

USER MANUAL

MDVR

Mobile Digital Video Recorder

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Important Safeguards

In order to avoid any risk of fire, electric shock and other personal injury, please pay attention to below important safeguards measurement:

1. This equipment should be installed with care. Quick stops and excessive force may cause the equipment to damage or overturn.
2. Never push objects of any kind through openings of this equipment and / or spill liquid of any kind on the equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
3. Do not attempt to service this equipment yourself. Refer all serving to qualified service personnel.
4. Do not install near any heat sources, dusty and intense magnetic field.
5. Do not use this equipment near water or in contact with water.
6. Unplug this equipment and refer all servicing to qualified service personnel under the following condition:
 - When the equipment exhibits a distinct change in performance, or
 - When liquid is spilled or objects have fallen into the equipment.
7. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the equipment.
8. Operator or installer must remove power, BNC, alarm and other connections before moving the equipment.
9. The equipment should be installed at someplace where passenger or driver cannot be easy to damage device, camera, alarm and cord and other accessory.
10. This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer.

Chapter 1 Features and Functions

Function	Brief and Description
Real time monitoring	Single video output; with VGA virtual output port; Support network client, zoom in/out (mouse operation), auto sequence and PIP display.
Record	H.264 video compression format; record quality/resolution/frame rate adjustable, multiple record modes (Always, Scheduled, Manual, Alarm, Motion detection and remote record)
Record storage	Support 2.5inch SATA large capacity HDD and save real-time record image to HDD.
Playback	Support single or multiple channel search and playback through MDVR or Network.
Backup	Support MDVR backup via USB flash drive, removable drive and network.
Alarm Setting	Supports HDD & video input alarm management and external alarm signal inputs.
Network operation	Supports remote surveillance by authority users to increase system security.
Mouse Operation	Supports Mouse operation for faster menu navigation.
PTZ Control	Supports PTZ camera operations through RS-485.

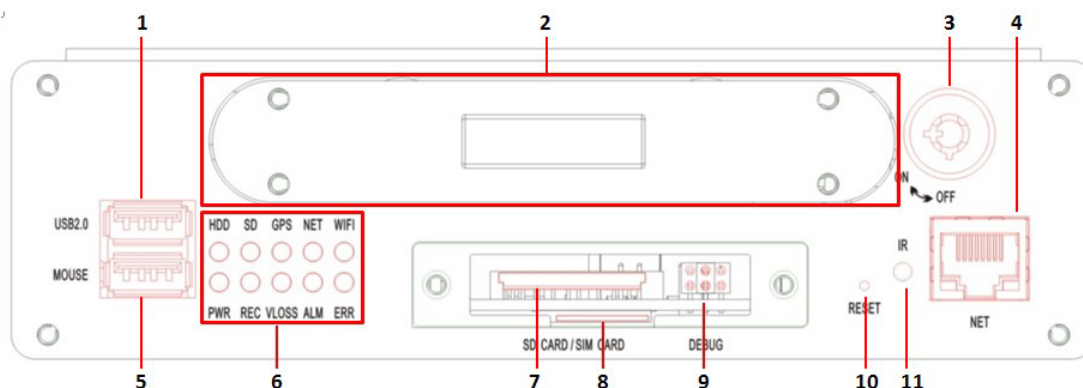
List 1-1

Features:

- ☒ H. 264 video compression format; supports D1 resolution;
- ☒ G.711A audio compression format
- ☒ Windows Graphical interface; embedded real-time Linux2.6 operation system
- ☒ User-friendly Menu system
- ☒ Multiple operation modes (Preview, record, playback, backup and network surveillance)
- ☒ Supports dual Stream network transmission
- ☒ Supports zoom in / out and sequence display
- ☒ Video package time is adjustable
- ☒ Multiple alarm record mode
- ☒ Rear USB2.0 ports for back-up, recorder, upgrade and mouse operation
- ☒ With IR remote control operation
- ☒ Multiple language OSD
- ☒ Supports auto maintenance

Chapter 2 Layout

2.1 Front Panel



Item No	Definition	Description
1	USB 2.0 Port	Data backup and device upgrade
2	Retractable HDD cartridge	2.5inch HDD and support up to 500G
3	HDD Key (Power on/off)	Fix retractable HDD and toggle power on/off
4	RJ45 Ethernet Port	Connect to Ethernet cable
5	USB 2.0 Port	Connect to USB Mouse
6	Indicator	Please refer to below indicator definition
7	SD Card Slot	Connect to SD card and support up to 32G
8	SIM Card Slot	Connect to 3G card
9	DEBUG Port	Debug Port
10	Reset button	Reset Key
11	IR receiver	Receive IR signal

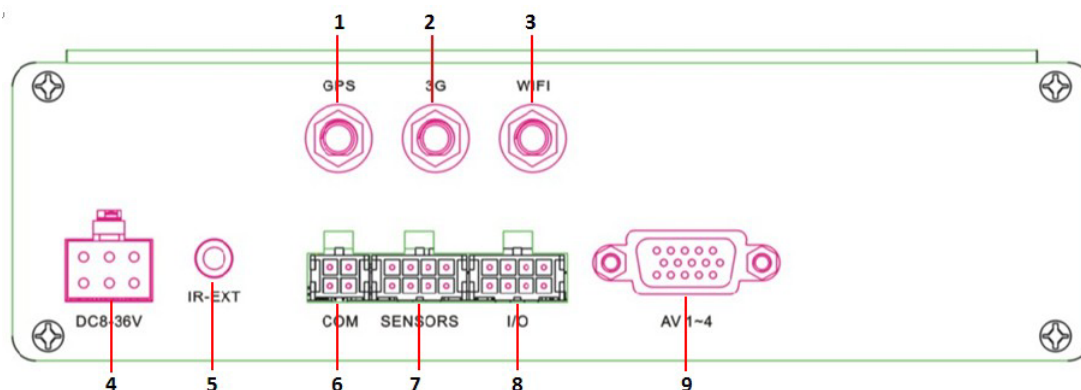
Indicator Definition as follows:

- PWR Indicator: light on when power is on
- HDD Indicator: light on when HDD is available; light flash when HDD is writing data.
- REC Indicator: light on when recording is in processing.
- SD Card Indicator: light on when SD card is reading/writing data
- VLOSS Indicator: light on when video loss is triggered.
- GPS Indicator: light on when installing GPS mould and haven't received GPS signal and light flash when received GPS signal
- ALM Indicator: light on when any alarm is triggered.
- Net Indicator: light on when wireless Net is installed and on the status of working (Optional)
- ERR Indicator: light on when error occurs
- HEAT Indicator: light on when heat mould is working (Optional)

SIM Card Slot: It is available only when the MDVR have installed according system mould;

Debug Port: Debug port and MCU upgrade

2.2 Rear Panel



Item No	Definition	Description
1	GPS Antenna Port	Connect to GPS antenna
2	3G Antenna Port	Connect to 3G antenna
3	WIFI Antenna Port	Connect to WIFI antenna
4	Power Supply Jack	Connect to 8~36V power input and 5V/200mA power output
5	External IR input	Connect to IR External cable
6	Communication Port	RS232/RS485 Communication port
7	SENSORS	8-CH Sensors port
8	Sensor I/O Port	PTZ control/Speed measurement/alarm I/O port
9	A/V Jack	4-CH A/V input, 1-CH A/V output, 12V/1.5A Power output

2.3 External Cable and Cord

2.3.1 Power Cord

Power Input Jack:

8V-36V (Red): Power Input (connected to car battery+);

GND Pin (Black): Power GND (connected to car battery-);

ACC Pin (Yellow): Ignition signal input (connected to car power level)

5V-Out (Orange): 5V/200mA output (connected to external devices)



Picture2-1

The 6-pin plug will be connected to power supply jack of rear panel. Red and black wires connected to car battery + and - respectively, yellow wire to ignition wire. The device will auto start to record after the car is started

Note:

- 1). Make sure the power supply is between 8V and 36V to avoid the device damage due to higher voltage.
- 2) It is very import for you to keep the wires insolated.
- 3) Yellow wire must be connected to ignition wire, otherwise, the device will not support delay power off function.

