**Streamax**

# User Manual
# For DS2
# Mobile Digital video recorder kit

For more information, please visit our website **www.en.streamax.com**

# Notice

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without any notice.

The purpose of this manual is to kindly aid the user for the operation for our MDVR. The user should have a basic understanding of computer operation and basic knowledge of how to connect peripherals and make some settings.

# Copyright

Under copyright laws, the content of this manual may not be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine- readable form, in whole or in part, without prior written consent of Streamax Technology Co., Ltd (Copyright 2013-2015)

# Guarantee & Warnings

1) **Electrical Apparatus Safety**

   All installation and operation should comply with local electrical safety norms.

2) **Transportation**

   In the process of transportation, storage and installation, please avoid heavy stress, violent vibration, impact and water splashing.

3) **Installation**

   Install the equipment in accordance with the requirements, handle carefully. Do not heavily press the equipment before the MDVR installation is finished.

4) **Requirements on Engineers & Technicians**

   All the work of checking and maintenance should be done by qualified technicians and engineers. We do not undertake any responsibility caused by unauthorized modifications.

5) **Requirements on Environment**

   The equipment should be installed and stored in a cool and dry place, away from direct sunlight, flammable or explosive substances, etc. Keep gaps not less than 3cm around the device to facilitate ventilation for cooling.

6) **Accessories**

   Make sure to use accessories from the manufacturer recommended in the attachment.

   Insulate circuit ground and metal shell for all the peripherals.

   Before installation, please open the package and ensure that all parts are included.

   If there are any problems, please contact us as soon as possible.

# Contents

For more information, please visit our website **www.en.streamax.com**

# 1. Product Characteristics

## 1.1. Effect Image

**1) OBD Box**

For more information, please visit our website **www.en.streamax.com**
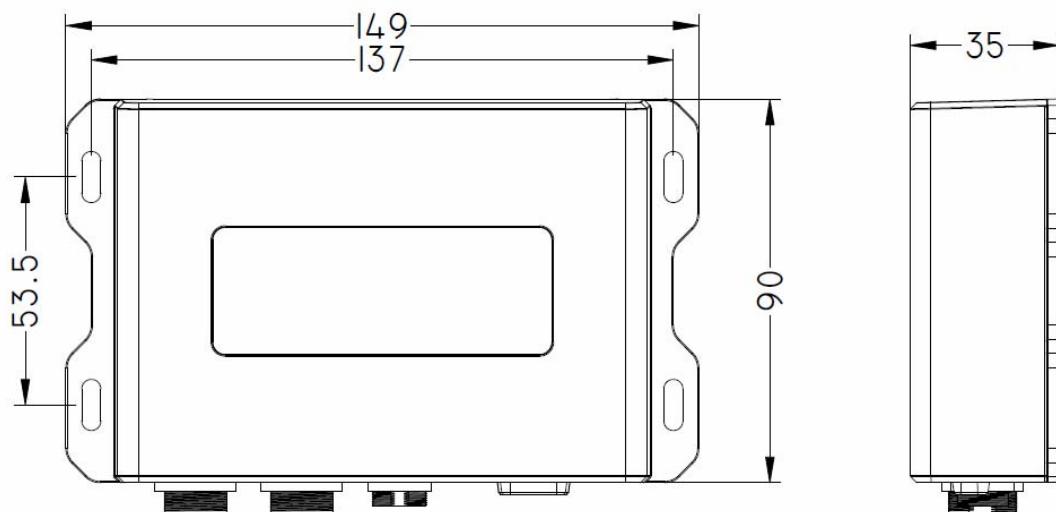
**2)  Second Camera**



**3)  DS-2 Master Camera**

For more information, please visit our website **www.en.streamax.com**
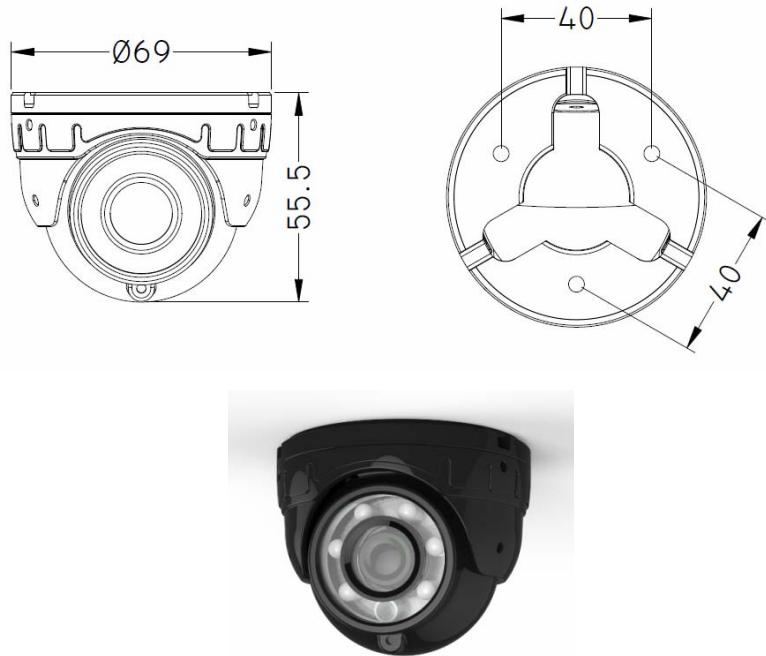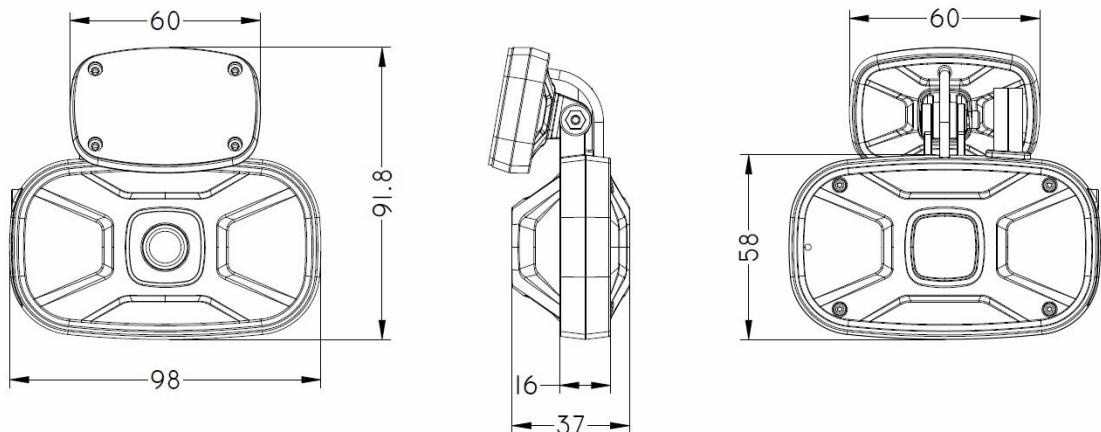
## 1.2. Specifications

**OBD Box**

| Items | OBD Box | |
|---|---|---|
| **Power** | Input | DC8V-DC36V |
| | Standard | ISO7637.2-2004 |
| | Output | DC7.5V±10% |
| | Emergency backup | Super capacitance, support 5 seconds power supply |
| **Connector** | Power | 9PIN aviation connector (include power、AAC、2 I/O) |
| | OBD | 8PIN aviation connector |
| | IPC | 6PIN aviation connector(Power for IP Camera+2 RS232) |
| | RS232 | DB9 Connector |
| | IO | 2CH I/O |
| **OBD** | OBD module | Support standard OBD protocol |
| **RTC** | High-precision RTC | ±8 Second error, support GPS time sync |
| **Other** | Temperature | -40℃-＋70℃ |
| | Humidity | 0% - 90% |
| | Power dissipation | <2w |
| | dimension | 149MM(L)x90MM(W)x35MM(H) |

