CONTENTS

1. SAFETY PRECAUTIONS

⚡	CAUTION	⚠
	RISK OF ELECTRIC SHOCK. DO NOT OPEN!	

CAUTION :
TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DO NOT OPEN COVERS (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

It is advised to read the Safety Precaution Guide through carefully before operating the product, to prevent any possible danger.

⚠ **WARNING:** The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage".

⚠ **CAUTION:** The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance.

Do not Plug and unplug the power cord, it may result product malfunction.

Do not install the product in an environment where the humidity is high.
Unless the product is waterproof or weatherproof, otherwise poor image quality may occur.

Do not drop the product or subject them to physical shocks.
Except for vandal-proof or shockproof product, otherwise malfunctions may occur.

Never keep the product to direct strong light.
It can damage the product.

Do not spill liquid of any kind on the product.
If it gets wet, wipe it dry immediately. Alcohol or beverage can contain minerals that corrode the electronic components.

Do not install the product in extreme temperature conditions.
Use the camera under conditions where temperatures are between $0°C(32°F) \sim 45°C(113°F)$.
Be especially careful to provide ventilation when operating under high temperatures.

Do not replace or remove the antenna at will.
It can damage the product.

2. FEATURES

- The kit includes one MPEG4 DVR and one camera both build in 2.4 GHz wireless modules. The effective wireless transmission range of audio/video signal up to 50 M in open area.
- The camera builds in IR LED whose effective lighting distance is around 5 M. The video image is distinguishable even at dark place.
- The portable DVR builds in 2.5" Color TFT-LCD panel, speaker, and 4xAA battery power supply. There is no limitation for the place you can see the video and hear the voice wireless transmitted from the camera.
- The DVR supports NTSC or PAL video system, and auto detects video loss. AV line in or 4 channels RF input source is selectable.
- The DVR builds in MPEG4-SP video and G.726 audio codec. It supports 1 channel video and 1 channel audio record and playback operation. For 128 MB CF card, the record time is about 40 minutes at Middle Quality for NTSC: 30 fps @ 352 x 240 and PAL: 25 fps @ 352 x 280.
- Audio/ Video data are recorded directly on the Compact Flash card with FAT16 file system and ASF file format. You can backup the data to a PC, and playback those ASF files with popular media players.
- Recording date and time are video overlay with video images in ASF files.
- The DVR supports: manual, motion detection, and schedule recording mode with independent video size, quality, and frame rate set up.
- For motion detection, multiple detection blocks and appropriate motion trigger level can be set up.

3. PACKING LIST

Check to make sure all of the items shown below are included in your Portable Security Recorder Kit. If something is missing, contact your dealer as soon as possible.

Item Description	Item Picture	QTY
Wireless Portable MPEG4 DVR		1
Wireless IR Camera		**optional**
Audio /Video Cable		2
Car cigarette charger cable		1
Permanent power cable in car		1
Reinforce bracket for recorder		1
Round magnet reinforce bracket for recorder		1
Power Adapter 12V/ 1A (DVR & Camera)		2
User Manual		1

4. NAME and FUNCTION of EACH PART

4.1 MPEG4 DVR - Front View

(1)	LCD	:	2.5" COLOR TFT-LCD
(2)	POWER LED	:	Lights when POWER ON.
(3)	STATUS LED	:	Lights when recording, flashes when storage or otherwise unlit.
(4)	REC ● BUTTON	:	Press to start recording.
(5)	PLAY/ PAUSE ▶/Ⅱ BUTTON	:	Press to pause or restart playback.
(6)	DISPLAY ✸ BUTTON	:	Press to switch ON/ OFF status info or LCD monitor.
(7)	STOP/ EXIT ■ BUTTON	:	Press to stop playback or recording. Press to exit the menu.
(8&11)	▲VOL + / ▼VOL – BUTTON	:	Press to adjust the volume level. Press to move the cursor up or down.
(9&13)	◀◀CH- / ▶▶CH+ BUTTON	:	Press to switch camera channels Press to fast forward or fast rewind. Press to step play.
(10)	⧉ MENU/ ENTER BUTTON	:	Press to enter menu setup.
(12)	ANTENNA		
(14)	BUILD-IN SPEAKER.		

4.2 MPEG4 DVR – Side View

(1) INPUT SOURCE: Switches to RF or AV cameras.

(2) AV IN:

Video In

Audio In

AV In
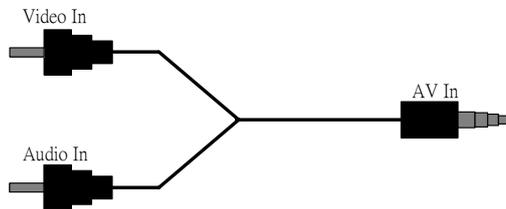
Audio/Video IN: 3.5 mm $\varnothing$ jack for audio/ video line in.

(3) AV OUT:

Video Out

Audio Out

AV Out
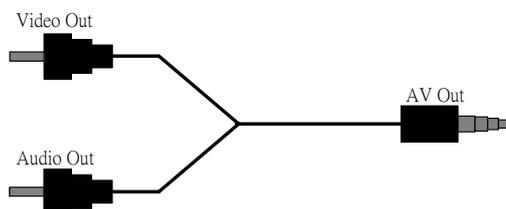
Audio/Video OUT: 3.5 mm $\varnothing$ jack for audio/ video line out.

(4) VIDEO SYSTEM: Switches video system to NTSC or PAL format.

(5) POWER ON: Switches power to ON or OFF.

(6) DC 12V IN: Power input.

