

Stand Alone Type

USER'S MANUAL

DVR

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1. DVR Feature

- 4 Channel BNC Camera Input.
- 1 Channel BNC Monitor.
- NTSC / PAL Optional.
- Video Loss Alarm.
- Motion Detection With Area Setting.
- One ATA-100 Hard Disk Interface, Support Over 200G Byte.
- Time Schedule record / Motion Triggered Record.

2. Outlook

2.1 Front Panel



2.2 Rear Panel



3. DVR Installation

3.1 Install Hard Disk

Connect power cord and data cable to hard disk, use screw to fix hard disk with the iron of DVR housing. (HDD is recommend to be provided by user)



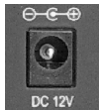
CAUTION
Do not open the cover
when DVR running!

After drawing out the cover of DVR, you can fix the hard disk into the bottom of DVR. (As the left figure show).

3.2 Connect Camera and Monitor

There are 4 camera input and 1 monitor output with BNC connector.

3.3 Connect Power Cord



Please use the power adapter supplied with DVR.

4. DVR System Boot

4.1 Detect Installed Hard



After connecting the power, system will boot-up and detect installed hard disk. On Monitor it will show hard-disk information.

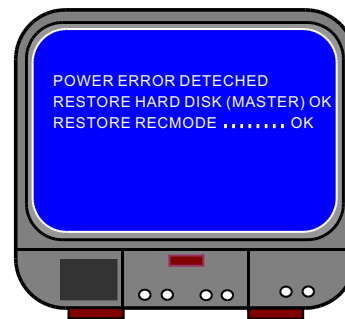
Please make reference to hard disk manual to configure hard disk sequence.

4.2 Recover Lost Data



Power-Error will cause data lost and system will ask for 'recover data' at the next step process, please press "↵ Select" to proceed.

4.3 Restore Recording Process



When power-error happen during recording process, system will automatically restore recording process after power reconnected.

4.4 Main Screen

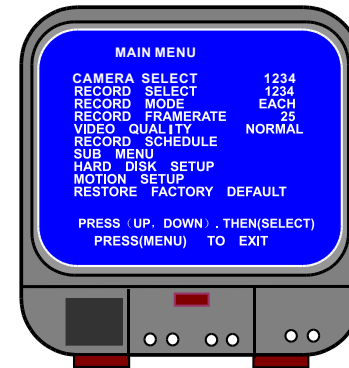


Firstly, the DVR to start for system working. DVR will be sense of four cameras are shown on the monitor.

- Upper left → Ratio of hard disk space used.
- Middle → Channel name (CH1~CH4).
- Bottom right → Date and time show on there. DVR is waiting for key function, press "Menu" into DVR setup process.

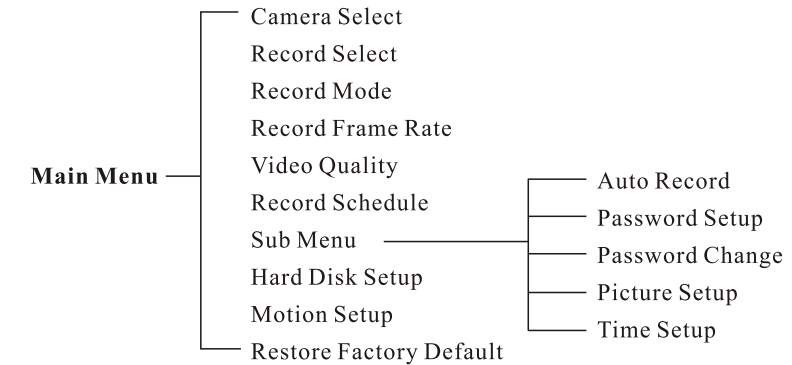
5. DVR Setup

5.1 Setup Menu

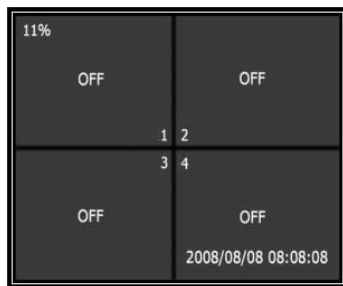


Press "Menu" into setup menu, use "Up" and "Down" to select item, press "Select" to modify setting and "Menu" to confirm and exit.

