note: Before start using the Auto Pan, Pattern, Tour, Tracking and Object functions, you have to configure the related settings for the connected PTZ cameras. Please refer to *6.1.3 PTZ* or the User's Manual of your PTZ cameras.

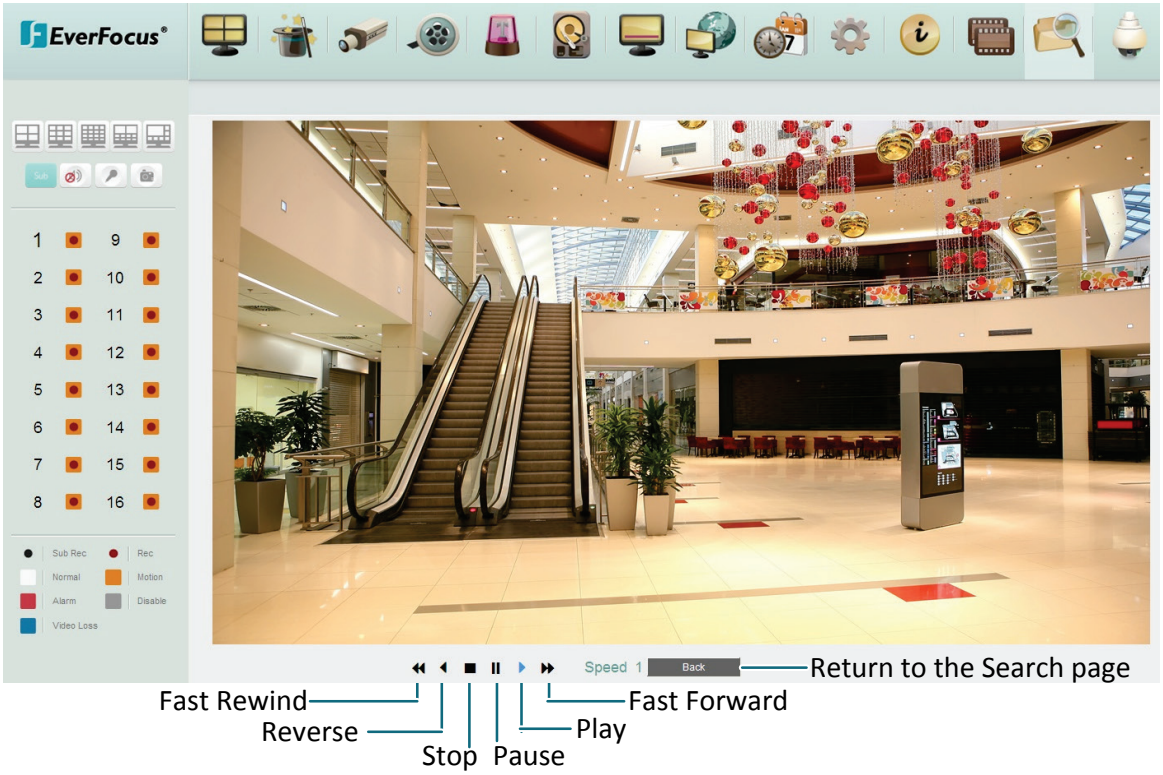
Control PTZ Camera over EKB200 Keyboard:

When using an EKB200 keyboard, you need to click the **Connect** button on the PTZ Control Panel. Please note that you need to configure the PTZ control functions and define the function for each control key on the keyboard before controlling the PTZ camera over the EKB200 keyboard (see *6.1.3 PTZ* and *6.8.6 EKB200*). For information about the installation of the EKB200 keyboard, please refer to your EKB200 keyboard User's Manual.

7.8 Remote Playback

To playback the recordings remotely, click the **Search** button on the Menu Bar. Click **Time Search**, **Event Search** or **Smart Search** and then set up the settings. For more details about Search setting, please refer to *5.3 Searching the Recordings for Playing Back*.