(7) Compact Flash Card Slot.

INPUT SOURCE
RF
AV
①

AV IN
②

AV OUT
③

VIDEO SYSTEM
NTSC
PAL
④

POWER
ON
OFF
⑤

DC 12V IN
⑥

⑦
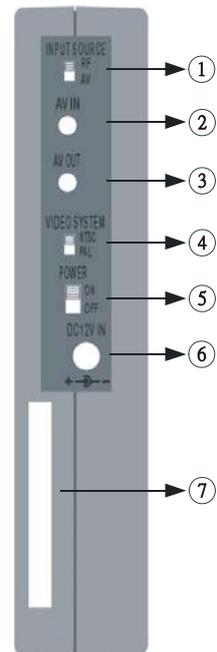
4.3 When MPEG4 DVR applied to Auto installing guard against theft Recording   configuration Device

1.Installing Suction Cup on Auto glass

2. Installing Suction Cup on motorcar

3.Installing MPEG4 DVR batteries

4.Installed on the side of glass

5.Installed in drawer, and wireless Recording

6. Camouflaged at the back of Auto, and wireless recording

6. Put camera under windscreen
   Take the full motorcar photos
   Selectable and adjustable

7.when put camera side
   take side photos

8. Select angle from left to right

9.Camera usage at the back

10.Pragmatic taking photos in Car

11.Work when the power of camera inserted of motorcar

4.4 MPEG4 DVR applied to falling back motorcar or recording motorcar driving　　　configuration Device

MOTORCAR-BRAND EASEL OF CAMERA

BACK A CAR

INSTALL MOTORCAR-BRAND, AND THEN CAN

4.5 MPEG4 DVR applied to pocket datum and message investigation　　　Configuration Device

Install Button Lens camera

Install Pinhole Lens camera

4.6 MPEG4 DVR applied to home guard against theft recording Configuration Device

Install camera at the corner of home

Safe-guard housekeeper and take care of older

No need to have wire connected, installed
Information of From every angle easily ,
Make children safely

Home guard against theft, can receive 4 cameras,
and synchron-record video and audio

4.7 MPEG4 DVR applied to visible doorbell   Configuration Device

Wireless surveillance recording- MPEG4 DVR
Looking on from every angle
Putting on/off recording video and time/date are
adjustable

Wireless camera at the doorway

5. CONFIGURATION

(1) RF Camera: Switch INPUT SOURCE to "RF".

Audio/ Video Transmission
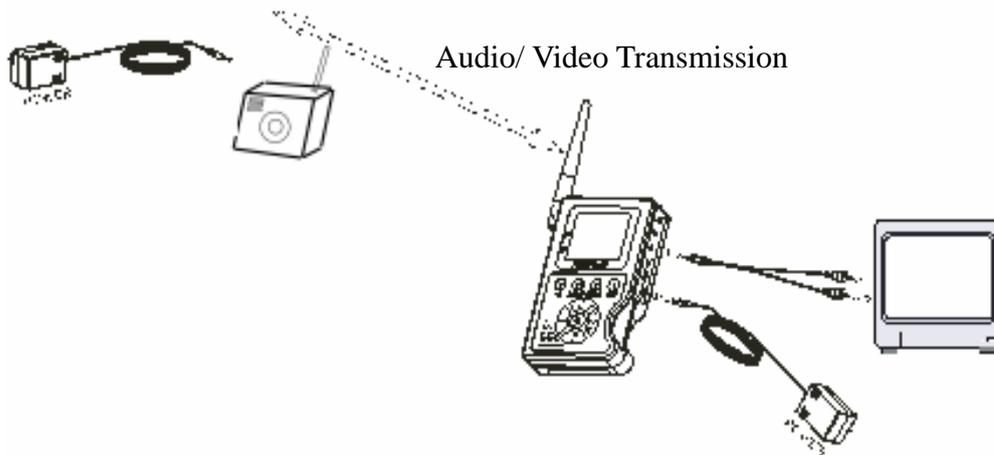
⚠ Install onto high position, to reduce effects on transmission quality and free from motion interference.

⚠ When low signals occur, please adjust the antenna to the appropriate angle for the optimum receiver/ transmission performance.

(2) AV Line In: Switch INPUT SOURCE to "AV".
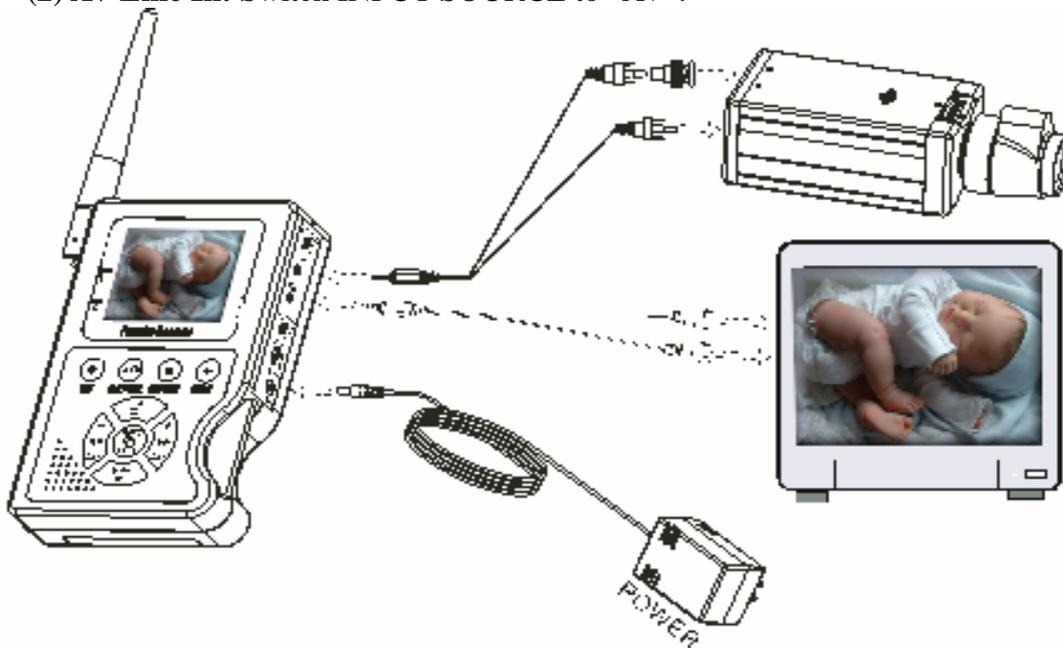
6. OPERATION

