OTIMA

16 Channel Digital Video Recorder

User's Manual

C UL US   CE   FC

	CAUTION
⚡	RISK OF ELECTRICAL SHOCK. DO NOT OPEN !
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER SERVICEABLE PARTS REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	
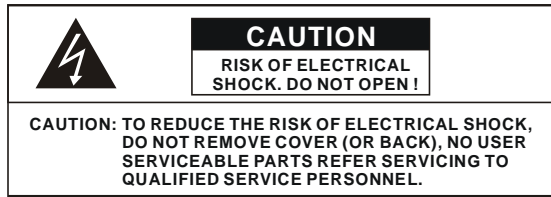
This label may appear on the bottom of the unit due to space limitations.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insulated dangerous Voltage within the product's enclosure that may be sufficient magnitude to constitute risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE UNITS NOT SPECIFICALLY DESIGNED FOR

Attention: installation should be performed by qualified service Personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is the ON position. The power cord is the main power disconnect for all unites.

"CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.   Dispose of used batteries according to the manufacturer's instruction."

Warranty and Service

During the warranty period (one year for Hard Disk), we will repair or replace the hard disk free of charge.
Be sure to have the model number, serial number and vendor stick on hard disk for service representative.

About this document

Before installing stand alone DVR, be sure to thoroughly review and follow the instructions in this Users Manual. Pay particular attention to the parts that are marked **NOTICE**.
Also, when connecting with external application, first turn the power OFF and follow manual instruction for appropriate installation.

Before reading this document

1. This document is intended for both the administrator and users of stand alone DVR Model.
2. This manual contains information for configuring, managing and using stand alone DVR Model.
3. To prevent fire or electrical shock, do not expose the product to heat or moisture
4. Be sure to read this manual before using stand alone DVR Model.
5. For questions and technical assistance of this product, contact your local dealer.

►Strong recommendation on installation of the DVR unit

1. Check electricity at the place you want to install the DVR unit is stable and meets our electricity requirements.
   Unstable electricity will cause malfunction of the unit or give critical damage to the unit.
2. Several chips on the main board of the DVR unit and hard disk drive inside the unit generate heat, and it must be properly discharged.
   Do not put any objects just beside exhaust port(fan) on the left side of the unit and do not close up an opening (fresh air in-take) on the right side of the unit..
3. Put the DVR unit at well-ventilated place and do not put heat-generating objects on the unit.
   When it is installed inside 19 inch mounting rack together with other devices, please check built-in ventilation fan of the rack is properly running.
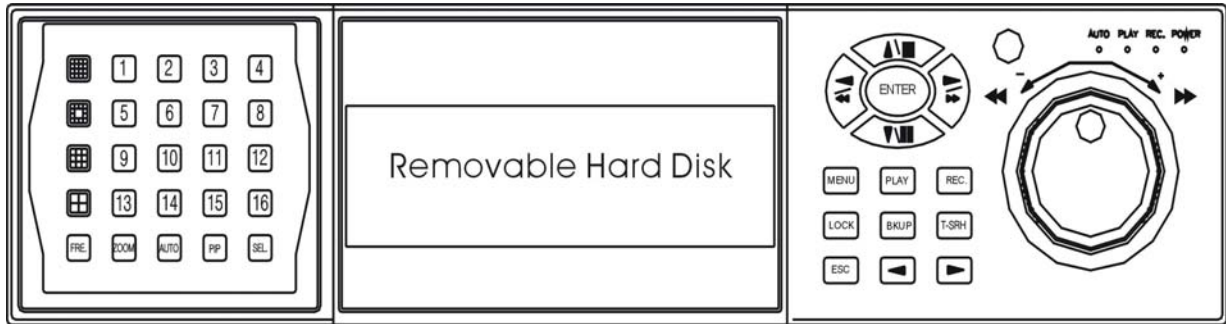
Content Table

 16 / 13 / 9 / 4 quarterly split screen button

1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16 full screen button

Picture freeze /Picture zoom in /Auto sequence /Picture in picture / Select channel mode BUTTON

Direction Button Up and Down / Record Stop, Playback Pause/step.

Direction Button Left and Right / Fast and slow Reverse, Fast/slow Forward Playback

ENTER Enter Button

MENU Function Menu Button   LOCK Key Lock Button   ESC Function exit Button

PLAY Image Playback Button   AUDIO Audio Function Button

REC. Image Record Button   T-SRH Image Playback Time Search Button

◀ ▶ decrease playback speed values change button

Shuttle

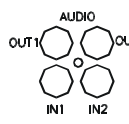Remote Controller IR

Function LED light display

![OTIMA logo]

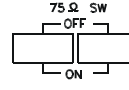**Unit Description of Rear Panel**
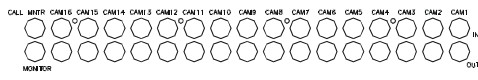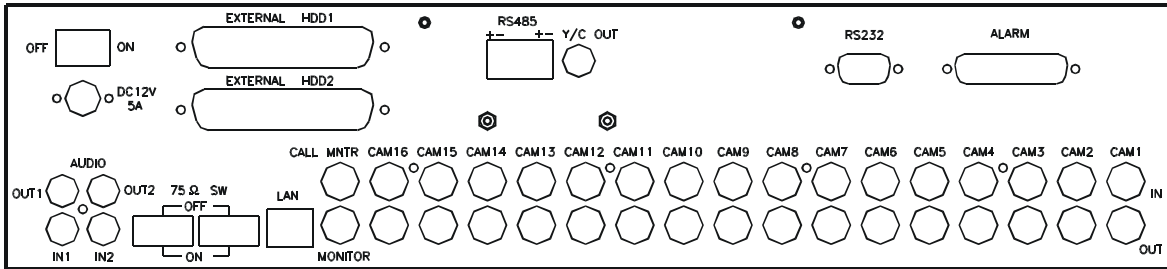
16 Channel Video Input and
main/call monitor output

Audio Input. 2 Channel Input,
1 Channel Output (Out 1: Left, Out 2: Right)

Y/C video monitor output

RS232 connector

75 Ohm High / Low Adjust

Alarm connector
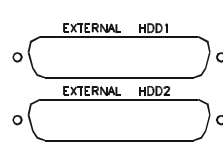
HDD BAY connector

Control keyboard
connector

Network connector
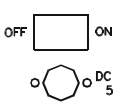
Power In /
Power switcher

OTIMA

Installation

Procedure

1) Camera Connection

Connect the camera to the CAMERA INPUT
on the Rear Panel of the 16 CH DVR.

Rear part of CAMERA
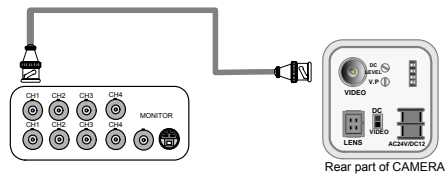
2) Monitor Connection (Composite Connection Method)

Connect the monitor to the MONITOR OUT on
the Rear Panel of the 16 CH DVR.
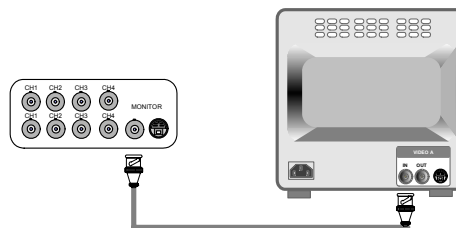
3) Monitor (S-VHS) Connection

Connect S-VIDEO Monitor to MONITOR OUT
(S-VHS) on the Rear Panel of the 16 CH DVR.
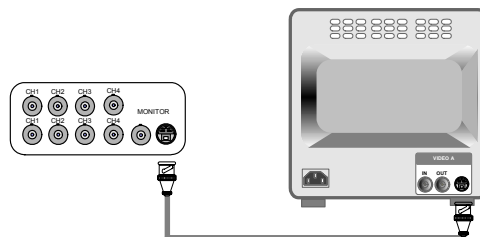
4) Sensor Connection

ALARM pin define.
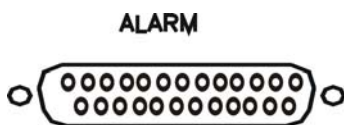
ALARM

1.ALARM0	14. ALARM 13
2.ALARM1	15. ALARM 14
3.ALARM2	16. ALARM 15
4.ALARM3	17. ALARM COMM 2
5.ALARM4	18. DGND
6.ALARM5	19. DGND
7.ALARM6	20. DGND
8.ALARM7	21. ALARM NC 1
9. ALARM8	22. ALARM COMM 1
10.ALARM9	23. ALARM NO 1
11. ALARM10	24.ALARM NC 2

OTIMA

13,12,11,10,9,8,7,6,5,4,3,2,1

25,24,23,22,21,20,19,18,17,16,15,14,13,12,11

NOTICE: Sensor input is RECOGNIZED as LOW when alarm signal is on a level with GND, and it is recognized as HIGH when alarm signal is FLOATING or 5V.   Following is internal circuit.

Internal Circuit

5V

○ D1
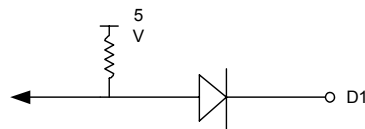
Thus, there is a danger of damage, when the sensor input goes to a Negative level or voltage higher than 5V.

5) Network Connection

DVR connects to LAN

ETHERNET

TERATRAY CONNECTION
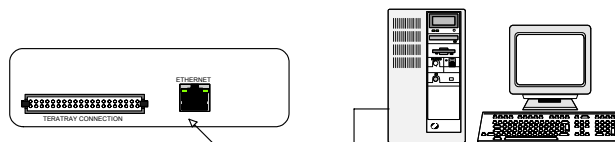
◆To view video image on the computer through internet with DVR view software.

6) HDD connection

① How to connect single HDD

I/O BOARD

MAIN BOARD

MASTER

HDD

Set the drive jumpers as specified by hard disk drive manufacturer.

② How to connect 2 HDD

I/O BOARD

MAIN BOARD

MASTER

HDD1

SLAVE

HDD2

Set the drive jumpers as specified by hard disk drive manufacturer.
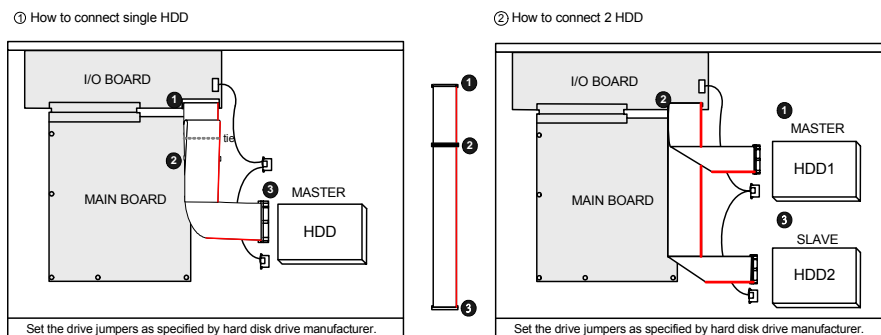
1. Make sure the HDD is MASTER.
2. Make sure the cable connector is correct.
3. MASTER set up, please check the HDD panel.

1. Make sure the HDD is MASTER and SLAVE.
2. Make sure the cable connector is correct.
3. MASTER and SLAVE set up, please check the HDD panel.

Notice:

-The 16 ch DVR provides 2 internal hard drives. We provide one hard disk drive with removable rack; the other one is fixed designed.

OTIMA

-We recommend you to set the Removable Hard Disk as Slave. Set the other one as the Master.

7) Power Connection

Connect the power to the POWER
CONNECTION on the Rear Panel of the
system, and turn on the switch.

1. +12VDC
2. +12VDC
3. +12VDC
4. RTN
5. RTN
6. RTN

8) Turn on the POWER.

Make sure the adaptor is 12V/5A.

9) Detail setup in SYSTEM SETUP

For detail setup, refer to the instruction of
SYSTEM SETUP.

OTIMA

| Picture |

Full screen or quarterly split screen display

Press ▦ ▦ ▦ ⊞ button, to display 16 / 13 / 9 / 4 quarterly split screen.

Press numeric buttons ⣿ to display the desired camera image in full screen.

1.) FREZZE Mode

1. In live and the quad mode press [FRE.] (FREEZE) button to freeze

   Press [FRE.] again to cancel freeze mode.

2. On the full screen display, press [FRE.] (FREEZE) button to
   freeze full screen image.

2.) Zoom Mode(Display Enlargement.)

  Go to full screen mode with numeric buttons of live or playback

  mode, then press ZOOM button to display screen Enlargement.

Use ⬥ button to move position.

3.) Auto Mode

Press [AUTO] (AUTO) button begins to screen auto sequence.

>No auto sequence in 16 / 13 split screen.

>You could active auto sequence function in 9-split, 4-split, PIP or full-screen mode. The 3rd channels will

sequence in 9 split screen. 2nd channel do auto sequence in 4-split screen mode.

4.) PIP (PICTURE IN PICTURE)

1.) Press [PIP] (PIP) button.

Main picture

Sub picture

10
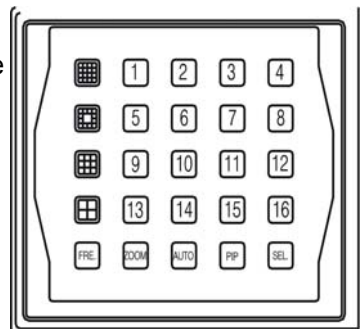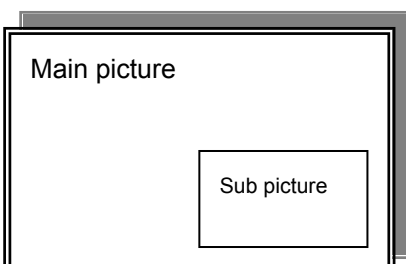
2)   With button, select the main channel screen, press button to select desired camera channel in small screen.

