

EMV400S FHD / EMV400SSD

4 Channels 1080p Full HD Mobile DVR

Quick Installation Guide



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1. Introduction

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

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

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

EMV400 Series Models

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

Storage Functionality

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

Packing List

• Mobile DVR x 1	• D-Sub Cable x 1 (see 2.3.4 D-Sub Cable)
• VGA Cable x 1	• Quick Installation Guide x 1
• Card Lock Key x 2 (for EMV400S FHD only)	• CD x 1 (Please see Note 3.)
• SSD Lock Key x 2 (for EMV400SSD only)	• Mounting Kit x 1 (Screw x 4, Anchor x 4)
• Power Harness Cable x 1 (see 2.3.3 Power Harness Cable)	• IR Remote Control x 1 (with two AAA batteries. See Note 4)

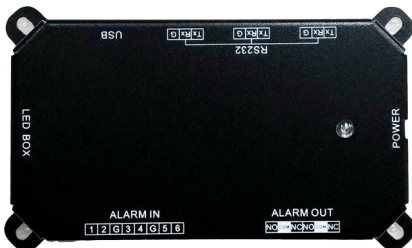
Note:

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

Optional Accessories

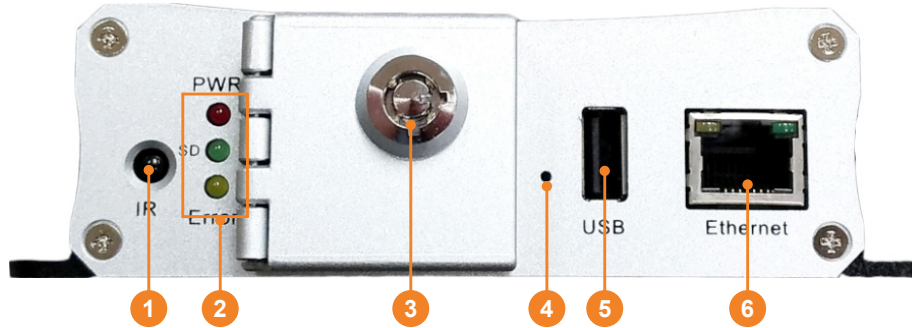
You can use the optional accessories to expand the capabilities and versatility of the mobile DVR. Please contact your dealer for more information.

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

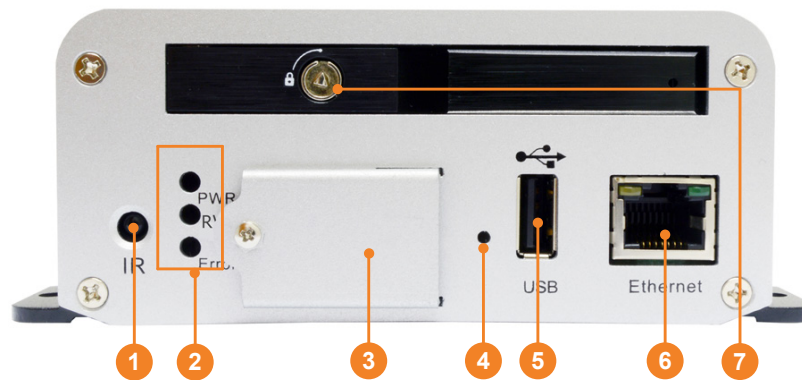


Front Panel

EMV400S FHD



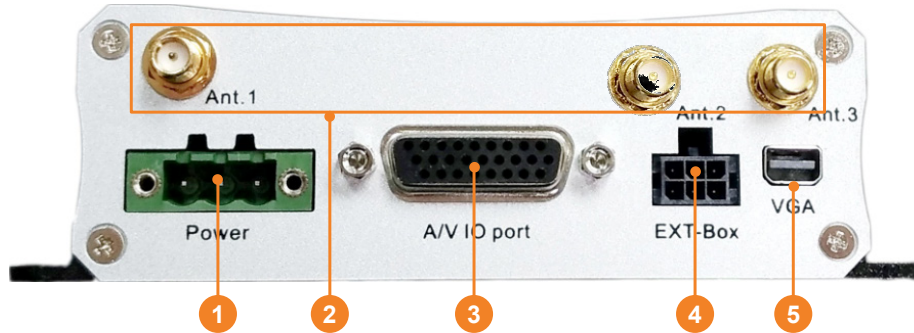
EMV400SSD



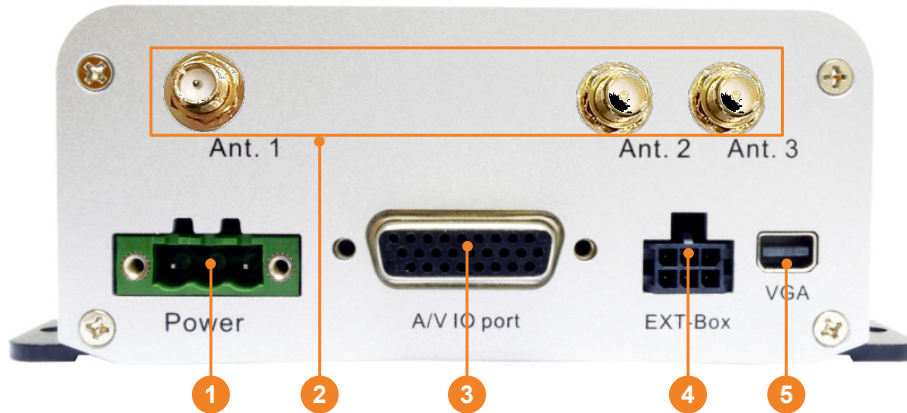
No.	Name	Description
1	IR Receiver	Receives data from the infrared remote control.
2	System LEDs	<p>Power: Lights red continuously when power is supplied. Blinks when power supply is insufficient.</p> <p>Storage: Lights green continuously when storage is reading or writing data.</p> <p>Error: Lights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

