

# HOME GUARD



## User Manual

Home Guard

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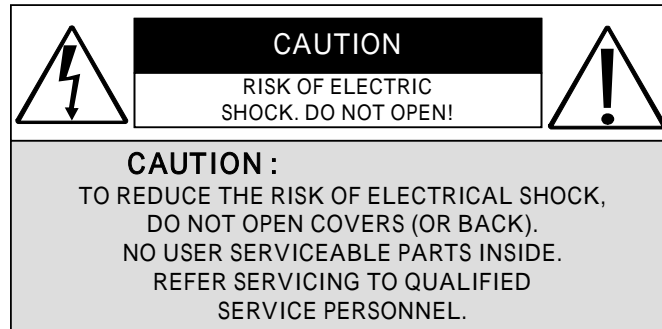
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The author assumes no responsibility for any errors or omissions that may appear in this document nor does it make a commitment to update the information herein.

# 1. SAFETY PRECAUTIONS



It is advised to read the Safety Precaution Guide through carefully before operating the product, 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” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 **CAUTION:** The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance (Servicing) instructions in the literature accompanying the appliance.

**The power cord is the main power connection. Therefore, constantly plug and unplug of the power cord might result in malfunction of the product.**

**Do not install the product in an environment where the humidity is high.**

Unless the product is waterproof or weatherproof, otherwise it can cause the image quality to be poor.

**Do not drop the product or subject them to physical shocks.**

Except for vandal-proof or shockproof product. Otherwise it will result malfunctions to 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.

## 2. INTRODUCTION

This product is a professional, personal proof collector and a movable device. Built-in high quality pinhole camera, which enables continuous recording, motion detection recording and stores pictures in the Flash Memory. Comprising with fixed bracket that makes it perfect for simple installation under many different occasions:

- Applications using the bracket, such as front door, room door, garage door and so on.
- Applications without using bracket, such as a glass cabinet, on the table, inside the car and so on.

Power supported by four AA batteries or plug-in power adaptor (DC12V). It is suggested to use the plug-in adaptor for usage under long extended period of time or using four AA batteries under short period of time and when there is no power socket. The LED light easily allows the user to distinguish the current battery status (LED lit, indicates that the power is sufficient and when the LED light is unlit, indicates that there are insufficient power).

Simple user-friendly interface which enables easy recording setups (Record Mode, Record Frames per Second and Motion Detection Sensitivity). For more details, please refer to the section on “Operation Description” and “Function Setup Description”.

## 3. FEATURES

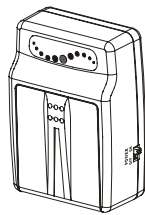
- Extremely portable device with Built-in Hi-resolution camera.
- Automatic image control functions.
- Function Supported: Auto Electronic Shutter (AES), Auto White Balance (AWB) and Auto Gain Control (AGC).
- Hi-Resolution, low cost video capture machine records images in build-in 64MB (128MB/256MB/512MB optional) Flash memory.
- Recording auto resumes after power loss and back.
- Supports two recording modes: Continuous and Motion Detection.
- One device supports both PAL and NTSC systems.
- Live video is guardable when recording process.
- Supports VGA and QVGA image compression format.
- Selectable compression image qualities and frame rates.
- Motion detection with Adjustable motion sensitivity level.
- Supports flexible playback mode: Normal, Fast Forward, Fast Rewind, Pause, Step Forward and Step Rewind.
- User-friendly OSD set-up menu and front panel design.
- Supports DC 12V or 4 x AA batteries.

## 4. ACCESSORIES

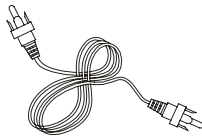
Unpack the product and inspect to make sure that nothing noticeable is wrong or that all accessories are included inside the product package. If you have any questions, please refer to your local dealer.