6.1 Power On

1. Before power on, please check the local area video system (NTSC/ PAL). The VIDEO SYSTEM is situated on the right side panel; this setup will affect the video system input and output.
2. The power switch is situated on the right side of the device (switch "ON" to power-on and "OFF" to power-off).

> ☛NOTE: Each time after power-on, the system auto-detects its peripherals. When the status LED flashes indicates that the CF card is proceeding testing (complete boot time is 2 seconds) When an image file error has been detected, the CF card will suggest the user to initiate repair using the computer or use the Repair/ Format function supported by the device【CF Card Management：Repair/ Format function.】

3. The user may use AV/ RF switch to select the video input system.
4. Live mode is the pre-set mode after power-on. When it is currently under schedule recording, system auto enters recording mode.

> ⚠ Do not withdraw the CF card while booting. It may destroy the data stored within the CF card.
> ⚠ When no images are displayed on the LCD monitor, please check the video source (line in or RF1~RF4) and NTSC/ PAL switch.

6.2 Live Mode

1. Live mode is the default setup after system start-up. User may view live images, setup the receiving channel of the camera and adjust the sound volume.
   (1) **Two types of video input source (RF/ AV):** Switch to "RF" for connecting to RF camera and "AV" to line input camera.

AV IN 🄰🅅	The device supports one line input camera.
RF1 ~ RF4 🆁🅵🄸 🆁🅵🄸 🆁🅵🄸 🆁🅵🄸	The device supports portable wireless (RF) camera (maximum connection of 4 RF cameras). Press 《◀◀ 》 or 《 ▶▶ 》 button to switch between cameras (RF1 ~ RF4).

   (2) **Sound volume:** The user may press 《 ▲ 》 or 《 ▼ 》 button to adjust the volume of the build-in speaker.

   (3) **Monitoring Display:** Press 《DISPLAY 》 button to switch ON/ OFF LCD display mode or OSD info.

```
2 0 0 4 / 0 2 / 0 1   0 8 : 1 0 : 0 3 ─▶①



                              ─▶②
AV 352 MQ ✖      ■ ⛶ ─▶③
   240
```
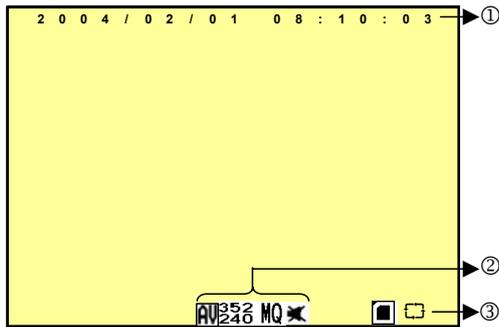
① **Time Display:** System Date and Time.

② **Record Status Display:**

　　AV: Connect the camera to the AV terminal.

　　352/240: Record Resolution, please refer to【7.4 Record Setup】for VIDEO SIZE setup.

　　MQ: Record Quality, please refer to【7.4 Record Setup】for VIDEO QUALITY setup.

　　✖: Audio Off Record, please refer to【7.4 Record Setup】for AUDIO RECORD setup.

③ **CF Card Status:**

　　☒ CF Card has not been inserted or malfunction

　　☒ CF Card is proceeding file testing.

　　■ CF Card is functioning normally.

　　⛶ Disk full and overwrite record.

6.3 Record Mode

1. Start Record: 3 Types of recording mode.

　(1) **Manual Record:** Suitable recording at anytime. Press《REC●》button, to enter manual recording status (start recording). For more information, please refer to【7.4 Record Setup】.

　(2) **Motion Detection Record**: Suitable to record, when there are severe image changes. Motion detection triggers schedule recording, but it will only start recording when the variation exceeds the alarm limitation value. For more information, please refer to【7.3 Record setup】and【7.4 Record Setup】.

　(3) **Continuous Record:** Suitable on few constant frame recording or on long-term continuous recording. For more information, please refer to【7.4 Record Setup】.

2. Stop Record: Press《STOP■》button. It stops all types of recording. To continue recording, please follow the methods below to restart recording.

　(1) **Start to Record:**

⚲ **Manual Record**	Under supervising status, press《REC●》button.
⏱ **Schedule Record**	Records only within the setup time range.
🚶 **Motion Detection Record**	

　(2) **Stop Record : press《STOP■》button will stop recording, and if you want to**

record again, please refer to the details shown below:

☝ **Manual Record**	Repress 《REC●》button.
⊙ **Schedule Record**	Whether the setup has been changed or not, the
☪ **Motion Detection Record**	system will auto re-check the record schedule setup again.

