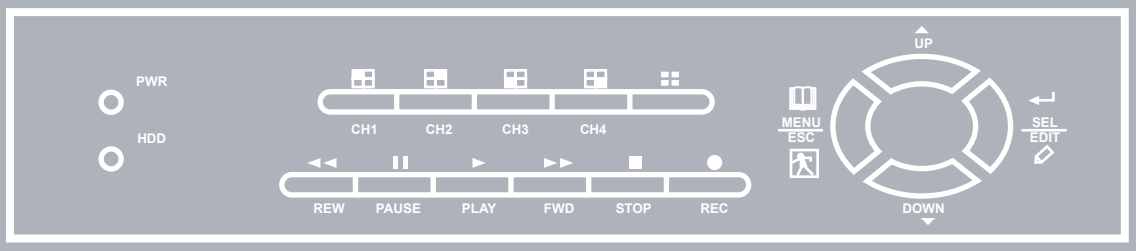
SecurityMan®

Economical 4-Ch Standalone
Digital Video Recorder



User's Manual

DVR-04

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The digital video recorder (DVR) is for recording video streams 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 and manage the DVR, and the following installation guide explains how to install the DVR at your home and install the hard drive into the DVR.

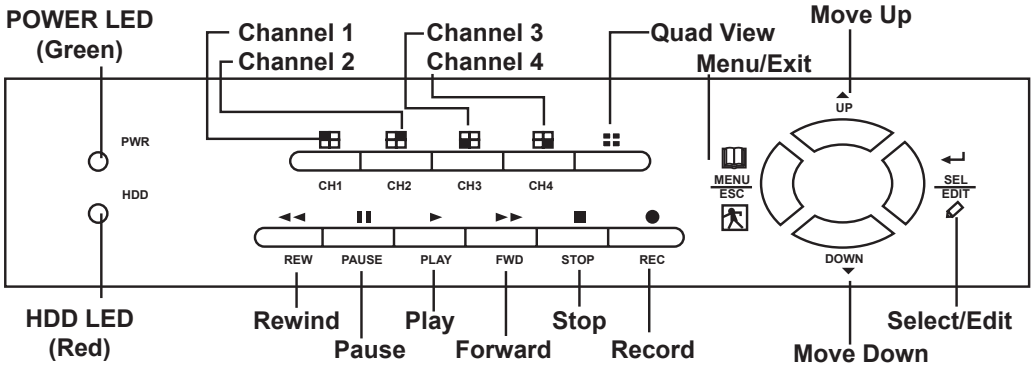
1.1 DVR Features:

- 4 Channel BNC Camera Input
- 2 Channel BNC Monitor/VCR Output
- NTSC / PAL
- HOT RESTART
- Video Loss Alarm
- Motion Detection
- Connect to PC With USB 2.0 Port
- 4 Sets NO/NC Sensor Input
- 1 Alarm Output (2A 28VDC / 2A 125 VAC)
- One ATA-100 Hard Disk Interface, Support Over 200G Byte
- Time Schedule Record / Sensor Triggered Record / Motion Triggered Record

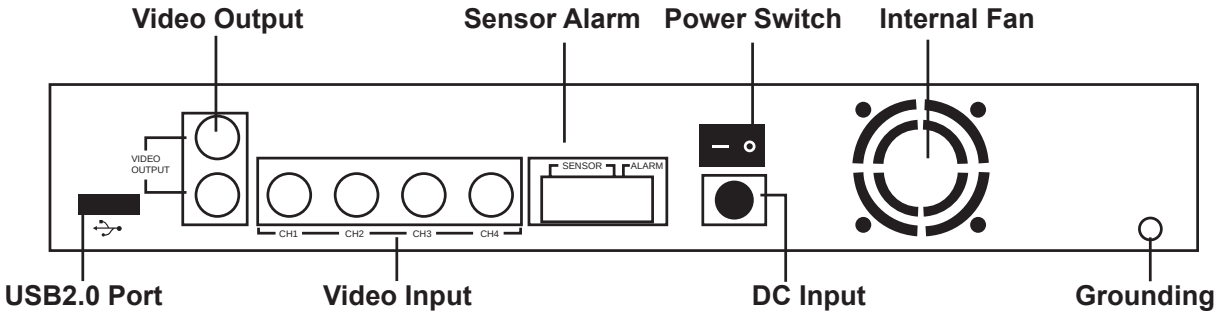
1.2 Package Includes:

- DVR-04, 4 Channel Digital Video Recorder
- Power Cable and 12V DC adapter
- USB Cable
- CD and User Manual

2.1 Front Panel



2.2 Rear Panel



3.1 Install Hard Disk (For DVR model without HDD installed)

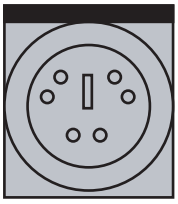
Connect power cord and data cable to hard disk, use screws to mount hard disk and tighten well to the iron of the DVR housing.

CAUTION: Do not open the cover while DVR is on!!!!

3.2 Connect Camera and Monitor

There are 4 camera input and 2 monitor output with BNC connector.

3.3 Connect Power Cord



Please use the power adapter supplied with DVR.

