Mobile Video Recorder
User Manual
➢ **Caution**

1. Heavy things are not allowed to place on top of the unit
2. Do not touch the machine or power with wet hand.
3. When cleaning, please use soft dry cloth or soft brush, do not use chemical agent.
4. Liquid is not allowed to be splashed on the unit, to avoid fire causing by short-circuit.
5. Turn off the power when not using for a long period of time.

➢ **Install environment**

1. The power supply for the DVR is DC 8-32V, check battery power before use.
2. Turn off the power when not using for a long period of time.
3. Do not install on place where there maybe rain caught or other liquid splashed. Get far away from heat source, direct sunshine or too many dust area, or place with strong vibration or shock.
4. Install on place where there is well ventilation to prevent machine got too heat,
Catalog

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1 Specifications

This device is specially designed high price-quality ratio product for the car mobile video monitoring. It adopts embedded processor and embedded Linux operating system, combines the latest technologies in the IT filed such as H.264 audio and video compression/decompression technologies. Its structure adopts special anti-vibration technology. The product has good shock resistance, heat resistance and stability; it can be widely applied to various types of vehicles.

Datasheet:

<table>
<thead>
<tr>
<th>Item</th>
<th>Parameters</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating language</td>
<td></td>
<td>Simplified/English/Traditional</td>
</tr>
<tr>
<td>Operator</td>
<td></td>
<td>GUI, support mouse</td>
</tr>
<tr>
<td>interface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety management</td>
<td></td>
<td>User password, Admin password in two layer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>management system</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td>4 channel composite video input</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td>1 way VGA/1 AV synchronous video output, 1.0Vp-p,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75, support for full screen and 4 way split/9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>split</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td></td>
<td>Single picture, 4 8 pictures</td>
</tr>
<tr>
<td>Video standard</td>
<td></td>
<td>PAL\NTSC</td>
</tr>
<tr>
<td>Compression</td>
<td></td>
<td>H.264 Main profile, compress source: 75 frame</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D1/S (300 frame CIF/S)</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td></td>
<td>4 channel audio input</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td>1 channel audio output</td>
</tr>
<tr>
<td>Recording mode</td>
<td></td>
<td>Video and audio synchronously recording</td>
</tr>
<tr>
<td><strong>Recording &amp; playback</strong></td>
<td></td>
<td>ISO14496–10</td>
</tr>
<tr>
<td>Picture format</td>
<td></td>
<td>AHD720p/960H/D1/HD1/CIF Optional</td>
</tr>
<tr>
<td>Video bit stream</td>
<td>CIF: 384Kbps (L), 512Kbps (M), 768Kbps (H)</td>
<td></td>
</tr>
<tr>
<td>standard</td>
<td>HD1: 512Kbps (L), 768Kbps (M), 1024Kbps (H)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D1: 512Kbps (L), 768Kbps (M), 1024Kbps (H)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>720P: 800Kbps - 4Mbps</td>
<td></td>
</tr>
<tr>
<td>Audio bit rate</td>
<td>8KB/s</td>
<td></td>
</tr>
<tr>
<td>Data storage</td>
<td>Support 256GB SD card</td>
<td></td>
</tr>
<tr>
<td><strong>Alarm</strong></td>
<td></td>
<td>4 alarm in, &lt;4V for low level alarm, &gt;4V for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>high level alarm</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>RS485 port</td>
<td>1 RS485 port</td>
</tr>
<tr>
<td></td>
<td>RS232 port</td>
<td>1 RS232 port</td>
</tr>
</tbody>
</table>
Sensor | Sensor port | Internal ACC port G-Sensor
---|---|---
Software | PC playback | Playback on PC terminal, analysis the vehicle information on the files.
SW upgrade | Upgrade files | Support through U disk upgrade / online remote upgrade

