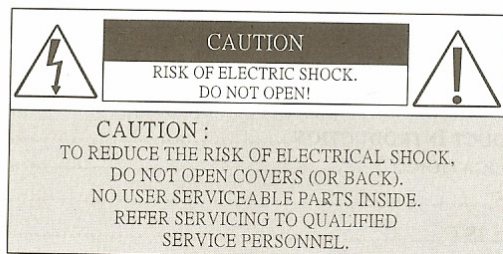


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1. SAFETY PRECAUTIONS



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

⚠ WARNING: Alert the user to the presence of un-insulated "dangerous voltage".

⚠ CAUTION: Alert the user the 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 poor image quality may quality.

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 expose to extreme temperatures.
Use the product at temperatures within 5° C~ + 45° C

2. INTRODUCTION

2.1 Product Introduction

World leading technology not only perfect for office safety, personnel home security, public environments, industry surveillance, school, and so on. Quick and simple installation, the best choice for your own ultimate protection.

The state-of-art 4-channel digital recording system, equipped with advanced embedded CPU operating system, powerful MJPEG compression technology. Standalone type DVR system that is based on embedded OS, replacing the conventional DVR. The most user-friendly surveillance System (supports Chinese user interface), user can operate the functions by controlling the front panel, using time and event to playback recorded materials, efficient live recording and playback functions, supports ATA HDD, and the most useful storage device of removable Hard Disk Drive. Password protection on remote controlling. What more can you expect!

2.2 Application

- **Security:**
ATM (auto teller machine), bank, gas station, shop and parking lot.
- **Factory/ Office:**
Factory, warehouse, remote technology support, conference room, and outdoor parking lot.
- **Education/ Military/ Government Organization:**
Important facilities, important areas, rapid transit system, and railroad safety.
- **Recreation/ Activities:**
Sports and news broadcast.
- **Home:**
Elevator, doorway, community safety, and hotels.
- **Hospital/ Kindergarten:**
Hospital and isolated ward, home for the aged, kindergarten, and baby nourishing center.

3. FEATURES

- **Auto video input detection**

Auto detects video input (NTSC/ PAL) and supports combine use of color and b/w cameras.

- **Supports high quality digital video recording**

Adopts M-JPEG compression technology (NTSC: 30fps/ PAL: 25fps).

- **Video Size**

Recording Resolution

- NTSC: 640x 224
- PAL: 640x 272

Monitoring Resolution

- NTSC: 720x 480
- PAL: 720x 576

- **Replaces the conventional VCR.**

Stores video on hard disks instead of VCR tapes. Large disk capacity, there is no need to replace the recording medium.

- **Built-in motion detection function.**

Motion detection sensitivity level may be setup under motion detection function.

- **High efficient event recording, saving storage capacity.**

Recording function is enabled only when system detects motion or when the external alarm has been triggered. Therefore, increases the amount of time available for recording.

- **Easy access to the desired record.**

Time & date search supports instant retrieval of images and alarm event search makes searching simpler.

4. PACKING LIST

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

(1) DVR (digital video recorder)



(2) Power adapter

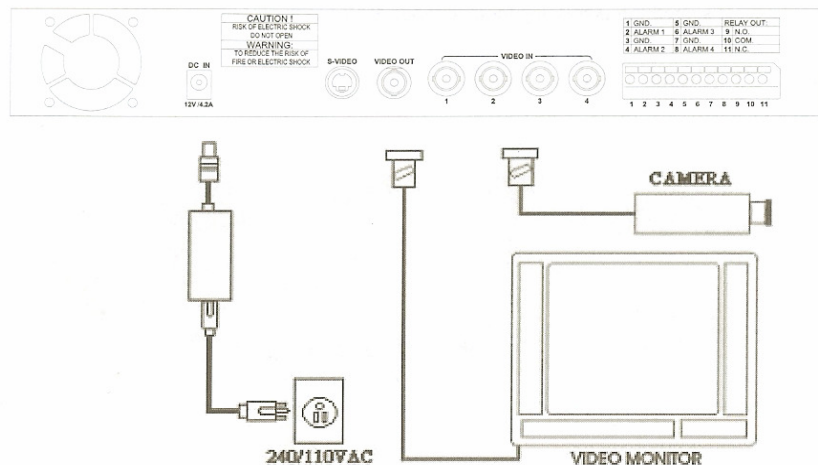


(3) Power Cord (Plug type differs depending on area)



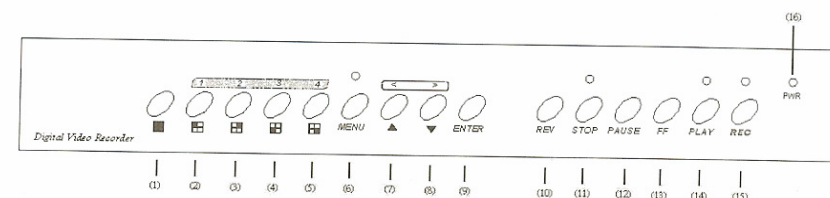
5. INSTALLATION

Please setup the connection by following the illustration shown below.



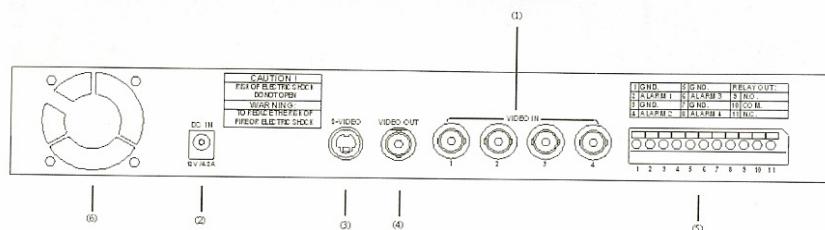
6. NAME and FUNCTION of EACH PART

6.1 Front Panel Buttons and Controls



- (1) : Quad Display
- (2) : CH1 Display
- (3) : CH2 Display
- (4) : CH3 Display
- (5) : CH4 Display
- (6) MENU : Main Menu Button
- (7) ▲, < : Move Upward
- (8) ▼, > : Move Downward
- (9) ENTER : Enter Button
- (10) REV : Rewind Button
- (11) STOP : To stop recoding or playback and returns to monitoring display.
- (12) PAUSE : To pause during playback mode.
- (13) FF : Fast Forward Button
- (14) PLAY : Play Button
- (15) REC : Record Button
- (16) PWR: Power Indicator

