SeaViewer Cameras, Inc.

DVR-SD

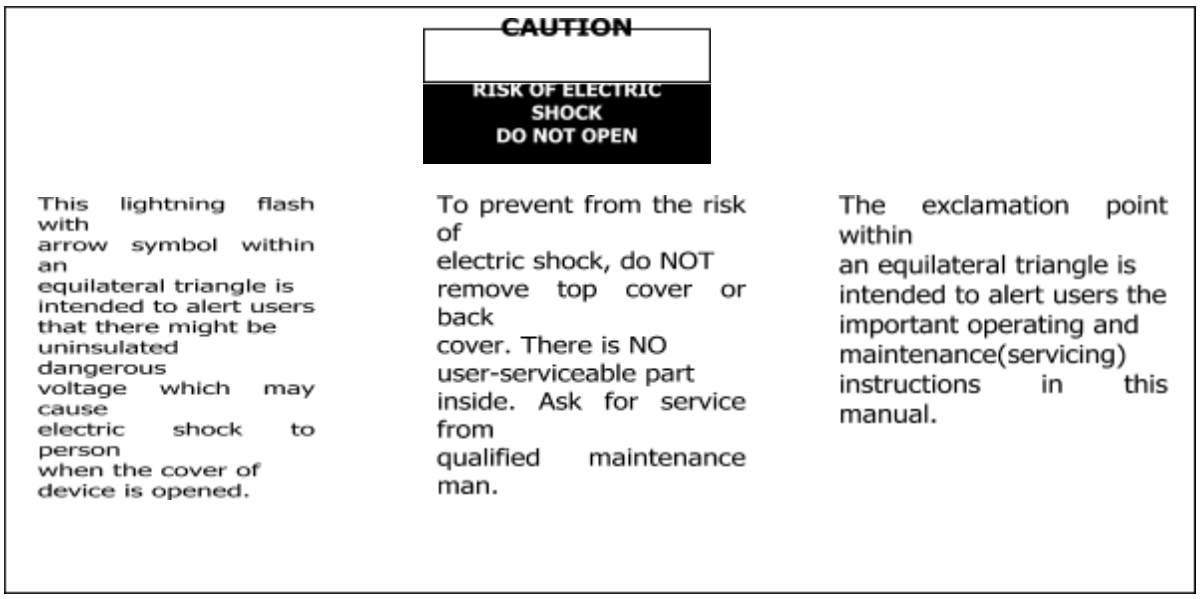
SD Digital Video Recorder

User's Manual

Please read this User's Manual carefully to ensure that you can use the device correctly and safely. The contents of this manual are subject to change without notice.

Warning

This device is NOT of waterproof; to prevent it from any accident of fire or electric shock, please do NOT put any container with water on the device or nearby. Do not expose the device to moisture, or extreme temperatures.



Important notice:

1. Please read over all cautions.
2. Please keep this manual for future reference.
3. Please notice all warning information.
4. Please strictly follow the instructions in this manual while operating.
5. Please NEVER expose this device to water.
6. Please do NOT use abrasive chemicals, cleaning solvents or strong detergents to clean the device. Wipe the device with a soft and dry cloth.
7. Please allow circulation of air around unit during operation for cooling.
8. Please do not expose to extreme temperatures.
9. Use the device only with the accessories coming with it.
10. Avoid dropping the unit.
11. Contact SeaViewer in the USA for repair when needed. Phone 813.242.6160
12. The device can only be installed horizontally. Installing vertically or out of the horizontal plane might cause injury or damage to the device and/or its parts.

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1. Main Features

Video And Audio

- H.264 High Profile video compression, real time recording (25 fps(PAL) / 30 fps(NTSC) for one channel. Frame rate adjustable to use less storage space.
- AAC (Advanced Audio Compression) for audio.
- D1 resolution, which supports 704x576(PAL) / 704x480(NTSC).

Power Input

- Supports from +8V DC to +32VDC. Applicable with +12V or +24V battery.
- If the power input polarity is incorrect, the auto-protect function can prevent damage to the recorder and battery.
- The recorder can provide the camera with stable +12V DC power; DVR can detect a short on power circuit.
- Can use ignition to control the power with optional connector cord (additional).