**DS2 Master Camera**

| Items | Master Camera | |
|---|---|---|
| **Basic** | Imaging device | 1/3" CMOS SONY IMX225 |
| | Effective pixel | 1280(H)x720(V) |
| | Signal system | 50/60 Hz |
| | Minimun illumination | 0.05Lux(Color illumination),F1.2; |
| | Speed of shutter | 1/25-1/1000 second |
| | White balance | Automatic/Outdoor/Indoor/Standard mode |
| | WDR | Digital WDR, ≥80db |
| | BLC | Support |
| | S/N | ≥40db |
| **Lens** | Type | M12 |
| | Aperture | F2.6 fixed |
| | Camera | Fixed 4mm |
| | **Field angle** | Horizon 73°,vertical 41°(16:9) |
| **Video/** | Compression | H.264 BP/MP/HP |

| | | |
|---|---|---|
| **Audio** | Bitrate | 32Kbps-6Mbps |
| | Resolution | Main stream:720p(1280*720)<br>Sub stream:360P(640*360) |
| | Frame rate | Main stream:720P(1-30 FPS，default 30 FPS)<br>Sub stream:360P(1-15 FPS，default 15 FPS) |
| | CBR/VBR | Optional |
| | Bulit-in MIC | Support |
| | Audio format | ADPCM、G.711A G.711U |
| **Image** | Resolution | 1280x720(720P) |
| | Frame rate | 30FPS |
| | Image settings | Chroma, Contrast, Saturation, Acutance |
| **Network** | Connector | 6pin Din-jack,10M/100M Self-adapting |
| | WIFI | Support 802.11b/g/n, support AP/Station Mode switch |
| | Protocol | HTTP,TCP,ARP,RTSP,UDP,RTCP,SMTP,DHCP,DNS,DDNS,PPPoE,IPV4,UPnP,NTP |
| | Client view | Bilit-in Web Server, support IE |
| | Configuration mode | Easy check |
| **Location** | GPS system | Support position, altitude, speed and time information to update data per second and video overlay |
| **Inertia sensor** | 6-axis | Support data acquisition and recording of vehicle driving state acceleration |
| **Connector** | network | PON(DC12V+ Ethernet port) |
| | Expend interface | 2 RS232 interface |
| | SD card | Max support 128G ,Class 10 |
| **LED** | LED lights | 3pcs;<br>Power(Red): Light on: means power on,light off: means power off;<br>Recording(Green): Light on means recording, light off means not recording;<br>Alarm(Yellow): Light on means alarm triggered, light off means no alarms. |
| **Storage** | Attached SD card | 1 Pcs SD card for recording |
| **Others** | Temperature | -40℃-＋70℃ |
| | Humidity | 0% - 90% |
| | Power | PON(DC7V-DC14V) |
| | Power dissipation | <3w |
| | Dimension | 98MM(L)x91.8MM(W)x37MM(H) |

**Second Camera**

| Item | | Second Camera |
|---|---|---|
| **Basic** | Sensor | 1/4" CMOS OmniVision OV09732 |
| | Effective pixels | 1280(H)x720(V) |
| | Signal | 50/60 Hz |
| | Minimum illuminance | 0.1Lux(color mode),F1.2; |
| | Shutter speed | 1/25 - 1/10000 Second |
| | Day/Night mode | IR-CUT |
| | WDR | Digital WDR, ≥60db |
| | BLC | Support |
| | S/N | ≥38db |
| | IR Distance | ＜5m |
| **Lens** | Type | M12 |
| | Aperture | Fixed　F2.2 |
| | Lens | 2.6mm, 1/4" |
| | Filed Angle | Horizontal: 93°, Vertical: 52°(16:9) |
| **Video/ Audio** | Compression | H.264 BP/MP/HP |
| | Bitrate | 32Kbps-6Mbps |
| | Resolution | Main stream:720p(1280*720) <br> Sub stream:360P(640*360) |
| | Frame rate | Main stream:720P(1-15FPS, Default:15FPS) <br> Sub stream:360P(1-12FPS, Default:10FPS) |
| | CBR/VBR | Optional |
| | Built-in MIC | Support |
| | Audio format | ADPCM、G.711A G.711U |
| **Image** | Resolution | 1280x720 |
| | Frame rate | 15 FPS |
| | Image settings | Chroma,Contrast, Saturability, Acutance |
| **Network** | Connector | 6pin Din-jack,10M/100M Self-adapting |
| | Protocol | HTTP,TCP,ARP,RTSP,UDP,RTCP,SMTP,DHCP,DNS ,DDNS,PPPoE,IPV4,UPnP,NTP |
| | Client view | Built- in WEB Server, support IE |
| **Others** | Temperature | -40℃-＋70℃ |
| | Humidity | 0% - 90% |
| | Power | PON(DC7V-DC14V) |
| | IP class | IP65, with audio |
| | Power dissipation | <1.5w（Day mode）<2.5w(B/W mode) |
| | Dimension | 69MM(D)x55MM(H) |

# 2. Quick Guide

## 2.1 Hardware Connection



## 2.2 Basic Operation

Attention: When devices power on, DS2 will work as wifi AP mode, and there are 10 minutes to connection, It will switch to client mode after 10 minutes,then It will be always working as wifi client mode until the next restart.

### 2.2.1 How to login on PC

1) Connect wifi AP via laptop.

2) Connect DS2 via web browser

Defaults:
Ip address about wifi AP : 192.168.240.1
Username: admin
Password:11111111

For more information, please visit our website **www.en.streamax.com**
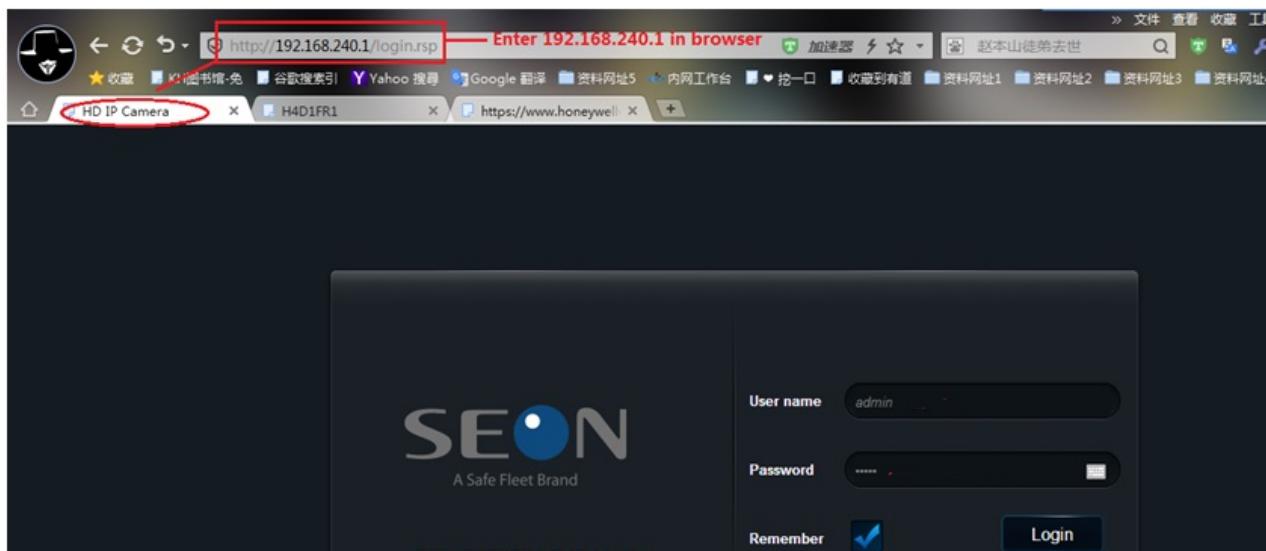
## 2.2.2 Install Activex

1) Interface will pop up a window to install N9M activex, click install.
2) Refresh the web page, enter default user name and password admin/admin or null to log in.

