Operation Manual

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19. Charge Led	20. USB Port	21. DC5V In Jack
22. I/O Port		

Ⅱ. **Remote Control**
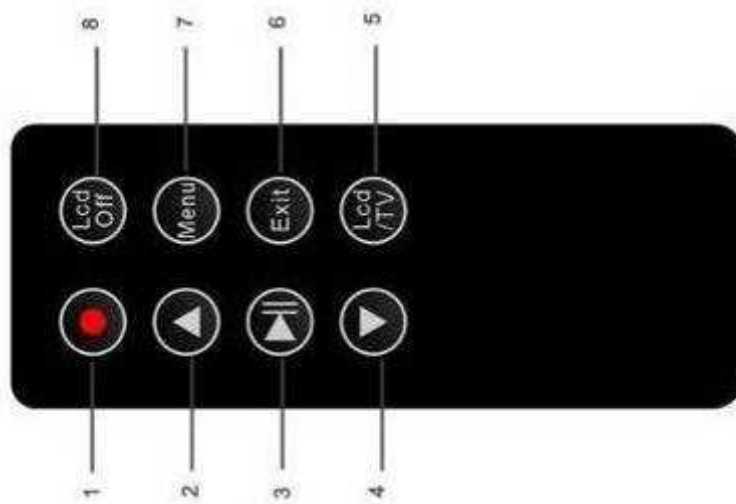
1. Record/Stop button　　　2. Up Button　　　　　　　3. Enter Button;

4. Down Button　　　　　　5. LCD/TV Switch Button　　6. Exit Button;

7. Menu Button　　　　　　8. LCD Off Button;

Ⅲ. **Accessories**

AC Power Supply　　　　Battery Pack　　　　AV In/ DC Out Cable　　　AV Out Cable

USB HD Cable　　　　　I/O Cable　　　　　Alarm In Cable　　　　USB Cable

Carrying Case　　　　Wireless Remote　　　　User's Manual　　　　Box

Setting Record Modes

 There are three modes for your video and audio record or pictures capture:

- **Video & Audio Mode** ----- When in this position "v" ,The DVR is set to record digital MPEG video and MP3 digital audio. The recorded data will be saved in the folder "Video" with the extension name "ASF", the prompt information "FMT: ASF" will be appear on the top right corner of the screen;
- **Photo Capture Mode** --- When in this position "P", The DVR is set to capture single frame JPEG images if you have an external camera attached. The image files will be saved in the folder "Photo", the prompt information "FMT: JPG" will be appear on the top right corner of the screen;
- **Audio Only** ---- When in this position "A", The DVR is set to record digital MP3 audio from the external microphone or the internal microphone. The audio file will be saved in the folder "Voice", the prompt information "FMT: VOICE" will be appear on the top right corner of the screen；

Basic Operation

Ⅰ. **How to turn on / off the DVR:**

- Turn on /off the DVR by the Power On/Off switch.

Push Power On/Off to "On" side until the RED power led light to turn the DVR on ,then the startup will be finished in 3-4second after you release the button，Then RED led will light and the prompt information and a video image will appear on the monitor if the DVR has an external video source plugged in, as shown in Figure 1, otherwise the LCD is dark with the flash letter "Video signal loss!!! " on the center of monitor, as shown in Figure 2; when the DVR is power on, push the Power On/Off switch to "On" side until the letters "Power off" appear on the monitor to turn the DVR off, the power led and the LCD will be dark within 3 seconds after you release the switch;
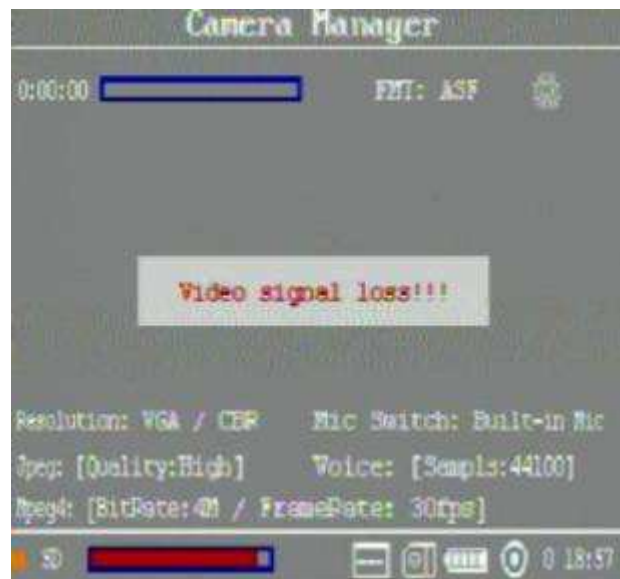

Figure 1   Figure 2

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- Turn on /off the DVR by Alarm In Cable

When the Alarm In Cable Button ![alarm in cable] is pushed down the DVR will finish initial startup

automatically if you have inserted the Alarm In Cable into the AV Out& Alarm In Jack [AV Out]; when the DVR is power on, About 5 seconds after the button of the Alarm In Cable Button is released, the letters "Power off" appear on the monitor then the DVR will be power off automatically if the Alarm Io Trig setting is Yes and there is a SD card in the socket;