### Basic specifications:

<table>
<thead>
<tr>
<th>Item</th>
<th>Parameters</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power in</td>
<td>8—36V</td>
<td>Input operating voltage: +8V~+36V, &lt;8V or &gt;36V for long time, it auto shut-off for protection.</td>
</tr>
<tr>
<td>Power out</td>
<td>12V</td>
<td>Output voltage 12V (±0.2V), Max current 2A</td>
</tr>
<tr>
<td>Vehicle key signal</td>
<td>≤4V</td>
<td>Key off.</td>
</tr>
<tr>
<td></td>
<td>≥5V</td>
<td>Key on.</td>
</tr>
<tr>
<td>Input impedance</td>
<td>75Ω</td>
<td>Every channel 75Ω</td>
</tr>
<tr>
<td>Output level</td>
<td>4 720P/4D1</td>
<td>Achieve 4 CH 720P, 960H, D1, HD1, CIF encoding, decoding</td>
</tr>
<tr>
<td>I/O port</td>
<td>0—4V</td>
<td>Low level alarm</td>
</tr>
<tr>
<td></td>
<td>&gt;4V</td>
<td>High level alarm</td>
</tr>
<tr>
<td>SD slot</td>
<td>Storage mode</td>
<td>1. Compatiable to all beand, support 256GB. 2. SD card storage files, support recording and upgrade</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40℃-80℃</td>
<td>Environment with well ventilation.</td>
</tr>
</tbody>
</table>
2 Product external structure and port

2.1 SD card type front panel appearance and interface

2.2 AV wiring and ports

| AV output (4 core, refer to picture left) | AV input 1 (4 core, refer to picture right) | AV input 2 (4 core, refer to picture right) | AV input 3 (4 core, refer to picture right) | AV input 4 (4 core, refer to picture right) |
2.3 Power cable and extension cable

- Yellow line to power (ACC)
- Black line to power -
- Red line to ignition switch +

2.4 I/O Alarm input/output

There are 4 alarm input and 1 alarm output port on the device. Alarm inputs are all level detection, can be connected to vehicle status outputs, such as reverse or steering horn. Brake detect drawing is as follows, when the brake pad is stepped on, MDVR will detect high level, otherwise low level is detected.

Alarm output is 12V level output, driving capacity is 200mA, if element with large power is to be driven, relay should be connected, alarm output optical alarming drawing is as follows.
3 DVR software operating

3.1 Preview interface

After the unit is activated, it shows preview interface, the interface shows device status and all channels working status information, the meaning and content is as follows:

【2015–1–20 09: 54: 34】 System time

【CHx】 Channel name

【• REC】 Recording

【NO DISK】 Without recording

Fig. 3 Preview interface with and without recording

3.2 Soft keyboard input

System inputs include digits, En character and Chinese letter, Pining input method for Chinese. Click “Pining” / “ABC” / “123” on right to switch input method.
3.3 Enter to menu mode

Plug mouse cursor into the USB slot on front panel, right click on mouse to enter to system menu. Click right key on mouse, system require input device No. and password, then input correct No. and password, the click OK. (If the password management is not set, normally no password is required to input.)

Fig. 5 the right mouse button menu
Press menu and enter to main menu.

3.4 Main menu
Fig. 6 Main menu

All the menu items refer to the following functions:

- **<Recording search>**: Search HDD/SD card storage files for playback operation.
- **<Video setting>**: Set AV parameters and mode.
- **<Function setting>**: Set alarm/platform/time/network.
- **<System info>**: Display S/N. No., Version No., MAC address information.
- **<Vehicle info>**: Set vehicle No., on/off timing, WIFI.
- **<Display setting>**: Set picture and recording content, include info, color, area, volume.
- **<Password manage>**: Set password.
- **<Quit>**: Quit menu to monitoring interface.
3.5 Video search

- There are 3 search modes: fast precise timing location, time period recording status browse and detail video files browse for selection.
Operation:

1. Enter to video search interface, the default is search files from current time directly, then you can browse or playback video files.

2. Fast precise timing search mode:
   - Input recording date and time (Default is the last minute enter to search interface)
   - Video status is labeled with color, red is for the alarmed recording, green is for normal recording time period, without color is for the time period without recording.
   - The unit for month recording is day, day recording unit is half an hour.
   - On the current day video status, select the video file, it directly play the video of the time period.

3. Detail video file browse search mode:
   - If the video of the timing period is searched, click “Detailed file” button, open detail file browse interface, the list of video files with selected date is shown, you can browse and page.
   - The content include start time, end time, file size and video type of recording files.
   - You can filter the files refer to video type.
   - You can select the video file and backup for this file.