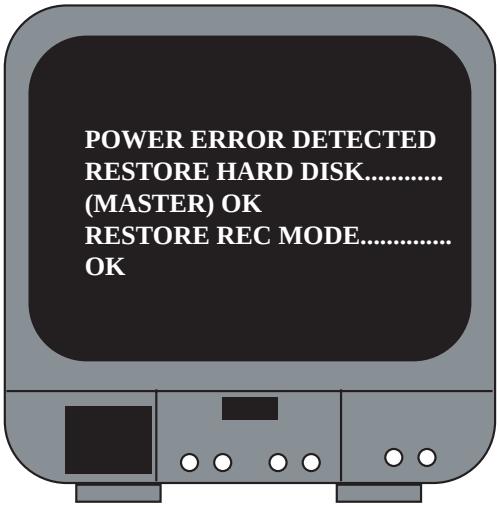
4.1 Detect Installed Hard Disk

Connect the power cord and turn the DVR switch on. The system will boot-up and detect installed hard disk. The monitor display will show Master and Slave hard-disk information.
Please refer to the hard disk section of the manual to configure hard disk sequence. (Master or Slave)

4.2 Recover Lost Data

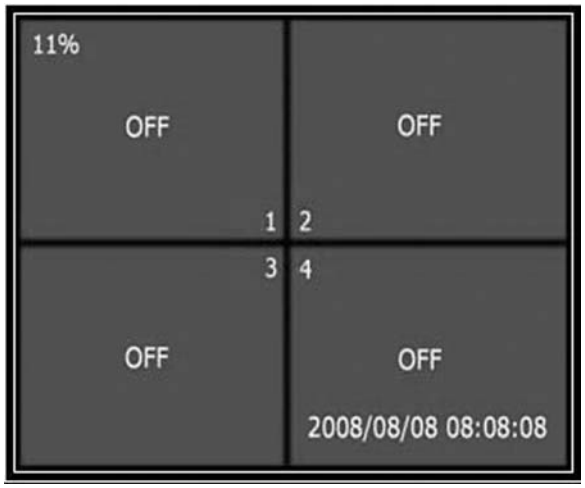
Power-Error will cause data lost and system will ask to 'recover data'. Please press " ↵ Select" to proceed with data recovery.

4.3 Restore Recording Process

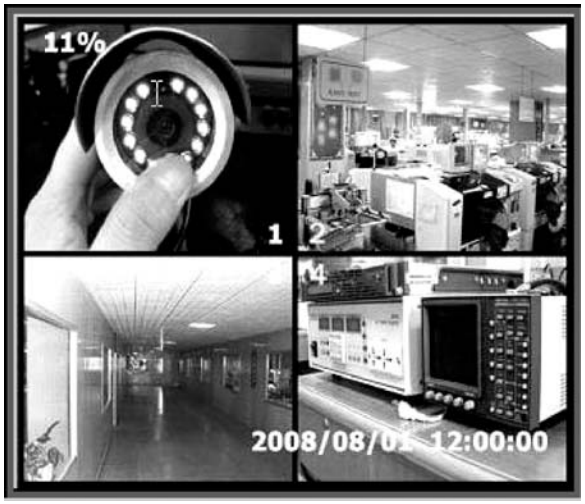


When a power-error occurs during a recording process, the system will automatically restore the recording process after power is reconnected.

4.4 Main Screen



When the DVR is turned on for the first time all camera will be OFF by default. Please refer to section 5.2 to switch on all cameras.



• Upper left -> Percentage of Hard Disk Space Used

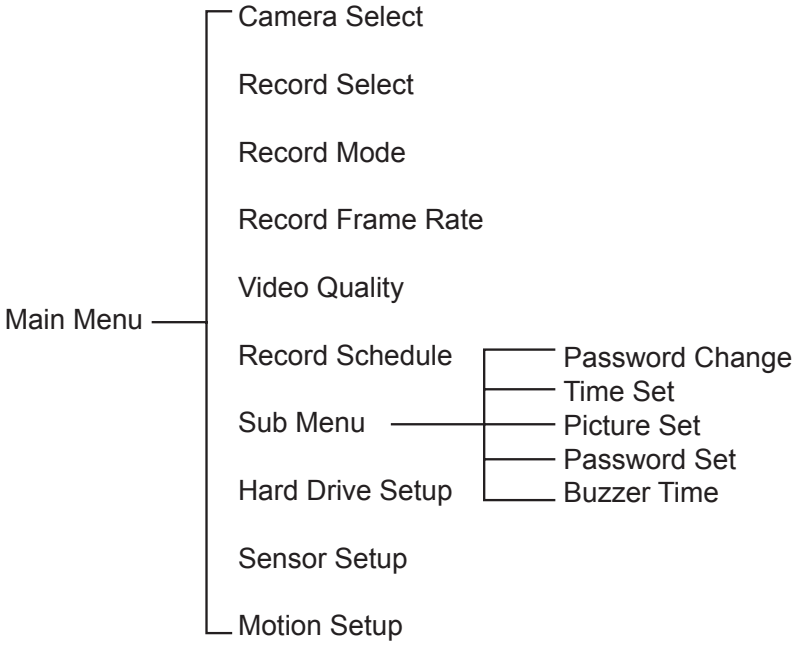
• Middle -> Channel Number (CH1 _ CH4)

• Bottom right -> Date and Time

At any time press the " Menu" button to enter the DVR setup menu.