Recording mode

- Continuous record.
- Start recording automatically when the DVR is turned on, if desired.
- Supports scheduled recording.
- Supports alarm recording with optional sensor and connector cord (additional).
- Supports ignition recording with optional connector cord (additional).

Shock Resistant

- Solid State storage operates with no moving parts.

SD card plug and play

- Support plug and play for SD card when not recording and playing.

Note: If you remove the SD card while recording or playing, you might damage the files on the SD card. While recording or playing, the yellow light on the front panel will be on. So please stop recording or playing until the yellow light turns off before you remove the SD card.

Speed and Vehicle status recording

- The necessary hardware for these functions is not offered.

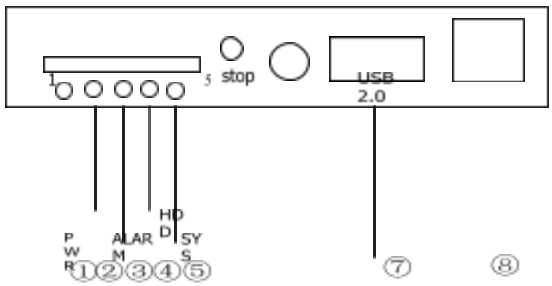
Multiple player supported

You can use the following player to play back the record file on a computer.

- the software provided by us
- VLC media player（version1.0.0 or above）；
- Storm player(Version 2009 or above)
- Winamp（Version 5.531 or above）

2. Overall description

2.1 Front Panel



① : Power light (GREEN)
② : RUN light (GREEN)

③ : Alarm light (RED)
④ : RECORD, SD Card present light (RED)
⑤ : System light (YELLOW)
⑥ : External IR connector (not used)
⑦ : USB 2.0 port (*DISABLED for security reasons*)
⑧ : Lan port (*DISABLED for security reasons*)

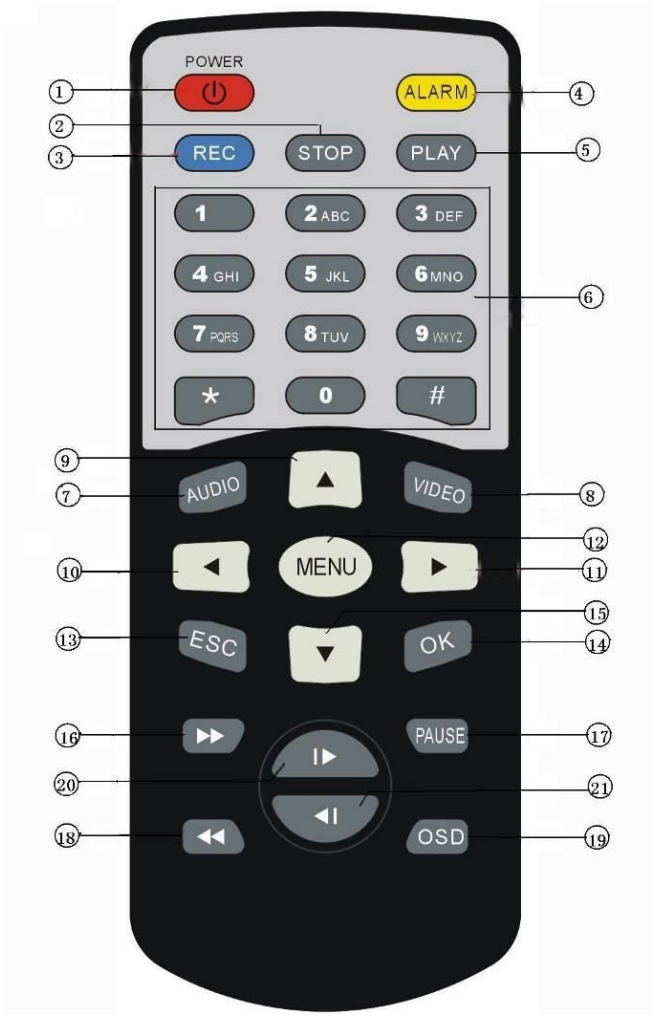
Get to know the status by the indication of PWR light and RUN light:

1. Power light	2. RUN light	Description
Blinking	Off	The DVR has power, but is turned OFF. It will restart if POWER button is pressed on the remote. *You can safely remove the SD Card in this status*
On Steady	Blinking	DVR has Power and is turned ON. to turn OFF, hold POWER Button on remote for at least 3 seconds.