Double-click on a recording, the following Remote Playback Window appears.



Chapter

8

8. Specifications

Model	EMV1601	EMV801	EMV401
Analog + IP Camera	16 CH (Max: 8 IP cameras)	8 CH	4 CH
System			
Operating System	Linux		
RAM Memory	2GB		
G-Sensor	3-Axis G-Sensor embedded		
System Control	IR Remote Control, Mouse, Web UI		
Watchdog	Reboots the mobile DVR automatically if required		
Video			
Video Codec	H.264		
Video Format	NTSC / PAL (auto detected by system)		
Video Input	16 (M12 port x4)	8 (M12 port x2)	4 (M12 port x1)
Video Output	Main: 3 (1 RCA port on front panel; 1 BNC port on rear panel; 1 VGA port on rear panel)		
	Call: 1 (1 BNC port on rear panel)		
Audio			
Audio Input	16 (M12 port x4)	8 (M12 port x2)	4 (M12 port x1)
Audio Output	1 (RCA)		
Alarm			
Alarm Input	16 (D-sub x1)	8 (D-sub x1)	4 (D-sub x1)
Alarm Output	2 (D-sub x1)		
Recording			
Recording Rate	Analog: 30fps/CH (NTSC), 25fps/CH (PAL) IP: 30 fps/CH at resolution of 1080p		
Recording Resolution	1080p / 720p / 960H / D1 / 2CIF / CIF / QCIF		
Recording Mode	Event, Normal + Event, Schedule		
Optional Storage			
2.5” HDD or 3.5” HDD	HDD x 1 (Max: 4TB)		
USB HDD	3 external USB HDDs (only for archiving recordings)		

Network	
Ethernet	1Gb x 2
3G* / 4G LTE	Optional
Wi-Fi	Optional
GPS	Optional
Protocol	TCP/IP, DHCP, DDNS, SMTP, SSL, PPOP3, HTTP, NTP
Interface	
USB 2.0	3 ports
3G / 4G Receiver (optional)	Antenna 1 port
GPS Receiver(optional)	Antenna 2 port
Wi-Fi Antenna(optional)	Antenna 3 port
I/O	RS-485, RS-232
Ethernet	RJ-45 port x 2 (10/100/1000M)
Power	Din Jack
General	
Power Input	10-32 VDC, 7.5A ~ 2A
Power Consumption	20W/60W (Heater On)
Heater	Embedded 2 heaters (heater on: below 0°C / heater off: above 7°C)
Operating Temperature	-40°C ~ 55°C / -40°F ~ 131°F
Dimensions (W x D x H)	210 x 260 x 70 mm / 8.27 x 10.22 x 2.76 in
Weight	3.65 Kg / 8.05 lbs (with mounting bracket) 3.2 Kg / 7.05 lbs (without mounting bracket)
Regulatory	
Regulatory	CE, FCC, EN50155, E-Mark, RoHS-compliant

* 3G USB dongles tested by EverFocus include Huawei E161 / E173 / E180 / E220.

Remote Client System Minimum Requirement	
Operating System	Windows XP (32-bit) / Win7 (32 and 64-bit)
CPU	Intel Core 2 Duo, 2.6GHz
RAM	2GB
VGA	AGP or PCI-Express, 800x600 (1280x1024 recommended), 32-bit color
LAN Speed	10 / 100 / 1000 Mbps (RJ45)
Web Browser	Windows (IE 8, 9, 10, Chrome, Firefox), MAC (TBD)
Other Remote Application	1. EverFocus' CMS: Genie XMS xFleet (Server System) and EF xFleet Lite (Windows AP) 2. EverFocus' mobile app: MobileFocus for iOS and Android devices MobileFocusHD for iPad

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 Chapter 7 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