- Turn on /off the DVR by IO Port

The DVR will finish initial startup automatically if the Pin 1 and Pin 2 of the I/O Port [I/O] are shorted together;

when the DVR is power on, About 5 seconds after the Pin 1 and Pin 2 are opened the letters "Power off" appear on the monitor and the DVR will be power off automatically if the Alarm I/O Trigger setting is Yes and there is a SD card in the socket, as shown in Figure 3
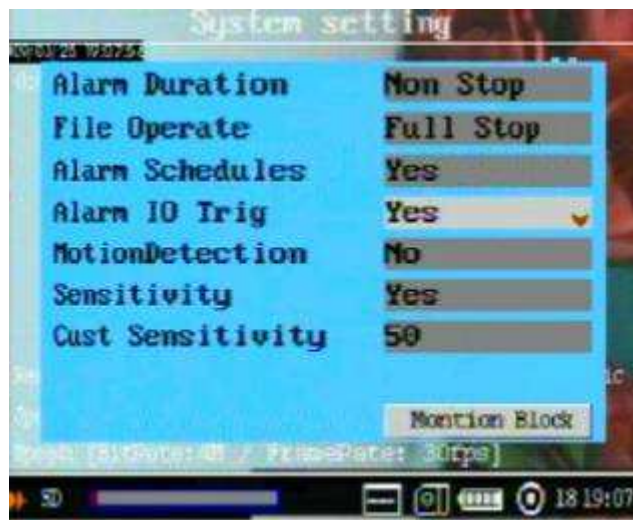

Figure 3

- You can turn the DVR off by push the Reset Button [Reset] promptly;
- You can turn off the DVR on your schedule as the setting automatic shutdown time, as shown in Figure 4;

Figure 4

PS: Camera Manager Interface orientation as the following: (as shown in Figure 5)
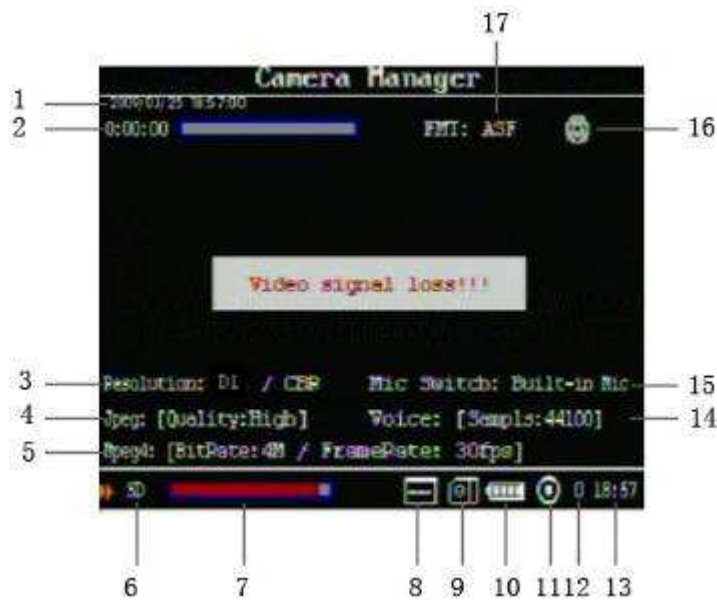
Figure 5

1. Date and Time Stamped;   2.Total Record Time;   3.Image Size;

4.Picture Format;   5.Video Record Parameters;   6.Current Storage Media;

7.Current Capacity of Memory;   8.USB Storage Media;   9.SD Card;

10.Battery Power;   11.Microphone;   12.Gain Level of Microphone;

13. Current Time.   14. Voice Samples;   15. Current Audio Source;

16.Alarm On/Off Icon;   17.Record Mode;

Ⅱ. **How to start a recording**

1. **Preparing for your recording task:**

- Select a correct record mode for your task by pushing the Mode Select Switch ;
- Please charge the inner mobile battery over 4 hours before you begin recording ; we advise that you equip the UPS Battery Bank (7200mAH) to the DVR for your long time record task; as shown in Figure 6;

Figure   6

- The special external camera from our DVR kits can be connected to the DVR directly via the AV-In port, the DVR can output DC5V @ 400mA for a external DC5V CCD or CMOS camera by the AV-In cable;
- Select a storage media for you save the recorded data, if the DVR can not detect the storage media that you had selected, the media selection popup menu will appear on the screen to prompt you select another one, as shown in Figure 7,8, The DVR can support a SD card or USB storage media in FAT32 over 16G. The external mobile hard disk's power consumption dose not over 5V@400mA;
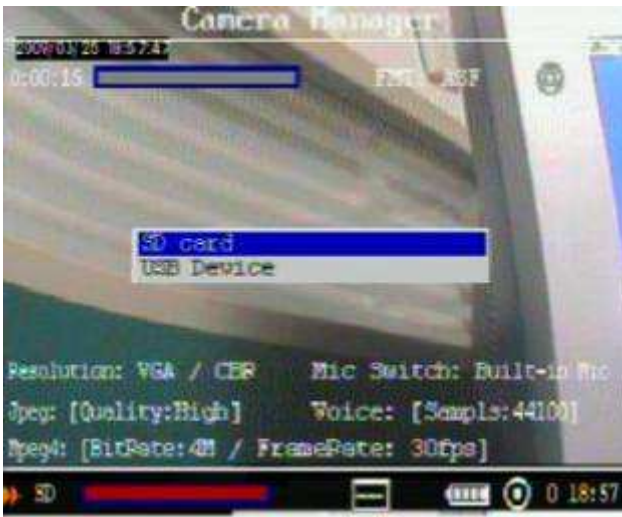
6