6.2 Rear Panel Buttons and Controls



- (1) Video Input [VIDEO IN]: Connect to cameras.
 (2) DC 12V (4.2A) [Power Input terminal]: power socket.
 (3) S-Video Output [S-VIDEO OUT]: Connect to the monitor.
 (4) Video Output [VIDEO OUT]: Connect to the monitor.
 (5) I/O Block [I/O BLOCK]: Terminal function description is shown below.

| No. | Name | Function |
|-----|---------|------------------------------------|
| 1 | GND | Ground Terminal (signal) |
| 2 | ALARM 1 | Alarm Input Terminal |
| 3 | GND | Ground Terminal (signal) |
| 4 | ALARM 2 | Alarm Input Terminal |
| 5 | GND | Ground Terminal (signal) |
| 6 | ALARM 3 | Alarm Input Terminal |
| 7 | GND | Ground Terminal (signal) |
| 8 | ALARM 4 | Alarm Input Terminal |
| 9 | N.O. | Alarm Output (Normal Open) |
| 10 | COM | Alarm Output Terminal (NC/ NO COM) |
| 11 | N.C. | Alarm Output (Normal Close) |

(6) Cooling Fan.

7. OPERATING PROCEDURE

7.1 Power On

Each time after power on, DVR will auto-detect its peripherals (self-testing, warm-up, auto detects the hard disk and etc.)

The system will detect the video input and judge whether the video system is NTSC or PAL. When video input is unable to be detected (VIDEO LOSS), the system will send out an alarm, press-on any button to stop the alarm (it will not affect the actual recording).

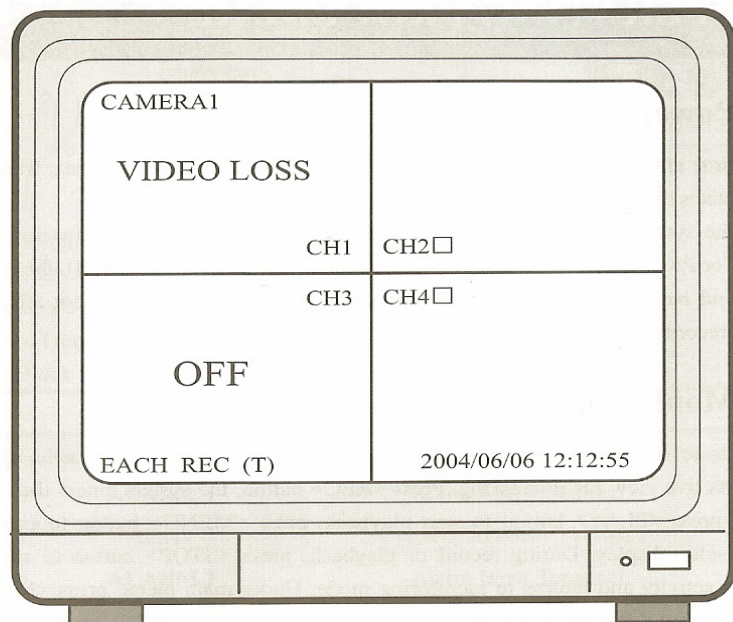
7.2 Monitoring Mode

This mode is a default for our system after power on. Under this mode, system supports live view for monitoring. Press <REC> button, the system enters the record mode, press <PLAY> button to start playback, press <MENU> button to enter the menu setup display. During record or playback, press <STOP> button to stop the current activity and returns to monitoring mode. Under main menu, press <MENU> to return to monitoring mode.

During playback, press <STOP> button to return to monitoring mode. Press <FF> again to change the speed (FF1, FF2 or FF3), or press <REW> button to start reverse playback.

- ⊙ To reset (under quad or single display), press <PAUSE> button 5 times, the message <ALL SETTING DATA IS INITIALIZED> will be displayed by flashing 3 times, and after reset the password will be set as default value (11111).
- ⊙ When reset procedure has been completed, the message "DVR RESET COMPLETED. TURN OFF AND ON THE DVR" will be displayed, then please restart the DVR.

7.3 Record Display



Note: CH1: No block figure next to CH1 indicates that it is not recording.

EACH: Record Type QUAD: Record Type

(T): TIMER RECORD (A): ALARM RECORD (M): MIX RECORD

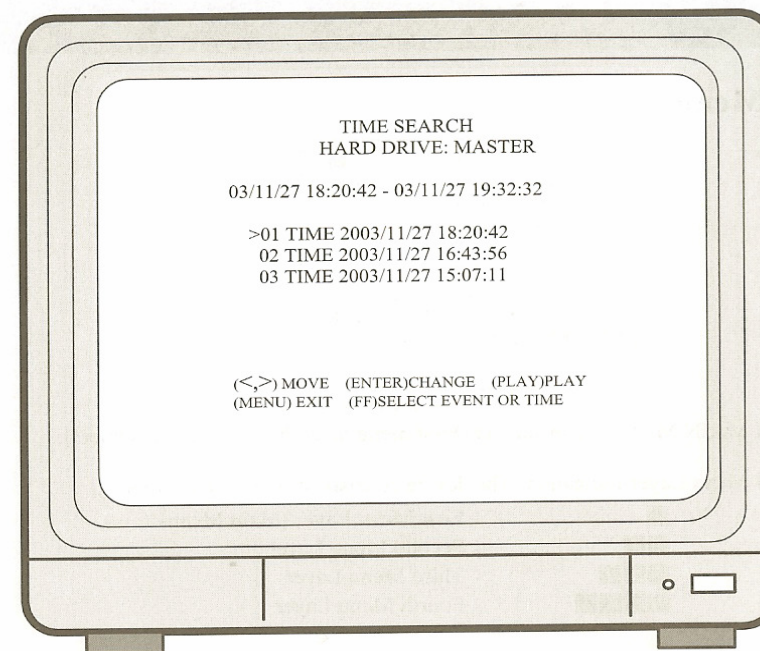
(□): Currently under recording.

VIDEO LOSS: Video input unable to be detected.

CAMERA1: Title for CH 1.

OFF: Channel is set to "OFF".

