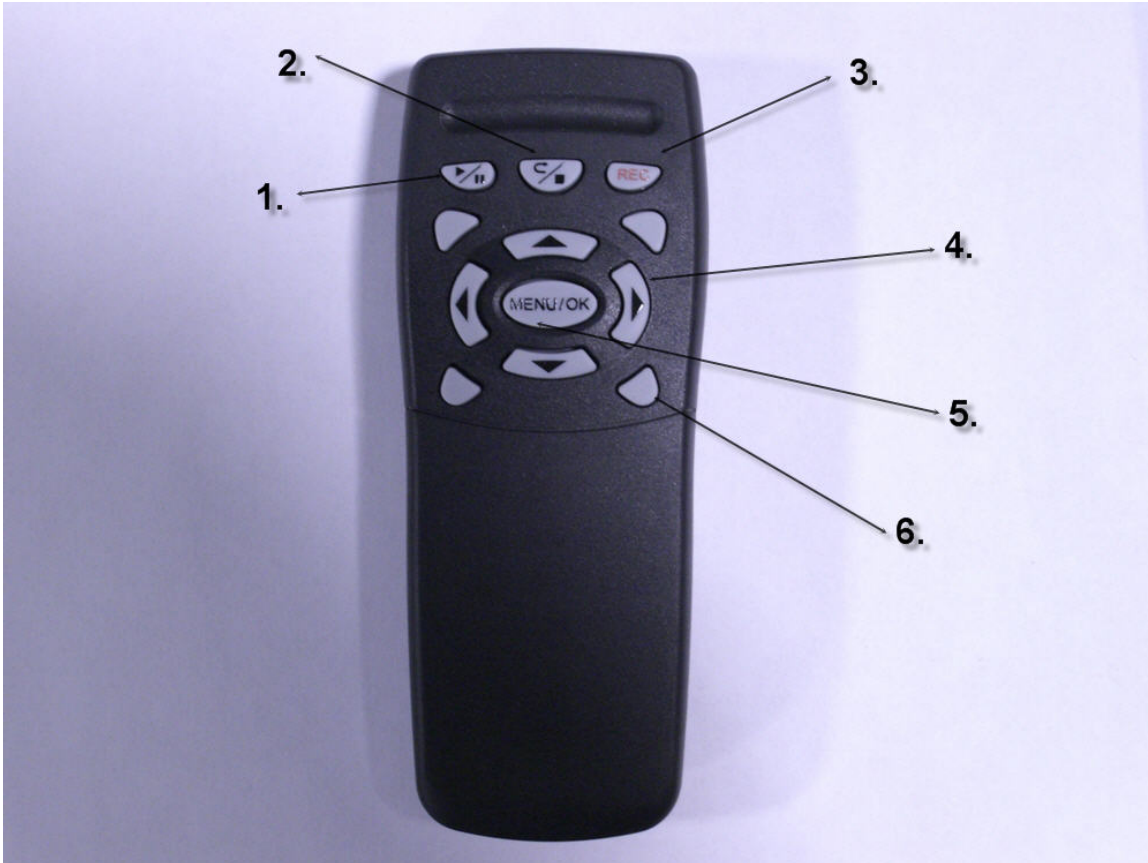


# HC-WALLC1-DVR

Wall Clock Hidden Camera DVR

DVR Remote



1. Play/Pause
2. Back/Stop
3. Record
4. Up/Down/Left/Right Arrow
5. Menu/Enter
6. Not Used

**Included Items:**

HC-WALLC1-DVR

Remote

2 AAA Batteries

Video Cord

8GB SD Card

**Instructions:**

1. Place the SD card in the SD card slot. This is located on the back of the Wall Clock.
2. Connect the AC power cord to the back of the Wall Clock.
3. The DVR will run a self test that takes a few seconds to complete once the power is connected.
4. After the self test the DVR will show the live video, if connected to a TV (see step 7). At this point it is ready to record.
5. There is a TV out jack on the back of the Wall Clock that can be connected to your TV or VCR to play back and view real time video. This connection is not needed for recording.
6. When you press the REC button on the remote, the item will start recording. There is no indicator on the outside of the unit showing it is recording. When you have the device connected to a TV it will show a recording symbol in the bottom left of the screen.
7. You may use the remote to navigate and setup the DVR also if needed.
8. You can also remove the SD card and place it into a SD Card reader for viewing on your computer. However the DVR will not record without the SD Card.