2.3.2 A/V Cable

BNC A/V Cable



图 2-2

Definition	Description	Definition	Description
AIN1	CH1 Audio input	VIN1	CH1 Video input
AIN2	CH2 Audio input	VIN2	CH2 Video input
AIN3	CH3 Audio input	VIN3	CH3 Video input
AIN4	CH4 Audio input	VIN4	CH4 Video input
AOUT	Audio output	VOUT	Video output
Power Connector	1-5 Power Supply Connector: DC Jack, power supply: 12V/1.5A		

2.3.3 I/O、SENSORS cable



Picture 2-3



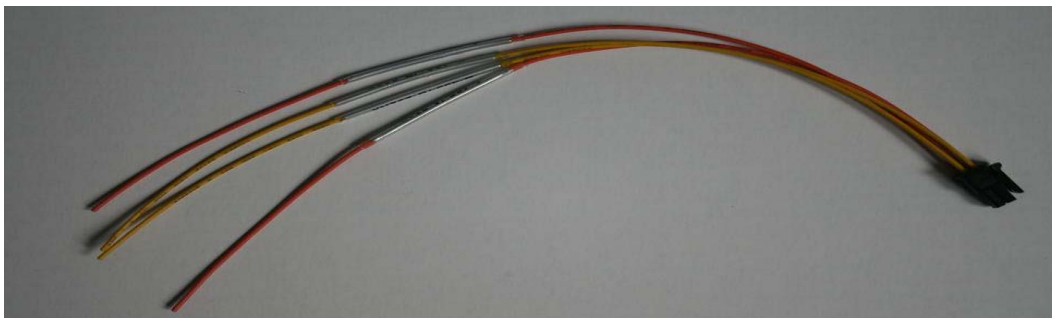
Picture 2-4

Picture 2-3: I/O cable; Picture 2-4: Sensors cable

NO	FUNCTIONS AND DESCRIPTION	NOTE
Sensor1	Sensor1 input	Active level, the software can be set to
Sensor2	Sensor2 input	Active level, the software can be set to
Sensor3	Sensor3 input	Active level, the software can be set to
Sensor4	Sensor4 input	Active level, the software can be set to
Sensor5	Sensor5 input	Active level, the software can be set to
Sensor6	Sensor6 input	Active level, the software can be set to
Sensor7	Sensor7 input	Active level, the software can be set to
Sensor8	Sensor8 input	Active level, the software can be set to
Alarm-OUT1	Alarm output1 12V (Drive current: 200mA)	Active-high
Alarm-OUT2	Alarm output2 12V (Drive current: 200mA)	Active-high
RS485-A	RS485 –connect to RS485 +	
RS485-B	RS485–connect to RS485-	
Speed-Sensor	Speed detection, impulse sequence, More higher frequency, the car speed is faster.	
Guard-Sensor1	Guard-Sensor1	Active-high
Guard-Sensor2	Guard-Sensor2	Active-high
Guard-SW	Guard Enable signal The Guard-sensor1 and Guard-sensor2 is available only when the signal is enabled	Active-high

Note: Less than +2V level, hanging or GND connected to S1~S8 is regarded as low level,+5V~30V as high level.

2.3.4 COM Cable

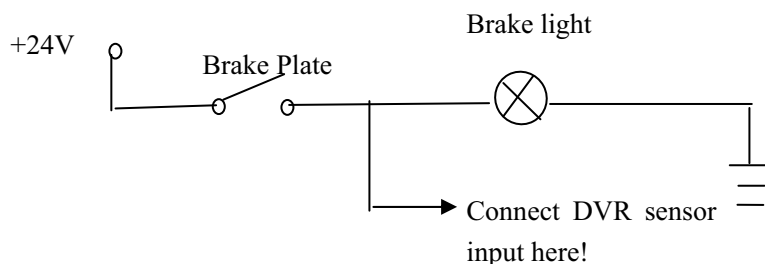


Picture 2-5

Label	Function and Description
A-485+/A-232RX	A group of RS485 or RS232 Communication Port, allow user connect to PTZ or other
A-485-/A-232TX	
B-485+/B-232RX	A group of RS485 or RS232 Communication Port, allow user connect to PTZ or other
B-485-/B-232TX	

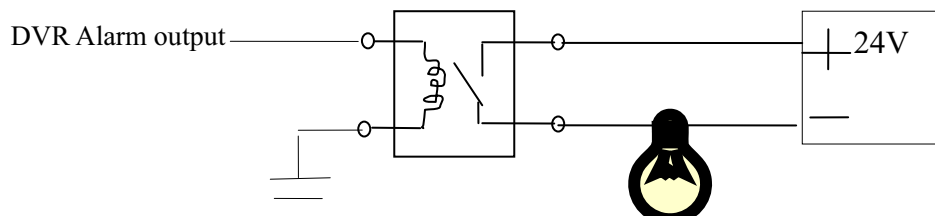
2.3.5 Alarm I/O

The device connected to eight groups of alarm input and two groups of alarm output. When brake plate is stepped on illustrated in below Picture, mobile DVR can detect high level.



Alarm output belongs to level output and driving capacity is 200 MA.

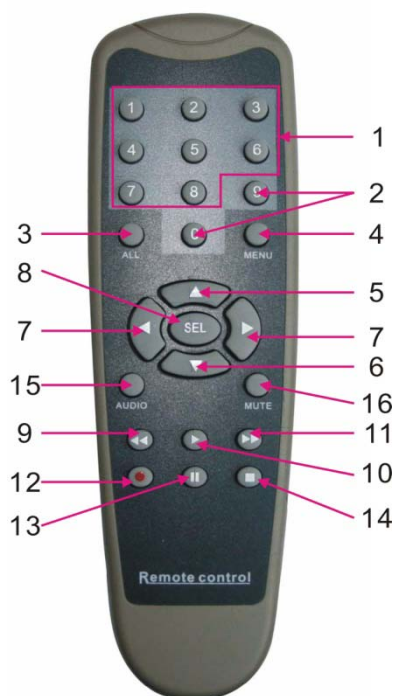
If driving power is too strong, the relay is required. Please refer to the below connection configuration.



2.3.6 Speed sensor

1. Connect speed sensor input of Camera to pulse output of car sensor.
2. On the <Menu> mode, configure camera pulse signal captured from speed sensor. Details please refer to Section 5.2.6.3 – Mobile DVR Set.

2.4 MDVR Remote Controller



Item No	Key Name	Key Function
1	1-8	Channel select CH1~CH8; numeric key
2	9	Open (Close) <Driving Record Message window>
3	0	Switch output devices
4	ALL	Multiple CH display
5	Menu	Enter Main Menu / Exit
6	▲	Up direction arrow
7	▼	Down direction arrow
8	◀▶	Left/right direction key, Decrease/increase parameter value
9	SEL	Select/Edit key
10	◀◀	Rewind key
11	▶▶	Search / Play key
12	▶▶▶	Fast Forward Key
13	●	Rec. Key
14	⏸	Pause Key
15	■	Stop Key
16	Audio	Testing
17	Mute	Mute on/off

Mouse Operation

Except using buttons of front panel or remote controller, you also can use mouse to perform system operation.

TYPE	Function
Click left key of Mouse	In menu lock mode, Enter into pop-up menu and clicking any sub menu to pop up Log-in window; on menu unlock mode, enter into pop-up menu, and then clicking left key to enter into any sub menu directly.
	After entering into main menu, clicking left key could enter into any sub menu; On [Detailed file] menu mode, clicking left key could playback one recording file.
	Change the status of check box and motion detection area.
	Clicking combo box to access pull-down menu; Click left key to stop dwell time display when dwell time display is activated.
	By clicking left key you can adjust Color control bar and volume control bar.
	Clicking combo box to access pull-down menu
Click right key of Mouse	By clicking left key you can select values in edit boxes or pull-down menu and supports Chinese word input, special symbol, numeric and character input, use instead of [Enter- ] or [Backspace ]
	In live display mode, clicking right key will display pop-up menu (shown as Picture 5-1).

	In Main menu or sub menu mode, clicking right key will exit current menu.
Double-click Left key of Mouse	In live display or playback mode, double-clicking left key will maximize the screen.
Moving Mouse	Select menu item
Sliding Mouse	On motion mode, sliding mouse will select motion area; On [Color set] menu mode, sliding mouse will adjust color control bar and volume control bar.

Chapter3 Connecting MDVR

3.1 The device installation

Installation mode for the device includes horizontal installation and rack installation.

1. Horizontal installation: Place the equipment on a stable installation surface horizontally, and then tighten it to the surface through four screws.
2. Rack installation: When limited space lead the equipment to not install horizontally, user can adapt rack installation to mount on the side and wall of car.

Depart the device from anti-vibration rack before installing, and then please follow the below steps to install the device:

- Loosen three screws on the front panel shown as Picture 3-1.



Picture 3-1



Picture 3-2

- Take the device away from the anti-vibration rack.
- Install anti-vibration rack to vehicle with screws.
- Fix the device back the anti-vibration rack with previous three screws.
- Finish the device installation.

3.2 Removeable HDD installation

Please follow the below steps to install the HDD:

1. Take out removable HDD from the HDD box;
2. Loosen the screw and remove PCB board;
3. Remove the upper cover of HDD box;
4. Put the HDD on the anti-vibration rack and connect SATA port of data cable to HDD;
5. Insert the HDD to the HDD box with screws;
6. Install the upper cover back HDD box with screws;
7. Tighten the PCB board back HDD box with screws;
8. Finish the installation processing.



3.3 Connecting Power Supply

The 6-pin plug will be connected to power supply jack of rear panel. Red and black wires connected to car battery + and – respectively, yellow wire to ignition wire.

Note:

1. The MDVR use DC power supply, please connect it properly;
2. Working voltage range for DVR is from 8V to 36V. Too high or low voltage make MDVR not work normally.
3. Power cable must be enough thick so that it can bear 5A current.