Please follow the steps below if Activex can not install normally:
1) Set the browser security level to "Low".
2) Enable all the active-x option in browser security settings.
3) Add the current site to the trust list of browser.
4) Use Internet Explorer instead of other brwosers.

# 3. Web Features

## 3.1 Live View
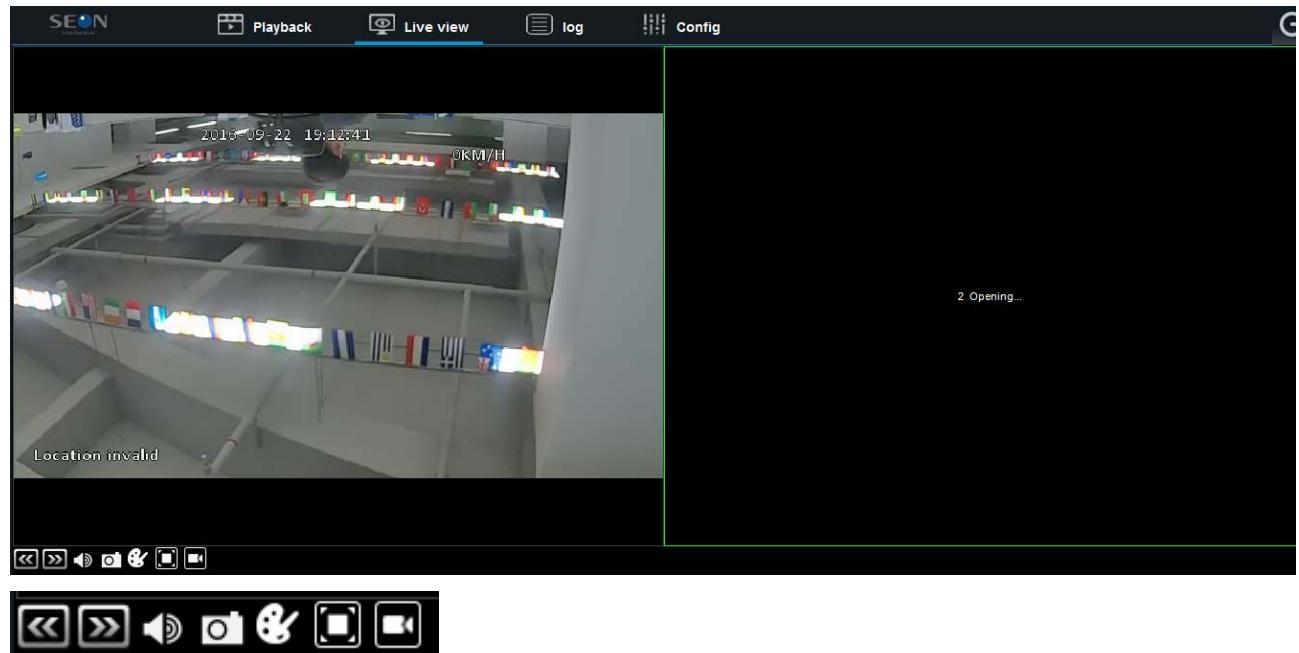




Icons: previous and next page, sound, capture, video parameters, original/full, record.



