

# Four Channel Embedded Digital Video Recorder

## USER'S MANUAL

Before you use this product, please read the introduction



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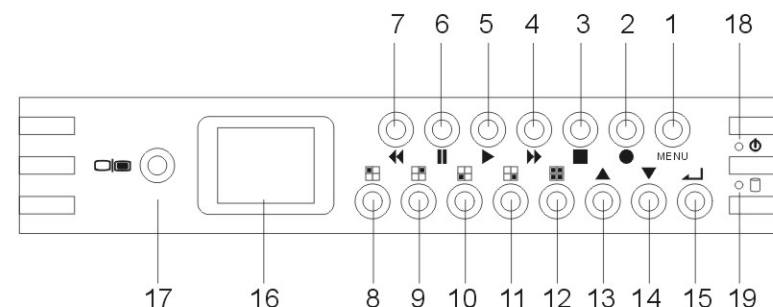
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### Introduction and attention

The digital video recorder (DVR) is for recording/retrieving video streams from up to 4 channels at the same time. It adopts a digital image compression technology to compress the input channel video streams, and uses HDD to record the compressed video stream.

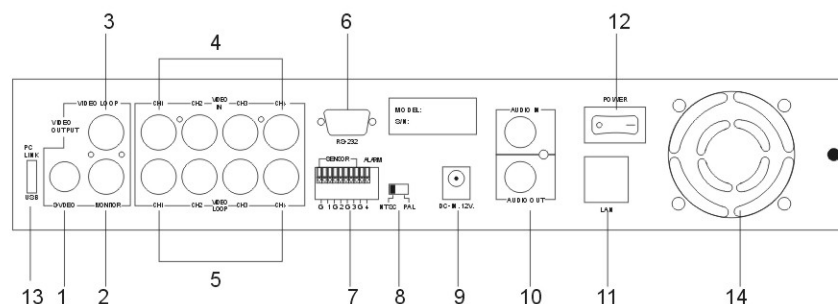
The following operation guide explains how to operate/manage the DVR, and the following installation guide explains how to install DVR at your home or HDD into the DVR.

Hope you enjoy it, use it to protect your home, and eventually make your home as SAFE HOME.



- 1.Menu Button: Press this button to enter & start the menu option
- 2.Recording Button: Press it to start recording
- 3.Stop Button: Press it to stop display/recording(Notice:There's a password requirement to stop recording,it will just be stopped after the password confirmed by the device.The "@"button will disappeared after closed recording function , password will be setup as: 111111)
- 4.Quick Dispaly Button: Displaying video forward quickly
- 5.Dispaly Button: Press it to choose dispalying time & event(Notice:Please stop recording before displaying)
- 6.Pause/Single video picture displaying button: Press it to make the Pause/display single video picture
- 7.Replay Button: Press it to replay(Notice:The replay speed is relate of the numbers of recording file/ number of recording channel/quality of recording)
- 8.Channel 1 Button: Choose Channel 1
- 9.Channel 2 Button: Choose Channel 2
- 10.Channel 3 Button: Choose Channel 3
- 11.Channel 4 Button: Choose Channel 4
- 12.Full Channel Button: Choose all the 4channels together
- 13/14.Up/Down Button: Choose/reset
- 15.Choose/Confirm Button: Confirm to enter the choosed item & set-up for each funtion
- 16.TFT LCD Monitor
- 17.Switch
- 18.Power light
- 19.HDD working light

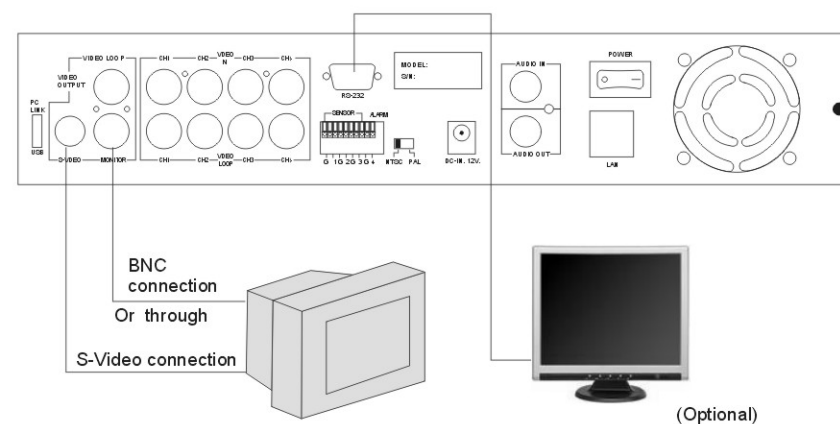
## Back Panel



- 1.S Video
- 2.Video output
- 3.Monitor : Second Video output
- 4.Video input
- 5.Video loop-through
- 6.VGA port(optional)
- 7.Sensor input/alarm output: 4 sensor inputs and one alarm output
- 8.NTSC/PAL switch
- 9.DC-in (12Voltage 3-5A)
- 10.Audio-in/out (optional function)
- 11.LAN(RJ45) (optional function)
- 12.Power switch
- 13.PC Link : USB device (2.0) (optional function) or USB Host
- 14.FAN