Rear Panel

EMV400S FHD



EMV400SSD



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

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 mobile DVR

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

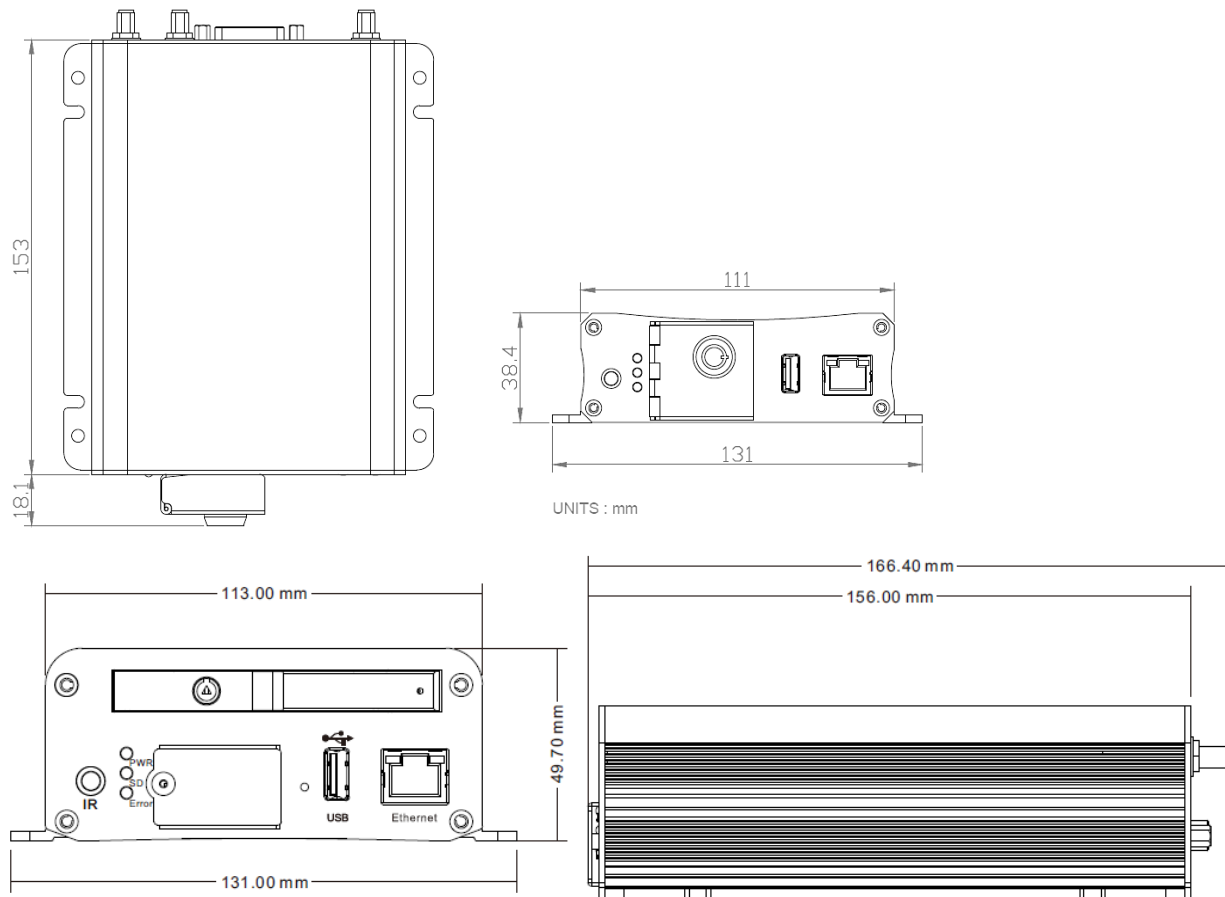
- That is subject to high vibration / sunlight levels
- That is subject to be drenched of the rain
- Where passengers can interfere with the mobile DVR
- Next to a heater duct