Log out: log out and come to the log in interface

## 3.2 Playback
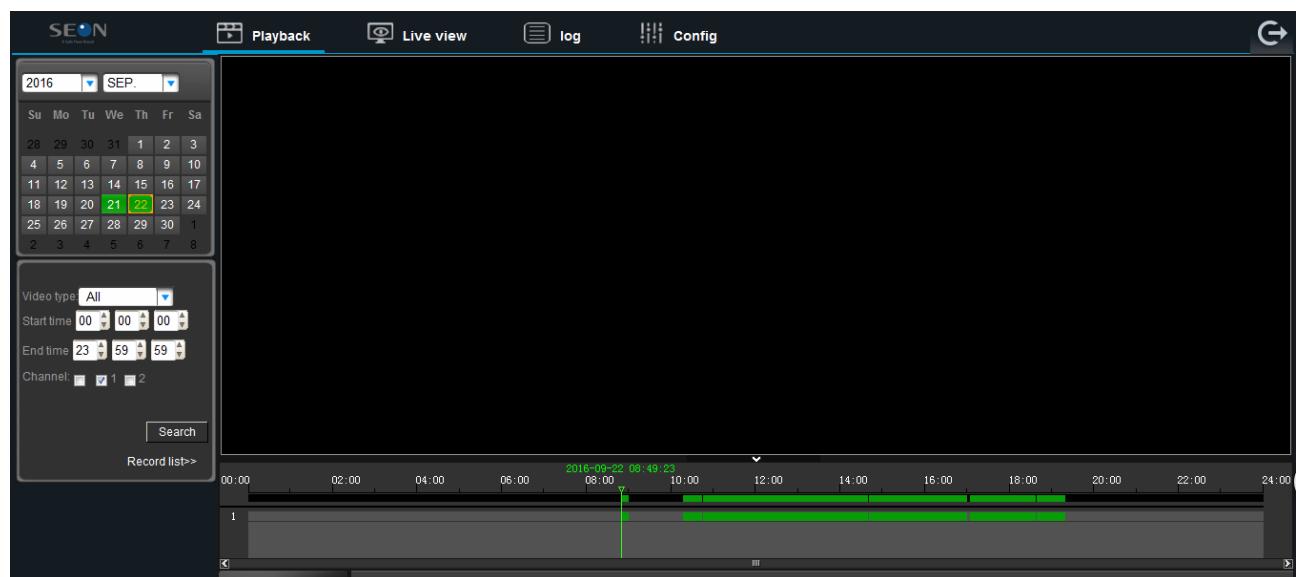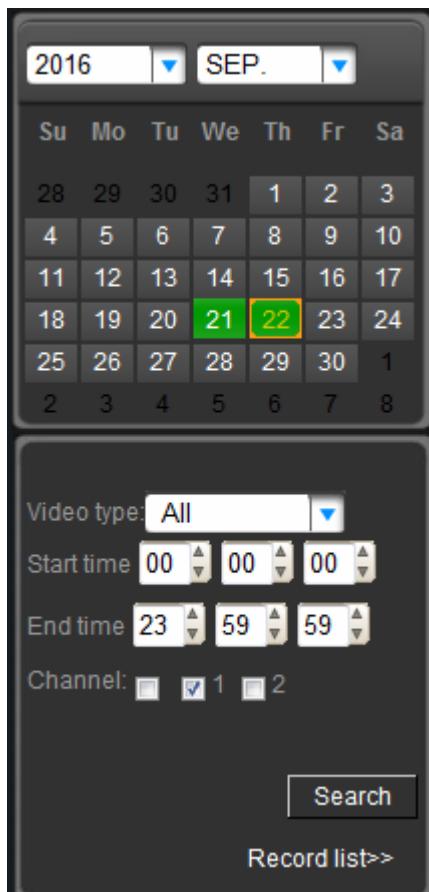
If the date is marked as color green, it means there is recording.
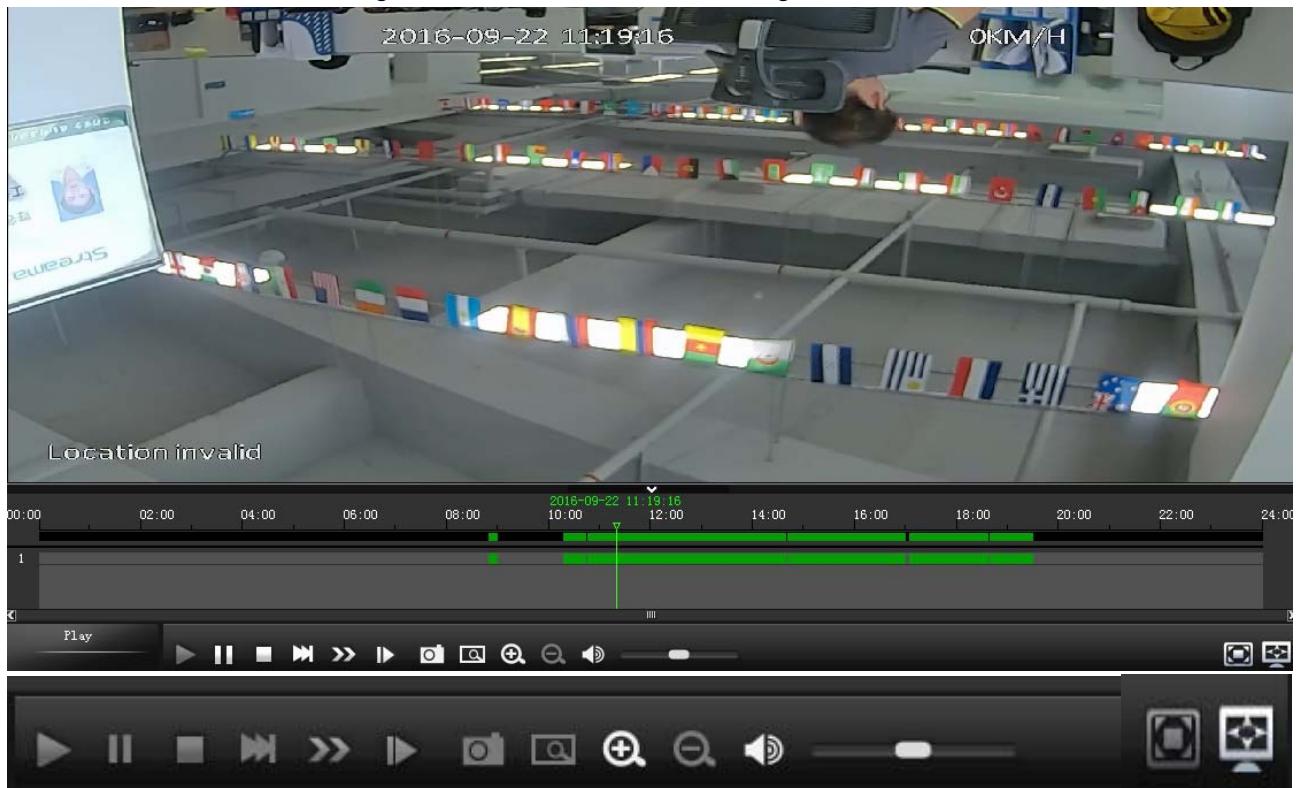


Recording playback window: Video window, play time-line, playback control button.

| Channel ☐ | Start time | End time | Video type: | Status |
|---|---|---|---|---|
| ☐ 1 | 08:49:23 | 09:00:14 | Normal | |
| ☐ 1 | 10:16:46 | 10:44:13 | Normal | |
| ☐ 1 | 10:45:58 | 14:39:29 | Normal | |
| ☐ 1 | 14:40:22 | 16:59:53 | Normal | |
| ☐ 1 | 17:04:37 | 18:37:28 | Normal | |
| ☐ 1 | 18:38:15 | 19:20:06 | Normal | |

First  Prev.  Next  Last  Backup  Page 1/1

Record list: It displays all the record. Click "backup" to download video file to local computer hard disk, as below:

| Channel ☐ | Start time | End time | Video type: | Status |
|---|---|---|---|---|
| ☑ 1 | 08:49:23 | 09:00:14 | Normal | ▬ Cancel ▬▬▬▬▬▬▬▬ 20.72% |
| ☐ 1 | 10:16:46 | 10:44:13 | Normal | |
| ☐ 1 | 10:45:58 | 14:39:29 | Normal | |
| ☐ 1 | 14:40:22 | 16:59:53 | Normal | |
| ☐ 1 | 17:04:37 | 18:37:28 | Normal | |
| ☐ 1 | 18:38:15 | 19:28:18 | Normal | |

First  Prev.  Next  Last  Backup  Page 1/1

Tip: when backup, you can open another same website to see live view without other operations.

## 3.3 Log



There are different types of log: Alarm log, Operation log, Locked log. Choose the target time and alarm type, then export the logs in ".xlsx" format.

# 3.4 Config

## 3.4.1   Basic Setup

### 3.4.1.1 Status info
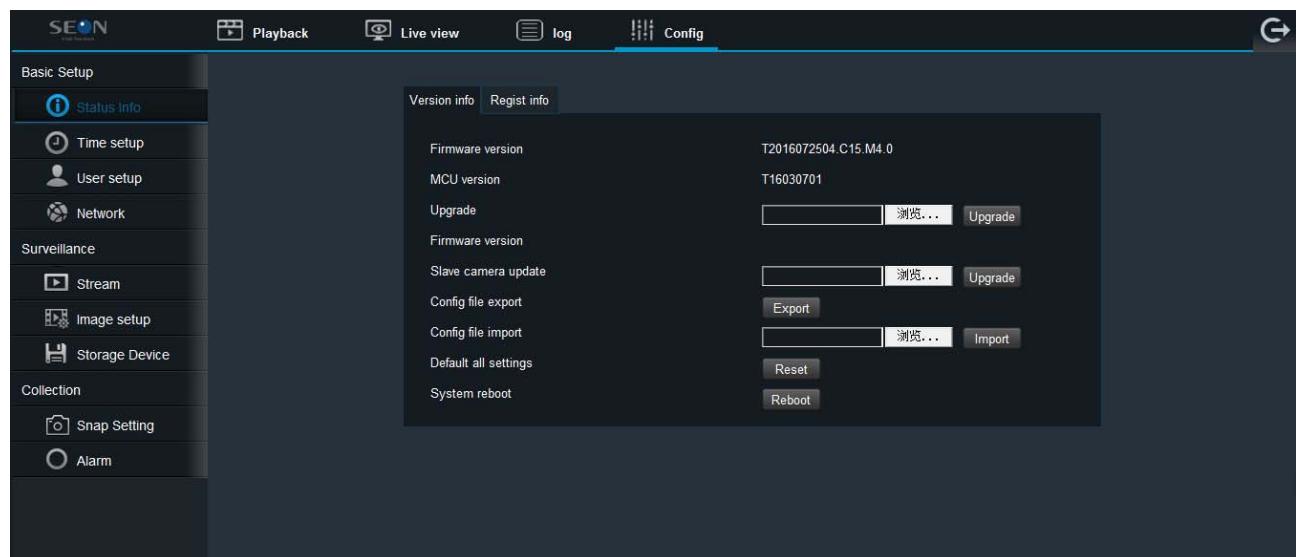
For more information, please visit our website **www.en.streamax.com**

**Version    info**

| Version info | Regist info |
|---|---|

| | |
|---|---|
| Firmware version | T2016072504.C15.M4.0 |
| MCU version | T16030701 |
| Upgrade | [_____] 浏览... Upgrade |
| Firmware version | |
| Slave camera update | [_____] 浏览... Upgrade |
| Config file export | Export |
| Config file import | [_____] 浏览... Import |
| Default all settings | Reset |
| System reboot | Reboot |

Features:

1) Shows the version & register info;

2) Upgrade DS2 firmware or slave camera firmware;

3) Import or export the config files;

4) Default all the settings;

5) Reboot.