7.4 Playback Display

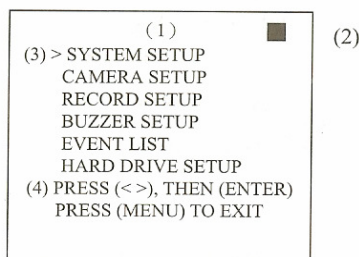


| | | |
|-----|------|-----------|
| >01 | TIME | } Total 7 |
| >07 | | |

1. First press <STOP> button to stop record, then press <PLAY> button to enter search display.
2. Press <FF> button, then <PLAY> button to playback data from old to new. Use <↑> and <↓> button to move the cursor to the desired playback time, press <PLAY> button to start playback.
3. When wish to view recorded videos of a specific time, use <FF> button, <↑> or <↓> button, and <ENTER> button to make changes.
4. During playback press <PAUSE> button to pause and press <PLAY> button to play.
5. Press <FF> button to fast-forward playback.
6. Press <REW> button to reverse playback.
7. Press <STOP> button to stop playback.

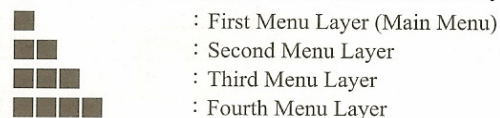
8. FUNCTION SETUP

8.1 Menu



(1) MAIN MENU: Item subject (First menu layer does not have a subject).

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



(3) Menu Operation and Setup

Press <=> or <=> button to move the cursor (>).

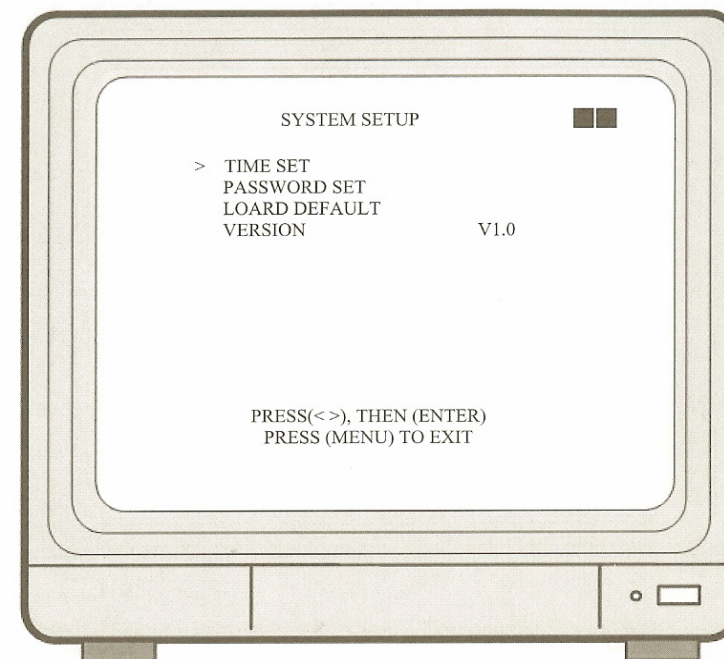
Press <ENTER> button to enter the sub menu.

Press <MENU> 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) and auto updates the modified data.
- Under main menu (first menu layer), the system will enter live mode.
Press <ENTER> button, to increase or decrease the setting values that has been highlighted.

(4) Menu Layer Operation Guide

8.2 System Setup



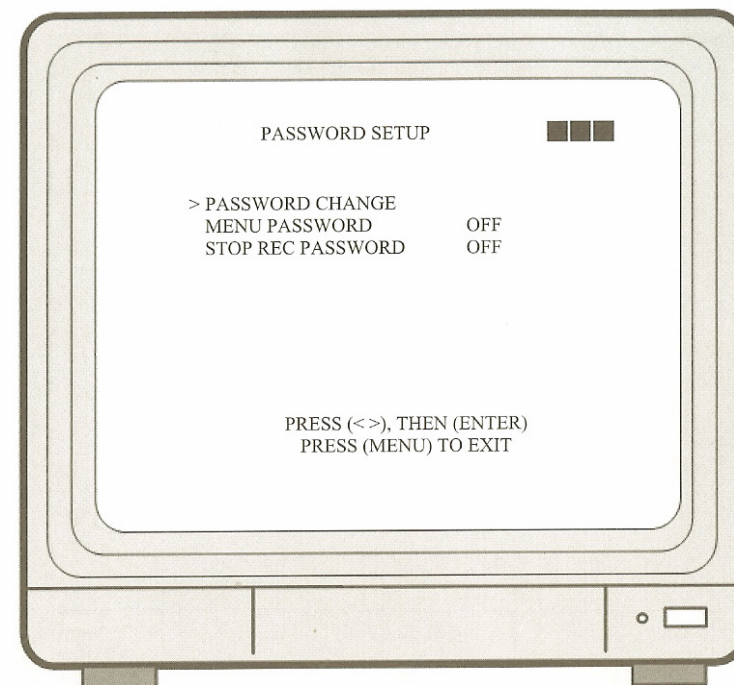
1. Cursor (>) position indicates the current function selected.
2. Press <=> and <=> button to move the cursor.
3. Press <ENTER> button to proceed.
4. Press <MENU> button to exit "System Setup".
5. "System Setup" is situated on the second menu layer. Under this menu layer user may setup the system time, password, and return system to default value, etc (VERSION displayed represents the FIRMWARE version).

8.2.1 TIME SETUP



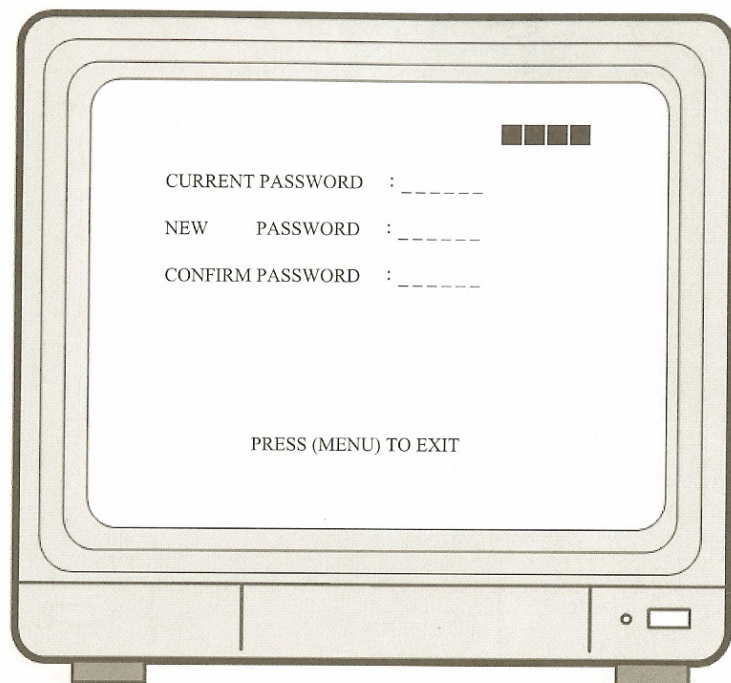
1. Cursor (^) position indicates the current time and date selected.
2. Use <=> or <-> button to move the cursor.
3. Use <ENTER> button to setup time and date.
4. Use <MENU> button to exit "Time Setup".