## DVR Installation

### ※Back side panel connection diagram

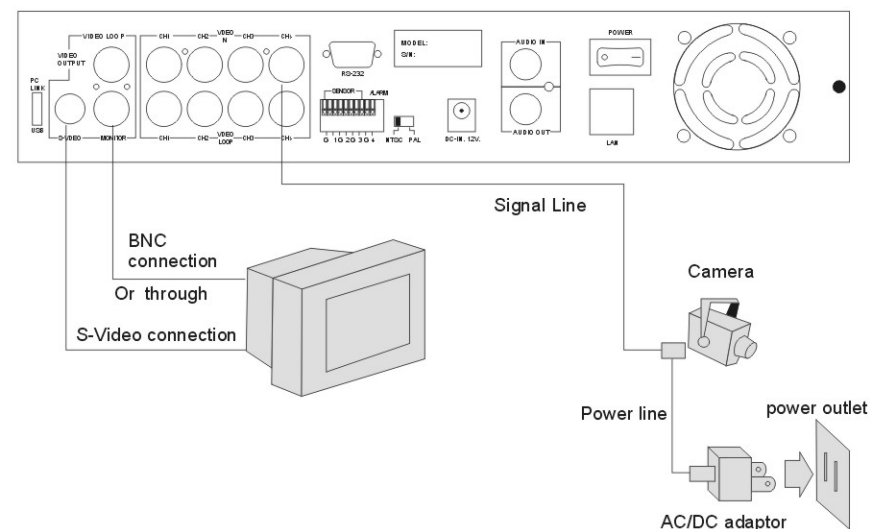


### 1.Video output connection ( TV or monitor, LCD monitor)

\*Please connect TV(monitor) or LCD monitor (optional) to the unit over the Video output connector.

\*The unit provides 1 x S-Video input, 2 x BNC connector and 1 x VGA output. (optional)

\*The above Figure shows the video signal line connection.



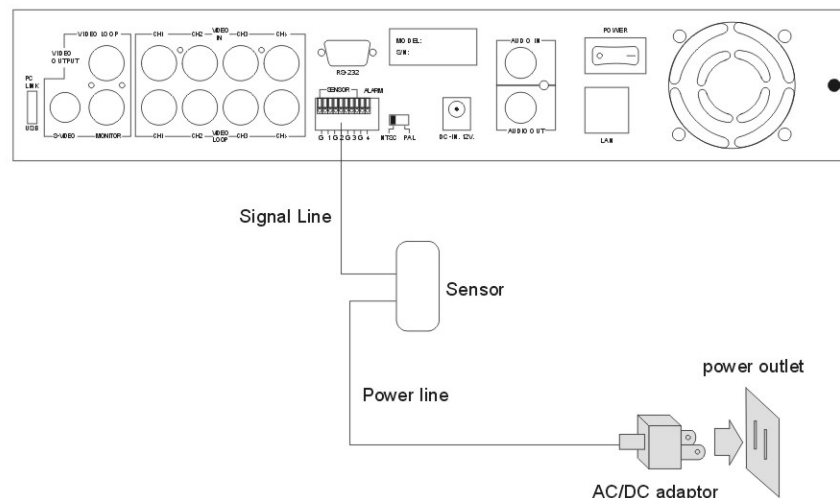
## DVR Installation

### 2. Video input connection ( Camera)

Please connect Camera to the unit over the Video input connector. It can working with 4 cameras. The camera installation Procedures are as following:

Procedures are as following:

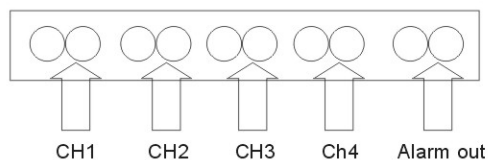
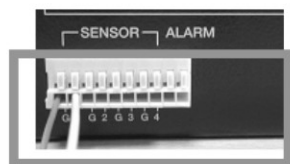
1. Connect the video signal line: connect the video signal line to the unit
2. plug in the adaptor. The complete connection with a camera will be shown as figure below:



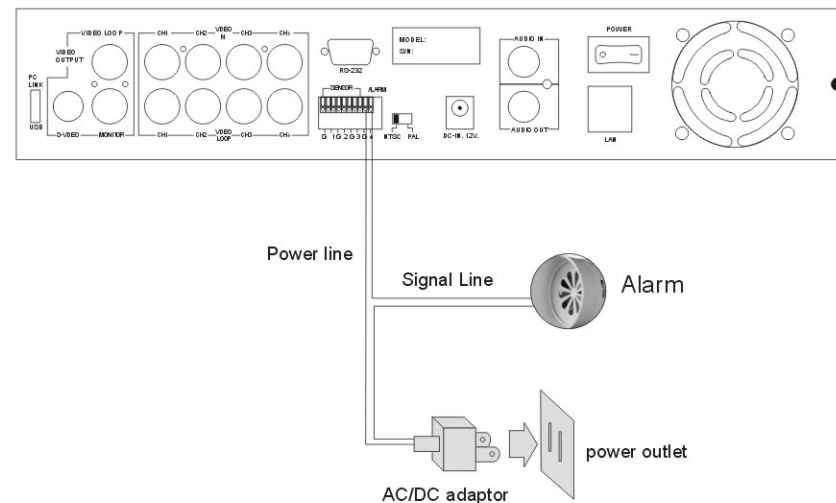
### 3. Sensor Installation

The unit provides 4 sensor input for 4 channels. The sensor Installation procedures are as follows. There are two simple steps For the installation of the sensors.

1. Connect the sensor signal line: Connect the video signal line to the unit. The Sensor signal terminal is at the unit' s back panel
2. Connect the sensor adaptor jack into the sensor, and plug in the adaptor.



## DVR Installation



### 4. Alarm installation

The unit provides 1 more external switch for sounding alarm when the sensor is Activated due to the unwanted entrance of anonymous visitor. The switch is open at normal state, but, if the switch is closed it will causes the electric bell by the loop , the circuitry is showing as above.

There are two steps for the installation of the alarm

1. Prepare the power supply: the alarm needs a power supply, the power supply comes with the alarm
2. Connect the alarm power line: the alarm power line is connected with the alarm switch terminal.

## Power on

Please confirm the installation of system before starting DVR(prefer to P5),and then plug the power to press the switch in the back board.

After the unit is powered on, the unit is checking HDD for several seconds,the information will be displayed on the screen as right:

HDD CHECKING  
OK

The unit will enter into real-time display mode shown as the right figure:



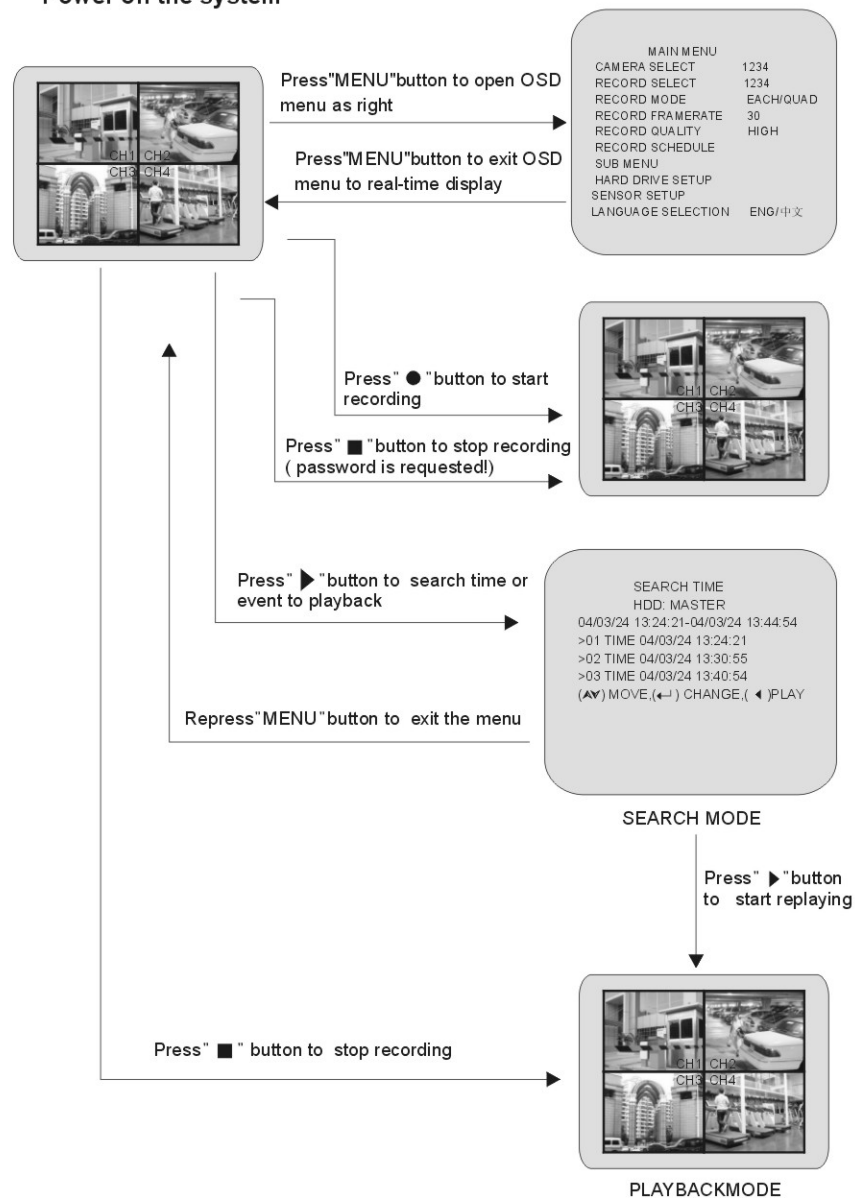
### NOTICE

1. Make sure the HDD is off before removing the drive
2. Once you resume the initial setting, the right information will be displayed on the screen. Then turn off the unit and re-power on it.