5.)   SEL (Select)

>On the 13 / 9 / 4 split screen, press SEL can change the each channel order.

-   Press SEL button to active the selection function.
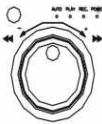
-   Turn the inner-shuttle or ◁ ▷ button to select the desired camera channel in split-1.

-   Press change button to change the split-screen position.

-   Press SEL button again to cancel the selection function.

6.)   Alarm Sensor Recording

>See the alarm recording setup page

7.)   Scheduled Recording

>See the scheduled recording setup page

8.)   Motion detection Recording

See the motion detection recording setup page

9.)   Key Lock function

On the Live or Playback mode, press LOCK (lock),

Only, numeric, freeze, auto, pip, and zoom buttons could work. Press lock key again to enter the login-in window. Enter admin or user password to unlock.

10.) AUDIO BUTTON

AUDIO CONTROL

CH +

VOL - ← | → VOL +

CH -
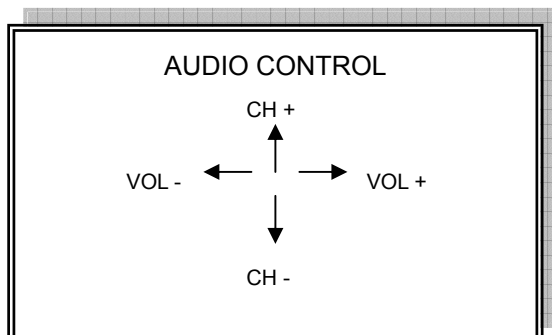
CH: choose which audio channel output

VOL: Audio volume values change.

Notice

1> Recording is stopped during playback.

2> Recording is not possible if no camera is connected.

3> DVR must be not on the PLAY mode, if user wants to remote view in the Internet.

Playback

1. Playback Mode

1) Press [PLAY] button to begin playback. (System will playback the images in backward)

2. T-SRH button

1) T-SRH: Playback by time search.

Press T-SRH button to active playback function.

Press direction button
UP/DOWN to choose
items.

```
            PLAY SETUP PAGE
EVENT LIST
TIME   LIST
PLAY END: RECYCLE


FIRST: xxxx/xx/xx xx:xx:xx
LAST: xxxx/xx/xx xx:xx:xx
GOTO: xxxx/xx/xx xx:xx:xx


PLAY GOTO TIME
```
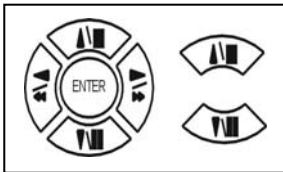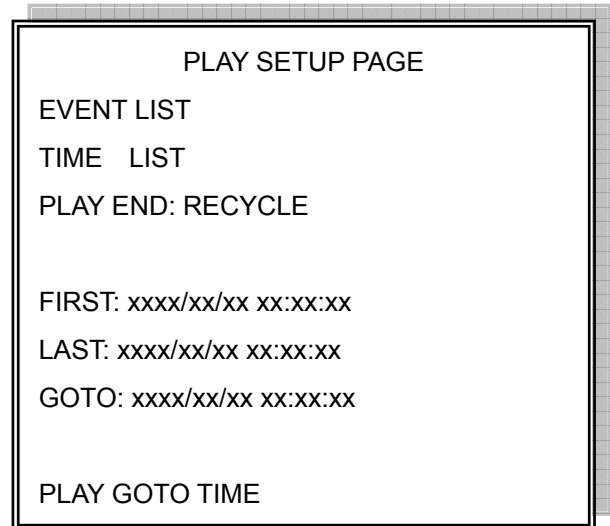
2) EVENT LIST (Alarm List): Event source- Video loss/ alarm trigger

```
OCCURRED     TIME     CH     TYPE







 PLAY      SORT: DATE       DELETE: ITEM
↑↓: MOVE, ◁  ▷ : PAGE, ENTER: PLAY
```
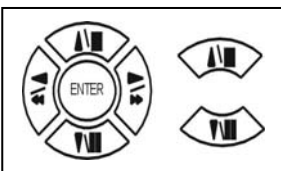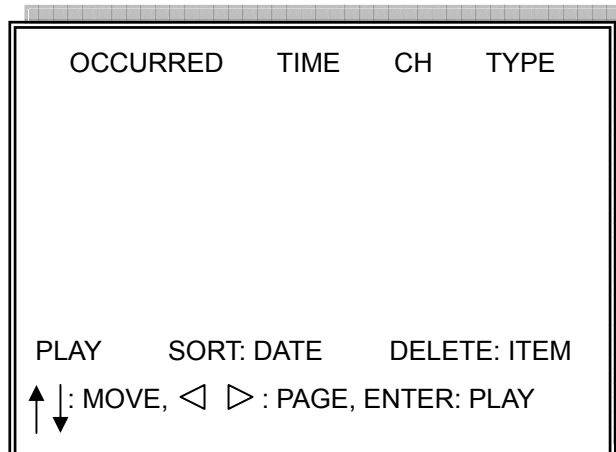

Press direction button UP/DOWN to choose items. Press direction buttons
LEFT/RIGHT to choose mode. (PLAY / SORT / DELETE)
Press ◁ ▷ values change button to change page.

PLAY: User press direction button to choose items, then press ENTER to start playback.

SORT: DATE, alarm events sort by date and time. CH, alarm events sort by channel.

   TYPE, alarm events sort by type.

   Press [SEL] (SEL) button to change sort.

DELETE: ITEM-delete items by each. PAGE-delete each page. ALL-delete all items.

3) TIME LIST (Playback image by Time-Search): Recorded images list (by hours)

```
TIME SEARCH LIST PAGE




↑↓: CURSOR,  ◁ ▷: PAGE, ENTER: PLAY
```
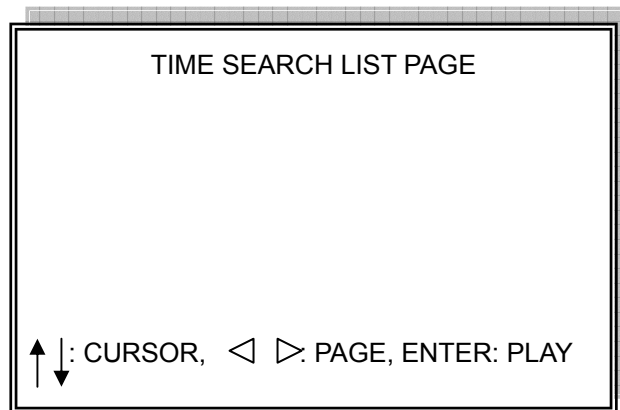
No items or page display limit. Items. DVR recording mode is continued.
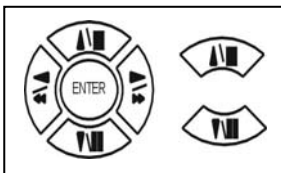
Press direction button UP/DOWN to choose items.

Press ◁ ▷ values change button to change to next page.

4) PLAY END: After image playback end, DVR is going to RECYCLE (continue playback) /
   RECORD (continue record) / STOP (stop record or playback)

5) FIRST: xxxx/xx/xx xx:xx:xx (The FIRST date and time recording display).
   If hard disk has recycled record, the first date and time display would different.

6) LAST: xxxx/xx/xx xx:xx:xx   (The final date and time recording display).

When user stop record / or go to menu, at that moment is the last record.

7) GOTO: xxxx/xx/xx xx:xx:xx (year / month / day, Hour / Minute / Second)
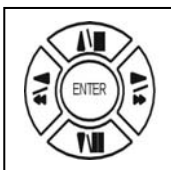
Press direction button Left/Right to change date and time values position.
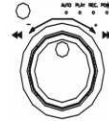
Press ◁ ▷ values change button or turn ⟳ inner-shuttle to change date
and time values.

8) PLAY GOTO TIME

After date and time input, direction move to PLAY GOTO TIME, press ENTER to start playback.

⊕ OTIMA

FUNCTION SETUP

LOGIN

1) Press [MENU] button to enter into menu. You could do the system function setup in MENU.

2) Password enter window pop-up:

LOGIN DVR SYSTEM

PASSWORD xxxxx
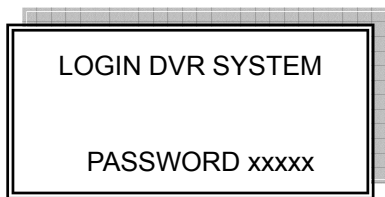
1. Password (Account-Admin) : 44444
2. Password (Account-User) : 11111

3) Press numeric button to choose password then menu pop-up.
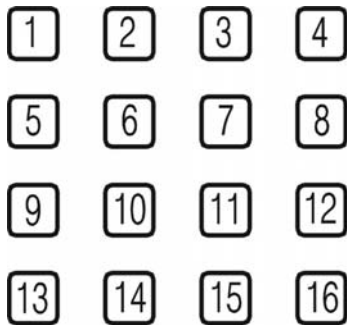
4) Remote controller function buttons are same as DVR panel function buttons.

OTIMA

Press MENU button to enter MAIN SETUP PAGE.

```
                MAIN SETUP PAGE
        1. HDD INFORMATION
        2. DATE-TIME SETUP
        3. DISPLAY    SETUP
        4. CAMERA     SETUP
        5. BUZZER      SETUP
        6. AUDIO       SETUP
        7. SYSTEM     SETUP
        8. ADVANCED SETUP


        MENU, ESC: EXIT, ENTER: RUN
```
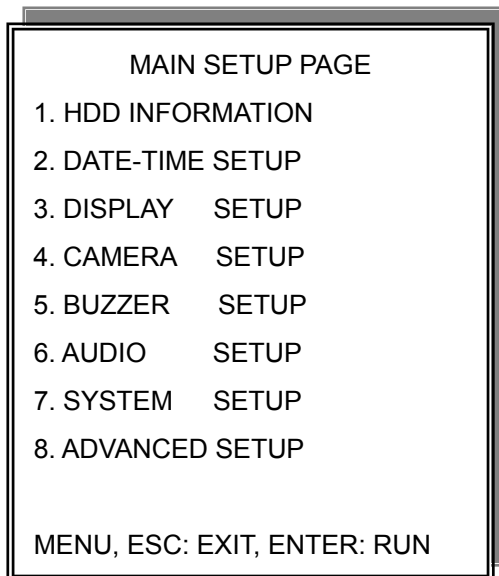
1) Use direction button up/down button to select setup item.

2) Press [ENTER] button to enter into sub-menu function setup.

3) Press sub-menu item with direction button up/down

or left/right button.
And change the value with ◁ ▷ values change button or turn inner-shuttle.
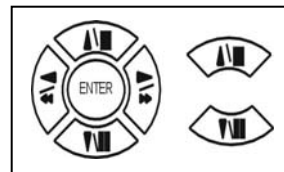
4) Press ESC to go back to main menu or exit menu.

Notice:

1. ADMIN level can setup all menu functions.

2. USER level cannot setup ADVANCED page.

OTIMA

1. HDD INFORMATION

```
MAIN SETUP PAGE

1. HDD INFORMATION

2. DATE-TIME SETUP

3. DISPLAY    SETUP

4. CAMERA    SETUP

5. BUZZER     SETUP

6. AUDIO       SETUP

7. SYSTEM    SETUP

8. ADVANCED SETUP
```

```
NO.  SIZE  USED  BRAND  POS

01    xxxxxxxxxxxxxxxxxxxxxxxxxxxx

02    xxxxxxxxxxxxxxxxxxxxxxxxxxxx

03    xxxxxxxxxxxxxxxxxxxxxxxxxxxx

04    xxxxxxxxxxxxxxxxxxxxxxxxxxxx

05    xxxxxxxxxxxxxxxxxxxxxxxxxxxx

STATUS: PARTIAL

FRAME:

START:

END:


MENU, ESC: EXIT, ◁ ▷ :PAGE
```
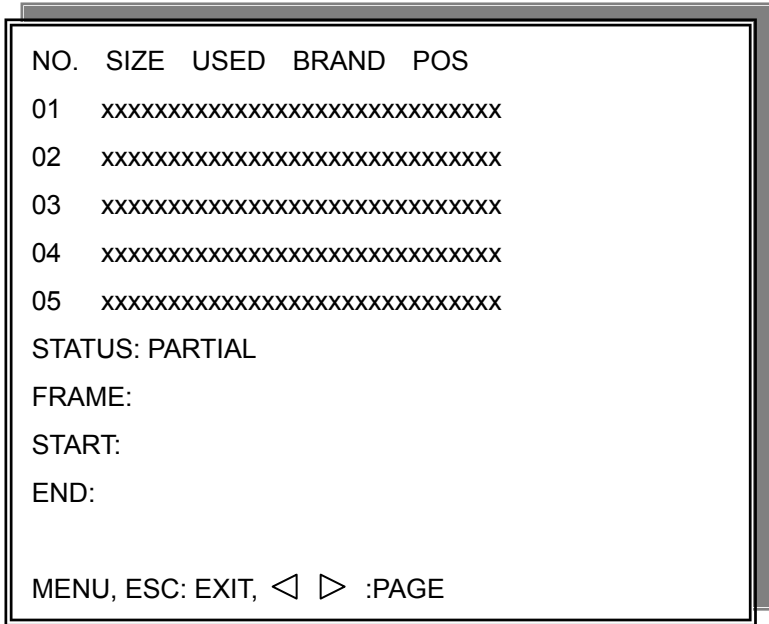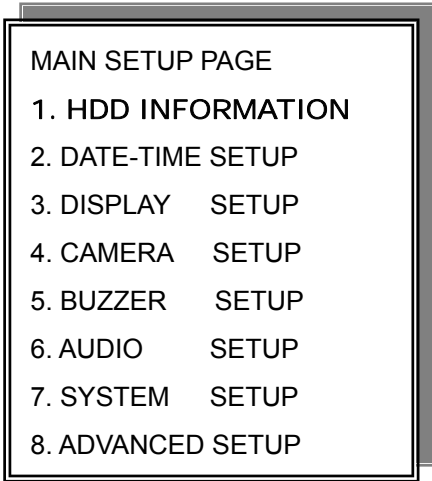
1) Use direction button up/down button to select HDD INFORMATION item position.