8.2.2 PASSWORD SETUP



1. Cursor (>) position indicates the current function selected.
2. Use <=> and <-> button to move the cursor to the desired item .
3. Use <ENTER> button to make changes.
4. Use <MENU> button to exit "Password Setup".
5. When the password is setup to "ON", user will be requested to enter the correct password for entering from live display to menu selection (Default Password: 111111).
6. When password is setup to "ON", user will be requested to enter the correct password to stop recording (Default Password: 111111).

8.2.2.1 PASSWORD CHANGE

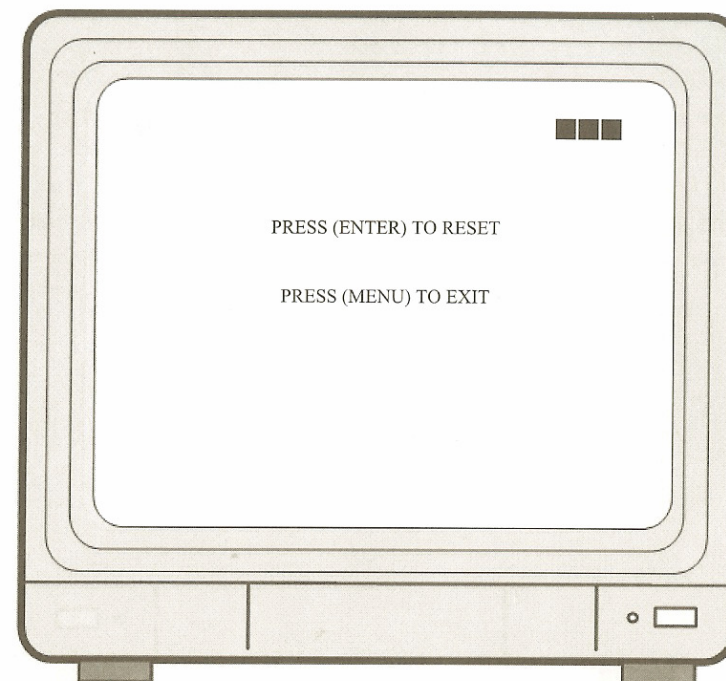


1. Press <ENTER> button to show the display above.
2. Enter the current password (CURRENT PASSWORD).
3. Enter new password (NEW PASSWORD).
4. Confirm the new password (CONFIRM PASSWORD).
5. When password change is successful, the system will display "PASSWORD CHANGED".

※ Default Value: 111111

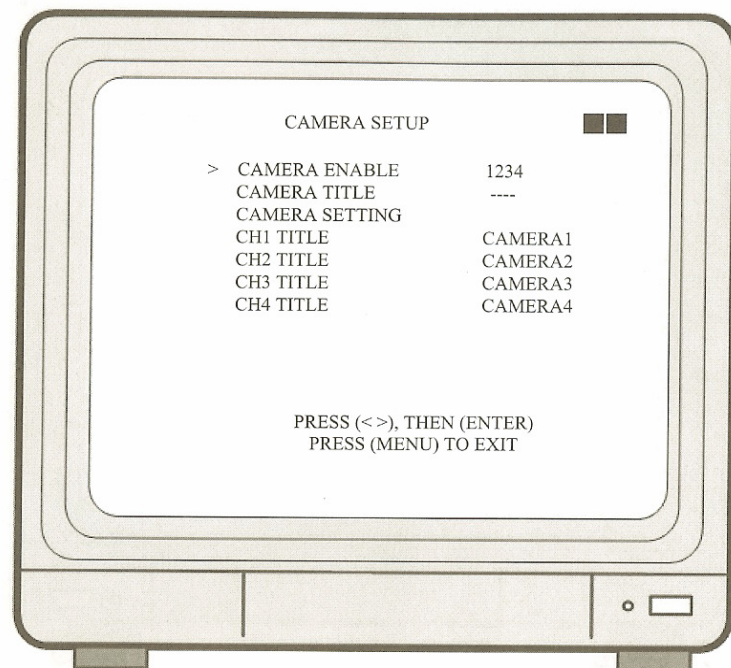
If password entered is incorrect, you will receive a message "NO PASSWORD CHANGED" to inform you (message flashes three times) and the system returns to "Password setup".

8.2.3 LOAD DEFAULT



1. Press <ENTER> button to show the display above.
2. Press <ENTER> button the message <ALL SETTING DATA IS INITIALIZED> will be displayed by flashing 3 times, and returns to default value. When reset procedure has been completed, the message "DVR RESET COMPLETED TURN OFF AND ON THE DVR" will be displayed, please restart the DVR.
3. Press <MENU> button to exit "Load Default Setup".