TURN OFF AND ON THE DVR!

## On-Screen Display

### Power on the system



## ※MAIN MENU

Press "MENU" to display menu option shown as right figure.

| MAIN MENU          |           |
|--------------------|-----------|
| CAMERA SELECT      | 1234      |
| RECORD SELECT      | 1234      |
| RECORD MODE        | EACH/QUAD |
| RECORD FRAMERATE   | 30        |
| RECORD QUALITY     | HIGH      |
| RECORD SCHEDULE    |           |
| SUB MENU           |           |
| HARD DRIVE SETUP   |           |
| SENSOR SETUP       |           |
| LANGUAGE SELECTION | ENG/中文    |

Operation Buttons

MENU— press to display menu option.

▲▼ — press to change menu field or change the unit's configuration values.

↵ — press to select menu item or confirm the selection.

※Please stop recording or playback before you enter into OSD menu.

※You will be requested to enter password, while stopping recording, (the original password: 111111)

※"NETWORK SETUP" is optional function which is only provided with LAN model.

## ※CAMERA SELECT

| MAIN MENU          |           |
|--------------------|-----------|
| CAMERA SELECT      | 1234      |
| RECORD SELECT      | 1234      |
| RECORD MODE        | EACH/QUAD |
| RECORD FRAMERATE   | 30        |
| RECORD QUALITY     | HIGH      |
| RECORD SCHEDULE    |           |
| SUB MENU           |           |
| HARD DRIVE SETUP   |           |
| SENSOR SETUP       |           |
| LANGUAGE SELECTION | ENG/中文    |

The unit provides 4 cameras inputs. You can use channel buttons on the front panel to select specified channel for real-time display.

You can use "↵" button or channel buttons for different combinations for channel display.

Example:

1. When you choose (----), all cameras are off
2. When you choose (1234), all cameras are displayed.
3. When you choose (----4), only the fourth channel is displayed.



NOTICE

### VIDEO LOSS !

"VIDEO LOSS" signal will be displayed, and the built-in alarm buzzer will be triggered to sound, (for 30s) while no video connection or connection failure.



NOTICE

## Channel Display Control

In each mode (田) mode, you can use the following buttons to display Full-screen format of each channel.

- Channel 1 button: Full screen display of channel 1
- Channel 2 button: Full screen display of channel 2
- Channel 3 button: Full screen display of channel 3
- Channel 4 button: Full screen display of channel 4

## ※RECORD SELECT

| MAIN MENU          |           |
|--------------------|-----------|
| CAMERA SELECT      | 1234      |
| ▶ RECORD SELECT    | 1234      |
| RECORD MODE        | EACH/QUAD |
| RECORD FRAMERATE   | 30        |
| RECORD QUALITY     | HIGH      |
| RECORD SCHEDULE    |           |
| SUB MENU           |           |
| HARD DRIVE SETUP   |           |
| SENSOR SETUP       |           |
| LANGUAGE SELECTION | ENG/中文    |

Selecting channel on this menu option is same as "CAMERA SELECT" options.  
Only selected camera will record real-time events during recording period

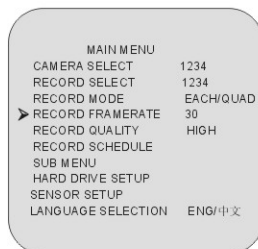
## ※RECORD MODE

| MAIN MENU          |           |
|--------------------|-----------|
| CAMERA SELECT      | 1234      |
| RECORD SELECT      | 1234      |
| ▶ RECORD MODE      | EACH/QUAD |
| RECORD FRAMERATE   | 30        |
| RECORD QUALITY     | HIGH      |
| RECORD SCHEDULE    |           |
| SUB MENU           |           |
| HARD DRIVE SETUP   |           |
| SENSOR SETUP       |           |
| LANGUAGE SELECTION | ENG/中文    |

You can use "↵" button to select specified channel or all channels record:  
choose "田": all channels record  
choose "田": specified channel record on full screen.  
Notice: this DVR does not support two kinds records at the same time.