3.4 Connecting Camera and Monitor

Connect camera and monitor to the corresponding port on the rear panel respectively shown as section 2.2-Rear Panel.

3.5 Connecting GPS Antenna (Optional)

Connect GPS Antenna to the GPS port on the rear panel shown as section 2.2-Rear Panel. and make sure the front of GPS Antenna have no any blockages to avoid affect its signal receive and transmittal.

3.6 Connecting 3G Mould Antenna (Optional)

Connect 3G Mould Antenna to the Cellular port on the rear panel shown as section 2.2-Rear Panel. Please make sure the front of 3G Mould Antenna has no any blockages to avoid affect its signal receive and transmittal.

3.7 Connecting WIFI Antenna (Optional)

Connect WIFI Antenna to the WIFI port on the rear panel shown as section 2.2-**Rear Panel**. Please make sure the front of 3G Mould Antenna has no any blockages to avoid affect its signal receive and transmittal.

3.8 Getting Started

After connecting all the DVR accessories well, you can start MDVR using key.

Chapter 4 Starting the system

4.1 System Initialization



Picture 4-1

Connect the power cable of MDVR to power supply and press the [Power] button, you will see the initialization screen shown as below 4-1.

4.2 Main Interface



Picture 4-2

After finishing the initialization processing, system will enter into Main interface screen. Picture 4-2 is the main interface defaulted by system, which is showing no video input status. Once there are video inputs, the interface will display live images from the cameras. In main interface mode, if you double click any channel on the screen, according channel will be maximized to full screen, by double-clicking again, the display will be returned back to 4-split mode.

Right clicking the mouse will pop up Context-Sensitive Menu, and then move the curse and left-click the mouse to select menu items; Right clicking the mouse again to exit Context-Sensitive Menu.

Note: If MDVR is not connected to Hard Driver or HDD error, “H” Character will appear in the screen.

Chapter 5 MDVR Menu

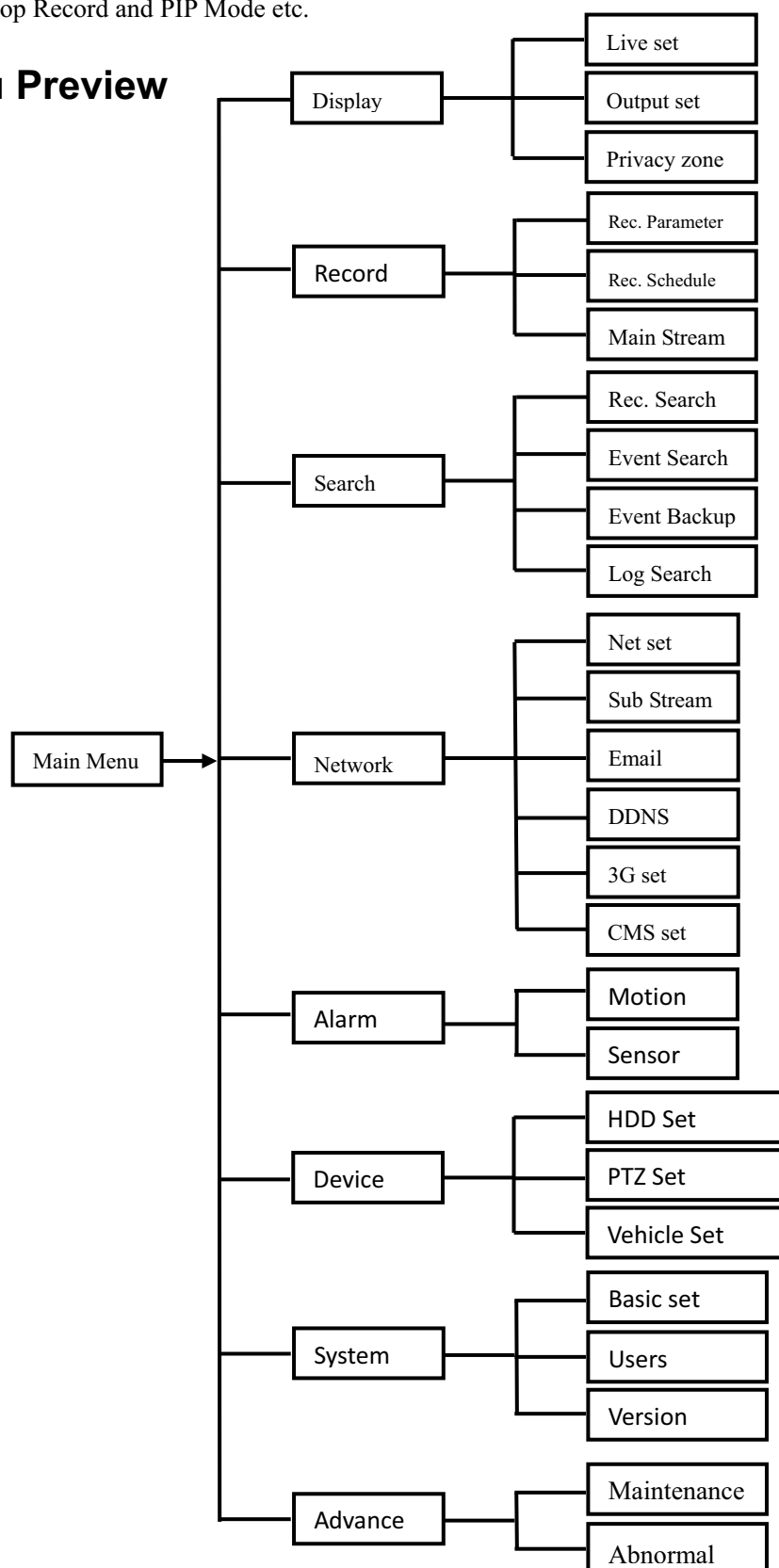
5.1 Context-Sensitive Menu



Picture 5-1

On the Main Interface mode, Press [SEL] key on the Remote Controller to pop up a Context Sensitive Menu. Now you could perform parameter setting and control for Main Menu, Quad mode, Menu Lock, Video Search, Start Record, Stop Record and PIP Mode etc.

5.2 Main Menu Preview



5.3 Main menu



Picture 5-2

On preview mode, click [Menu] button on the front panel or Remote controller to enter into Main menu interface shown as Picture 5-2. And also you can click [Menu] icon to enter into the main menu screen. In Main Menu mode, you can control device management settings, such as Display, Record, Network, Search, Device and System setting etc.

5.3.1 Display mode

5.3.1.1 Live mode

Go to [Main menu→Display→Live] to enter into the Live mode interface shown as Picture 5-3.



Picture 5-3

Channel: allow you setup the channel you desired.

Name: allow you setup the channel name, and system support up to eight characters or four Chinese characters.

Position: allow you setup the display position of each channel.

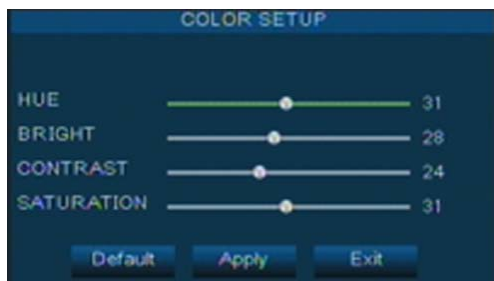
Color: Click [Setup] option to enter into the [Color setup] interface shown as Picture 5-4.

Live: allow you enable [Live] surveillance function

Live time: allow you enable [Live time] appear in the preview screen.

Record time: When set to "Enable", you are allowed to record system time into the record history.

Copy: allow you copy all data of one channel to any other one



Picture 5-4

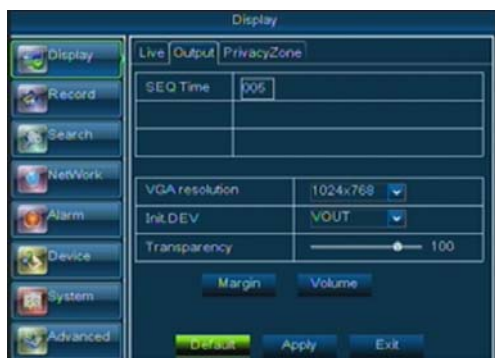
Above picture 5-4 is the Color Menu where you can adjust image brightness, saturation, contrast and hue parameters of each channel.

Explanation:

- 1、The modifications will be available after clicking [APPLY] button on the bottom of the sub-menu windows and being prompted to save and then clicking [ok] button.
- 2、If you want to cancel the modification, click [Exit] button to exit the menu.
- 3、When clicking [DEFAULT] button, all system default values will be reset to default value.
- 4、System default value indicates the value pre-set at the factory.

5.3.1.2 Output mode

Go to [Main menu→Display→Output] to enter into the output set interface shown as Picture 5-5.



