



# A.I. DVR

## USER'S MANUAL

INTRO

OPERATION

SETUP



APPENDIX



### ● QUICK START GUIDE

We've included this convenient Quick start guide to show you basic functions and techniques that will help you quickly master DVR.

## SAFETY PRECAUTIONS

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<b>WARNING:</b> TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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

## FCC COMPLIANCE NOTICE

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS 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 WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

**WARNING:** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER’S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

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## PRODUCT INTRODUCTION

A.I. DVR is an ideal cost-effective CCTV solution for smallscale surveillance systems. Easy to install and use, the A.I. DVR performs 5 actions simultaneously.

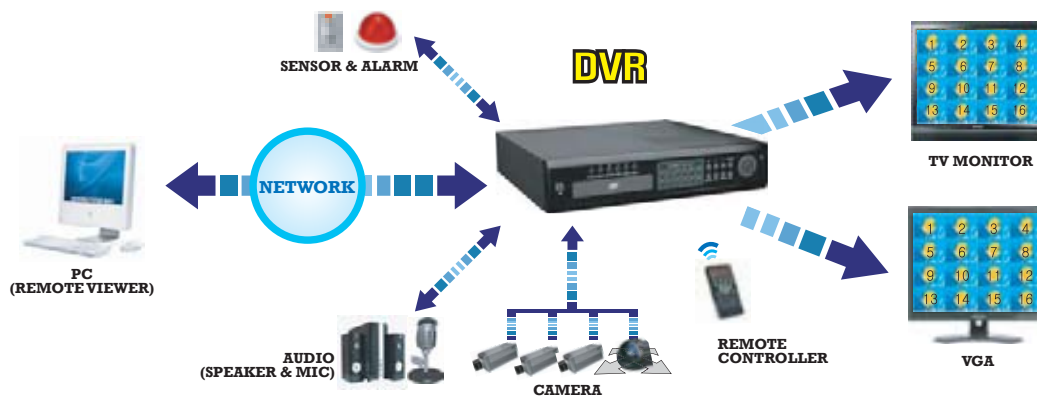
- Monitors 8 or 16 cameras
- Records video in MPEG-4 format with audio
- Control sensor & alarm functions
- Advanced search
- Transmits data over the network

Sophisticated search functions help the user easily find a desirable record.

A.I. DVR can control PTZ cameras through the 485 serial ports.

And A.I. DVR can control sensor & alarm functions through the 232 serial ports.

Remote monitoring and searching with Microsoft® Internet Explorer™ makes it stand out from the multitude of other DVRs.



## PACKAGE CONTENTS



DVR



User's Manual



Remote Controller



Power Cord (110V or 220V)



Battery

- DVR
- Power Cord

- User's Manual
- Battery

- Remote Controller



### NOTICE

If anything is missing from the package, please notify the shop you purchased DVR from.

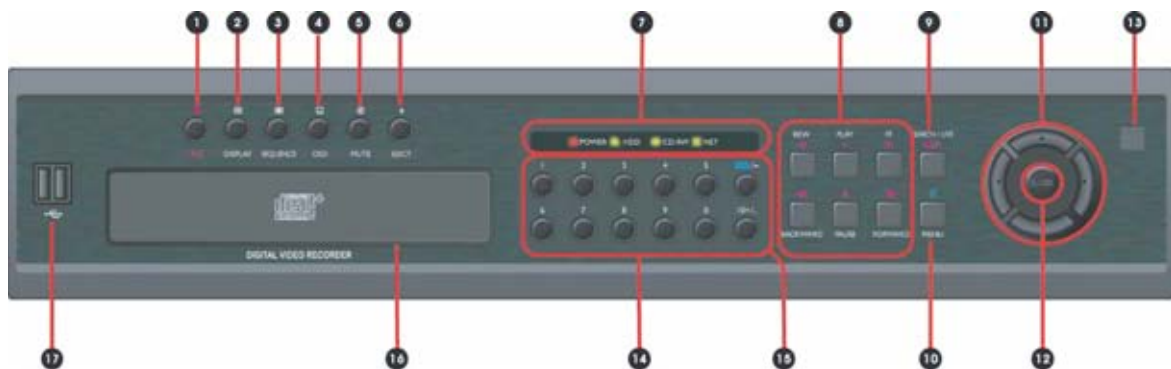
## REMOTE CONTROLLER



### NOTICE

Make sure that insert the batteries. ('AAA' Type × 2ea)