3. Alarm light (Red)	Description
(not used)	(not connected)

4. RECORD light (RED)	5. SYSTEM light (YELLOW)	Description
Off	Off	**No Recording** *You can remove the SD CARD in this status*
Blinks	On Steady	**DVR is *RECORDING*** Don't remove the SD CARD in this status. Please press "STOP" on remote to stop recording first. Removing SD CARD in this status may cause damage.
Flashes	Off	SD Card is being accessed (such as Playing or Formatting) Don't remove the SD CARD in this status.

2.2 Remote Control



- Power
- Stop
- Record
- Alarm
- Play
- Numbers
- Audio
- Video
- Up
- Left
- Right
- Menu
- ESC
- OK
- Down
- Fast Forward
- Pause/Step
- Fast Backward
- OSD
- Next
- Previous

How to use the remote：

（1）Press <MENU> to enter main menu or sub menu. You can also use <MENU> to select among different values in the submenu. You can also use <MENU> as <OK>；

（2）Press <Up/Down/Left/Right> button to move between the different menu items;

（3）Press <OK> to save and exit the current menu. Press <ESC> to cancel and exit the current menu. If you modify something in the menu, the recorder will prompt to ask you to save or cancel your modification;

（4）Press <VIDEO> to toggle among different video channels; We use only Channel 1.

（5）Press <AUDIO> to toggle among different audio channels; We use only Channel 1.

（6）To delete a character in a text edit field, you can press <Left>；

（7）Press <POWER> ***for at least 3 seconds*** to turn on/off the recorder;

3. Using the Recorder with the Remote Control

Step 1: Choose recording quality

Note: ***Recording Quality has already been set to High (highest-quality level) at the factory.*** *At this setting, the DVR will use approximately 720 MB per hour of recording. With an 8 GB SD Card, this is about 11 hours of video.* ***There is no need to change this setting*** *unless longer recording times are required.*

Press <MENU> to enter the main menu and select "RECORD SETTINGS" in the "RECORD" sub menu.

The detailed parameters for each quality list as below:

Quality	Resolution	Maximum bit rate（Bit/s）	Minimum bit rate（Bit/s）	Audio Bitrate（Bit/s）	Capacity need
BASIC	2/3 D1	350K	210K	16K	119M/hour
NORMAL	D1	1000K	600K	16K	346M/hour
GOOD	D1	1200K	720K	16K	540M/hour
HIGH	D1	1500K	900K	16K	720M/hour

Step 2: start recording

Press < REC> on the remote to start recording. There will be one red dot at the top-right of the picture indicating recording.

Press <STOP> and then <OK> at the prompt to stop recording. If you do not do this, the recorder may continue to record, even if you press the <PLAY> button on the remote to watch another recording on the screen.