## Operation guide

### ※RECORD FRAMRATE



There are 9 different frame rate settings for operation:  
30fps, 15fps, 10fps, 7fps, 5fps, 4fps, 3fps, 2fps, 1fps

But the unit is set to NTSC:30fps;PAL:25fps in the factory



#### NOTICE

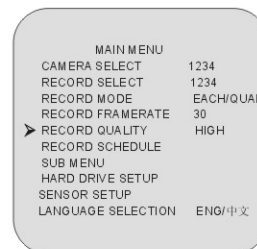
#### RECORDING FRAME RATE

The higher the record frame rate is, the more natural look will be displayed on the screen on playback mode.  
But the lower the record frame rate is, the more you can save the space on HDD.

| FPS         |     | 1    | 2    | 3    | 4    | 5    | 7    | 10   | 15   | 30  |
|-------------|-----|------|------|------|------|------|------|------|------|-----|
| Full screen | CH1 | 1    | 2    | 3    | 4    | 5    | 7    | 10   | 15   | 30  |
|             | CH2 | 0.5  | 1    | 1.5  | 2    | 2.5  | 3.5  | 5    | 7.5  | 15  |
|             | CH3 | 0.33 | 0.67 | 1    | 1.33 | 1.7  | 2.33 | 3.33 | 5    | 10  |
|             | CH4 | 0.25 | 0.5  | 0.75 | 1    | 1.25 | 1.75 | 2.5  | 3.75 | 7.5 |
| 4 Quad      |     | 1    | 2    | 3    | 4    | 5    | 7    | 10   | 15   | 30  |

## Operation guide

### ※VIDEO QUALITY



There are 3 different video quality settings for operation: Normal, Low, High



#### NOTICE

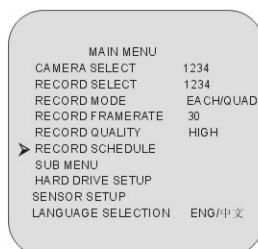
#### DIFFERENT VIDEO QUALITY SETTINGS ON HDD CAPACITY

The higher the video quality is, the clearer images the unit plays.  
But the lower the video quality is, the more you can save the space on HDD(80G).

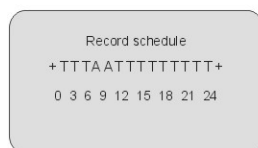
| FPS         |        | 1     | 2     | 3    | 4    | 5    | 7    | 10   | 15   | 30  |
|-------------|--------|-------|-------|------|------|------|------|------|------|-----|
| Full screen | HI     | 1466H | 732H  | 488H | 366H | 292H | 208H | 146H | 96H  | 50H |
|             | NORMAL | 1984H | 938H  | 662H | 496H | 396H | 282H | 198H | 132H | 66H |
|             | LO     | 2306H | 1152H | 768H | 576H | 460H | 306H | 230H | 152H | 78H |
| 4 Quad      | HI     | 1112H | 558H  | 370H | 278H | 222H | 160H | 112H | 74H  | 38H |
|             | NORMAL | 1526H | 764H  | 510H | 380H | 304H | 220H | 152H | 102H | 50H |
|             | LO     | 1754H | 876H  | 584H | 440H | 350H | 250H | 176H | 116H | 58H |



## ※RECORD SCHEDULE



Enter into this option to change a recording schedule during a day (24-hour period) .



Numbers above indicate the time duration of 24 hours.  
(T) Letter indicates recording.  
(S) Letter indicates sensor recording. It means the unit starts recording as the attached sensors being triggered during this period.  
(--) Recording is off during this duration.

### SETTING EXAMPLE:

0:00 ~ 7:00 SENSOR RECORDING  
7:00 ~ 11:00 RECORDING DISABLED  
11:00 ~ 18:00 RECORDING  
18:00 ~ 24:00 SENSOR RECORDING

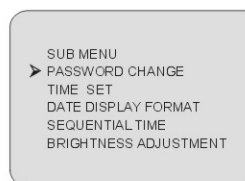
+ A A A A A A A - - - T T T T T T T A A A A A A +  
: : : : :  
0 7 11 18 24



### SENSOR RECORDING INSTALLATION

The unit provides 4 alarm inputs which can be configured as normal close, normal open, motion detection +NC and motion detection+NO over " SENSOR SETUP" menu option. (Please refer to P. 18 for the sensor setup). After the sensor configuration, please go back to " RECORD SCHEDULE" menu to enable sensor recording.

## ※PASSWORD CHANGE



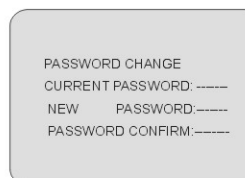
### PASSWORD CHANGE .

You enter into "PASSWORD CHANGE" , a password change input menu replaces the "SUB MENU" (The default password is 11111)

When the new password is accepted, the board will flash the following screen message:  
PASSWORD changed!!!

The message will blink 5 times. Then the display goes back to SUB MENU.

If the password was not accepted, the unit will automatically return to SUB MENU.