## FRONT PANEL

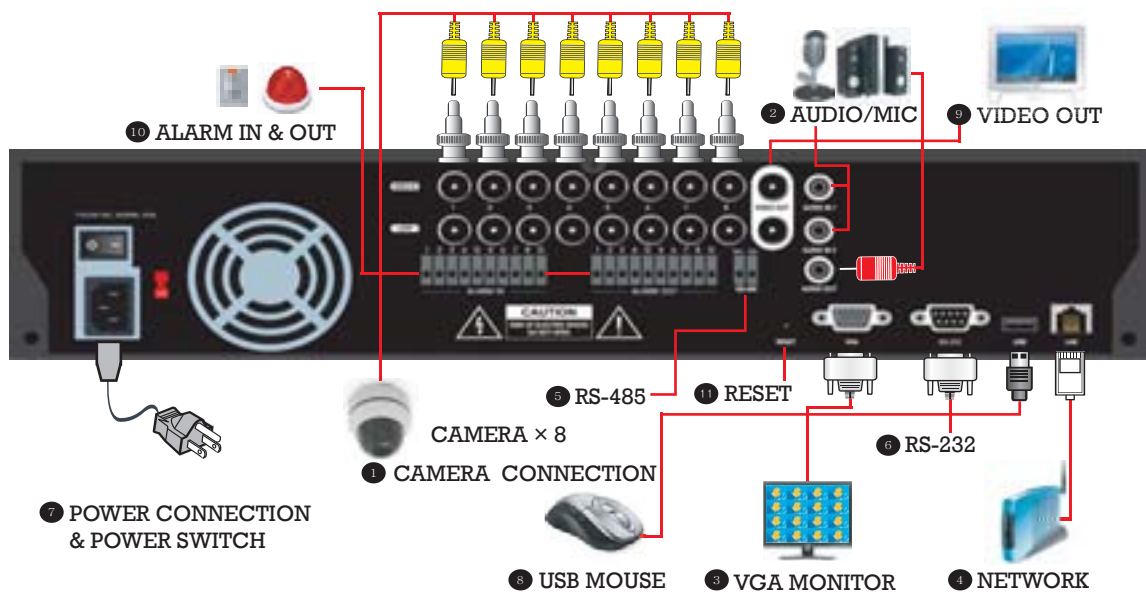


- ① **RECORDING** - Start / Stop recording manually
- ② **DISPLAY** - Change screen mode
- ③ **SEQUENCE** - Sequence On/Off
- ④ **OSD** - OSD On/Off
- ⑤ **MUTE** - Sound On/Off
- ⑥ **EJECT** - Eject a CD from CD-ROM
- ⑦ **LED** - Power/HDD/CD-RW/Network
- ⑧ **SEARCH MODE CONTROL** - Playback recorded data
- ⑨ **LIVE/SEARCH** - Change Live/Search Mode
- ⑩ **MENU** - Enter/Exit the setup menu or sub-menu
- ⑪ **DIRECTION BUTTONS** - Move cursor
- ⑫ **ENTER** - Confirm selection or Setting
- ⑬ **REMOTE CONTROLLER SIGNAL RECEIVER**
- ⑭ **NUMBER BUTTONS** - Input numbers or Channel
- ⑮ **FUNCTION/BACKSPACE** - Enter/Exit the PTZ mode or Delete character/number
- ⑯ **CD-R/RW & DVD-R/RW**
- ⑰ **USB CONNECTOR** - USB mouse & USB Storage device

### NOTICE

The specification or design of product is subject to change without notice.  
 When USB 1.1 device (12 Mbps) is inserted to DVR, beep sounds 1 time.  
 When USB 2.0 device (480 Mbps) is inserted to DVR, beep sounds 2 times.

## REAR PANEL (8 CHAN-



### 1 Camera Connection

Connect the CCD cameras to **VIDEO IN** on the rear panel of the DVR.

### 2 Audio connection

Connect a microphone to **AUDIO IN 1 & 2** and speaker to **AUDIO OUT** on the rear panel of DVR. Audio input and output should be amplified, since the DVR does not have an embedded amplifier.

### 3 VGA Monitor Connection

Connect the VGA monitor to the **VGA** on the rear panel of the DVR.

### 4 Network Connection

Connect the Normal LAN cable, connected to the network, to the network RJ-45 connector on the rear panel of the DVR.

### 5 RS-485 Connection

Connect the cable to **RS-485** connector on the rear panel of the DVR.

### 6 RS-232 Connection

Connect the cable to **RS-232** connector on the rear panel of the DVR.

### 7 Power Connection & Power Switch

Connect the power cord to the **MAIN POWER** connector on the rear panel of the DVR. The DVR is booted up when **Power Switch** turns on.

### 8 USB Connection

Connect the USB mouse or USB storage to the USB port on the rear panel of the DVR.

### 9 TV Monitor Connection

If you want to use a TV monitor, connect the TV cable to **VIDEO OUT** on the rear panel of the DVR. But you may not see almost OSD on TV monitor.