**To set Date/Time: (The date and time is already set for Eastern Standard Time)**

1. First go into the main menu by pressing the MENU/OK button in the center of the remote and then select the option Set Date/Time by pressing MENU/OK button.
2. When you go into this menu you can set the Date/Time and the format it displays on screen.
3. Select the format you would like the date to be displayed as. You can do this by pressing left or right when it is highlighted on screen.
4. Now you can enter the correct Year, Month, and Day. Press the down arrow on the remote to change between the format, date, and time. You will hit left or right on the remote to make the changes you need to the date/time when the option is highlighted.
5. The time is in Military format so when you enter the time you need to use the 24hour mode. When you need to go to the minutes after setting the hour you will need to hit the down arrow key and then left or right to make the change.

**To set up Motion Activation: (The camera has already been setup on Motion Detection recording)**

1. First go into the main menu by pressing the MENU/OK button in the center of the remote and then select the option Schedule Record by pressing MENU/OK button.
2. Once you are in the schedule record menu you will need to select Schedule Setup and press the OK button.
3. The Schedule setup is where we will setup the item to record on motion activation.
4. You will need to turn the schedule to on. You can make the changes to the screen by hitting left or right when the option is highlighted. After this is turned on press the down arrow key.
5. Now you will see numbers from 00-23 on screen. Each number has an icon next to it. This icon will tell the camera how to record.
6. To set the item up on Motion recording you will need to change the icon for each number to the symbol of the Man who looks like he is running. (A description of each icon is shown under section 5.3 record mode)
7. You can change the icon by selecting the number and it will be highlighted and then hit left or right arrow key to make the change. When you need to go to the next number just hit the down arrow key. This will need to be done for all of the 24 numbers. Once you have all of the icons next to the number set to record on motion you can exit this menu.
8. You can hit the top center button named Back/Stop on the remote to go back out of the schedule setup back to the main menu.
9. Once at the main menu I need you to highlight the Set Motion Detect and press OK.
10. Once you get into the Set Motion Detect I need you to select Set MD area and press OK.
11. This is where we will tell the camera to sense motion. We want to turn the entire screen red telling the device to record on motion.
12. You will need to change the mode it shows on screen. You can do this by hitting the play button on the remote. When you hit the play button it will change the words next to mode on screen.
13. You want to change the mode until it says ADD ALL by hitting the Play button. Once it says add all you need to hit the Menu/OK button to confirm.
14. This will turn the whole screen red allowing the item to detect motion over the whole screen.
15. The camera is now set to record on motion activation. The camera will start and stop recording by itself from now on. You will not need to hit the record button to start the recording. The device will go by the motion it detects for recording.
16. You can change the sensitivity of the motion detection by going to the main menu and select Set Motion Detect screen and press OK and then go into the Set MD area option by highlighting it and pressing OK.

17. When you go into this screen you will see the image from the camera in the background. You can wave your hand in front of the camera to show it detecting motion on screen. You will know it is detecting when the red blocks show up on screen where you move in front of it.
18. To change the sensitivity you will need to adjust the Threshold. If you adjust the threshold to the max it will take a greater movement to set off the motion recording. If you turn the threshold down the device will become more sensitive and start recording when less motion is detected. To make the change to the threshold you will just need to hit left or right arrows and you will see it change.
19. When you are done press the Back/Stop button to exit back to the main menu and then you can press it again to exit the main menu.