Menu Directory



5.2 Camera Select



DVR system can display 4 cameras and video in one screen (Quad Mode). Use can configure which camera to display. Press "↵ Select" to modify setting and press "⏏ CH1", "⏏ CH2", "⏏ CH3", "⏏ CH4" to set each channel separately. If no channel is open, System will display "OFF" on monitor.

5.3 Record Select

Configure which channel is allowed to record.

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 CH-1 and CH-2 and then system only record CH3 and CH4 video.

Press "⏏ CH1", "⏏ CH2", "⏏ CH3", "⏏ CH4" to switch Channel to display when playback recorded video.

Only in this mode, when system is in watching mode or recording mode, press "QUAD" button over 3

seconds to make each channel video enlarge to full screen and then display in quad mode in sequence again and again, DVR will not change its state until user presses any key.

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

5.5 Record Frame Rate

Record frame rate will affect the movement of object in recorded video.

More frames means more smooth movement and cost more hard disk space. System default value is 25 fps, that means system will record 25 frame per second. User can set frame rate as 25,12,8,6,4,3,2,1 frames per second.

5.6 Record Quality

There are three level of record quality, High, Normal and Low. Higher quality cost more hard disk space.

Record frame rate, record quality and hard disk space will affect total record time of DVR system.

5.7 Record Schedule

User can setup video record method by time and Motion Triggered.



- "-" No Record.
 - "T" Continue, (System Default).
 - "A" Motion Triggered.
- [▲Up] [▼Down] : move the prompt.
[↵Select] : Select Method.

5.8 Sub Menu-Auto Record

When you choose "ON" DVR will record automatically if DVR has not been operated in five minutes.

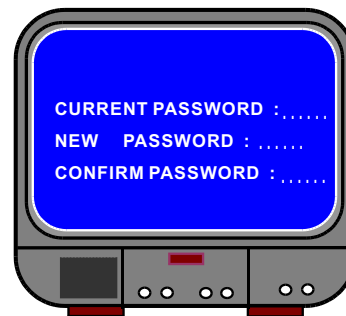
When you choose "OFF" DVR will not record until you press "RECORD" button.

5.9 Sub Menu-Password Setup

When password set is "ON", Stop recording or enter menu will need Password, If password set is "OFF", All password will be cancelled.

5.10 Sub Menu-Password Change

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



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

5.11 Sub Menu-Picture Setup



"HUE": 0-99.

"SATURATION": 0-99.

"CONTRAST": 0-99.

"BRIGHTNESS": 0-99.

Button function :

[▲Up] [▼Down] : move the prompt.

[REW] : Increase Value.

[FWD] : Reduce Value.

[CH1-CH4,QUAD] : Select Channel.

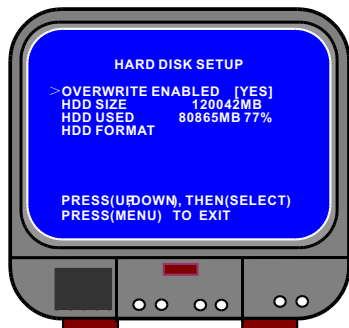
[Menu] : exit.

5.12 Sub Menu-Time Setup



Configure DVR system time. Press [▲Up] and [▼Down] to move prompt and press [↔Select] to modify. Press [☰Menu] to save and exit.

5.13 Hard Disk Setup



OVERWRITE ENABLED :

If you choose YES, recording continues and overwrites previous recording when hard disk drive space is full.

If you choose NO, the recording session stops when all hard disk drive is full for recording.

HDD SIZE :

It shows the size of the hard disk drive installed in the DVR.