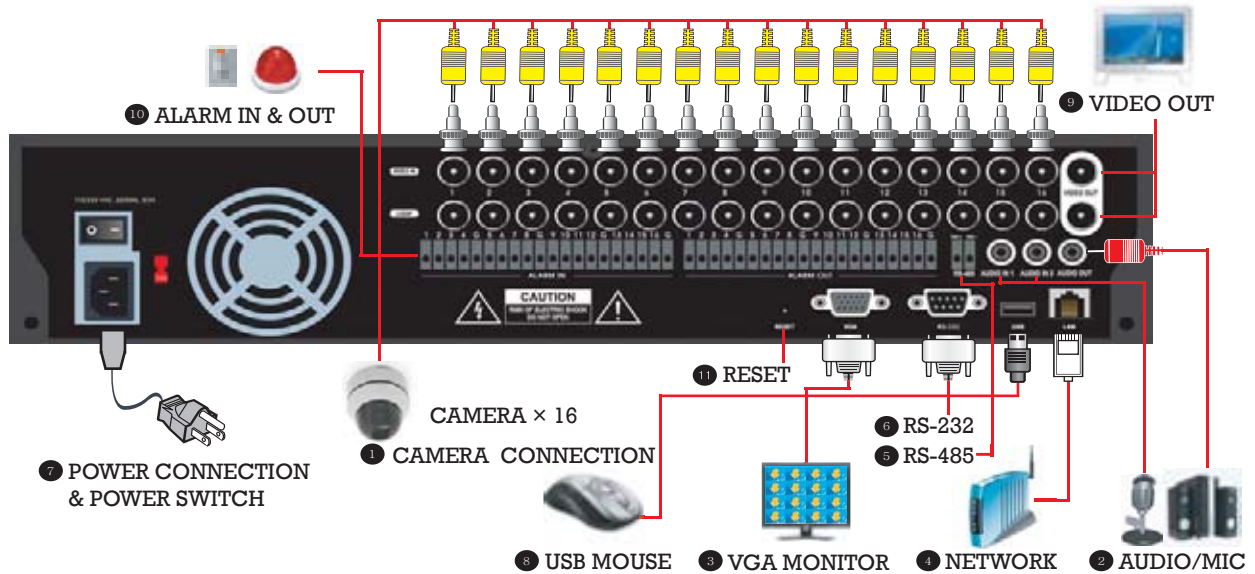
### 10 Alarm In & Alarm Out

Connect the sensor and alarm to the **Alarm In & OUT** on the rear panel of the DVR.

### 11 Reset (ID & PW reset)

**RESET** button is only used to restore ID & PW to factory defaults. To initialize DVR's ID & PW, press the **RESET** button with a straight clip for about 3 seconds. When it is reset completely, the ID & PW reset message will displayed on the screen.

## REAR PANEL (16)



- 1 Camera Connection**  
Connect the CCD cameras to **VIDEO IN** on the rear panel of the DVR.
- 2 Audio connection**  
Connect a microphone to **AUDIO IN 1 & 2** and speaker to **AUDIO OUT** on the rear panel of DVR. Audio input and output should be amplified, since the DVR does not have an embedded amplifier.
- 3 VGA Monitor Connection**  
Connect the VGA monitor to the **VGA** on the rear panel of the DVR.
- 4 Network Connection**  
Connect the Normal LAN cable, connected to the network, to the network RJ-45 connector on the rear panel of the DVR.
- 5 RS-485 Connection**  
Connect the cable to **RS-485** connector on the rear panel of the DVR.
- 6 RS-232 Connection**  
Connect the cable to **RS-232** connector on the rear panel of the DVR.
- 7 Power Connection & Power Switch**  
Connect the power cord to the **MAIN POWER** connector on the rear panel of the DVR. The DVR is booted up when **Power Switch** turns on.
- 8 USB Connection**  
Connect the USB mouse or USB storage to USB port on the rear panel of the DVR.
- 9 TV Monitor Connection**  
If you want to use a TV monitor, connect the TV cable to **VIDEO OUT** on the rear panel of the DVR. But you may not see almost OSD on TV monitor.
- 10 Alarm In & Alarm Out**  
Connect the sensor and alarm to the **Alarm In & OUT** on the rear panel of the DVR.
- 11 Reset (ID & PW reset)**  
**RESET** button is only used to restore ID & PW to factory defaults. To initialize DVR's ID & PW, press the **RESET** button with a straight clip for about 3 seconds. When it is reset completely, the ID & PW reset message will displayed on screen.





This manual is a setup and maintenance guide that can be used for reference when setting up the unit and for troubleshooting when a problem occurs. Only authorized personnel should attempt to repair this unit.

This manual explains about 16 channels DVR. It differs as several functions and screen comparing with 8 channels DVR. For example, the number of screen, button and sequence etc.