### FRONT PANEL BUTTONS DEFINITION

|  |           |  |           |      |           |
|--|-----------|--|-----------|------|-----------|
|  | means "1" |  | means "5" |      | means "b" |
|  | means "2" |  | means "6" | MENU | means "c" |
|  | means "3" |  | means "7" |      | means "D" |
|  |           |  | means "8" |      | means "E" |
|  | means "4" |  | means "9" |      | means "F" |
|  |           |  | means "0" |      |           |

### ※TIME SET

TIME  
2006/03/21 03:23:21

Enter into this option to change date and hour.

### ※DATE DISPLAY FORMAT

DATE DISPLAY FORMAT  
V  
YYYY/MM/DD

The unit provides yyyy/mm/dd or dd/mm/yyyy variant which depends on the regional preference.

### ※SEQUENTIAL TIME

SEQUENTIAL TIME 9sec

Use this menu to specify each channel display dwell time.  
Dwell time settings determine from 1 sec to 9 sec between displays for 4 channels.

### ※AUTO RECORD

Use this menu to run auto recording

### ※HDD SETUP

HARD DRIVE SETUP  
HDD OVERLAY YES  
MASTER HDD SIZE 82395MB  
MASTER HDD USED 0MB 0%  
MASTER HDD FORMAT  
SLAVE HDD SIZE

**HDD overlay:**  
If you choose "YES", the unit will continue recording and overlay the recorded data when HDD's space is full  
If you choose "NO", the unit will stop recording while HDD's space is full  
**MASTER HDD SIZE:**  
It indicates the capacity of the primary HDD installed in the unit  
**MASTER HDD USED:**  
It indicates how many percentage of HDD's capacity has been occupied.  
**MASTER HDD FORMAT:**  
It erases all of the recorded data in Master HDD  
The authorized password is requested before formatting, after the unit formatted, the following information will appear on the screen "HARD DISK FORMATTED".

### ※ALARM SETUP

SENSOR SETUP  
ALARM RECORD TIME 15  
ALARM OUT TIME 05

CHANNEL-1 TYPE:MOTION+ N-C  
CHANNEL-2 TYPE:MOTION+ N-C  
CHANNEL-3 TYPE:MOTION+ N-C  
CHANNEL-4 TYPE:MOTION+ N-C

**SENSOR RECORD TIME:**  
Recording continuously once sensor Being triggered.

**ALARM OUT TIME:**  
It controls how long ( in second) the alarm ringing after being triggered.

**H/W SENSOR SETUP**  
The unit provides 3 different modes for External sensor facilities  
:  
1. Not installed. 2. Normal open.  
3. Normal close.  
In normal open mode, the cable line Connected between the sensor and the unit is cut off by an intruder, the unit starts recording.

In normal close mode, the cable line connected between the sensor and the Unit is cut off by an intruder, the unit stops recording

### ※PLAYBACK

SEARCH TIME  
HDD: MASTER  
06/03/03 13:24:21-04/03/24 13:44:54  
>01 TIME 04/03/24 13:24:21  
>02 TIME 04/03/24 13:30:55  
>03 TIME 04/03/24 13:40:54

Please use the front panel buttons to operate various playback functions.

Press "▶" button, then the playback time/events selection menu as the left figure appears on the screen. Or you can simply press "▶" twice to directly start playing.

You can either enter the specified time/date to playback or select the event or even view the playback over PC



### NOTICE

1. Please stop recording before playback.
2. Because the events selection is default setting, so you need to press “▲/▼” button to switch to time selection.

### CONTROL BUTTONS

1. ►► (fast forward button):

Press this button to play the recorded stream faster.

The unit provides three levels of fast forward

playback speed:

- 1: play one time faster (x1), press “?” button
- 2: play two times faster (x2) than the normal play
- 3: play four times faster (x4) than the normal play
- 4: play thirty-two times faster (x32) than the normal play
- 5: play sixty-four times faster (x64) than the normal play

2. ◀◀ (playback button):

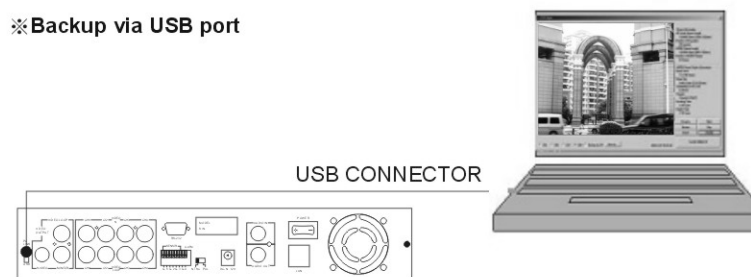
Press this button to play the recorded stream backward.

Remarks: the playback speed depends on the number of the recording file/  
recordig channel, and the quality.

3. || (Pause button) :

Single press it for pause, double press it for playing.

### ※Backup via USB port



The unit provides one USB port to simple backup over the connection with PC.

Please mind the following steps to successful link.

Step 1. Connect the USB cable between the unit and PC

Step 2. Select “LINK TO PC” under submenu of the unit

Step 3. The “linking” will take around 30sec.