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

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

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

2.1.1 Dimensions



2.1.2 Mounting

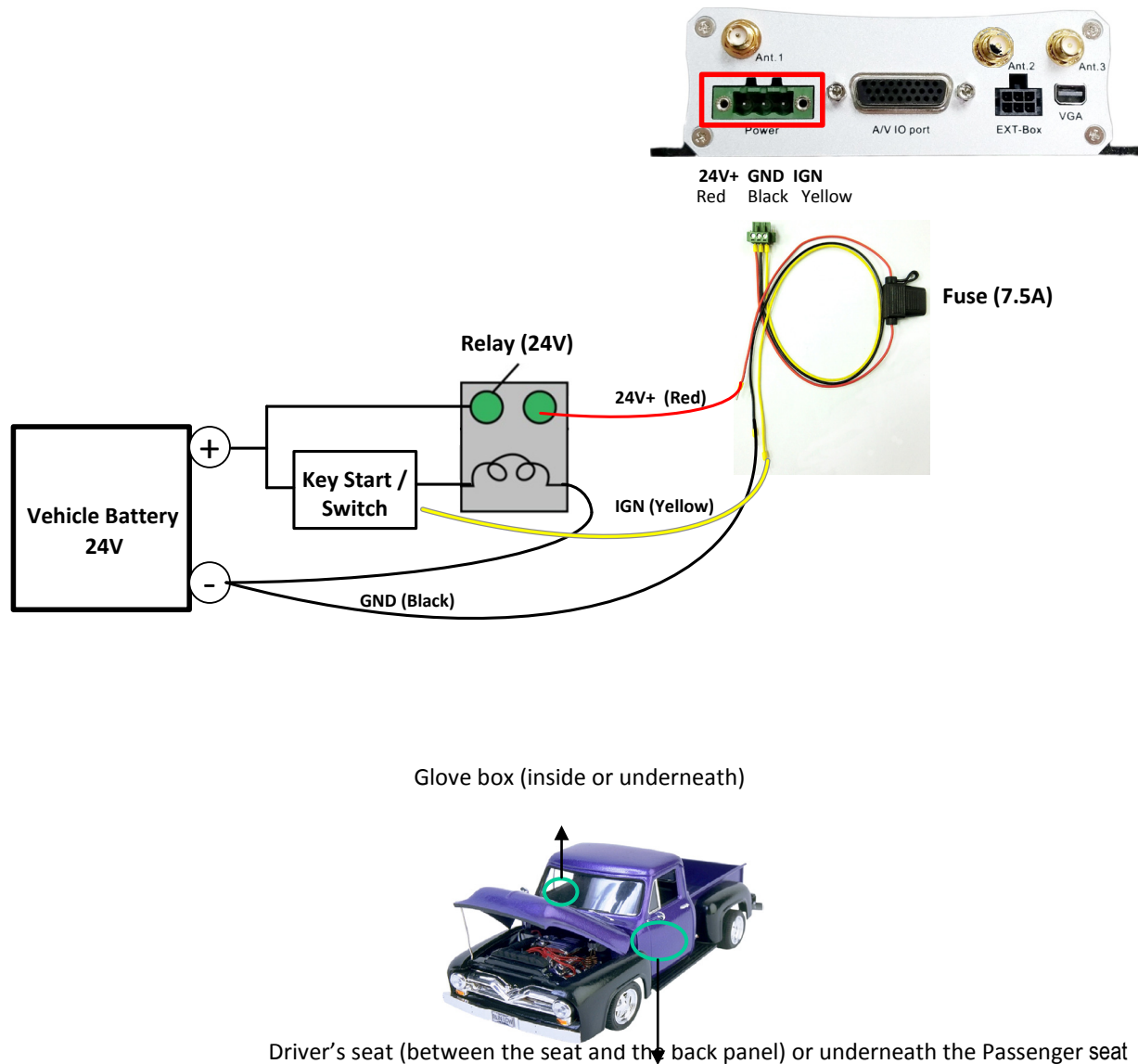
To mount the mobile DVR onto a surface inside a vehicle:

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

2.2 Vehicle Connection

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

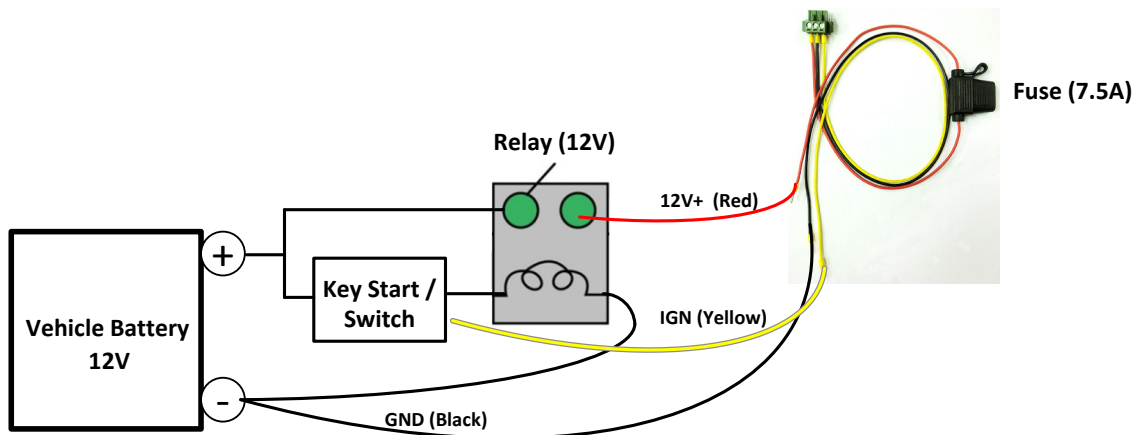
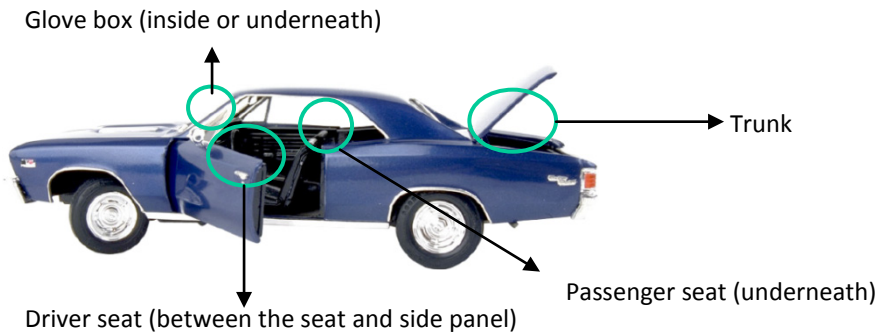
2.2.1 Connecting to a Truck with 24VDC



Note:

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

2.2.2 Connecting to a Car with 12VDC

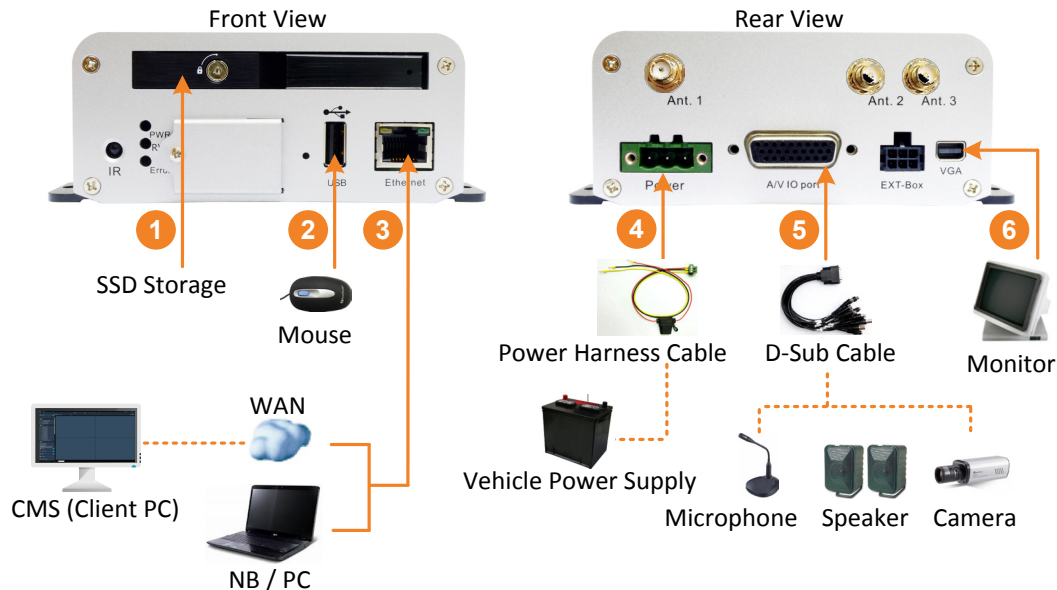


Note:

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

2.3 Basic Connection

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



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

Note: The mobile DVRs feature Wi-Fi/3G/4G function. You can optionally connect the Wi-Fi/3G/4G antenna to the mobile DVR for wireless networking (see 2.3.6 *Antenna Connection*).

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

2.3.1 SD Card Installation

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

EMV400SSD:

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



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



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

EMV400S FHD:

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



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



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

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

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



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

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

Tested Card Brands:

The mobile DVRs support SD / SDHC card up to 128GB. The following brands of the SD cards have been tested by EverFocus and are recommended to work with EverFocus mobile DVRs.

Brand	SanDisk	Teamgroup	SanDisk	SanDisk	Transcend
Form Factor	SDXC	SDXC	SDHC/SDXC	SDHC/SDXC	SDHC/SDXC
Card Capacity	128 GB	64 GB	32 GB	32 GB	32 GB
Card Rate Level	Class 10	UHS-1	Class 10 U1	Class 2	Class 10 U1

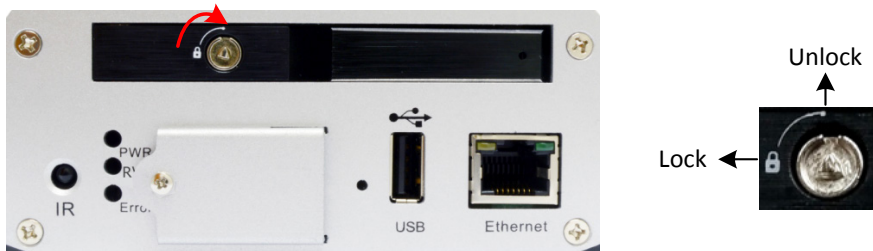
Brand	SanDisk	Toshiba	Kingston
Form Factor	SDHC/SDXC	SDHC/SDXC	SDHC/SDXC
Card Capacity	16 GB	16 GB	16 GB
Card Rate Level	Class 10 U1	U3	Class 10 U1