8.3 Camera Setup



1. Cursor (>) position indicates the current function selected.
2. Press <←> and <→> button to move the cursor.
3. Press <ENTER> button to proceed.
4. Press <MENU> button to exit.
5. "Camera Setup" is situated on the second menu layer. Under this menu user may setup camera title (camera title for CH1, CH2, CH3 and CH4), standard camera setup, etc.
6. Press <ENTER> button to change the camera view combination (select to view the desired channel).
 - 1) (It consists of 16 different optional camera view combinations)
 - 2) Select (- - -), all cameras are disabled (no image display).
 - 3) Select (1 2 3 4), all cameras are operational (quad image display).
 - 4) Select (- - - 4), only camera four is operational (CH4 image display only).
7. When proceeding "CH1 TITLE", press <ENTER> button to show the display below:

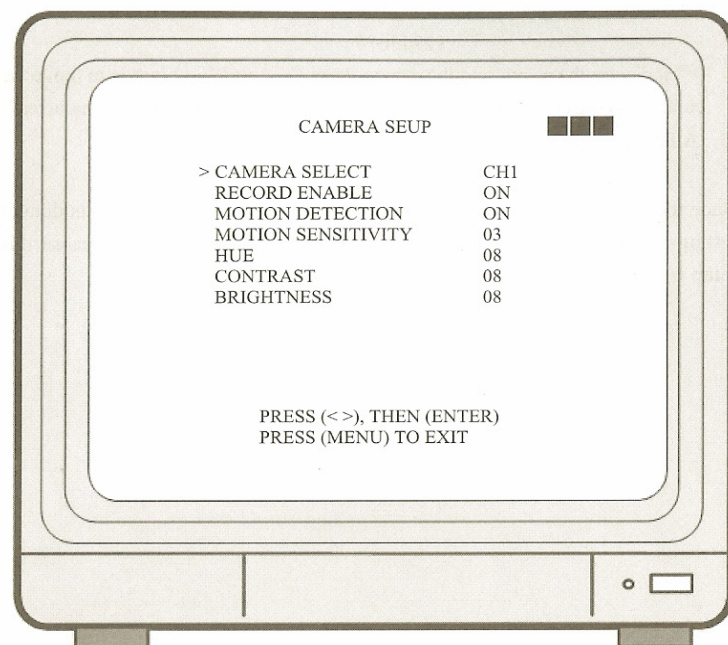
V

| CH1 | TITLE |
|-----|----------|
| | CAMERA1 |
| | 12345678 |

- "V" indicates the position of the cursor. Press <←> and <→> button to move the cursor, and press <ENTER> button to change the title (maximum 8 characters).
8. All channel titles are setup the same way.

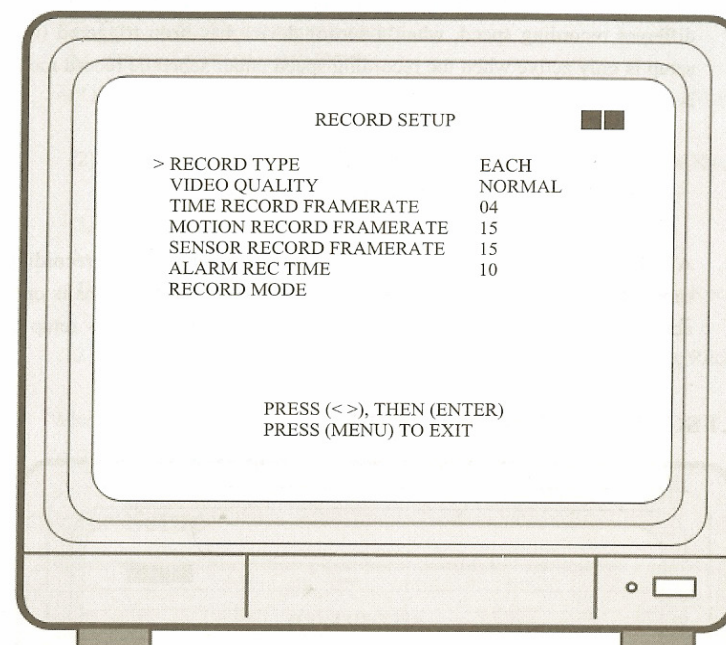
Once the user formats the hard disk drive, the camera title returns to its default setting (CAMERA1/ CAMERA2/ CAMERA3/ CAMERA4). It is because this setup is stored in the hard disk drive.

8.3.1 CAMERA SETTING



1. Cursor (>) position indicates the current function selected.
2. Press <←> and <→> button to move the cursor to the desired item.
3. Press <ENTER> button to make changes.
4. Press <MENU> button to exit "CAMERA SETUP" selection.
5. CAMERA SELECT: Press <ENTER> button to select the desired channel.
6. RECORD ENABLE: Press <ENTER> button to switch the channel recording ON/ OFF.
7. MOTION DETECTION: Press <ENTER> button to switch the motion detection function ON/ OFF.
8. MOTION SENSITIVITY: Press <ENTER> button to setup the motion sensitivity level (5 sensitivity levels, 01 most sensitive).
9. HUE: Press <ENTER> button to adjust the color of cameras (15 color adjustment values, default value: 08).
10. CONTRAST: Press <ENTER> button to adjust the camera contrast (15 contrast adjustment values, default value: 08).
11. BRIGHTNESS: Press <ENTER> button to adjust camera brightness (15 color adjustment values, default value: 08).

8.4 Record Setup



1. Cursor (>) position indicates the current function selected.
2. Use <←> and <→> button to move the cursor to the desired item.
3. Use <ENTER> button to make changes.
4. Use <MENU> button to exit "RECORD SETUP" selection.
5. "Record Setup" is situated on the second menu layer. Under this selection user may setup the following function: Record Type, Video Quality, Time Record Framerate, Motion Record Framerate, Sensor Record Framerate, Alarm Record Time, and Record Mode.
6. RECORD TYPE: Press <ENTER> button to select between "QUAD" and "EACH" mode.
7. VIDEO QUALITY: Press <ENTER> button to select different quality recordings (HIGH, NORMAL or LOW).
8. TIME RECORD FRAMERATE: Press <ENTER> button to setup the recording speed when "T" mode is setup under schedule record mode.
9. MOTION RECORD FRAMERATE: Press <ENTER> button to setup different recording speeds per channel, suitable when the recording speed

under schedule record mode is setup to "M" (mix) or "A" (alarm).

