TRIPLEX
4/8 CHANNEL
BASIC/NETWORK

USER'S MANUAL

Thank you for purchasing the product.

We recommend users who install and operate the unit to thoroughly read this manual and other reference manuals indicated in this manual before installation and operation.

The pictures can be different from real system according to specification.

This user's manual is based on Triplex 4/8 Channel Basic/Network Series. Triplex 4/8 Channel Basic model support USB socket as a basic backup device, it does not support network function. Network function is only supported on Triplex 4/8 Channel Network model.

GENERAL SAFETY AND PRECAUTIONS

This model is manufactured to safety international safety standard. Review the following safety precaution to avoid injury and prevent damage to the DVR or any products connected to it.

1. Use a proper power source.

Do not operate this product from a power source that applies more than the specified voltage (90~260 VAC).

2. Never insert metallic material into the DVR case. ⚠ This can cause electric shock.

3. Do not operate in wet & dusty condition. Keep product surfaces clean and dry.

Avoid placing the DVR in areas like a damp basement or a dusty hall-way.

4. Do not expose this product to rain or use near water.

If the product gets wet, unplug it and contact an authorized dealer immediately.

5. To clean the outside case of the DVR, use a lightly dampened cloth (no solvents).

6. The DVR generates heat during operation. Place the DVR in a well ventilated area. The DVR has a built in fan to properly ventilate the system. Do not block air bent holes (bottom, upper, sides and back) of the DVR case.

7 Do not operate with suspected failures. If there are any unusual sounds or smells coming from the DVR, unplug it immediately and contact an authorized dealer or service center.

8. Do not attempt to remove the top cover.

⚠**Warning:** Removing the cover of DVR can cause severe electrical shock.

9. Use standard lithium cell battery. ⚠NOTE: Battery is installed in the system.

The standard lithium cell 3V battery located on the mother board should be replaced if the time clock does not hold its time after the power is turned off.

⚠**Warning:** Unplug the DVR before replacing battery or you may be subjected to severe electrical shock. Properly dispose of old batteries.

⚠**Caution:** Risk of explosion if battery is replaced by an incorrect type. Do not discard lithium batteries into the trash can or into fire. Dispose in accordance with local waste regulations.

10. Some DVR models use a DC adapter because the power supply is outside the DVR cabinet.

Use only the DC adapter that is supplied.

FCC COMPLIANCE STATEMENT

Caution: Any changes or modifications in construction of this device which are not expressly approved the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications, Operation of this equipment in a residential area is likely to cause harmful interference in witch case the user will be required to correct the interference at this own expense.

CONTENTS

1. SYSTEM COMPONENTS

Following picture shows the components of a system. Open the package and check the compo-nents of the system.

| | 1 | 2 | 3 | 4 | 5 | 6 |

NO	Components	Volume
1	DVR system	1
2	Power cord	1
3	AC-DC adapter 5A, 12V	1
4	User's manual	1
5	CD (viewer and operation& installation guide)	1
6	IR remote control	1

Reference	In the case that the system or components have problems, contact with seller or a customer service center. The components may not be identical to the picture shown above.

2. THE NAME OF EACH SECTION

2.1. FRONT PANEL
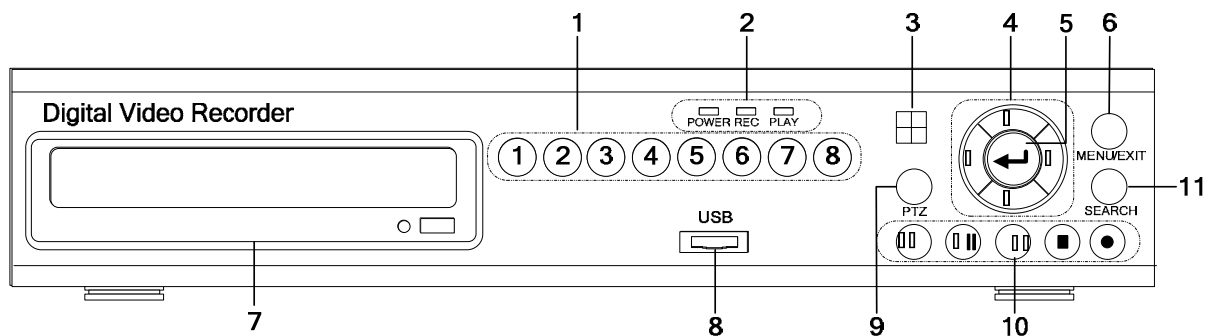
Each button of a system on front panel has below function.

NO.	Name	Function
1	Channel	Choose channel what you want to see.
2	LED	LED for Power, recording, playback.
3	REMOCON	Receive IR remote control signal
4	CURSOR	Menu direction button of left, right, up, down button.
5	ENTER	Selection button.
6	MENU/EXIT	Menu/ Exit Button.
7	CD-R/W	CD-R/W (option item) for data back-up.
8	USB	USB Socket for Data back-up/ firmware upgrade. (Used Only USB Memory Stick.)
9	PTZ	PTZ mode On/Off.
10	REW	Rewind.
	PLAY/PAUSE	Playback/ Pause.
	FF	Fast forward.
	STOP	Stop.
	RECORD	Record.
11	SEARCH	Time Search.

2.2. REAR PANEL
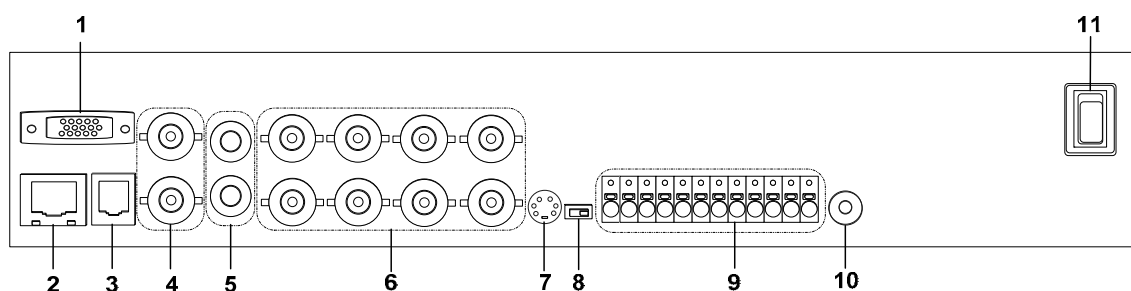
NO.	Name of connection part	Function
1	VGA	Video output port for LCD/Computer monitor.
2	LAN	Port for connecting LAN cable. (Except 4/8 Channel Basic Model)
3	RJ11	Controls DVR system.
4	VIDEO OUT	Port for video output.
5	AUDIO IN,OUT	Port for Audio in/output.
6	VIDEO IN	Port for video input.
7	PS/2	Port for mouse that controls screen. Control screen by using mouse.
8	Video conversion switch	Switch for converting video mode to NTSC/PAL.
9	ALARM/SENSOR /PTZ	Control port for alarm, sensor devices and PTZ camera.
10	POWER IN	Port for power adaptor.(DC 5A, 12V)
11	Power switch	Power Switch

3. SYSTEM FUNCTION

3.1. START

To connect system with camera and power adaptor on the rear panel of system. After system connection is completed, the system itself tests its condition when power is on. The contents of self test are HDD installation status, formatting for new HDD, CD-R/W installation status. Incase, Unexpected power off during recording is checked and system records automatically.

You can install max. two HDDs in the DVR system. (When CD-R/W is used then one HDD is can be used only) The HDD storage capacity and model name is shown on the screen when DVR system recognize the HDD. If the DVR system can not recognize HDD, DVR system does not booting. If the HDD is not recognized, please install the HDD in order. If the problem appears continuously, please contact to A/S center.

If you use new HDD in DVR system, the system asks you to format new HDD or not after recognizing the HDD. If you put the [PLAY] button, the HDD will be formatted. The formatted HDD is not recognized on Personal Computer. Please be notice when you install new HDD.

Reference	If model and quantity of equipped HDD is not shown on HDD test screen, HDD connection is wrong. In that case, User must check the connection of HDD with system. In case, If you use only one HDD in the system, you must confirm that HDD must be set to master by jumper. Please check the jumper is set on MASTER. Otherwise, system can not boot. You can use max. two HDDs in the system, one of then should be set to slave by jumper.

RTC (REAL TIME CLOCK) CHIP keeps the system information. If the battery for RTC is discharged, the system sets to default (factory) value again. Please check the Battery. Users see factory value in setup section.
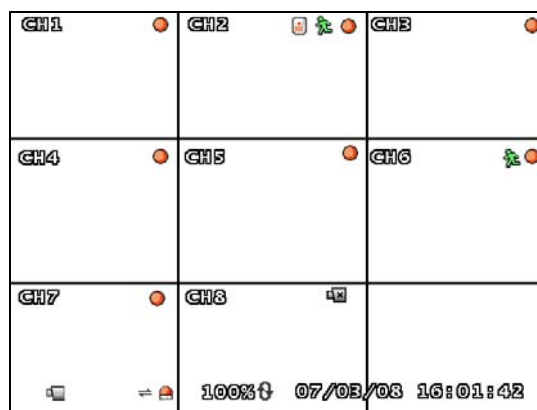
After system finish initial test and set up, the screen will be changed to 9 Split screen status. However, the system has unexpected POWER OFF during recording, the system will be rebooted when the power on, and continued to record automatically.

3.2. MONITORRING

The basic information of system is indicated on the lower part of monitor.
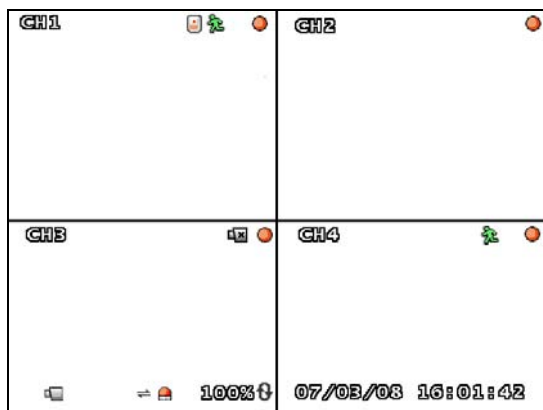
Quad monitoring screen < 4 CH >   9 Split monitoring screen < 8 CH >

A symbol ● indicates record status on current HDD. A symbol 🏃 indicates motion sensor. A

symbol ▣ indicates that sensor is set on system and activated. The lower part of full screen in

DVR shows whole condition of system. A symbol 🖥 indicates that DVR monitoring mode. A sym-

bol ⇌ indicates that system is connected with user using client program on computer through

network. A symbol 🔔 indicates that alarm is set on system and activated. A symbol % indicated

that the capacity of HDD used.

A symbol ↻ indicates on right of % indicates that 100% of HDD, then it erases data from HDD

and records data at the same time. In this condition, HDD has always full of data 100%. [07/03/08

16:01:42] shows time of system.

The system recognizes Video input signal automatically and system shows video source on screen.

In case of no input signal, system shows ☒ mark on screen. But if the camera has connected

with system and shows blue screen, please check the connection between system and cameras.