2.3.2 SSD Installation

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

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

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



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



3. Insert an SSD into the SSD tray.



4. Push back the SSD Tray Arm.



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



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

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

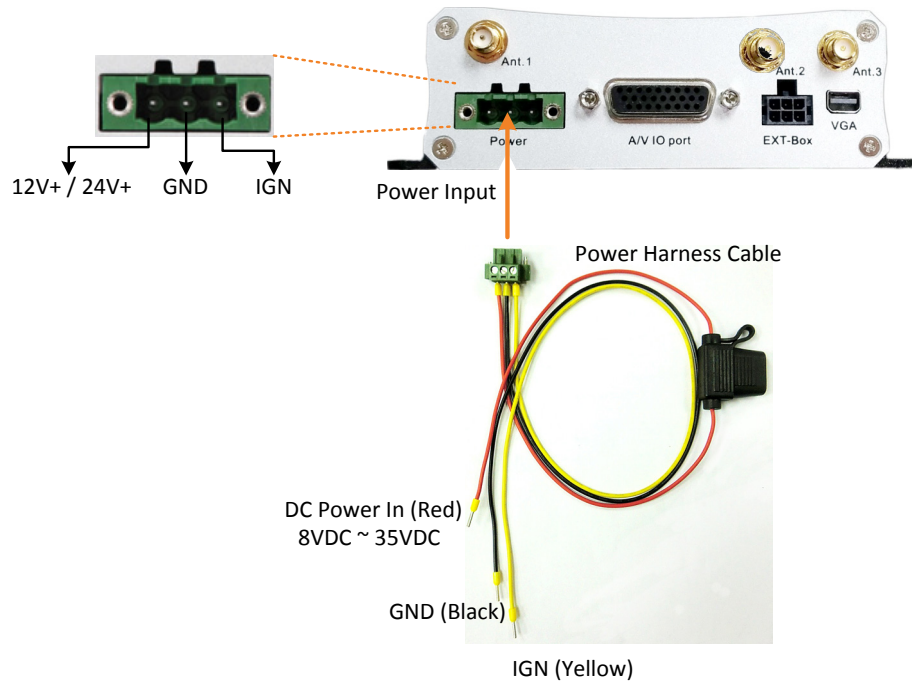


SSD Compatibility List

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

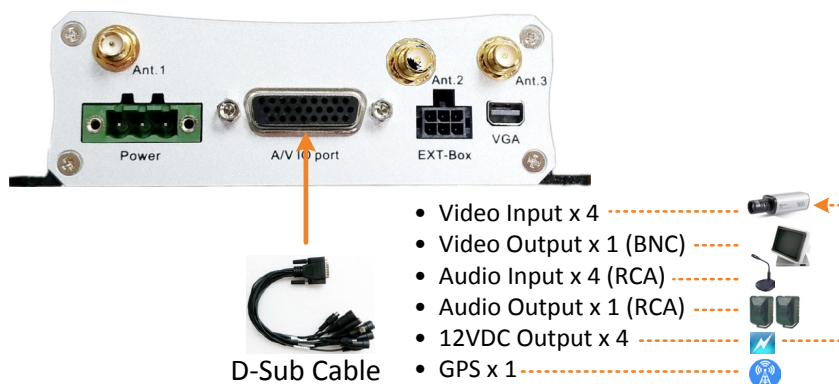
2.3.3 Power Harness Cable

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



2.3.4 D-Sub Cable

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



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

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

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

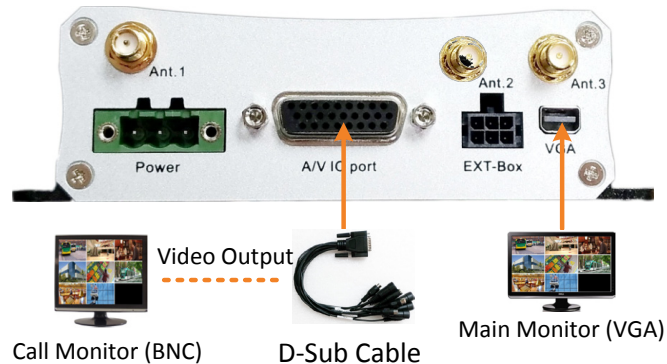
GPS Connection: Connect to the GPS receiver.

2.3.5 Monitor Connection

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

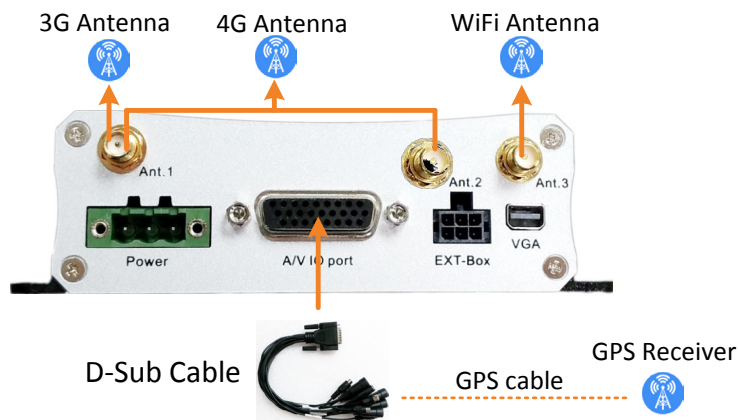
Main Monitor: The configuration can only be operated on the Main Monitor.

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



2.3.6 Antenna Connection

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



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

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

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

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

3G/4G SIM Card Installation:

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

EMV400SSD:

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



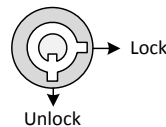
2. Lift up the card protection plate and insert a 3G/4G SIM card into the Card slot (the upper one).



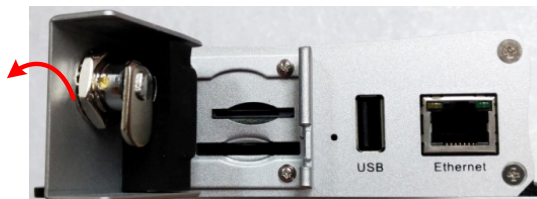
3. Restart the MDVR for detecting the SIM card.
4. Screw back the card protection plate.

EMV400S FHD:

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



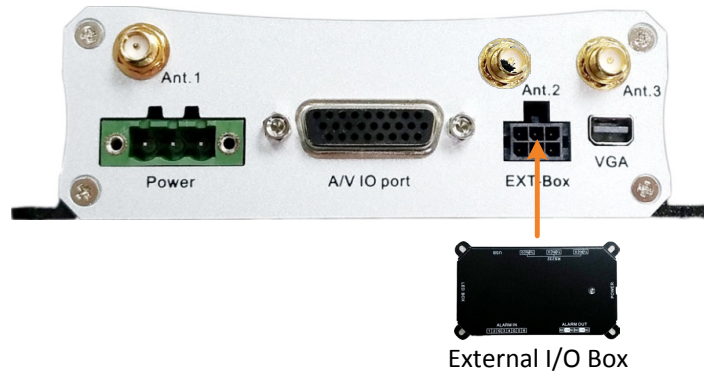
2. Lift up the card protection plate and insert a 3G/4G SIM card into the Card slot (the upper one).