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

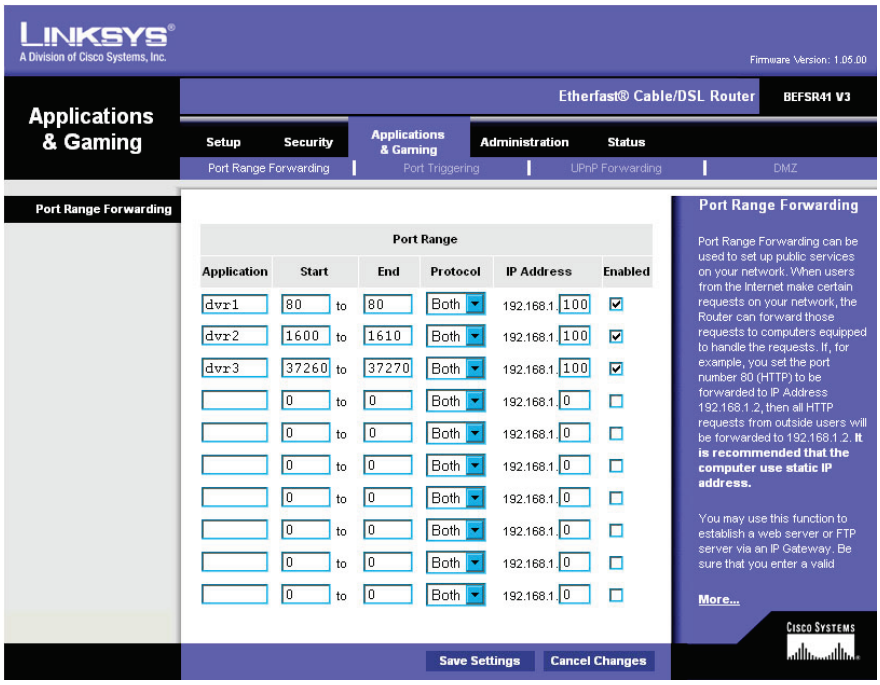
Typical Linksys Port Forwarding

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.

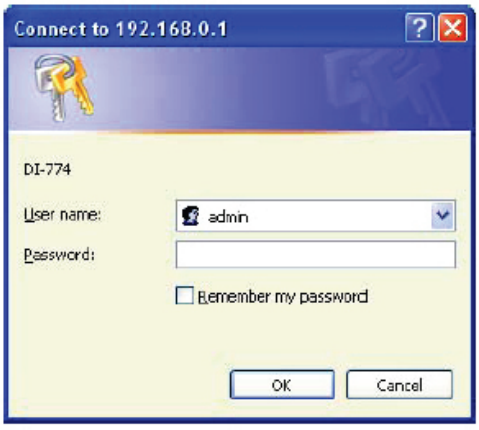
Note: ***If you changed port 80 in the mobile DVR’s Network Menu, open that port instead of 80.***

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

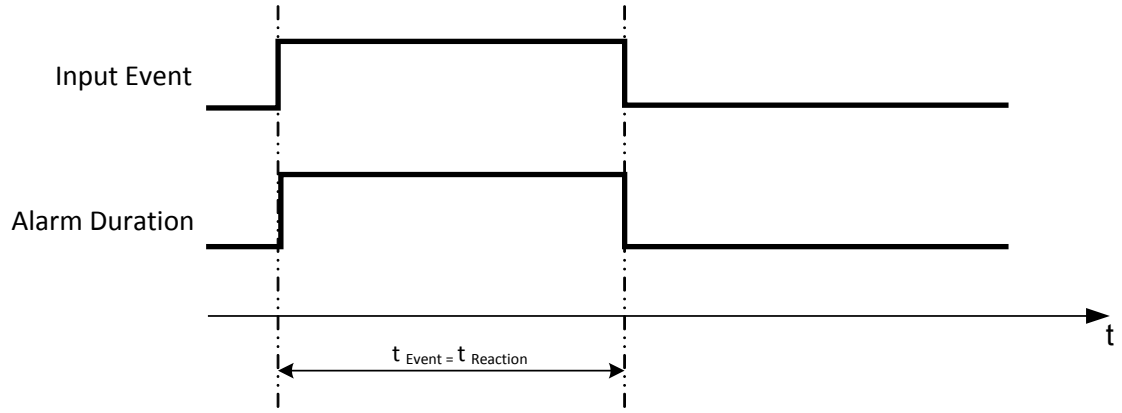
Where 192.168.1.50 is the IP address of the mobile DVR on the LAN, and the default port 80 is in use.