3. Record Display：
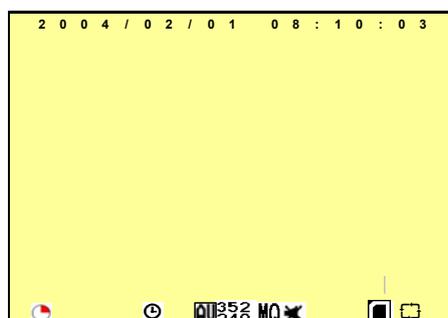
◐◑◑◐ Indicates recording is in progress.

☝ ⊙ ☪ Indicates the status of the event that has been triggered.

4. The event status is determined by the system recording, according to the order of priority. The order of priority: Manual Record, Motion Detection and then Schedule Record.

5. Different recording modes may have different kinds of setups. Basic setup: video size, recording frames, video quality, and audio recording. When different recording modes are triggered, the system starts recording according to the different setup. This kind of design provides flexibility to ensure efficient recording time and quality.

   Example: Work hour from 8:00am to 6:00pm, setup「Schedule Record」to low video quality with less recording frames to extend the recording time. And off work hour, setup 「Motion Detection Record」 to enable high video quality with the highest recording frames, when an event occurs.

6. Video or audio may be recorded into the CF card (CF card is purchased separately). When the video has been stored, the status LED flashes indicates that the system is currently loading the file into the CF card.

   ⚠ Do not withdraw the CF card while recording. It may destroy the data stored within the CF card.

   ⚠ Power loss during recording results incomplete videos or errors.

   ⚠ Video loss during recording, the system stops recording, backups the files, and when the videos are normal again, the system will continue recording.

6.4 Playback Mode

Selectable Playback foramt: Continuous Playback and Searching Playback.

A. Normal Playback: Press《 ▶ 》button to playback according to the CF card file order recorded.

```
2 0 0 4 / 0 2 / 0 1      0 8 : 1 0 : 0 3




                                                            
                                                            

    ▶            ⊕         352 MQ✕
                           240
```
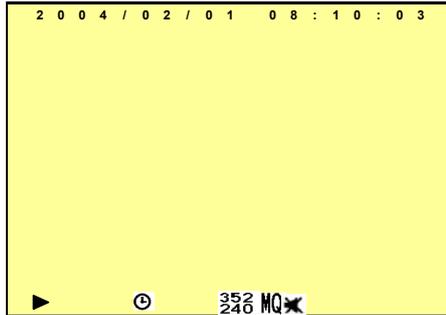
▶	: Normal speed playback.
◀◀ ▶▶	: Fast Rewind and Fast Forward (Speed: x2/ x4/ x8/ x16/ x32). Press 《 ▶ 》 button to return to normal speed playback.
II	: During playback, press《PAUSE》button to pause playback and press it twice to return to playback status.
I◀◀ ▶▶I	: During pause, press 《 ◀◀ 》 or 《 ▶▶ 》 button to step back one frame or to step forward one frame and press《 ▶ 》button to return to normal speed playback.
DISPLAY	: Switch to 「Hide Status Info.」, 「Hide LCD Monitor」, and 「Display LCD Monitor and Status Info.」.

Press 《**STOP ■** 》 button to stop playback function and to return to live status.

B. Search and Playback:


```
S E A R C H    A N D    P L A Y        ■ ■
  D A T E                 F I L E S
▷ 2 0 0 3 / 1 2 / 2 5           5
  2 0 0 3 / 1 2 / 2 6          1 5 ┐
  2 0 0 3 / 1 2 / 2 7           2  ├──→ ①
  2 0 0 3 / 1 2 / 2 8           3  │
  2 0 0 3 / 1 2 / 2 9           7  ┘
                       P A G E : 1 / 3 ──→ ②
③ ←─ [red red green blue blue black blue black]  [blue]
          F I L E : 0 3 8          [red]  ──→ ⑤
④ ←─ T I M E : 0 9 : 1 8 : 0 9          [⊕]
```
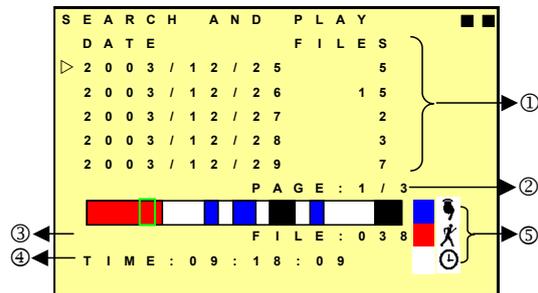
(1) File directory shows dates and the amount of contents under the directory. The user may press 《 ▲ 》 or 《 ▼ 》 button to move the cursor up or down.

(2) Current location page.

(3) Each color distinguishing different recording events, the user may press 《 ◀◀ / + 》 or 《 - / ▶▶ 》 button to move the cursor left or right and immediately shows the first image of the highlighted event on the screen display background.

(4) Displays the time highlighted by the event bar.

(5) Blue: Manual Record/ Red: Motion Detection Record/ White: Schedule Record.

Press 《STOP ■ 》 button to stop playback and the system will return to 【SEARCH and PLAY】 selection and enables the user to select the prefered input source.

⚠ Withdrawing the CF card during playback, stops playback and enters the monitoring mode.

⚠ The device supports playback only to images recorded by our device, other ASF video files are not guaranteed.

6.5 PC Playback

1. The device uses CF card as its main storage. User may read the data stored in the CF card from the computers that supports CF card reader device.
2. All files have approximate size of 1MB and file names are ordered according to recorded times (sequence).