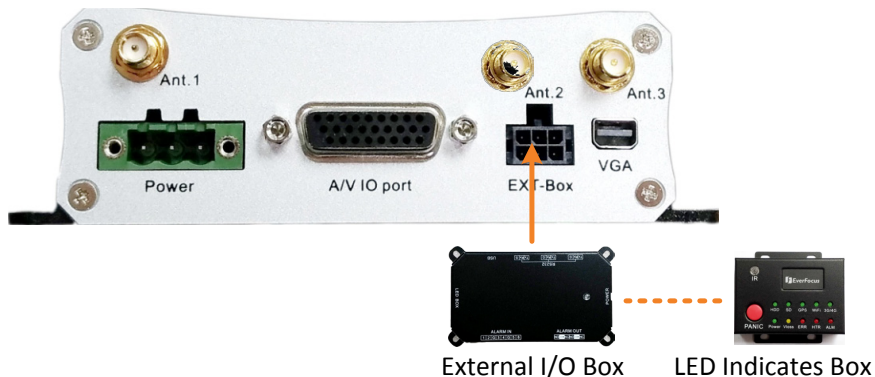
3. Restart the MDVR for detecting the SIM card.
4. Lock the card protection plate using the supplied Card Lock Key.

2.3.7 External I/O Box & LED Indicates Box

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



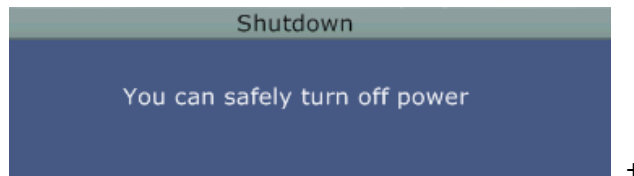
If you want to monitor mobile DVR status, such as storage, GPS, 3G/4G/WiFi connectivity; or trigger alarm among the mobile DVR, Control Center (Genie XMS / Xfleet) and External I/O Box, you can optionally connect the LED Indicates Box to the External I/O Box. Note that the LED Indicates Box must work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



2.4 Turning On / Off the Power

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


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

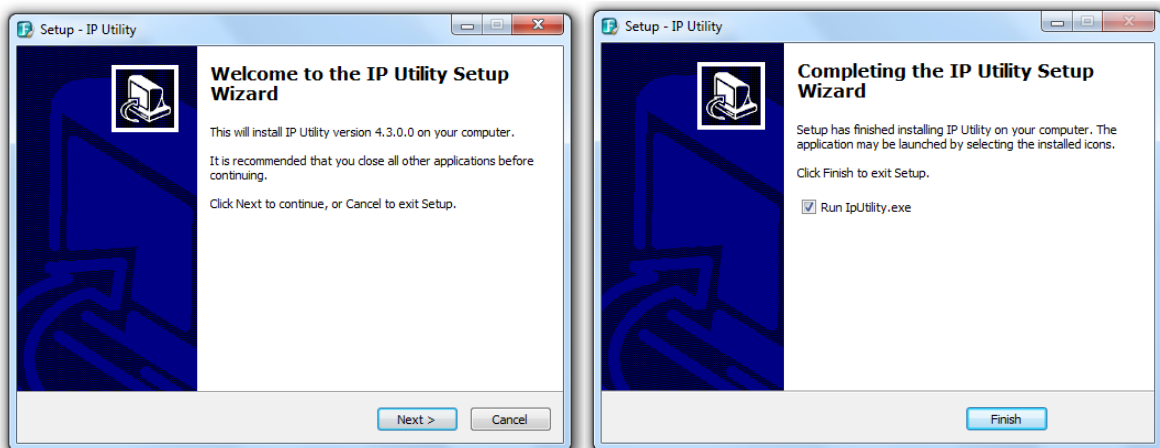


Note that when the mobile DVR is placed in an environment where the temperature is very low (for example, -40°C, the mobile DVR will NOT turn on immediately.)

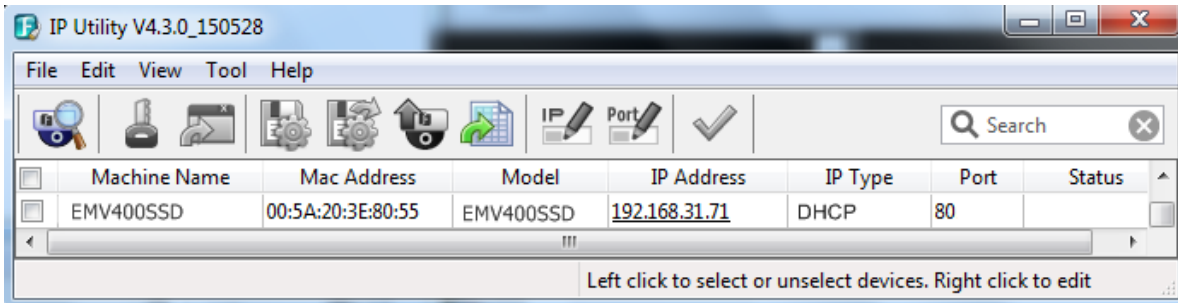
3. Accessing the Mobile DVR

You can look up the IP address and access the Web interface of the DVR using the **IP Utility (IPU)** program, which is included in the software CD. The IP Utility can also be downloaded from EverFocus' Website: <http://www.everfocus.com.tw> Please connect the DVR on the same LAN of your computer.