**Register info**

| Version info | Regist info |
|---|---|

**Device Info**

| | |
|---|---|
| Serial number | 0031000024 |
| Device ID | 0 |

**Vehicle Info**

| | |
|---|---|
| Vehicle Plate | |
| Vehicle Num | |
| Line number | |

**Driver Info**

| | |
|---|---|
| Driver number | |
| Driver name | |

This page contatins the Device info,Vehicle info,Driver info.

### 3.4.1.2 Time setup

**General:**



Date format: Setup the date format of device

Time format: 24 hours or 12 hours

Time zone: Range from -12$^{th}$ district ~ +13$^{th}$ district

**Time Sync:**



Manually: Adjust the system time manually.

Auto: Sync the system time with Network server,just like "time.windows.com",etc.

**DST :**
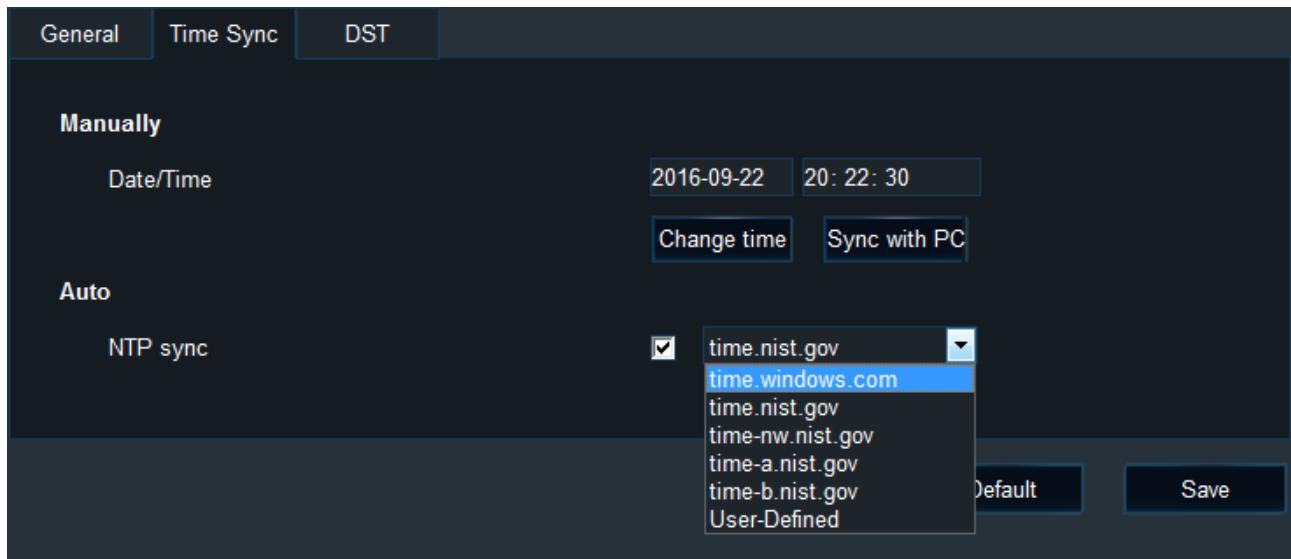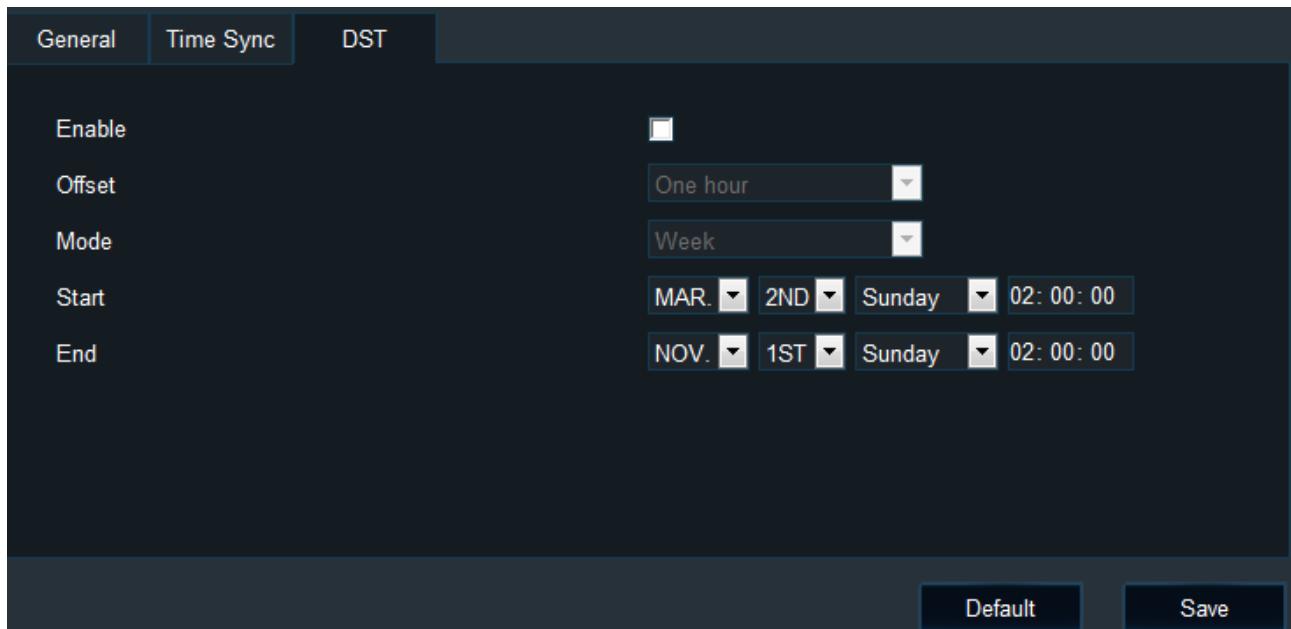


Enable: Select to enable

Offset: After enabling DST, adjust the hour manually

Mode: Setup DST according to week or date

Start: Time to start DST

End: Time to end DST

Don't forget to save the settings after configuration.

### 3.4.1.3 User setup



User name: admin and nomral user are as default.

User Group: It is divided into administrator and normal user.

Supports delete user function. Select the user and click "Delete User" button. Please be noted that the administrator cannot be deleted.

Supports add user function. Click "Add" button, then enter the following interface.



Click "Delete" button, then the following interface will appear.



Note:

1) Only administrator is able to add users.

2) Maximum Users is 2.

3) User name cannot be empty, not the same with the existed user name while the user password can be empty.