Step 4. The connection is ready for PC backup as “Linked” indicates on the screen.

Step 5. Open the PC viewer on PC, once PC identifies one unknown Hardware device

Step 6. Press” Menu” button back to “Main Menu”

Notice:

1. the unit employs USB 2.0, so it will take around 5 min to hand shake with USB 1.0.
2. Before operating backup over USB, please install PC viewer software into your PC.



### NOTICE

Please don't press “MENU” button during linking status, it would likely lead to unpredictable Error on your PC

REMARKS: Please refer to Page.25 for the PC viewer installation and operation guide.

## Optional functions

### ※Network Setup

Network/Audio record & play setting:

NETWORK SETUP  
ACCEPT IP YES  
MAC ADDRESS 03:01:01:01:25:46  
IP ADDRESS 192.168.0.0.090  
SUBNET MASK 255.255.255.000  
GATEWAY 192.168.0.001  
DVR ID ON LAN A PLUS  
DHCP [OFF]

This DVR has network function, please make sure to set network from network option. Due to this setting will concern to some technique questions, we suggest let network controller to set, or please refer to left drawing demonstrated.

Long-distance connecting operations please refer to Page 21!

Consistent PC system spec:

1. CPU: 1GB HZ OR ABOVE.
2. System Memory: 256MB or above
3. VGA memory: 32MB
4. OS: Window 2000/XP

### ※Audio record.

Record [ON]  
Play [OFF]

This offer 1 channel input, set audio record and play from this option.

## Appendix I

### ※PC Client Application.

This dedicated remote PC client software allows you from a remote location to view live and recorded video over Internet. Also, you can capture, convert the video from the unit into AVI file or JPEG file, or play the stored video later on. Please follow the instructions below to use PC client.

After you install PC client software into your PC, the Main window will appear on screen:



#### 1. How to connect to the DVR

Click on "Connect" to enter into "DVR Client connection manager" As the following dialog window:

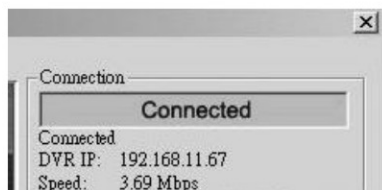


DVR IP: The DVR IP address is the IP address of the remote DVR.  
Password: The password is same password used for formatting the DVR's Hard Drive. The default value is 111111  
Nickname: If you have configured DHCP settings in DVR, you can connect to DVR by click on "Search DVR". There will be a list of DVR in Nickname list box. Select one you want to connect with from the list.  
click on "OK" to create connection.

## Appendix I

### 2. Connection Status:

When successfully connected, you would see "Connected" sign. This window also displays DVR IP address and shows changes of connection speed.



To disconnect, simply click "Disconnect"

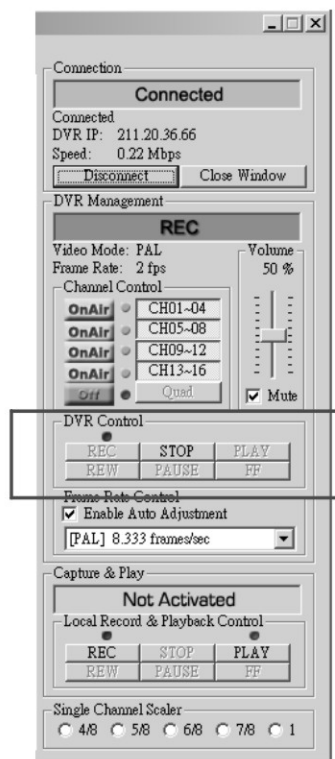
To close the application, click "Close Window" button



## Appendix I

### 3. DVR control

The panel shown as the following figure operates exactly as the remote DVR operational button allow you to control remote DVR to live view, record and playback as well.