2) Press button to enter sub-menu of

  HDD INFORMATION item
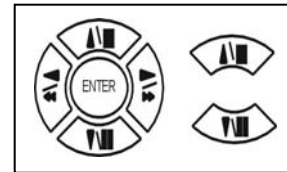
3) Press ESC to go back to main menu or exit menu.

- 5 items per each page. All is two pages. Total is 10 items. 01~10.

Information display is Number, Size, Used, Brand, POS.

>Number: First page: 01~05 items. Second page: 06~10 items.

>Size: Hard disk capacity display. xxGB. >No hard disk capacity install limit.

>Brand: DVR system auto detect hard disk brand after power on.

>Position: IN-DVR / RACK-1/RACK-2/RACK-3/RACK-4/RACK-5

-Status: PARTIAL

-Frame: Hard disk total image frame rate display.

-Start: The first recording date and time display.

-End: The last recording date and time display.

2. DATE-TIME SETUP

```
MAIN SETUP PAGE

1. HDD INFORMATION

2. DATE-TIME SETUP

3. DISPLAY    SETUP

4. CAMERA    SETUP

5. BUZZER     SETUP

6. AUDIO       SETUP

7. SYSTEM    SETUP

8. ADVANCED SETUP
```

```
DATE-TIME SETUP PAGE

1. HOUR TYPE:

2. DATE TYPE

3. DATE 2000 / 00 / 00

4. TIME

5. DATE-TIME POSITION SETUP


MENU, ESC:EXIT,  ◁ ▷ :MODIFY
```
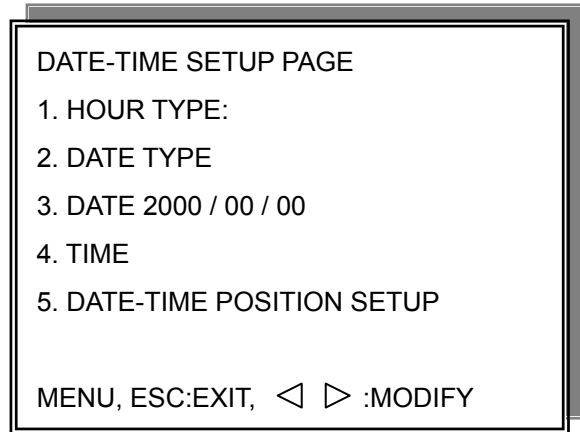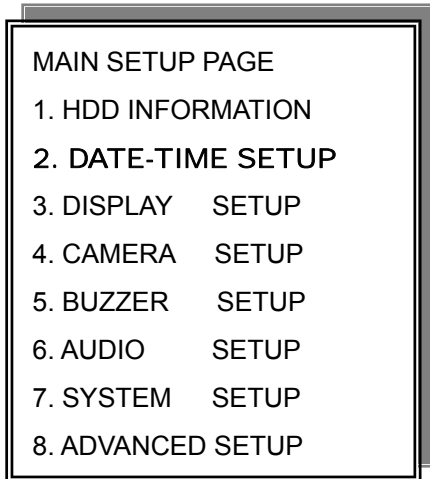
1. Hour Type: 12H:MM:SS. 12 Hour Format / 24 Hour Format.

2. Date Type: YY/MM/DD, MM/DD/YY, DD/MM/YY, YY/ENG/DD, ENG/DD/YY, DD/ENG/YY, YYYY/MM/DD,

   MM/DD/YYYY, DD/MM/YYYY, YYYY/ENG/DD, ENG/DD/YYYY, DD/ENG/YYYY.

   Y=Year. M=Month. D=Day. ENG=Month display in English.

   01=January; 02=February; 03=March; 04=April; 05=May; 06=June;

   07=July; 08= August; 09=September; 10=October; 11=November; 12=December.

3. Date: 2003/01/01

   - Please stop REC function first if you want to change the time.

4. Time: 12/30/49   > Use direction button up/down choose position, values change button to change date

   and time values.

5. Date and Time position setup:

```
**** DATE-TIME POSITION****

                UP

                ↑

LEFT    ←       →    RIGHT

                ↓

              DOWN

ENTER for Default

ESC to QUIT
```
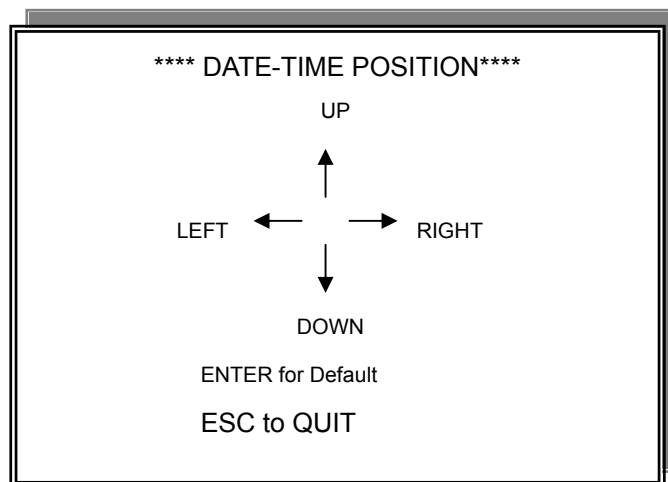
Press direction button up/down/left/right to choose items or move date-time position.

◁ ▷
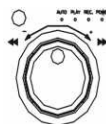
Press values change button or turn   inner-shuttle to change values.

>User can see the date-time position moving when pressing direction buttons.

>Date and time values change; the "DATE-TIME UPDATE OK!!" caption would be display.

3. DISPLAY SETUP

```
MAIN SETUP PAGE

1. HDD INFORMATION

2. DATE-TIME SETUP

3. DISPLAY   SETUP

4. CAMERA   SETUP

5. BUZZER    SETUP

6. AUDIO     SETUP

7. SYSTEM   SETUP

8. ADVANCED SETUP
```

```
DISPLAY SETUP PAGE

1. DATE-TIME           ON

2. CAMERA TITLE        ON

3. PB DATE-TIME        ON

4. PB CAMERA TITLE     ON

5. DVR STATUS          ON

6. BORDER SET          WHITE


MENU, ESC:EXIT,  ◁ ▷ :MODIFY
```
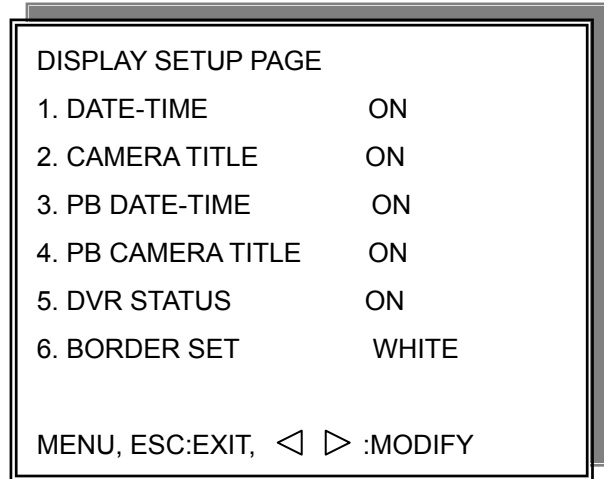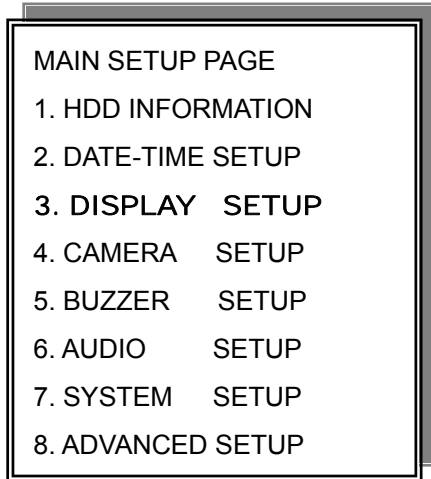
1. DATE-TIME: Date and Time caption display mode on or off setup.

   >ON / OFF

2. CAMERA TITLE: Camera Title caption display mode on or off setup.

   >ON / OFF

3. PB DATE-TIME: Play back date and time caption display mode on or off setup.

   >ON / OFF

4. PB CAMERA TITLE: Play back camera title caption display mode on or off setup.

   >ON / OFF

5. DVR STATUS: DVR system Field, record, playback, audio caption display mode on or off setup.

   >ON / OFF

6. BORDER SET: Border color WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / BLACK / GRAY.

Press direction button up/down to choose the desired item.

◁ ▷   Press values change button or turn inner-shuttle to change values.

OTIMA

4. CAMERA SETUP

```
MAIN SETUP PAGE
1. HDD INFORMATION
2. DATE-TIME SETUP
3. DISPLAY    SETUP
4. CAMERA    SETUP
5. BUZZER     SETUP
6. AUDIO      SETUP
7. SYSTEM    SETUP
8. ADVANCED SETUP
```

```
CAMERA SETUP PAGE
1. COLOR SETUP
2. TITLE SETUP
3. SCREEN POSITION SETUP
4. V-LOSS DISPLAY SETUP


MENU, ESC: EXIT, ENTER: RUN
```

(1.) COLOR SETUP

```
CAMERA SETUP
1. COLOR SETUP
2. TITLE SETUP
3. SCREEN POSITION SETUP
4. V-LOSS DISPLAY SETUP
```

```
CAMERA-COLOR SETUP PAGE
** CH CAMERA   01
1. BRIGHTNESS 00
2. CONTRAST   00
3. SATURATION 00
4. HUE          00
5. GAIN          00
>>DEFAULT RESET<<


MENU,ESC:EXIT,◁ ▷:MODIFY
```

CAMERA-COLOR SETUP : Adjust Camera Image

CH NUMBER   : Select camera

BRIGHTNESS   : Adjust screen brightness   (-31~ +32)

CONTRAST   : Adjust color contrast   (-31~ +32)

SATURATION   : Adjust color saturation   (-31~ +32)

HUE   : Adjust color hue   (-31~ +32)

GAIN   : Adjust image signal level   (-31~ +32)

>>DEFAULT RESET<< : Press ENTER button to reset DVR values.

Press direction button up/down to choose items.
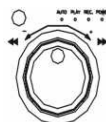
◁ ▷   Press values change button or turn   inner-shuttle to change values.

>Right adjustment of each element in COLOR setup will increase picture quarterly displayed. We recommend you to adjust each element of COLOR SETUP for cameras and monitor to be connected to the DVR unit.

(2.) TITLE SETUP: Input TITLE of each camera. 7 characters can be input.

```
CAMERA SETUP
1. COLOR SETUP
2. TITLE SETUP
3. SCREEN POSITION SETUP
4. V-LOSS DISPLAY SETUP
```

```
CAMERA-TITLE SETUP PAGE
CH01 (01   )        CH09 (09   )
CH02 (02   )        CH10 (10   )
CH03 (03   )        CH11 (11   )
CH04 (04   )        CH12 (12   )
CH05 (05   )        CH13 (13   )
CH06 (06   )        CH14 (14   )
CH07 (07   )        CH15 (15   )
CH08 (08   )        CH16 (16   )

MENU, ESC: EXIT: ◁  ▷ : MODIFY
```
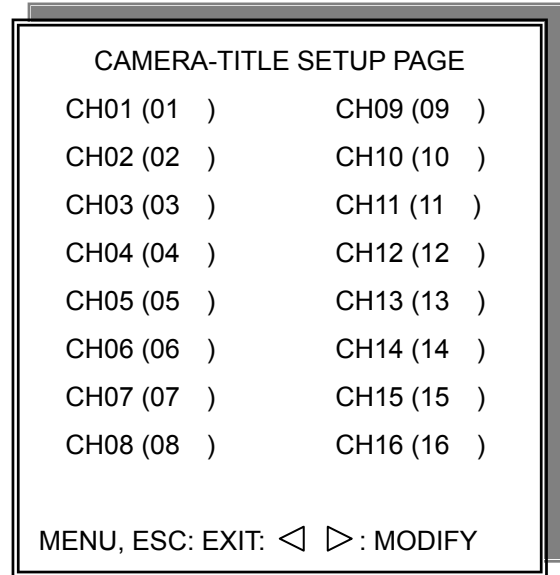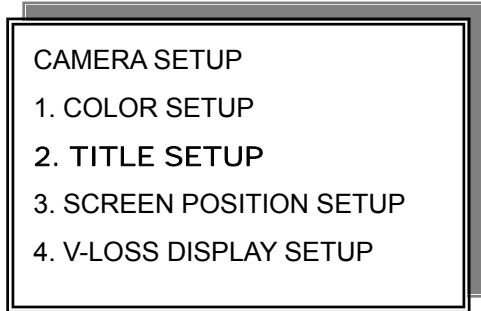
Press direction button up/down/left/right to choose items and position.
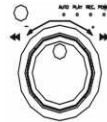
◁ ▷   Press values change button or turn ⬡ inner-shuttle to change values.