5.1 Setup Menu

Press "Menu" to enter setup menu
Use " Up" and " Down" to browse
Press " Select" to modify setting
Press "Menu" to confirm and exit



5.2 Camera Select

The DVR system can display 4 camera video pictures in one screen (Quad Mode). User can configure which camera to display.
Press "Select" to modify the setting when programming, and press
" CH1", " CH2", " CH3", " CH4"
to view each camera separately. When the menu channel space has a "—", the DVR will display "OFF" on that corresponding channel.

5.3 Record Select

Configure which channel is allowed to record by pressing " Select" to display channel number or "—", to disable recording for the corresponding channel.

5.4 Record Mode

There are two modes for video recording.

Each Mode

Compress and record each channel video separately, therefore, user can enlarge single channel video to full screen display. For example, user can turn off record function of CH1 and CH2 to have the system only record CH3 and CH4 video.

Press " CH1", " CH2", " CH3", " CH4" ," Quad"
to switch channel display when viewing recorded video.

Quad Mode

Compress and record all 4 channel video into one file, therefore user can not enlarge single channel to full screen. User cannot use the each mode record in this mode.

5.5 Record Frame Rate

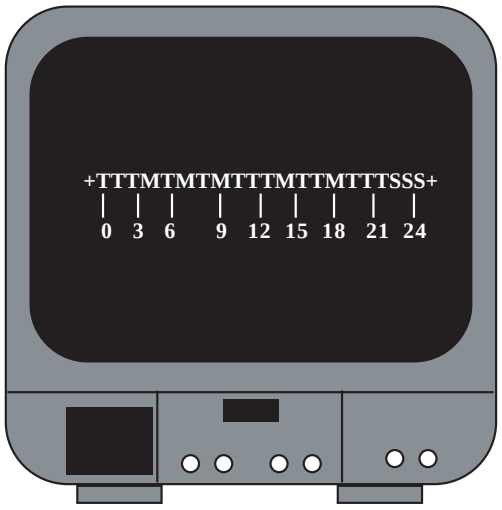
The record frame rate will affect the movement of an object in the recorded video. More frames means more smooth movement and uses more hard disk space. System default value is 30 fps, that means the system will record 30 frames per second. The frame rate value can be set to 30,15,10,7,5,4,3,2,1 frames per second.

5.6 Video Quality

There are three levels of video quality for recording, High, Normal and Low. Higher quality uses more hard disk space.
The record frame rate, record quality, and hard disk space will affect the total recording time of the DVR system.

5.7 Record Schedule

Setup video record method by time, sensor triggered and motion triggered.



- "-" No Record
- "T" Continuous (System Default)
- "S" Sensor Triggered
- "M" Motion Triggered

The DVR cooperates with many kinds of external sensor equipment like PIR and gas sensor. The DVR will not record video until the sensor is triggered and the output signal notifies the DVR during this specified period of time.

Button function:
" ▲Up", "▼Down" :Move the prompt
"↵ Select" :Select method

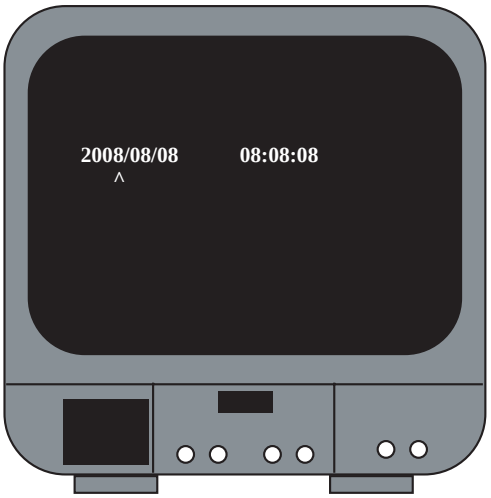
5.8 Sub Menu—Password Change

System default password : Press six times the " CH1" button

All keys can be used to set the password except the " Menu" key, which is used for confirming and exit.

If you forget the password, please do not worry. Just press the PAUSE key 10 times, it will return to the system default configuration. So, the password remains six times the " CH1" button.

5.9 Sub Menu—Time Set



Configure DVR system time:
Press " Up" and " Down" to move prompt.
Press " Select" modify.
Press " Menu" to confirm and exit.

5.10 Sub Menu—Picture Set

Press " Up" and " Down" to move prompt.
Press " Select" to modify the value.

5.11 Sub Menu ----- Password Set

When password set is “ON”, to stop recording or to enter the menu will require a password. If password set is “OFF”, the password feature will be cancelled.

5.12 Sub Menu ----- Buzzer Time

Buzzer time set (05,10,15,20,25,30 seconds and CONT), press [↵ Select] to set the time. When Buzzer Time is to “OFF”, the buzzer will be shut off. When “Buzzer Time” is “CONT”, the buzzer will work continuously.
Note: The buzzer time will act as line of integrity (camera signal loss) and produce alarm output.

5.13 Hard Drive Setup

OVERWRITE ENABLED
If you choose **YES**, recording continues and overwrite previous recording when hard disk drive space is full.
If you choose **NO**, the recording session stops when the hard disk drive is full.