Press the channel button, the selected channel shows on entire screen. If you want to show 9-split

screen, press the [ENTER] button.
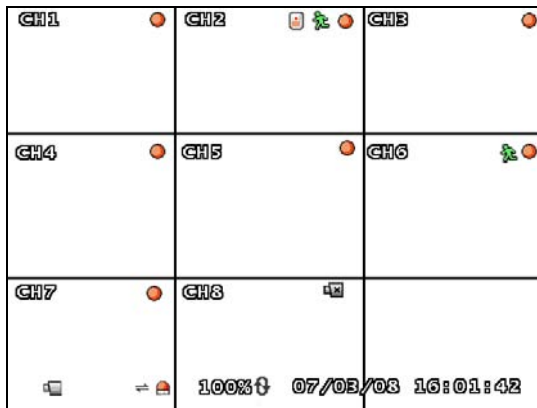
9 Split screen
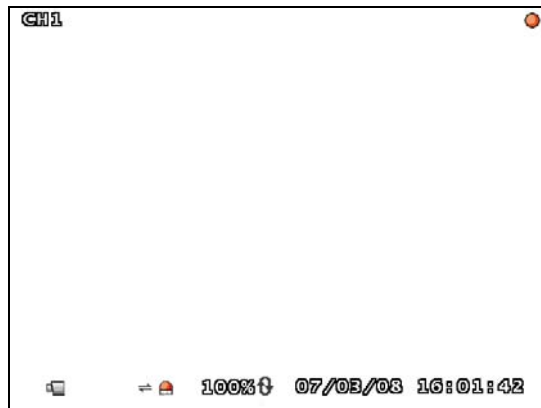
Full screen
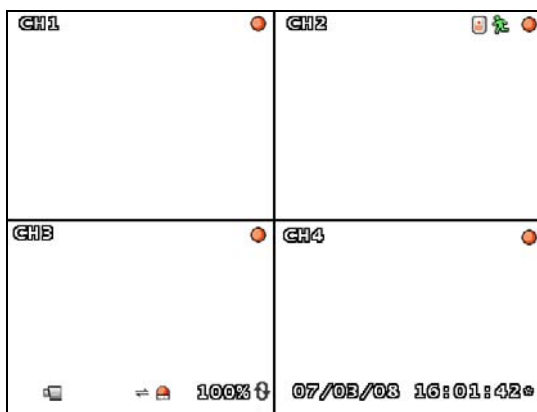
1~ 4 CH Quad screen

5~ 8 CH Quad screen

If you press CH1 button twice, screen is changed to Quad screen of 1~4CH, and then press CH5 twice, screen is changed to Quad screen of 5~8CH. (only for 8CH DVR)

4. SETUP

4.1. SETUP STRUCTURE AND INITIAL VALUE

This system has selection menu and initial value composed as below table.

SETUP			FACTORY DEFAULT
CAMERA	CHANNEL		1
	DISPLAY		ON
	BRIGHTNESS,CONTRAST,HUE,SATURATION		−−−−−|−−−−−
RECORD	RECORD SPEED		7 (4CH DVR 15FRAME)
	RECORD QUALITY		NORMAL
	EVENT REC DURATION		10
	RECORD SCHEDULE		−
SENSOR	ALARM DURATION		OFF
	SENSOR1/2/3/4		DISABLE
MOTION DETECTION	CHANNEL		1
	SENSITIVITY		OFF
	ALARM DURATION		OFF
	MOTION AREA		−
SCREEN	BORDER		ON
	VIDEO ADJUSTMENT		−
AUDIO	RECORD		ON
	MUTE		OFF
	INPUT VOLUME		−−−−−|−−−−−
	OUTPUT VOLUME		−−−−−|−−−−−
SYSTEM	HARD DISK SETUP	OVERWRITE ENABLED	YES
		FORMAT HDD	−
	PASSWORD CHANGE		111111
	TIME SET	TIME ZONE	(GMT+09:00) [Seoul, Korea Standard Time]
		TIME SET	−
		SYNC. FROM NTP SERVER	NO

		NTP SERVER IP		203.117.180.36
		DAY LIGHT SAVING TIME		NO
	SYSTEM EVENT LIST			–
	NETWORK	ENABLE		NO
		LOCAL IP	IP TYPE	[STATIC]
			IP ADDRESS	192.168.10.218
			GATEWAY	192.168.10.1
			NET MASK	255.255.255.0
			PPPOE ID	–
			PPPOE PASSWORD	–
		PORT		8841
		MAC ADDRESS		00:11:3D:XX:XX:XX
		PASSWORD		111111
		NAME SERVER	ENABLE ON/OFF	NO
			IP ADDRESS	222.231.24.28
			PORT	9990
			DVR NAME	–
		VIDEO QUALITY	HIGH	HIGH
	RS485	BAUDRATE		115200
		DATA BIT		8
		PARITY BIT		NONE
		STOP BIT		1
	PAN/TILT DEVICE	CHANNEL		1
		ID		1
		MODEL		NONE
		PAN/TILT TEST		–
	F/W UPGRADE			–
LANGUAGE				ENGLISH

4.2. SETUP MENU

When user presses [MENU] button on front panel, the following screen is shown.

```
                    Setup

        Camera
        Record
        Sensor
        Motion Detection
        Screen
        Audio
        System
        Search
        Language              English
        Exit
```
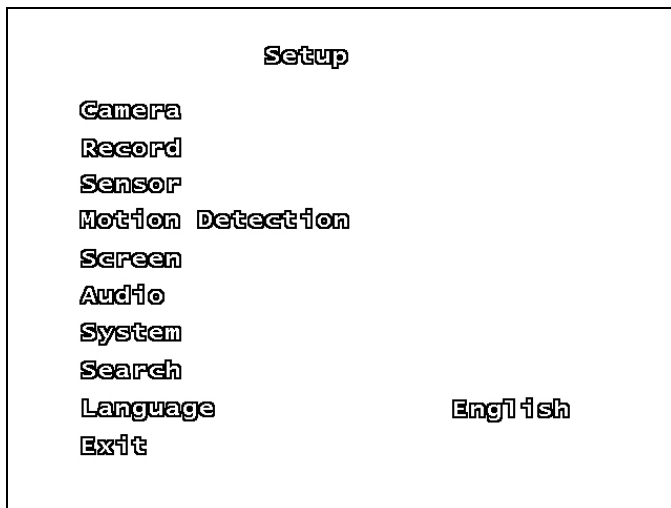
In the setup menu, user can move to each item and change item by pressing [▼, ▲] button. The setup menus are [CAMERA, RECORD, SENSOR, MOTION DETECTION, SCREEN, AUDIO, SYSTEM, SEARCH, LANGUAGE, and EXIT].

User presses [ENTER] button on setup to access sub menu. User presses [▲, ▼, ◄, ►] button and [ENTER] button at the sub menu to get desired value. After that, presses [ENTER] button to return previously menu.

4.2.1. CAMERA SETUP

User can change CAMERA SETUP.

```
                    Camera

        Channel                    1
        Display                   On
        Brightness         ═════║═════
        Contrast           ═════║═════
        Hue                ═════║═════
        Saturation         ═════║═════
```
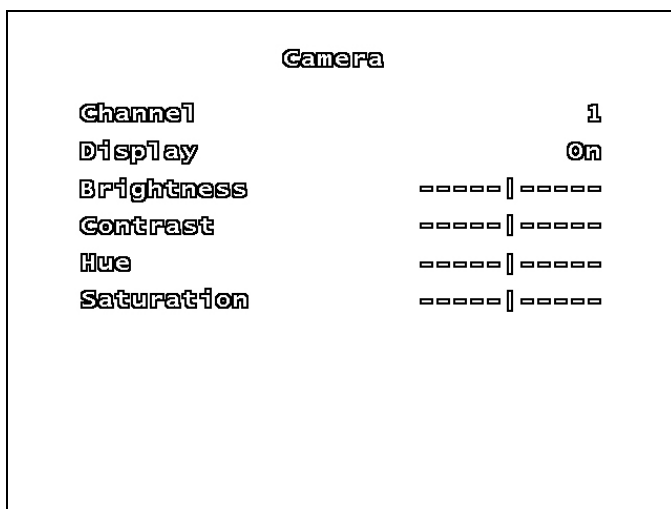
4.2.1.1. CHANNEL

CH 1~4 can be selected. User can control the condition of image from camera.

4.2.1.2. DISPLAY

If users want to display camera screen, select as "ON", if not select as "OFF".

4.2.1.3. BRIGHTNESS

Adjust brightness of image. Users can adjust from 1 to 10 levels. The BAR [|] goes to left side, it can be changed to dark. The BAR [|] goes to right side, it can be changed to bright.

4.2.1.4. CONTRAST

User can adjust screen's contrast. User can adjust from 1 to 10 levels. As the BAR [|] goes to left side, the contrast is lower. The BAR [|] goes to right side, the contrast is higher.

4.2.1.5. HUE

User can adjust hue level (from 1 to 10). The BAR [|] goes to left side, color tone is changed to pale, The BAR [|] goes to right side, color tone is changed to deep.

4.2.1.6. SATURATION

User can adjust saturation level (from 1 to 10). The BAR [|] goes to left side, color tone is changed to pale, As the BAR [|] goes to right side, color tone is changed to deep.

4.2.2. RECORD

User can change RECORD SETUP.

```
                    Record

    Record Speed
    Record Quality              Normal
    Event Rec Duration            10
    Record Schedule
```

4.2.2.1. RECORD SPEED

```
        Record Speed                        Record Speed

    Channel-1 ████████    15          Channel-1 ████      8
    Channel-2 ████████    15          Channel-2 ████      8
    Channel-3 ████████    15          Channel-3 ████      8
    Channel-4 ████████    15          Channel-4 ████      8
                                      Channel-5 ███       7
    TOTAL USED FRAME = 60(60)         Channel-6 ███       7
                                      Channel-7 ███       7
                                      Channel-8 ███       7
                                      TOTAL USED FRAME = 60(60)
```

< 4CH >   < 8CH >

User can select FRAMERATE within 60 frames. Users can divide the frame rate according to their importance.

4.2.2.2. RECORD QUALITY

To choose the video quality for recording, go to RECORD QUALITY. Then, use the ENTER (SE-LECT) BUTTON to choose LOW, NORMAL or HIGH. The higher record quality, the cleaner image will be shown during playback. The lower record quality saves more HDD storage space.

4.2.2.3. EVENT REC DURATION

User can select the time of EVENT (sensor / motion) record duration.

4.2.2.4. RECORD SCHEDULE

To schedule recording is based on a 24-hour clock, user can select the time of recording.
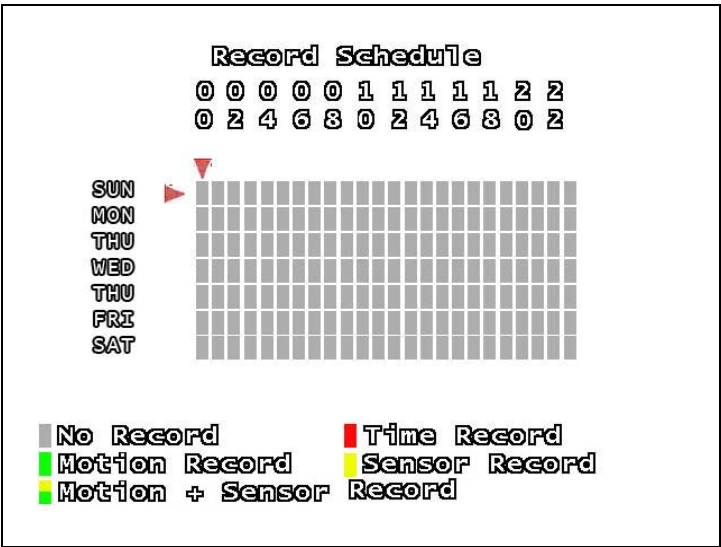
User can move cursor to desired time and select the type of recording by using [▲, ▼] button.

The No Record: System will not record data during this period.

The Time Record: System will record data continuously during this period.

The Motion Record: System will record data when the cameras recognize any motion in designated area during this period.

The Sensor Record: System will record data when the systems recognize sensor/alarm during this period.

The Motion + Sensor Record: System will record data when the systems recognize any motion and sensor/alarm.

Press the [▲, ▼] button can make several record type and time, and press [ENTER] button to make change whole schedule as one recording type and time.

4.2.3. SENSOR

```
                    Sensor

    Alarm Duration                  Off
    Sensor-1                    Disable
    Sensor-2                    Disable
    Sensor-3                    Disable
    Sensor-4                    Disable
```

4.2.3.1. ALARM DURATION

It indicates how long the alarm lasts after it sets [OFF, 05, 10, 15, 20, 25, 30, CONT]. It sets the alarm duration (in seconds) after alarm is activated. Select "DISABLE" to deactivate sensor recording or if there is no sensor installed in DVR system. To continue the alarm signal on, to select as CONT

4.2.3.2. SENSOR – 1, 2, 3, 4

Each channel has to be set by the type of SENSOR. The initial value is [DISABLE], you can select [NORMAL OPEN TYPE/ NORMAL CLOSE TYPE].

4.2.4. MOTION DETECTION

Select Motion detection. It is available when the system recognizes the movement.

```
                    Motion Detection

        Channel                      1
        Sensitivity                  Off
        Alarm Duration               Off
        Motion Area
```

4.2.4.1. CHANNEL

Select each channel for record.

4.2.4.2. SENSITIVITY

It adjusts the sensitivity of the built-in motion sensor on the DVR system while recording. The higher the number, the higher the sensitivity is. In that case, record can be occurred by small noise.

4.2.4.3. ALARM DURATION

By changing the value in the Alarm duration, you can adjust how long the alarm will last in seconds. User should installed alarm device in the system.