Characters choose:

Numeric: 0 / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9

Capital letter: A / B / C / D / E / F / G / H / I / J / K / L / M / N / O / P / Q / R / S / T / U / V / W / X / Y / Z

Small letter: a / b / c / d / e / f / g / h / i / j / k / l / m / n / o / p / q / r / s / t / u / v / w / x / y / z

(3.) SCREEN POSITION SETUP

CAMERA SETUP

1. COLOR SETUP

2. TITLE SETUP

3. SCREEN POSITION SETUP

4. V-LOSS DISPLAY SETUP

```
          **** SCREEN POSITION****
                   UP
                    ↑

   LEFT   ←         →   RIGHT

                    ↓
                  DOWN
          ENTER for Default
          ESC   to   QUIT
```

1.   Press direction buttons up/down/left/right to move screen position.

2. Press ENTER button for default.

3. Press ESC button to quit.

(4.) V-LOSS DISPLAY SETUP

(Video Loss Detection)

```
CAMERA SETUP

1. COLOR SETUP

2. TITLE SETUP

3. SCREEN POSITION SETUP

4. V-LOSS DISPLAY SETUP
```

```
          VLOSS SETUP PAGE

**VLOSS FUNCTION:

VLOSS 01:     VLOSS 09:

VLOSS 02:     VLOSS 10:

VLOSS 03:     VLOSS 11:

VLOSS 04:     VLOSS 12:

VLOSS 05:     VLOSS 13:

VLOSS 06:     VLOSS 14:

VLOSS 07:     VLOSS 15:

VLOSS 08:     VLOSS 16:


MENU, ESC: EXIT: ◁  ▷ : MODIFY
```
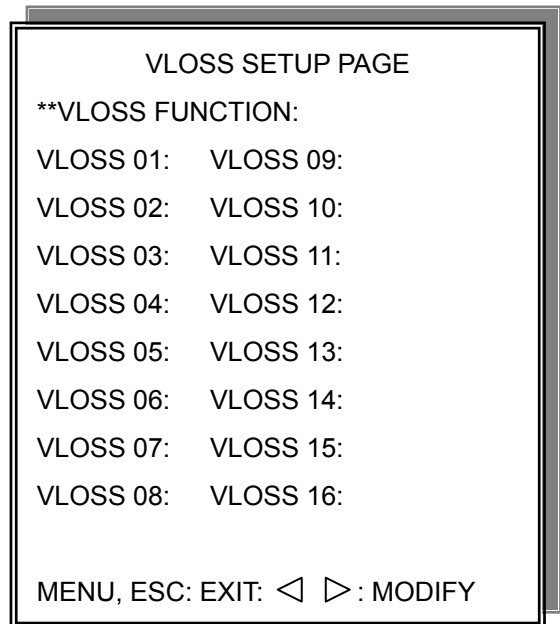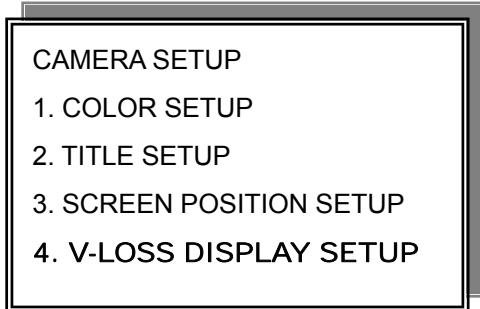
** VLOSS FUNCTION: ON / OFF

VLOSS 01: ON / OFF	VLOSS 9: ON / OFF
VLOSS 02: ON / OFF	VLOSS 10: ON / OFF
VLOSS 03: ON / OFF	VLOSS 11: ON / OFF
VLOSS 04: ON / OFF	VLOSS 12: ON / OFF
VLOSS 05: ON / OFF	VLOSS 13: ON / OFF
VLOSS 06: ON / OFF	VLOSS 14: ON / OFF
VLOSS 07: ON / OFF	VLOSS 15: ON / OFF
VLOSS 08: ON / OFF	VLOSS 16: ON / OFF

Press direction buttons up/down/left/right to choose items.
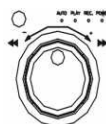
◁ ▷   Press values change button or turn   inner-shuttle to change values.

5. BUZZER SETUP

```
MAIN SETUP PAGE
1. HDD INFORMATION
2. DATE-TIME SETUP
3. DISPLAY    SETUP
4. CAMERA    SETUP
5. BUZZER    SETUP
6. AUDIO      SETUP
7. SYSTEM    SETUP
8. ADVANCED SETUP
```

```
BUZZER SETUP PAGE
**SYSTEM BUZZER     ON
BUTTON BUZZER       ON
ALARM BUZZER        ON
MOTION BUZZER       ON
VLOSS BUZZER        ON


MENU, ESC: EXIT: ◁  ▷ : MODIFY
```
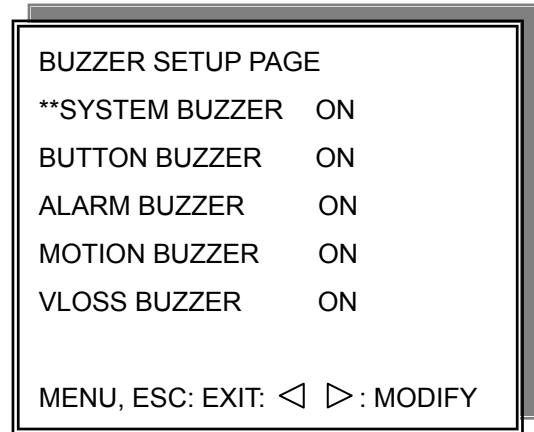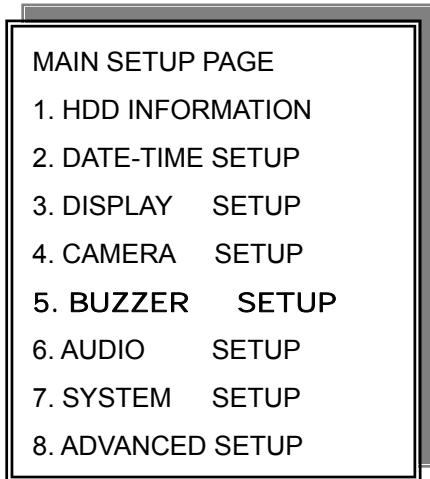
**SYSTEM BUZZER: Buzzer function

>ON / OFF

1. BUTTON BUZZER?

> ON / OFF

2. ALARM BUZZER?

> ON / OFF

3. MOTION BUZZER?

> ON / OFF

4. VLOSS BUZZER?

> ON / OFF

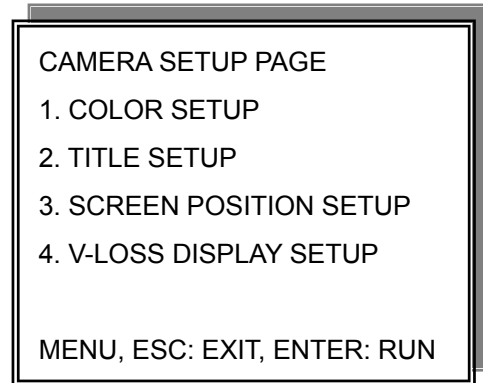Press direction buttons up/down to BUZZER SETUP items.
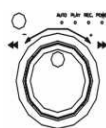
◁ ▷   Press values change button or turn   inner-shuttle to change

values.

6. AUDIO SETUP

```
MAIN SETUP PAGE
1. HDD INFORMATION
2. DATE-TIME SETUP
3. DISPLAY    SETUP
4. CAMERA    SETUP
5. BUZZER     SETUP
6. AUDIO        SETUP
7. SYSTEM     SETUP
8. ADVANCED SETUP
```

```
AUDIO SETUP PAGE
1. CH 1 INPUT GAIN
2. CH 2 INPUT GAIN
3. CH 1 RECORD
4. CH 2 RECORD
5. CH 1 TO VIDEO
6. CH 2 TO VIDEO
7. OUTPUT CH
8. OUTPUT VOLUME
9. OUTPUT BALANCE


MENU, ESC: EXIT: ◁ ▷ : MODIFY
```
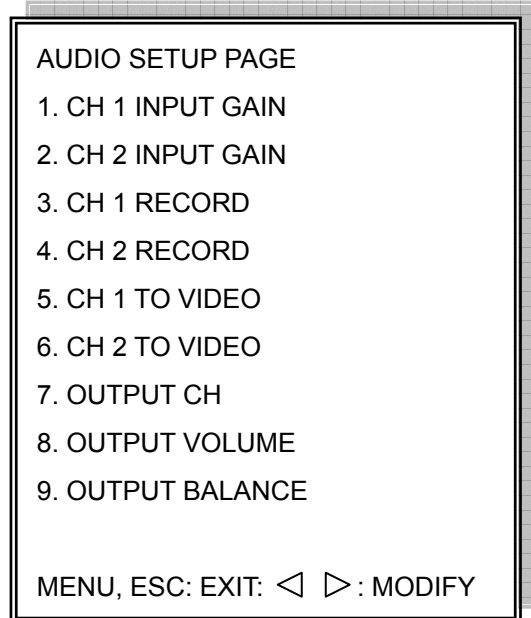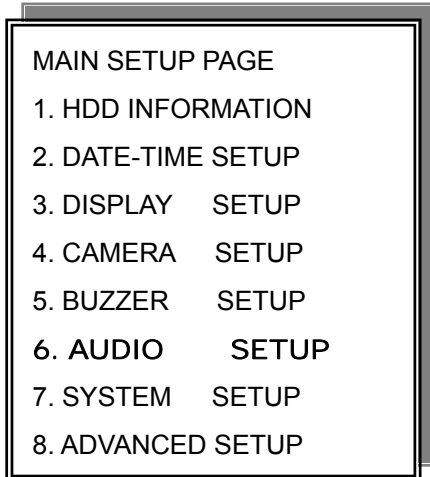
1) CH 1 INPUT GAIN

   - 00~15.

2) CH 2 INPUT GAIN

   - 00~15.

3) CH 1 RECORD. Channel 1 audio record function open or close.

   - ON / OFF

4) CH 2 RECORD. Channel 2 audio record functions open or close.

   - ON / OFF

5) CH 1 TO VIDEO. Channel 1 audio record to which video channel?

   - NONE, CH 1~16.

6) CH 2 TO VIDEO. Channel 2 audio records to which video channel?

   - NONE, CH 1~16.

7) OUTPUT CH. Currently audio output is channel?

   - 1 / 2

8) OUTPUT VOLUME. Audio volume

   - 00~31

9) OUTPUT BALANCE. Speaker balance

   - 31~+31

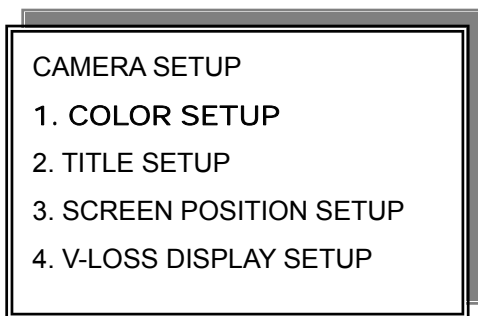Press direction buttons up / down to choose items.

◁ ▷　　　　Press values change button or turn　　　　inner-shuttle to change values.

7. SYSTEM SETUP

```
MAIN SETUP PAGE
1. HDD INFORMATION
2. DATE-TIME SETUP
3. DISPLAY    SETUP
4. CAMERA    SETUP
5. BUZZER     SETUP
6. AUDIO       SETUP
7. SYSTEM    SETUP
8. ADVANCED SETUP
```

```
SYSTEM SETUP
1. DWELL INTERVAL
2. LOCK FUNCTION
3. LANGUAGE
4. RS-485 ID
5. PROTOCOL
**VERSION v2.00 BETA**


MENU, ESC: EXIT: ◁  ▷ : MODIFY
```
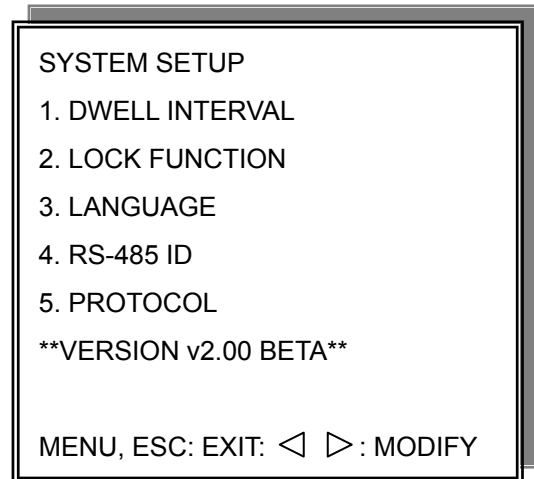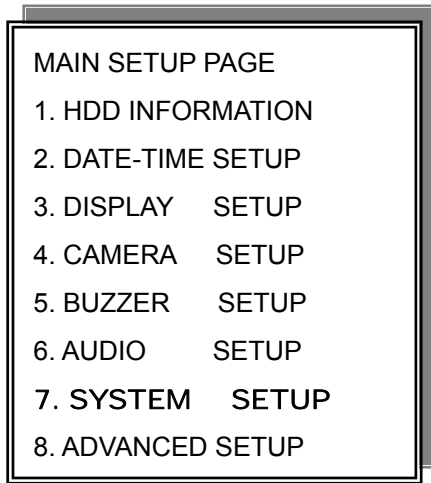
SYSTEM SETUP

1. DWELL INTERVAL:

    - 0 ~ 999SEC

2. LOCK FUNCTION:

    - ON / OFF

3. LANGUAGE:

    - ENGLISH / CHINESE

4. RS-485 ID:

    - 01 ~ 16

5. PROTOCOL:

    - HISHARP / KEYB / LILIN / PELCO-P / PELCO-D

VERSION v2.00 BETA

RS-485 ID and protocol is the command for system control keyboard. If user does not use keyboard to control then does not have to care.