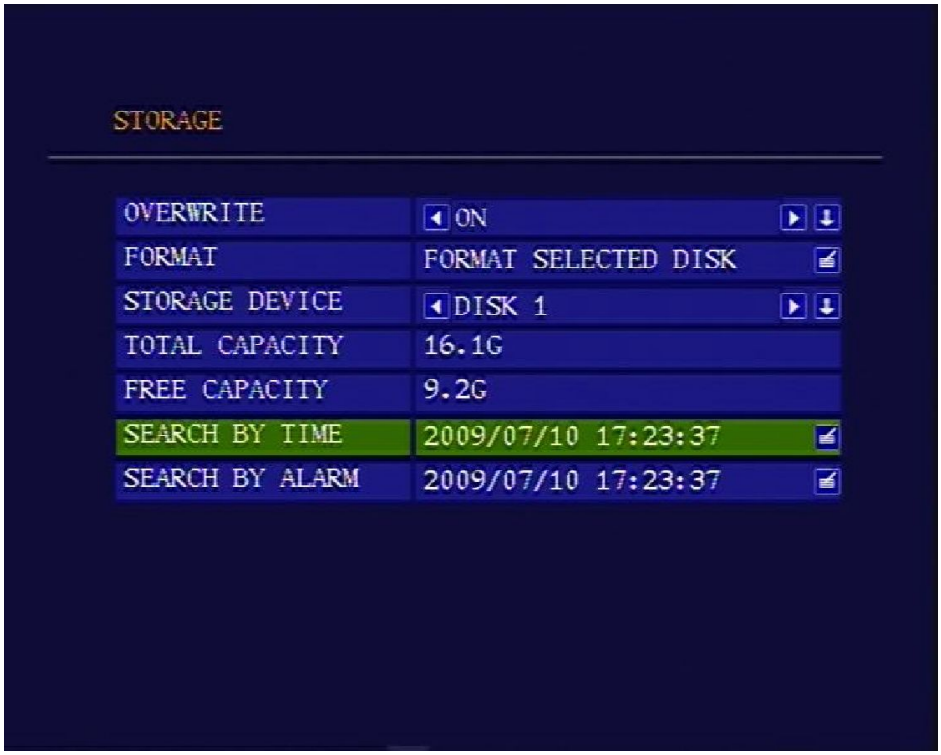
Step 3: Play back the files on SD CARD with DVR

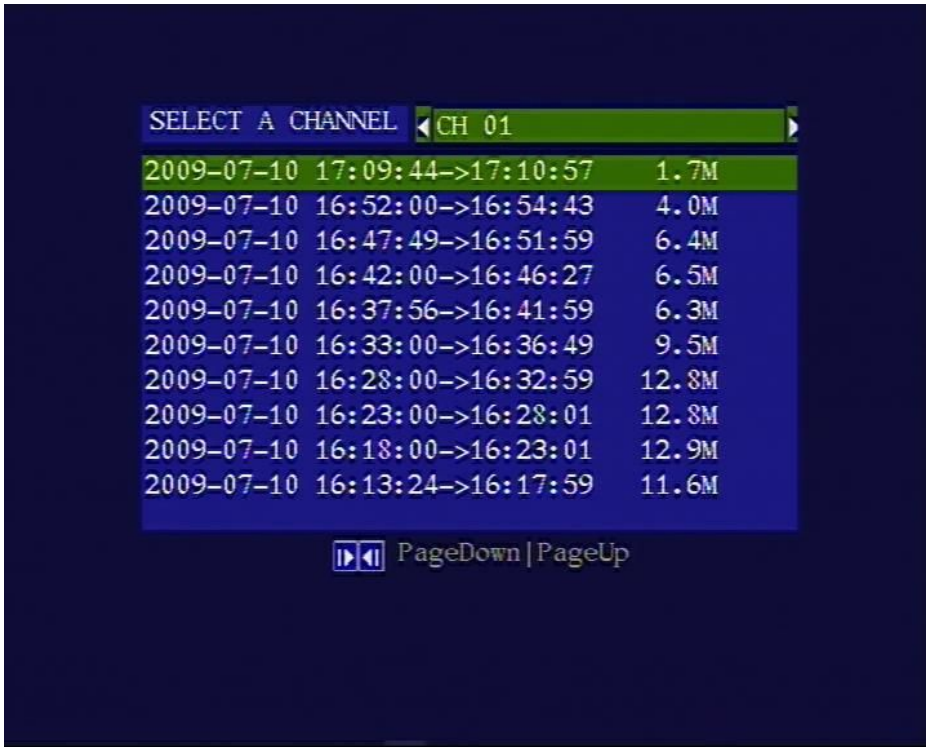
（1）**To play back the most recently recorded files** in reverse-chronological order:

Press the <PLAY> button on the remote, the recorder will play back the most recent file. Press <Next>/<Previous> to select the next or previous file. The play status is indicated by a green triangle on the top right corner of the screen.