4.2.4.4. MOTION AREA

```
        Motion Area                          Motion Area
```
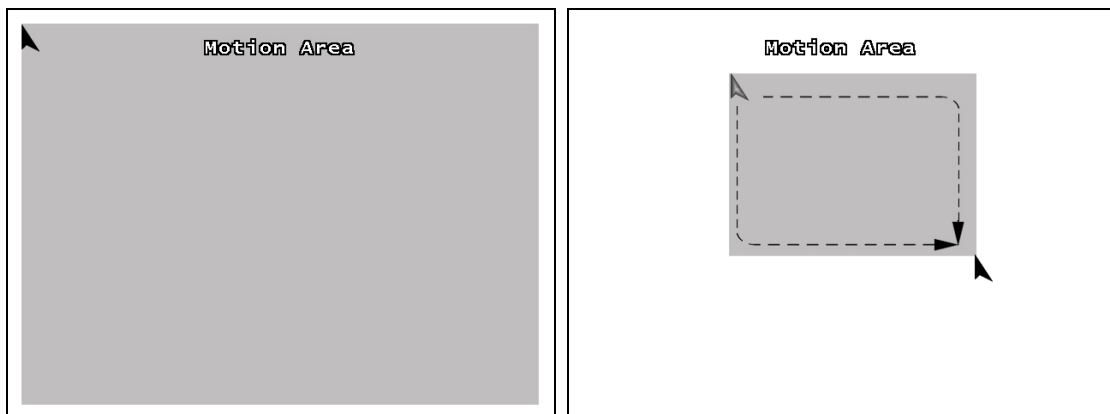
Follow the direction to select Motion area.

Locates cursor to start point using [▲, ▼, ◄, ►] button.

After pressing [ENTER] button locates cursor to end point using [▲, ▼, ◄, ►] button.
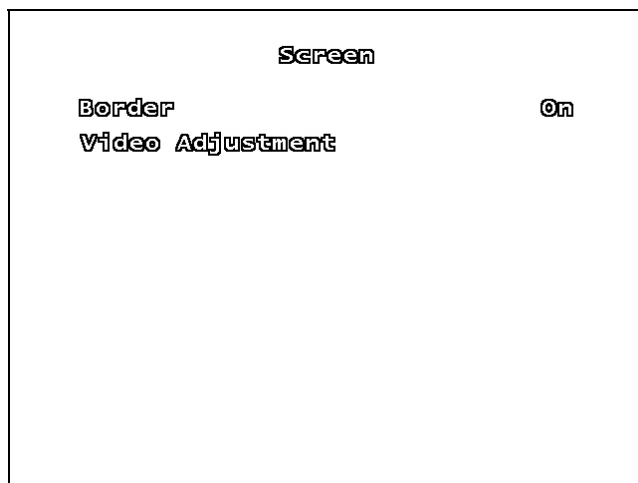
Press [ENTER] button again.

[Note] We recommend you to choose motion detection area carefully because only one area can be selected.

[Using the mouse button]

Press left button of mouse and drag mouse to select motion detection area for record.

4.2.5. SCREEN

User can select the screen location and the line of quad channel's border.

```
                    Screen

    Border                      On
    Video Adjustment
```

4.2.5.1. BORDER

You can make the white border line around each channel to appear or disappear by using this option to be on or off.

4.2.5.2. VIDEO ADJUSTMENT

You can move the entire video screen using up, down, left, and right key.

4.2.6. AUDIO

The option to adjust the Audio input/output of DVR system.

```
                        Audio

       Record                         On
       Mute                          Off
       Input Volume        ─────▐─────
       Output Volume       ─────▐─────
```

4.2.6.1. RECORD

Make the record "ON" to enable sound recording when a microphone device is attached in AUDIO
INPUT port on the system.

4.2.6.2. MUTE

Control the Audio output.
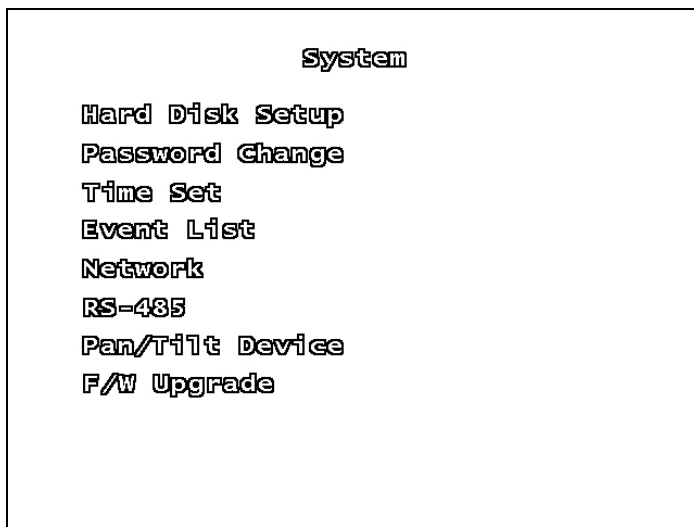
4.2.6.3. INPUT VOLUME

Adjust input volume level of sound.

4.2.6.4. OUTPUT VOLUME
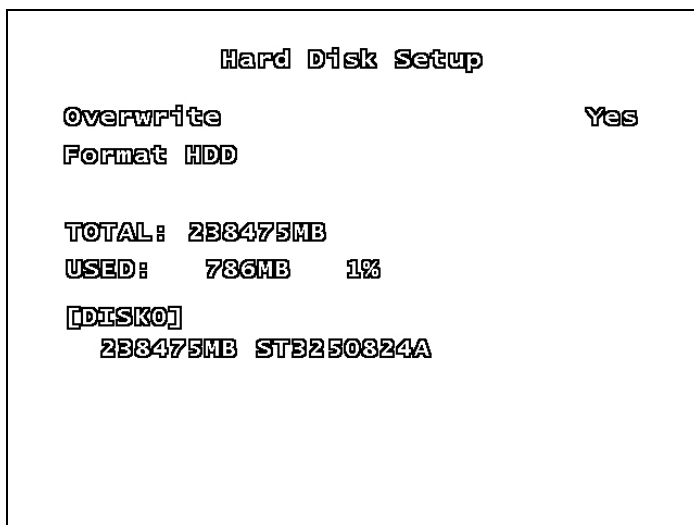
Adjust output volume level of sound.

4.2.7. SYSTEM

In this menu, you can see the information of the hard disk drive installed on the system, change the
system password, and adjust current time on the system, initialize system and etc.

```
                      System

        Hard Disk Setup
        Password Change
        Time Set
        Event List
        Network
        RS-485
        Pan/Tilt Device
        F/W Upgrade
```

4.2.7.1. HARD DISK SETUP

Set up Hard Disk Drive condition.

```
              Hard Disk Setup

    Overwrite                      Yes
    Format HDD


    TOTAL:  238475MB
    USED:    786MB    1%

    [DISK0]
       238475MB  STB250824A
```

The information of Hard Disk Drive is shown on the screen. TOTAL means the total capacity of HDD, USED means the rate of HDD used.

▪ **OVERWRITE ENABLE:** If you choose YES, recording continues. However, recorded data in HDD is erased gradually when HDD has no space to record.

▪ **FORMAT HDD:** If you format the hard disk drive, all the recorded data stored on the hard disk drive will be deleted. Remind that the system has no restore option once the hard disk drive is for-matted.

When you choose this option, the system will ask you password before formatting. The default password is [111111].

4.2.7.2. PASSWORD CHANGE

Change the password of DVR system.

```
        Password Change
    ┌──────────────────────┐
    │   current Password   │
    │  ──────────────────  │
    │       ──────         │
    │                      │
    │ 1 2 3 4 5 6 7 8 9 0 - = ←  │
    │ q w e r t y u i o p [ ]    │
    │ a s d f g h j k l ; Shift  │
    │ z x c v b n m , . / Enter  │
    └──────────────────────┘

       Password Changed
```

You can use a combination of any buttons on the DVR front panel to change a new password. Press [ENTER] button to finish. The changing is finished properly, the message [PASSWORD CHANGED] is shown on the screen.

4.2.7.3. TIME SET

Adjust the current date and time of system.

```
              Time Set

 Time Zone              (GMT+09:00)
 [Seoul, Korea Standard time    ]
 Time Set      2007/03/08 14:58:30
 Apply


 Sync. From NTP Server         No
 NTP Server IP      203.117.180.36
 DAY LIGHT SAVING TIME         No
```
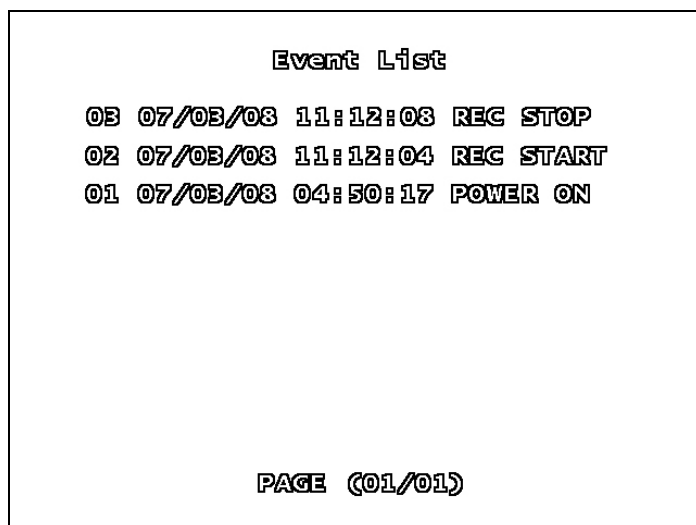
▪ **TIME ZONE:** You can adjust the current time through the internet time server.

▪ **TIME SET:** To move the cursor on the screen, [▲, ▼] button on the front panel press [ENTER] button to move desired date and time and [▲, ▼] to change number.

▪ **APPLY:** After adjusting the time, you have to move the cursor to APPLY, press [ENTER] button to apply new time information.

▪ **SYNC. FROM NTP SERVER:** Connect to internet time server. If not you can not use SYNC. FROM NTP SERVER.

▪ **NTP SERVER IP:** Input the internet time server's IP address. The default value is [203.117.180.36]. Do not change the IP address except special occasion.

▪ **DAY LIGHT SAVING TIME:** Summer Time can advance the time by one hour from standard time. This function is for user to use day time effectively. "Yes" for Summer time or "No" for Standard time.

4.2.7.4. EVENT LIST

```
              Event List

   03  07/03/08  11:12:08  REC STOP
   02  07/03/08  11:12:04  REC START
   01  07/03/08  04:50:17  POWER ON




              PAGE (01/01)
```

EVENT LIST function enables playback by event. The EVENT LIST on menu, it shows all past activities of system operation such as power on/off, recording start/stop, sensor on/off and etc showing recording year/date/time in list. Play by EVENT LIST, using [▲, ▼] button, select the event that you want to playback and press [ENTER] button. It playbacks the recorded video data.

4.2.7.5. NETWORK

You need to set the information regarding to NETWORK. The working about NETWORK setting is need to professional's guide, if not you may not use the Network function. Please be notice that.

```
                Network Settings

   Enable                       Yes
   Local Ip
   Port                        8841
   Mac Address      12:34:56:78:9A:BC
   Password                  111111
   Name Server
   Video Quality                High


```

▪ **ENABLE:** You have to set [ENABLE] is [ON], in order to connect to DVR system through Network.

▪ **LOCAL IP:** It contains several options to use network. Press [ENTER] button, you can move to lower grade menu.

<IP TYPE> There are three different network connection types. Press [◄, ►] button to change IP TYPE.

Reference	If you input PPPOEID and PPPOE PASSWORD, you can get the IP ADDRESS, SUBNET MASK, GATEWAY automatically. You must ask installer IP TYPE before DVR is installed.

```
              Local IP
   IP Type                  [DHCP]
   IP Address       0.  0.  0.  0
   Gateway          0.  0.  0.  0
   Net Mask         0.  0.  0.  0




```
[DHCP TYPE]

[DHCP TYPE] – Press [◄, ►] button to select [DHCP], then press [MENU] button to show [LOCAL IP] part. Move [EXIT], then select [EXIT & SAVE CHANGE] to finish Setup.

[PPPOE TYPE]

[PPPOE TYPE] – Press [◄, ►] button to select [PPPOE].

PPPOE ID: Use [▲, ▼] button to move [PPPOE ID], then press[ENTER] button to show keypad pop-up window. Use [◄, ►,▲, ▼] button to move desired a number or a character, then press the [ENTER] button.