Manufactory reserves the right to make changes to the product represented by this manual without notice.

The following text, symbol marks and special messages throughout this guide:



**WARNING**

Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.



**CAUTION**

Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.





**NOTICE**

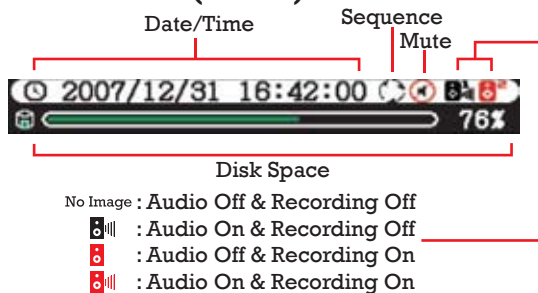
Text set off in this manner indicates topics of interests that can help the user understand the product better.

# OPERATION

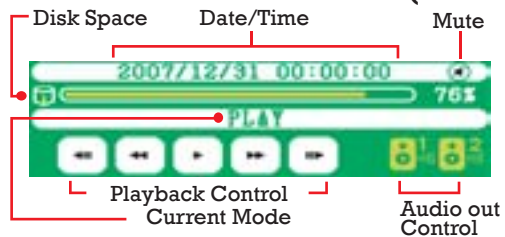
## How to display DVR information On Screen Display(OSD)

To toggle between the all **OSD** display mode and all **OSD** hide modes, press the **OSD**  button on the remote controller or the **OSD**  button on the front panel.

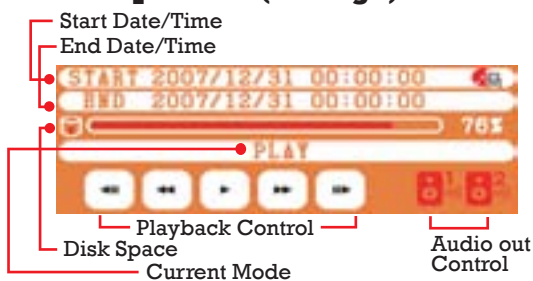
### Live Mode (Black)



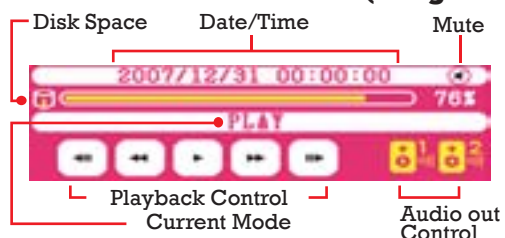
### Search Mode : Normal (Green)



### Backup Mode (Orange)



### Smart Search Mode (Magenta)



OPERATION

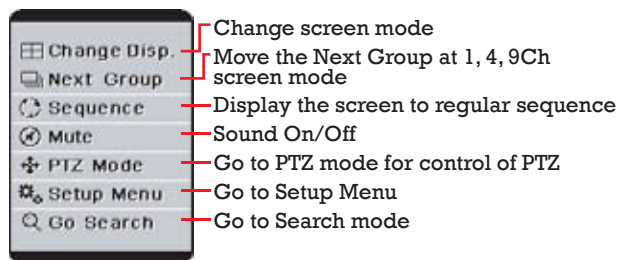
## NOTICE

Whenever press the **OSD**  button or **OSD** double-click by a mouse, **OSD** position will be changed as follow.

Middle of the screen → Top of the screen → Bottom of the screen → Hidden → Mid.

### Mouse context menu

This context menu will be appeared when you press the **MENU**  button on the remote controller or the **MENU** button  on the front panel or right-click on the mouse.



<Live mode>







<Search mode>

## NOTICE

All **OSD** may not display on TV monitor which is connected to **VIDEO OUT**.

TABLE 1.

DEVICE	MOVE	SELECT
REMOTE CONTROLLER	Press the direction  buttons	Press the enter  button
FRONT PANEL	Press the direction  buttons	Press the enter  button
MOUSE	Use the mouse	Left-click




## How to display each channel & multichannel (DISPLAY)

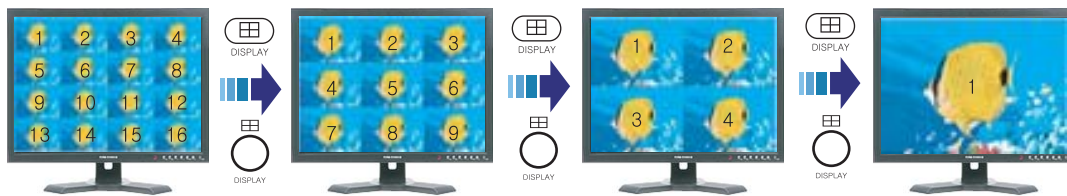
It takes about 20 seconds to initialize the DVR after input power.