## 4. Capture &amp; Save &amp; Play on you PC



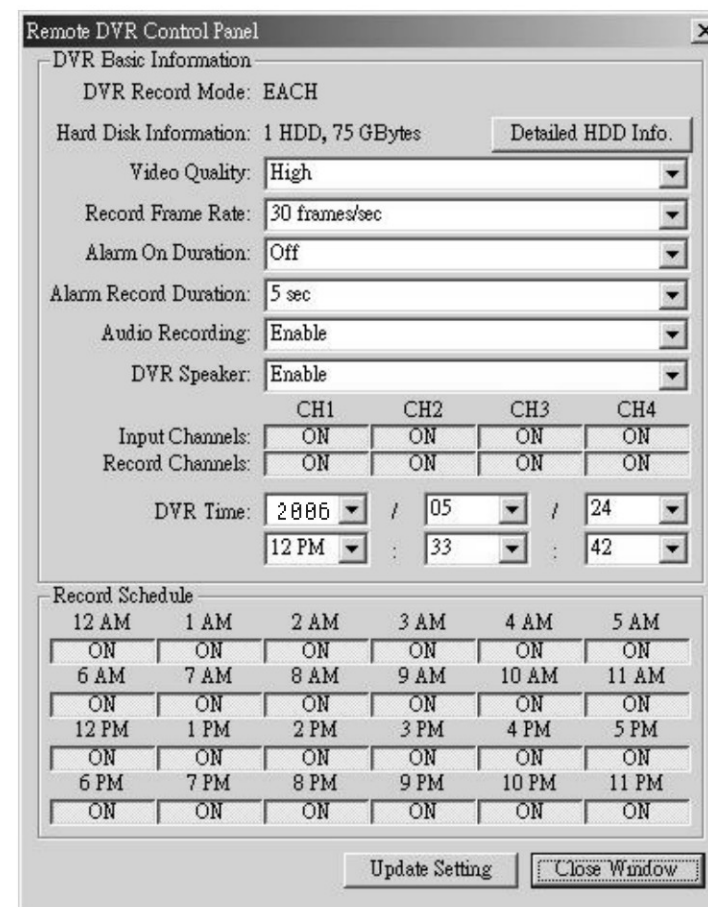
## A: Capture video data

When you click “REC” button, it will start to record the incoming video on your PC hard disk. The DVR client creates “ steam\_files” folder where the execution file is located. When the client is recording, the Capture & Play status indicator would show the current status, REC.

## B: Playback

After recording is finished, click” Play” button to play the recorded video stream. Then you will see a stream file list of the video stream files previously captured.

## 5. DVR management



This option enables you to adjust remote DVR’ s operation setting : Video Quality, Record Frame rate, Alarm On Duration, Alarm record Duration, Input Channels, Record Channels, DVR system time setting and Record Schedule. All of settings operate as you do with DVR itself. Notice: For the record mode change can be made only on DVR,so the display shows the current DVR record mode on connection.

## Appendix I

### 6.AVI file



Click on this button to convert the real-time video data or the recorded data into AVI file

Click on “ AVI save as” button to convert the desirable data into AVI file, then you will see the following dialog box for saving the AVI file. After specifying the file name and confirmation, please click on “ Backup to AVI ” to start the conversion.



## Appendix II

### ※PC Viewer application



Figure 1

One single frame backward      Play      Advancing One single frame      Fast forward playback speed      Search      Capture      Backup to AVI

Please follow the steps below to complete the installation of pc viewer:

Please install USB pen drive into your pc

1.Please install PC viewer software into your PC (This software currently supports Windows2000 and Windows XP!) and enter into the software, then you will see a dialog box as above( figure 1) appear on the screen.

3.Storage Device button to activate the software

play button to start the playback

Fast forward playback speed : 5 levels of playback speed: 1, 4, 16, 32,64

Button for advancing one single frame

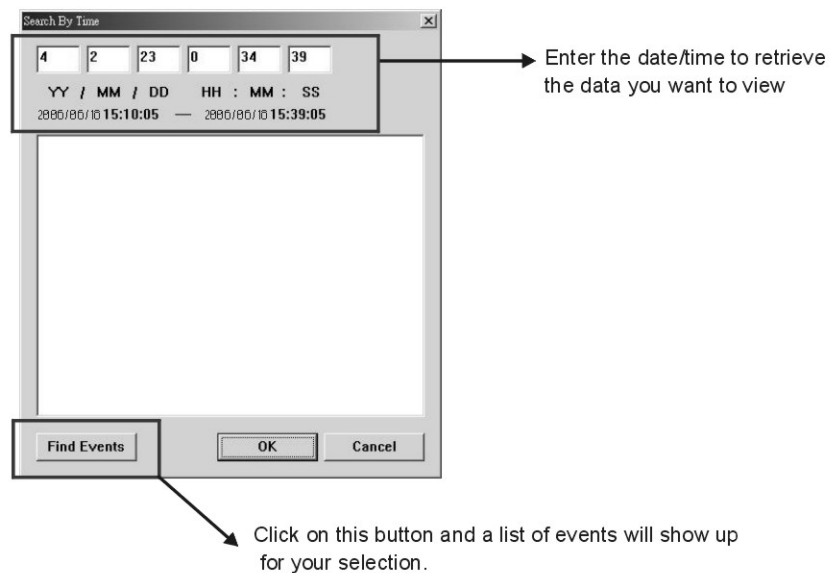
Button for one single frame backward

Backup to AVI button : click to create a new file to save AVI file in PC and start to convert the data into AVI file.

Capture button: click to snapshot the data as BMP file.

## Appendix II

4. Click on “Search” key to retrieve the desired video to view through entering the time/date or selecting event, then you will see the dialog box as below.



Please click on “Play” button to start the playback after your confirmation on the retrieval. ( This is a must step to initially activate the playback!!!)

5. Click on “ AVI save as” button to convert the desirable data into AVI file, then you will see the following dialog box for saving the AVI file. After specifying the file name and confirmation, please click on “ Backup to AVI” to start the conversion.