MASTER HDD SIZE
It shows the size of the primary hard disk drive installed in the DVR.

NOTE: If the DVR overwrite function is set to “YES” and when the hard disk is full, the overwrite function will start to overwrite the oldest recorded file by the minute.

MASTER HDD USED
It shows the space used on the first hard disk drive for recording and the percentage used on the hard disk.

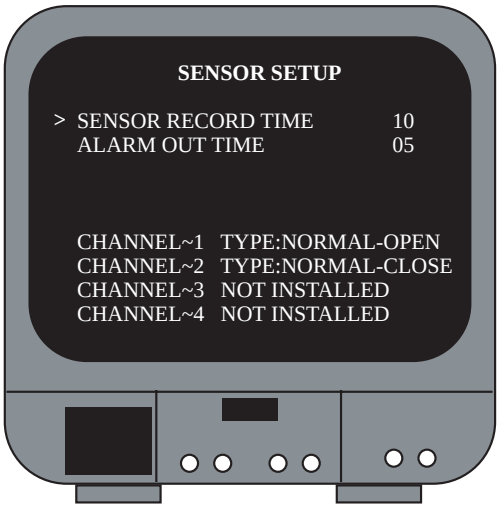
MASTER HDD FORMAT
If you format the hard drive, it will erase all the data recorded on the first hard disk drive.
Notice: Please use this function to format the HDD at the time of installation, otherwise a PC will not recognize the DVR’s HDD when connecting to it through the USB cable.

SLAVE HDD SIZE (For DVR-04 Pro Series)
It shows the space of the secondary hard disk drive installed in the DVR.

SLAVE HDD USED (For DVR-04 Pro Series)
It shows the space used on the secondary hard disk drive for recording.

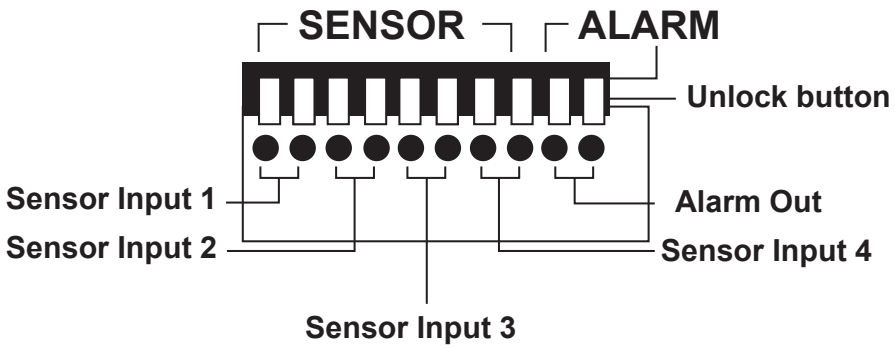
SLAVE HDD FORMAT (For DVR-04 Pro Series)
If you format the hard drive, it will erase all the data recorded on the secondary hard disk drive.

5.14 Sensor Setup



SENSOR RECORD TIME
This number indicates the recording duration after the sensor is triggered.

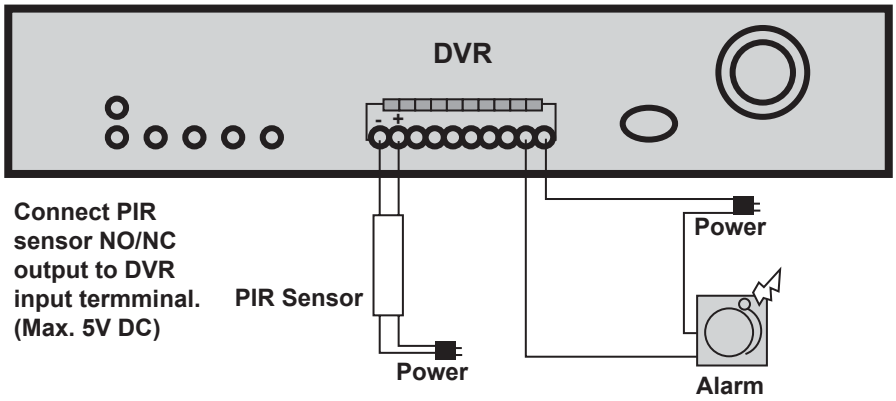
ALARM OUT TIME
It controls how long (in seconds) the alarm sound lasts after it is set off.
Value "**00**" will turn off the alarm output.
Select "**Cont**" will turn on alarm output until any key on the DVR is pressed



• Push the UNLOCK BUTTON to insert or pull out the wire

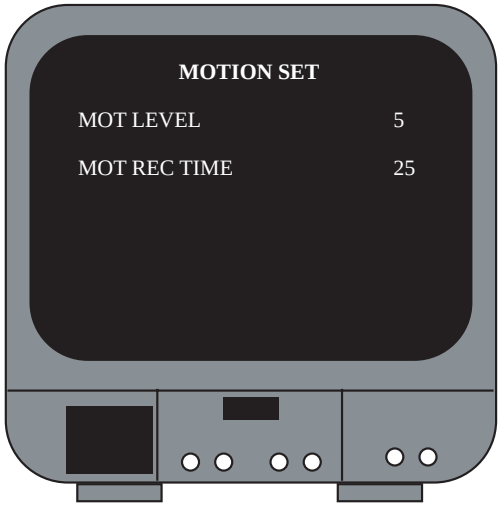
• There are 3 different modes for sensor setting:
NOT INSTALLED, NORMAL-CLOSE and NORMAL-OPEN.
It depends on what type of external sensor you use. If sensor's output is NORMAL-OPEN then select NORMAL-OPEN mode in DVR sensor setup.
If the sensor is triggered by an intruder then the cable line is connected to the DVR input terminal will notify the system to start recording.
There are four pairs of input terminal.