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

Appendix C

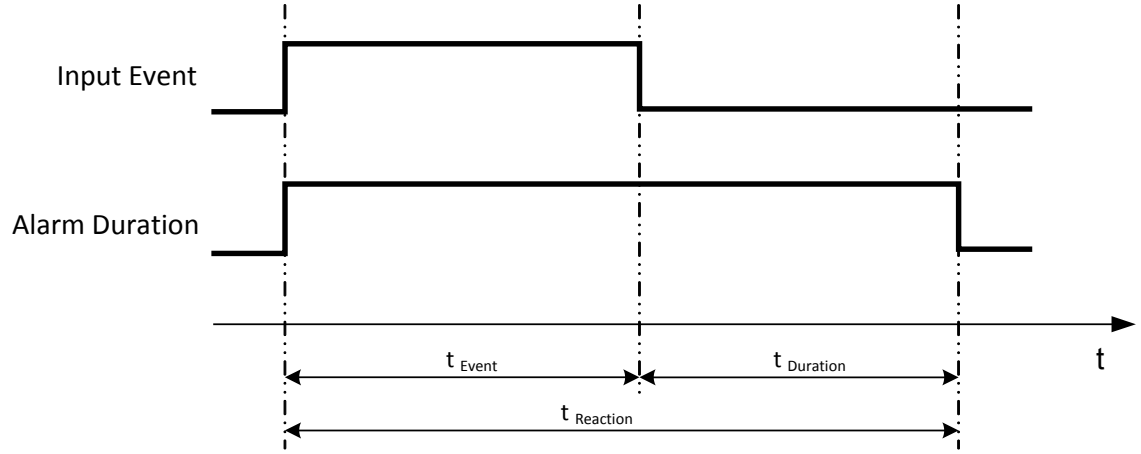
Appendix C: Timing of Alarm Modes

Transparent Mode



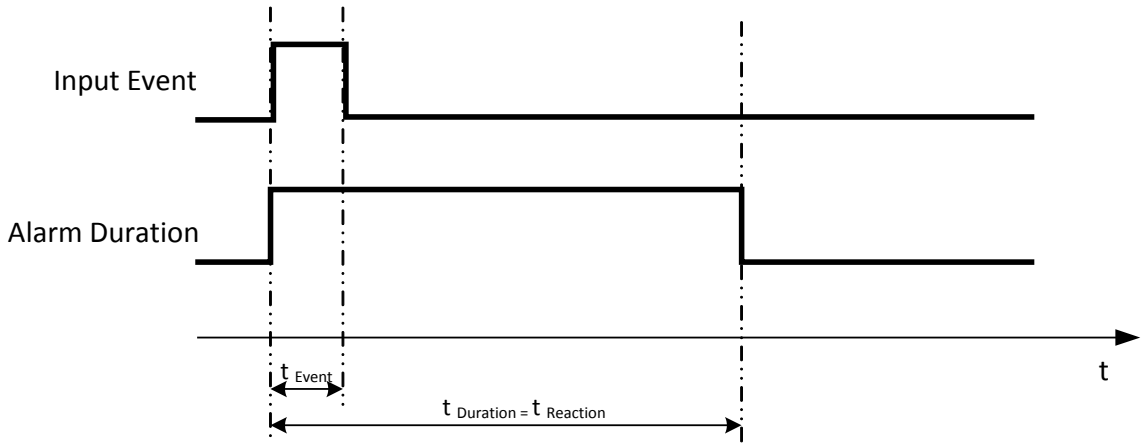
t Event: Duration of alarm input source (contact, system events...)
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Timeout + Transparent Mode