Picture 5-5



Picture 5-6



Picture 5-7

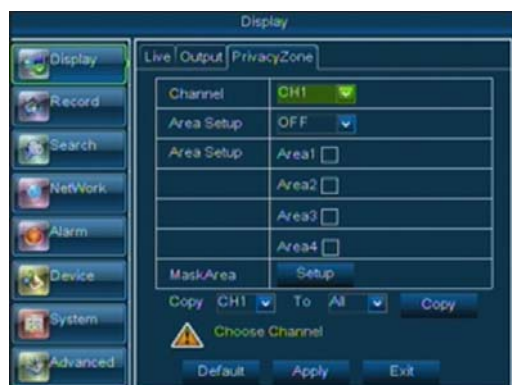
- **Sequence time:** allow you set sequence time, and minimum time can be set to 3 seconds.
- **VGA Resolution:** allow you select VGA output, including 800x600, 1024x768, 1280x1024 and 1440x900.
- **Transparency:** allow you adjust menu's transparency, and its range is 1~100.
- **Margin:** allow you adjust the whole screen's margin. Details operations please refer to the Picture 5-6.
- **Volume:** allow you adjust the MDVR volume shown as Picture 5-7.

Note: Please restart the device after adjusting VGA resolution.

5.2.1.3 Privacy Zone

The function Allow you configure privacy zone parameters according to Picture 5-8. Each channel could configure up to four privacy zones, and please follow below steps to set:

1. Select <Enable Privacy Zone> option;
2. Select the area no (Area 1 ~ Area 4);
3. Click [Setup] to adjust position of mask area;
4. After finishing position adjust, click right key of mouse to return back [Privacy zone] interface;
5. Click [Apply] to save the above setting.



Picture 5-8

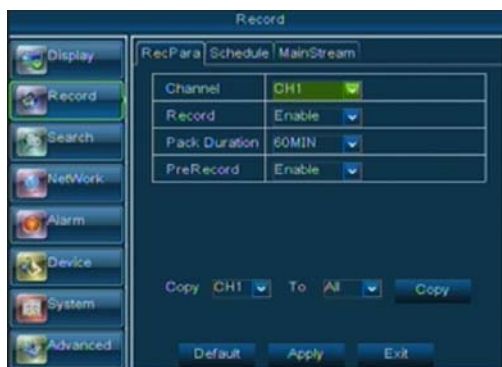


Picture 5-9

5.3.2 Record

5.3.2.1 Record Parameters

Click [Main Menu→Record→Rec Para] to enter into the interface shown as Picture 5-10 and perform record parameter set for each channel, including Channel name, record Enable or Disable, Package time, Mode and Pre-record function.



Picture 5-10

- **Channel:** Select one channel you desire to configure
- **Record on/off:** allow you select Enable or disable
- **Package Time:** allow you configure maximum time length for recorded file(15, 30, 45 and 60 min)
- **Pre-record:** When set to “On”, the motion or I/O triggered will support Pre-record function.

5.2.2.2 Schedule

Click [Main Menu→Record→Schedule] to enter into the interface shown as Picture 5-11.



Picture 5-11

[Channel] option allows you select one channel you desired.

To setup weekly schedules, tick-select the box of the record status you want (Alarm, General, or No Record) and then click on each box in the schedule time line that you want this method to apply to. You can use the [Copy – To] pull-down menus and Copy button to copy settings from one day to another day or all days.

Under the <record> menu and <search> menu, original color stands for no record, “Red” for alarm record, “yellow” for Motion record and “Green” for normal record.

5.2.2.3 Main Stream

Go to [Main menu→Record→Main Stream] to enter into the interface shown as Picture 5-12.



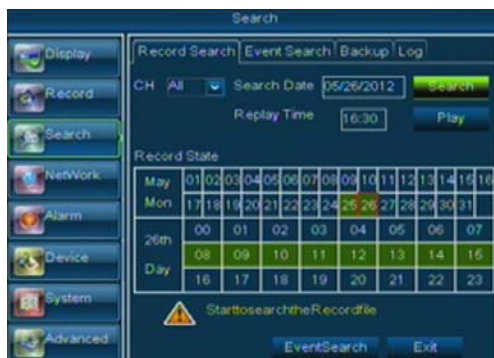
Picture 5-12

- **Resolution:** support D1, HD1 and CIF.
- **Frame rate:** PAL: 1-25 f/s ; NTSC: 1-30 f/s.
- **Bit rate:** user could select the relative value by pull-down menu (Defaulted value: 1024).
- **Audio:** When tick-selecting the option, system will record video stream with audio simultaneously

5.3.3 Search

5.3.3.1 Record Search

Click [Main Menu→Search→Record Search] to enter into the interface shown as Picture 5-13.



Picture 5-13

- **Channel:** allows you select the channel(s) you desire to search.
- **Date Search:** In the Video Search screen, user can search for all the records in a specific date. To execute a video search, highlight and select the date numeric field, and then click a detailed time quantum of the specific date, system will start the playback from the first record of the time quantum.
- **Time Search:** In the <Search screen>, user can search for a specific date and time for a recording and view it in Playback mode. This is useful for hunting a specific recording of an incident if you know the date and time it occurred.
- **File List:** click [File List] button to enter into the [Event Search] screen shown as Picture 5-19, the video records for the time quantum will appear in the screen.
- **Playback Mode:** You can use the Playback Control bar to operate the Fast Forward (X2, X4 and X8), Slow play (1/2, 1/4 and 1/8 speed), Play, Pause/Frame, Rewind(X2, X4 and X8). When ending playback, DVR will return back to previous menu shown as Picture 5-20.
- **Play control Bar:** the play control bar will display current playing processing shown as Picture 5-20. When user click any time at the control bar and this point have not any record file, system will auto return back to previous menu.

5.3.3.2 Channel Select

Click [Main Menu→Search→Record search] option and then enter into the interface shown as Picture 5-14.



Picture 5-14

Then tick-select the channel you want to playback; and click [Play] button to enter into the playback mode.

5.3.3.3 Event Search

Click [Main Menu→Search→Event Search] to enter into the interface shown as Picture 5-20.

You could highlight and double-click the desired record for playback. And you also can filter the records you want to view based on date, time, and channel and record mode search.



Picture 5-15

➡ **(First Page):** go to the first page on the list. When you view other pages, clicking [First] button brings you back to Page one.

⬅ **(Previous page):** go to the previous ones of current page. Clicking [Pre] button will take you back the previous ones of current page (except the first page).

➡ **(Next page):** go to the next ones of current page. Clicking the [Next] button will take you to the next ones of current page (except the last page)

⏪ **(Last page):** go to the last page. Clicking the [last] button will make you enter into last page quickly.

ALL (Select All): Allows you to select all the events on the current page.

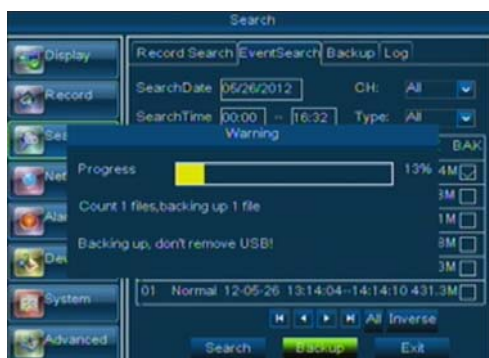
Inverse (Select Invert): Allows you to select other events on the current page except those you have currently selected.

5.3.3.4 File Backup

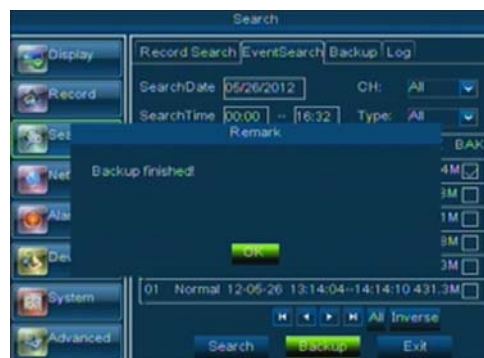
You can back-up the record files based on event or time.

5.3.3.4.1 back-up file based on event

In the [File List] mode, if you wish to backup records, please tick-select the BAK check-boxes which correspond to the records and click [Backup] button to enter into the below windows illustrated in Picture 5-16



Picture 5-16



Picture 5-17

After backup finished, please click [OK] button shown as Picture 5-17.

Note:

- File will be saved as *.264 format.
- You could playback the record files via Dvr Client player. When installing Dvrclient, system will auto install the player.
- Please make sure the back-up device connect well before backup.