Figure 7   Figure 8

● A video image and OSD will appear on the screen of the display device, you can select a TV or LCD as the display device by pressing the LCD/TV Switch Button [icon] on Wireless Remote Controller , press the button [icon] to switch the display as the following: LCD--> TV PAL-->TV NTSC→LCD, if you keep the TV Output Type Setting is TV then turn the DVR off, the LCD will be dark when you turn the DVR on next time, please press the LCD/TV Switch Button [icon] on Wireless Remote Control to change the display device or connect to external monitor by the AV-Out cable to change the setting, as shown in Figure 9; You can adjust the bright of OSD by selecting the OSD Transparency setting, as shown in Figure10，
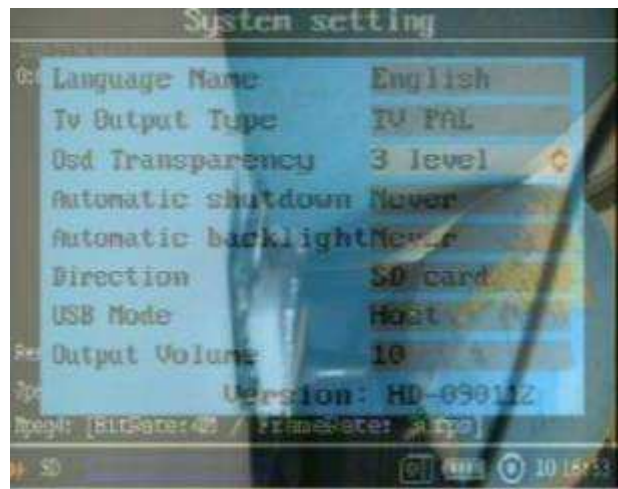

Figure9   Figure 10

2. How to capture the video and audio:

● Push the Record / Stop Button [icon] on device to start a recording, the RED LED and the RED dot icon on the right up corner of screen will flash at once per second until the button be pressed again to stop recording; the total time for record will be shown on the right up corner, as shown in Figure 11, you can adjust the gain level of the microphone by pressing the button Up [icon] or Down [icon] ,we recommend that the gain number ought to be 0 or 1. in order to reduce noise if the audio source is the external microphone; but the gain number should be about 10 in order to get the louder sound if the audio source is the inner microphone.

- **One button for your recording task.** If the Alarm I/O Trigger Setting is Yes and the Alarm In Cable has been plugged into the AV Out port, as shown in Figure 12, the DVR will finish initial startup to do a recording automatically when the button of the Alarm In Cable ✎ is pushed down, About 3 seconds after you release the button to stop recording, the letters "Power off" will appear on the monitor and the DVR will stop recording and shut down automatically.

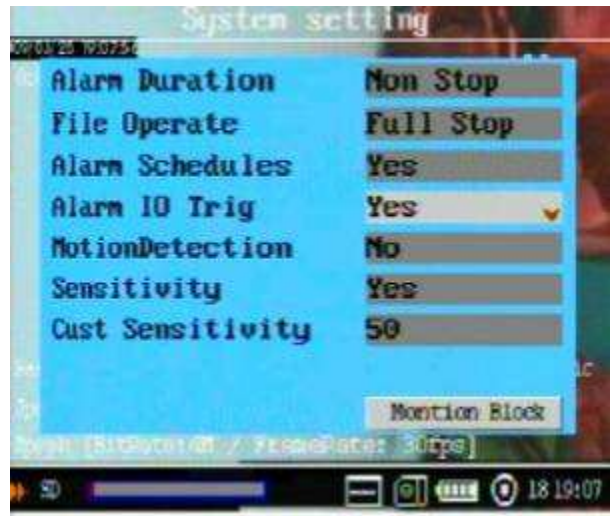Figure 11   Figure 12

- When the Alarm I/O Trigger Setting is Yes, as shown in Figure 11, the DVR will finish startup to record automatically if the Pin 1 and Pin 2 of the I/O port are shorted together; About 5 seconds after the Pin1 and Pin2 are opened, the letters "Power off" appear on the monitor and the DVR will stop recording and shut down automatically.