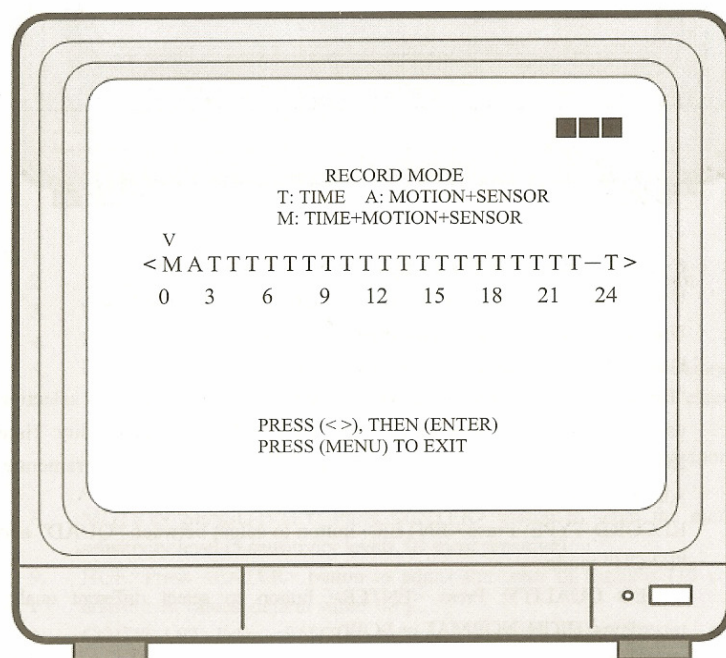
10. SENSOR RECORD FRAMERATE: Press <ENTER> button to setup different recording speed, when a sensor device has been triggered (this setup is only active when the recording speed under schedule record mode is setup to "M"(Mix) or "A" (Alarm)).

NTSC:30,15,10,7,5,4,3,2,1fps.

PAL :25,12,8,6,4,3,2,1fps.

11. ALARM REC TIME: Press <ENTER> button to setup sensor recording time after a sensor device has been triggered (this setup functions is only active when the recording speed under schedule record mode is setup to "A" (Alarm)).

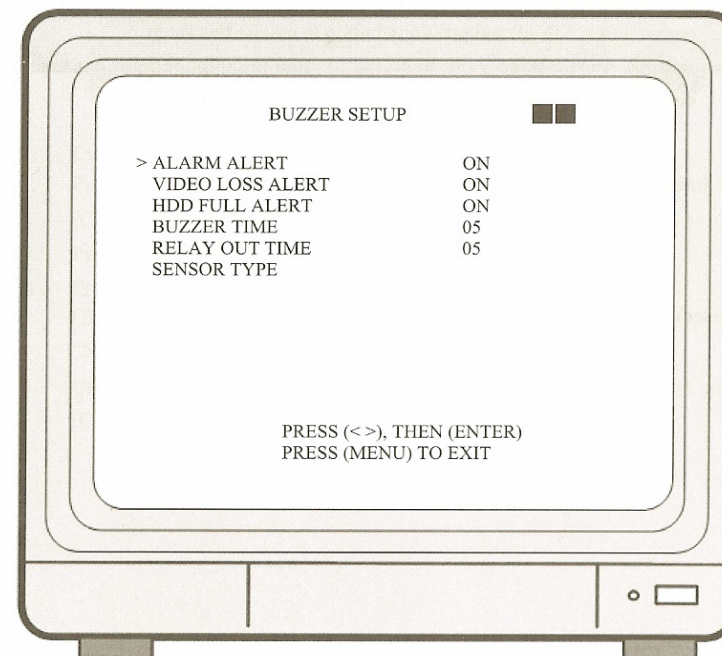
8.4.1 SCHEDULE RECORD MODE



1. Cursor (V) position indicates the current function selected.
2. Use <←> and <→> button to move the cursor to the desired item (time).

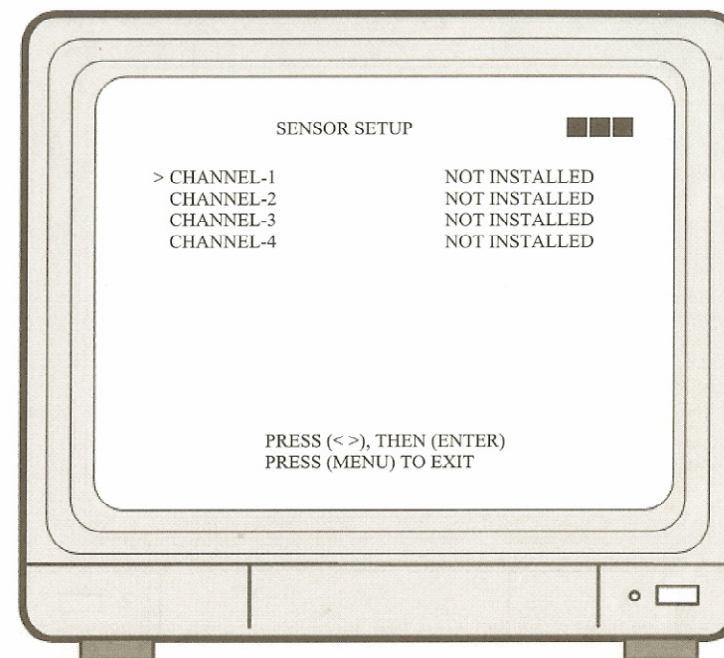
3. Use <ENTER> button to make changes.
 4. Use <MENU> button to exit "SECHDULE RECORD MODE" selection.
 5. T: Time, indicates continuous record.
 6. M: TIME+MOTION+SENSOR.
 - (1) When motion has been detected, it will be recorded by "Motion Record Speed".
 - (2) When sensor has been triggered, it will be recorded by "Sensor Record Speed".
 - (3) Otherwise, it is recorded by "Time Record Speed".
 7. A: MOTION+SENSOR
 - (1) When motion has been detected, it will be recorded by "Motion Record Speed".
 - (2) When sensor has been triggered, it will be recorded by "Sensor Record Speed".
- ※ When both "MOTION" and "SENSOR" has been triggered, it will be recorded by "Motion Record Speed".