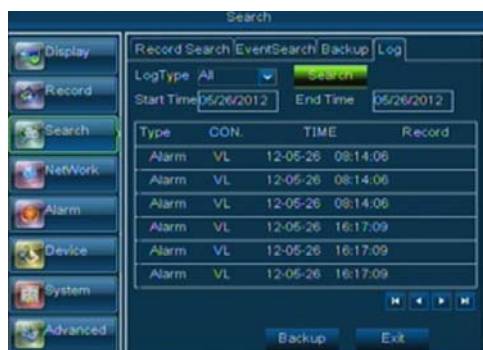
5.3.3.4.2 back-up file based on time

Also allow you back-up record files based on time. Please follow below steps to back up these files (Details operations please refer to section 5.3.4.4.1.):

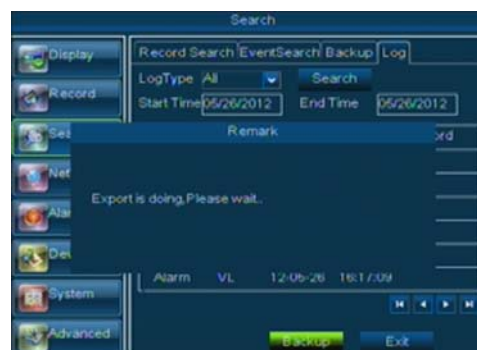
1. input start time and end time on the time edit box;
2. Click [Search] button;
3. Tick-select all the files you desire to backup;
4. Click the [Backup] on the bottom.

5.3.3.5 Log Search

Go to [Main menu→Search→Log] option to enter into the Log search interface shown as Picture 5-18.



Picture 5-18



Picture 5-19

Herein allow you preview the log information you have searched. And click [Backup] to export all the log information which is listed. For other button functions please refer to previous section 5.3.3.3-Event Search.

5.3.4 Network

Note: All the parameters you set are available only when you click [Apply] and after system are restarted.

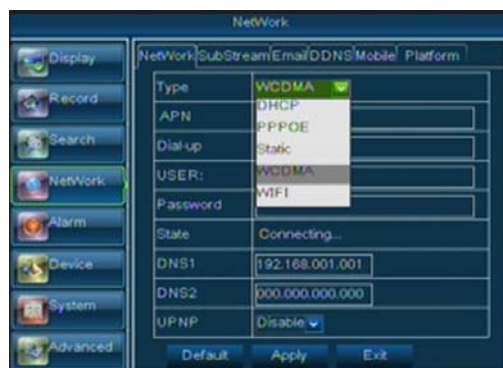
5.3.4.1 Network set

Click [Main menu→ Network→Network] to enter into the below interface shown as Picture 5-20.

After selecting network mode - such as DHCP, PPPOE, static, CDMA2000, WCDMA and WIFI- and setting up web ports, you can visit the MDVR remotely through internet.

UPnP (Universal Plug and Play) function: If router supports UPnP function and set <UPnP> to “On”, system will automatically forward port to router.

DNS: DNS server is generally provided by local ISP. Herein please enter the IP address of your DNS



Picture 5-20

When selecting DHCP from the Type, A router will automatically allocate IP address for your MDVR. After restarting each time, the IP address captured by your DVR may be different. So, port forwarding is required when you visit a remote DVR.

1. Select DHCP and click [Save] button;
2. Exit and restart MDVR;
3. Input media port and web port
4. Set IP address captured by DVR and web port to a router

5. Visit a remote MDVR

http:// public net IP: web port (such as: 8080)

http://intranet IP: web port (such as: 8080 - only use for Intranet)

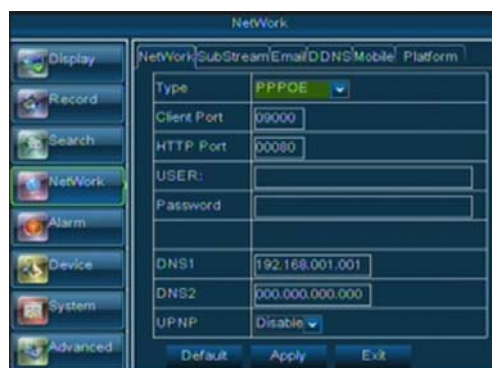
6. Input the IP address of your domain name server

When selecting Static from the Type, user can directly input IP address, Subnet Mask, Gateway and DNS shown as below picture 5-33.

1. Set your net type to Static;
2. Set media port number (such as 9000), and the port need to be forwarded to a router.
3. Input web port number (such as 8080), and the port need to be forwarded to a router;
4. Input a specified IP address to [IP address] column;
5. The Subnet Mask, gateway and DNS server should be consistent with your router's configurations.
6. Input DNS address. Please check router firstly. The setting should be consistent with router's
7. Click [Apply] button
8. Now you could remotely visit the DVR via IP
 http: // public net IP: web port (such as: 8080)
 http: //intranet IP: web port (such as: 8080 - only use for Intranet)



Picture 5-21



Picture 5-22

When selecting PPPoE form the Type, user can input user name and password provided by ISP and set Media and Web port. And now you can visit your remote DVR by using the IP address captured after registering a domain name and web port and connect to your DVR via public network.

DDNS (Dynamic DNS) is a service that register a domain name and the floating IP address with the DDNS server so that the domain name can be routed to the IP address even if the IP address is changed in a dynamic IP system.

Note:

User can visit a remote DVR by using DDNS on above three types (Static, DHCP and PPPoE)

You can apply for a DDNS account for free at the web www.3322.org or www.dyndns.org; or

You can register on DVR2009.3322.org or dyndns.org website and get a domain name, user name, and password.



Picture 5-23

When selecting WCDMA (CDMA2000), user can input APN, user name, password and DNS etc provided by ISP, then click <Ok> and restart MDVR.

After restarting, you can visit a remote MDVR.

5.3.4.2 Router's Port Forwarding

Port forwarding is required when you want to access the DVR connected to the router from outside of the router's network.

If PPPoE is selected, port forwarding is not required. If Static or DHCP is selected, port forwarding is required. Please follow below steps for port forwarding:

1. Input router's IP address from IE-based browser to open the Router configuration interface shown as Picture 5-24;
2. Click [Transmittal rule] option to take you to the port forwarding instructions for your router;
3. The MDVR IP address for the intranet should be <192.168.1.101>, you should forward server port and web port to this IP address respectively.
4. Now user can visit the MDVR remotely.

ID	Service Port	IP Address	Protocol	Enable
1	9000	192.168.1.101	ALL	☒
2	8080	192.168.1.101	ALL	☒
3	554	192.168.1.101	ALL	☒
4		192.168.1.	ALL	☐
5		192.168.1.	ALL	☐
6		192.168.1.	ALL	☐
7		192.168.1.	ALL	☐
8		192.168.1.	ALL	☐

Common Service Port: DNS(53) Copy to ID 1

Clear All Save

Friendly Reminder: The router's port forwarding interface may be different, however, when entering into virtual server, user will always need forward port (range: 1025~65535) of router to IP address of DVR allocated or automatically captured, and select [All] or [Both] in corresponding protocol column and save the above setting.

Picture 5-24

5.3.4.3 Sub stream

Go to [Main menu→Network→Sub Stream] to enter into the interface shown as Picture 5-25.

CH	Video	Fps	Bitrate	Audio
01	Enable	5	128	☐
02	Enable	5	128	☐
03	Enable	5	128	☐
04	Enable	5	128	☐

Close remote connection will not see video

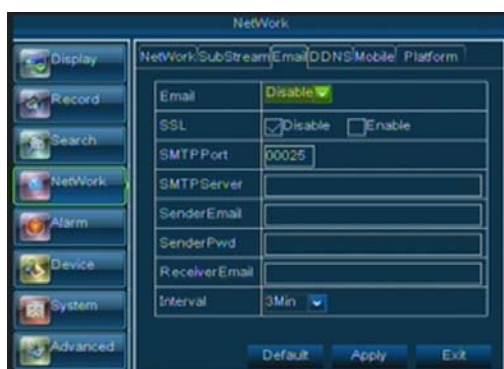
Default Apply Exit

- **Video:** allow you open or close the sub stream output. If you select "Enable" system will select sub-stream preview and guarantee image quality once network is unstable.
- **Frame rate:** allow you configure net transmittal frame rate. User could select the relative value by pull-down menu.
- **Bit rate:** allow you set net transmittal bit rate. User could select the relative value by pull-down menu.
- **Audio:** When tick-selecting the option, system will record video and audio simultaneously.