- When the setting Alarm Schedules is Yes and you have set the record function on your schedule, as shown in Figure 13, the DVR will do the recording automatically during the time that you had set ,

Figure 13

- Motion detect recording, the DVR will be triggered to record when only the video image is changed in the motion detect red area covered by the red block, as how in Figure14,15.
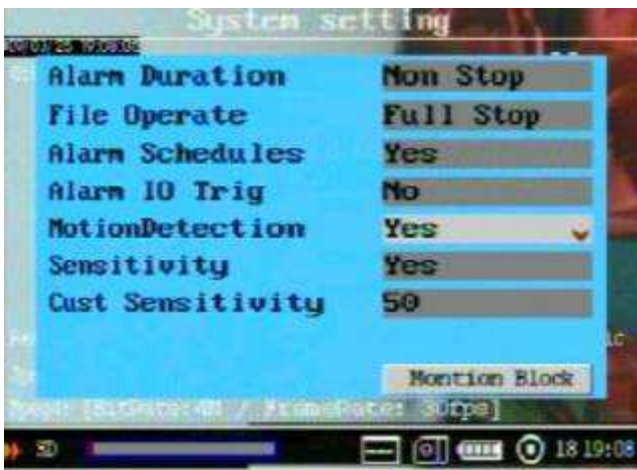
8

Figure 14   Figure 15

Ps: The alarm clock icon on the right up corner will be changed when the setting Alarm Schedules or Alarm I/O Trigger or Motion Detection setting is Yes. As how in Figure 16;

Figure 16

- The captured video and audio files will be saved in the length time as your selection in the item Alarm Duration; as shown in Figure 17;
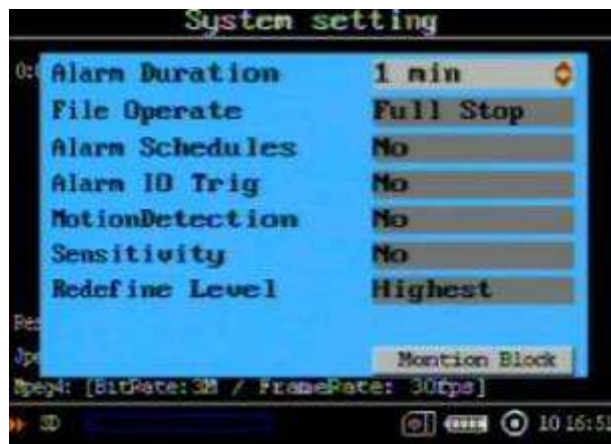

Figure 17

- The recording total times will be shown on the left up corner of the screen and storage capacity will be shown the left down corner of the screen. The storage attached, battery power, microphone icon and gain level, current time are shown on the bottom of the screen; as shown in Figure 16;

- You can push the Lock Switch to lock all buttons and wireless control functions in order to prevent from the recording be interrupted unexpectedly, the lock icon will appear on the bottom when the lock is available, as shown in Figure 18;

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Figure 18

Ⅳ. **Managing and play back your files**

On the Camera Manager screen, press the Menu Button, The pop-up menu will appear on the screen, select File View option, as shown in figure 19, the screen will appear as shown in Figure 20

Figure 19

Figure 20

● **Playing back record files:**

Play back the video files: Press the select button on the Video Player item option to play back the video files; the prompt information will appear on the screen such as: player progress, total times, file's name, directory, sound volume, etc. as shown in Figure21, when one playing task is over the screen will appear as shown in Figure 22 for you select next operation

Figure 21

Figure 22

Browse still photos: Press the select button on the image Viewer item to browse the still photos;

Play back the audio files: Press the select button on the Voice Player item to play back the audio files;