3.5.1 Detail files and backup

Fig. 8 Interface for detail files
The detail files are arranged refer to channel order, video time order for easy searching.

Fig. 9 Backup interface

1. Backup files are stored under U-disk/SD card root catalog /Recordfile/.
2. During backup, it will pop up status window to show backup progress.
3. After backup, pull out the backup device directly.
4. If the volume of backup device is smaller than video file size, it will prompt “Space low”.
5. If no U-disk or SD card is detected, or not plug U-disk/SD card, it will prompt “Without U-disk/SD card”
6. During backup, pulling out U-disk or SD card is not allowed.

3.5.2 Playback
1. Play mode: single screen playback mode

2. Playing mode control including:
   - Select normal playing, single frame playing, slow playing, fast forward and reverse.
   - Adjust audio volume.
Fig. 11 Playback with fast forward and volume adjust

» » 2X: Playing status is 2 times speed fast forward

Volume adjust status
3.6 Recording setting

3.6.1 Frame rate dynamic setting

Fig. 12 Recording setting interface

- Recording setting interface allow to set the AV parameters for all channel and video working mode.
- Details include recording switch to all channel, resolution, bit rate, frame rate, picture quality and audio recording switch.

Video pack time and video modes are as follows:

1. <Channel>/<Video switch>: Open/Close selectable, select if the channel need recording.
3. <Bit rate>: Select High/Medium/Low. Select low bit rate will meet normal requirement, if the bandwidth of network is wide enough, high or medium bit rate can be also selected, the different resolution is refer to different bit rate as follows:
4. <Frame rate>: 1~25/30 optional: If high frame rate is selected, it plays more fluently, but it requires larger disc space. When click OK button, the system will auto calculate if the encoding resource is exceed the total resource according to frame rate value, if the space is not enough, it will prompt user and return to
video setting interface.

5. <Picture quality>: 1~6 optional, the lower value the best quality

6. <Audio record channel>/<Record switch>: Select On/Off, set DVR audio recording or not.

7. <Pack time>/<Video pack time>: Select for 03 Minutes/05 Minutes/15 Minutes/30 Minutes/45 Minutes/60 Minutes/90 Minutes/120 Minutes. Used for setting timing or length of the video files.

8. <Recording type>: Select power on recording/timing recording.
   - Select power on recording (Default), auto recording after start-up.
   - Select timing recording, it pop-up timing record setting button, you can set for the video timing period.
   - Click <Recording timing setting> button, it pop-up video timing setting interface.

### 3.6.2 Setting of timing recording

![Fig. 13 Enter to timing record setting interface](image)

1. Recording timing period setting unit can be week or hours for all channel recording.

2. It can resume to the default setting, the default setting is 7 days for 1 week, 24 hours for one day continue recording.

**Recording timing setting operation:**

1. <Channel>: Select the same setting for all or different setting for each channel.

2. Recording mode: Select alarm recording (Red)/Normal recording (Green)/Manual recording (Background color).

3. Click recording mode, the related mode box will be selected, then click time box, the time box color will be changed to the color related to the current recording mode, it means the time period will be recording according to the video mode set.

4. Fast setting: Copy with unit of day. For example, the recording time period to be set is: the whole day on Saturday, 9:00-16:00 on Sunday to Friday for
normal recording, 0:00～8:00, 17:00～23:00 for alarm setting. Step as follows:

- **<Channel>** Select all.
- Recording mode select alarm recording, the related box will appear one “✓”.
- Move cursor to week (Sunday) timing column, click all box from 0～8 and 17～23 timing period, box turns red.
- Select week (Sunday) setting to all, click copy button, complete the setting from week(Sunday), (Monday), (Tuesday),(Wednesday)...to (Friday)
- Recording mode select normal recording, the related box will appear one “✓”.
- Move cursor to week (Saturday) timing column, click all box of 00～23 timing period, the box turns to green.
- Finally, the setting is as follows:

![Main Menu - Record Schedule](image)

Fig. 14 Recording timing setting
3.6.3 Small bit stream configuration

![Image of small bit-stream setting](image)

This item is for 3G transfer setting, currently support D1 and CIF two resolution, bit rate and frame rate, picture quality dynamic adjustable.
3.7 Function setting

All items related to the following configurations:

- **<Alarm setting>:** Set all parameters and switches of alarm input, actions for alarm disposal, alarm output parameter, EMAIL setting, camera shelter alarm setting, mobile detecting setting.
- **<Platform setting>:** Set platform parameters
- **<Time setting>:** Set date, time, day light saving time.
- **<Disc management>:** Display hard disc status, provide HDD, SD card, U-disc formatting functions.
- **<Device maintenance>:** Device re-start, system upgrade, resume to the default setting.
- **<Network setting>:** Network setting, mobile phone visit setting.
- **<System setting>:** Set camera system, channel cycle timing, system language.
- **<Quit>:** Quit and return to system interface.