8.5 Buzzer Setup



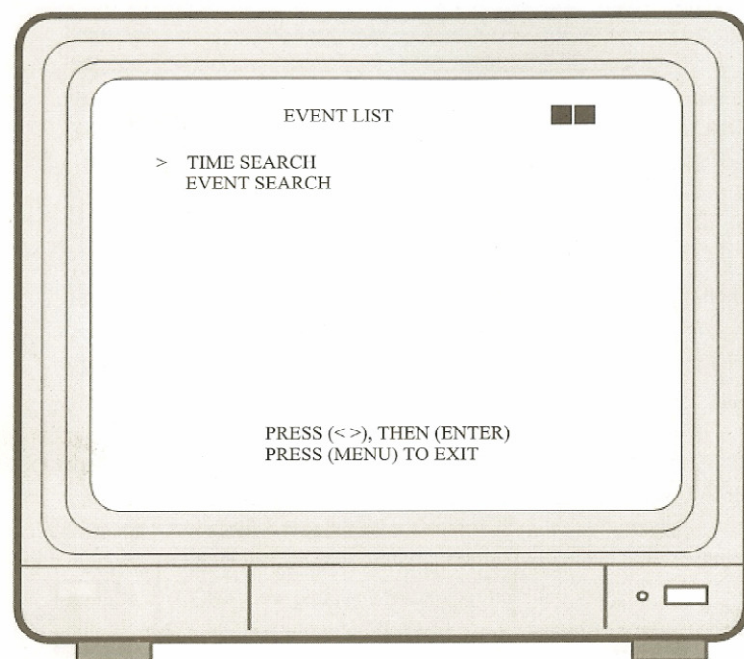
1. Cursor (>) position indicates the current selected position.
2. Press <←> and <→> button to move the cursor to the desired item (time).
3. Press <ENTER> button to proceed.
4. Press <MENU> button to exit "BUZZER SETUP" selection.
5. "BUZZER SETUP" is situated on the second menu layer. Under this menu layer user may setup "ALARM ALERT", "VIDEO LOSS ALERT", "HDD FULL ALERT", "BUZZER TIME", "RELAY OUT TIME", and "SENSOR TYPE".
6. ALARM ALERT: Press <ENTER> button to setup "ON" or "OFF", whether to trigger the alarm when motion event has been detected (this setup is only active when the system is under record status and schedule record is setup to "M" (Mix) or "A" (Alarm)).
7. VIDEO LOSS ALERT: Press <ENTER> button to setup "ON" or "OFF", whether to trigger the alarm when video loss has been detected (this setup is only active when the system is under record or live status).
8. HDD FULL ALERT: Press <ENTER> button to setup "ON" or "OFF", whether to trigger the alarm when hard disk is full (this setup is only active when the system is under record status).
9. BUZZER TIME: Press <ENTER> button to setup the buzzer time to continuous (CONT), and press any button to release this setup.
10. RELAY OUT TIME: Press <ENTER> button to setup the relay out time to continuous (CONT), and press any button to release this setup.

8.5.1 SENSOR TYPE:



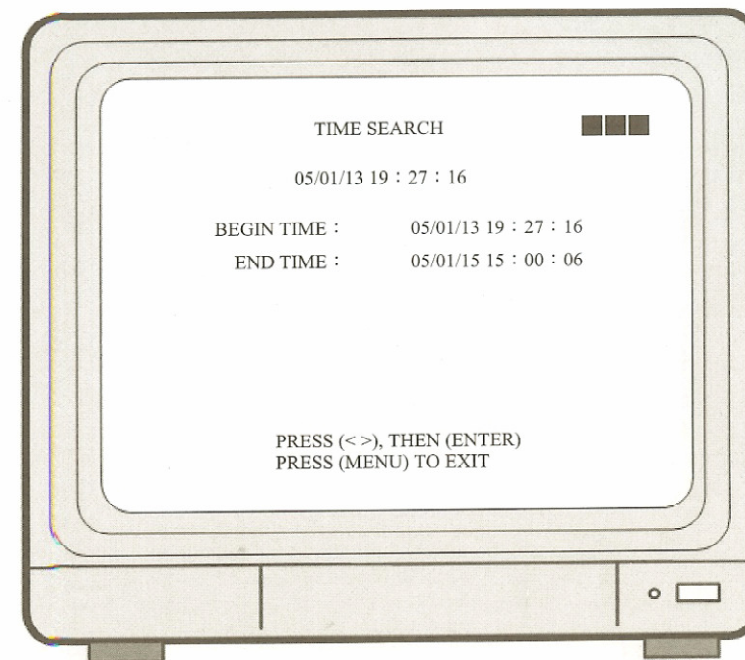
1. Cursor (>) position indicates the current selected position.
2. Press <←> and <→> button to move the cursor to the desired item (CH1~CH4).
3. Press <ENTER> button to make changes.
4. Press <MENU> button to exit "SENSOR SETUP".
5. CHANNEL-1: Press <ENTER> button to setup "NO" (Normal Open) or "NC" (Normal Close).
6. CHANNEL-2 ~ CHANNEL-4: Please follow the setup shown above (CHANNEL-1).

8.6 Event List



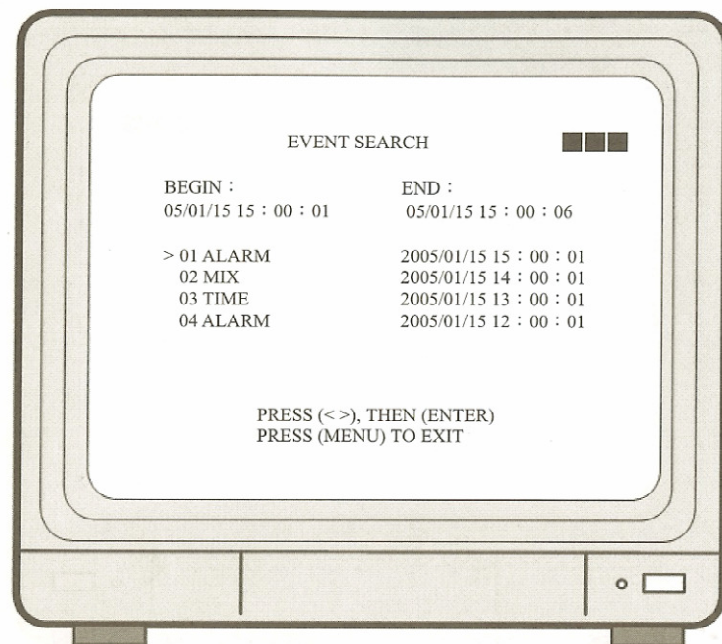
1. Cursor (>) position indicates the current function selected.
2. Press <=> and < >> button to move the cursor to the desired item.
3. Press <ENTER> button to proceed.
4. Press <MENU> button to exit "EVENT LIST" selection.
5. "EVENT LIST" is situated on the second menu layer. Under this menu user may setup "TIME SEARCH" or "EVENT SEARCH".

8.6.1 TIME SEARCH



1. TIME SEARCH: Displays system recording time (begin and end).
2. Press <=> and <=>> button to select the desired time and date.
3. Press <ENTER> button to setup playback starting time and date.
4. Press <MENU> button to exit "TIME SEARCH".
5. Press <PLAY> button to play.