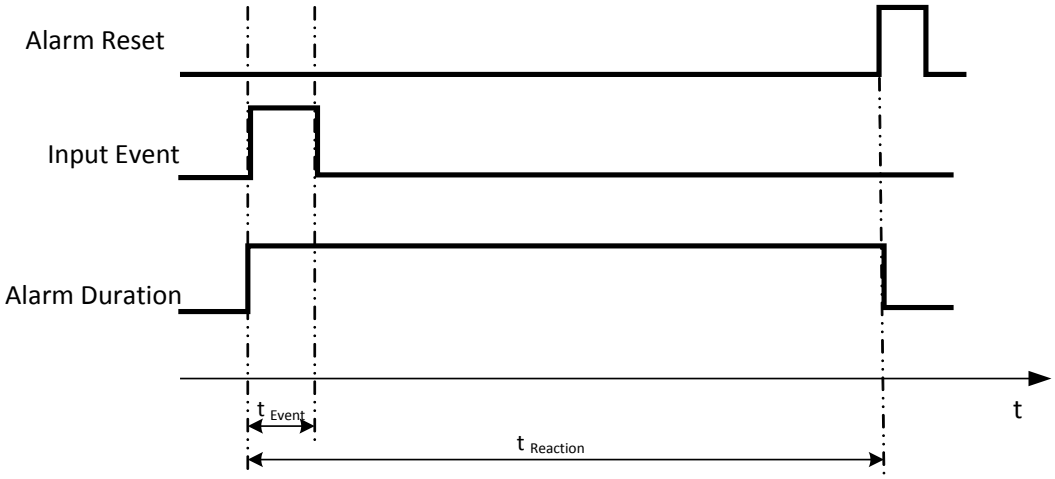
t Event: Duration of alarm input source (contact, system events...)
t Duration: Alarm duration for timeout, defined in the event setup menus
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Timeout Mode



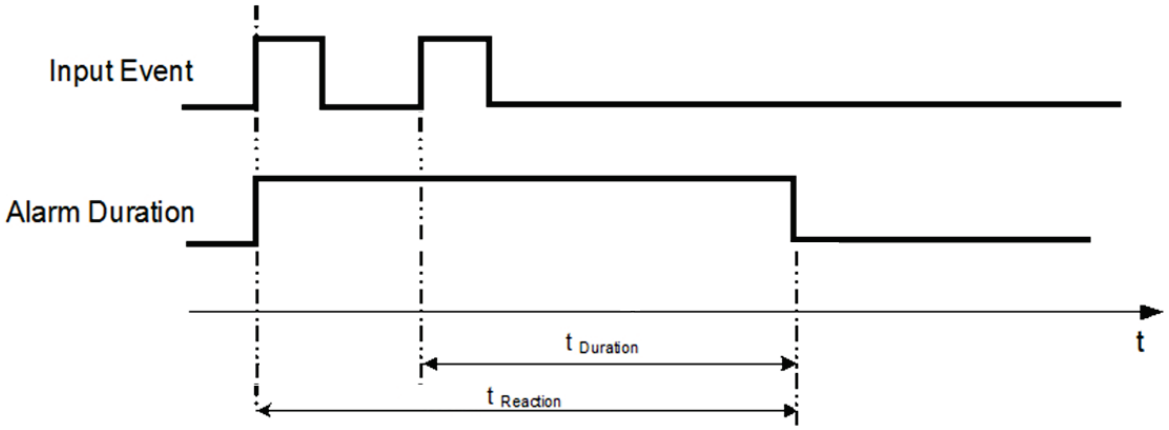
t Event: Duration of alarm input source (contact, system events...)
t Duration: Alarm duration for timeout, defined in the event setup menus
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