Once the DVR completes the initializing process, it will display the live video on the connected VGA monitor.


Press the camera channel number **1** ~ **16** buttons on the remote controller or channel number **1** ~ **10+** buttons on the front panel.

### To change display mode:


REMOTE CONTROLLER	Press the <b>DISPLAY</b>  button
FRONT PANEL	Press the <b>DISPLAY</b>  button
MOUSE	Right-click and select  <b>Change Disp.</b> on context menu



### NOTICE

Whenever you press the **DISPLAY** button or click the  Change disp., it will change screen mode in a cycle, starting from the current screen mode.




### NOTICE

Click the  Next Group button in 1, 4, 9 channel screen mode to change channel group within the group.


## How to rotate monitoring channels (SEQUENCE)

In the sequence mode, each channel is displayed on the screen for the preset period of time.

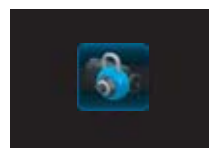
### To enable/disable sequence mode:

REMOTE CONTROLLER	Press the <b>SEQUENCE</b>  button
FRONT PANEL	Press the <b>SEQUENCE</b>  button
MOUSE	Right-click and select  <b>Sequence</b> in context menu in Live mode

### NOTICE


When sequence mode is 'On', icon  will be appeared on OSD.

## How to hide monitoring channels for privacy







<Privacy screen mode>




Go to **SETUP** menu(1.**BASIC SETTING** - 2. **CAMERA REGISTRATION**) to do setting the private protection.

- STEP 1** Press the **MENU**  button and then press **[1]** + **[2]** button on the remote controller.
- STEP 2** Select 'On' in a privacy tab of the channel which you want to set up.
- STEP 3** Monitoring channels will not be shown on the screen. But the video can be recorded and played in the search mode.

## How to turn sound On /Off (MUTE)


When you press the **MUTE**  button on the remote controller or the **MUTE**  button on the front panel or right-click and click **Mute**  menu on the context menu, you can turn sound on or off via speaker. When mute mode is active,  icon will be appeared on OSD.

 **To turn sound on/off:**

REMOTE CONTROLLER	Press the <b>MUTE</b>  button
FRONT PANEL	Press the <b>MUTE</b>  button
MOUSE	Right-click and select <b>Mute</b>  in context menu

## How to record audio

### Audio Recording

If it is set to “**RECORDING - On**” in menu setting, **SETUP** menu (1.**BASIC SETTING** - 8. **AUDIO**) the audio can be recorded with video recording and a red speaker  icon will be appeared on the live screen. The setting of audio recording is only possible in the **SETUP** menu.

For more detail, See **SETUP** manual (1.**BASIC SETTING** - 8. **AUDIO**).

## How to record monitoring channels

All channels are recorded automatically when you use DVR at first time. If you want to change the recording schedule, you can change it in the **SETUP** menu(1.**BASIC SETTING** - **1** **RECORDING SCHEDULE**).

There are four ways for recording; Schedule recording, PANIC recording, Motion Event recording and Alarm Input recording. (6. **TECHNICAL SETTING** - **3** **ALARM INPUT**)



### NOTICE



This image will be displayed on video channel when DVR cannot receive video signal.



### ❑ Schedule Recording

You can select that the recording channel, day, time, image quality, REC mode and number of frame for recording. For more detail, See **SETUP** manual (1.**BASIC SETTING** - **1** **RECORDING SCHEDULE**).

### ❑ PANIC (EMERGENCY RECORDING)

When an emergency situation occurs, by pressing the **PANIC**  button on the remote controller or **REC**  button on the front panel, you can record pre-recorded image and the video on all cameras regardless of recording schedule manually.

#### To start or stop panic recording manually:


REMOTE CONTROLLER	Press the <b>PANIC</b>  button
FRONT PANEL	Press the <b>REC</b>  button



### NOTICE

On time laps recording mode,  icon displayed on channel.

On all event(motion, alarm input) recording mode,  icon displayed on channel.

On panic recording mode,  icon displayed on each channel and  icon is flicker on screen. Panic recording can not be controlled with a mouse.

### ❑ Motion event Recording

**STEP 1** Set recording mode to **MOTION** on **SETUP** menu (1.**BASIC SETTING** - **1** **RECORDING SCHEDULE**).

**STEP 2** Select **MOTION AREA** on **SETUP** menu (1.**BASIC SETTING** - **2** **CAMERA REGISTRATION**).

**STEP 3** Recording will be started when the motion occurs at set area.  
For more detail, See **SETUP** manual (1.**BASIC SETTING** - **2** **CAMERA REGISTRATION**).






### WARNING

It is user's responsibility to determine whether audio recording is legal for their site.










## How to playback recorded video (Normal Search)

In the playback mode you can playback the video at various speeds and forward or reverse direction.