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

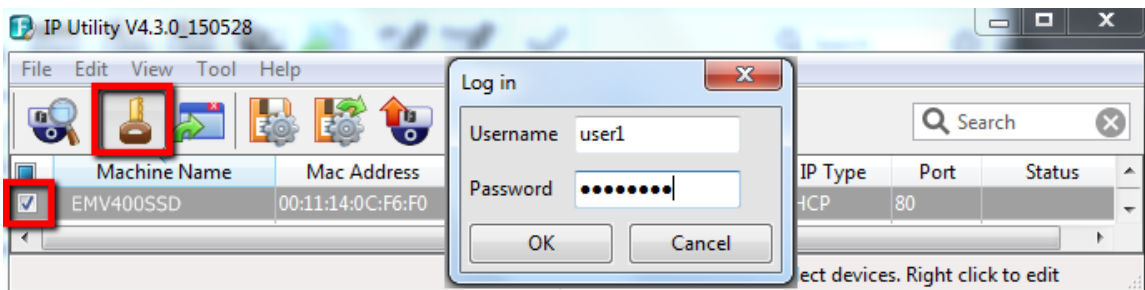


2. Click the **Finish** button, the IP Utility will be automatically launched to search the IP devices connected on the same LAN.



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

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




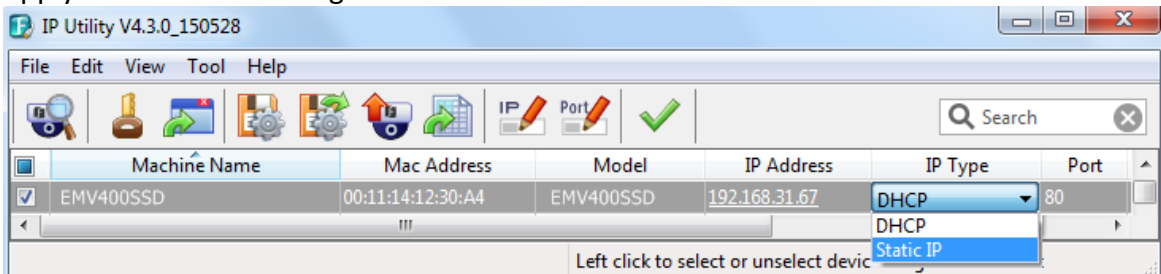
- b. Type the Username and Password. Click the **OK** button, the status of the selected camera will display **Login**.

	Machine Name	Mac Address	Model	IP Address	IP Type	Port	Status
<input checked="" type="checkbox"/>	EMV400SSD	00:11:14:12:30:A4	EMV400SSD	192.168.31.67	DHCP	80	Login

Note:

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

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

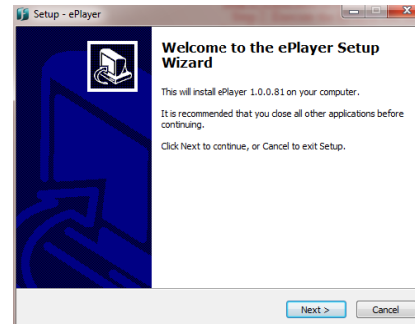
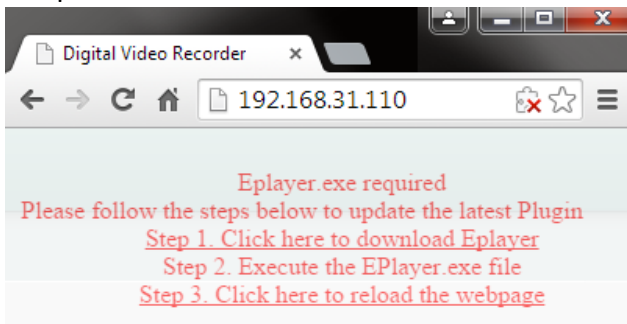


Note: Most networks uses DHCP to assign IP address, if you are unsure of your network settings, please consult your network administrators for configuration details.

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



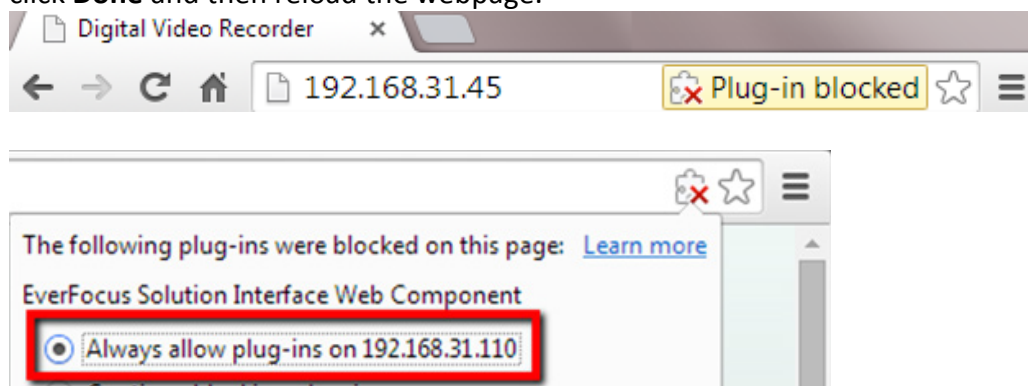
5. If you log in for the first time, follow the instruction steps on the interface to update the latest Plugin version (ePlayer). After reloading the webpage, the login window pops up again. Type the user ID and password to log in again. By default, the user ID is **admin** and the password is **11111111**.