HDD USED :

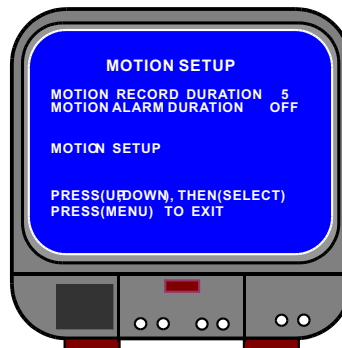
It shows the space used on the hard disk drive for recording and the percent Of the used hard disk.

HDD FORMAT :

If you format the hard drive, it will erase all the data recorded on the hard disk drive.

Notice: when you first use a HDD in the DVR, please use this function to format the HDD. Otherwise the computer will not find the HDD when you connect the DVR to the computer by using the USB cable.

5.14 Motion Setup



MOTION RECORD DURATION :

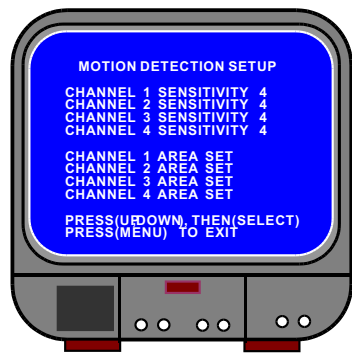
The number indicates how long triggered recording lasts after the movements in front of the camera.

MOTION ALARM DURATION :

It controls how long (in seconds) the "Motion" symbols will display on the screen .

Motion Setup :

The first step , User needs setup video record method by Motion Triggered. Please make Reference to 5.7.



CHANNEL 1- 4 SENSITIVITY :

User can press " Select" to adjust sensitivity grade of motion detection. High(1-----9,OFF) , Low When it's off, the channel can not be triggered by movement.

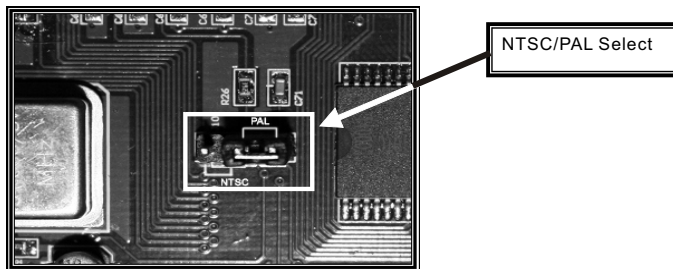
CHANNEL 1- 4 AREA SET :

Press " Select" to enter area setting state,the picture of selected channel is divided into 144 (12*12) blocks, and then press"CH1" to move left , press "CH2" to move right, press "UP" to move up, press "DOWN" to move down , press " Select"to set the block is active or not. When the block is transparent, it's active to record; when the block is covered by shadow , It can not be recorded.

After completed the "MOTION SET", User can exit by 「Menu」 , And press [●Record] to star Motion Record.

5.15 NTSC/PAL Output Select

Change jump J10 to select NTSC or PAL video output format according to the silkscreen on the PCB.



5.16 Restore Factory Default

Press "pause" button ten times to make the system loads factory default.

6. Record

6.1 Start Recording

Press "●Record" to start recording. System will display some information on Screen.

Only in EACH MODE user can enlarge single channel to full screen display



- ① Hard Disk Usage Ration.
- ② ● Recording Symbol.
- ③ Channel Names.
- ④ Mode(QUAD or EACH).
- ⑤ Status (REC, Play, FF1, FF2, FF3, REW, PAUSE).
- ⑥ HD Info.
- ⑦ Record Schedule : (T) Continuous (A) Motion (—) No Record.
- ⑧ The time and date of the DVR.