File Playback： User may use Microsoft®－Media Player or DivX－DivX Player (http://www.divx.com/) to playback video files.

Backup layback： may playback backup files from the computer (copy files to the CF card under ASF folder).

⚠ When first time using Media Player to playback, it requires the most updated decoder from the Microsoft® software website.

6.6 CF Card Maintenance

1. The device supports only FAT16 file system; therefore it is unable to determine other file systems. Please proceed the function【MENU / CF CARD OPERATIONS】, or use the computer to format the CF card to FAT16 file system.
2. The system supports only partial CF card file system repair. The system is unable to detect any file system damage, therefore please format the function by entering 【MENU / CF CARD OPERATIONS】and select Repair/ Format, or enter ones computer to repair the CF card.

⚠ Due to special design of the device, the maximum storage capacity is 4GB (since the maximum storage capacity of a FAT16 file system is 2GB).

6.7 How to Download the Update Software

Use the Compact Flash card to update your system firmware:

(1) Create a new directory under DV directory (:\DV\Hex).
(2) Copy the new system firmware into the new directory of the Compact Flash card from your computer.
(3) Insert the CF card; switch off the main power and then restart.
(4) Wait for 5 to 6 seconds, the system update will be completed and returns back to live mode.

⚠ Do not switch off the device or withdraw the CF card during system update. When power loss occurs during step (4), please repeat step (3) and (4) again.

7. MENU SETUP

7.1 Main Menu

```
① ◄─ M A I N   M E N U            ■ ─►②

    ▷ S E A R C H   A N D   P L A Y      >   ┐
      S E T   D A T E / T I M E          >   │
      S E T   M O T I O N   D E T E C T  >   │
      M A N U A L      R E C O R D       >   ├ ③
      S C H E D U L E   R E C O R D      >   │
      C F   C A R D   O P T I O N S      >   │
      S Y S T E M   S T A T U S          >   │
      F A C T O R Y   D E F A U L T      >   ┘
```
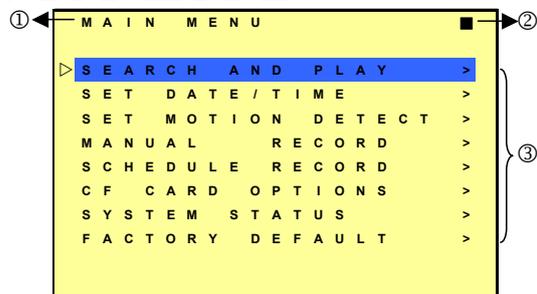
(1) MAIN MENU: Item subject.

(2) Menu Layer Indication: The device consists of three menu layers.

> ■ : First Menu Layer (Main Menu)
> ■■ : Second Menu Layer
> ■■■ : Third Menu Layer

(3) MENU Content: Basic Menu Operations.

Press 《▲》 or 《▼》 button, to move the highlight-bar and the cursor (▷).

Press 《MENU/ ENTER▭》 button, to enter the sub menu (＞).

Press 《STOP■ 》 button:

□ Under second or third menu layer, the system will return to the previous menu layer (second layer to first layer or third layer to second layer).

□ Under main menu (first menu layer), the system will enter live mode.

Press 《◀◀ 》 or 《▶▶ 》 button, to increase or decrease the setting values that has been highlighted.

☛NOTE: All words underlined and bold indicates「Default Value」.

7.2 Date/Time

```
  D A T E / T I M E              ■ ■

 ▷ D A T E   F O R M A T : Y / M / D ─► ①
   S E T   D A T E : 2 0 0 4 / 0 1 / 0 1  ┐
   S E T   T I M E :    0 0 : 0 0 : 0 0   ┘ ②
```
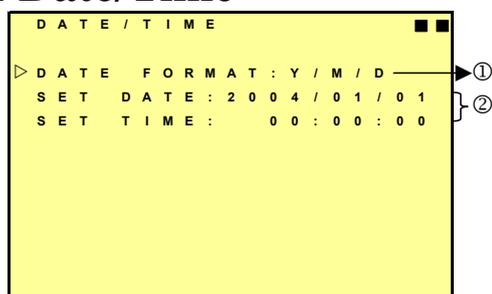
(1) Date Format   : ***Y / M / D***   M / D / Y   D / M / Y
(2) Date/ Time Adjustment : Year settings are from 2000 to 2099.

7.3 Motion Detection

1. Window setup:
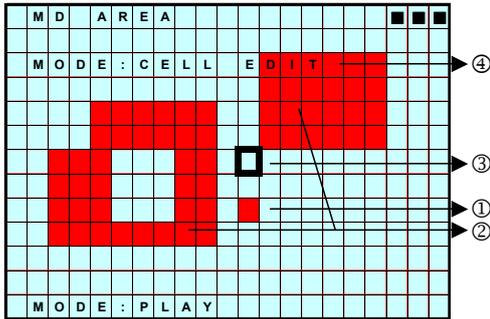
①Detection Cell: Whole screen is divided into 22x15 square cells.

②Detection Block: Two or more cells form a block.

③Cursor: Press 《PLAY》button to switch to Select/ Edit mode.

④Detection Block.

2. Cursor Movement: Press 《PLAY》button, switch cursor to setup mode (cursor color is black). Press 《▲/ ▼/ ◄◄ / ►► 》button to move the cursor freely.

3. Detection Area Setup:

(1) Press 《PLAY》button to select edit detection block function.