Install example diagram:



5.15 Motion setup

The first step is to setup video record method by Motion Triggered. Please refer back to 5.7 Record Schedule.



MOT LEVER:
User can press " ↵ Select" to adjust sensitivity grade of motion detection.

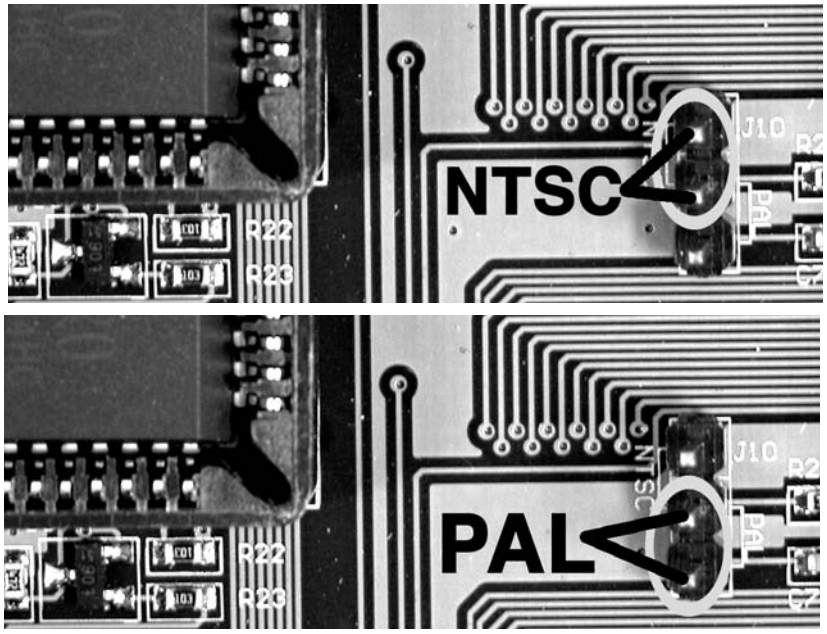
High(1----------10)Low

MOT REC TIME:
This number indicates the recording time duration when motion is detected. Press " ↵ Select" to set the time.

Time Set:5sec~30sec

After the "MOTION SET" step is completed, press "🕮 Menu" to exit, and press [● Record] to start the Motion Record feature.

5.16 NTSC/PAL Output Select



Before turning on the DVR, make sure the J10 jumper is on the NTSC setting (for U.S.A) or PAL setting (for Europe).

5.17 Restart

There are two restart modes. First, use the Power Switch to restart the DVR;
second, press the PAUSE key continuously for 12 seconds, it will be hot restarted.

6.1 Start Recording

Press "● Record" to start recording. System will display some information on screen.
Only EACH MODE can enlarge single channel to full screen display

- ① Hard Disk Percentage Used
- ② "R" Recording Symbol
- ③ Channel Numbers
- ④ Mode (QUAD or EACH)
- ⑤ Status (REC, Play, FF1, FF2, FF3, REW, PAUSE)
- ⑥ HDD Info. ([M] Master disk [S] Slave disk)
- ⑦ (M) Motion Triggered, (T) Continuous, (S) Sensor, (▬) No Record
- ⑧ When "*" show up beside date & time, it indicates system HDD overwrite.

6.2 Stop Recording

Press " ■ Stop" and system will prompt to input password. Only the correct password can stop the recording process.

6.3 Recording Length

Estimated record time based on 80GB/200GB/250GB HDD **Unit: Hour**

80GH

Format	Quality	Frame Rate	30	15	7	1
NTSC	HI	20	39	78	166	1165
	NORMAL	15	52	104	222	1153
	LO	12	65	129	277	1942

200GH

Format	Quality	Frame Rate	30	15	7	1
NTSC	HI	20	97	194	416	2913
	NORMAL	15	129	259	555	3884
	LO	12	162	324	694	4855

250GH

Format	Quality	Frame Rate	30	15	7	1
NTSC	HI	20	121	243	520	3641
	NORMAL	15	162	324	694	4855
	LO	12	202	405	867	6068

80GH

Format	Quality	Frame Rate	25	12	6	1
PAL	HI	20	47	97	194	1165
	NORMAL	15	62	129	259	1153
	LO	12	78	162	324	1942