User name and password can be modified. Select a user, click the "Edit" button, enter the following interface:

For more information, please visit our website **www.en.streamax.com**

### 3.4.1.4 Network



**WIFI setup:**

ESSID**:** Iinput the address of wifi AP manually.

Encryption: It supports NONE, WEP and WPA

Password: Manually input

Static IP: Connect wifi with a fixed ip address.

AP and station: fixed value.

**Server setup:**

For more information, please visit our website **www.en.streamax.com**

ON: Enable the server.

Protocol type: The default one is N9M.

Enable network: There is local, WIFI and module optional.

*Note:"Local" means cable network,"WIFI" means wifi works as client mode, "module" means*

*2G/3G/4G,there is no "module" for DS2 in phase 1, it is reversed for phase 2.*

Register server IP: Registration server address.

Registration server port: register server port,defaulted as 5556.

Media server IP: Media server address.

Media server port: Media server port, defaulted as 5556.

*Note:There is no server running for DS2 for now,Seon didn't request any customized server from*

*Streamax, so the whole server option here is reversed function only and it is not in normal use.*

### 3.4.2   Suriveillance

#### 3.4.2.1 Stream

**General**



Overwrite: It means how to overwrite the data in SD card.

There are 3 options:

"By capacity" means when SD card is full then the the record will be overwrited from the beginning.

"By days" means SD card will start to be overwrited after the days being set here was passed,even the SD card is not full it will also start the overwrite.

"Never" means SD card will never being overwrited, when SD is full ,then recording will stop.



**Main stream**



Channel:There are 2 channels for DS2, master camera channel and second camera channel.

Channel name: The name of the channel.

Enable:Enable or disable the channel.

For more information, please visit our website **www.en.streamax.com**

Resolution:There are 720P,360P optional.

Frame rate: Record frame rate, range from 1 to 30.

Bit Rate: Record bit rate,range from 500kbps to 6000kbps.

Record mode: There are 3 options:

"power up", means DS2 will start to record after boot up.

"Timer", means user can set the record as schedule.

"Alarm", means record when alarm triggered only.

Audio: Enable or disable to record audio.

I Frame: means DS2 will record I frmae only when there is no alarm triggered.

Alarm quality: means what quality level of image will be recorded when alarm triggered.

Encode mode: there are VBR and CBR optional, VBR means record bit rate will adjustable from the environment, CBR means record bit rate will always the same.

**Sub stream**

| General | Main stream | Sub stream | Audio Frequency |
|---------|-------------|------------|-----------------|

| | |
|---|---|
| Channel | 1 |
| Enable | ☑ |
| Resolution | 360p |
| Frame rate | 15 |
| Bit rate | 1024 kbps |
| Encode mode | VBR |

Default    Save

Channel:There are 2 channels for DS2, master camera channel and second camera channel.

Enable:Enable or disable the sub stream for the current channel.

Resolution:There are 360P, VGA optional.

Frame rate: Record frame rate, range from 1 to 15.

Bit Rate: Record bit rate,range from 150kbps to 1600kbps.

Encode mode: there are VBR and CBR optional, VBR means record bit rate will adjustable from the environment, CBR means record bit rate will always the same.

For more information, please visit our website **www.en.streamax.com**

**Audio Frequency**



Enable: Enable or disable the audio.

Audio Format: There are "g.711a","g.711u","adpcm","g726" optional.

Audio Gain: Different level of audio gain, from 1 (low) to 8 (high) optional


**3.4.2.2 Image Setup**

For more information, please visit our website **www.en.streamax.com**

Day/Night mode: Atuo.

Infrared Light: Auto.

Exposure:Options as shown below,"Auto" mode is as default.
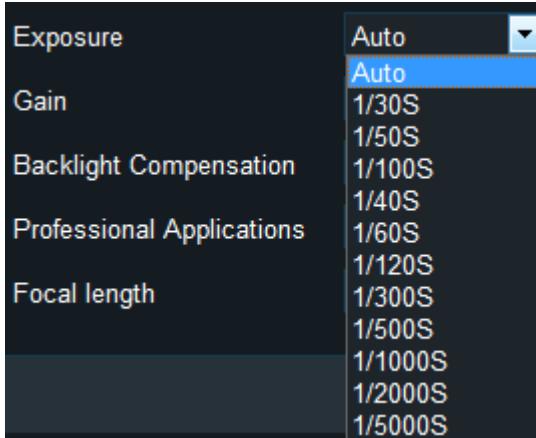


Gain:Auto.

Backlight Compensation:There are 4 options,as picture shows below:
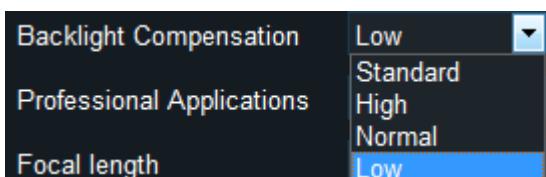


Professional Applications:There are 2 options as below, "inside the car" means camera was installed inside of the car, "Outside the car" means camera was installed outside of the car. Camera will adjust to the light and moving speed to capture good image.
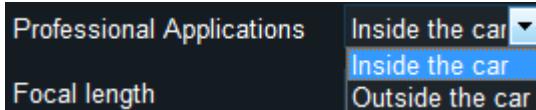


Focal Length: It is fixed.

Profile:There are 3 options as shown below:



Anti-flicker: There are 3 options as shown below, it adjust to the frequency of the lights.



Mirror: Mirror the image.

Flip: Reverse the image.

HLC: HighLight Compensation

WDR:Wide Dymamic Range,there are 4 options as shown below:

| WDR | Auto ▼ |
|---|---|
| | Auto |
| | Enable |
| | OFF |
| | Manual |

**OSD**

| Video parameters | OSD |
|---|---|
| Time | ☑ |
| Speed | ☑ |
| Vehicle num | ☐ |
| GPS | ☑ |
| Channel Name | ☐ |
| Device Id | ☐ |
| Position | Setup |