To search the archive of recorded video, press the **LIVE/SEARCH**  button on the remote controller or the **LIVE/SEARCH**  button on the front panel or select  **Go search** by a mouse on context menu.























### To toggle between monitoring mode and playback mode:

REMOTE CONTROLLER	Press the <b>LIVE/SEARCH</b>  button
FRONT PANEL	Press the <b>LIVE/SEARCH</b>  button
MOUSE	Right-click and select  <b>Go Search</b> on context menu / Right-click and select  <b>Go Live</b> on context menu

To display in full screen mode for each screen during playback, press the **DISPLAY**  button or channel number  ~  buttons.

Whenever press the channel number or double-click a channel by a mouse, display image will be changed is to original size and full size.

The button table related with playback operation is as follows:

FUNCTION	REMOTE CONTROLLER	FRONT PANEL	USE MOUSE
Toggle between playback and live monitoring mode			 <b>Go Search</b>  <b>Go Live</b>
Playback at normal speed			
Reverse playback			
Forward playback			
Pause			
Playback previous frame (every 4 seconds)			
Playback next frame (every 4 seconds)			



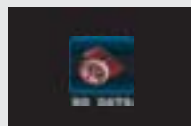
### NOTICE

Whenever you press the reverse and forward button, the playback speed will be faster.(3 steps)



### NOTICE

This image will be displayed on video channel when DVR does not have recorded video data.





## How to search recorded video (Advanced Search)

There are three ways in advanced search: **STATISTICS SEARCH**, **SMART SEARCH**, and **EVENT SEARCH**.

### ❑ STATISTICS SEARCH



This **STATISTICS** shows the total size of recorded data by time, week and month. Size of recorded file is proportional with frequency of motion. Comparing with these charts, you can search the video by date and time.

- STEP 1** Move cursor select date and time.  
The bar on the upper chart shows size of recorded files by time.
- STEP 2** Select a time bar you want to search.  
Search time can be set by manual.

**CUMULATIVE ANALYSIS** shows size of total data on the HDD by period by time, week or month. Select one category.



### NOTICE


**1** – recorded data(blue) / **1** –selected position(black) / **1** –cursor position(bright blue)

The descriptions of moving cursor or settings see the **TABLE 1** (8 Page) of front page.

### ❑ SMART SEARCH



**SMART SEARCH** allows user to play fast only recorded data of selected area where a motion was detected.

- STEP 1** Select a date on calendar and set channel time
- STEP 2** To set motion detection areas, drag mouse or right-click on the scene. Or move cursor and press **ENTER**  button with the remote controller. Select **OK** button to apply changes.



### NOTICE

**SHOW MOTION DETECTION**

- Areas where motion is detected are in Cyan boxes on search screen.

**SHOW REGION OF INTEREST**

- Areas where you set as a region of interest are in Green boxes on search screen.

The descriptions of moving cursor or settings see the **TABLE 1** (8 page) of front page.

## □ EVENT SEARCH



DVR records several events with the date and time. All lists are displayed in the **EVENT SEARCH** screen.



**STEP 1** Select a date on calendar and set channel and time.

**STEP 2** Select a list of events. Then the recorded file with events plays on the screen.

## 📄 NOTICE

The description of moving cursor or settings see the **TABLE 1** (8 page) of front page.




## How to backup recorded video

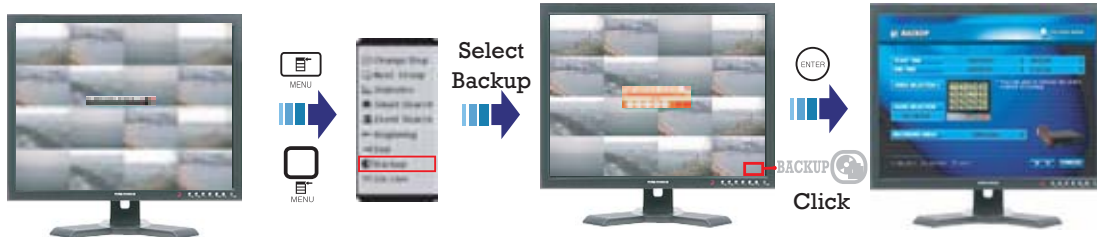
Context menu will be appeared when you press **MENU**  button on a remote controller or press **MENU**  button on a front panel or **Right-click** on a mouse at **Search mode** selects **BACKUP** in context menu.

Orange OSD will be appeared on the screen.

You only need to search data that you want to backup. You can switch channel with **Direction**  buttons or Channel  ~  buttons.

You can change display mode with **DISPLAY**  button.

If you press the **ENTER**  button on a remote controller or click **BACKUP**  **ICON**  on the right bottom of the screen, screen will be converted to **BACKUP** mode.