FUNCTION	DESCRIPTION
CELL EDIT	Single detection cell setup (detection/ non-detection)
DEL BLOCK	Disable a block.
DEL ALL	Disable all cells.
ADD BLOCK	Enable a block.
ADD ALL	Enable all cells.

(2) Press 《PLAY》button, switch cursor to edit mode (cursor color is pink). Press 《▲/ ▼ / ◄◄ / ►► 》button, follow step (1) to change the size of the detection block.

(3) Detection area is displayed by color red and non-detection area by color blue.

4. When a detected object is moving in the detection area, detection area turns from red to transparent (color turns from red to transparent indicates moving status).

5. Video Detection Block Sensitivity Setup:

Changing the alert value setup may affect the recording sensitivity of the Motion Detection.
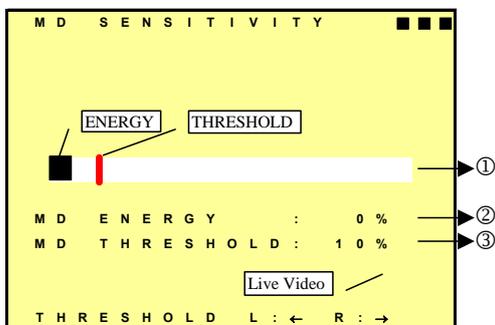
(1) Sensitivity Bar : Color black indicates image variable value and color red indicates the MD threshold.

(2) MD Energy : Current image variation value.

(3) MD Threshold   : Press 《 ◀◀ 》 or 《 ▶▶ 》 button, to change the motion detection
                     threshold value.

7.4 Record Setup

Selectable manual or schedule recording, basic setups are shown below:

1. Manual Record:

```
M A N U A L   R E C O R D        ■ ■

▷ V I D E O   S I Z E : 7 0 4 X 2 4 0 ──┐──▶ ①
  F R A M E   R A T E : 1 2 F P S    ──┘
  Q U L I T Y       : M I D I U M   ─────▶ ②
  A U D I O         : O N           ─────▶ ③
```
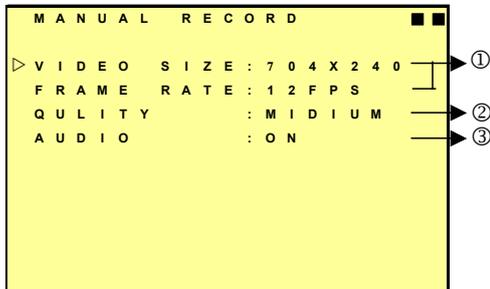
(1) Video Size/ Frame Rate:

NTSC	**320x240**	704x240	704x480
FRAME RATE (MAX)	30 F/ S	12 F/ S	6 F/ S
PAL	**320x280**	704x280	704x560
FRAME RATE (MAX)	25 F/ S	12 F/ S	6 F/ S

(2) Image Quality:

HIGH QUALITY	HQ	Using high recording quality (More CF card storage capacity will be required)
MEDIUM QUALITY	**MQ**	Using medium recording quality.
LOW QUALITY	LQ	Using low recording quality (Less CF card storage capacity will be required)

(3) Audio Record: **Enable** or disable audio recording.

2. Schedule Record: Records only within the setup time range.

```
S C H E D U L E   R E C O R D    ■     M O T I O N   R E C O R D    ■ ■ ■    C O N T I N U E   R E C O R D    ■ ■ ■

🏃 : O N    1 8 : 0 0 - 0 8 : 3 0    ▷ R E C O R D     : O N         ▷ R E C O R D     : O N
    7 0 4 X 2 4 0 240/704 1 2 F P S MQ✖   S C H E D U L E :              S C H E D U L E :
🕐 : O N    1 5 : 0 0 - 1 7 : 3 0        1 8 : 0 0  -  0 8 : 3 0          1 5 : 0 0  -  1 7 : 3 0
    7 0 4 X 4 8 0 704/480 3 F P S MQ✖   D U R A T I O N : 5 S E C
                                                                       V I D E O   S I Z E : 7 0 4 X 2 4 0
M O T I O N    R E C O R D    >       V I D E O   S I Z E : 7 0 4 X 2 4 0   F R A M E   R A T E : 1 2 F P S
C O N T I N U E   R E C O R D    >    F R A M E   R A T E : 1 2 F P S   Q U A L I T Y     : M I D I U M
                                      Q U A L I T Y     : M I D I U M   A U D I O       : O N
                                      A U D I O       : O N
```

RECORD   : Enable or disable schedule recording (_ON_/ OFF).
SCHEDULE : **_ab:cd – ab:cd_** = 24 hour recording and **_00:00 – 00:01_** = Record of
                 one minute image from 00:00 to 00:01.
DURATION : Duration time when motion detection has been triggered (1SEC / 5SEC /
                 10SEC / 20SEC / 30SEC).

7.5 CF Card Function

```
CF   CARD   OPTIONS        ■ ■

TOTAL     SPACE : 1 2 8 M B
REMAIN   SPACE :    5 0 M B

▷ CF  FULL : L O O P ↻          ────────▶ ①

  REPAIR   >  ──────────────────▶ ②
  FORMAT   >  ──────────────────▶ ③
```
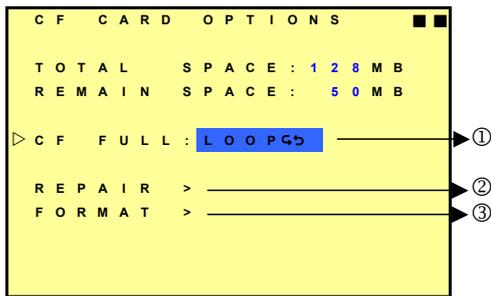
① **CF FULL** ：   *LOOP ↻* (continuous recording)/ STOP (stop recording).