PPPOE PASSWORD: Use [▲, ▼] button to move [PPPOE PASSWORD], then press [ENTER] button to show keypad pop-up window. Use [◄, ►,▲, ▼] button to select desired a number or a character, then press [ENTER] button.

When you finish set-up, press [MENU] button to show [LOCAL IP]. [EXIT & SAVE CHANGES] to finish set-up after you move [EXIT].

[STATIC TYPE]

[STATIC TYPE] – Press [◀, ▶] button to select [STATIC]

IP ADDRESS: If you select IP TYPE as STATIC, you can input the IP ADDRESS yourself. Use [◀, ▶] button to move desired position, then press [▲, ▼] button to change a number.

GATEWAY: If you select IP TYPE as STATIC, you can input the GATEWAY yourself. Use [◀, ▶] button to move desired position, then press [▲, ▼] button to change a number.

NET MASK: If you select IP TYPE as STATIC, you can input the IP ADDRESS yourself. Use [◀, ▶] button to move desired position, then press [▲, ▼] button to change a number.

When you finish Set-up, press [MENU] button, to show [LOCAL IP]. Select [EXIT&SAVE CHANGE] to finish Set-up after you move [EXIT].

▪ **PORT:** Set [PORT], in order to connect to DVR system through Network, the default port no is [8841].

▪ **MAC ADDRESS:** The Mac Address is physical address made by manufacturer in order to using the network. If you change the Mac Address, it may not connect with network.

▪ **PASSWORD:** You need the password when you contact to DVR system through network.

▪ **NAME SERVER**

The name server collects the changeable network situation.

You can connect with system through network using NAME SERVER.

Reference	DHCP or PPPOE TYPE that has static IP can be changed frequently. Therefore, when you connect network by IP, an unexpected obstacle can be happened. In order to avoid above problem, you better use Name which is registered on [DVR Name]
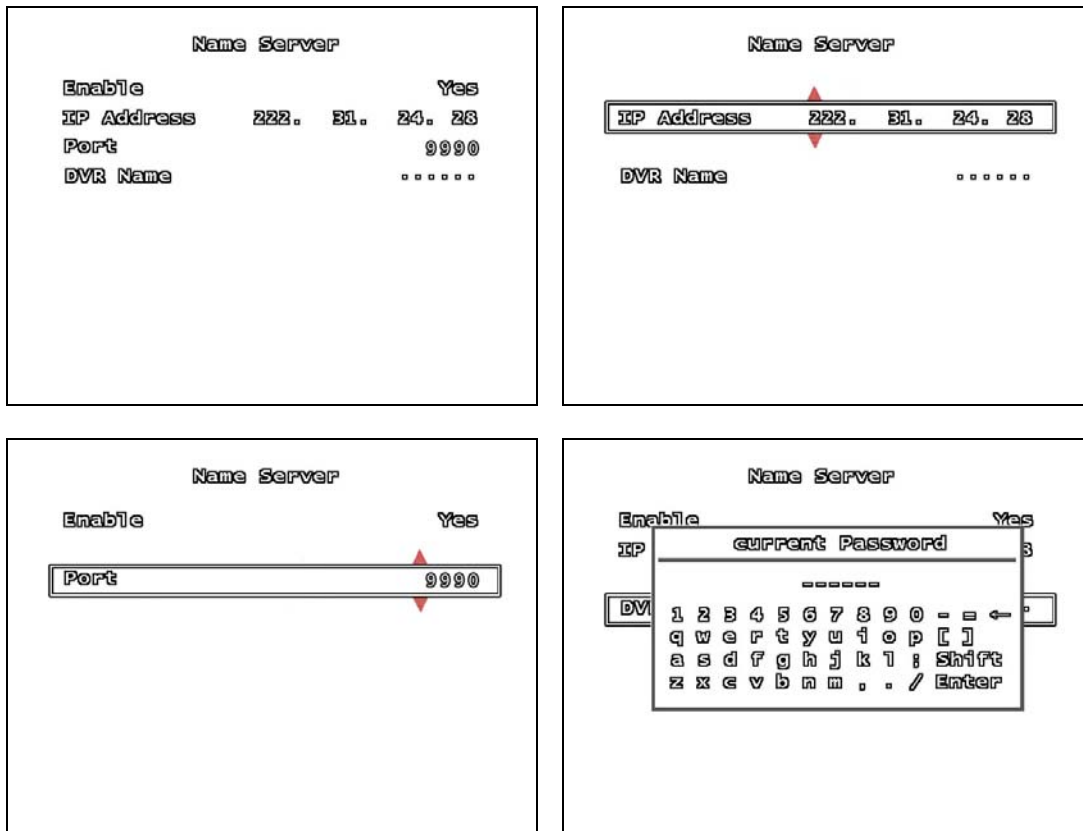
ENABLE: Set name server to use or not.

IP ADDRESS: Set IP ADDRESS of NAME SERVER. Use [◄, ►] button to move desired position and press [▲, ▼] to change number. You must input [222.231.24.28] as a IP ADDRESS.

PORT: Set PORT of Name Server. Use [◄, ►] button to move desired position and press [▲, ▼] to change number. You must input [9990] as a PORT.

DVR NAME: Press [ENTER] button to show keypad pop-up window after you move [DVR NAME]. Use [◄, ►,▲, ▼] button to select desired a number or a character, then press [ENTER] button.

▪ **VIDEO QUALITY:** You can adjust output Video Quality through network.

4.2.7.6. RS-485

```
                    RS-485

    Baudrate                    115200
    Data Bit                         8
    Parity Bit                    None
    Stop Bit                         1
```

BAUDRATE: Adjust the data transmission speed of PTZ camera.

DATA BIT: Adjust data transmission bit of PTZ camera.

PARITY BIT: Adjust data transmission error check bit of PTZ camera.

STOP BIT: Adjust bit which shows the end of data transmission of PTZ camera.

4.2.7.7. PAN/TILT DEVICE

```
                Pan/Tilt Device

    Channel                          1
    ID                               1
    Model                         NONE
    Pan/Tilt Test
```

CHANNEL: Select a camera channel where PTZ camera is connected.

ID: Assign the own ID of PTZ camera.

MODEL: Select a model of PTZ camera.

PAN/TILT TEST: Test PTZ Camera.

4.2.7.8. F/W UPGRADE

The system support Firmware Upgrade through USB host (USB memory stick).

4.2.8. EXIT

```
                    Exit

      Exit & Save Changes
      Exit & Discard Changes
      Load Setup Default
```
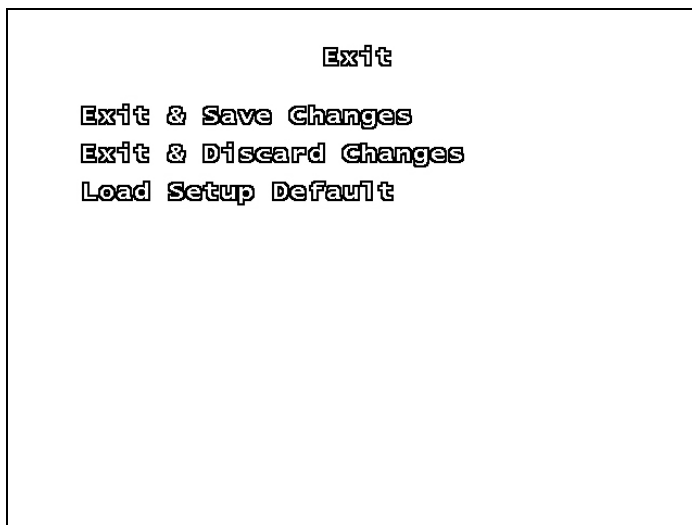
4.2.8.1. EXIT & SAVE CHANGES

Save the changed value and return to monitoring mode.

4.2.8.2. EXIT & DISCARD CHANGES

Return to monitoring mode without saving the changed value. The changed value is not applied to the system.

4.2.8.3. LOAD SETUP DEFAULT

The system menu value will be changed to factory default.

5. RECORD FUNCTION
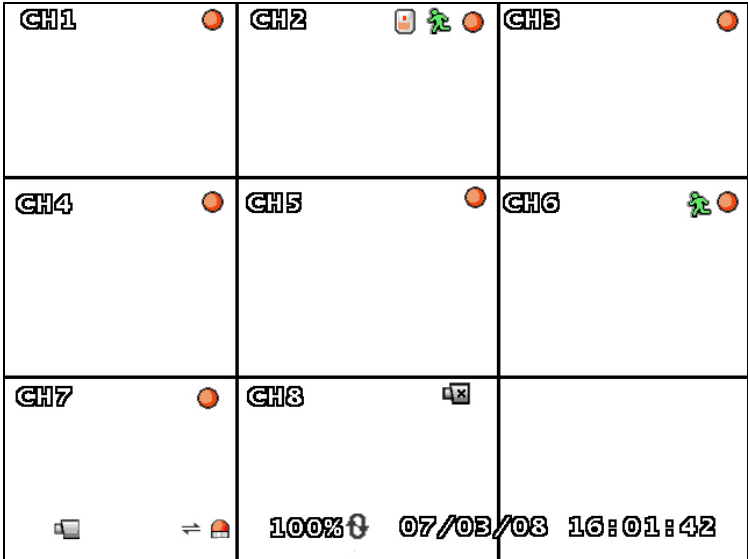
Channel with ⬤ symbol indicate that channel is in record mode. Above picture shows CH 1~7 is in record mode. Information in lower part indicates HDD used and date.

If date is wrong, see (Setup → System → Time set) to change date.
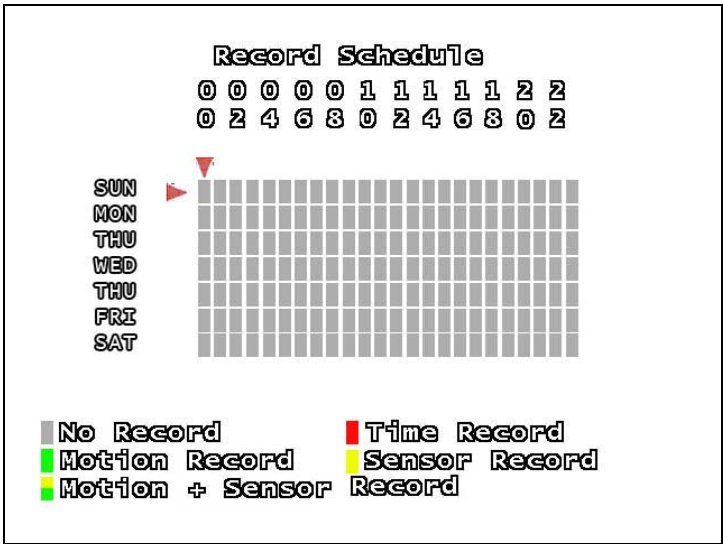
There are several types of record mode such as No Record, Time Record, Motion Record, Sensor Record, MD + Sensor Record.

⬜ White box indicates No Record.

🟥 Red box indicates continuous record. Continuous record dose not be affected by sensor input.

■ Green box indicates motion detection, it is activated by movement.

■ Yellow box indicates sensor record. Sensor record is activated by sensor detection.