（2）To seek and play back a file from a specific time:

Press <MENU> to enter the main menu and select "STORAGE". Then select "SEARCH BY TIME" in the sub menu. Select the time you want to seek and choose <OK>. The recorder will list the record file around the time you set. Then press <PLAY> to play the file.




SELECT A CHANNEL
CH 01
2009-07-10 17:09:44->17:10:57 1.7M
2009-07-10 16:52:00->16:54:43 4.0M
2009-07-10 16:47:49->16:51:59 6.4M
2009-07-10 16:42:00->16:46:27 6.5M
2009-07-10 16:37:56->16:41:59 6.3M
2009-07-10 16:33:00->16:36:49 9.5M
2009-07-10 16:28:00->16:32:59 12.8M
2009-07-10 16:23:00->16:28:01 12.8M
2009-07-10 16:18:00->16:23:01 12.9M
2009-07-10 16:13:24->16:17:59 11.6M
PageDown|PageUp

4. Adding additional SD or SDHC Cards

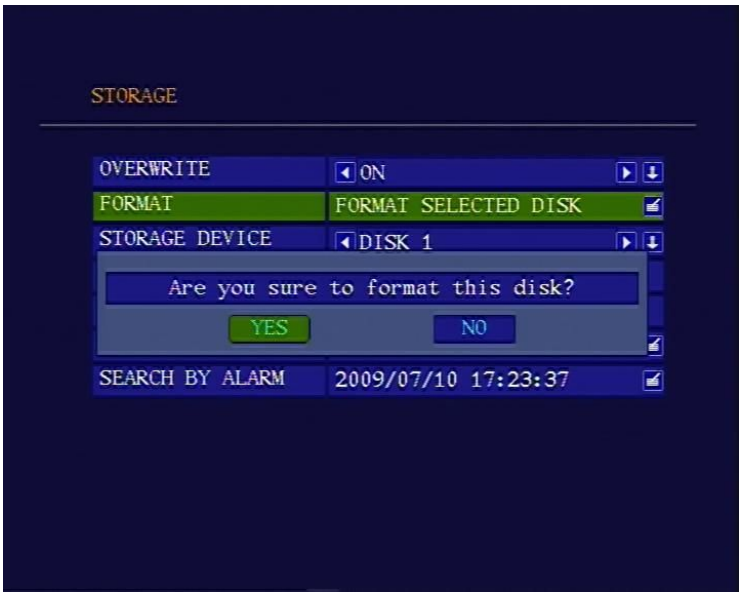
Step 1: Choosing a new SD or SDHC Card

The DVR-SD can accept most SD or SDHC Cards up to 64 GB capacity.
BUT: Not all brands of SD Cards are the same internal architecture. Some are more compatible than others in different devices. If you plan to acquire additional SD or SDHC Cards, be sure to try a smaller capacity card from your chosen manufacturer before investing in a high-capacity, expensive Card.

NOTE: Ensure that DVR is turned *OFF* before removing, or inserting, an SD Card.

Step 2: format the SD CARD

You need to format the SD CARD before using it. After inserting the new card and Powering up the DVR-SD, Press <MENU> to enter the main menu and select "STORAGE" icon, then select "FORMAT" from the sub menu.



Choose "YES" to format the SD CARD. The format process will **DELETE** all prior Data on the Card, and may take some time. You will see the capacity of the SD CARD after formatting.

5. Using EXTERNAL Devices

5.1 Transfer the files to another device

The SD Card may be removed, after turning OFF the DVR:
Push in slightly on the SD Card to release it, then pull it straight out of the DVR.

Some devices have a built-in SD Card Slot. If not, the SD Card may be plugged into an SD CARD Reader, which in turn may be plugged into the USB port of a computer or other device. As long as the device can recognize the SD CARD and the FAT32 file system, the files may be transferred to the device.

IMPORTANT: To prevent corruption of the SD Card file system, it is recommended to immediately copy the files directly to the other device, and then FOLLOW THE PROPER REMOVAL PROCEDURE to remove the SD Card before attempting to open or manipulate the files on your device (computer).