6.2 Stop Recording

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

6.3 Recording Length

Estimate record time base on 120G Byte HD (Quad Mode) Unit : Hour

Format	Quality	Frame Rate	30	15	7	1
NTSC	HIGH	20	58	117	251	1748
	NORMAL	15	78	155	333	2330
	LOW	12	97	194	416	2913

Format	Quality	Frame Rate	25	12	6	1
PAL	HIGH	20	70	146	291	1748
	NORMAL	15	93	194	388	2330
	LOW	12	117	243	485	2913

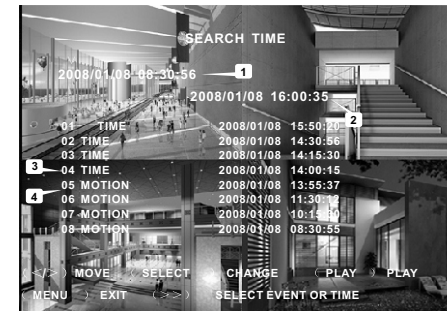
User can calculate and estimate record hours by below formula
120G Byte @ 7 frames per second @ Normal quality

$$\frac{120 \text{ (G Byte)} \times 1024 \text{ (M Byte)} \times 1024 \text{ (K Byte)}}{15 \text{ (K Byte/frame)} \times 7 \text{ (frame/sec.)} \times 60 \text{ (sec.)} \times 60 \text{ (min.)}}$$

Estimate hours is 332 Hours

7. Playback

Press "▶ Play" then system will list all recorded video clip from HD . Newest video will at top of the list , press "▲ Move Up" and "▼ Move Down" to select start time and press "▶ Play" again to start play video to the end.



1. Start Time

2. End Time.

3. TIME: Continue record

4. MOTION: Motion Triggered.

Another way to search video is directly input time period. Press "▶▶ Forward" and then press "▲ Up" and "▼ Down" to move prompt. Press "◀ Select" to edit time value and press "▶ Play" to play video.

2008 / 0 1 / 0 8 08 : 30 : 3 2 --- 2008/0 1 / 0 8 16 : 00 : 05

8. Specification

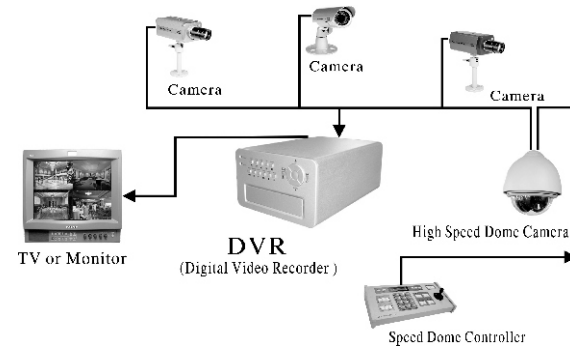
ITEM	DESCRIPTION	NOTE
Video Format	NTSC / PAL	
Operation System	None	STANDALONE
Camera Input Channel	4 channel Composite BNC	

VideoOutput Channel		1channel Composite BNC	
Display Frame Rate	NTSC	120 frames/second	4 x 30 frames/second
	PAL	100 frames/second	4 x 25 frames/second
Recording Frame Rate (Quad)	NTSC	Max 30 fps (Quad)	QuadMode
	PAL	Max.25 fps (Quad)	QuadMode
Recording Frame Rate (Each Mode)	NTSC	Each Channel = 30fps ÷ Number of Source	Max. 30 frames/s (Each Channel)
	PAL	Each Channel = 25 fps ÷ Number of Source	Max. 25 frames/s (Each Channel)
Record Mode	Continuous, Time Schedule, Motion Triggered		
Resolution	Display	NTSC: 720 x 480 PAL : 720 x 576	
	Record	NTSC: 320 x 112, 640 x 224 PAL : 320 x 136, 640 x 272	Quad : 640 x 224 (total) Each : 640 x 224
Video Compression Format (Each Channel)	Modified Motion-JPEG (12-20K bytes/frame)		Low : 12K Byte Normal: 15K Byte High : 20K Byte
HDD Support	Over 200G Byte		ATA-100 Interface

Estimated Record Length		120G Hard disk @ 7 frame per second @ Normal Quality (120*1024*1024 K byte) □ (7*15*60*60) = 332 Hours
Search	Method	Time, Date, Event
	Full Screen	YES
Dimension(L x W x H)		200mm * 132mm * 80mm

9. Appendix

9.1 System Connect Sketch Map



9.2 Fittings Come Along With DVR

Power Cord



Power Adapter



User Manual