![Function setting interface](image-url)
3.7.1 Alarm setting

![Alarm setting page](image)

**Remark:**

1. I/O port for alarm input 1-4, refer to chapter 2.2 back panel appearance and sockets.

   There 3 options for setting trigger level:
   - High: Trigger high level alarm.
   - Low: Trigger low level alarm.
   - Shut-off: Without alarm

2. HDD failure alarm setting, HDD low space setting:
   - Disc failure alarm: Alarm when there is no HDD or HDD unable to define.
   - Disc space low alarm: Alarm when there is no space for recording.

3. Alarm disposal setting:
   - Alarm output: When alarm is triggered, it output to external device, such as alarm bells, 0, 10, 20, 40, 60 seconds optional.
   - Buzzer: Buzzer alarm timing when triggered alarmed, 0, 10, 20, 40, 60 seconds optional.
   - Recording delay: Delay alarm video timing after alarm triggered. 00-300S optional.
➢ Pre-recording: Pre-recording timing setting when alarm triggered.

3.7.2 Time setting

![Image of time setting interface]

Fig. 18  System time modification & summer time setting

1. Time setting interface is used for setting of system time, details as follows:
   ➢ <System date>: Setting of year/month/date
   ➢ <Date format>: Select MM/DD/YY、YY-MM-DD。
   ➢ <Current time>: Set hour/minute/seconds
   ➢ <Time format>: Select 12 hour or 24 hour system.
   ➢ <Summer time>: Select on/off. Summer time setting switch is selected open, it will show summer time.

2. Summer time setting options include:
   ➢ <Summer time mode>: Select default or user defined.
   ➢ System default summer time range is from first Monday of January
to the third Friday of October.

- User also can define the summer time range.

3. GPS auto time check:
   a) 《GPS time check》Click will be the time check refer to current GPS info.
   b) 《Auto time check》Please do not check this, or it will be China time,

3.7.3 Management of storage device

![Fig. 19 Interface of storage device management](image)

1. Display storage device status, volume size, space available, left time for recording.
2. Auto recovery the first recording file when the storage device space is full.
3. Formatting for storage device (SD card/U disk)
4. Formatting for backup device. (SD card/ U disk)
5. User defined for recovery recording days, days for keep recording files for long time.
3.7.4 Device maintenance and system upgrade

Fig. 20  System maintenance interface

Function;

1. <Auto maintenance>: Select open/close. If close is selected, the auto maintenance function will not be activated. If select open, it will activate auto maintenance function refer to setting time table, it is used for protected re-start on the device.

2. <maintenance time>: Frequency can be day/week/month, time can be set as hour and minute, if it is every week, also need to set the weekday, if it is every month, also need to set which day.

3. Resume to default setting: Click resume to default setting on the interface, all the settings will resume to factory default setting, there is no influence on log files and video files.

4. Device restart: Click device restart on the interface, the system will perform software reset.

5. Data import: Click data import on the interface, the system will auto scan the specific file folder on U-disk/SD-card, then import the system data, auto recover the original data.

6. Data export: Click data export on the interface, it will copy the data on the device to Configure File catalog in U-disk/SD card, the purpose of data export is for data backup and also for copy of data between several devices.

7. Standby: Click standby on the interface, the DVR will enter to standby status,
press and hold power key on remote controller it will re-start the system.

System Upgrade

1. Copy the files to catalog update dvr in U-disk or SD-card.
2. Insert U disk/SD card into device.
3. Click system upgrade on the system maintenance interface.
4. The system will auto scan specific files under catalog updatedvr in the U-disk or SD-card, then auto upgrade the system.