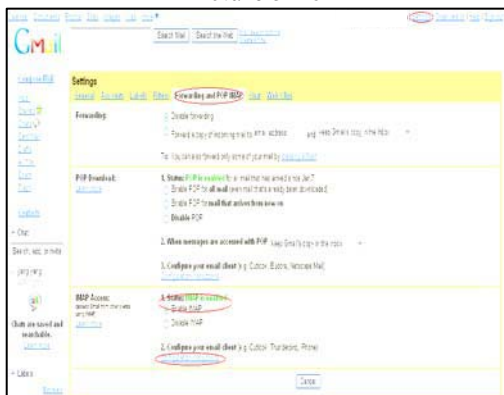
Picture 5-25

5.3.4.4 Email set

Click [Main Menu→Network→Email] option to enter into the email set interface shown as Picture 5-26

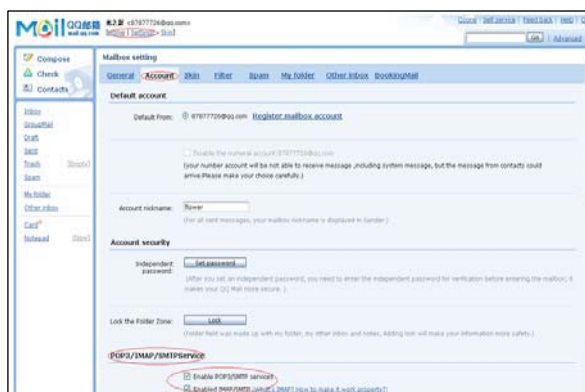


Picture 5-26



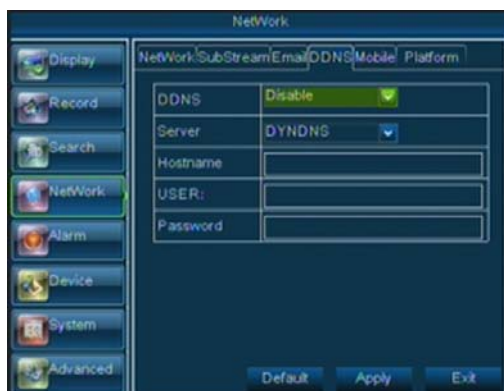
Picture 5-27

Detail STMP protocol, please refer to below Picture 5-28



Picture 5-28

5.3.4.5 DDNS Set



Picture 5-29

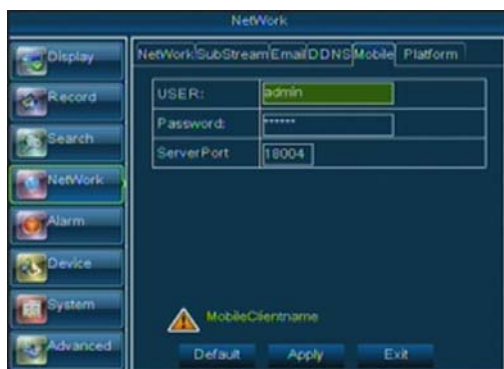
SSL: is a security link transport protocol. You can encrypt your communication info (including your email) using SSL to prevent hackers from monitoring your email or communication info and even your password.

- Please set SSL to “On” via Gmail.com server, and set to “Off” via other mail server.
- **SMTP Port:** indicate one kind of mail transmittal port opened by Simple Message Transfer Protocol (SMTP). The port number for most mails is 25 except such as Gmail server (Port No.: 465).
- **SMTP server:** indicates server address you used.
- **Sender address:** indicates sender’s email address. The email address should be consistent with the server you use. That is to say, when you use email address – aaa@gmail.com, the according server should be smtp.gmail.com.
- **Receiver address:** indicates receiver’s email address. The email address is used to receive image transmitted from DVR alarm. Please clear the images you have received as soon as possible to avoid overloading your email account.

- **Server:** select DDNS provider
- **Host name:** input the host domain name you have registered at dynamic domain name system, such as: MDVR2009.3322.org
- **User Name:** Input a user name registered before applying for a domain name;
- **Password:** Input a password you set when registering a user name.
- Click [Apply] button and restart the MDVR; and then enter the domain name (such as: <http://superdvr.3322.org:8080>) to visit your remote MDVR.

5.3.4.6 Mobile Set

Click [Main menu→Network→Mobile] to enter into the [Mobile] interface shown as Picture 5-30.



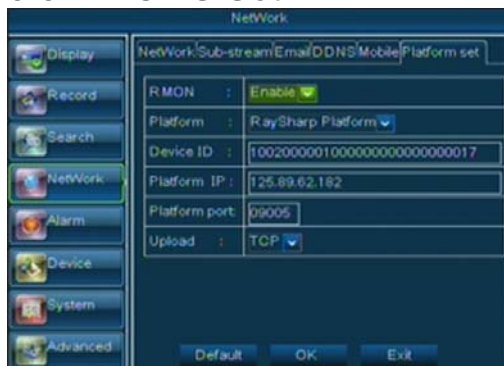
Picture 5-30

- **User Name:** indicate user name of DVR, and support numbers and characters and 1~15 bits length.
- **User password:** indicate user password of DVR, and also support numbers and characters and 1~15 bits length
- **Server port:** Mobile monitoring port. Setting range is between 1024 and 65535.

Note:

- 1、 The DVR is currently compatible with mobile phones running Andriod, Windows Mobile, Symbian operating systems, Iphone and Black berry on 3G networks.
- 2、 The server port here can't duplicate with network port

5.3.4.7 CMS Set



Picture 5-31

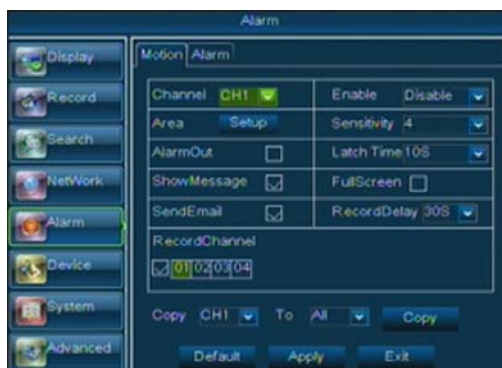
- **Remote Surveillance:** allow you enable the remote surveillance function.
- **CMS name:** input CMS name.
- **Device ID:** Input device ID no allocated by CMS system.
- **CMS IP:** Input public IP of CMS system.
- **CMS port:** Input according communication port
- **Upload mode:** defaulted to TCP.

5.3.5 Alarm set

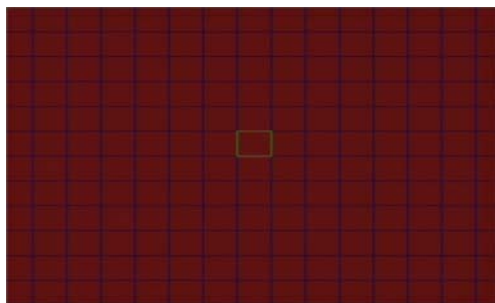
5.3.5.1 Motion Detection

Click [Main Menu→Device→Motion] to enter into the below interface shown as Picture 5-32.

- **Channel:** allow you enable/disable the motion function for any channel.
- **Area:** Click the [Setup] button to enter into area setup interface shown as Picture 5-33.
- **Sensitivity:** allow you to configure sensitivity level of motion detection from higher to low with 8 being the most sensitive.
- **Alarm out:** allow you connect external alarm sensor.
- **Latch time:** you can set how long the buzzer will sound when object move is detected (10s, 20s, 40s, 60s).



Picture 5-32



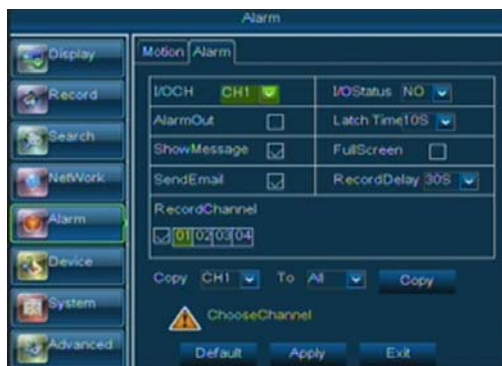
Picture 5-33

a 15X12grids (PAL mode) or 15X10grids (NTSC mode). When any object moves into the motion detection area, and the area where the object is located is displayed in red and motion detection will be triggered. In the semi-transparent area the motion detection is not activated.

5.2.5.2 Alarm Set

Click [Main Menu→Device→Alarm] to enter into the below interface shown as Picture 5-34.

Now you can perform alarm set based on different status. Details please refer to List 5-1.



Picture 5-34

- **I/O CH:** allow you select one desired channel
- **I/O Status:** allows you select the three options – NO (Normal Open), NC (Normal Close) and OFF. Set to “Normal Open”, I/O status Alarm will be activated while sensor is ON; set to “Normal Close”, I/O status alarm will be activated while sensor is OFF; set to “OFF”, I/O status alarm will not be triggered.
- **Alarm out:** allow you connect external alarm sensor.
- **Latch:** you can configure how long the buzzer will sound when external sensor alarm is detected (10s, 20, 40s, 60s)
- **Show Message:** You can set show message on the screen when sensor alarm is detected.
- **Full screen Alarm:** The function is defaulted to “On”. When the motion detection or external alarm is triggered, the corresponding channel will be switched to the full screen mode.
- **Send Email:** Allows you set the alarm images is issued to a specified email or not.
- **Record Delay:** you can set how long alarm record will last when alarm ends (30s, 1minute, 2minute, 5minute).
- **Record Channel:** the record channel will be activated external sensor alarm is triggered.
- **Copy:** allow you copy all the setting of one channel to other ones.

Alarm Type	Function
Video Loss	Sends alarm when DVR can't receive video signal (such as camera damage, cable broken or damaged or power supply malfunction).
Motion Detection	When an object moves into motion detection area, alarm will be triggered. You can adjust sensitivity level to suit the needs of your actual application environment.
I/O Status	System can convert alarm signal triggered by external sensor into signal identified by system.
HDD loss	When Hard Drive is not detected (HDD damage, power supply malfunction), or HDD auto-overwrite is off, and free space is not enough, an alarm will be triggered.