Default    Save
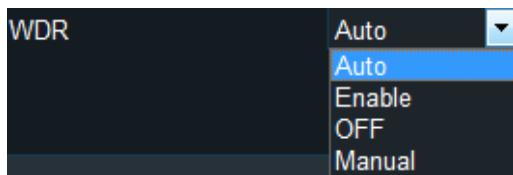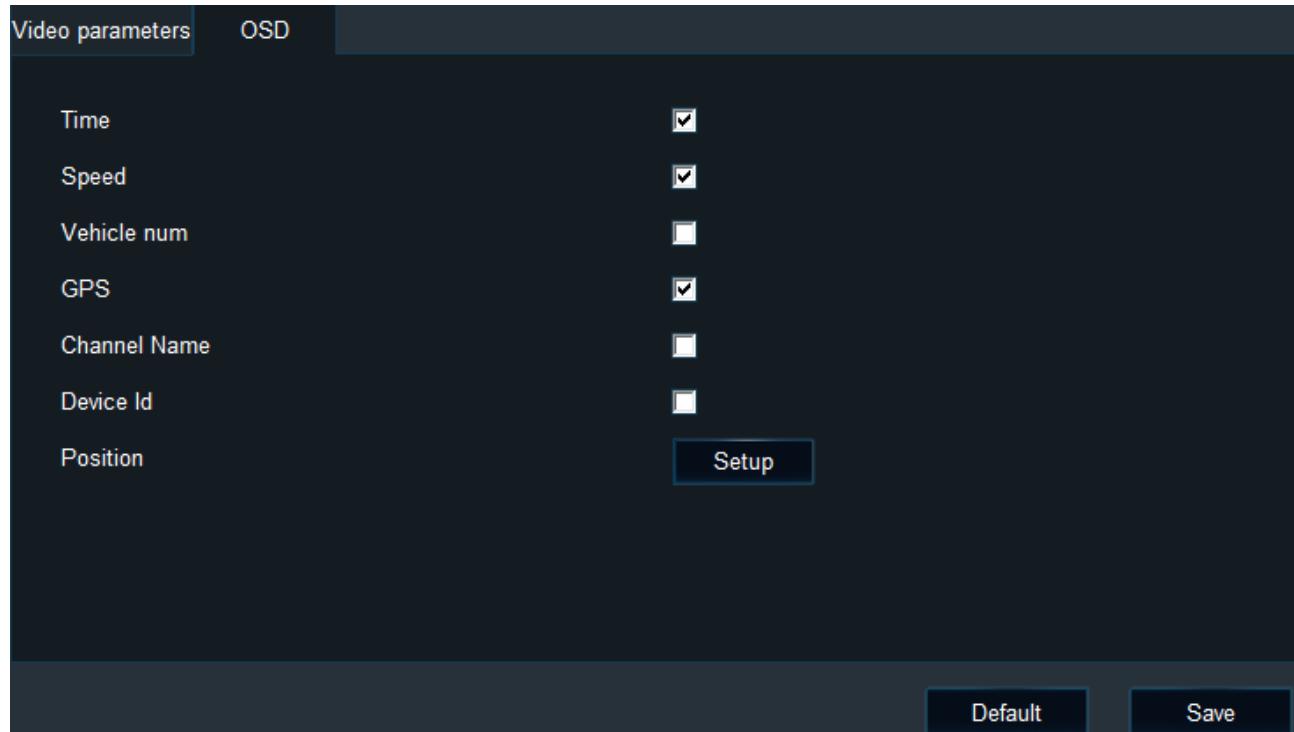
Choose to show the imformation on live view channel or not.

Click "Setup" button to adjust the position where the information will be shown.

| Video parameters | OSD |
|---|---|

Time ☑

Position

YYYY-MM-DD HH:MM:SS    Speed position

GPS position

Default    Cancel    OK

For more information, please visit our website **www.en.streamax.com**

### 3.4.2.3 Storage Device



It shows the SD card status here.

Snap Path: It means where the snapshot will be saved.

Record backup path: It means where to save the backup record.

Click the Format button the format the current SD card.
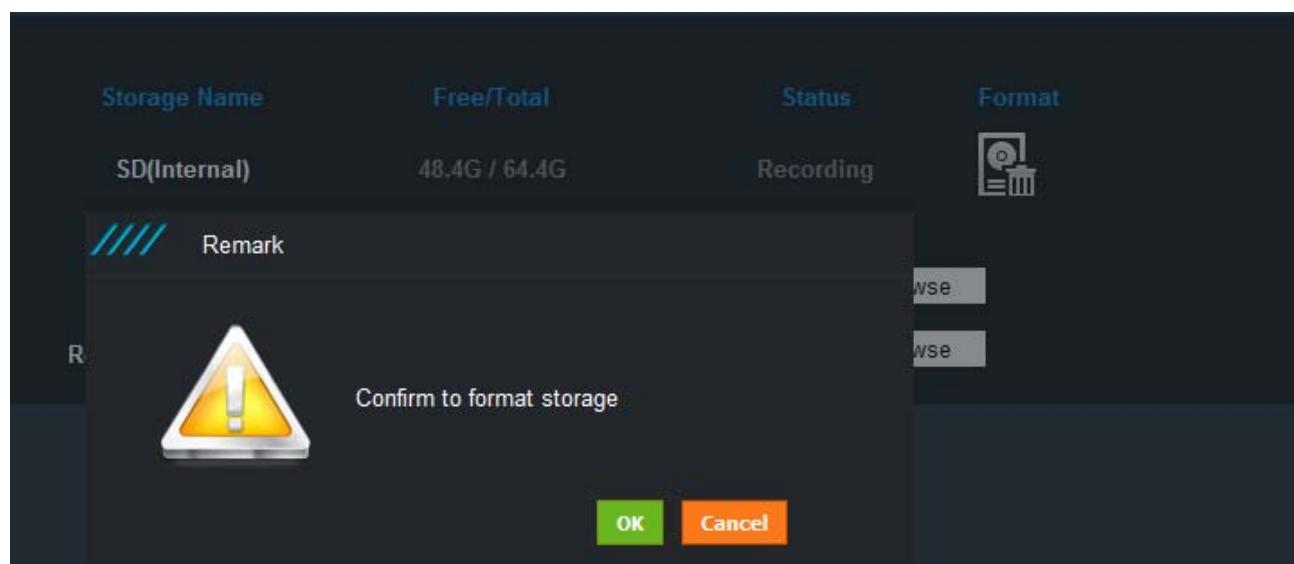
### 3.4.3  COLLECTION

#### 3.4.3.1 Snap Setting
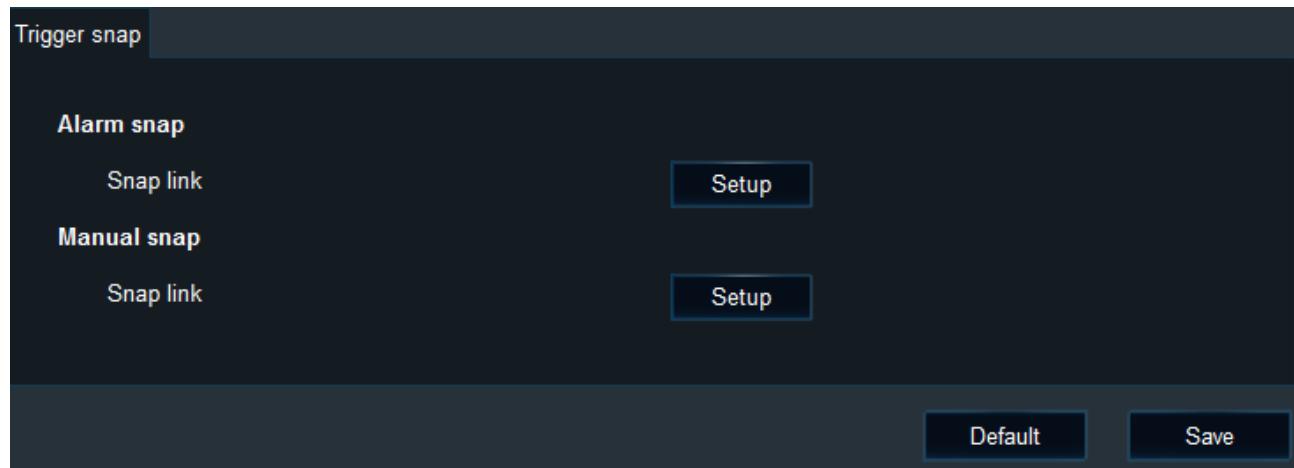
There are 2 kinds of snap:

Alarm snap: Means snapshot when alarm is triggered.

Manual snap: Meanns snapshot manually.