When CF card storage capacity is full, it will start overwriting information

from the earliest videos (auto repeating continuous recording).

② **REPAIR** ：   Checks internal CF card data and delete error files.

③ **FORMAT** ：   It will delete all data stored in the CF Card, and create a new
directory under DV directory (:\DV\ASF).

☛NOTE: Proceeding continuous recording, old videos can be deleted and overwritten. Please confirm before setup.

☛NOTE: Recording time depend on the CF card capacity, different recording modes, and degree of video variation.

7.6 System Status Display

```
SYSTEM   STATUS          ■ ■

SYSTEM   VER     : V 0 . 6
🕯 : 7 0 4 X 2 4 0 704/240 1 2 F P S MQ✖
🏃 : O N    1 8 : 0 0 - 0 8 : 3 0
    7 0 4 X 2 4 0 704/240 1 2 F P S MQ✖
🕐 : O N    1 5 : 0 0 - 1 7 P 3 0
    7 0 4 X 4 8 0 704/480   3 F P S MQ✖
CF  FULL : L O O P ↻
```
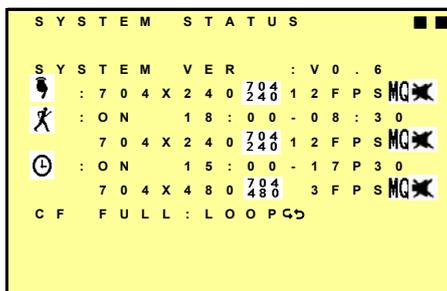
Press any button to return to the Main Menu.

7.7 Return to Factory Default Value

```
FACTORY   DEFAULT        ■ ■




  RECALL  DEFAULT  NOW ?




NO : EXIT  YES : ENTER
```
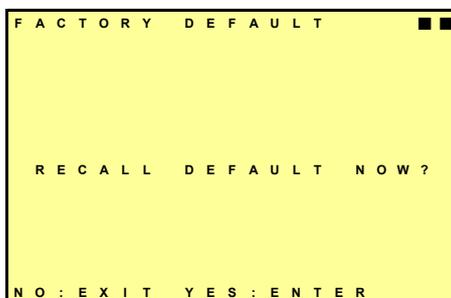
Press《ENTER》button, returns all settings to the factory default value.

Press《EXIT》button, exit this screen display and returns to the Main Menu.

8. SPECIFICATION

8.1 Wireless MPEG4 DVR

<table>
<tr><td rowspan="9">Video</td><td>System</td><td colspan="3">NTSC / PAL with Video Loss Auto Detection</td></tr>
<tr><td>Codec</td><td colspan="3">MPEG4-SP ASF File Format</td></tr>
<tr><td rowspan="2">Record Frame Rate</td><td colspan="3">1, 2, … , Maximum fps selectable
Maximum
NTSC: 30 fps@352x240 / 12 fps@704x240 / 6 fps@704x480
PAL: 25 fps@352x280 / 12 fps@704x280 / 6 fps@704x560</td></tr>
<tr><td>High Quality</td><td>Medium Quality</td><td>Low Quality</td></tr>
<tr><td rowspan="2">Record Quality</td><td>20* minutes</td><td>40* minutes</td><td>60* minutes</td></tr>
<tr><td colspan="3">* Approximate record time for 128 MB CF card at maximum record frame rate</td></tr>
<tr><td>Recording Date/Time</td><td colspan="3">Overlay with Video Images in ASF File</td></tr>
<tr><td>Input</td><td colspan="3">4 CH RF Selectable / 1 CH Composite Video Line In</td></tr>
<tr><td>Output</td><td colspan="3">2.5" Color TFT-LCD / 1 CH Composite Video Line Out</td></tr>
<tr><td rowspan="4">Audio</td><td>Sampling Rate</td><td colspan="3">44.1 KHz</td></tr>
<tr><td>Codec</td><td colspan="3">G.726 / 32 kbps</td></tr>
<tr><td>Input</td><td colspan="3">4 CH RF Selectable / 1 CH Audio Line In</td></tr>
<tr><td>Output</td><td colspan="3">8Ω 0.5W Speaker / 1 CH Audio Line Out</td></tr>
<tr><td colspan="2">Storage Media</td><td colspan="3">Compact Flash Card (max. 2GB FAT16 / 4GB non-standard FAT16)</td></tr>
<tr><td colspan="2">Recording Mode</td><td colspan="3">Schedule / Motion Detection / Manual</td></tr>
<tr><td colspan="2">Motion Detection Setting</td><td colspan="3">Multiple Blocks and adjustable sensitivity</td></tr>
<tr><td colspan="2">Event Search Function</td><td colspan="3">Property and first image of selected file is displayed</td></tr>
<tr><td colspan="2">Playback Function</td><td colspan="3">Play/Fast Forward/Fast Rewind/Pause/Step Forward/Step Backward</td></tr>
<tr><td colspan="2">Playback Speed</td><td colspan="3">x1 / x2 / x4 / x8 / x16 / x32</td></tr>
<tr><td colspan="2">2.4 GHz A/V Receiver</td><td colspan="3">4 CH Selectable, -90dBm Sensitivity, 3 dBi Antenna</td></tr>
<tr><td colspan="2">Power Supply</td><td colspan="3">DC 12V± 10% 1A or 4 x AA (Rechargeable Ni-MH / Alkaline Battery)</td></tr>
<tr><td colspan="2">Power Consumption</td><td colspan="3">5.94W/495mA (RF: 2.46W/205mA, LCD: 1.26W/105mA, Others: 2.22W/185mA)</td></tr>
<tr><td colspan="2">Weight</td><td colspan="3">264 g (without Battery)</td></tr>
<tr><td colspan="2">Dimensions</td><td colspan="3">91 mm (W) x 142.5 mm (H) x 30 mm (D)</td></tr>
<tr><td colspan="2">Operating Environment</td><td colspan="3">80% RH, 0℃ ~ 45℃ (32℉ ~ 113℉)</td></tr>
</table>

(Note: Design and Specifications are subject to change without notice.)