When you search recorded data at upper screen, time interval, channels and display mode will be applied to **BACKUP** menu. If you want to change items (eg. Time, Channels), you can change it on **BACKUP** menu.

Channels in gray color will not be backed up. You can select channels to add or remove for backup in video selection tab.

You can also backup audio.

(1 channel or 2 channel or 1 & 2 channels)

Choose a media type for your backup.

(USB storage device or CD)



## How to connect & control PTZ

The RS-485 connector can be used to control PTZ(Pan, Tilt, Zoom) cameras. Connect TRX+ / TRX- of the control system to the TRX+ / TRX- (respectively) of the DVR.

Connect PTZ camera to RS-485 at the rear panel of DVR.



### NOTICE

Due to specification of camera is various flowing manufacturer, please refer to the manual of camera for more detailed information about connecting and setting PTZ cameras.



## PTZ MODE

The DVR can control multiple cameras that have Pan, Tilt and Zoom function. There are three ways to control the PTZ mode using mouse, remote controller and **Direction** buttons on front panel of DVR.

You can only enter PTZ mode at "FULL SCREEN MODE" for one channel.

You can't enter PTZ mode at 4/9/16CH viewer mode.

- |                           |              |                  |
|---------------------------|--------------|------------------|
| Zoom In                   | Focus Near   | Camera Setup OSD |
| Zoom Out                  | Focus Far    | Setup            |
| Auto Focus                | Camera setup | Context menu     |
| 1 ~ 0/10 Input Preset No. |              |                  |



### By mouse

- STEP 1** Right-click the mouse at channel which you want to control PTZ camera. Select **PTZ Mode** on the context menu.
- STEP 2** Move the pointer to the end of the screen.
- STEP 3** The triangle icon will be appeared on screen.
- STEP 4** Click the icon to move camera
- STEP 5** You can control **Zoom In/Out** via mouse wheel.
- STEP 6** When you click **Fn** on screen or press **Fn** button on the remote controller, you can enter to **SET MODE**.  
When you want to exit PTZ mode, select **PTZ mode exit** on the context menu.

### By Remote controller or Front panel buttons

- STEP 1** Please change display mode to 1 channel full screen mode (want to control channel). Press the channel number.
- STEP 2** Press the **Fn** button to enter PTZ mode.
- STEP 3** To control press the **Direction** buttons on the remote controller or on the front panel. When you press the MENU button, context menu will be displayed. When you press the OSD button, camera's setting information will be displayed on screen.

## SET MODE

During PTZ mode, you can enter the SET MODE using Fn button. You can set up PTZ cameras and Pre-set positions at the SET MODE.

To enter SET MODE, please press Fn button on remote controller or front panel or click the Fn icon on the screen.



### NOTICE

To use MOVE PRESET and CLEAR PRESET function, you must set one pre-set position at least at SET PRESET mode.

#### MOVE PRESET

You can move the camera to the Pre-set position at this menu. You can choose the Pre-set number using ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. To move the camera, please press the enter button or click MOVE PRESET icon on the screen.

#### CLEAR PRESET

You can delete the pre-set positions at this menu. You can choose the Pre-set number using ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. To delete the Pre-set position, please press the enter button or click CLEAR PRESET icon on the screen.

#### SET PRESET

You can set the Pre-set position at this menu. You can set the number 1~255 (max 255 numbers).

You can choose the Pre-set number using ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. To set the Pre-set position, please press the enter button or click SET PRESET icon on the screen.

#### ZOOM

You can adjust the magnification at this menu. You can adjust the magnification using ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. - icon corresponds to Zoom out. + icon corresponds to Zoom in. About the available range of magnification, please refer to the manual of the camera that you have set.

#### FOCUS

You can adjust the Focus at this menu. You can adjust the Focus using ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. - icon corresponds to Far. + icon corresponds to Near.

#### IRIS

You can control the IRIS of camera at this menu. Please adjust light inflow using opening IRIS or Closing IRIS. You can adjust the IRIS by ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. - icon corresponds to closing the IRIS. + icon corresponds to opening the IRIS.

#### SPEED

You can adjust Speed of the PTZ camera at this menu. You can adjust the speed using ←, → button on the remote controller, ←, → button on the front panel or -, + icon on the screen. - icon corresponds to speed reduction. + icon corresponds to speed up.



### NOTICE

You can enter the Camera setting mode using ← (Back space) button. About detailed information of setting the camera, please refer to the manual of the camera. Due to the factory setting of camera is different depending on manufacturers or products, this function might be unable to use. This malfunction is not caused by DVR. This DVR is set as Palco-D, 95 preset.

## How to connect RS-232 port

### Connecting to the RS-232 Port

Connect to RS-232 port with D-sub 9 pin if the external device uses RS-232 communication signal for control or data communication. Configuring the RS-232 is same as RS-485.