List 5-1

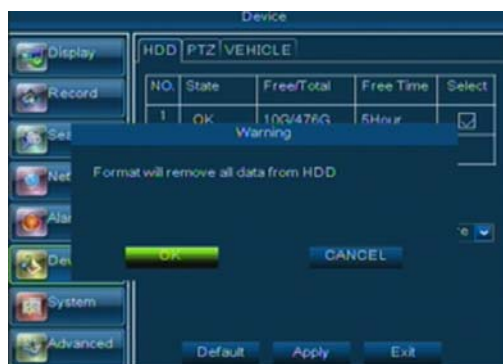
5.3.6 Device

5.3.6.1 HDD Set

Click [Main menu→Device→HDD] to enter into the interface shown as Picture 5-35.



Picture 5-35



Picture 5-36

When DVR is connected to a HDD, the system will automatically detect if HDD is normal or not;

If the cable connected to HDD is loosen or HDD is abnormal, HDD status will be shown as “No Disk”, or, If HDD need to be formatted, status will be shown as “no format”, otherwise, the HDD status will be shown as “Normal”

- **NO:** indicate HDD no pre-seted by system.
- **Status:** It will be available only when HDD have been formatted.
- **Total Space** – Total size of the hard drive currently installed.
- **Free Space** – Total amount of free space available on the hard drive currently installed.
- **Useable Rec. Time** – Free space currently available in hours.
- **Auto-overwrite** – When set to ENABLE the DVR will record over the oldest files on the hard drive. The DVR will always be able to record events as they happen, however, it does means that you'll need to get important events off the HDD before they're overwritten; and if overwrite is set to DISABLE the DVR will stop record once the DVR is full. Whilst you won't lose old footage, you run the risk of missing new events as they happen. Be sure you want to do this before selecting it.
- **HDD Alarm:** If you select <Restart>, that means system will auto restart two minutes later after power on when HDD can't be found or formatted, also user can select <Ignore> to cancel this <Restart> function.
- **HDD Format** – Formatting the HDD will erase all data (i.e. footage) which is stored on it, and re-create the FAT (file allocation table).

- **USB Format** - If you have a USB flash drive connected to the DVR, you can format that, too. To do this, click the [USB Format] button and click [OK].

Note: It is an important first step when configuring your DVR to make sure that the hard drive (HDD) options are correctly set. So, strongly suggest that you do format the HDD before start the first record.

5.2.6.2 PTZ Setting

Click [Main Menu→Device→PTZ] to enter into the below window shown as Picture 5-37.



Picture 5-37

You could select the channel you desire to control and set PTZ protocol (Pelco-D or Pelco-P), Baud Rate (1200, 2400, 4800, 9600), Data bit (8, 7, 6, 5), Stop bit (1, 2), Parity Check (None, Odd, Even, Mark, Space), Address Code and Cruise status respectively. Please note the PTZ device can be activated only when a channel in connection with the PTZ camera is selected.

5.3.6.3 Vehicle Setup

Enter into [Main menu→Device→ Vehicle] to enter into the interface shown as Picture 5-38.



Picture 5-38



Picture 5-39

- **Record LP:** allows you configure if the license plate number display on the recorded data or not.
- **Preview LP:** allows you set if the license plate number appear on Live screen or not.
- **Record GPS:** allows you add GPS information to video data.
- **Speed Resource:** achieved by GPS signal or sensor speed detection signal.
- **License Plate:** you can configure the car license plate here and the model supports the plate with Chinese character.
- **Delay power off:** you can configure how long DVR is delayed power off after car ignition is off. Options include <off, 1min, 5min, 10min, 20min, 30min, 40min, 50 min and 60min>
- **Speed Setting:** Enter into speed setting interface shown as Picture 5-40.
 - Click [Start speed test] button while car start moving.
 - Click [Stop] button when car dial plate shown one kilometer
 - Now you can find the pulse count per one km shown as Picture 5-40, click [Save] button to exit the interface.

Note: When starting speed test via Sensor, please connect green wire (Speed) to speed sensor.

5.3.7 System

5.3.7.1 General

Click [Main Menu→System→General] to enter into the interface shown as Picture 5-40.



Picture 5-40

You will be allowed to modify system date, time, date/time format, language, video format and auto logout.

And click [DST Setup] button to enter into the below interface shown as Picture 5-40

5.3.7.2 DST Set



Picture 5-41

Click [Main menu→General→DST] to enter into the interface shown as Picture 5-41 and now you are allowed to configure DST status and mode.

5.3.7.3 NTP Service

Click [Main menu→System→General→NTP] to enter into the interface shown as Picture 5-42.



Picture 5-42

- **NTP Service:** Allow you enable or disable the function.
- **Server Address:** Select NTP server (time.windows.com / time.nist.gov / pool.ntp.org).
- **Zone:** select according time zone.

The above change will be available only when system connected to internet.

Note: When NTP function is set to “Enable”, system will calibrate the time at every 00:07:50 and every start-up.

5.3.7.4 Users

Click [Main Menu→System→users] option and then enter into the interface shown as Picture 5-43.



Picture 5-43

The model supports up to seven users with one Admin and six users.

Click [Edit] button to enter into the [User Edit] interface shown as Picture 5-44.



Picture 5-44

User name consist of eight characters and password of numeric 0~9, and with fixed-length-6 bits.



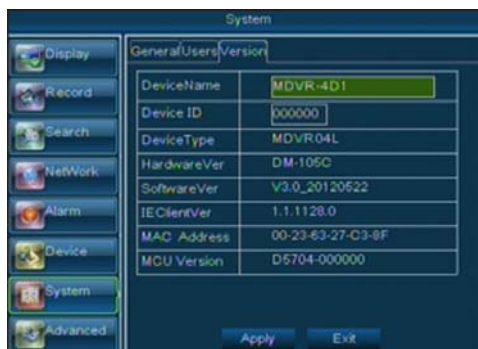
Picture 5-45

[Admin] is authorized to configure common user's rights.

- **Log Search:** allow you check the entire system log.
 - **Parameter:** allow you set all the parameters.
 - **System maintain:** allow you update version, recover ex-factory value, device reboot and shut down.
 - **Disk Manage:** allow you manage and control the HDDs.
 - **Remote Login:** allow you remote login MDVR.
 - **Rotate Control:** allow you sequence live screens for all the channels.
 - **Manual record:** allow you manually start/stop record.
- **Backup:** Tick-select the option, the user is allowed to backup the record of all the channels.
 - **Preview:** Tick-select the option and the user is allowed to preview all the live images for all the channels.
 - **Playback:** Tick-select the option and the user is allowed to playback the record you selected.
 - **PTZ control:** Tick-select the option and the user is allowed to perform the PTZ operation for the selected channel.

5.3.7.5 Version

Click [Main Menu→System→Version] and then enter into the interface shown as Picture 5-46.



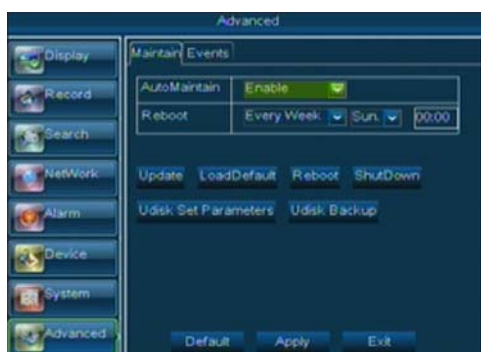
Picture 5-46

Now user can check the current Device name, No, Type, firmware version, software version, IE version and MAC address etc.

5.3.8 Advance

5.3.8.1 Maintenance

Click [Main menu→Advance→Maintain] to enter into the maintain interface shown as Picture 5-47.



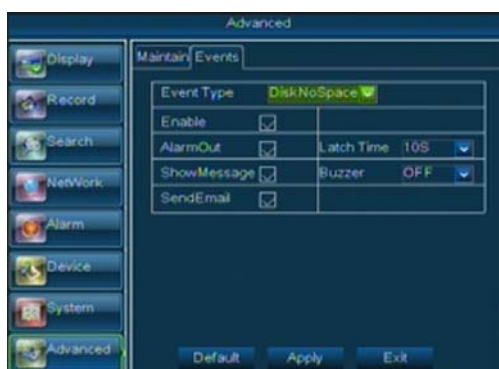
Picture 5-47

- **Auto Maintain:** You can enable the auto maintain function regularly as per user's need.
- **System Upgrade:** allow you upgrade your system via U flash disk. System will auto reboot after upgrading.
- **Load Default:** If [Load Default] is selected, you can initialize the system to the ex-factory default
- **Reboot:** Click [Reboot] button to manually restart MDVR system.
- **Shutdown:** Click the [Shutdown] button to shutdown the device.

- **Copy Parameter to Device:** Allow you copy the parameter of U flash disk to MDVR;
- **Backup Device to USB:** Allow you backup the parameter in the MDVR to U flash disk.
- **System Upgrade:**
 1. You can insert a USB memory into USB port for updating;
 2. Do not take out the USB memory or break the power during the update.
 3. When the update is done, system will be automatically restarted.
 4. Please manually recovery ex-factory default after system rebooting.