● **Managing recorded files:**

Move the cursor onto the Files Brower, then press Select Button to select the storage media, (the "usb" is a attached USB storage media, such as hard driver or U-disk, the "sd " is SD card, as shown in Figure 23), then the folders and files will appear the screen, as shown in Figure 24; the recorded files will be listed by the order of record time, as shown in Figure 25, move the cursor to select a file, when press the Menu Button , the file manager menu will popup on the screen, as shown in Figure 26, you can play back, copy, paste, delete the file, or view it's attribute etc.
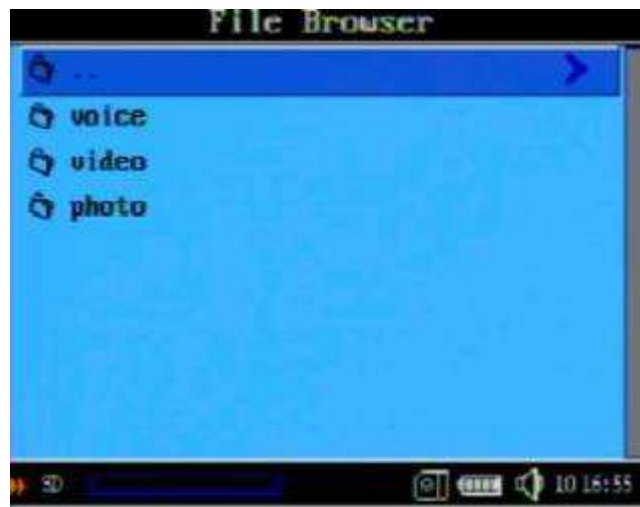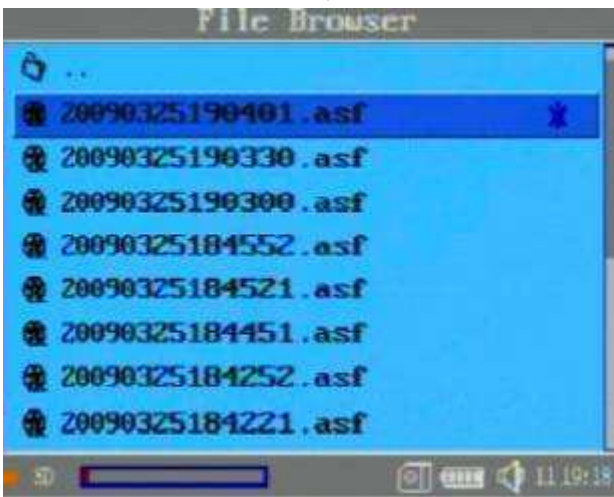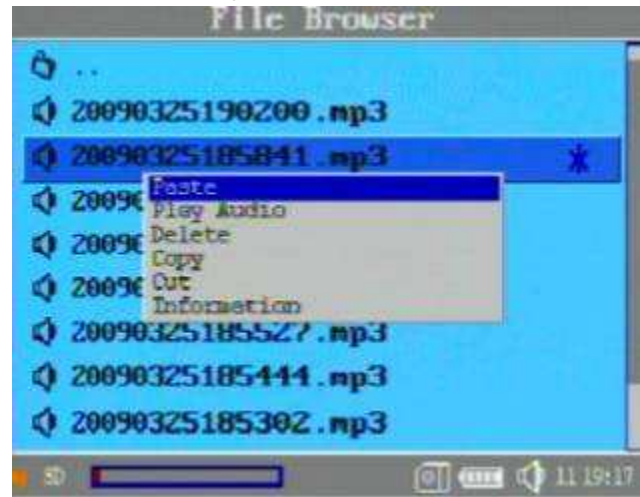

Figure 23

Figure 24

Figure 25

Figure 26

● **Format the storage media:**

Select a storage media, then press the menu button , on the popup menu select the Format item to format the storage media; as shown in the figure 27;

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Figure 27

Ⅲ. System Parameter Setting

1. Learning to use the navigation buttons

- ●   : For bring out the popup menu or shut it or move the cursor in some times;

- ● : For moving   cursor or adjust the value of speaker/microphone and the number ;

- ● :For exit;

- ●   : for selecting or enter;

Figure 28   Figure 29

E.g. When the DVR is powered on, the screen will appear on the built in LCD, as shown in Figure 28, Press the Menu Button to bring out the pop-up main menu, as shown in Figure 29, Press the Up or Down button to move the cursor on the Setting line, then press the Select Button to select it. The setting main menu will appear, as shown in Figure 29, in this screen press the Menu button to move the cursor on the Record Setting line then press the Select button , the screen will appear, as shown in Figure 30,   the up arrowhead on the right means you can use the UP Button to change the selection, the down arrowhead on the right means you can use the Down Button to change the selection, if you press the , it will exit the screen and save your selections;

Ps: The same functions can be accessed via the Wireless Remote Controller

2. Record Setting (shown as in Figure30，31)

Figure 30

Figure 31

- **Resolution:** You can select the image size for your photo or video capture: D1:720*480 or 720*576, VGA:680*480 ；
- **Rate Control:** Rate Control Mode for your video recording: **VBR**（Variable Bit rate）; **ABR**（Average Bit rate）;

  CBR（Constant Bit rate）;
- **JPEG Quality:** You can select a quality grade for your photos: High, Normal or Low;
- **MPEG Rate:** You can select a bit rate 4Mbps,3Mbps,2Mbps,1.5Mbps or 0.75Mbps for video record, the video quality will be better when you select a bigger bit rate;
- **MPEG Rate:** This option is for setting how many frames picture per second when you video record, such as 30 frames per second, 15 frames per second;
- **Color System:** This option is for setting the video input format: such as PAL 50Hz, NTSC 60Hz, or Auto Select it by the DVR;
- **Mic Switch:** You can select the build in microphone or external microphone as your audio source;
- **Mic Gain:** You can adjust the volume level value for the audio input in 1 to 18;

3. System Time (shown as in Figure 32,33)

Figure 32

Figure 33

- **Setting system date and time:** Use the navigation buttons to move the cursor to the date line and correct the YEAR,DAY or MONTH, Next move to the time line and adjust to the correct time for your time zone.
- **Timestamp and format:** The timestamp will appear on left top of the video image when your selection Timestamp setting is On, otherwise the timestamp will not been shown;