200GH

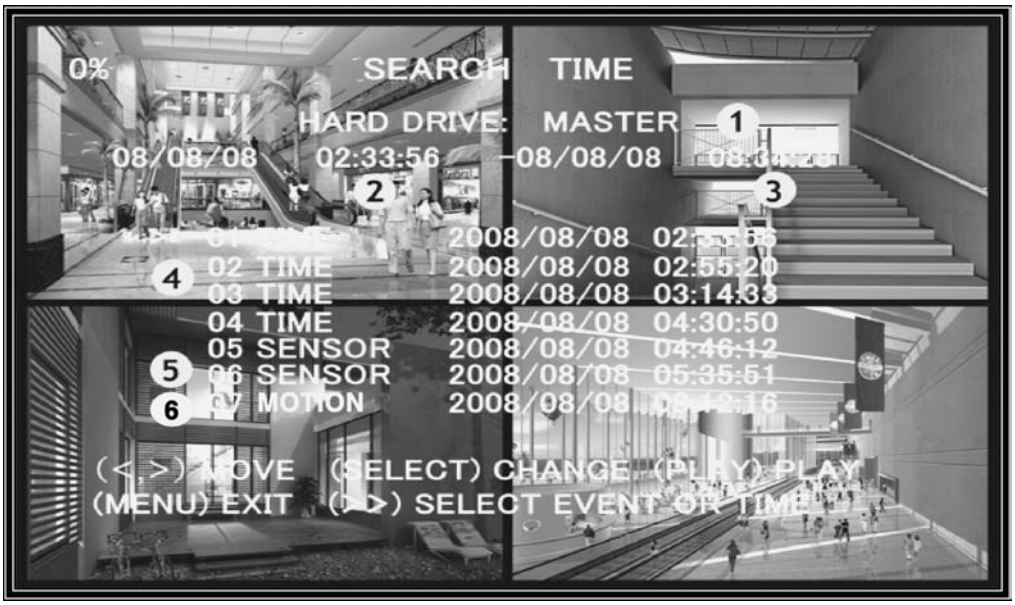
Format	Quality	Frame Rate	25	12	6	1
PAL	HI	20	117	243	485	2913
	NORMAL	15	155	324	647	3884
	LO	12	194	405	809	4855

250GH

Format	Quality	Frame Rate	25	12	6	1
PAL	HI	20	146	303	607	3641
	NORMAL	15	194	405	809	4855
	LO	12	243	506	1011	6068

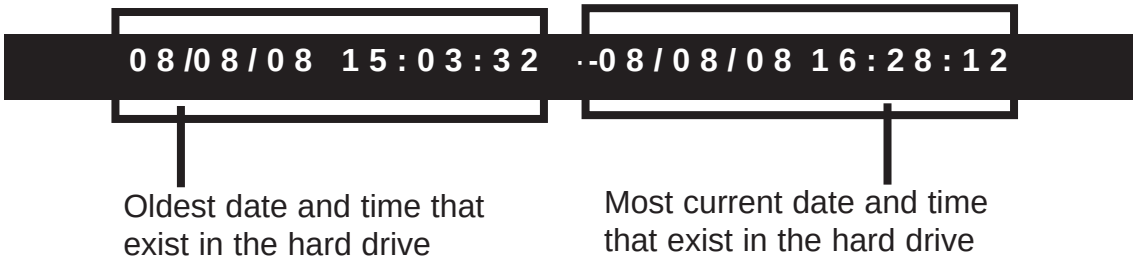
Record Time (hrs) Formula = $\dfrac{\text{(\#GB)(1024MB)(1024KB)}}{\text{(\#frame rate)(\#KB Quality)(60sec)(60min)}}$

Press " ▶ Play" and the system will list all the recorded video files from the HDD. The newest video file will appear as 01 on the list, press "▲ Move Up" and " ▼ Move Down" to select the start time and press " ▶ Play" again to start the video file.



1. HDD Information
2. Start Time
3. End Time
4. TIME: Continue record
5. SENSOR: Sensor triggered
6. MOTION: Motion triggered

Another way to search for specified video is to directly input the date and time period. Press " ▶▶ Forward" and then press "▲ Up" and " ▼ Down" to move the prompt. Press "↵ Select" to edit the date and time value and press " ▶ Play" to begin playback.



8.1 Install

1. Put the USB Driver Program CD in your CD-ROM
2. Go to the CD-ROM and execute “setup.exe”
3. Use default destination folder
4. Execute: start>Program>DVR Play