5.3.8.2 Abnormal

Click [Main menu→Advance→Abnormal] to enter into the abnormal interface shown as Picture 5-48.



Picture 5-48

- **Event Type:** support the three abnormal types: Disk No Space, Disk Error and Video Loss.
- **Event Manager:** allow you enable/disable the option
- **Alarm output:** allow you enable/disable the option
- **Latch:** you can set how long the buzzer will sound when alarm is detected (10s, 20, 40s, 60s);
- **Show Message:** You can set show message on the screen when sensor alarm is detected.
- **Buzzer time:** you can set how long the buzzer will sound when motion is detected (Off, 10s, 20, 40s, 60s).

- **Send Email:** Allows you set the abnormal images is issued to a specified email or not.

5.4 Menu Lock

Considering a system safety feature you can click [🔒] icon to lock system interface when leaving the DVR. If you want to login to the DVR again, you would input device code and password to unlock the interface shown as Picture 5-49.



Picture 5-49

Friendly Reminder: Administrator has full authority over Main Menu operations, and user's permission to access menu must be authorized by administrator.

5.5 Split mode

Click  icon on the tool bar to enter into quad mode. The model allow you toggle between single mode and quad mode.

5.6 PTZ Control



Picture 5-50

Click the  icon to enter into [PTZ control] menu shown as Picture 5-51. Now user can control the camera with Pan, Tilt and Zoom capabilities.

Click [Zoom-/+] button to zoom in / out the image; Click [Focus -/+] button to focus the image; Click [Iris -/+] button adjust iris to open or close.

Cruise Set

Open auto cruise function on PTZ setting menu if you want to setup cruise function (system default: off), and set up cruise channel, cur point and total quantity and stop time etc

- **Total:** set up pre-set bit quantity
- **Cur Point:** indicates starting point cruised. System default point is 01. the model support up to 255 pre-set bit.
- **Stop time:** sets the stop time at each point
- **GOTO:** allow you go to a specific preset point.
- **Set:** allow you configure a set of specific preset points of a PTZ camera.
 1. Select a camera you desire to set a preset point;
 2. Adjust the camera in a desired direction;
 3. Click [Set] to set the point as preset point;
 4. Click [Save] to save the preset point;
 5. Follow the above step to add one more preset point.
- **Save:** save all the preset points
- **Clean:** allow you delete one selected preset.

Note: Up to 254 pre-sets per one camera can be stored. However, actual preset quantity differs depending on PTZ performance.

5.7 Start Cruise

If multiple presets are specified, the PTZ camera will automatically move to the entire preset one at a time whilst user activates [Start Cruise ] options. If you want to stop cruise, please click [] icon on the [Tool] column.

5.8 Record search

You could enter into [Record Search] menu from Context-Sensitive menu conveniently and quickly and search/playback the record histories. We introduced Record search details previously in Section 5.3.3.

5.9 Manual Record

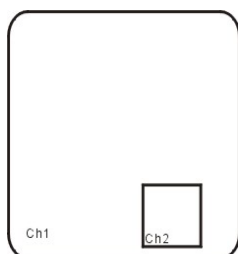
You can start manual record function, or you also can click  button on the Front panel or Remote controller to activate manual record. Please stop record manually once you activate manual record.

5.10 Stop record

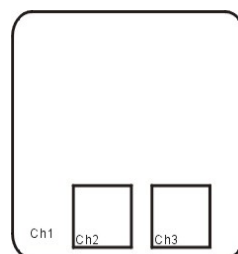
To stop record quickly, please press [Stop] button on the remote controller.

5.11 PIP Mode

You can display a Picture-in-Picture in live mode. PIP has two display modes, including 1X1 display mode and 1X2 display mode.



1x1 display mode



1x2 display mode

5.12 Mute

Click the  icon, or press <Mute> button on the front panel and Remote controller to control the mute of MDVR shown as Picture 5-7.

Chapter 6- Appendix

6.1 Record Alarm setting

Please refer the below matrix: “⊥” stand for “only alarm but no record”; “AMR” stand for “alarm record”; “NLR” stand for “normal record”; and “NOR” stand for “no record”. Once alarm is triggered, alarm icon will occur, and when many alarms are triggered, alarm remarks will occur on the screen.

Record alarm setting		Alarm icon	Record Mode				
			Record after power on	Scheduled recording			Manual Record
				AMR	NLR	NOR	
Alarm mode	MD alarm		AMR	AMR	NLR	⊥	NLR
	I/O triggered alarm		AMR	AMR	NLR	⊥	NLR
	HDD loss, HDD Full		⊥	⊥	⊥	⊥	⊥
	Video Loss	Video Loss	⊥	⊥	⊥	⊥	⊥

List 6-1

In the record mode,  icon or  icon will appear on the screen. But when  icon and  icon appear on the screen that means a motion alarm is triggered. When  icon appears on the screen, that means HDD alarm

has occurred.

6.2 Mail box server List

Web site	Mail box	Sender server (25)	Receiver server (110)
www.163.com	@163.com	smtp.163.com	pop3.163.com
	@vip.163.com	smtp.vip.163.com	pop.vip.163.com
	@188.com	smtp.188.com	pop.188.com
	@126.com	smtp.126.com	pop3.126.com
	@netease.com	smtp.netease.com	pop.netease.com
	@yeah.net	smtp.yeah.net	pop.netease.com
www.qq.com	@qq.com	smtp.qq.com	pop.qq.com
163.net		smtp.163vip.net	popx.163vip.net
www.sina.com	@sina.com.cn	smtp.sina.com.cn	pop3.sina.com.cn
www.yahoo.com	@yahoo.com.cn	smtp.mail.yahoo.com.cn	pop.mail.yahoo.com.cn
	@yahoo.com	smtp.mail.yahoo.com	pop.mail.yahoo.com
google.com	@gmail.com	smtp.gmail.com(465/587)	pop.gmail.com(995)
www.china.com	@china.com	smtp.china.com	pop.china.com
www.sohu.com	@sohu.com	smtp.sohu.com	pop.sohu.com
Mail.163.com		smtp.163.net	pop.163.net
Mail.163vip.com		smtp.163vip.net	pop.163vip.net
Mail.tom.com	@tom.com	smtp.tom.com	pop.tom.com
Mail.263.com	@263.net	smtp.263.net	pop3.263.net
x263.net		smtp.x263.net	pop.x263.net
263.net.cn		smtp.263.net.cn	pop.263.net.cn
139 mail box	@139.com	smtp.139.com	pop.139.com
21cn.com		smtp.21cn.com	pop.21cn.com
Vip.21cn.com		vip.21cn.com	vip.21cn.com
etang.com		smtp.etang.com	pop.etang.com
elong.com		smtp.elong.com	pop3.elong.com

List 6-2

6.3 Troubleshooting

- Q: What can I do if the system does not detect the HDD?
A: Check if the power supply system is properly connected and data cord and power cables are securely connected.
- Q: We have changed the password but do not remember the new password, how can we access the system?
A: If you forget system password, please consult with the service personnel.
- Q: We are not getting any video signal on the DVR, what is wrong?
A: Check camera video cable and connections; or check monitor video cable and connections; or confirm that the camera has the power and / or check camera lens setting.
- Q: Why some channels display just a blank screen even if they receive video sources?
A: Check if the camera is connected to the system properly displays the image; check if the camera is properly supplied with power.
- Q: Can the DVR have problems if it gets too hot, how can I prevent this?

A: The DVR has a fan to help it dissipate heat while it is running. Please place the DVR in a place where there is good air circulation and away from heat sources to increase stability and life of the DVR.

6. Q: "Record" Can not work normally, how to deal with?

A: Check if the current screen is in Play mode, pressing [Stop] button to exit the Play mode and then you can enter into the [Record] function.

7. Q: Why the Remote Controller can't work normally?

A: Check if the battery is power off; or check if the Remote Controller is broken.

8. Q: Can we records whilst playing-back?

A: Yeah, you can do it. The system support you records whilst playing-back.

9. Q: Can we erase some recorded file from DVR.

A: Considering the safety factor, you can't delete the recorded file directly from the device. When you actually erase all the recorded files, please select HDD format function

10. Q: Why does the Buzzer keep sounding?

A: Please check if motion detection is on and the system has detected motion, make sure the HDD is being detected and has sufficient space available; check if video has lost etc.

11. Q: Why can't stop [Stop] function?

A: Pressing [Stop] button only can stop manual record. If you want to stop Scheduled record, please revise to [No Record] during this period.

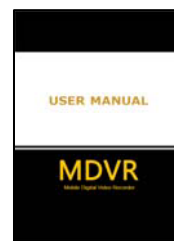
6.4 Accessory



Remote Controller



Software CD



User Manual



Warranty Card



Power Cord



A/V Cable



COM Cable



IO Cable



Sensor Cable



GPS Mould Antenna (Optional)



3G Mould Antenna (Optional)



Triple USB Cable



Two Keys

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