Press direction buttons up/down to choose items.
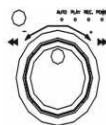
◁ ▷   Press values change button or turn   inner-shuttle to change values.

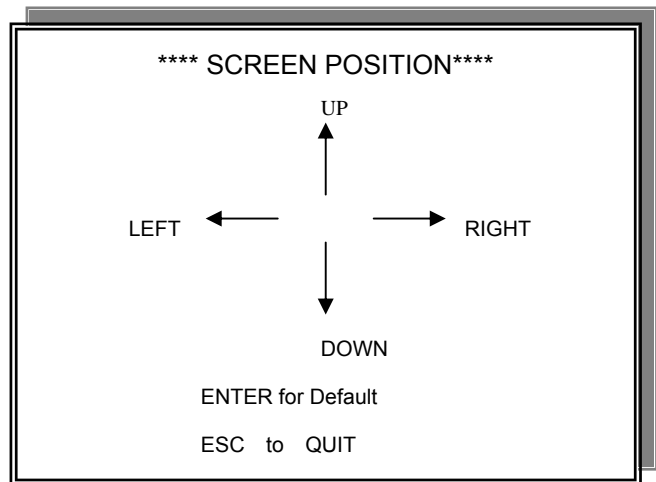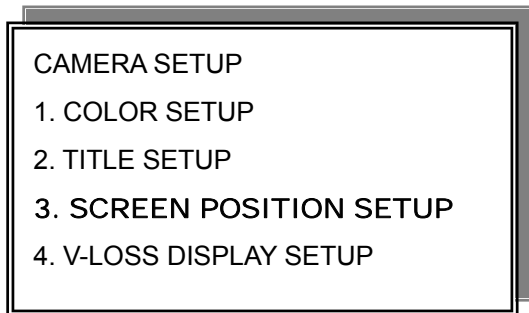**8. ADVANCED SETUP**

```
MAIN SETUP PAGE
1. HDD INFORMATION
2. DATE-TIME SETUP
3. DISPLAY     SETUP
4. CAMERA      SETUP
5. BUZZER      SETUP
6. AUDIO       SETUP
7. SYSTEM      SETUP
8. ADVANCED SETUP
```

```
ADVANCED SETUP PAGE
1. ALARM SETUP
2. MOTION SETUP
3. RECORD SETUP
4. TCP-IP SETUP
5. PASSWORD SETUP
6. HDD FORMAT
7. HDD AUTO DETECT
8. FACTORY DEFAULT
```

```
ADVANCED SETUP PAGE
1. ALARM SETUP
2. MOTION SETUP
3. RECORD SETUP
4. TCP-IP SETUP
5. PASSWORD SETUP
6. HDD FORMAT
7. HDD AUTO DETECT
8. FACTORY DEFAULT
```

```
ALARM SETUP
**ALARM FUNCTION          ON
BUZZER DURATION          999SEC
RECORD DURATION          999SEC
ALARM RELAY SETUP
ALARM POLARITY SETUP


MENU, ESC: EXIT: ◁ ▷ : MODIFY
```

1. ALARM01: N.C. / N.O. / OFF	09. ALARM09: N.C. / N.O. / OFF
2. ALARM02: N.C. / N.O. / OFF	10. ALARM10: N.C. / N.O. / OFF
3. ALARM03: N.C. / N.O. / OFF	11. ALARM11: N.C. / N.O. / OFF
4. ALARM04: N.C. / N.O. / OFF	12. ALARM12: N.C. / N.O. / OFF
5. ALARM05: N.C. / N.O. / OFF	13. ALARM13: N.C. / N.O. / OFF
6. ALARM06: N.C. / N.O. / OFF	14. ALARM14: N.C. / N.O. / OFF
7. ALARM07: N.C. / N.O. / OFF	15. ALARM15: N.C. / N.O. / OFF
8. ALARM08: N.C. / N.O. / OFF	16. ALARM16: N.C. / N.O. / OFF

1. ALARM01: OFF. / RL1 / RL2 / BOTH	09. ALARM09: OFF. / RL1 / RL2 / BOTH
2. ALARM02: OFF. / RL1 / RL2 / BOTH	10. ALARM10: OFF. / RL1 / RL2 / BOTH
3. ALARM03: OFF. / RL1 / RL2 / BOTH	11. ALARM11: OFF. / RL1 / RL2 / BOTH
4. ALARM04: OFF. / RL1 / RL2 / BOTH	12. ALARM12: OFF. / RL1 / RL2 / BOTH
5. ALARM05: OFF. / RL1 / RL2 / BOTH	13. ALARM13: OFF. / RL1 / RL2 / BOTH
6. ALARM06: OFF. / RL1 / RL2 / BOTH	14. ALARM14: OFF. / RL1 / RL2 / BOTH
7. ALARM07: OFF. / RL1 / RL2 / BOTH	15. ALARM15: OFF. / RL1 / RL2 / BOTH
8. ALARM08: OFF. / RL1 / RL2 / BOTH	16. ALARM16: OFF. / RL1 / RL2 / BOTH

BUZZER DURATION: 0 ~ 999 SEC

RECORD DURATION: 0 ~ 999 SEC

Press direction buttons up/down to choose items.

◁   ▷   Press values change button to change values.

2. MOTION SETUP

ADVANCED SETUP PAGE

1. ALARM SETUP

2. MOTION SETUP

3. RECORD SETUP

4. TCP-IP SETUP

5. PASSWORD SETUP

6. HDD FORMAT

7. HDD AUTO DETECT

8. FACTORY DEFAULT

MOTION SETUP

**MOTION FUNCTION ON

**CHANNEL NUMBER

1. DETECT NUMBER

2. SENSITIVITY

3. VELOCITY

4. MOTION ACTIVE

5. RECORD DURATION   SEC

6. RELAY DURATION   SEC

>MOTION AREA SETUP<

>MOTION RELAY SETUP<

MENU, ESC: EXIT: ◁ ▷ : MODIFY
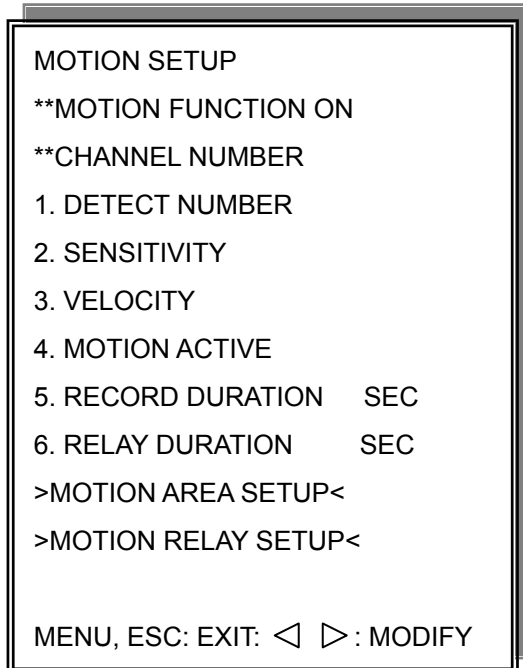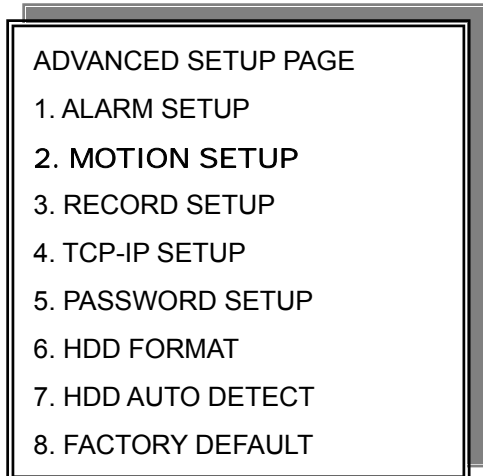
MOTION SETUP

**MOTION FUNCTION

   -ON / OFF

**CHANNEL NUMBER

   -01 ~ 16

1. DETECT NUMBER

   Detects moving objects bigger than DETECT WINDOW NUM, the start to record.

   -1 ~ 32

2. SENSITIVITY Adjusts motion Detection Sensitivity.

   -1 ~ 32

3. VELOCITY

   -1 ~ 32

4. MOTION ACTIVE

   -ON / OFF

5. RECORD DURATION

   -0 ~ 999 SEC

6. RELAY DURATION

   -0 ~ 999 SEC

>MOTION AREA SETUP<

>MOTION RELAY SETUP<

Press direction buttons up/down to choose items.
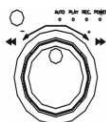
◁ ▷   Press values change button or turn   inner-shuttle to change values.

> MOTION AREA SETUP <

```
     ****CH01 AREA MASK****

   ◁  ▷  : WALK ON MODE

      1.2.3.4: SELECT CHANNEL

   ↑ ↓  ← →      :MOVE SURSOR


      ENTER: MASK OFF
      ESC KEY: QUIT
```

```
Press ▦ numeric to select channel.

Press ◁  ▷ value change button to change mode.

       Press direction button to move sursor.

Press ENTER button to on mask function or off.

Press ESC button to quit.
```
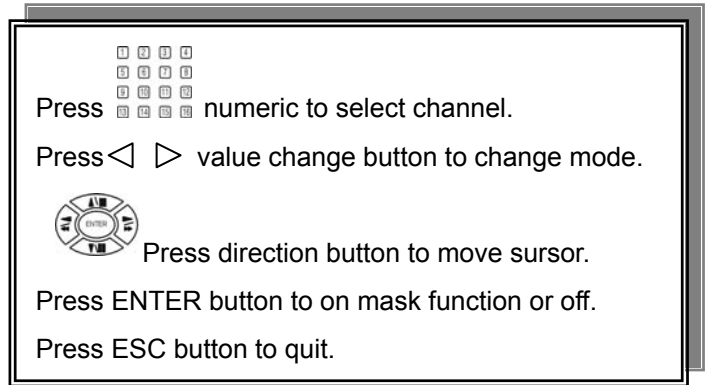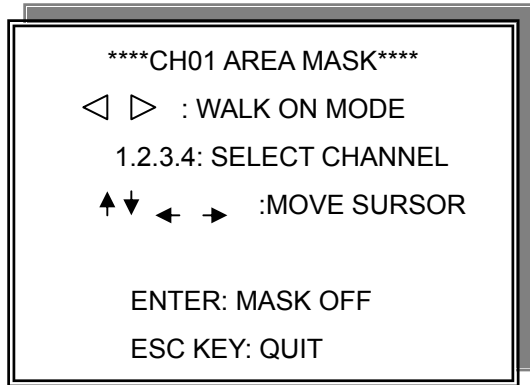
WALK ON MODE: Set up single sections one by one mode on(SELECT).

WALK OFF MODE: Set up single sections one by one mode off(CLEAR).

BLOCK ON MODE: Select by BLOCK area mode on(SELECT).

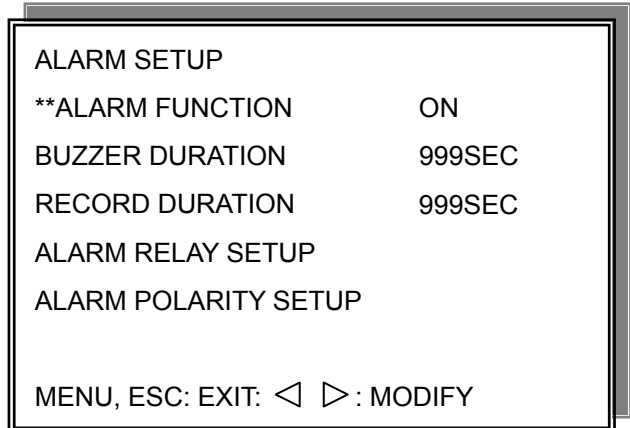BLOCK OFF MODE: Select by BLOCK area mode off(CLEAR).

ALL ON MODE: Select all area mode on(SELECT).

ALL OFF MODE: Select all area mode off(CLEAR).