The following are included inside the package:

### 1. Camera Body



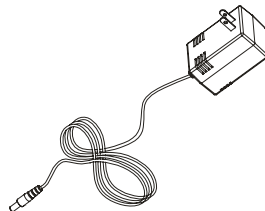
### 2. Video Line



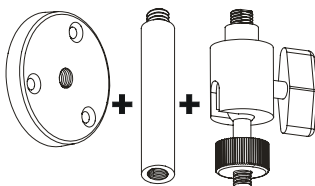
### 3. User Manual



### 4. Power Adaptor



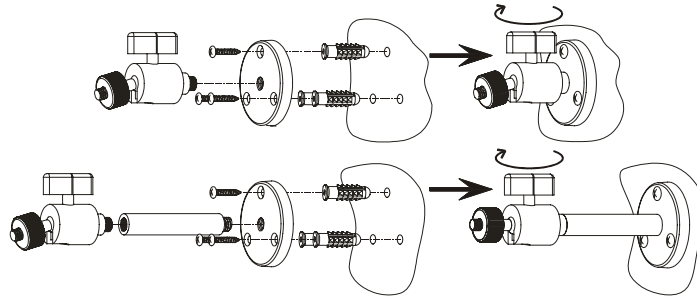
### 5. Bracket



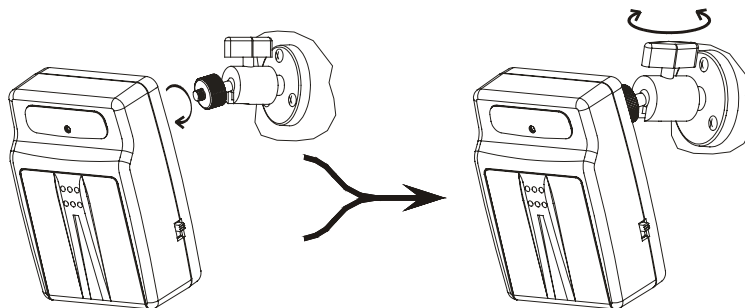
## 5. INSTALLATION

Please refer to the instructions below for camera mounting and bracket installation:

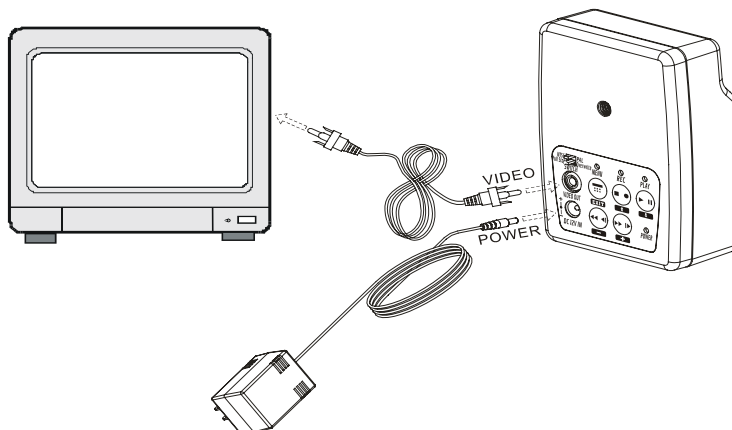
### ■ Bracket Installation Guide



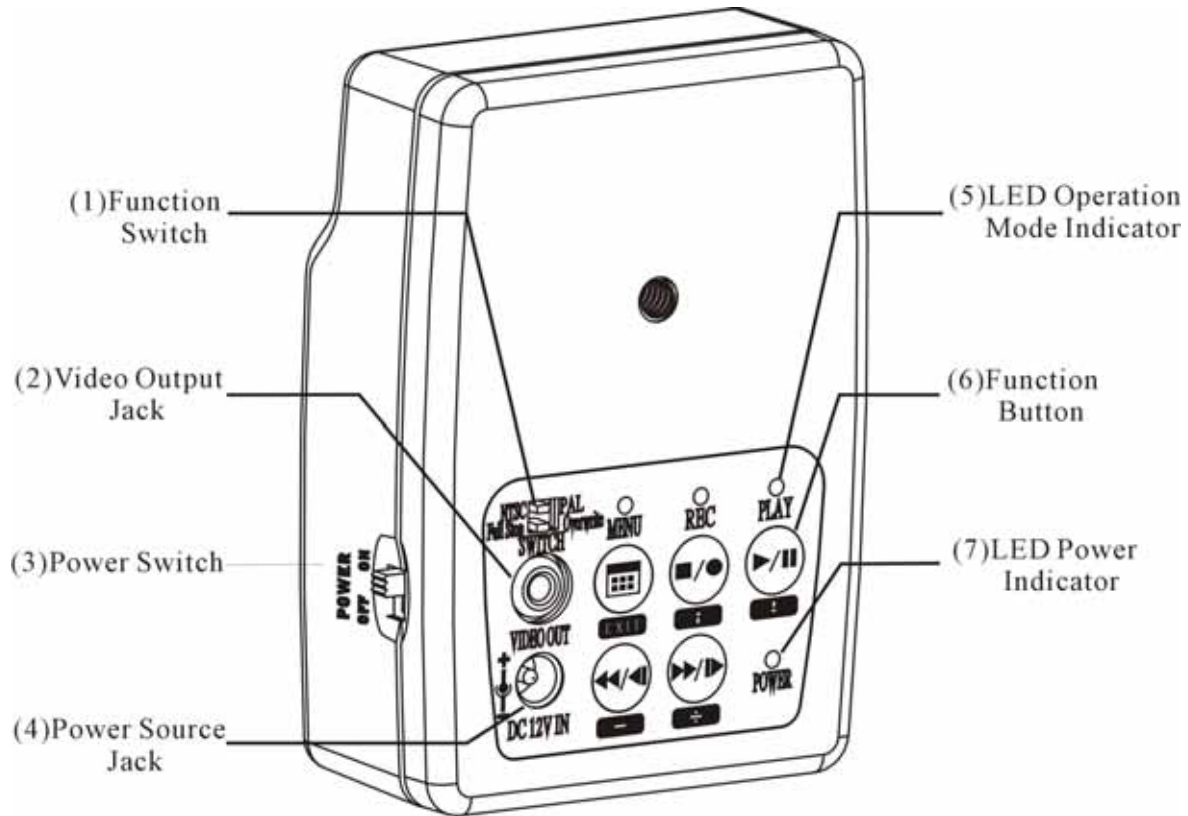
### ■ Camera Mounting Installation Guide



### ■ Video Output & Adaptor Connection Guide



## 6. NAME AND FUNCTION OF EACH PART



### (1) Function Switch

#### ● NTSC<->PAL

The two most common video standards used are **NTSC** and **PAL**. **NTSC** is the video system or standard used in North America and most of South America. **PAL** is the predominant video system or standard mostly used in Europe. Please select and switch to the system that best suits your location.

#### ● Full Stop<->Overwrite

To select whether to overwrite the recorded memories or to stop recording when memory is full. One may select “**Overwrite**”, the memory will be overwritten starting with the oldest data first.

Selecting “**Full Stop**” will cause the **RECORD** mode to **STOP** mode, and the **REC** LED will be unlit.

### (2) Video Output Jack

To enable monitoring functions, connect one terminal to the video out jack and the other terminal to the monitor (TV).

### (3) Power Switch

Select “**On**” to switch on the device, and “**Off**” to switch off the device.

**(4) Power Source Jack**

**(5) LED Operation Mode Indicators**

LED light easily allows the user to distinguish the current system status. For example **REC** LED: when the LED lights up, indicates recording and LED lights off indicates no recording.

**(6) Button**

Buttons commonly used are **STOP** and **REC** buttons (switches to ■ **STOP** mode and **RECORD** mode). But all other 5 buttons are applied during setups. Every button under each mode has different definition. For more details, please refer to the section on “Function Setup Description”.

**(7) LED Power Indicator**






The LED lights up indicates that the device is powered up and when LED lights off indicates that the power is insufficient or switched off.

# 7. OPERATING PROCEDURE

## 7-1 Function Description Table

Please read the Function Description Table carefully before reading the Operation Description.

The LED light on the front panel indicates the current OPERATION MODE or screen

<b>BOTTON</b> <b>MODE</b>					
<b>STOP</b> ○ MENU    ○ REC    ○ PLAY	Switch to Menu Setup Mode	Switch to Record Mode	Switch to Playback Mode		
<b>RECORD</b> ○ MENU    ● REC    ○ PLAY		Switch to Stop Mode			
<b>SETUP</b> ● MENU    ○ REC    ○ PLAY					
<u>Normal Items</u>	Switch to Stop Mode	Cursor upward or leftward movement	Cursor downward or rightward movement	content change(-)	content change(+)
<u>"Search Playback"</u>	Switch to Stop Mode	Cursor upward or leftward movement	Cursor downward or rightward movement		Switch to SearchMenu
<b>PLAYBACK</b> ○ MENU    ○ REC    ● PLAY					
<u>Pause</u>	Switch to SearchMenu	Switch to Stop Mode	to Playback	Step Rewind	Step Playback
<u>Playback</u>	Switch to SearchMenu	Switch to Stop Mode	to Pause	Fast Rewind (X1/X2/X4..X16)	Fast Forward (X2/X4..X16)
<b>SEARCH MENU</b>					
	Switch to Menu Setup Mode	Cursor upward or leftward movement	Cursor downward or rightward movement	content change(-)	content change(+)
<u>When the cursor is move to "&lt;Playback...&gt;"</u>	Switch to Menu Setup Mode	Cursor upward or leftward movement	Cursor downward or rightward movement		Switch to Playback Mode