Permanent Mode



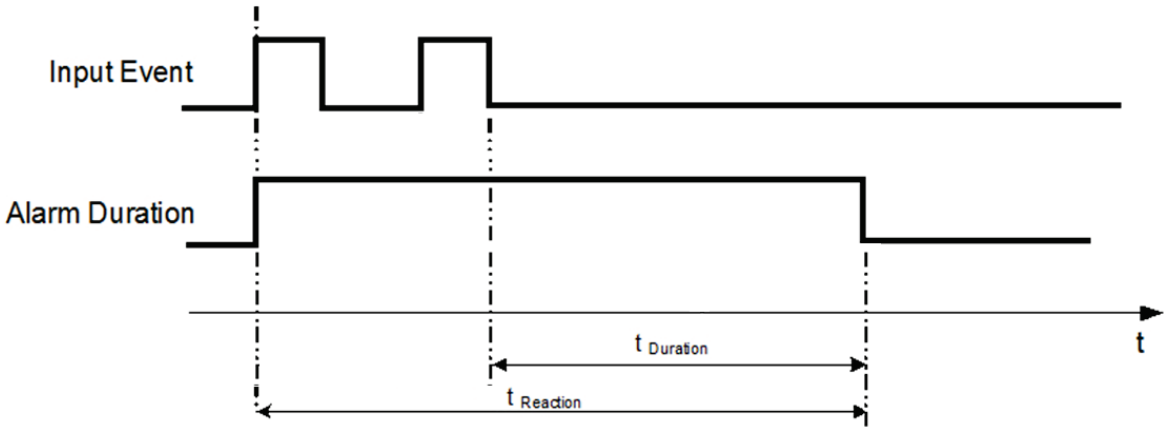
t Event: Duration of alarm input source (contact, system events...)
t Duration: Alarm duration for timeout, defined in the event setup menus
t reaction: Resulting duration for this alarm mode, related to event record, alarm outputs, OSD message, buzzer

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: Express Setup Recording Value Selection Rules

Case 1:

Record Mode: Normal + Event Record With: Recording days

The mobile DVR will Auto adjust image Quality and Event frame rate to match the number of Recording days which user selected:

According to resolution, event hours and other assumptions above, the mobile DVR will attempt to select one set of suitable quality and event frame rate by checking if set 1 meets the requirements, and proceed in order unit the requirements are met. If the mobile DVR can't match the required record days from one of the 8 sets, it will use set 8.

Checking Order	1	2	3	4	5	6	7	8
Normal Frame Rate	1	1	1	1	1	1	1	1
Quality	Superior	Standard	Low	Low	Low	Low	Low	Low
Event Frame Rate	30	30	30	15	10	7.5	5	1

Case 2:

Record Mode: Event Only Record With: Recording days

Mobile DVR will Auto adjust Quality and Event frame rate to match the Recording days which user need:

According to resolution, event hours and other assumptions above, the mobile DVR will attempt to select one set of suitable quality and event frame rate by checking if set 1 meets the requirements, and proceed in order unit the requirements are met. If the mobile DVR can't match the required record days from one of the 8 sets, it will use set 8.

Checking Order	1	2	3	4	5	6	7	8
Quality	Superior	Standard	Low	Low	Low	Low	Low	Low
Event Frame Rate	30	30	30	15	10	7.5	5	1

Case 3:

Record Mode: Normal + Event or Event Only

Record With: Preset Setting

Mobile DVR will apply the settings in the table below to all cameras according to the Preset Settings.

Preset Setting Option	Camera Item	Apply value
Best Quality	Quality	Superior
	Normal Frame Rate	Max recording frame rate of mobile DVR
	Event Frame Rate	30
Standard Quality	Quality	Standard
	Normal Frame Rate	Half of max recording frame rate of mobile DVR
	Event Frame Rate	30
Extended Quality	Quality	Basic
	Normal Frame Rate	1
	Event Frame Rate	10

Appendix E: IR Remote Control

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

DVR Device Number: The ID number here must correspond to the "IR Remote ID" in "I/O Control Setup Menu". The buttons are used to select a mobile DVR when there is more than one unit. Selecting an incorrect unit ID will prevent the mobile DVR from responding to commands from the remote.

