

# HD Recorder User Manual



This lightning flash with arrow symbol within an equilateral triangle is intended to alert users that there might be uninsulated dangerous voltage which may cause

## CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

To prevent from the risk of electric shock, do NOT remove top cover or back cover. There is NO user-serviceable part inside. Ask for service from qualified maintenance man.



The exclamation point within an equilateral triangle is intended to alert users the important operating and maintenance(servicing) instructions in this manual.

# **Important notice:**

- 1. Please read over all cautions.
- 2. Please keep this manual for reference in the future.
- 3. Please notice all warning information.
- 4. Please strictly follow the instructions in this manual while operating.
- 5. Please do NOT use abrasive chemicals, cleaning solvents or strong detergents to clean the device. Wipe the device with a soft and dry cloth.
- 6. Please do NOT get the gate of airiness heat exchange closed.
- 7. Please leave the device far away from hot and high temperature environment.
- 8. Install the device with the accessories coming with it.
- 9. Please take care when moving the device, make sure of security, and avoid being damaged by dropping from high place.
- 10. Call for qualified maintenance man to repair when needed.
- 11. The device can only be installed horizontally. Installed vertically or out of the horizontal could hurt person or damage the device or/and its parts.

## 1. Function Features:

HD Video Recorder, with the AHD(Analog High Definition) technology, aims to be the smallest in size, but the highest in video resolution among the Mini DVRs in the market. It supports AHD1.0(720P, 960P) cameras, and also compatible with traditional analog cameras. With AHD type camera, it records 1280\*720p HD videos, while with normal CVBS cameras, it records at 960H(960\*576) videos, and with playback option in system, which makes it outstanding from the similar DVRs in the market.

## 1.1 What's AHD?

AHD technology is able to transfer the stable HD AV signal based on the analog cable with a max distance of 500M, it uses the advanced Y/C signal separation and Analog filtering, which can effectively decrease the color noise in high frequency region, with a better image reduction. Compared to traditional analog HD recorders, AHD recorders image has a qualitative leap and upgrade, and its maximum resolution can be equaled to Network HD 720P/1080P full HD grade.

## 1.2 HD Audio Video Encoding and decoding technology

- H.264 High Profile(Level 4.1) compression, high resolution, full real-time recording, AVI format
- G711 audio compression, Audio and video synchronization
- 720p & 30fps video audio record synchronously
- Snapshot when in video recording

## 1.3 Multi Record Modes

- Auto Record when power is ON
- Timer Record
- Manual Record
- Motion Detection Record

## 1.4 Multy Memory Cards Support

- Micro SD Card max 128GB
- USB port for external HDD max 1TB
- USB port for USB disk max 1TB
- Note: when it is recording or under playback mode, the disk green LED will be ON, now please DO NOT remove or insert the memory card, otherwise it easily damages the video files; please stop recording first or press the REMOVE DISK button and wait till the green LED is OFF before you remove the card

# 1.5 Support Universal 3rd Party Media Players

Video files can be playback by the media players below:

- VLC media player(version 1.0.0 above)
- Storm media(version 2009 above)
- Winamp(version 5.531 above)
- Media player in Windows Vista or Win7

## 2.Parts Instruction

## 2.1 Front Panel



- 1: Mirco SD(TF) card slot
- 2: REMOVE DISK button, press it before you remove the card
- 3: DISK LED, ON when card is recognized
- 4: REC LED, Flash when recording
- 5: USB port, ONLY for USB external hard drive

# 2.2 Back Panel



1: AV output

2: Power input 5-30V

## 2.3 Remote Controller



- 1: "OK", to confirm option or start recording
- 2: "LEFT"
- 3: "STOP", to stop recording or stop playback
- 4: "MENU", to enter into menu
- 5: "PLAY", to start playing
- 6: "DEL", to delete files
- 7: "ESC", to exit the menu
- 8: "DOWN"
- 9: "RIGHT"
- 10: "UP" (snap picture, olay for preview mode)

# 3. Interface

## 3.1 Preview mode



Up left corner is the date and time stamp Down right corner is the card info, the left capacity/total capacity