■ Green and yellow box indicates motion detection and sensor record. One of these is detected then system records image.
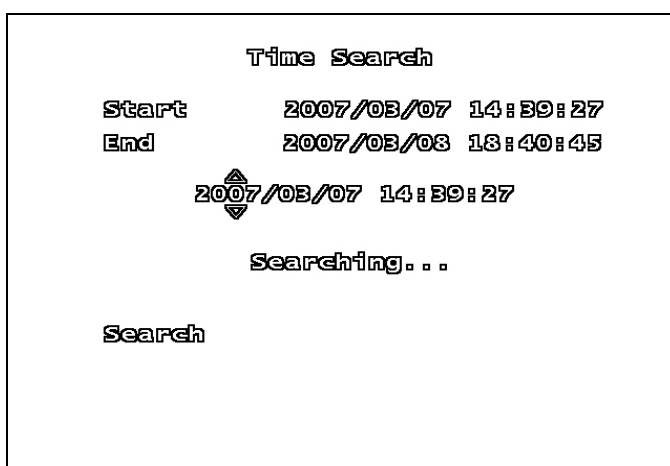
6. SEARCH, PLAYBACK AND BACK-UP FUNCTION

6.1. SEARCH FUNCTION

You can find last file by order when you press [PLAY] button. Press [SEARCH] button to find file you desired. When you press [PLAY] button, screen shows below picture. Press [▲, ▼] button to locate desired event. Press [ENTER] button to play image recorded in HDD.

```
                    Event List

        03  07/03/08  11:12:08  REC STOP
        02  07/03/08  11:12:04  REC START
        01  07/03/08  04:50:17  POWER ON




                    PAGE (01/01)
```
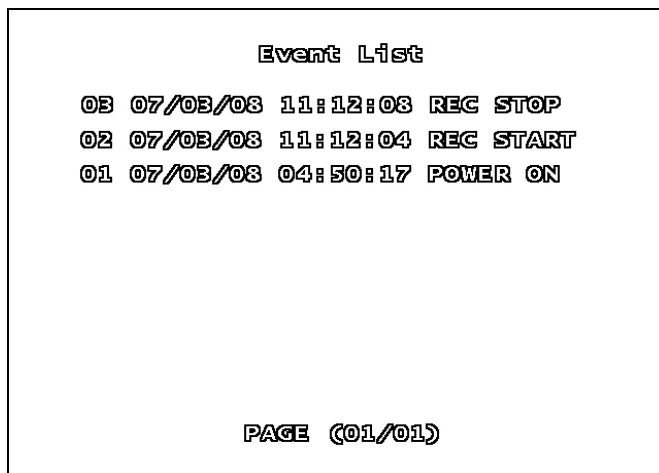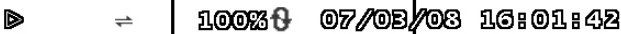
You can search recent 127 events on the event list. Select the [REC START] and playback. If you search the recorded data by time, press [SEARCH] button. Below screen will be shown at the screen.

```
                    Time Search

        Start       2007/03/07  14:39:27
        End         2007/03/08  18:40:45
                    ▲
                2007/03/07  14:39:27
                    ▼

                    Searching...

        Search
```

The time on screen shows record start and stop time. You can find the time what you want to check, you can change the number of date and time by using [▲, ▼] button and then press [EN-TER] button to playback data recorded.

6.2. PLAYBACK FUNCTION

CH1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	

▷   ⇌   100%⟳ 07/03/08 16:01:42

This is an enhanced playback option, it support playback function while recording. Playback func-tion has several modes as below.

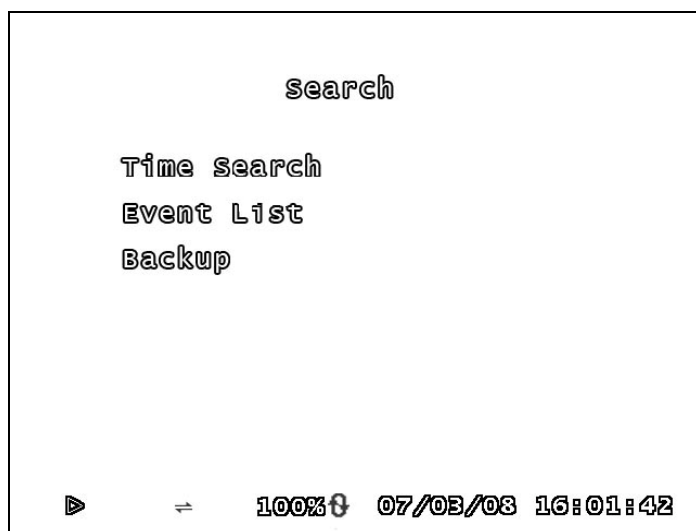| BUTTON NAME	FUNCTION
PLAY/PAUSE	Playback data/ Pause data.
REC	Start record/ Stop to record.
FF	Fast Forward. Speed Options are 3 levels. Press FF button to change play-back speed.
REW	Rewind the playback. Speed Options are 3 levels. Press REW button to change playback speed.
STOP	Stop playback and return to monitoring mode.

You can playback data using [SEARCH] button or [PLAY] button. The playback mode has PLAY, FF, and REW. The image recorded by EACH MODE can be displayed with QUAD or FULL screen. If you want to change the playback images on screen, use [CHANNEL1~8, ENTER] button.

The basic information of the image recorded is shown in lower part of screen. It shows time of the image recorded, playback speed.

6.3. BACKUP FUNCTION

Our DVR system has enhanced back-up features so that it's possible to transfer to the video data image recorded on the hard disk drive to USB memory stick. The CD-R/W (option item) backup system is also supported

```
                    Search

        Time Search
        Event List
        Backup




    ▷        ⇌      100% 🔋  07/03/08  16:01:42
```

There are two types of backup style. One is USB and the other is CD-RW (option).

Connect USB memory stick to USB socket.

Put blank CD into CD-RW.

Notice	The DVR system does not support backup function during recording. If the recording is in processing, please stop recording first, and processing the backup function.

6.3.1. BACK-UP VIA USB MEMORY STICK

In order to save video data, you must playback data recorded. You press [▲] button when you find start point to backup and press [▼] button when you find end point to backup. Data volume is shown as [KB] unit. You press [SEARCH] button to backup. If USB storage capacity is lager than the volume of data, it show the message [PRESS (ENTER) TO COPY] on screen. Then, press [ENTER] button to back-up data.

```
                BACKUP  TO  USB  DRIVE

    START            2007/03/08  16:00:20
    END              2007/03/08  16:01:42
    DISK  AVAILIBLE              70272  KB
    COPY  SIZE                    2560  KB
    FILENAME            03131128.VVF
    WRITING  TO  USB
    TIME  RO  REMAIN              10  SECS


            PRESS  (ENTER)  TO  COPY
```

Notice   Check the storage capacity of USB memory stick in advance.

If the volume of data is larger than USB storage capacity, it shows the message [CAPACITY IS NOT ENOUGH] on screen.

(Press the [MENU] button to cancel, and secure the enough storage space and continue to backup)

6.3.2. BACK-UP VIA CD-R/W (OPTION)

In order to save video data, you must playback data recorded. You press [▲] button when you find start point to backup and press [▼] button when you find end point to backup. Data volume is shown as [KB] unit. You press [SEARCH] button and press [REC] button to backup.
If the data size is bigger than 600MB, it shows the message as "DATA SIZE IS BIG TO COPY" on the screen. (Blank CD's maximum storage capacity is about 600MB. The common blank CD can be

used by one time. Therefore, used CD can not be used in DVR system. If you have more data to need back-up, please use another blank CD.)

```
                    BACKUP TO CD

  START              2007/03/08  16:00:20
  END                2007/03/08  16:01:42
  DISK AVAILIBLE               70272 KB
  COPY SIZE                    2560 KB
  FILENAME        20070323_1737.VVF
  WRITING TO CD
  TIME RO REMAIN               10 SECS


          PRESS (ENTER) TO COPY
```
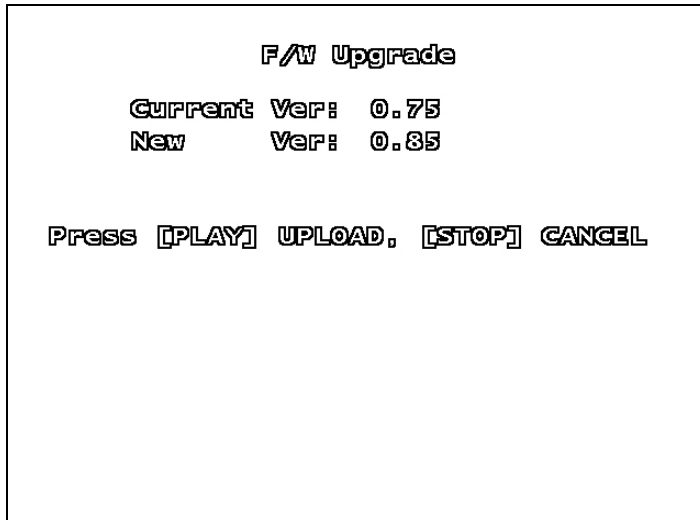
Notice

CD-R/W is option item. If the CD-R/W is not installed in the system, this function is not available. Please inquire the seller.

You must use the [CD-R] type of CD on CD-R/W. If you use other type of CD, the back-up is not available. Please be notice that. It does not support the Multi-session. If the data size is bigger than 600MB, it shows the message as "DATA SIZE IS BIG TO COPY" on the screen.

(Press the [MENU] button to cancel, and assign the desired back-up part again.

6.3.3. USE OF BACK-UP FUNCTION

You can select desired time period to back-up data recorded. [TOTAL] indicates total time of data in DVR. [BACKUP] indicates desired time of data recorded.

```
              Backup                                    Backup

   [TOTAL]                                  [TOTAL]
   start   2007/03/08  14:24:53             start   2007/03/08  14:24:53
   End     2007/03/08  14:12:53             End     2007/03/08  14:12:53
   [BACKUP]
   start   2007/03/08  14:15:53             start   2007/03/08  14:15:53
   End     2007/03/08  14:24:53
     size        12344  KB                     size        12344  KB


   Backup To USB                            Backup To USB
   Backup To CD                             Backup To CD
  ▷    ↩   100%↻  07/03/08 16:01:42        ▷    ↩   100%↻  07/03/08 16:01:42
```

 Press [▲, ▼] button to move [START], then use [◀, ►, ▲, ▼] button to select desired date and time. Press [MENU] to return precious condition.

```
              Backup                                    Backup

   [TOTAL]                                  [TOTAL]
   start   2007/03/08  14:24:53             start   2007/03/08  14:24:53
   End     2007/03/08  14:12:53             End     2007/03/08  14:12:53
   [BACKUP]                                 [BACKUP]
                                            start   2007/03/08  14:15:53
   End     2007/03/08  14:24:53             End     2007/03/08  14:24:53
                                              size        12344  KB


   Backup To USB                            Backup To USB
   Backup To CD                             Backup To CD
  ▷    ↩   100%↻  07/03/08 16:01:42        ▷    ↩   100%↻  07/03/08 16:01:42
```

Press [▲, ▼] to move [End], then use [◀, ►, ▲, ▼] button to select desired date and time. Press [MENU] button and [▲, ▼] button to finish set-up. Screen shows total capacity of data as [KB] unit. Press [SEARCH] button to select USB backup, then screen shows the information of USB memory stick. If USB storage capacity is larger than the volume of data, it shows the message [PRESS (ENTER)TO COPY] on screen. Then, press [ENTER] button to backup data.

```
            BACKUP  TO  USB  DRIVE

  START           2007/03/08  16:00:20
  END             2007/03/08  16:01:42
  DISK AVAILIBLE            70272  KB
  COPY SIZE                 2560  KB
  FILENAME            0313112B.VVF
  WRITING TO USB
  TIME RO REMAIN             10  SECS


        PRESS  (ENTER)  TO  COPY
```

If the volume of data is lager than USB storage capacity, it shows message [CAPACITY IS NOT ENOUGH] on screen. Please check first the USB memory space and backup before backup the larger volume data.

7. FIRMWARE UPGRADE

The system support FIRMWARE UPGRADE via USB memory stick.

```
                  F/W Upgrade

          Current Ver:  0.75
          New     Ver:  0.85


     Press [PLAY] UPLOAD, [STOP] CANCEL
```

(SETUP -> SYSTEM -> F/W UPGRADE) Download the upgrade FIRMWARE file via USB memory stick. And then connect it into USB socket. First press [MENU] button and move to [F/W UP-TRADE].

[4CH DVR F/W → FWVX4TFN.FW2, 8CH DVR F/W → FWVX8TFN.FW2]

If the system recognizes the USB memory, it shows the DVR firmware version and new firmware version on screen. Press [PLAY] button to upload firmware. If you stop the upload, press [STOP] button.

```
                  F/W Upgrade

          Current Ver:  0.75
          New     Ver:  0.85



       [ Firmware Uploading...]
```
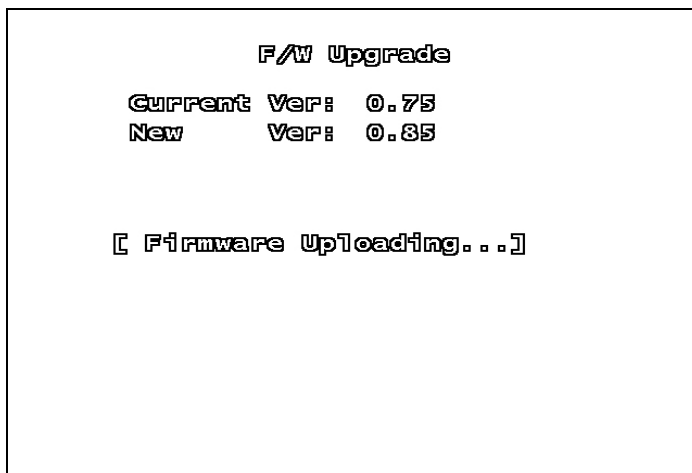
The upload is in processing normally, the message [FIRMWARE UPLOADING...] is showed on screen. The uploading is finished, the system will be rebooted.