**NOTE: If you hit record on the remote control the item will start recording manually and will not stop until you press stop even if you have it setup to record on motion.**

When you have the device setup, the settings you changed will not disappear if you unplug the device and move it to another location. The settings are stored inside of the device.

**If you do not want to use the item on motion detection recording you can go into the schedule setup. This can be done by following steps 1-4 above except you will turn the schedule off and it will not record on motion.**

**To change the Record Quality: (By default the quality is set to Medium)**

**There are four different types of recording this DVR can do. They are Manual, Continue, Motion, and Alarm recording.**

1. First go into the main menu by pressing the MENU/OK button in the center of the remote and then select the option Manual Record and press the MENU/OK button.
2. Under the Manual Record option this will determine how the item records when you manually record by pressing the record button on the remote.
3. In this screen you will see the quality settings on screen. You can change the quality setting for each mode separately.
4. You have the option to change the Video Size, Frame Rate, Quality, and you can turn on/off the Audio. (The Hidden Cameras do not have audio built in.)

5. The Video size can be adjusted but will also determine what frame rate you can select. I would leave this at the default 320x240 because if it is changed you will only be able to record at 12FPS.
6. The frame rate can be changed but you should leave it on 30FPS to get real time recording.
7. You can change the quality from, Low, Medium, or High to determine what quality it records under and how much data is used on the SD card.
8. You can make the changes to this screen by highlighting the option and pressing left or right arrow keys and it will change. When you are done with that setting you can go to the next option by pressing the down arrow key.

**DVR Record Time**

<u>Resolution</u>	<u>Frame Rate</u>	<u>High Quality</u>	<u>Med Quality</u>	<u>Low Quality</u>
640x480	12 FPS	8 hrs	48 hrs	72 hrs
320x240	30 FPS	16 hrs	96 hrs	144 hrs

9. The rest of the quality settings can be found under the Schedule Record in the Main Menu.
10. Go into the main menu by pressing the MENU/OK button in the center of the remote and then select the option Schedule Record by pressing MENU/OK button.
11. The first one is Alarm Record; this option is not used by this recorder.
12. The second option is Motion Record which will determine how the recording is done when using motion detection. This will also have a duration that is how long the item will record after it stops detecting motion.
13. The last option is Continue Record and this will determine the quality for when you have the schedule set to record constantly. (Schedule setup to record 24/7 without you starting or stopping the recording.)
14. You can make the changes to this screen by highlighting the option and pressing left or right arrow keys and it will change. When you are done with that setting you can go to the next option by pressing the down arrow key. When you are done making the changes you can exit by pressing the Back/Stop button until you exit the menus.

# 5. OPERATION

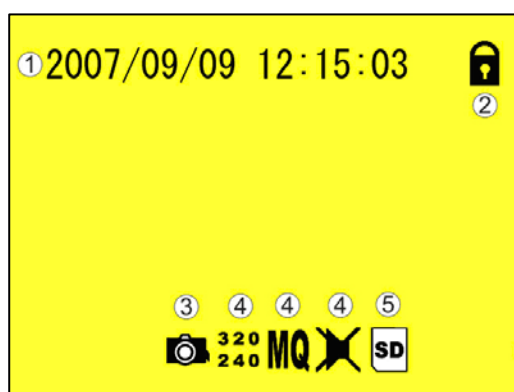
## 5.1 Power On

1. To power-up, connect to a DC 12V power input connector.
  - NOTE 1: Each time after power-on, the system auto-detects its peripherals. When the REC LED flashes indicate that the SD card is proceeding testing (complete boot time is several seconds) When an image file error has been detected, the system will initiate auto repairing.
2. After power on, the system auto enters live monitoring. When the system is currently under schedule recording, it auto enters record mode.
3. “SD” icon shown on the status line, indicates that SD card is operating normally.
4. When SD card is not inserted or problem occurs on the SD card. Rec indicator will flash quickly. Please re-format before proceeding.
5. You can play while the SD card is “read only”, but you cannot record; and Rec indicator will flash quickly.
6. After power-loss the system auto returns to the previous recording mode.