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4. Schedule Presetting

Figure 34

Figure 35

You can program your recording on your schedule by setting this item, as shown in Figure 34 and Figure 35.
- **Choice**: Enable or Disable the schedule record function;
- **Time:** Set date that you plan to record;
- **Start:** Set the start time for your recording
- **Duration:** Set the record time length ;
- **Clear All:** It will clear all schedule setting if you press the button [button icon] on the Clear All item;
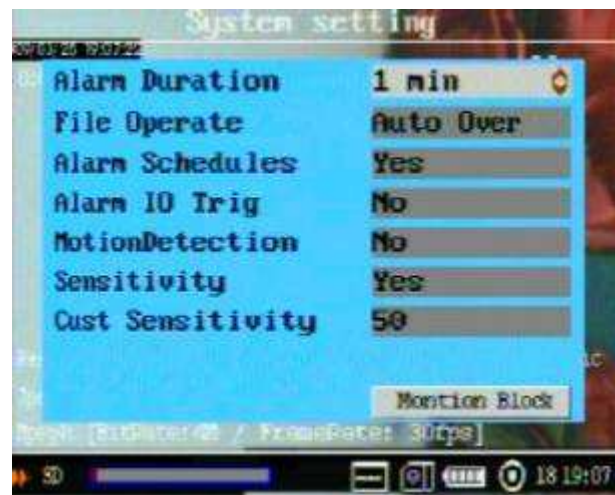
5. Alarm Setting

Figure 36

Figure37

The following setting is for the Alarm In, I\O Trigger, Schedule Presetting Record and Motion Detection, as shown in the Figure 36 , Figure 37;
- **Alarm Duration:** Setting the video and audio files' time length for package in saving , you can save your video and audio data in many different size files segments such as 10 second ,30 second ,1 minute, 5 minutes, 10 minutes, etc. or continious,   in order to avoid losing all record data unexpectedly;
- **File Operate:** If your selection is FULL STOP ,the DVR will stop recording once the SD Disc or external hard drive becomes full, if your selection is FULL OVERWRITE, the DVR will continue to record by writing over the old files once the SD Disc or external hard drive becomes full;
- **Alarm Schedules:** You can select the YES or NO to enable or disable the Schedule Presetting Record function;
- **Alarm IO Trigger:** When you select the YES to enable the I/O and Alarm In record function, the DVR will finish initial startup to record automatically once the button of the Alarm In Cable is pushed down or the PIN 1 and PIN 2 of the I\O are shorted together , then it will stop recording and shut down after save the record data if the button of the Alarm In Cable is released or the PIN 1 and PIN2 is opened, When you select NO, you can only turn the DVR on by the Alarm in Cable or I\O but not do to do video and audio recording;

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- **Motion Detection:** You can select the YES or NO to enable or disable the Motion detection record function, When the motion detect record function is on, a motion can trigger a automatic recording;
- **Sensitivity and Redefine Level:** When you select the NO, the Redefine Level can be selected in highest, high, medium, low, lowest, When you select the YES , you can adjust the sensitivity in 1-50,
- **Motion Detect Block:** You can move the red block to the area that you will focus, when there is a motion in the area covered by the red block, it will trigger a automatic recording, as shown in the Figure 14 ;

6. **System Setting (**shown as in Figure38,39**)**

Figure38

Figure 39

- **Language Name:** For you select the OSD language for you can read;
- **TV Output Type:** Please select the correct TV out signal format for your external display device, and switch TV and LCD;
- **OSD Transparency:** For a OSD transparency selection in 1-7,
- **Automatic Shutdown:** when you select the ON to enable the automatic shutdown , the DVR will be power off automatically after time that you have selected;
- **Automatic Backlight:** when you select the ON to enable the automatic shutdown, the LCD will turn into dark automatically after the time that you have selected;
- **Direction:** You can select the storage media where you can save the record files, such as : SD card media, external USB storage medias, and your selection will be shown on the left bottom on the screen; as shown in Figure 39, the media selection pop-up menu will appear on center of the screen for your selection, once the DVR can not capture the media that you had selected, as shown in the Figure 7;
- **USB Mode:** when you need to attach a external hard disk or U disk to the DVR for saving record data, you must set the USB Mode into Host; when you need to attach the DVR to a computer by the USB port to download or upload some files, you must set the USB Mode into Device;
- **Output Volume:** You can adjust the output sound volume in 1-18 when you play back the files, and your selection will be saved, the output volume also can be adjusted by pressing the Up or Down button while you are play back the video and audio files temporarily without saving.

7. **System Log**

Future feature, Not available at this time.

8. **Reset to Default**

- You can reset the DVR to default setting if it is necessary; press the select button on this item, the pop-up dialog block will appear on the screen, then select the YES to reset to default setting;
- Reset to default setting by hardware: you can reset the setting by the following serial 4 steps too: press these buttons: 1. twice select button , 2, once Up button , 3, once Down button, 4. once Record / Stop Button 。

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How to Connect External Devices

● **Connect with the external camera:**

Figure 40

You can connect the special cameras to the DVR by the AV-In port directly, or you can input a video and audio source by the AV-In & DC Out cable, on the same time the DVR can output DC5V voltage (max 400mA) to power the external CCD or CMOS camera by the AV-In &DC Out cable, The yellow RCA connector is for video, the white and the red RCA connector are for audio;

● **Connecting with the UPS Battery Bank**

Figure 41   Figure 42

The UPS Battery Bank (7200mAH) can output DC 5V and DC12V voltage at the same time to power the DVR and a 12V Cameras for over 10 hours recording time, as shown in Figure 41 and Figure 42;

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● **Connecting with TV;**

Figure 43   Figure 44

Please set the correct TV out format for your TV set, as shown in Figure 43，44; on the other hand you can

switch the selection in PAL ,NTSC and LCD by pressing the button on the remote controller; The AV

Out Cable's yellow RCA connector is for video, the white and the red RCA connector is for audio;

● **Connecting with computer**

Figure 45   Figure 46

When you set the USB Mode into Device, shown as in Figure 45, you can connect the DVR with your
computer by the USB Port directly to transmit the files, as shown in Figure 46;

● **Connecting with wireless video and audio receiver**

You can connect the DVR with the wireless video and audio receiver for your remote recording, as shown in Figure 47.