display status. Under different mode each function has different meanings. The **Function Description Table** clearly lists out the LED light as it appears during different mode and its corresponding relations with the function buttons.

The system is mainly divided into 5 modes: **STOP**, **RECORD**, **PLAYBACK**, **SETUP** and **SEARCH MENU**. **PLAYBACK** mode, **RECORD** mode and **SETUP** mode may only be switched to **STOP** mode, but **STOP** mode may also be switched to **PLAYBACK** mode **RECORD** mode or **SETUP** mode. This means that one must switch to **STOP** mode before setting up **PLAYBACK** mode, **RECORD** mode and **SETUP** mode.

Under **SETUP** mode one may switch to **SEARCH MENU** mode and then to **PLAYBACK** mode.

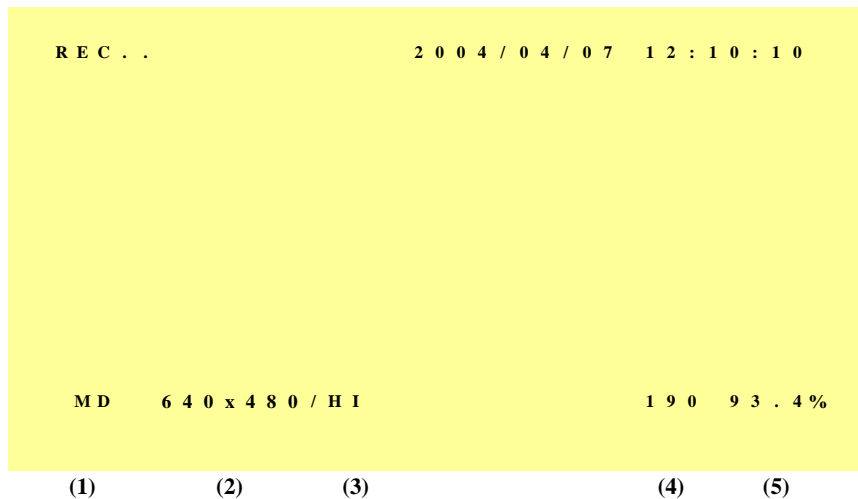
## 7-2 Operation Description

### POWER ON

Each time immediately after power is restored; the system proceeds with auto detection and warming up function, and then enters **RECORD** mode.

### RECORD MODE

Under the **RECORD** mode the system uses two types of recording format: Continuous Recording and Motion Detection Recording. The recording format depends on the <**RECORD MODE**> settings on the **SETUP** mode. The interval of the captured frames depends on the <**CAPTURE RATE**> settings on the **SETUP** mode.



When recording has been set as continuous recording, for every fixed period of time the system will automatically record one frame and when recording is set to Motion Detection recording, for a fixed period of time the system will automatically detect for any changes on the screen (Motion Detection Sensitivity Rate is adjustable according to preference).

When the memory is full, and the “**Full Stop-Overwrite**” switch on the front panel is switched to “**Overwrite**”, the memory will be overwritten starting with the oldest data first, or switch to “**Full Stop**”, It will automatically enter **STOP** mode.

Under record mode, press 《 **■** 》 button to enter **STOP** mode.