5.2 Viewing the files on another device

Transferred **video files may be played back on a PC** using the basic video player software we provide (SeaViewer_DVR_PLAYER_V1.03E.exe) or one these commonly available players:

- VLC media player
- Storm player
- WINAMP
- mplayerc

5.3 Editing the files on another device

Editing the video on a PC may be accomplished with many third-party editing suites using the CODECS listed below (available on the Internet):

- ffdshow
- K-Lite Codec Pack (Standard installation)

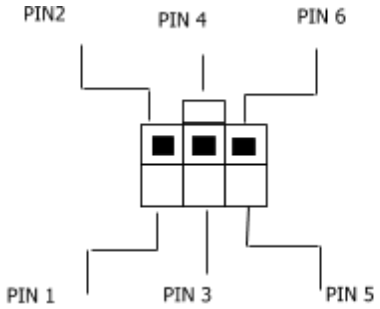
DO NOT ATTEMPT ANY OF THE OPERATIONS BELOW !

THE INFORMATION IN THE REMAINDER OF THIS DOCUMENT IS *PROVIDED FOR REFERENCE ONLY*

6. Appendix

6.1 Power supply

1, Power Input connector



PIN	Color	Description
2	Red	+12V (+24V) wire
4	Yellow	Ignition wire
6	Black	Ground wire

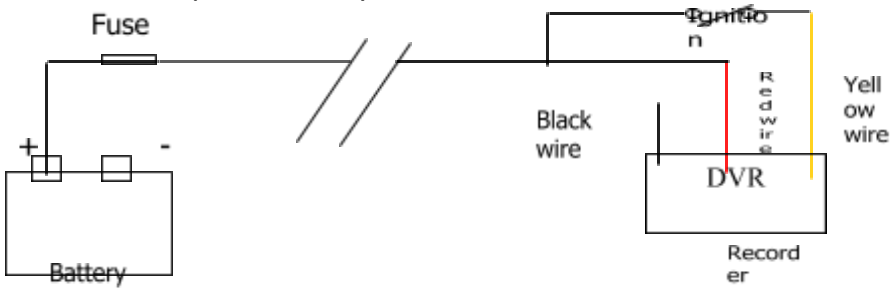
NOTE

1. The DVR uses DC power input, please be very careful when connecting to the "+" and "-" of the power supply.
2. Wide voltage range of 8V-32V for the DVR. The DVR may be damaged if the voltage comes too high. And the DVR may not work if the voltage comes too low.
3. Power of the DVR should be supplied by the battery.
4. All the cables for connecting from power to the DVR should be thick enough for current over 5 Amperes.
5. To protect the battery from being damaged of short circuit on the cable, the fuse should be placed very closed to the battery.

6.2 Manage the power

（1）Use the ignition to control the power

1. Connect the ignition to the yellow wire of the power cable. And connect the red and black wire to the "+" and "-" pole of battery.