Note for the first time login:

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

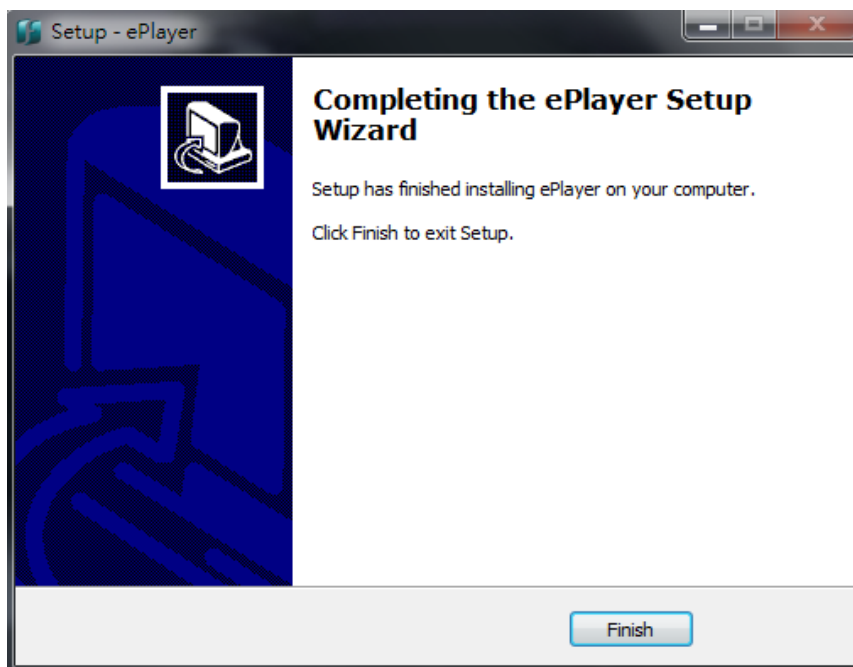
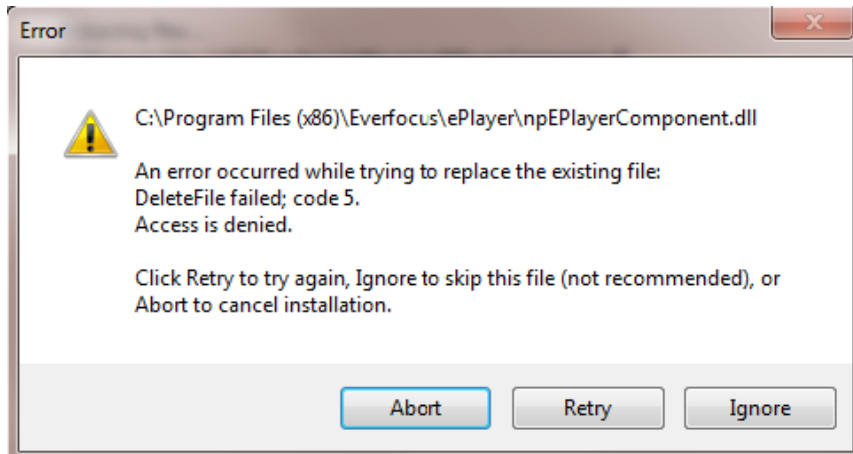
When the Plug-in blocked appears on the browser, select **Always allow plug-ins on xxx**, click **Done** and then reload the webpage.



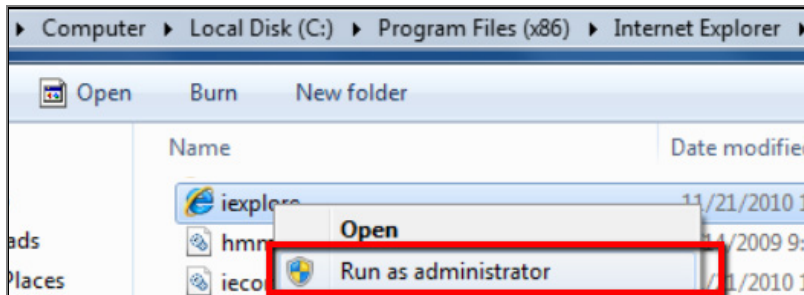
6. Now you will be able to see the remote live page.

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

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

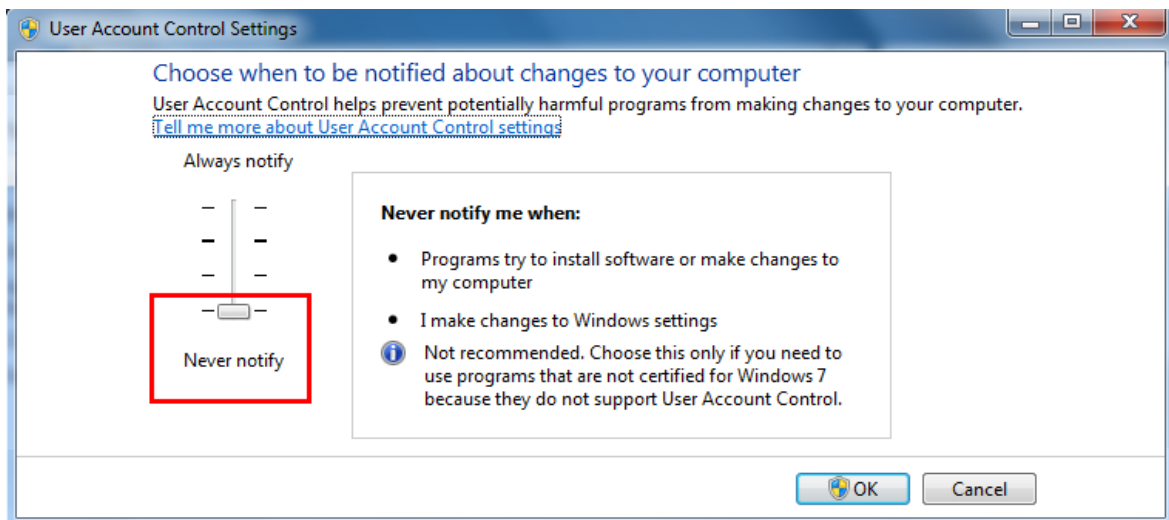


- ◆ If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.



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

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



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