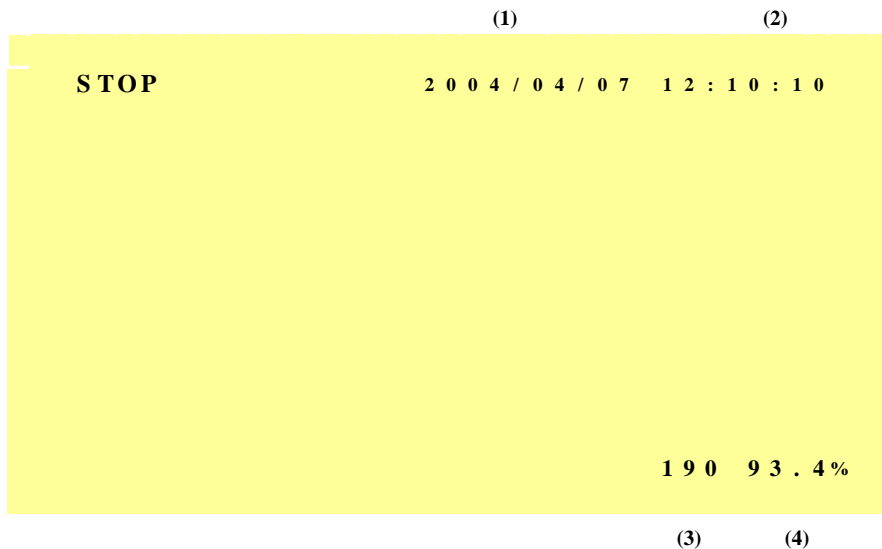
- (1) Record Status:  
**MD** - Motion Detection Recording.  
**CNT** - Continuous Recording.
- (2) Image Resolution:  
**640X480**.  
**320X240**.
- (3) Image Quality: **HIGH**, **MEDIUM** and **LOW**.
- (4) The screen display shows the recorded images by value of frames.

- (5) The screen display shows the recorded images by percentage (0%~ 100%). When the memory is full and the ‘**Full Stop-Overwrite**’ switch on the front panel is switched to ‘**Overwrite**’, the word ‘**LOOP**’ will be shown.

## STOP MODE

Under **STOP** mode, the camera will not proceed to record. When monitor has been connected, the user may view images through the monitor.

Under this mode Press 《●》 button, to enter **RECORD**, Press 《▶》 button to enter **PLAYBACK** mode, Press 《MENU》 button to enter **SETUP** mode.



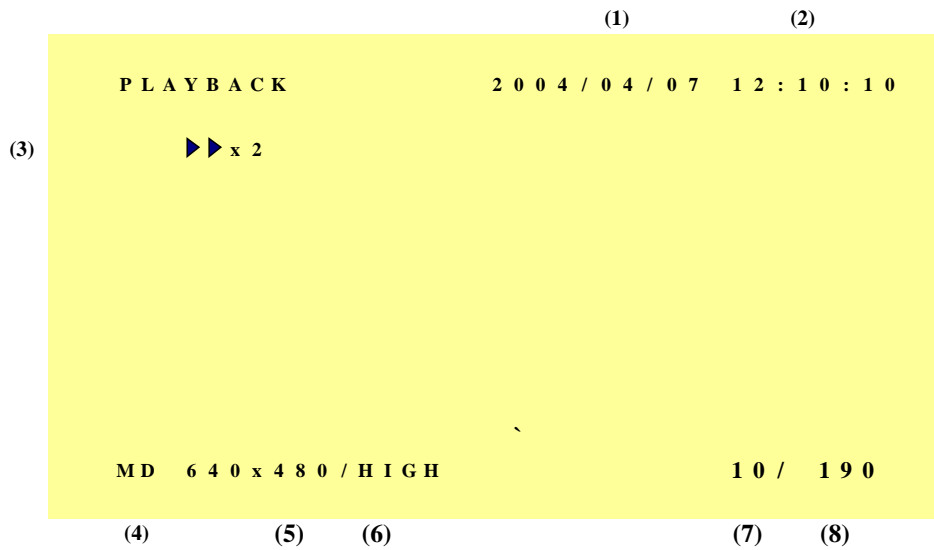
- (1) Date
- (2) Time
- (3) Recoded frames per seconds
- (4) System free space; range: 0%~100%. When memory is full (0%) and ‘**Full Stop Overwrite**’ switch is switched to ‘**Full Stop**’, the word ‘**FULL**’ will be show or switched to ‘**Overwrite**’, then the word ‘**LOOP**’ will be show.

## PLAYBACK MODE

After entering **PLAYBACK** mode the system automatically playbacks previously recorded videos.

- There are two conditions that the system will be switched to **PLAYBACK** mode:
- Under **STOP** mode, press 《▶》 button.
  - Under **SEARCH MENU** mode, press 《+》 button.
  - Under **PLAYBACK** mode, press 《▶》 button, to enable playback or to pause.
- (1) Under **PLAYBACK** mode, press 《▶▶》 button, to switch the playback forward speed (X2, X4, X8 and X16). Press 《◀◀》 button, to switch playback backward 320X240.