After system is rebooted, the initial screen shows the new firmware version. Please check the firmware version on the top of screen.

Notice	If the system is recording, you can not process the FIRMWARE UPGRADE. Please check the status of recording, if the recording is on stop recording and upgrade FIRMWARE.

8. PTZ (PAN/TILT-ZOOM) CONTROL

This supports PTZ function via RS485 serial interface. Press the [PTZ] button on monitoring mode to enter PTZ control mode. PTZ control buttons are described at the table as below.

BUTTON	Description
PTZ	Enter/Exit PTZ control mode.
UP	The camera moves UP.
RIGHT	The camera moves RIGHT.
DOWN	The camera moves DOWN.
LEFT	The camera moves LEFT.
MENU	"ZOOM IN"
SEARCH	"ZOOM OUT"
CH1~8 (Select PTZ camera)	Select the camera ID for PTZ control. The camera ID is the same as channel No.

Press [PTZ] button, the PTZ control menu will be appeared on screen.

At present, camera is not chosen, press [CH1~8] button each then, correspond camera is socket.

If the PTZ camera is connected to CH1, select CH1 using channel button, press [▲, ▼, ◄, ►, MENU] button to control the camera. Press [PTZ] button to exit.

9. HOW TO USE A MOUSE

You can use a mouse to set DVR and playback data record. First of all, confirm connection between PS/2 mouse and DVR. Otherwise, DVR cannot recognize a mouse.

▪ **Set DVR using a mouse**

Setup window will be shown when you click right button of mouse at viewing mode. If you move mouse point on menu screen, purple color box is moved. You select menu and click left button of mouse to access menu desired.

At the menu, in order to change setting value, click left button of mouse on [◄, ►] icon. After setting is finished, you click right button of mouse to exit from menu.

▪ **Playback data using a mouse**

You move to [Setup → Search] or [Setup → System → Event list] and you can playback data desired. If you click right button of a mouse during playback, then you can easily control a icon on the left side of lower part. When you find starting point of date for backup, press [▲] button to select starting point. Playback goes to ending point for backup, then press [▼] button to select ending point. Click [USB] or [CD] to move backup screen, then execute backup.

▪ **Advanced reservation record using a mouse**

You can record desired time period using a mouse.

Move to [Set-up ->Record ->Record Schedule] and locate a mouse at desired time period and date. Click a mouse to backup data.

▪ **Control viewing screen using a mouse**

You can magnify image screen using a mouse. At the viewing screen, if you click left button of mouse twice (double click), desired channel screen is changed to full screen.

Double click again, and then go back to previously screen.

10. CLIENT PROGRAM (8CH -Vx8TFN2 Viewer, 4CH- Vx4TFN2 Viewer)

Our system comes with software [Vx8TFN2 Viewer] for remote monitoring, recording, DVR control-ling or playback of backup video data on computer.

< PLAYER MODE>   <VIEWER MODE>

When you execute a program then, icon is shown on the right side of lower part. Locate a mouse on the tray icon then, press right button of a mouse to show menu for control.
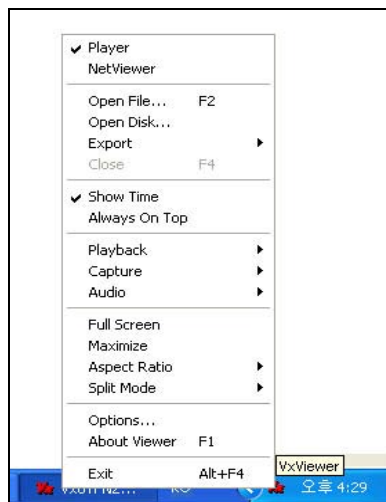
10.1. PLAYER MODE

If you want to see the image through the PC via back-up devices, follow below instructions.

10.1.1. PLAYBACK METHOD

Connect the USB memory stick with PC, put CD to CD/DVD Drive of PC.

Activate the client program [Vx8TFN2 Viewer or Vx4TFN2 Viewer]

Click the [Player] icon on the top of the client program.

Use mouse left button to click on left side-bottom of player. Press mouse right button to choose [Open file] on player program.

When pop-up windows is shown as below you find data backup.
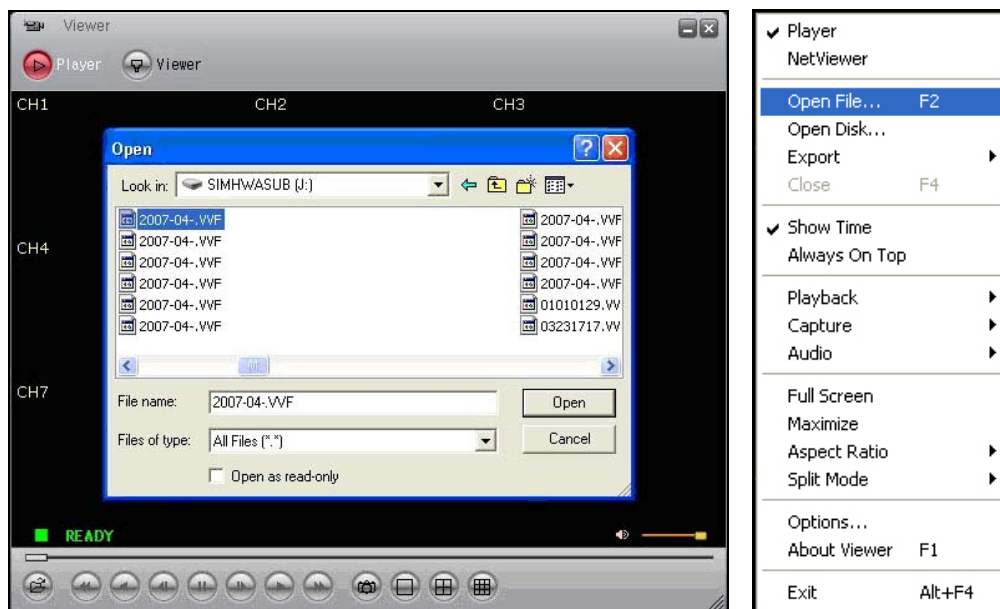
The backup file which is from DVR system, are save as *VVF or *NVF format. Open the video stream file what you want to playback.

The player shows the video image files which is selected.

10.1.2. PLAYER MENU

10.1.2.1. PLAYBACK

The playback menu has Play, Play Reverse, Pause, Fast Forward, Fast Rewind, Next Frame, Previous Frame, Speed Normal, Speed Up and Speed Down function. These function buttons are arranged in bottom of player program.

Reference	Above functions can be controlled by shortening key. See [10.1.2.9 button function] for more details.

10.1.2.2. AUDIO FUNCTION

Control the Audio Volume.

You can control the option [MUTE ON/OFF].

10.1.2.3. Full Screen

If you click Full Screen, you can see screen as a full screen or type [Alt + Enter]. Double click up-per part of program, then screen is magnified.

10.1.2.4. Aspect Ratio

You can adjust the screen size as [640x448] or [640x544].

10.1.2.5. Split Mode

The Split mode can be changed to 1ch full screen, 4ch Quad screen, 9ch split screen.

10.1.2.6. Option

Play repeat, date and time format, the folder saved the capture screen of moving picture are changeable.

General item
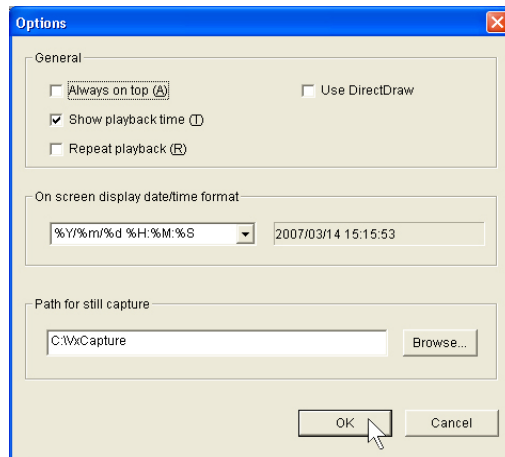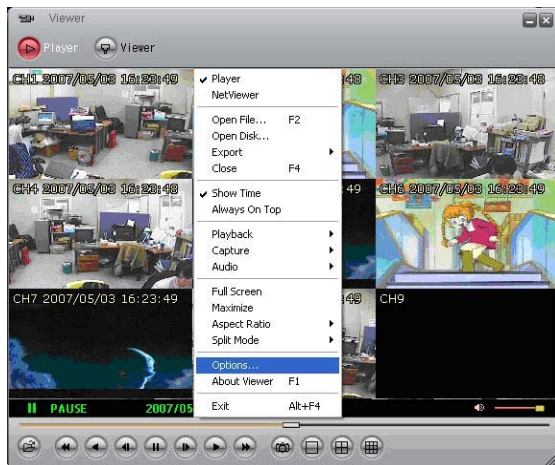
Always on top: Highest level on window

Use DirectDraw: Use applied program interface (API) included in Direct X.

Show playback time: Set to show playback time or not on screen.

Repeat playback: Repeat Playback

On screen display date/time format

Set the date/time format on the screen.

Path for still capture

Set the path for still capture.
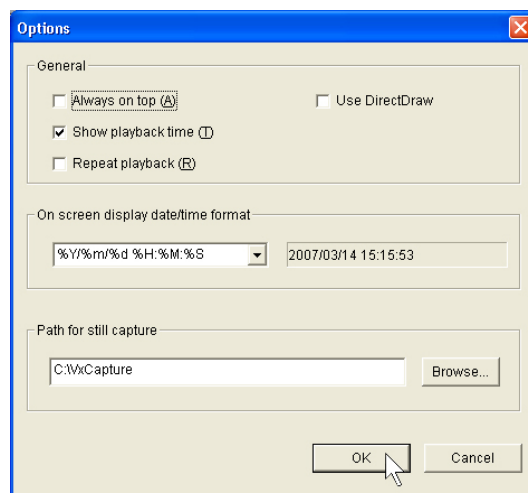
10.1.2.7. Export

Save video data backuped as AVI format on computer.
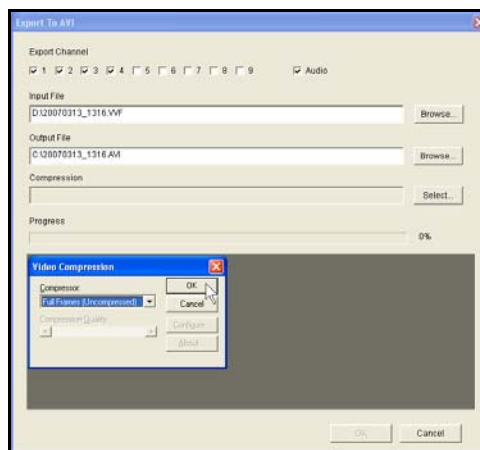
Select video data backuped on [Input File] and Select a place and a name of file for save on [Output File]. Select Compression type on [Compression Select] and click [OK]. Click [Export Channel OK], then save process is finish as pictures shown. Image file (AVI) is saved by channel.
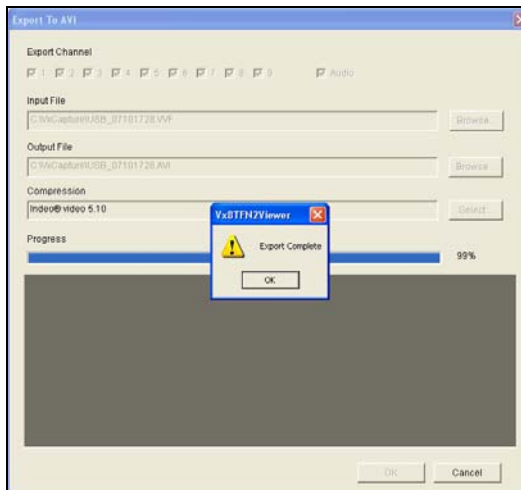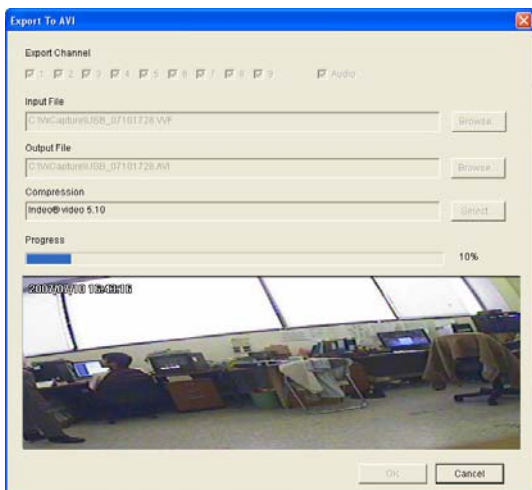
10.1.2.8. Close Viewer

As shown below, you can click the [EXIT] or type [Alt+ F4] on keyboard to close the program. You can click [X] button on the top-right side of program to close the program.