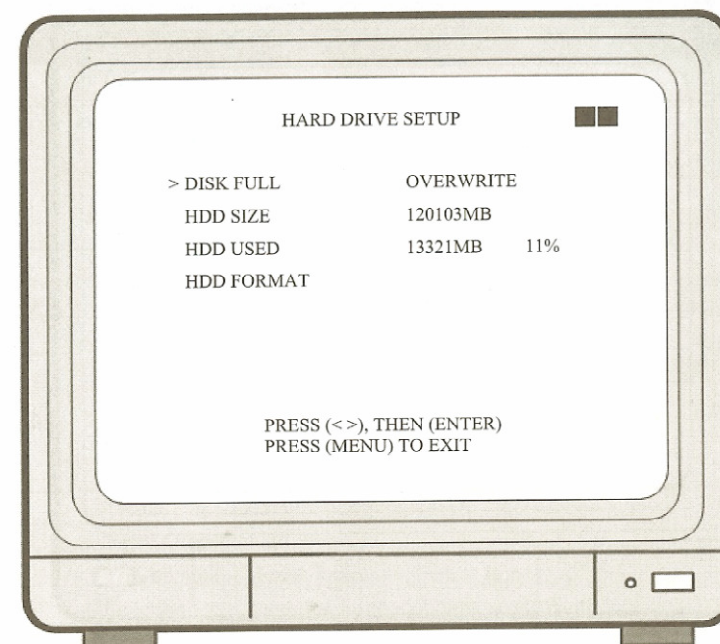
8.6.2 EVENT SEARCH



1. EVENT SEARCH: Displays all recording events, every page consists of 7 events, and maximum 63 stored events.
2. Press <←> and <→> button to select the desired event to playback.
3. Press <MENU> button to exit "EVENT SEARCH".
4. Press <PLAY> button to play.

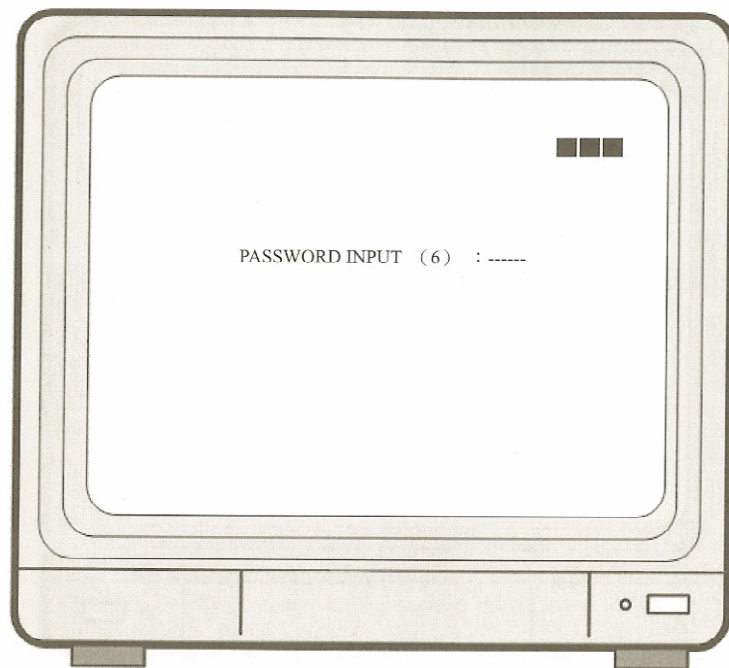
※ BEGIN : END :
 05/01/15 15 : 00 : 01 05/01/15 15 : 00 : 06
 Displays the beginning and end time of each event.

8.7 Hard Drive Setup



1. Cursor (>) position indicates the current function selected.
2. Press <←> and <→> button to select the desired item.
3. Press <ENTER> button to make changes or to proceed.
4. Press <MENU> button to exit "HARD DRIVE SETUP".
5. "HARD DRIVE SETUP" is situated on the second menu layer. Under this menu layer user may setup to overwrite or format the hard disk.
6. DISK FULL: Press <ENTER> button to setup "ON" or "OFF", whether to overwrite or stop recording when the hard disk is full.
7. HDD SIZE: Displays hard disk capacity.
8. HDD USED: Displays the capacity already used.

8.7.1 HDD FORMAT



1. When proceeding "HDD FORMAT" function, the above display will be shown.
2. When password entered is correct, the screen will display the message "HDD FORMATTED" (flashes 3 times), indicates hard disk format is successful.
3. When password entered is incorrect, the screen will display "PASSWORD INCORRECT" (flashes 3 times), and returns to "HARD DRIVE SETUP" selection.

9. SPECIFICATIONS

| | | | |
|-----------------------|---------------|--|----------------|
| Video | Format | NTSC/ EIA or PAL/ CCIR | |
| | Compression | Modified M-JPEG | |
| | Input | 4CH/ BNC | |
| | Output | 1 x BNC/ 1 x S-Video | |
| Display | Resolution | 720 x 480 (NTSC)/ 720 x 576 (PAL) | |
| | Frame Rate | Max. 120/ 100 fps (NTSC/ PAL) | |
| | Division | Single, Quad | |
| Recording | Resolution | Max. 640 x 244 (NTSC), 640 x 272 (PAL) | |
| | Frame Rate | Max. 30/25 fps (NTSC/PAL) | |
| | Quality | High/ Normal/ Low | |
| | Mode | Manual/ Schedule/ Alarm/ Motion Detection | |
| HDD | Format | 1 x 3.5" IDE HDD (Max. 250GB) | |
| Alarm | Input/ Output | 4/ 1 | |
| | Trigger Mode | Motion Detection/ Sensor Input | |
| | Function | Recording/ Relay Output/ Sound Alert | |
| Post Alarm | | 5~30sec | |
| Search Method | | By Date/ Time/ Event | |
| Backup Device | | HDD/ VCR | |
| Power Supply | | DC 12V/ 4.2A | |
| Weight | | 2.5kg (without HDD) | 3kg (with HDD) |
| Dimension (W*H*D) | | 320mm x 270mm x 45mm | |
| Operating Environment | | 30 ~ 80% RH, 5 ° C ~ 45 ° C (41 ° F ~ 113 ° F) | |

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