Channel keys: #1~4 / #1~8 / #1~16. Press to display that channel in full screen.

To use the IR remote control, you need to set up the setting as below:

1. On the OSD menu, go to **System** > **System Setting** > **IO Control**.
2. Set up an **IR Remote ID** (Range 1~4), for example, set up "2".
3. Click **Save**.
4. Take the remote control to aim at the IR receiver of the mobile DVR.
5. Press the **DVR Device Number** button "2".
6. Now, you will be able to use this remote control to operate the mobile DVR.

EverFocus Electronics Corp.

EverFocus Taiwan:
12F-1, No.79, Sec. 1, Shin-Tai Wu Road,
Hsi-Chih, New Taipei City, Taiwan
TEL: +886 2 2698 2334
FAX: +886 2 2698 3943
www.everfocus.com.tw
marketing@everfocus.com.tw

EverFocus China - Beijing:
Room 609, Technology Trade Building,
Shangdi Information Industry Base,
Haidian District, Beijing 100085, China
TEL: +86 10 6297 3336~39
FAX: +86 10 6297 1423
www.everfocus.com.cn
marketing@everfocus.com.cn

EverFocus USA - California:
1801 Highland Avenue, Unit A, Duarte, CA 91010, USA
TEL: +1 626 844 8888
FAX: +1 626 844 8838
www.everfocus.com
sales@everfocus.com

EverFocus Japan:
3F, Kuramochi, Building II, 2-2-3 Koto-Bashi,Sumida-Ku, Tokyo, 130-0022, Japan
TEL: +81 3 5625 8188
FAX: +81 3 5625 8189
www.everfocus.co.jp
info@everfocus.co.jp

EverFocus India:
UBS, 629/1243, 1st Floor, G Block, Behind Teacher's Colony,Bandra Kurla Complex, Bandra (E),
Mumbai 400 051, India
TEL: +91 22 6726 4500
FAX: +91 22 6726 4518
www.everfocus.in
sales@everfocus.in

EverFocus Europe - Germany:
Albert-Einstein-Strasse 1, D-46446
Emmerich, Germany
TEL: +49 2822 93940
FAX: +49 2822 939495
www.everfocus.de
sales@everfocus.de

EverFocus China - Shenzhen:
4F, No. 2, D4 Building, Wan Yelong
Industrial Park, Tangtou Road, Shiyan,
Baoan, Shenzhen, Guangdong 518101, China
TEL: +86 755 2765 1313
FAX: +86 755 2765 0337
www.everfocus.com.cn
marketing@everfocus.com.cn

EverFocus USA - New York:
415 Oser Avenue, Unit S, Hauppauge, NY 11788, USA
TEL: +1 631 436 5070
FAX: +1 631 436 5027
www.everfocus.com
sales@everfocus.com

EverFocus China - Shanghai:
Room 403, Ruijin Business Center, No.96,
Zhaojiabang Road, Luwan district, Shanghai 200020, China
TEL: +86 21 6471 2229 / 6471 2291
FAX: +86 21 6471 0566
www.everfocus.com.cn
marketing@everfocus.com.cn

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!

Ihr EverFocus Produkt wurde entwickelt und hergestellt mit qualitativ hochwertigen Materialien und Komponenten, die recycelt und wieder verwendet werden können.
Dieses Symbol bedeutet, dass elektrische und elektronische Geräte am Ende ihrer Nutzungsdauer vom Hausmüll getrennt entsorgt werden sollen.
Bitte entsorgen Sie dieses Gerät bei Ihrer örtlichen kommunalen Sammelstelle oder im Recycling Centre.
Helfen Sie uns bitte, die Umwelt zu erhalten, in der wir leben!

EverFocus®

P/N: 4605PEMV04B073A