✧ Log inquiry

1. Set log type, start time, end time and condition of inquiry, the inquiry condition default is all log files of the current day.
2. Click start inquiring button, open log files interface, the list shows log meet the inquire condition.
3. The log list interface list and browse the log records, the contents include: log type, record content, time occur, related video files.
4. The log list interface can export log record to U-disk/SD card root directory, the format is text files.

3.7.6 System setting

![System setting](image)

Fig. 21 System setting

1. Camera system: NTSC/PAL, Refer to camera, default is PAL.
2. VGA: Resolution 800*600 / 1024*768
3. Channel cycle time: Set channel cycle time
4. Camera type: SD AHD with two options, SD represents the common analog camera AHD million high-definition camera, respectively 1-2 channel, 3-4 channel.

5. Language setting as follows

![Image of system setting]

**Fig. 22 System setting**

*Remark: After setting is modified, after saved it will auto start.*

3.8 System info.

![Image of system info]

**Fig 23 System info**
3.9 Vehicle info.

All function items defined as follows:

1. **<Basic info.>:** Set device No., Vehicle No;
2. **<Speed setting>:** Set speed;
3. **<Acceleration setting>:** Set acceleration
4. **<Temperature setting>:** Set temperature;
5. **<On/Off setting>:** Set auto/timing/delay on/off.
6. **<Wireless setting>:** USELESS for this MDVR;
7. **<WIFI setting>:** USELESS for this MDVR;
8. **<GPS setting>:** USELESS for this MDVR.
3.9.1 Basic info.

![Vehicle basic info.](image)

Fig. 25  vehicle basic info.

1. **Vehicle No.** Set unit No., connect to server, cannot be changed.

2. **Company name.** Set company name using this device.

3. **Vehicle license No.** Set vehicle license No., the No. will be added on the video file.

4. **Driver name.** Set driver name;

5. **Route No.** Set route No.

3.9.2 Acceleration setting

![Acceleration setting](image)

Fig 26  Acceleration setting
**Remark:**
Before set for acceleration, check first, when enable select is activated, if it exceeds limits it will trigger alarm, at the same time if recording is opened it will start to record. Press direction key to move cursor to X enable, then press <ENTER> to implement open/close enable, press right key then press <ENTER>, press digits key to set for the gate limits, press right then press <ENTER> to implement open/close setting.

### 3.9.4 Temperature setting

Select refer to Model.
If there is no G-SENSOR it will show:

![Fig 27 Model does not support device](image)

### 3.9.5 On/Off setting

![Fig 27 Model does not support device](image)
Remark:

1. **On/Off mode**: Ignition mode and timing mode, on-off mode select ENTER to switch, the default is ignition mode. (Ignition mode is DRV is on after vehicle is started, timing mode is on/off time is setting by user).

2. **Delay shut-off setting**: After user select ignition mode, user can set if delay shut-off is needed, if the delay function is set, delay timing also need to be set, after set, the recording will be continue after vehicle is stall, for setting of delay time, press <ENTER> and then press digits, range from 1-300 minutes.

3. **Timing on/off setting**: When setting for this mode, the time for timing on/off need to be set, after it is saved, MDVR will be on/off according to this time table. (Note: This function will be activated when restart.)
3.9.6 Display setting

![Display setting menu](image)

1. Channel name: Channel name modify;
2. Name position: Set name on preview page position;
3. Color set: Set channel color and contrast (Remote controller +/- key);

![Color setting menu](image)

4. Preview switch: Set if the real time preview picture is to be displayed or not, open for display.
5. Preview timing: Set if the time will be display when preview.
6. Video time added: Set if video time is to be superposed.
7. Area cover set: Refer to model
8. Volume adjust: Volume adjust when audio recording.
3. 9.7 Password management

![Password Management Interface](image)

**Remark:**

Set if the password is to be used: Password switch.

When the password switch is opened, the user need to set 6 character passwords for administrator or normal user.

1. Administrator level: Have privilege for all operation.
2. Normal user level: Only have operation on picture monitoring, video inquiry and video playback. It can not change any settings under user account,
3. Only administrator have privilege to set password switch, password for administrator and normal user.
For any questions, please contact us for help.
EMAIL: greentechjoinlgo@gmail.com
Whatsapp: +86 18124010269