WALK ON MODE ⟷ WALK OFF MODE. Press ENTER to clear or select each sections.
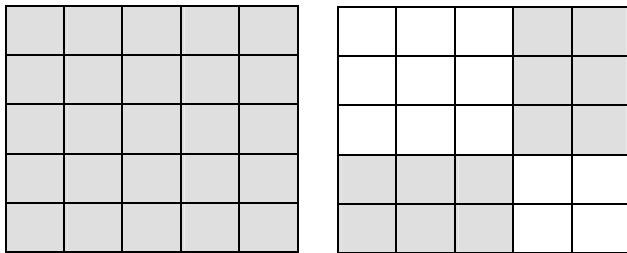
BLOCK ON MODE ⟷ BLOCK OFF MODE. Press ENTER to clear or select sections by block.
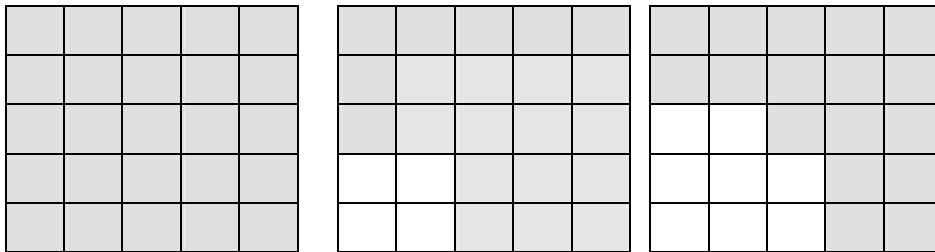
ALL ON MODE ⟷ ALL OFF MODE Press ENTER to clear or select all sections.
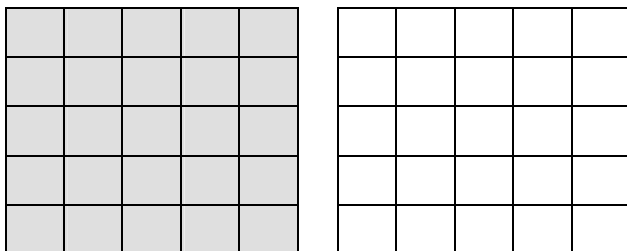
>MOTION RELAY SETUP<

```
MOTION SETUP
**MOTION FUNCTION
**CHANNEL NUMBER
1. DETECT NUMBER
2. SENSITIVITY
3. VELOCITY
4. MOTION ACTIVE
5. RECORD DURATION    SEC
6. RELAY DURATION      SEC
>MOTION AREA SETUP<
>MOTION RELAY SETUP<
```

```
         MOTION RELAY SETUP PAGE

**RELAY FUNCTION
RELAY01        RELAY09
RELAY02        RELAY10
RELAY03        RELAY11
RELAY04        RELAY12
RELAY05        RELAY13
RELAY06        RELAY14
RELAY07        RELAY15
RELAY08        RELAY16


MENU, ESC: EXIT: ◁  ▷ : MODIFY
```

*RELAY FUNCTION

1. RELAY01: OFF. / RL1 / RL2 / BOTH	09. RELAY09: OFF. / RL1 / RL2 / BOTH
2. RELAY02: OFF. / RL1 / RL2 / BOTH	10. RELAY10: OFF. / RL1 / RL2 / BOTH
3. RELAY03: OFF. / RL1 / RL2 / BOTH	11. RELAY11: OFF. / RL1 / RL2 / BOTH
4. RELAY04: OFF. / RL1 / RL2 / BOTH	12. RELAY12: OFF. / RL1 / RL2 / BOTH
5. RELAY05: OFF. / RL1 / RL2 / BOTH	13. RELAY13: OFF. / RL1 / RL2 / BOTH
6. RELAY06: OFF. / RL1 / RL2 / BOTH	14. RELAY14: OFF. / RL1 / RL2 / BOTH
7. RELAY07: OFF. / RL1 / RL2 / BOTH	15. RELAY15: OFF. / RL1 / RL2 / BOTH
8. RELAY08: OFF. / RL1 / RL2 / BOTH	16. RELAY16: OFF. / RL1 / RL2 / BOTH

RL1: Relay 1,   RL2: Relay 2
BOTH: Both Relay 1 and Relay 2

Press direction buttons up/down to choose items.

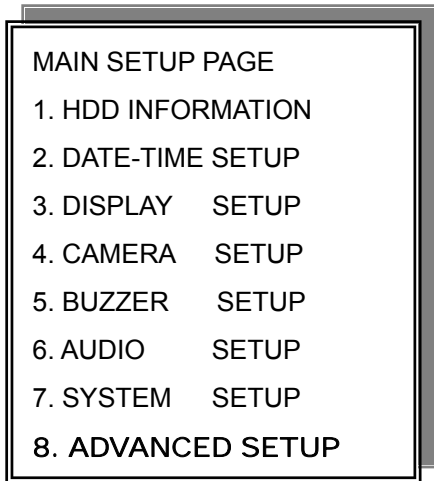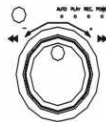◁ ▷   Press values change button or turn   inner-shuttle to change values.

3. RECORD SETUP

ADVANCED SETUP PAGE

1. ALARM SETUP

2. MOTION SETUP

3. RECORD SETUP

4. TCP-IP SETUP

5. PASSWORD SETUP

6. HDD FORMAT

7. HDD AUTO DETECT

8. FACTORY DEFAULT

RECORD SETUP

1. HDD FULL

2. RECORD SCHEDULE

3. RECORD MOTION

4. RECORD ALARM

5. RECORD POWER ON

6. RESOLUTION

>SCHEDULE SETUP<

>RECORD SPEED SETUP<

>EVENT SPEED SETUP<

MENU, ESC: EXIT: ◁ ▷ : MODIFY
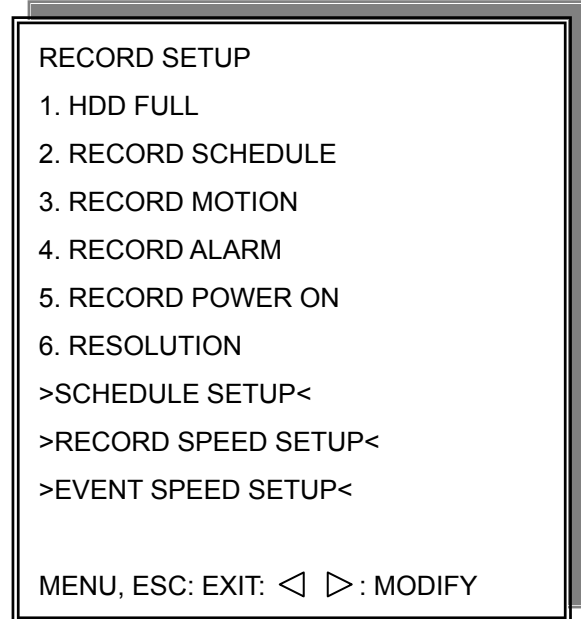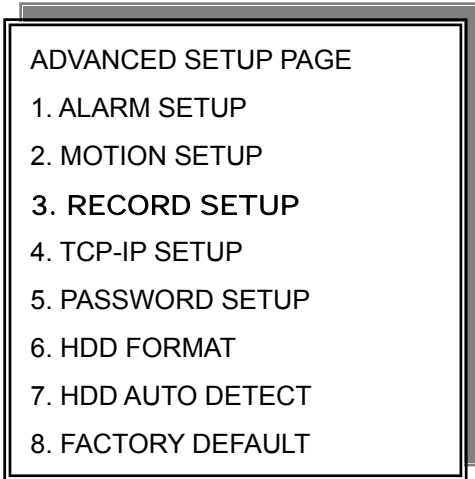
RECORD SETUP

1) HDD FULL: When hard disk is full, DVR next step is kept overwrite record or stop record?

-OVERWRITE / STOP REC

2) RECORD SCHEDULE: Time SCHEDULE record mode is on or off.

-ON / OFF

3) RECORD MOTION: Motion detection record mode is on or off.

-ON / OFF

4) RECORD ALARM: Alarm event record mode on or off

-ON / OFF

5) RECORD POWER ON: Always record after power on.

-ON / OFF

6) RESOLUTION: Record image quality setup

-SUPER / HIGH / FINE / NORMAL / LOW

Press direction buttons up/down to choose items.

◁ ▷   Press values change button or turn   inner-shuttle to change values.

OTIMA
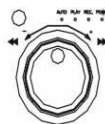
>SCHEDULE SETUP<

RECORD SETUP
1. HDD FULL
2. RECORD SCHEDULE
3. RECORD MOTION
4. RECORD ALARM
5. RECORD POWER ON
6. RESOLUTION
>SCHEDULE SETUP<
>RECORD SPEED SETUP<

Press direction buttons up/down to SCHEDULE items.

◁ ▷   Press values change button to change values.

Factory default is everyday all schedules time on recording.

SCHEDULE SETUP

CURSOR STEP   30MIN / 6MIN ▷▷

SUN
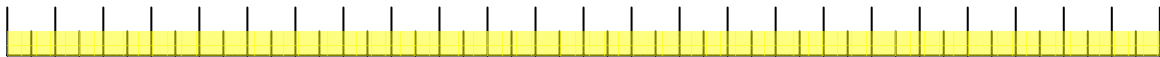
MON

TUE

WED

THU

FRI

SAT
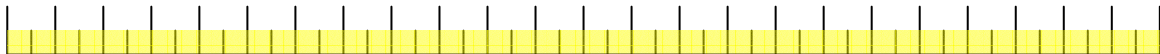
Press direction buttons up/down/left/right to see date and time difference.

◁ ▷   Press values change left/right button to change 30MIN or 6 MIN

SEL   Press SEL button to select schedule time area or clear schedule time area.
If now is   ▷▷, user need to press SEL button to change direction to   ◁◁
If now is   ◁◁, user need to press SEL button to change direction to   ▷▷
Then press values change left/right button to select schedule time area or clear.

CURSOR STEP

SUN

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

MON

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

TUE

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

WED

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

THU

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

FRI

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

SAT

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

00:30 01:30 02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30 15:30 16:30 17:30 18:30 19:30 20:30 21:30 22:30 23:30

For example: TUE ~ SAT, all day schedule time recording, but SUN 07:00 ~ 22:00 and MON 01:30 ~ 11:30 do schedule recording. User can press ENTER to see the schedule time area difference.

>RECORD SPEED SETUP<

```
RECORD SETUP
1. HDD FULL
2. RECORD SCHEDULE
3. RECORD MOTION
4. RECORD ALARM
5. RECORD POWER ON
6. RESOLUTION
>SCHEDULE SETUP<
>RECORD SPEED SETUP<
```

```
RECORD SPEED SETUP PAGE
TOTAL SPEED: FULL / HALF / 10 fps / 5 fps / 2 fps
          REC     EVT          REC     EVT
CH 01:              CH 09:
CH 02:              CH 10:
CH 03:              CH 11:
CH 04:              CH 12:
CH 05:              CH 13:
CH 06:              CH 14:
CH 07:              CH 15:
CH 08:              CH 16:
```
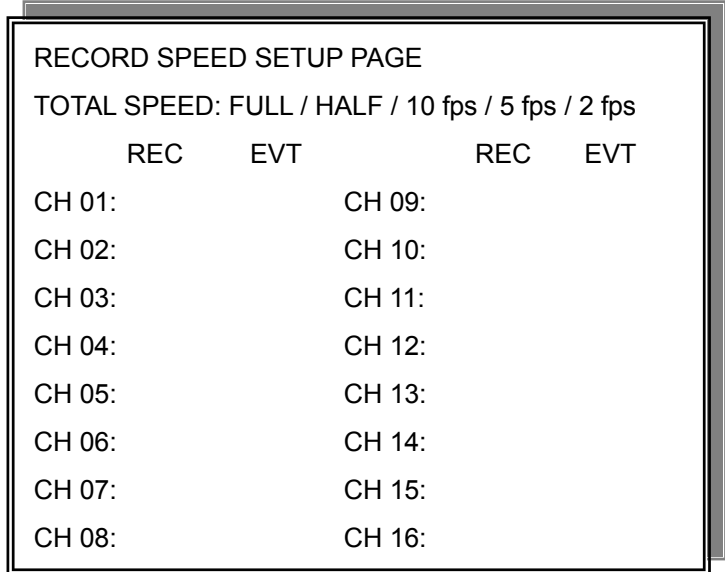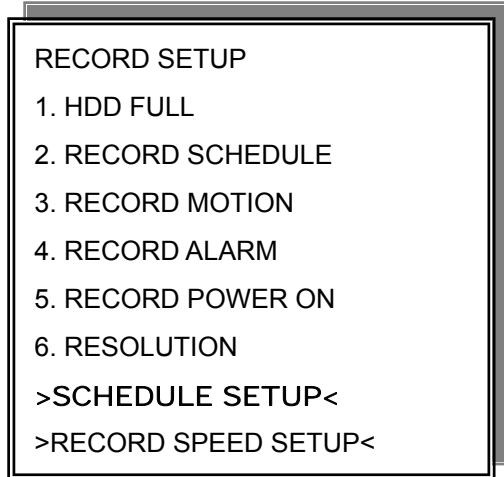
RECORD SPEED SETUP PAGE

TOTAL SPEED: FULL / HALF / 10 fps / 5 fps / 2 fps

	REC	EVT		REC	EVT
CH 01:	A / X / P	A / X / P	CH 09:	A / X / P	A / X / P
CH 02:	A / X / P	A / X / P	CH 10:	A / X / P	A / X / P
CH 03:	A / X / P	A / X / P	CH 11:	A / X / P	A / X / P
CH 04:	A / X / P	A / X / P	CH 12:	A / X / P	A / X / P
CH 05:	A / X / P	A / X / P	CH 13:	A / X / P	A / X / P
CH 06:	A / X / P	A / X / P	CH 14:	A / X / P	A / X / P
CH 07:	A / X / P	A / X / P	CH 15:	A / X / P	A / X / P
CH 08:	A / X / P	A / X / P	CH 16:	A / X / P	A / X / P

A: always record.

X: No record.

P: Priority record.

Press direction buttons up/down/left/right to choose items.
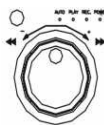
◁ ▷   Press values change button or turn   inner-shuttle to change values.