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


## 5.2 Live Mode

Live mode is the default setup after system start-up.



- ① **Time Display:** System Date and Time.
- ② **Button Lock:** Indicates all buttons are locked (buttons are ineffective).
- ③ **Video Status:** Indicates external camera connection.

- ④ **Record Status: Manual Record Parameter.**
-  Record Size; please refer to **【7.4 Record Setup】** for VIDEO SIZE setup.
  -  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.
- ⑤ **SD Card Status:**
-  SD Card has not been inserted or is malfunctioning.
  -  SD Card is proceeding file testing.
  -  SD Card is functioning normally.
  -  Overwrite record.

 When SD card is not inserted, record and playback function is inapplicable, but monitoring is applicable.

## 5.3 Record Mode

### 1. Start Record: 3 Types of recording mode.

- (1) **Manual Record:** Suitable to record at anytime. Press 《Rec ●》 button, to enter manual recording status (start recording). For more information, please refer to **【7.4 Manual Record & Schedule Record】** .
- (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 Motion Detection】** and **【7.4 Manual Record & Schedule Record】** .
- (3) **Continuous Record:** Suitable for few constant frame recording or on long-term continuous recording. For more information, please refer to **【7.4 Manual Record & Schedule Record】** .
- (4) **Alarm Record:** Suitable for external alarm recording. When alarm schedule been setup, alarm icon will be shown on the display status bar (alarm triggered recording is setup).

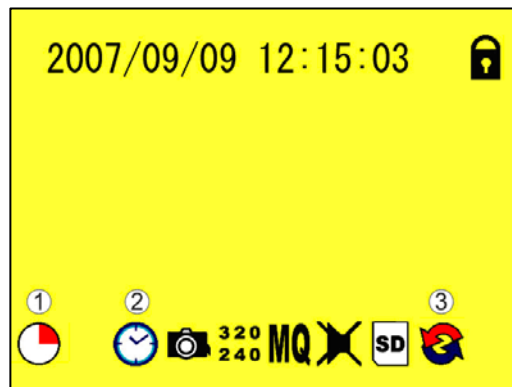
### 2. Stop Record:

Manual Record	Press 《■/⏻》 button/ Manual Power-Off/ Auto Power-Off when System Power Shortage.
Schedule Record	Enter 《▶/⏸》 schedule recording, all kinds of recordings (Alarm/ Motion Detection/ Continuous) will be stopped.


To continue recording, please follow the methods below to restart recording.

<b>Manual Record</b>	Repress 《●》 button.
<b>Schedule Record</b>	Stop playback and the system will auto re-check the record schedule setup again.

### 3. Record Display:



#### ① Record Status:

 : Indicates recording is in progress.

#### ② Record Mode:

 : Manual Record

 : Schedule Record

 : Motion Detection Record

 : Alarm Record

#### ③ Record Storage Mode Status:

 : Continuous Record

% : Remaining Storage Capacity

- System recording is determined according to the recording priority order (Record Priority: Manual/ Alarm/ Motion Detection/ Continuous).
- 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/ Alarm Record」 to enable high video quality with the highest recording frames, when an event occurs.

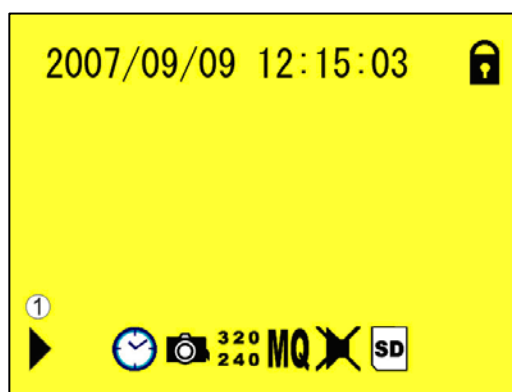
6. Video or audio may be recorded into the SD card (SD card is purchased separately).

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

## 5.4 Playback Mode

Selectable Playback format: Continuous Playback and Searching Playback.