10.1.2.9. BUTTON FUNCTION

You can click below buttons on the button of program to operate easily.

Below table shows the icon function.

ICON	SHORTENING KEY	FUNCTION
	F2	Open and play video file.
	R	Rewind.
	B	Play Reverse.
	Z	Go one frame backward and Pause.
	P	Pause.
	X	Go one frame forward and PAUSE.
	G	Playback.

(icon)	F	Fast Forward.
(icon)	–	When you click this button, it will take a single frame of video image while playback and then it will automatically save the image. (BMP format) into the local PC directory (Initial folder setup : "C:₩VxCapture")
(icon)	–	View in 1-channel full screen mode.
(icon)	–	View in 4-channel screen mode.
(icon)	–	View in 8-channel screen mode.
(volume control)		Adjust volume or enable speaker sound ON/OFF.

10.2. VIEWER MODE

You can monitor DVR at the viewer mode through network and control DVR.

10.2.1. CONNECT VIEWER NETWORK

If you want to connect monitoring screen and control system through VIEWER program, check the network setting connection between system and PC should be good.

Activate the client program [Vx8TFN2 Viewer]
Click the icon [Viewer] on the top of client program.

If you want to choose DDNS service, [SYSTEM -> NETWORK -> NAME SERVER] should be set as [ENABLE ON] in advance. You draw up [IP ADDRESS], [PORT] and [DVR NAME (DVR ID)] of DDNS Server and save it. If [DDNS] of DVR does not in accord with [DDNS configuration]of VIEWER, then connection will be failed. In this case, you input DDNS IP ADDRESS (222.231.24.28), PORT(9990) and DVR NAME(any character or number)

Click the ![arrow] button on the bottom-left of VIEWER program or [L] key. Click mouse right button and select [Connect]on menu.

The name of [Login] box will be pop up, input the [IP address, Port, Password] on the pop up box. Press [Login] button to connect with DVR.
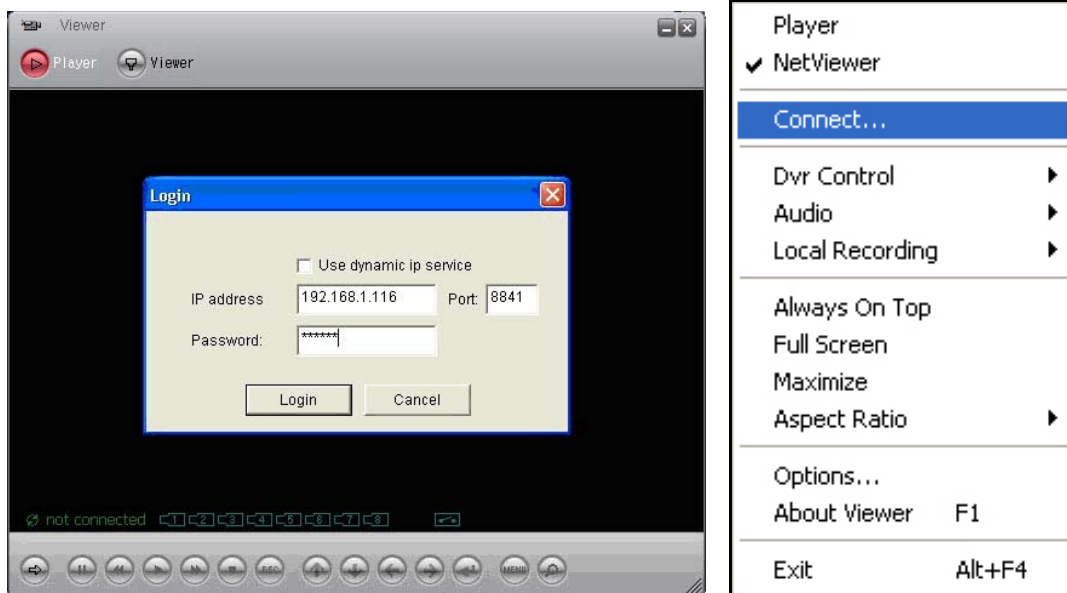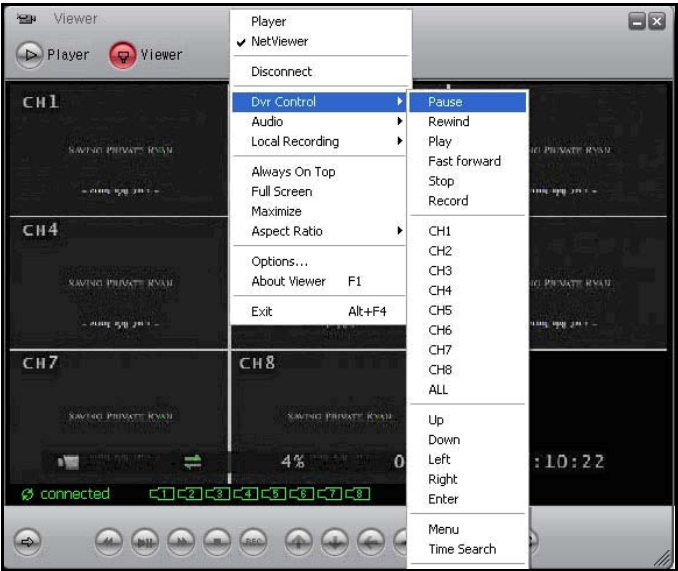

If you want to use DDNS service, check [Use dynamic ip service] box, input the DVR ID and PASSWORD registered on DVR system.
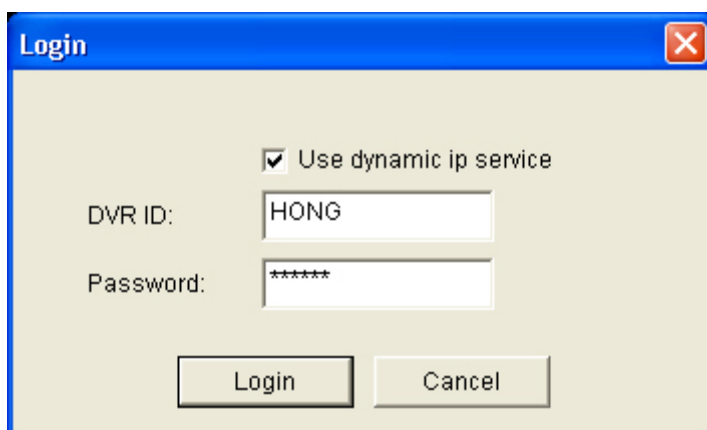
10.2.2. VIEWER MENU

### 10.2.2.1. DVR Control

Control the DVR system through client program.

The DVR control function has Pause, Rewind, Play, Fast Forward, Stop, Record, All, Channel 1~Channel 8, Up, Down, Left, Right, Enter, Menu and Time Search. Buttons are in the bottom of program.

| Reference	Above functions can be controlled by shortening key. See [10.2.2.8 button function] for more details.

10.2.2.2. Audio function

Control the Audio Volume.
You can control [MUTE ON/OFF] during playback.
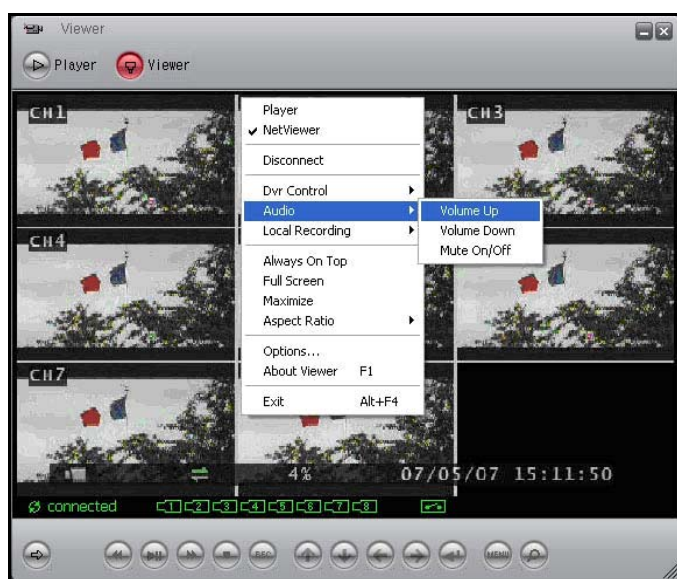
10.2.2.3. Local Recording

You can save the video stream of VIEWER on PC. Click the [Local Recording-Start Local Re-cording] menu then start to save. Image Click the [Stop Local Recording] menu then stop to save image.
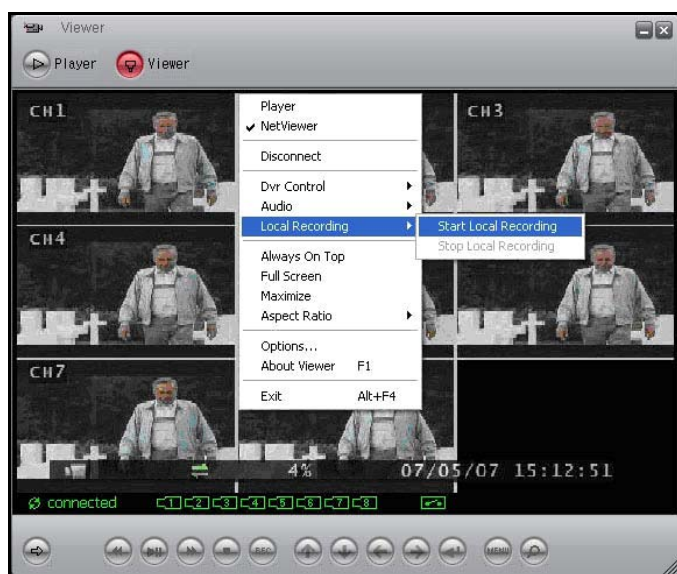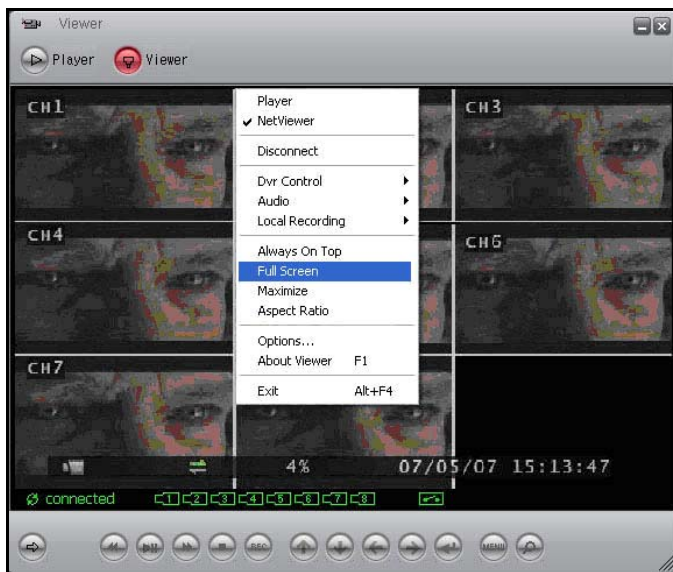

Video image file saved will be saved to directory selected in Option. (Default Directory: C:\VxCapture). If you want to playback the file, switch the mode from [VIEWER] to [PLAY] mode.
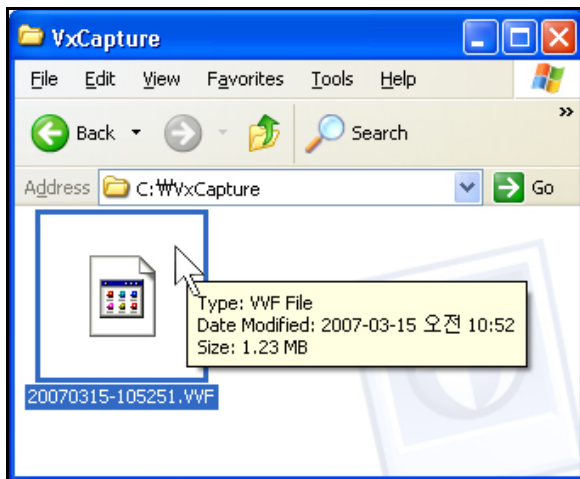
10.2.2.4. Full Screen

If you click Full Screen, you can see screen as a full screen or type [Alt + Enter]. Double click up-
per port of program, then screen is magnified.