#### Operation

- 1: press OK to start recording, and press STOP to stop recording
- 2: press OK to pause recording, and press STOP to stop recording
- 3: press UP to take a photo, no matter the unit is recording or not;
- 4: press PLAY to go into playback mode
- 5: press MENU to go into menu options
- 6: press LEFT & RIGHT to change the volume

## 3.2 Main Menu



"PLAY AVI", PLAYBACK, to playback the video files
 "PLAY JPEG", IMAGE REVIEW, to review the photos
 "IMAGE SETUP", IMAGE, to setup the images
 "DISK SETUP" DISK, to check card info
 "REC SETUP" RECORD, to set the record options
 "SETUP" SYSTEM, to set time, date, language, etc.

Operation Instruction 1: Press the UP/DOWN/LEFT/RIGHT to select the options 2: Press OK to enter into sub-options 3: Press ESC to exit menu

### 3.3 Image Setting



- 1: "FrameRate", 1-30 fps selectable(when in PAL mode, when you even set to 30fps, it is still 25fps actually; the higher frame value you set, the bigger memory the file takes up)
- 2: "BitRate", to set the video compression, the higher value you set, the bigger memory it takes; we suggest to set lower than 4M under 960H; the setting differs from different condition needs, when under moving videos, you can set the value higher, and lower when under still videos.
- 3: "VideoSystem", select different mode in different conditions 3.1 "Auto" the detect the video system ONLY one time when the unit is turned ON, and itfits the system automatically, but it doesn't detect the video a second time if you change the camera.
  - 3.2 "PAL" PAL for normal analogue cameras
  - 3.3 "NTSC" NTSC for normal analogue cameras
  - 3.4 "AHD-PAL" for AHD-PAL 25FPS cameras
  - 3.5 "AHD-NTSC" for AHD-NTSC 30FPS cameras

4: Image Quality, HIGH, MIDDLE, LOW, 3 options, when you set H, the image takes up a bigger size

#### Instruction

- 1: Press UP/DOWN/LEFT/RIGHT to choose the sub-menu 2:
- Press OK to enter into sub-menu
- 3: Press ESC to exit, or get back to ESC option
- 4: You MUST press SAVE button before you select any options, otherwise, the options are not saved.

## 3.4 Record Setting

Rec Mode     Manual Rec       Video Clip     1 Minute       Overwrite     ON
Rec Mode     Manual Rec       Video Clip     1 Minute       Overwrite     ON
Video Clip     1 Minute       Overwrite     ON
Overwrite ON -
Timestamp ON 📩
MD Sensitivity High

1: "REC MODE":

- 1.1 "Power Up Rec", the unit will start recording when power is ON, with card is inserted;
- 1.2 "Manual Rec", you need to manually press the OK/STOP button to control the recording;
- 1.3 "Timer Rec", start and stop recording according to the timer you set in the menu
- 1.4 "MotionDetect", starts recording automatically when any objects moving in front of the camera.

2: "Video Clip", to set the video length for each video file

3: "Overwrite", to overwrite the older files and make the system record for new files when set to ON; if you set to OFF, the system stop recording when memory card is full. 4: "Timestamp", the turn ON/OFF of the date & time stamp on video 5: "Sensitivity", set the sensibility of motion detection 6: "Timing" est times to start/star recording under Timer Becord Made 7. "MD

, set timer to start/stop recording under Timer Record Mode 7: "MD  $% \left( \mathcal{T}^{2}\right) =\left( \mathcal{T}^{2}\right) \left( \mathcal{T}^{2}\right)$ 

Mask", set the detect area for motion detection

#### Instruction

Press UP/DOWN/LEFT/RIGHT to choose the options 2:
 Press OK to enter into sub-options
 Press ESC to exit, or get back to ESC option 4:
 Press SAVE after you select the options

# 3.5 Disc Setup

SD Card	
	Did not find SD card!
USB Disk —	
	Did not find the USB disk!

Instruction

1: REMOVE DISK, to remove the disk safely, avoid any damages to the file system

2: Press REMOVE DISK button, and when it says NO disk, then you can remove the card or USB external HDD.