Figure 47

● **Connecting with external hard disk**

Figure 48

Figure 49

When the USB Mode is set to Host, as shown in the Figure 48, you can connect a external hard disk to the DVR by USB cable as a extension storage media for your long time recording, the hard disk must be formatted into FAT32 format. as shown in Figure 49

● Programming the DVR to triggered

The DVR can be activated by a number of devices and objects as indicated in the illustration below. Using the I/O Port shown to the above, you can configure the DVR. When pin 1 and pin 2 are shorted together it will start initiate video and audio recording automatically, at the same time there will be a 3.3V voltage output between the pin1 and pin 3, When the pin 1 and pin 2 is opened, the DVR will stop recording to save the video and audio files, then it will be power off.

Figure 50

Type Usage

Figure 51

Updating the DVR Firmware

1. Copy the firmware update file to a SD card or external hard disk;
2. Insert the SD card into the DVR or attach the external hard disk to the DVR;

3. Locate the firmware, then press the Select Button ![icon] on the firmware file, the firmware update dialog block will appear on the screen, as shown in the Figure 52
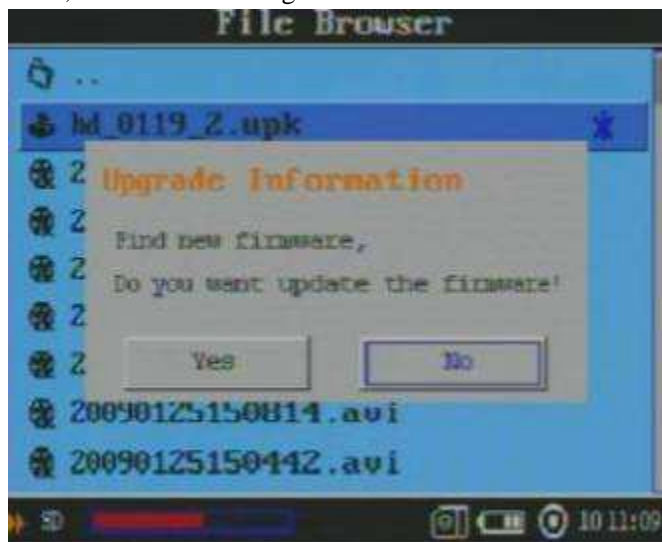

Figure 52

4. Move the cursor to YES button then press the Select Button ![icon], the DVR will finish the update program automatically, then shut down.

CAUTION : Your must fully charge the battery and connect the AC power supply to the DVR during updating the firmware, otherwise the root up files will be loss if the power is interrupted suddenly during updating the firmware, that will cause the DVR can not be turned on again

DVR Specifications

- **Video compressed format:** H.264 or MPEG , files format: ASF
- **Photo format:** JPG
- **High Resolution LCD:** 2.5", TFT true color LCD;
- **Audio and video output:** RCA 3-in-1 AV output;
- **Storage type:** hard disk and SD card(FAT 32 ,support over 16G);
- **Video size and speed:** PAL: 720x576(D1)/25FPS, NTS: 720x480(D1)/30FPS
- **Power supply for external camera is available:** Voltage: 5V max. current: 400 mA;
- **Video format:** NTSC/PAL;
- **Multi record mode:** Manual/Auto/Motion detection/Schedule for different scenarios;
- Real-time recordings are marked in File;
- **Compute transfer screen:** USB2.0;
- **Recording time:** 30minute~2.5 hours /1G ;:
- **Power consumption:** 200mA , 3.7V 1000 mAH chargeable Li-ion battery, 5.0V 2A AC Adapter;
- **Size:** 90 mm x 59 mm x23 mm;
- **Weight:**100g (including battery);

Security Version for Multi-user Access

The security version firmware for multi-user access can protect your record data files from deleted without your authorization; you can update the firmware into the security version for multi-user access if it is necessary;

To the security version firmware for multi-user access, there are three operation right levels for users: administrator, operator and viewer, the administrator user is a super user that can do any thing such as creating or revising user name and password, setting system parameter, managing recorded data, etc. the operator user can do a recording or manage the files except for not to be allowed to set system parameters and user name and password. The viewer user can only do some recording and review the recorded files, but it can not be allowed to delete the record files and set system parameter and user name & password.