8. 2 wireless camera

Shoot frequency	2. 4 GHz (4 channels)
Shoot power	(2.414、2.432、2.450、2.468)GHz
Shoot distance	10 mW
Video transducers	50 m
CCD image system	1 / 4"Panasonic CCD Sensor
Scan system	300K(PAL) / 270K(NTSC)
Sync System	525 Lines，60 field / s(NTSC) / 625 Lines，50 field /s(PAL)
Minimum Illumination	Internal
Horizontal Resolution	0. 5 Lux (F1.2,5600 ºK)
Auto White Balance	420(NTSC) / 470(PAL) TV Lines (Ds intensify dispose)
S/N Ratio	3200-10000 °K
Electronics Shutter	52 dB (small) / 60dB (most)(auto plus close)
Auto aperture	1 / 50~1 / 100,000Sec (PAL) / 1/60~1 / 100,000 Sec (NTSC)
Lens	Auto
Video Output	Pinhole
Operating Temperature	1.0V p-p at 75ohm
Power Supply	-20℃ ~ +50℃
Current Consumption	DC 12 V ± 1V
Dimensions	95 mA
Material	33×25×23 mm
Weight	ABS, black plastic
Gross Weight	22 g

 (Note: Design and Specifications are subject to change without notice.)

9. TROUBLESHOOTING

A. Power
  1. Q: Why are there no images after power-on?
     A:　a. Power LED unlit; indicates power failure or insufficient power.
　　　　　b. Power LED lit; please check whether the input source. When RF input source is used, please make sure that the camera and the main device have been setup to the same channel. When AV IN input source is used, please make sure that the AV line is properly connected to the camera (Video/ Audio terminal); otherwise check the camera video output line connections.
     Q: Which type of batteries to choose from?
     A: Please use nickel metal hydride (NiMh) or alkaline batteries for power supply.

B. Camera
  1. Why does video interference occur when using wireless IR camera?
     A: a. Please make channel adjustment, make sure that the camera and the main device have been setup to the same channel. If one has 2 wireless IR cameras, one may select channel 1 and 3 or 2 and 4 to obtain the optimum result.
　　　　b. Please prevent obstruction (caused by wall or steel) between the main device and the camera during transmission.
　　　　c. Due to wireless network access point and wireless IR camera having the same 2.4GHz frequency. Therefore, please prevent operating the wireless IR camera under wireless networking environment.
  2. May one use other brand wireless IR cameras?
     A: Please adjust the channel of the main device, check whether normal video images are displayed and furthermore apply audio testing.
  3. May one switch channels to monitor multiple wireless IR cameras?
     A: Yes, please refer to【4.4 IR Camera-Back View】for wireless IR camera channel setup.
  4. Why are there no sounds?
     A: Please make sure that the main device is properly connected to the correct camera input and the volume tuned up.
  5. Why are the sounds distorted?
     A: Please connect the RF wireless IR camera suggested by your local dealer.
  6. Why are there many noises during the night time?
     A: a. When using the supplied wireless IR camera, contact your local dealer at once.
　　　　b. When using standard camera, please use cameras with IR functions.

7. Why are video images constantly changing color?

A: It is because according to CCD camera different illuminant reflects different degrees of color rolling; please prevent the camera directly irradiating the light source.

8. How can the wireless IR camera be started?

A: IR function is auto started during the night time (low illumination). IR LED lit indicates that the IR function has been activated.

9. Why are video images black and white, when the IR function is activated?

A: It is because under low lux video images turn from color to black and white images.

C. CF Card

1. Why can't the device read the CF card?

A: a. The CF card is damaged.

b. The CF card system format is incompatible to the device. Please format to FAT16 file system.

2. May one use the CF card from the digital camera?

A: Yes, only if it is FAT16 format.

3. Are there any limitations on CF card brand?

A: No, any standard brand may be used.

D. Record

1. Why are the video images distorted?

A: Make sure that the video source is setup properly (i.e., main device is setup to PAL and camera to NTSC).

2. Why is the recording quality poor?

A: Please adjust your recording parameter; adjust your quality to high.

3. Why is the device unable to record?

A: a. Check the input system.

b. Check whether the CF card have been inserted (to view the monitoring status, please refer to the bottom right corner, CF card status info).

c.【7.5 CF Card Management】When the recording method is not setup as continuous recording, it stops recording when the storage capacity is full.

d. Unable to perform schedule recording, please refer to【6.3 Record Mode – Stop Record】.

c. Please contact your local dealer, when following through the above steps, but still unable to resolve the problem.

E. Playback
1. Why is the device unable to playback?

A: a. Check whether the CF card has been inserted (to view the monitoring status, please refer to the bottom right corner, CF card status info).

b. Whether recorded videos available.

c. The device does not guarantee to playback videos of other MPEG4 files.

d. Please contact your local dealer, when following through the above steps, but still unable to resolve the problem.