## 3.6 System Setting



- 1: "LANGUAGE", Simplified Chinese/Traditional Chinese/English, we can also custom your languages;
- 2: "TIME SET", to set date & time;
- 3: "Format", to format the disk
- 4: "UPGRADE" to upgrade the firmware
- 5: "OPTION" to make custom options here
- 6: "AUDIO SET" audio setting

# 3.6.1 Language

	LANGUA	GE SETTING	
Language	English -		
		SAVE	EXIT

Note: Press SAVE before you exit the menu

## 3.6.2 Time Setting

	TIME SETUP	
Date Format Date Set Time Set	• 2016-05-25 13:57:00	
		SAVE EXIT

- 1: "Date Format", set it to "year/month/day", "month/day/year", "day/month/year"
- 2: "Date Set", set the date
- 3: "Time Set", set the time

Instruction

- 1: Press UP/DOWN to select the options
- 2: Press OK to go into sub-option, press UP/DOWN to choose the value, press LEFT/RIGHT to move the cursor, press ESC to exit.

Note: press SAVE before you exit the menu.

## 3.6.3 Format



Instruction

1.Format disk

2. Please format the card in the menu option if it is first time used with the DVR unit

## 3.6.4 Audio Setup



- 1: "Audio Enable", to turn ON/OFF of audio input, if you turn OFF, it saves memory when recording;
- 2: "Input Source", to choose "XXXX" or "XXXX"
- 3: "Bypass", when it is ON, the audio can directly sent to output
- 4: "Input Volume" to set the signal input gain
- 5: "Output Volume" to set the signal output gain

Note: Press SAVE before you exit the menu

# 3.6.5 Option



Instruction

1: "Default", when system has any error, you can set it back to factory default to correct it.

# 3.6.6 Upgarde

	SOFTWATE UPDATE
Version	VS20160410
	No Upgrade File!
	Update Exit

Instruction

- 1. Copy the firmware to micro SD card or U-disk, and you will see the firmware name here in this menu
- 2. Press Upgrade the update the firmware, and wait till it says OK;

Note: DO NOT cut off the power when the system is upgrading, otherwise it damages the unit.

## 3.7 Image Review



#### Video Files List

- 1. First Line, .avi means the video file, 001/001 Page
- 2. 20160513, means the files that is made on 2016-05-13
- 3. Route, if you visit the micro SD as "/media/SdCard", then you visit the USB disk as "/media/UsbDisk"
- 4. Filter type, ".AVI" means the .avi video files, ".JPEG" means the .JPEG files.
- 5. Page, current page/total pages

#### Instruction

- 1. Press UP/DOWN to choose the lines, it turns GREEN when you choose it
- 2. When you choose the file line, press LEFT/RIGHT to change the filter type(.AVI, .JPEG),

press OK to switch to go to micro SD card or go to USB disk

3. when choose the other lines, press OK and you can go into the menu and playback the video files 4. Press DEL if you want to delete this file

	1		2	3	4	5	
		Ē	回放				
/med	ia/SdCar	1/20160523	AVI	🔶 o	01/001	Page	
0001	201605	23_105031.avi	00:00:07	960H	25Fps	1.0MB	
0002	201605	23_105022.avi	00:00:05	960H	25Fps	0.8MB	
0003	201605	23_104917.avi	00:00:09	720P	25Fps	1.9MB	
0004	201605	23_104907.avi	00:00:05	720P	25Fps	1.2MB	
0005	201005	23_104856.avi	00:00:07	720P	25Fps	TOMP	

Playback file list

- 1: File name
- 2: Video length
- 3: Video resolution
- 4: Frame
- 5: Video size

#### Instruction

1. Press UP/DOWN to choose the lines, it turns GREEN when you choose it

2. When you choose the file line, press LEFT/RIGHT to change the filter type(.AVI, .JPEG),

press OK to switch to go to micro SD card or go to USB disk

3. when choose the other lines, press OK and you can go into the menu and playback the video files 4. Press DEL if you want to delete this file



Video playback

#### Instruction

press the "RIGHT" key, X2 X4 X8 X16 X32 fast forward button
 press the "LEFT" key, X2 X4 X8 X16 X32 button to rewind
 press "OK" key, pause "play" pause
 press the "SOTP" key, stop playing, press the "PLAY" key, and re play the file
 press "ESC" key, return to play list