1. Soft keyboard and key in button introduction

The below screen for a user log in will appear on the screen after the DVR is power on, (as shown in Figure 53), press

Figure 53

the Menu button ![button] to move the cursor focus in the user name or password column, then press the Select Button ![button] to bring out the key in soft keyboard (as shown in the Figure 54) , Only on the soft keyboard, the navigation buttons will been used as the following:

Figure 54

![button] to move the cursor left,

![button] to move the cursor right;

![button] to move the cursor up;

![button] to move the cursor down;

![button] to escape;

 to enter

2. How to create a user account

For the first time, there is a default super user with the name "admin" and password "9999" for your log in, then you can change the password and create others new user name and password as the following steps: 1) Press the to pop-up the main menu, then select the "Setting"(as shown in the Figure 55) and press button to enter

Figure 55

Figure 56

the system setting screen（as shown in Figure 56）locate the "Authority" to press the button . then the user manager screen will appear on the screen (as shown in Figure 57), on the user icon press the button to create or revise the user name or password or select a user right level, (as shown in Figure 58), when the cursor is in the edit column, press the button to bring out the soft keyboard for inputting the user name and password,(as shown in Figure 59), on the Authority option, pressing button and , and or , You can select the right level for the user, such as, "Admin", "Option"

Figure 57

Figure 58

Figure 59

Figure 60

or "View", (as shown in Figure 60), when all settings are ok, you can press the button "Confirm" to create the user account, otherwise, you can press the button ⬤ to exit, or you can press the button "Del User" to delete a user account.

3. User operation right level orientation:

Administrator: the administrator user is a super user that can do any thing such as creating or revising user name and password, setting system parameter, managing record files, etc, as shown in Figure 61, Figure62
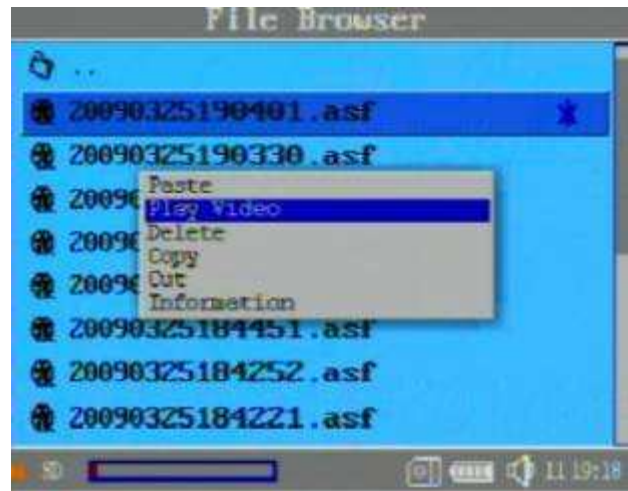

Figure 61

Figure62

Operator: the operator user can do some recording or manage the files except for not to set system parameter and user name and password. as shown in Figure 63 and Figure 64
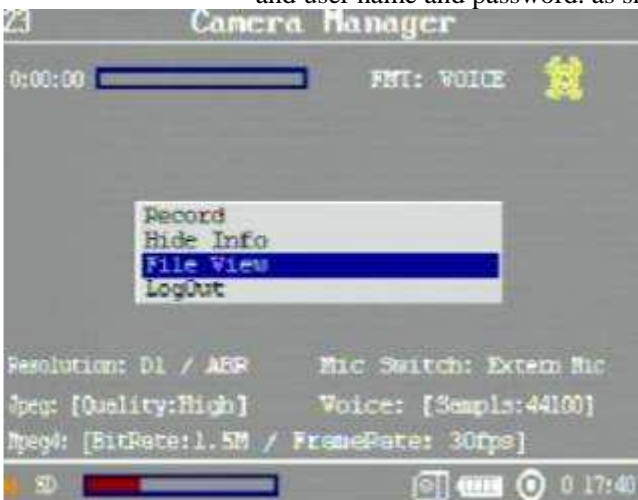

Figure 63

Figure 64

Viewer: the viewer can only do some recording and review the recorded data, but it can not be allowed to delete the record data and set system parameter and user & password, as shown in Figure 63 Figure
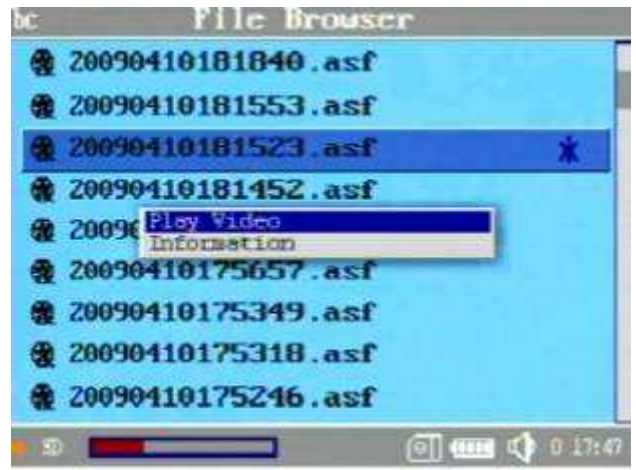
23

65,Figure 66;

Figure 65

Figure 66