(1) **Normal Playback:** Press 《▶/||》 button to first playback the final recorded data, and then according to the SD card file recording order.



① Playback Status:

- ▶ : Press 《▶/||》 button once to playback, press it again to pause.
- ◀▶ : Press 《◀》 or 《▶》 button to Fast Rewind or Fast Forward (Speed: x2/ x4/ x8/ x16/ x32). Press 《▶/||》 button to return to normal speed playback.
- || : During playback, press 《▶/||》 button to pause playback and press again to return to playback status.
- ◀▶▶▶ : 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.

Press 《■/n》 button to stop playback function and to return to live status

(2) **Search and Playback:** Enter MENU and select 【SEARCH AND PLAY】 item.



- 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 Event Record Status Icon:

: Manual : Motion Detection : Continuous : Alarm  
(NOTE 1 & NOTE 2).

- ④ 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.
- ⑤ Displays the time highlighted by the event bar.

☛ NOTE 1 : Select the starting point and press 《Enter》 button to playback

☛ NOTE 2 : Press 《■/□》 button to stop playback and the system will return to **【SEARCH and PLAY】** selection and enables the user to select the preferred input source.

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

## 5.5 PC Playback

1. The device uses SD card as its main storage. User may read the data stored in the SD card from the computers that supports SD card reader device.
2. All files (under DVMPG4 folder) has 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.

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


## 5.6 SD Card Maintenance

1. The device supports only FAT16/ 32 file system; therefore it is unable to determine other file systems. Please format the SD card (enter **【MENU/ SD CARD OPTIONS】** and select “Format”).

2. The system supports only partial SD card file system repair. The system is unable to detect any file system damage, therefore please format the SD card (enter **【MENU/ SD CARD OPTIONS】** and select “Format”).

## 5.7 How to Download the Updated Software

1. Use the SD card to update your system firmware.
2. Please follow the steps below to update the software:
  - (1) Copy the new system firmware into the new directory of the SD card from your computer.
  - (2) Insert the SD card; switch off the main power and then restart.
  - (3) Wait for 5 to 6 seconds, the system update will be complete and return to live mode.

 Do not withdraw the SD card while booting, when power-loss occurs while proceeding step (3), please repeat step (2) and (3).

# 6. MENU SETUP

## 6.1 Main Menu



- 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 select the item

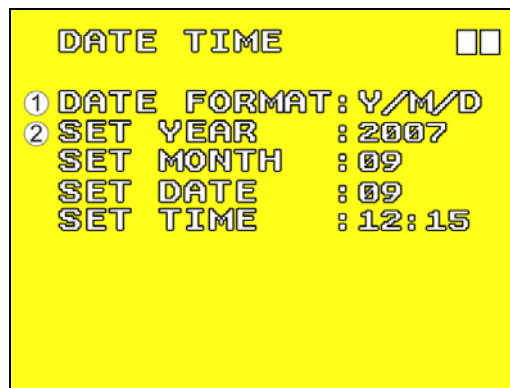
Press **《ENTER》** button, to enter the sub menu (**>**)

Press **《■/⏎》** 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 value of the item selected (NOTE 1).

☛ NOTE 1: All words underlined and bold indicates 「Default Value」 .

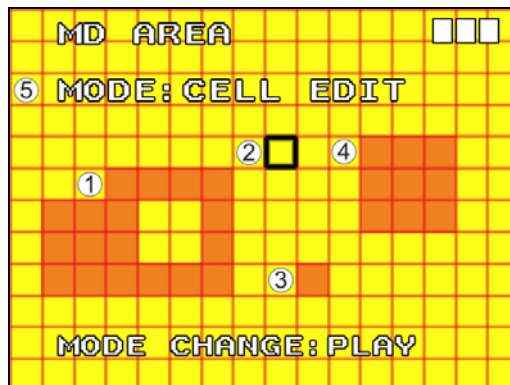
## 6.2 Date/ Time



- ①Date Format : Y/M/D M/D/Y D/M/Y
- ②Date/ Time Adjustment . Year Setup: 2000 - 2099  
 . Month Setup: 01 - 12  
 . Time Setup: 00 : 00 - 23 : 59  
 Return to factory default, no changes will be made.