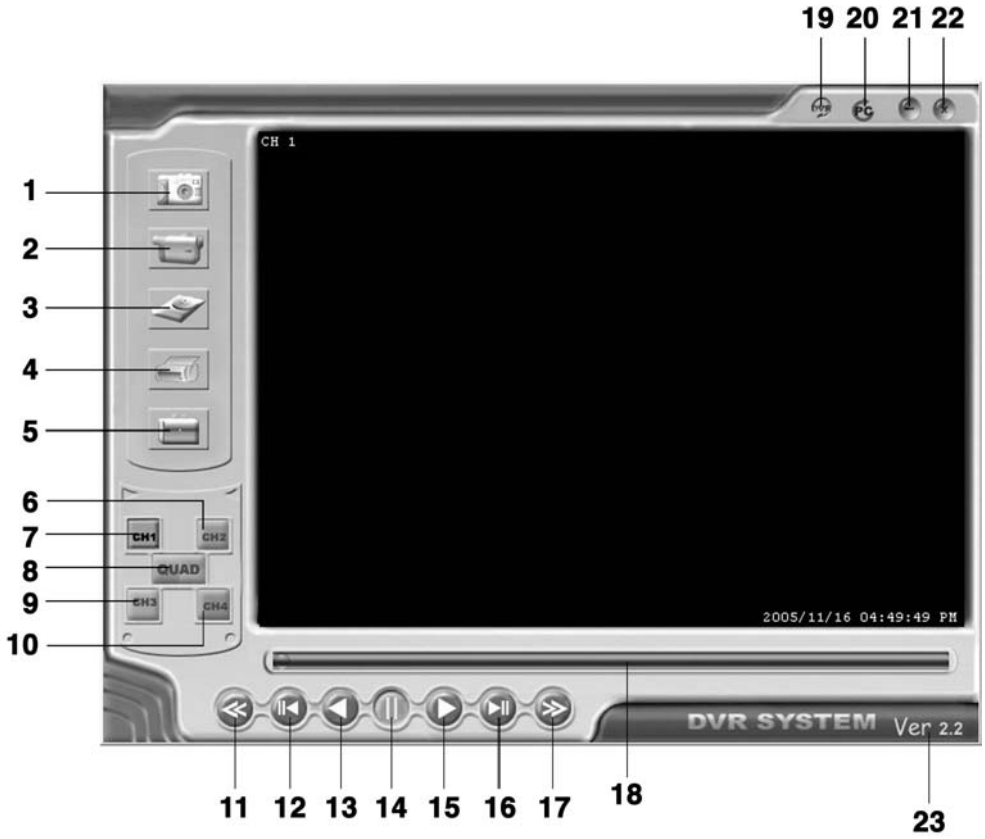
Note: This software currently supports Windows 2000 and Windows XP!

8.2 Program Interface

Run the program (double click “ ” icon on desktop). Your computer system will detect the HDD automatically when it recognizes the USB cable from the DVR to its USB port.

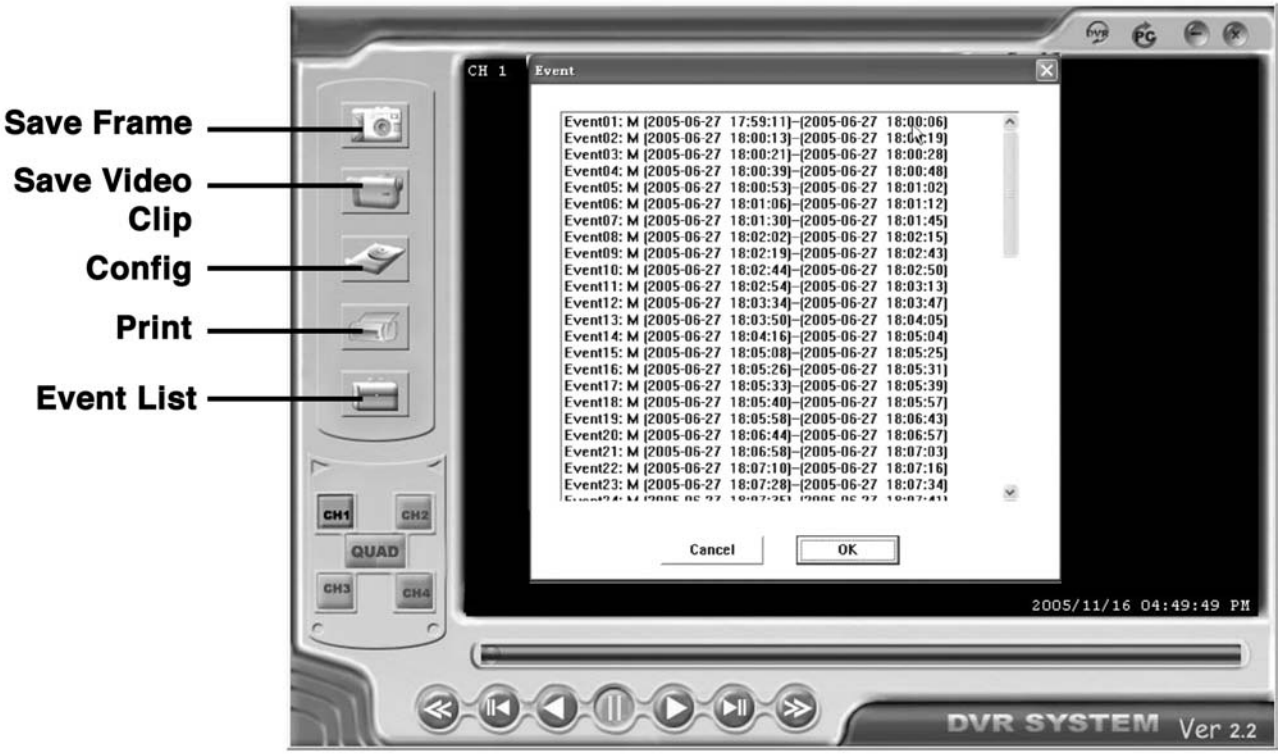
*Notice: if the HDD cannot be detected because of unsuitable operation, please try the following steps:
(1) close the USB program window, and remove the USB cable from the DVR.
(2) reconnect the USB cable to the DVR, wait for 5 seconds, and open the DVR Play software again.
if step 1 and step 2 do not work,
(3) restart the computer and repeat step 2.