# 4. Specifications

Model		MEGE-BOX			
	Operation System	Linux 2.6			
System	Boot up time	<22 s (from power-ON to Start Recording, it is decided by the card size)			
	Language	Simplified/Traditional Chinese/English			
	Memory	Micro SD card max 256GB/HDD 1TB			
	Record System	H.264 Main/High Profile, HD 720p30/960H 30fps record			
	Power	Input 5 V ~ 30 V DC			
	Video input	AHD1.0 720P/960P / CVBS NTSC PAL			
	Video output	CVBS			
	Video format	AVI			
	Resolution	1280x720, 960x576, 960x480 selectable			
Video	Record mode	Power-up, Manual, Timer, Motion Detection Record			
	Video compression	H.264 (High profile up to level 4.1)			
	AV Playback	back 1-32x playback			
	Snapshot	Yes, and can take photo when it's recording			
	Bitrate	512Kbit-8Mbit seletable			
	Time stamp	Yes			
	Frame	30fps@720p			
Audio	Audio input	Internal/external selectable in menu			
710010	Audio compression	G711 (8bit, 8KHz)			
	USB	USB2.0 external hard drive			
	Reverse-battery protection	Prevent overload, short-circuit and reverse-battery connection			
	Factory default	Yes			
Other	SD	1x SDXC micro SD card max 256GB			
	Indicator	REC-RED, DISK-GREEN			
	Overwrite	Yes			
	Net Weight	65g			
	Size	79mm(L) X 61mm(W) x 13.5mm(H)			
	Power-off protection	Abnormal power-off protection(only for micro SD card)			

# 5. FAQ

#### 1) Q: When the DVR is connected to power, but it has no video output, and the REC red LED is ON.

A: Please check the connection to monitor, see if it is wrong connection or cable problem.

#### 2) Q: How to make the memory to gain enough recording as long as possible?

A: you can lower set the frame, resolution, and the bitrate.

#### 3) Q: There is DVR OSD image on the monitor, but no image of camera input image?

A: Please check the PAL/NTSC video system first, and the DVR unit only support 960P/720P AHD1.0 cameras.

#### 4) Q: It can not record even when micro sd card is inserted?

A: Please check if the REC mode is correct and format the memory card in the menu too.

#### 5) Q: It can not recognize the USB external hard drive?

A: check if the USB cable is too long or too poor-quality, and if cable is fine, then please format the disk in the menu.

#### 6) Q: It doesn't record again after a while?

A: Check if the micro sd card is broken or bad-quality, and check if you remove the card even when the unit is recording? If so, please format the SD card again and re-start the unit.

#### 7) Q: It starts recording automatically even there is no movement in front of camera under Motion DetectionMode?

A: Check if there is any other interfere, and if there is no, please set the detect sensibility lower.

#### 8) Q: How long can a 32GB card record?

A: It is decided by the frame, image quality, and even the movement in front of the camera. The still image video recording will record more time than a moving image in front of camera.

#### 9) Q: The time has any battery inside to protect and maintain? How long can it work?

A: Yes, there is an internal battery to keep the clock working, and it can last for 2 months if there is no power-supply.

#### 10) Q: Why is there too much noise from the external audio input?

A: First you can set the volume in a reasonable range, and then you should check if the external audio input device has any interfere, you can use shielding cable to check that.

#### 11) Q: Which media player is recommended to playback the footage? Why the playback is abnormal?

- A: the file saved in SD card is .avi format, and video compression is H.264.
  1. the system has its own playback software, and it has continuous play, fast-forward, and search file functions, we recommend it.
  - 2. you can also use the universal media players, like VCL, Storm media, and media player of Win7-10.

# Appendix: Test 32GB TF card recording time

BitRage	5FPS	15FPS	30FPS
1Mbit	About 320 hours	About 120 hours	About 72 hours
2Mbit	About 160 hours	About 60 hours	About 36 hours
4Mbit	About 80 hours	About 32 hours	About 18 hours
8Mbit	About 45 hours	About 16 hours	About 9 hours