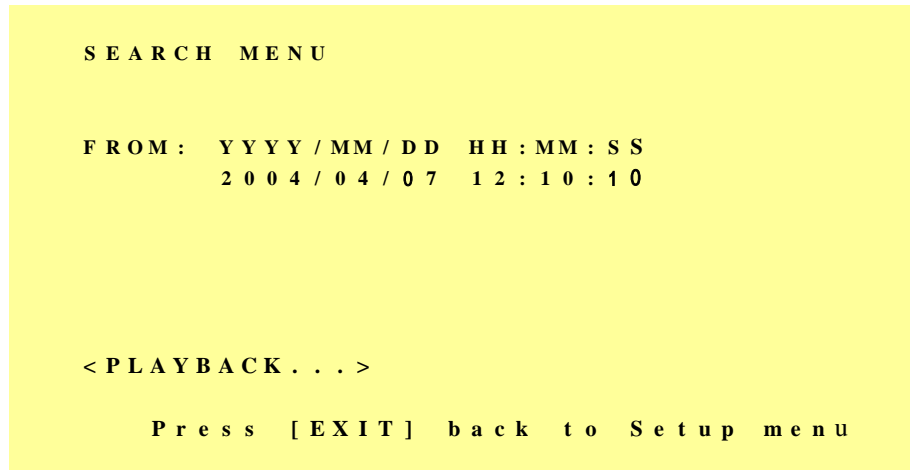
- speed (X1, X2, X4, X8 and X16).
- Under Puase status, press «▶▶» button to proceed with step forward playback, press «◀◀» button to procees with step rewind playback.



- (1) Record Date
- (2) Record Time
- (3) Playback status:
  - ▶ : Playback
  - ▶▶ : Fast Forward Playback
  - ◀◀ : Fast Rewind Playback
  - || : Pause
- (4) Record Status:
  - MD**: Motion Detection Record
  - CNT**: Continuous Record
- (5) Record Resolution:
  - 320X240**
  - 640X480**
- (6) Record Quality: **HIGH**, **MEDIUM** and **LOW**
- (7) Current frame number.
- (8) Total Frames Recorded.

## SEARCH MENU mode

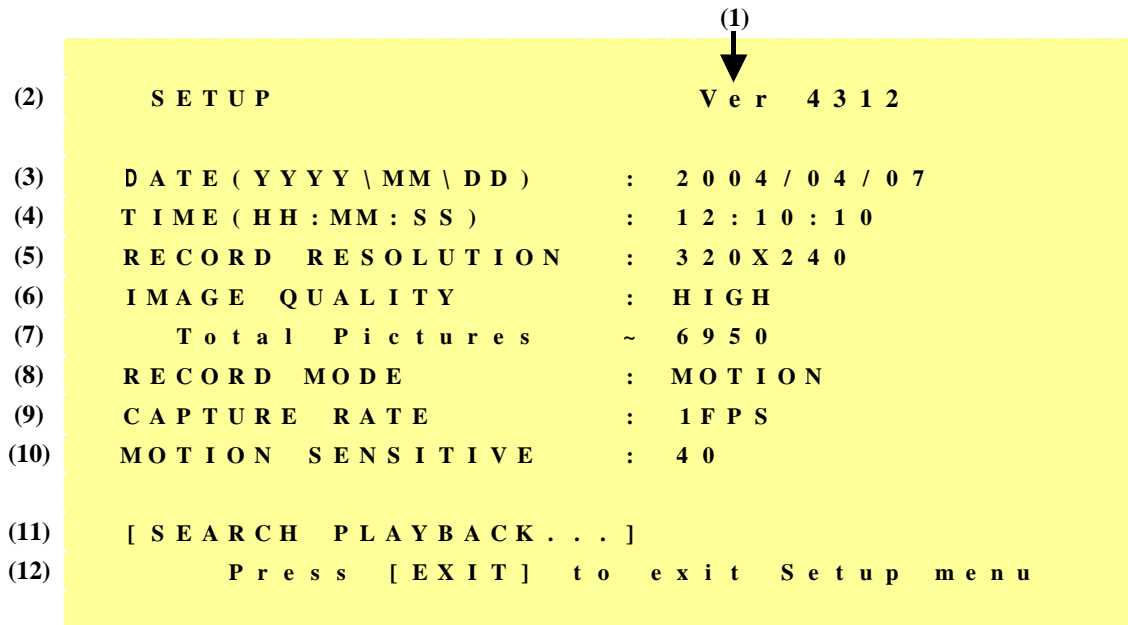
The user may setup the starting time of playback under this mode. Therefore, when the system is switched to **PLAYBACK** mode it playbacks video according to setup under the **SEARCH MENU** mode.