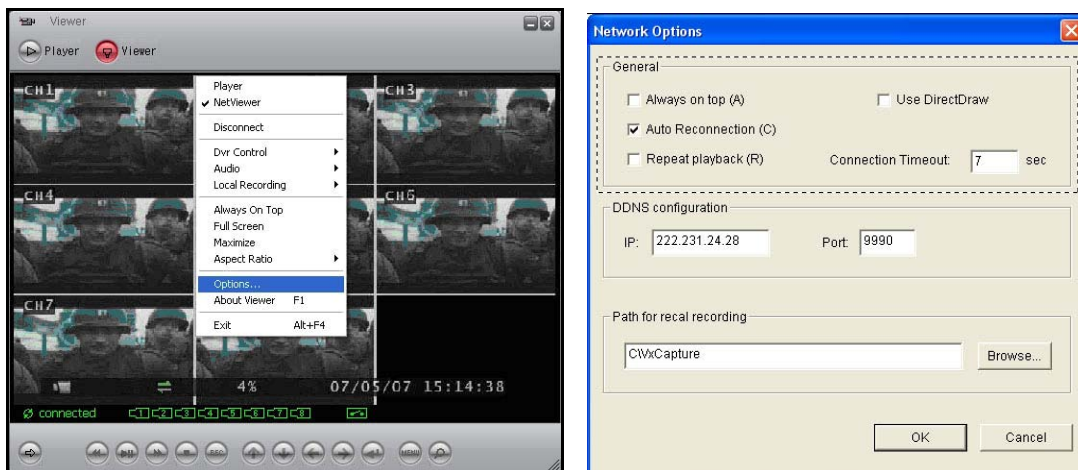
10.2.2.5. Aspect Ratio

Adjust screen size.
You can choose [640 X 448] or [640 X 544] size.

10.2.2.6. OPTION FUNCTION

You can change the Repeat playback, connecting try time, auto reconnection, and folder that saves video scream.

GENERAL OPTION

Always on top: High level on window.

Use DirectDraw : Use applied program interface (API) included in Direct X.

Auto Reconnection: Try to connect with DVR when connection is failed.
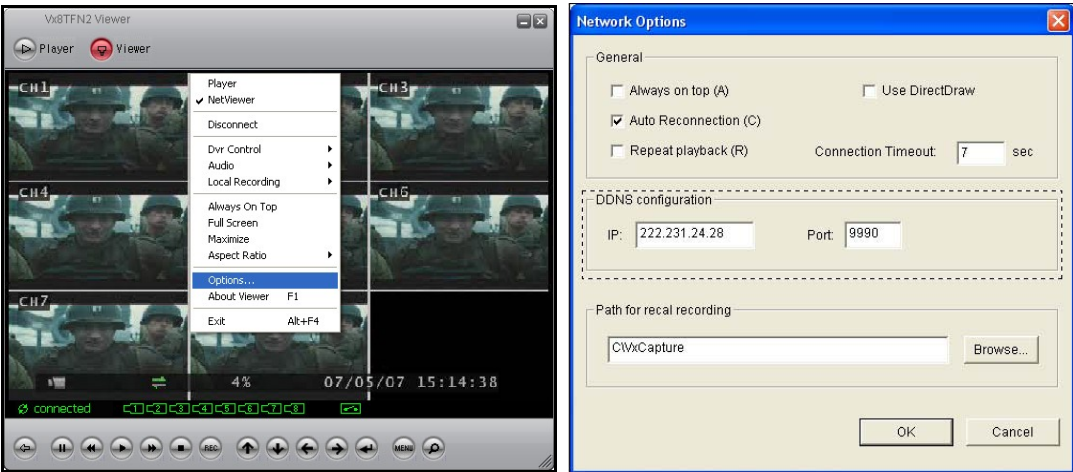
Repeat playback: Repeat playback.

Connection Timeout: Set time for connection.
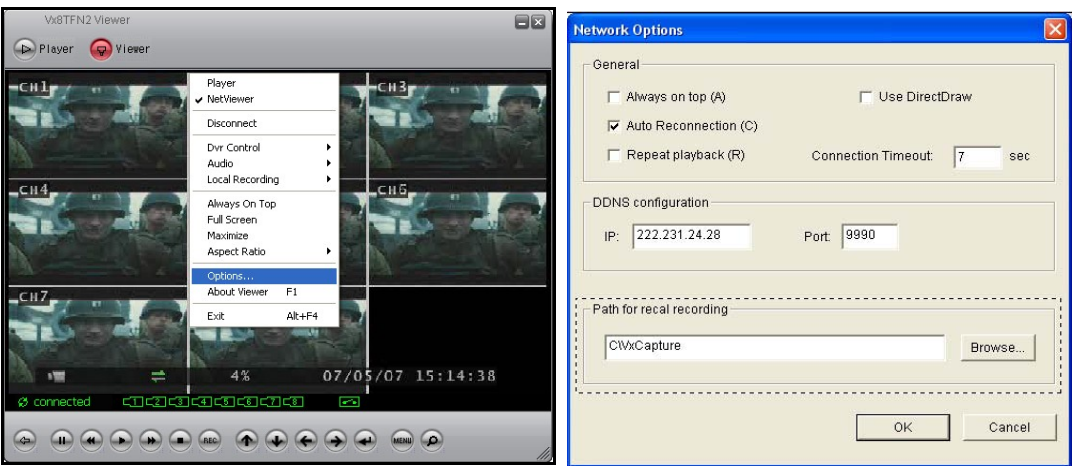
DDNS configuration

IP: Input the DDNS server address. IP ADDRESS should be [222.231.24.28]

Port: Input the DDNS port. DDNS PORT should be[9990]

Path for recall recording

Designate directory for saving image in computer.

10.2.2.7. Close Viewer

As shown below, you can click the [EXIT] to close the program, or press the key [Alt+F4] to finish the program. You can click [X] button on the top-right side of program to close the program.

10.2.2.8. BUTTION FUNCTION

You can click buttons on the bottom of program to operate easily. Below table shows the icon function.
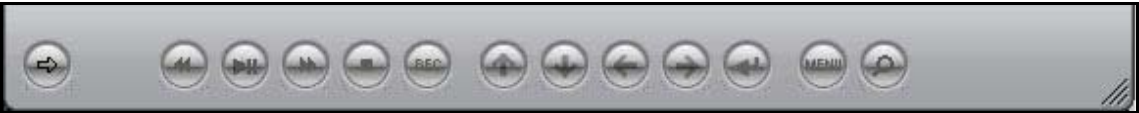
ICON	SHORTENING KEY	FUNCTION
	L	Connect /Disconnect DVR.
	G	Play/Pause.
	R	Rewind.
	F	Fast Forward.

■	S	Stop.
REC	C	Record.
↑ ↓ ← →	↑ ↓ ← →	Up, Down, Left, Right.
↵	Enter key	Enter / Select
MENU	M	Menu / Exit
🔍	–	Time Search.

11. SPECIFICATION

< 4 CH DVR >

Product	BASIC	NETWORK	Remark
OS	Real-time OS		
Input channel	4 Channel		
Output channel	2 Channel		
VGA	1 Channel		
Audio input channel	1 Channel		
Audio output channel	1 Channel		
Video Type	NTSC/PAL		
Record Resolution	640 * 224 Pixel(NTSC) / 640 * 272 Pixel(PAL)		
VGA Resolution	1024 * 768		
Monitoring Speed	240 FPS(NTSC) / 200 FPS(PAL)		
Record Speed	60 FPS/4CH(NTSC 15 F/CH) 50 FPS/4CH(PAL 12.5 F/CH)		
Compression Format	MOTION JPEG/ 8~20KB/frame		
Transmission	MPEG4		
Display Mode	1 / 4 Screen		
Recording Mode	Continuous /Motion /Sensor /Scheduled		
Motion detection	ON/OFF control, and selectable motion sensitivity		
Sensor/Alarm	4 CH Input / 1 CH Output / Alarm display		
HDD Capacity	Max. HDD 2		
PTZ Control	PELCO-D (RS485)		
Network protocol		TCP	
DHCP		Support	
User Interface	Key button, Remote Mouse	Key button, Remote Mouse	
BACKUP	USB, CD-R/W(Option)		
MICROSOFT WINDOWS SURPORTS	VIEWER		
Power	DC12V, 5A		
Operation Temperature/Humidity	5~40℃/20~80% RH		

< 8CH DVR >

Product	BASIC	NETWORK	Remark
OS	Real-time OS		
Input channel	8 Channel		
Output channel	2 Channel		
VGA	1 Channel		
Audio input channel	1 Channel		
Audio output channel	1 Channel		
Video Type	NTSC/PAL		
Record Resolution	640 * 224 Pixel(NTSC) / 640 * 272 Pixel(PAL)		
VGA Resolution	1024 * 768		
Monitoring Speed	240 FPS(NTSC) / 200 FPS(PAL)		
Record Speed	60 FPS/8CH(NTSC 7.5 F/CH) 50 FPS/8CH(PAL 6.25 F/CH)		
Compression Format	MOTION JPEG/ 8~20KB/frame		
Transmission	MPEG4		
Display Mode	1 / 9 Screen		
Recording Mode	Continuous /Motion / Sensor / Scheduled		
Motion detection	ON/OFF control, and selectable motion sensitivity		
Sensor/Alarm	4 CH Input / 1 CH Output / Alarm display		
HDD Capacity	Max. HDD 2		
PTZ Control	PELCO-D (RS485)		
Network protocol		TCP	
DHCP		Support	
User Interface	Key button, Remote Mouse	Key button, Remote Mouse	
BACKUP	USB, CD-R/W(Option)		
MICROSOFT WINDOWS SURPORTS	VIEWER		
Power	DC12V, 5A		
Operation Temperature/Humidity	5~40℃/20~80% RH		

12. RECOMMENDED HDD/CD-RW

12.1. RECOMMENDED HDD

Recommended Hard disk maker	Seagate
	Samsung
	Hitachi
Maximum Capacity	Up to 500GB

12.2. RECOMMENDED CD-R/W

Recommended CD-R/W maker	Maker	LG electronics
	Model	GCE-8527B(black)
	Media	52X CD-R

13. WARRANTY AND DISCLAIMER

The manufacture does not assume any responsibilities related to the sales of the unit and does not endorse any third party to represent the manufacturer in any way. The warranty does not apply to malfunctions of the unit or its parts resulting from any accident, negligence, misuse, or misapplication. Also, the warranty does not include accessories or components that the manufacturer does not supply.

The warranty is valid for the one year from the data of purchase. However, the malfunctions listed below are not covered by the warranty even during the warranty period. Repair services for the malfunctions below will be available, but with applicable charges.

If any malfunctions occur due to carelessness of the user;

If a user disassembles or replaces any parts of the unit without permission;

If any power other than the rated power is connected to the unit;

If malfunctions occur due to natural disaster (fire, flood, tidal wave, etc.); or,

If consumable parts/items are to be replaced;

The warranty specified herein is only for the units delivered.

Consumers will be charged for examination and repairs after the expiration of the warranty period (one year).

A fee will be assessed for repairs or examination except within the scope of warranty specified herein even during the warranty period.

For out-of-warranty services, please contact your local vender or service center.

Any work by unauthorized personal will not be covered by warranty

SURETY CERTIFICATE

PRODUCT OR MODEL NAME	HS-400STB, HS-401STN HS-800STB, HS-801STN	
PURCHASE PLACE		
PURCHASE DATE		
GUARANTEE PERIOD	1 YEAR FROM PURCHASE DATE	
CUSTOMER	NAME/TEL	/
	ADDRESS	