## 6.3 Motion Detection

1. Window Setup:



- ① Detection Block: Formed by two or more cells.
- ② Cursor: Press 《 ▶ /II 》 button to switch to Select/ Edit mode.

- ③ Detection Cell: The whole screen is divided into 16x12 cells.
- ④ Detection Block.

2. Cursor Movement: Press 《▶/||》 button to switch to setup mode (cursor color is black),  
press 《▲/▼/◀/▶》 button to move the cursor freely.

### 3. Motion Detection Area Setup:

(1) Press 《▶/||》 button to edit detection block.

#### ⑤ Mode

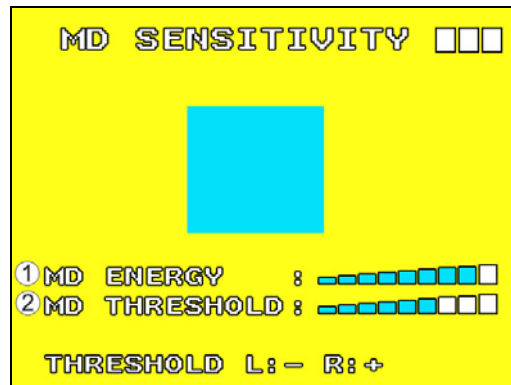
- CELL EDIT** Single detection cell setup (detection/ non-detection)
- DEL BLOCK** Disable a block
- DEL ALL** Delete all cells
- ADD BLOCK** Enable a block
- ADD ALL** Enable all cells

(2) Press 《▶/||》 button to 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 shown by color red, press 《Enter》 to enable/ disable the  
detection block.

### 4. Motion Detection Sensitivity Setup:

Changing the alert value may affect the recording sensitivity of the Motion Detection.



① **MD ENERGY** : Reveals current sensitivity rate (NOTE 1).

② **MD THRESHOLD** Reveals user sensitivity rate setup. Press « ◀ » or « ▶ » : button, to change the motion detection threshold level (NOTE 2).

•NOTE 1: Motion detection is triggered when MD ENERGY level exceeds MD THRESHOLD level (red block).

•NOTE 2: The red cells reveal the setup made by the user.

## 6.4 Record Setup

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

1. **MANUAL RECORD:** Press ( ● ) button to start recording (NOTE 1).



① Video Size/ Frame Rate Setup:

VIDEO SIZE	<u>320x240</u>	640x480
FRAME RATE (MAX)	30 fps	12 fps

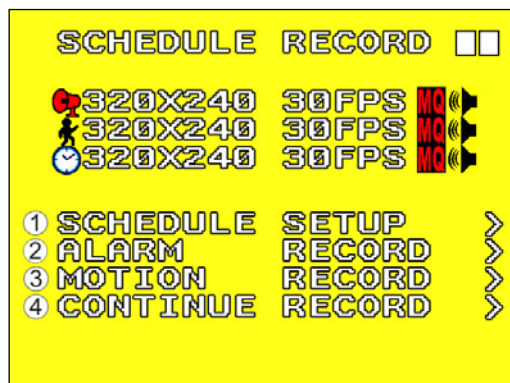
② Image Quality:

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

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

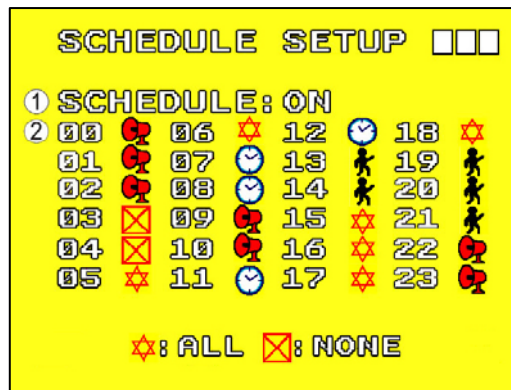
•NOTE 1: Menu setup is inapplicable during manual recording.