When the cursor has been moved to <PLAYBA/CK...> and «+» button has been pressed, the system will be switched to **PLAYBACK** mode and starts playback. Under all conditions, press «EXIT» button, the system will be switched to **SETUP** mode.

## 8. SYSTEM SETUP

All relevant system setups may be set under Menu Setup Mode, please refer to the descriptions below:



- (1) Software Version Number
- (2) Function Setup Page
- (3) Date Setup (Year/ Month/ Day)
- (4) Time Setup (Hour/ Minute/ Second)
- (5) Image Resolution Setup (**320x240** or **640X480**)
- (6) Image Quality Setup (**HIGH/ MEDIUM/ LOW**)
- (7) Indication of the estimated maximum picture storage
- (8) Record Mode Setup (**MOTION** or **CONTINUE**)
- (9) Capture Rate Setup (**10SEC**, **5SEC**, **2SEC**, **1FPS**, **2FPS**, **3FPS**, **4FPS**, **6FPS**, **8FPS** and **MAX**). **10SEC** refer to 10 seconds per frame recording **5SEC** refer to 5 seconds per frame recording and so forth. **2FPS** refers to 2 frames per second recording **4FPS** refers to 4 frames per second and so forth. Max refer to full speed recording (when recording resolution is set to **320X240** and the recording is at approximately 15FPS or set to **640x480** and the recording is at approximately 8FPS.
- (10) Motion Detection Sensitivity Rate setup: 1~99. The smaller the value, the higher the sensitivity rate. Please refer to the display seen on the monitor for accuracy
- (11) [**Search Playback ...**]: When the cursor moves to [**Search Playback...**], press «+» button to “**SEARCH MENU**” mode , to setup playback starting time
- (12) Operation Indication
- (13) Basic Operation: Press <↓> or <↑> button, to move the cursor, press <+> or <-> button, to make changes on the content

## 9. SPECIFICATIONS

<b>Sensor</b>	1/4" color CMOS Sensor
<b>Lens</b>	Cone Lens f3.7 mm/F2.0
<b>Effective Picture Elements</b>	VGA (H: 640xV: 480)
<b>S/N Ration</b>	46 dB
<b>Auto Electronic Shutter</b>	1/60s~1/15,000s
<b>Auto Gain Control</b>	Yes
<b>Auto White Balance</b>	Yes
<b>Synchronous System</b>	Negative Sync
<b>Video output port</b>	RCA Jack, 1 Vp-p./75 Ohms
<b>Video output format</b>	NTSC or PAL(Switch Settable)
<b>Recording Resolution</b>	VGA (640X480) / QVGA (320X240)
<b>Compress Quality Level</b>	High/Medium/Low
<b>Recording Mode</b>	Continue/Motion Detection
<b>Recording Interval</b>	10 Sec/5 Sec/3 Sec/2 Sec/1 FPS/2 FPS/4 FPS/6 FPS/8 FPS/Max
<b>Storage Capacity</b>	Built-in 64MB Flash Memory (128M/256M/512M optional)
<b>Memory Full</b>	Selectable Function: Full Stop/Overwrite.
<b>Playback Mode</b>	Forward/Rewind: x1 / x2/ x4/ x8/ x16,Pause and Step
<b>Search Playback</b>	Date & Time
<b>Motion Detection</b>	Full Screen/ Adjustable Detect sensitivity rate 1~99
<b>On Screen Display</b>	Mode/ Date/Time/ Status/ Set-up Menu
<b>Power Supply</b>	DC 12V ±% 10 /170mA or 4 AA Batteries
<b>Battery Life:</b> <b>Carbon-Zinc:</b> <b>Alkaline:</b> <b>NiMH:</b>	1.5Hours 6.0Hours 4.0Hours