4. TCP-IP SETUP

```
ADVANCED SETUP PAGE
1. ALARM SETUP
2. MOTION SETUP
3. RECORD SETUP
4. TCP-IP SETUP
5. PASSWORD SETUP
6. HDD FORMAT
7. HDD AUTO DETECT
8. FACTORY DEFAULT
```

```
TCP-IP SETUP PAGE
1. IP ADDRESS
   000.000.000.000
2. GATEWAY
   000.000.000.000
3. SUBNET MASK
   000.000.000.000
4. MAC ADDRESS
   000.000.000.000
```
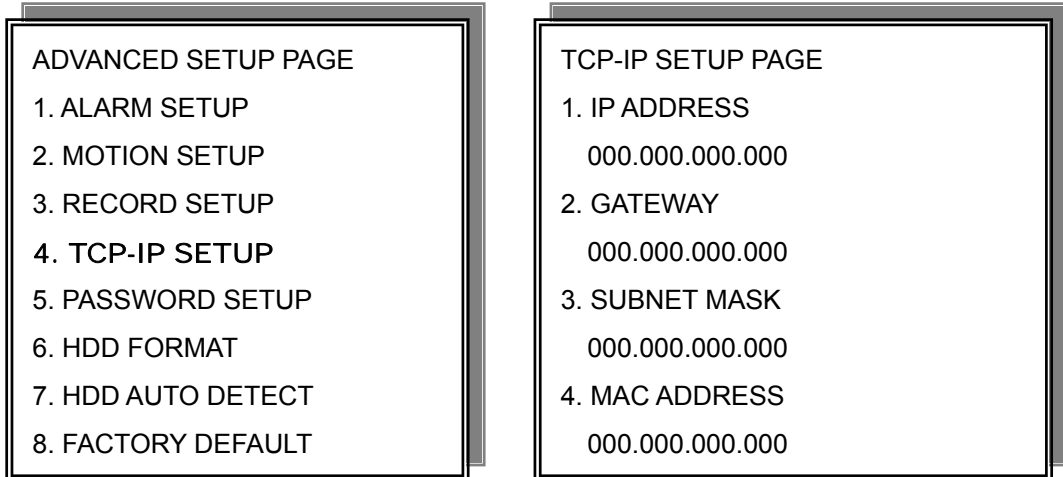
> TCP-IP SETUP

-IP ADDRESS

192.168.192.250 0080 (Factory Default)

-GATEWAY

192.168.192.001 (Factory Default)

-SUBNET MASK

255.255.255.000 (Factory Default)

-MAC ADDRESS

XXXXXXXXXXXXX. Machine number, user cannot change.

Press direction buttons up/down/left/right to TCP-IP items position.

◁ ▷   Press values change button to change values.

>Network Requirement:

LAN (Local Area Network)

1)   DVR side input local IP address such as 192.168.0.5, or use the factory default IP.

2)   After DVR network setting, install the remote viewer to computer. Computer network IP also need to setup on local IP address such as 192.168.0.6. DVR and computer IP address cannot equal.
-Always 0080 port.

WAN (World Area Network)

1) User apply fixed IP from network, then input IP Gateway, and Subnet mask address to DVR TCP-UP setup.

2) Advice user apply network speed Upload 512K / Download 512K, to avoid image data too big influence the remote quality. The network traffic jam always make data transfer slow, it is normal.

3)   After DVR TCP-IP setup, install the remote viewer to computer. See the remote viewer page.
-Port is depend on network company area, but normally is 0080 port.

5. PASSWORD SETUP

```
ADVANCED SETUP PAGE
1. ALARM SETUP
2. MOTION SETUP
3. RECORD SETUP
4. TCP-IP SETUP
5. PASSWORD SETUP
6. HDD FORMAT
7. HDD AUTO DETECT
8. FACTORY DEFAULT
```

```
PASSWORD SETUP PAGE
1.   LEVEL:(       )
2.   ADMIN:(       )
3.   USER :(       )
```
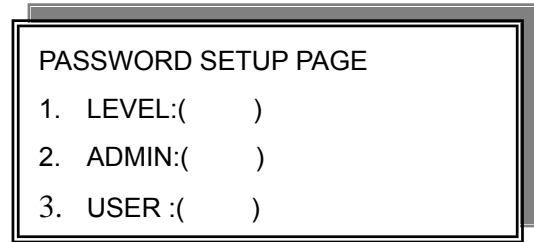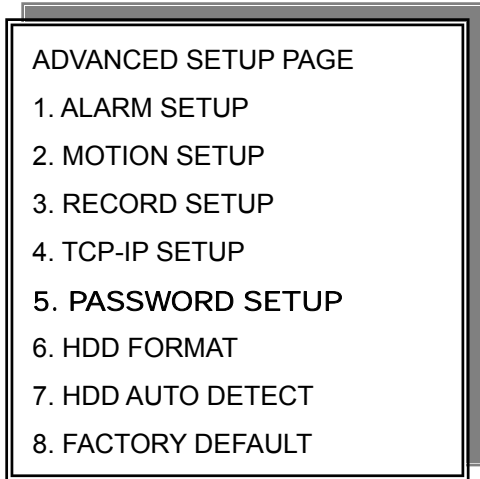
1)   LEVEL (Log In level ID type setup)

   >NONE / ADMIN / USER

-ADMIN is the highest-level ID

-USER is the highest-level ID

-NONE, user does not need to insert password before enter in MENU.

Press direction buttons up/down/left/right to Choose items position.

◁ ▷   Press values change button to change values.

2)   ADMIN password

   >44444 (Factory Default)

3)   USER password

   >11111 (Factory Default)

Notice:

Password always 5 character input cannot < 5 characters

Press direction buttons up/down/left/right to choose items position.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
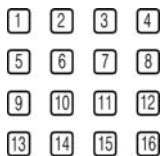
User press 1 ~ 9 numeric to choose password.

10 ~ 16 no work.

6. HDD FORMAT

```
ADVANCED SETUP PAGE
1. ALARM SETUP
2. MOTION SETUP
3. RECORD SETUP
4. TCP-IP SETUP
5. PASSWORD SETUP
6. HDD FORMAT
7. HDD AUTO DETECT
8. FACTORY DEFAULT
```
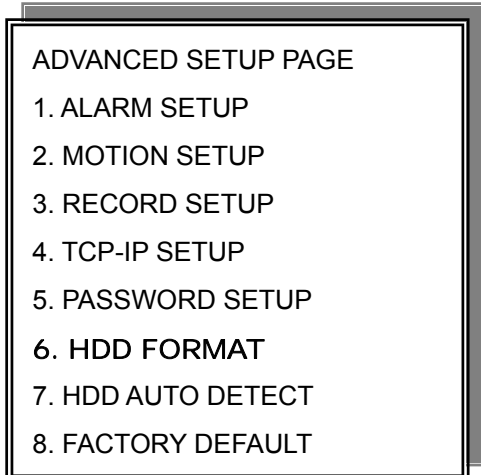
Press direction buttons up/down to HDD FORMAT items position.
Press ENTER to in.

→ HDD FORMAT CAUTION!! :

```
** HDD FORMAT CAUTION!!**
ALL DATA IN HDD WILL BE
DESTROYED!!

PRESS [ENTER] TO FORMAT.
PRESS [ESC] TO CANCEL.
```
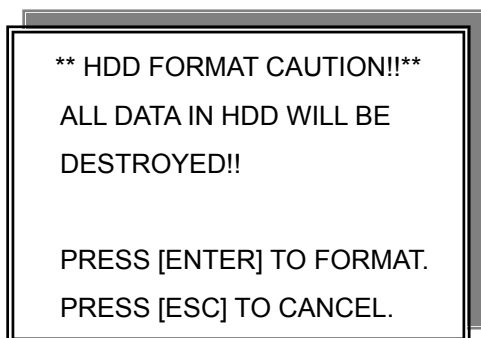
Press ENTER button to format hard disk.

ESC   Press ESC button to cancel hard disk format

7. HDD AUTO DETECT

```
ADVANCED SETUP PAGE
1. ALARM SETUP
2. MOTION SETUP
3. RECORD SETUP
4. TCP-IP SETUP
5. PASSWORD SETUP
6. HDD FORMAT
7. HDD AUTO DETECT
8. FACTORY DEFAULT
```
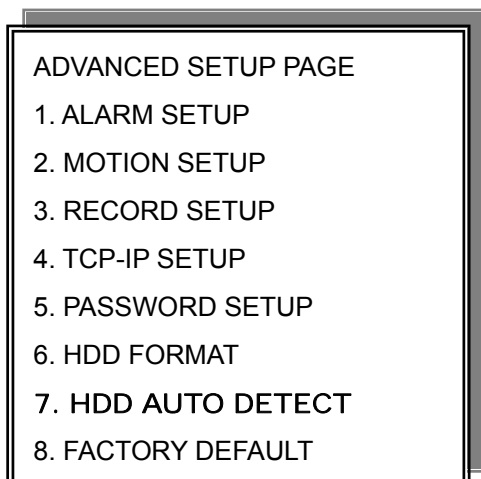
Press direction buttons up/down to HDD AUTO DETECT items position.
Press ENTER to in.

8. FACTORY DEFAULT

ADVANCED SETUP PAGE

1. ALARM SETUP

2. MOTION SETUP

3. RECORD SETUP

4. TCP-IP SETUP

5. PASSWORD SETUP

6. HDD FORMAT

7. HDD AUTO DETECT
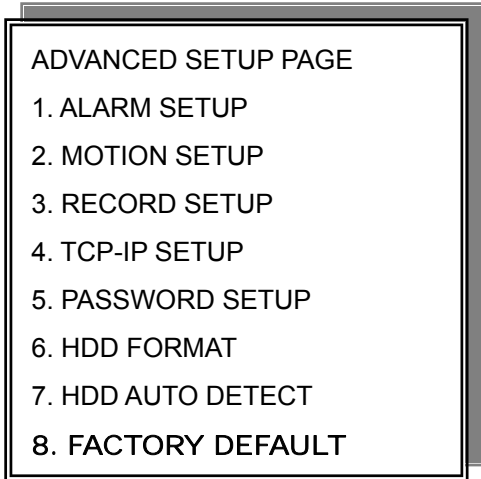
8. FACTORY DEFAULT

Press direction buttons up/down to
FACTORY DEFAULT items position.
Press ENTER to in.

** CAUTION!!**

ALL SETUP VALUE WILL BE CLEAR,

AND RESTORE FACTORY DEFAULT!!

PRESS [ENTER] TO RESTORE.
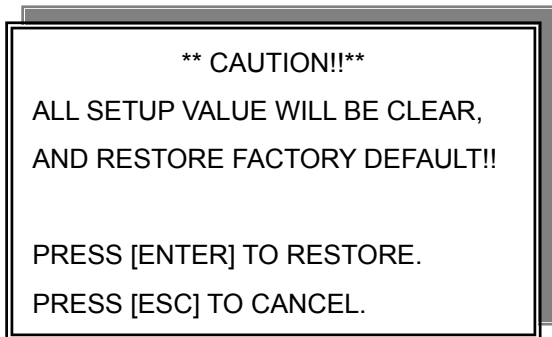
PRESS [ESC] TO CANCEL.

Press ENTER button to restore.

Press ESC button to cancel.

HDD BAY

1. HDD EXTENSION

Default HDD included in DVR unit.

    1) 1,2,3,or4 HDD as per customer requirement.

    2) EIDE, 3.5 inch, 7200 rpm.

    3) HDD capacity up to 120GB/unit.

      Compatibility with up to 120GB confirmed.

2. HDD BAY

HDD Bay (Tera-Tray)

In case 2 HDDs installed in a DVR unit is not sufficient and needs to increase storage capacity, connect HDD Bay to DVR unit.

1) Configuration of Bay connection to DVR unit.

Example:

Total HDDs : 6 HDDs

DVR unit(x2 hard disk inside) and HDD Bay(x4 hard disk inside), total is 6 HDDs.

2) Very economical way to expand storage capacity

    If each of 10 HDD is 120GB in capacity, total HDD capacity connected to a unit of DVR is 1200GB.

    We can add huge capacity of HDD storage to a unit of DVR just at the price level of normal EIDE HDD.

HDD BAY   Position order: Collocation:

1	3
2	4

1, 2 a-team. Master & SLAVE

3, 4 a-team. Master & SLAVE

DVR and HDD BAY IDE interface connecting:

Notice: Before device connecting, user needs to turn of the power of them. After IDE connect, turn on HDD BAY power first, after 5 sec, turn on DVR power and done.

OTIMA

Hard Disk Master / Slave jumper pin define:

HDD Bay , The hard disk jumper pin must be in Master if only one hard disk inside of

HDD BAY. Master or Slave jumper pin define must check the each company description. Otherwise it makes

DVR hard disk work wrong. 2 HDD Disk installation, one must be Master, another one must be Slave. User

needs to make sure the HDD disk installation all correct, if not, DVR system would not detect right position

and capacity of DVR. Or might make DVR record and playback function not stable.

1.   One Hard disk installation: 2. Two Hard disk installation:

Master	

Master	
Slave	

3. Three Hard disk installation: 4. Four Hard disk installation:

Master	Master
Slave	Slave

Master	Master
Slave	Slave

NOTICE:

1.   GO to HDD INFORMATION page to make sure the DVR system detect HDD amount and capacity is right
     or not.

OTIMA

Specification and configuration

Model 16CH Digital Video Recorder

SYSTEM   NTSC/PAL

Video I/F

Input 16 CH Input 1.0Vp-p, 75ohm unbalanced (BNC Type)

Output 1 Output CVBS: 1.0Vp-p, 75 ohm unbalanced (BNC Type)

Horizontal Resolution 480TV Lines

S/N Ratio More then 40dB

Color 16.7 Million

Monitoring Method

Split Screen 1,4,9,16

Zoom Live & PB Available, x 2 zoom

Sequence Available

Screen Quality Full: 720(H)x 480(V) Active Pixels(NTSC); 720(H) x 576(V) Active Pixel (PAL)

1/4 Screen: 360(H) x 240(V) Active Pixels(NTSC); 360(H) x 288(V) Active Pixels(PAL)

Display Rate 480 frames per second (Real Time Display)

Recording/Play Function

Recording (Max) NTSC 0.1~60 Fields/Sec. (720 x480)

Storage Media IDE Hard Disk

Compressed Picture

M-JPEG

Picture Recording Method

Quad Screen Recording. Field Switcher Method Full Screen Recording

REC. Mode Real-Time / Time-Lapse / Event

Track Play Still, Back ward, Forward, Time, Search

Other Function

Simplex/ Duplex Simplex

Motion Detect Area division: 16 x12, on/off sector selectable, sensitivity adjustment in 10 steps

WEB Interface TCP/IP with client software

Alarm Max 16 Alarm Input / 2 output

Back-Up External Interface Back-up Internal Back-Up (Mark Image)

RS485 For Remote Controller x 2 (Dry Contact)

Storage Internal 1 Or 2 HDD (3.5 IDE Interface). Optional HDD Bay Support. 4HDD/1 Unit, Max. 3 Units

Power Supply DC Adapter (12V DC 5A)

Audio Input 2 x Inputs

Audio Output 1 x Output

VGA Output 1 (Optional)

Mechanical

Operation Temperature 41F~104F (5C~+40C)

Operation Humidity Less then 90%

IR Remote Controller Build-In

Shuttle Control Input X 1

Weight Approx. 5KG (HDD 1EA)

HDD Bayer (optional) External HDD BAY

Hard Disk Units 3.5" x 4 units, IDE interface

Mobile Rack Removable Rack x 4 units

DIP Switch 1, 2, 3

Interface External Interface x 2 (Input x, Output x 1)

Power Consumption 40W

Power Supply 110/220 Auto switch
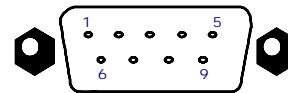
Power Core 220mm

2. DVR system

Notice: RS-232C is for company R&D debug testing, no useful for user.