2. **SCHEDULE RECORD (Alarm Detection/ Motion Detection/ Continue):** Records only within the setup time range.



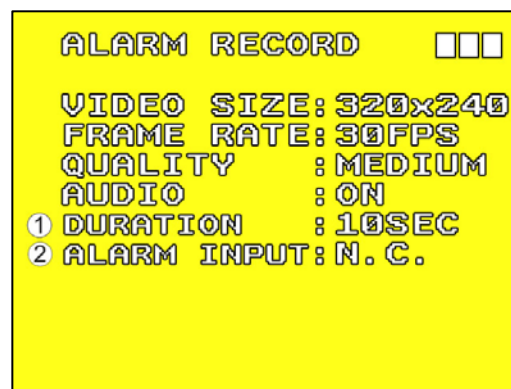
- ① **SCHEDULE SETUP** : Enable/ Disable schedule and record mode setup.
- ② **ALARM RECORD** : Alarm setup.
- ③ **MOTION RECORD** : Motion detection setup.
- ④ **CONTINUE RECORD** : Continuous setup.

(1) SCHEDULE SETUP :



- ① **SCHEDULE** : Record ON / **OFF** setup (default setup is OFF).
- ② **SCHEDULE MODE** : Press «▲» or «▼» to setup schedule time. Press «◀» or «▶» to setup different types of recording schedule. (🚶 : Motion Detection Record ⌚ : Continuous Record 🚨 : Alarm Triggered Record).

(2) Increase setup during Alarm Detection:



- ① **DURATION** : Duration time when motion detection has been triggered (05 ~ 90 SEC (increase by every 5 SEC) / **10 SEC**).
- ② **ALARM INPUT** : Alarm trigger method (**N.C.**/N.O.).

(3) Increase DURATION setup during Motion Detection Record:



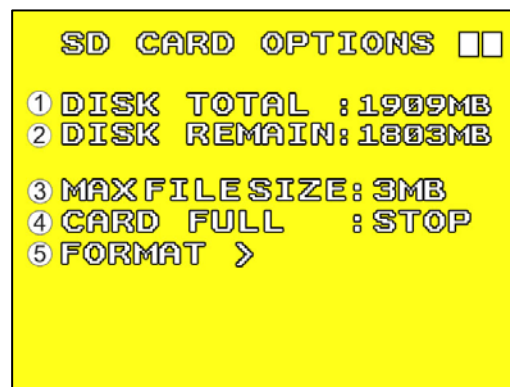
① **CONTINUOUS RECORD** : Continuous record time when motion detection has been triggered (05 ~ 90 SEC (increase by every 5 SEC) / 10 SEC).

(4) CONTINUE RECORD:



Setup method is similar to manual record setup, for more information please refer to [7.4 1. MANUAL RECORD]

## 6.5 SD Card Options



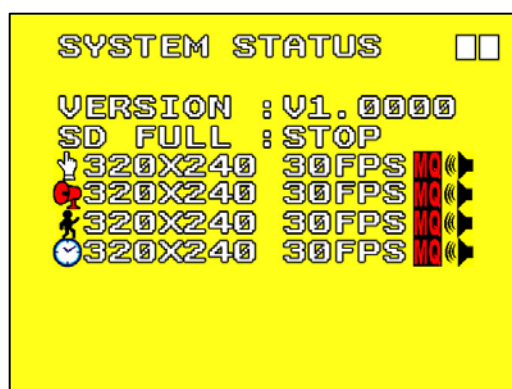
① **TOTAL SPACE** : SD card total capacity.

② **REMAIN SPACE** : SD card remaining capacity.

☛ NOTE 1: Proceeding continuous recording, old videos can be deleted and overwritten. Please confirm before setup.