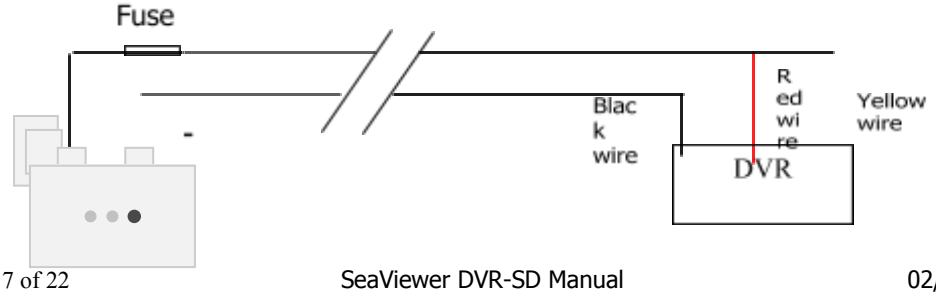


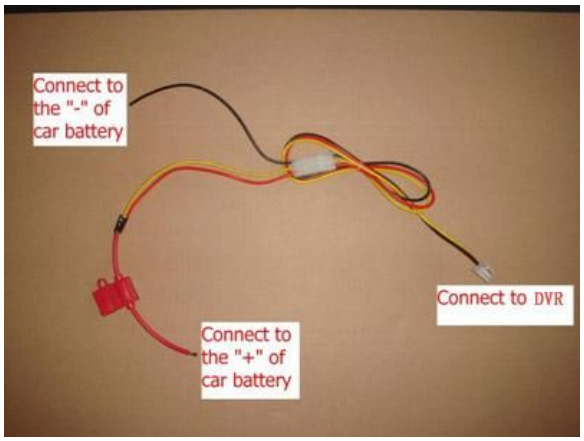
2. Set the power off delay. Select "POWER OFF DELAY" in the "POWER" sub menu. The maxiam duration for the power off delay is 86400 seconds(24 hours). If the power off delay is set to 0, the recorder will turn off immidiately if the ignition is off.

If the vehicle is using low level as ignition, you need to set the ignition signal to low level.

（2）Turn on/off the recorder automatically

1. Connect the DVR to the battery. Please note that you need to connect the yellow wire (ignition wire) to the "+" pole (+12V or +24V) of the battery.





2. Select "POWER ON" and "POWER OFF" in the "Power" sub menu and set the time you want to turn on/off the recorder.
If you don't need to turn on/off the recorder automatically, set the "POWER ON" and "POWER OFF" time to "00 : 00".

6.3 AV cables

1） AV cables

Mark	Description
VIN	Video input
AIN	Audio input
12V	Power output for camera(+12 VDC, Maximum current 1A)
GND	Ground

Mark	Description
VO	Video out
AO	Audio out
12V	Power output for camera(+12 VDC, Maximum current 0.5A)
GND	Ground

6.4 Attaching a Camera

Connect the camera as the picture shows. The yellow connector is for video and the white connector is for audio.

7. Specification

Item	Parameter	Description
System	Language	English
	Interface	Graphical User Interface
	Security	Administrator and user password protected
Video	Video Input	1 channel video input, 1.0V, p-p, 75Ω, BNC
	Video Output	1 channel video output, 1.0V, p-p, 75Ω, BNC
	Display	1/2/4 channel display
	Video Standard	PAL (25fps) NTSC (30fps)
Audio	Audio Input	1 channel audio input, 20KΩ, RCA
	Audio Output	1 channel audio output, 500Ω, RCA
	Output level	1V ~2V, p-p
	Recording mode	Audio and video synchronize
	Compression	**AAC**
Storage	Video Compression	H.264 **High Profile**
	Resolution	**D1 at 30fps**
	Video bitrate	D1: 200Kbps ~ 2Mbps
	Audio bitrate	8KB/s
	Storage	One SD Card Slot (SD/SDHC maximum 64 GB)
Format	**AVI**	
~~Sensor~~	~~Sensors~~	~~1 speed sensor, 1 ignition sensor, 3 common use sensors~~
~~Communication~~	~~COM~~	~~Two RS232 connector and one RS485 connector(OPTION)~~
	~~Network~~	~~RJ45, 10M/100M Lan port(OPTION)~~
~~GPS~~	~~Supported(OPTION)~~	
Software	Basic Player	SeaViewer_DVR_PLAYER_V1.03E.exe
3rd party player	VLC media player, Storm player, WINAMP	

Firmware update	To SD Card with SD CARD Reader	
Power	Power input	DC：+8V ~ +32V
	Power output	+12V@1.5A；+5V@1A
	Power consumption	**Less than 5W**；less than 0.1W in standby mode
Working temperature	-10℃ ~ +60℃	
Size	**9.8CM（Width）×2.3CM（Height）×15.5CM（Depth）**	

8. List of Standard Accessories

Item	Description	Quantity
1	SD CARD Video recorder	1 pc
2	Mounting bracket	1pc
3	AV input cable	1 pc for one channel
4	AV output cable	1 pc for one channel
5	Remote	1 pc
6	Power cable	1 pc
7	8 GB SD Card	1 pc
8	12-VDC Microphone (unwired)	1 pc