PIN No.	Definition
1	DCD
2	RXD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	NC

RS-232C

OTIMA

Remote Viewer

General description: TCP/IP option of DVR and enables users to view live pictures, search recorded pictures, far apart from the DVR unit, and users can store selected recorded pictures on HDD of client PC. DVR does not adopted web browser method for access to DVR unit via Internet line, and you must install Remote Viewer software included in the package on client PC before you try to access to DVR unit over IP network.

Notice: Advice monitor resolution to 800x600 or 1024x768

1. Live view via IP network

Click Remove Viewer icon to view live picture via IP network. You will see then following window.
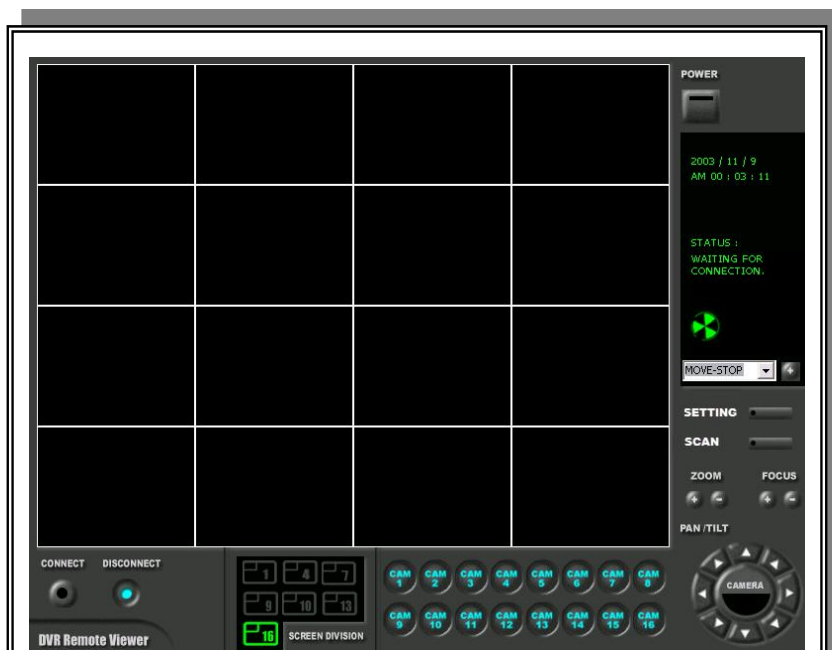
Function of each button in live-view window :

1. Power switch. Press power switch to quit. Before press power switch button, press disconnect button first.

2. Connect button. Press connect to connect to DVR unit via IP network to see live pictures of DVR unit. You will see the same live pictures, which are displayed on monitor of DVR unit with a certain time delay depending on transfer rate of IP network.

3. Disconnect button. Press disconnect button to cut connection to DVR unit via IP network.

4. Screen division button. You can select to see pictures of any single channel or 4 channels at the same time. You can select channel number from 1 to 4 to see pictures of selected channel. If you selected 4, you swill see channel number from 1 to 4 are all activated. channel.

5. Channel number button. You can select channel number to see live pictures from selected channel.

6 Status window. It shows Date and Time. Further it displays "connection established" and a circular fan
on the left bottom is rotating when connection button is activated, or "Waiting for connection" when
disconnection button is activated.

7 Set button. 3 different set buttons

a) Setting : It is in the middle of 3 buttons. Press this button to input IP Address and others and to set
circular monitoring interval and scan rate, as following dialog box.
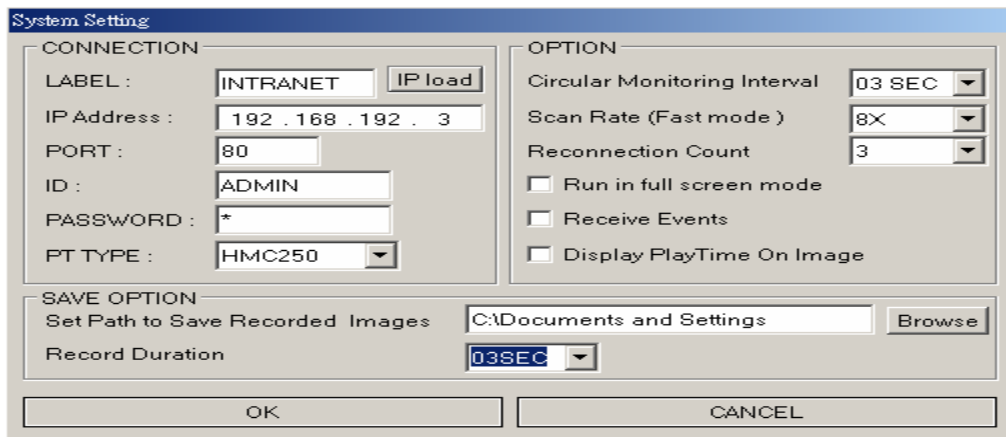
- Input IP Address you already input into DVR unit(TCP/IP SETUP) in **IP ADDRESS.**
- Input Port number you already input into DVR unit in **PORT.** Just input 80, which is
  default port number.
- Input "ADMIN" in **ID.**
- Input the same password you set into DVR unit in **PASSWORD.**
  Default password of DVR unit is "1".
  ID and PASSWORD are not supported at this time, users do not have to care about it.
- PT TYPE: This function is not available.
- Select **circular monitoring interval** ranging from 0.1 sec to 10 sec. The smaller it is, the faster picture
  of each channel rotates. The absolute circulation interval is a little different from set value depending
  on data transfer rate of IP network.
- Select **scan rate** ranging from 1x to 64x. The larger it is, the faster search speed is.
  The absolute search speed is a little different from set value depending on data transfer rate of IP
  network.

b) Scan. : Press scan button to enter into search window. Using various operation buttons, you can
search recorded pictures, save selected pictures on client PC, or print pictures. Refer to
following paragraph "3. Search recorded pictures over IP network" for details.

c) Rotate : Press rotate button to see live pictures from channel 1 to 4 in rotation. Screen division must
be set at 1 to see live pictures one after another in rotation. Speed of rotation shall be as per
settings of circular monitoring interval.

◆ Run in full screen mode: Full screen monitor display.

◆ Receive events: When alarm and motion and video loss, the DVR status will display.

8 PTZ control. This function is not available.

SAVE OPTION:

Choose the hard disk path where you are going to save.

2. Search recorded pictures via IP network

Function of each button in search window:

1 : Power switch. Press power switch to quit.

2 : Full screen button. Press full screen button to search recorded picture channel by channel in full screen.

3 : Quad button. Press Quad button to search recorded pictures in quad screen. 4 pictures from 4 channels at the same time.

4 : Time of recording. It indicates when the pictures you see recorded.

5 : Channel selection button. Press any one from 1 to 4 to see picture of corresponding channel, if you first chose full screen button (2).

6 : Time selection button. You can set time to search by dragging yellow mover to the left or right. See time displayed in green color and find and exact time from which you search.

7 : Start and end of recording. It shows time from which recording started and recording ended. Further it show time from which search will start.

8 : Search operation button. You can search recorded data using various buttons useful for searching effectively as follows.

: Play fast backward	: Move to start of recording
(Speed set in SYSTEM SETTING(3-7))	
: Play backward(x1)	: Move to previous hour(on the hour)
	(Press stop button first before this button)
: Stop	
: Play forward(x1)	: Move to next hour(on the hour)
	(Press stop button first before this button)
: Play fast forward	: Move to end of recording
(Speed set in SYSTEM SETTING(3-7))	
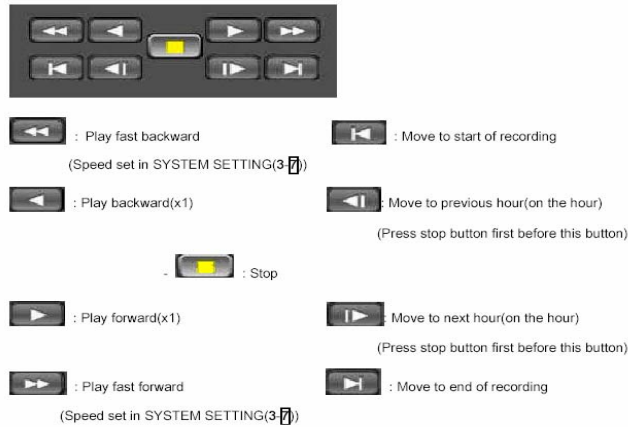
Speed of playback in DVR unit according to scan rate set in 3-7-a).

Scan rate set in 3-7-a)	◀ or ▶	◀◀ or ▶▶
1x	1x	1x
2x	1x	2x
4x	1x	4x
8x	1x	8x
16x	1x	16x
32x	1x	30x
64x	1x	60x

9 : Command button. We have 3 different buttons, that are, save, print, and event.

a) Save

During searching recorded pictures, you can save pictures one by one in the folder in client PC by pressing save button. Before press save button, press yellow stop button first. The system will ask you to assign file name and folder to save.

b) Print

During searching recorded pictures, you can print picture, one by one, you see. Press yellow stop button before you press print button.

c) Event

Press event button to see alarm list saved in DVR unit, and you can search recorded pictures based on event list by clicking any one of list.

10 : Calendar. You can select date and time to search pictures recorded at selected time and date. You can refer to start and end of recording in 7.

Notice : We recommend you to click operation buttons one after the other with enough time interval to give long enough time for DVR unit to execute commands from client PC. Too short time interval between two clicks may cause system hang-up in client PC.

Notice : From time to time, connection shall be cut unexpectedly due to conditions of network line. Whenever it is cut, quit search window by pressing power switch(1), and then press connect button in live-view window and scan button to enter into search window again, to continue searching.

Notice : Compatibility of Remote Viewer Software with different kinds of operating systems and PC hardware may not be simply specified due to the characteristics of network that it is much related with not only PC hardware and operating system but also other software installed on the client PC and conditions of network(internet) line. Basically, DVR' Remote Viewer Software is compatible with typical Windows operating system from Windows 98 to Windows XP.

Notice : To see continuous live view, we recommend not to select motion recording in RECORD SETUP menu of DVR. If it is set at motion recording in SETUP menu of DVR, image transmission is done only there is motions detected.

Notice : While you search recorded data using client software in client PC, DVR unit to which you access via IP network is in playback mode, and no recording is done as far as you search recorded data. However, while you are in connection with DVR unit via IP network for live view, DVR unit continues to record but at a little low recording rate.

Notice : At this DVR unit networking display, only one user can view the image through Internet.

OTIMA

10. Configuration Chart

1.Hardware Status

Site Name			Technician	
DVR Serial#			Installation Date	
Hard Disk Serial#				
Password				

Item	Verify	Date	Comments/Status
1.Power Core			
2.Remote Controller			
3.Hard Disk			
Removable hard drive			
4.LED Indicators			
Power			
HDD			
5.RS232			
6.Alarm			
7.Video Input/ Output			
Cam1/Looping			
Cam2/Looping			
Cam3/Looping			
Cam4/Looping			
Cam5/Looping			
Cam6/Looping			
Cam7/Looping			
Cam8/Looping			
Cam9/Looping			
Cam10/Looping			
Cam11/Looping			
Cam12/Looping			
Cam13/Looping			
Cam14/Looping			
Cam15/Looping			
Cam16/Looping			
8.LAN			
9.MONITOR OUT			
10.POWER BUTTON			

⊕ OTIMA

11.External Interface			

2.System Configuration

Site Name		Hard Disk Model	
Model Name		Hard Disk Number	
DVR Serial#		Hard Disk Serial#	
Password		Technician	

Configuration Check List

ITEM	Setting 1	Setting 2	Setting 3	Setting 4
Date				
1.Display Setup				
Time/Date				
Camera Title				
PB Time/Date				
PB Camera Tile				
DVR Status				
Border Set				
2.Camera Setup				
Color Setup				
Title Setup				
Active CH Setup				
Screen Position				
3.Time/Date Setup				
Set Time/Date				
Set Time/Date Type				
4.Alarm/Motion Setup				
Alarm Setup				
Alarm Duration				
Motion Setup				
Motion Mask Setup				
5.Record Setup				
HDD Full				
Record Mode				
Record Type				
Record Speed				
Priority Mode				
Resolution				
6.TCP/IP Setup				

OTIMA

IP Address				
Gateway		53		
Subnet Mask				
MAC Address				
7.Miscellaneour Setup				
Buzzer Setup				
ID/PW Setup				
Image Backup Setup				
HDD Information				
HDD Format				
RS-485 ID				
Sequence Interval				
Factory Default				