☛ NOTE 2: Recording time depend on the SD card capacity, different recording modes, and degree of video variation.

## 6.6 System Status



Press any button to return to the Main Menu.

## 6.7 Power On Setup

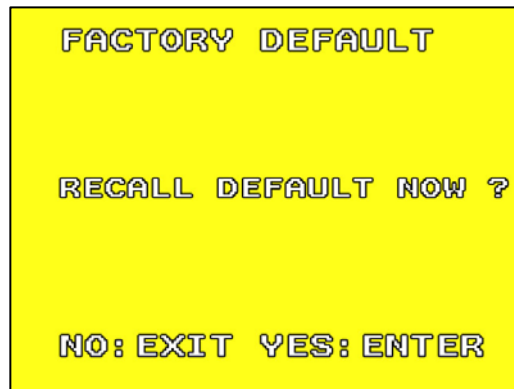


① **LANGUAGE** : Setup menu language.

② **COMPOSITE** : Setup video output format, NTSC/ PAL (NOTE 1).

☛ NOTE 1: Connect the camera, the device auto detects NTSC/ PAL video system (the output video system will be setup the same as its input video system). Without connecting the camera, the video system setup will be the same as its previous setup.

## 6.8 Factory Default



Press 《Enter》 button returns all settings to the factory default value (NOTE 1).

Press 《■/n》 button, exit this screen display and returns to the Main Menu

☛ NOTE 1: Return to factory default will erase all configuration values and return to the Factory Default values ( except Date and Time setup ) . Therefore, confirm before you proceed.

## 7. TROUBLE SHOOTING

Q1. What is the recording capacity for 1GB SD card?

A1. Different recording setup has different recording capacity. Table below shows possible recording time during continues recording applying different record mode.

Quality	Frame Rate	SD Card	High		Medium		Low	
VGA (640 x 480)	12 FPS	1 GB	155	min	280	min	340	min
QVGA (320 x 240)	30 FPS	1 GB	150	min	380	min	600	min

Q2. Why does the system auto reboot during normal operation?

A2. It indicates that the SD card error has been detected. To enable data completeness, monitoring procedure will reboot the device. After device reboot the system returns to the status before reboot (Ex.: returns to Manual Record or Schedule Record).

Q3. Why won't the drag scroll work when playback on PC?

A3. To solve this problem, please download “AsfTools” (<http://www.geocities.com/myasftools>).

## 9. SPECIFICATION

STANDARD FUNCTION		
Video	System	NTSC / PAL Video System and Video Loss Auto Detection
	Codec	MPEG4-SP ASF File Format
	Record Frame Rate	1, 2, ... , Maximum fps selectable Maximum: 30 fps@320x240 / 12 fps@640x480
	Record Quality	Low / Medium / High
	Recording Date/Time	Overlay with Video Images in ASF File
	Input	1 CH Composite Video Line In
	Output	1 CH Composite Video Line Out
Audio	Sampling Rate	44.1 KHz
	Codec	G.726/ 32 kbps
	Input	1 CH Audio Line In
	Output	1 CH Audio Line Out
Audio Device	Microphone , Speak , Earphone	
Storage Media	SD Card (FAT16/ 32)    MAX FILES: 16384 FILES	
Serial Port	USB 1.1 (Read-Only)	
Recording Mode	Manual / Schedule ( Alarm / Motion Detection / Continue)	
Motion Detection Setting	Multiple Blocks and adjustable sensitivity	
Event Search Function	Property and first image of selected file is displayed	
Playback Function	Play/Fast Forward/Fast Rewind/Pause/Step Forward/Step Backward	
Playback Speed	x1/ x2/ x4/ x8/ x16/ x32	
Power Supply	DC 12V/1A	
Dimensions	38 mm (W) x 17.5 mm (H) x 38 mm (D)	
Operating Environment	30%~80% RH, 5°C ~ 45°C (41°F ~ 113°F)	
Storage Environment	30%~90% RH, 0°C ~ 50°C (32°F ~ 122°F)	

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