*Note:The snapshot will be saved in second level cache in DS2,as the earlier discussion, Streamax save the snapshot to the device and provide the API to Seon, and Seon will get the snapshot from DS2 with the API and decide where to send the snapshot.*

**Linkage of snapshot**
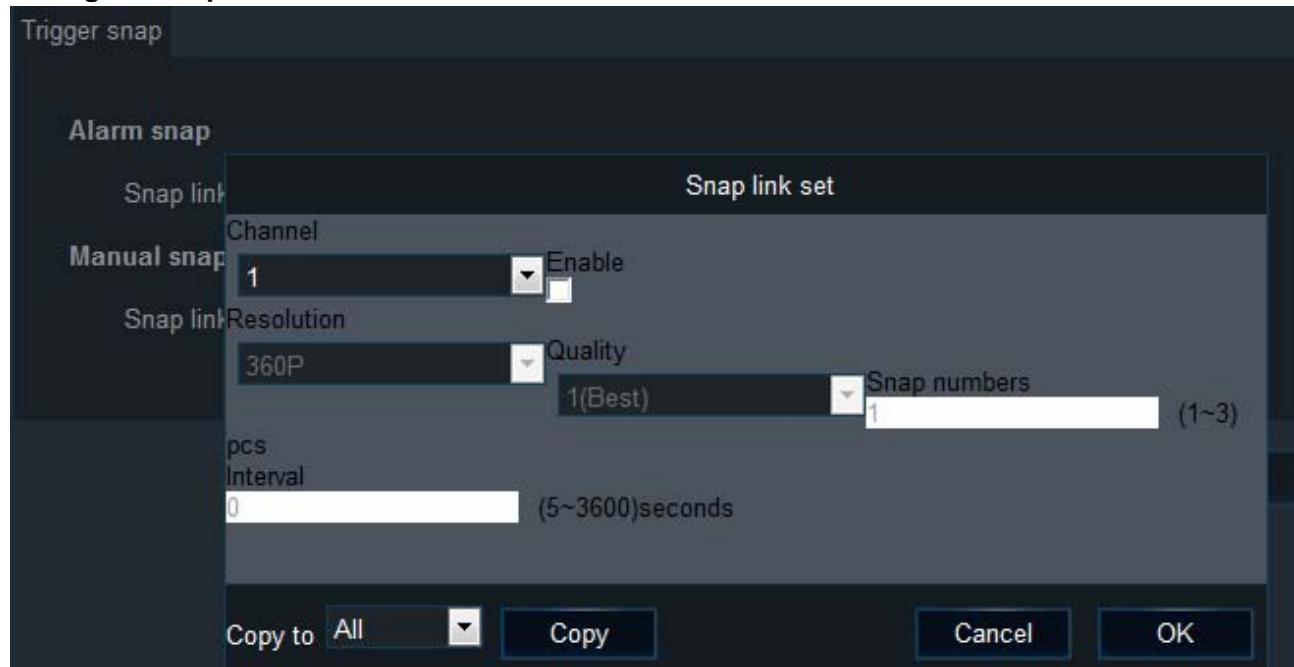
Channel: Choose the snapshot channel.

Resolution:Choose the snapshot resolution.

Quality: Choose the image quality of the snapshot.

Snap numbers: Set the number for the snapshot when alarm is triggered.

For more information, please visit our website **www.en.streamax.com**

Interval: Set the interval time for each of the snapshot.

### 3.4.3.2 Alarm



Alarm type: There are 2 options,"Event" and "Alarm", event means DS2 will record the event in DS2 while alarm means DS2 will record event to DS2 and send the alarm to the server at the same time. *Note:Because Seon didn't customize server from Streamax, so there is no real difference between event and server.*



Trigger: The alarm will be triggered with "High" or "Low".High means when external voltage input is higher than 4V, then the alarm will be triggered, Low means when external voltagte is lower than 4V,then the alarm will be triggered.

For more information, please visit our website **www.en.streamax.com**
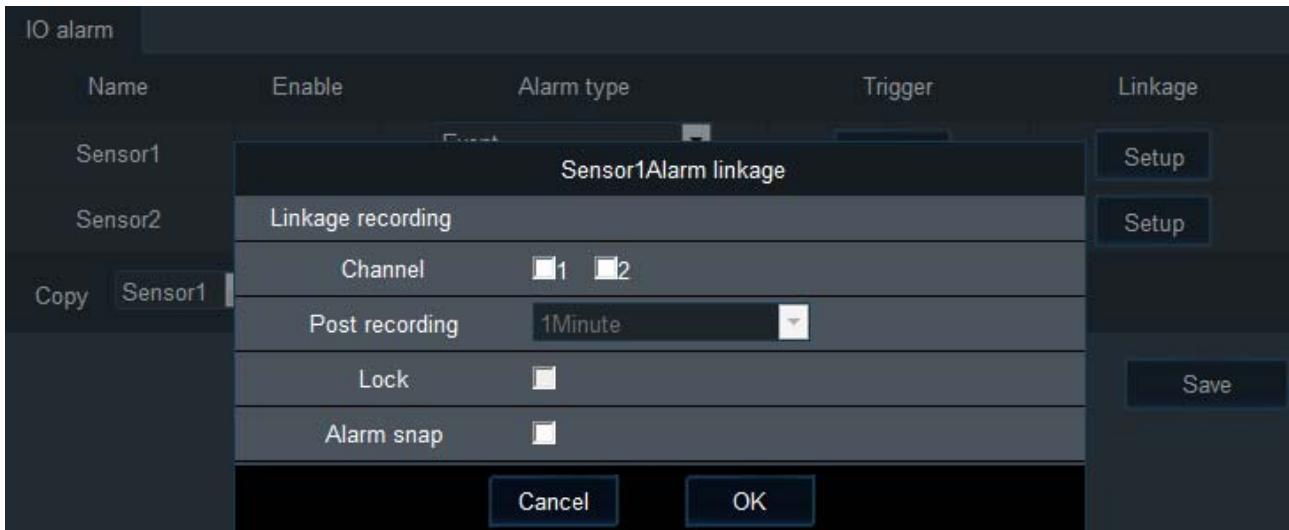
Linkage:

Linkage recording: Means enable the channel to alarm record mode when alarm is triggered.

Post recording: Means how long will the alarm recording will keeping after alarm is triggered, it ranges form 1 minute to 30 minutes,as the picture shows below:
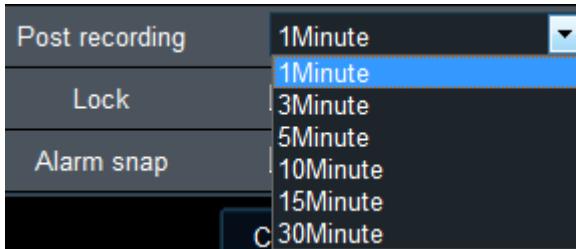


Lock: Means lock the alarm record in SD card, so it wont be overwritten.

Alarm snap: Enable it so alarm snapshot will happen when alarm is triggered.

*Note: Alarm snap is saved in second level cache in DS2 only for now.Seon will decide where to send the snapshot.*

# 4. FAQ

**1) The system can't start?**

Usually this problem results from the incorrect power connection.

**2) The device is not recording?**

Usually this problem results from the storage or camera. Please follow below steps to check it:

1. Check whether the SD card is installed, whether it is in good contact, and whether the SD card can be read normally in computer.

2. Check whether the storage is formatted. The storage disk should be formatted before normally storing record files.

For more information, please visit our website **www.en.streamax.com**

3. Check whether there is video signal input into the device from camera, and whether there is video/image on the screen.

**3) Can not connect DS2 with wifi normally?**
Please check the wifi status, because there are AP mode and client mode,user can not connect to DS2 directly if wifi working as client mode.

# 5. FCC Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 or more 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

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1)this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

This Product must be installed and operated with a minimum distance of 20cm between the radiator and user body.

For more information, please visit our website **www.en.streamax.com**