Button Function



1 Save Frame
2 Save Video Clip
3 Config
4 Print (print the screen)
5 Event List
6 Channel 2
7 Channel 1
8 Quad Mode
9 Channel 3
10 Channel 4
11 Rewind
12 Step backward (frame by frame)
13 Backward play
14 Pause
15 Play
16 Step forward (frame by frame)
17 Fast forward
18 Status Bar
19 Play DVR video file
20 Play PC video file
21 Minimize the window
22 Close the window
23 Software version

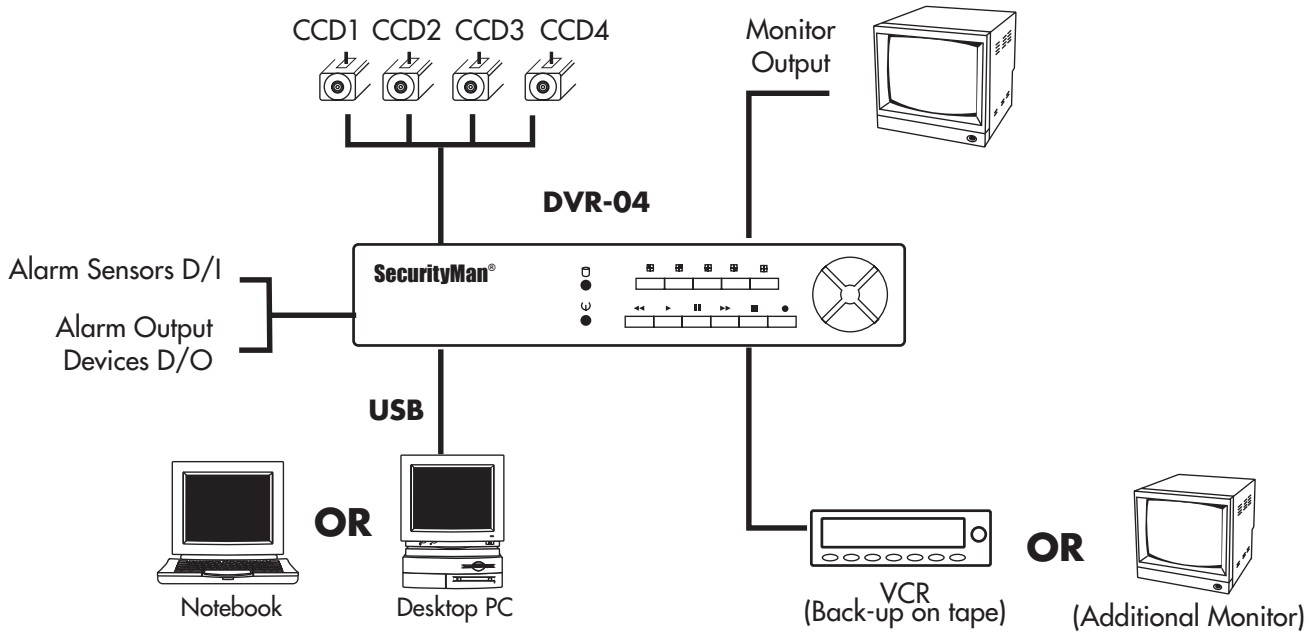
Press to open the event video list.



Press to change the recorded video location, directory, and other software settings.

Press to play the video

Item		Description	Remarks
Video Input Format		NTSC/PAL	
Operating System		None	
Video Input Channel		4Ch Composite BNC	Stand-Alone
Video Output Channel		2Ch Composite BNC USB 2.0 Port	
Display Frame Rate	NTSC	120 frames/second	4x30fps
	PAL	100 frames/second	4x25fps
Recording Frame Rate	NTSC	Max 30fps (quad)	Quad Mode
(Quad Mode)	PAL	Max 25fps (quad)	Quad Mode
Recording Frame Rate	NTSC	Each Channel = 30fps/number of Source	Max. 30 frames/s (Each Channel)
(Each Mode)	PAL	Each Channel = 35fps/number of Source	Max. 25 frames/s (Each Channel)
Recording mode		Continuous, Schedule, Motion Triggered, Sensor Triggered	
Resolution:	Display	NTSC: 720x480 PAL: 720x576	
	Recording	NTSC: 320x112, 640x224 PAL: 320x136, 640x272	Quad: 640x224 (total) Each 640x224
Video Compression Format (Each Channel)		Modified Motion-MJPEG Each Recording	Low: 12k/frame Normal: 15Kb/frame High: 20Kb/frame
HDD Support		Over 200G Byte	ATA-100 Interface
Estimated Record Length		250GB Hard Disk @ 7 frame per second @ Normal Quality (250*1024*1024K byte) /(7*15*60*60)=694Hour	
Search	Method	Time, Date, Event	
	Full Screen	YES	
Audio		None	
Sensor, Alarm		4 Input (Normal Open/ Normal Close) 1 output (Relay 2A 28VDC/ 2A 125VAC) Camera Signal Loss Alarm	
PTZ		None	
Dimension (L x W x H)		315mm x 224mm x 52mm	


CCD1 CCD2 CCD3 CCD4
Monitor Output
DVR-04
SecurityMan®
Alarm Sensors D/I
Alarm Output Devices D/O
USB
OR
Notebook
Desktop PC
VCR (Back-up on tape)
OR
(Additional Monitor)

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