For RS-232 setting, see “6. TECHNICAL SETTING – 6 ETC” and for more information related to RS-232 external device, refer to its manufacture’s manual.

## How to use alarm input & alarm output

### Connecting Alarm Input & Output



To make connections on the alarm connector strip, press and hold the button and insert the wire in the hole above the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button below the wire and pull out the wire.

When a specific alarm(sensor) signal is detected, DVR has the functions that make users to recognize the alarm(sensor) occurrence easily: channel recording, channel or message popup, alarm output etc. For alarm setting, see “6. TECHNICAL SETTING - 9 ALARM INPUT”

#### ALARM IN 1 to 16

You can use external devices to signal the DVR to read to events.

Mechanical or electrical switches can be wired to the AI (Alarm In) and GND (Ground) connectors.

#### GND (Ground)

All the connectors marked GND are common.

Connect the ground side of the alarm input and/or alarm output to the GND connector.

#### ALARM OUT 1 to 16

The DVR can activate external devices such as buzzers or lights. Connect the device to the AO (Alarm Out) and GND (Ground) connectors.

### Setting to the sensor alarm

Go to **SETUP** menu (6. TECHNICAL SETTING - 9 ALARM INPUT) to do setting the alarm input.



Set **RECORDING CHANNEL** or **IMAGE QUALITY**, **MAIN CHANNEL**, **MESSAGE**, **ALARM OUTPUT**, **DURATION** and **ACTIVE TIME** to notify an alarm (sensor) detection in this menu.

Select **MESSAGE** and type an alarm message using **ON SCREEN-KEYBOARD**.

Select **ACTIVE TIME** and **DURATION** to set alarm operation schedule and output time. Recording time follows the **PRE-POST EVENT RECORDING** time in **BASIC SETTING** menu.

At active time tab selection, active time window will be appeared and set alarm active time in this window.

#### ❑ Setting to the motion alarm

Go to **SETUP** menu(6. **TECHNICAL SETTING** - ④ **MOTION ALARM OUTPUT**) to do setting the motion alarm.



When motion is detected in each camera channel during active time, alarm output device operates for alarm duration time.

For motion alarm output setting, see “6. **TECHNICAL SETTING** - ④ **MOTION ALARM OUTPUT**”

Select **MOTION ALARM-ENABLE** in each camera channel to use alarm output function and set alarm output channel, duration and active schedule.

#### ❑ Setting to the ETC (Alarm Input method, RS-232).

Go to **SETUP** menu(6. **TECHNICAL SETTING** - ⑥ **ETC.**) to do setting the alarm and RS-232 device.



Alarm(sensor) input method can be set either **NO(NORMAL OPEN)** or **NC(NORMAL CLOSE)** in each channel.

**NO(NORMAL OPEN)** sensor method normally keeps “**OFF**” state and converts to “**ON**” state when sensor is detected.

**NC(NORMAL CLOSE)** sensor method normally keeps “**ON**” state and converts to “**OFF**” when sensor is detected.

Alarm output method can be set by **High >> Low** or **Low >> High** in each channel.

**High >> Low** method converts output circuit from **ON** state to **OFF**.

**Low >> High** method converts output circuit from **OFF** state to **ON**.

For more information related to RS-232 setting, see its manufacture’s manual.

# Remote Viewer - Overview

## ❑ INSTALLATION



Type the DVR's IP address or domain name into the address bar in Microsoft® Internet Explorer™ and press **ENTER**.

When the Security warning window appears, confirm to install the "DVR Remote Viewer".

You should install the remote viewer component manually. Please install DVR Remote Viewer Setup.exe.

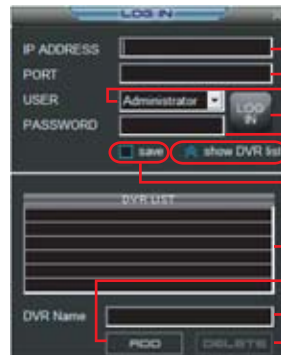
Connect the remote viewer next time, click the shortcut icon on desktop.

## 📌 NOTICE

When **WEB SERVICE PORT** was set by 80 in **2. INTERNET & NETWORK - SERVICE PORT & DDNS** menus, type IP address or domain into the address bar in Microsoft® Internet Explorer™. However, when port number is not 80, you must type port number behind IP address or domain. (ex. http://IP address or domain:port number)

If your DVR is installed under firewall or internet sharing router, you should set port forwarding, DMZ and other settings.

## ❑ CONNECTION



<Log In window>

To connect to your DVR, click the connection button. Select user ID and enter user password and port in the login dialog box. If you want to save information of Log-In, check "save".

If Log-in succeed, live mode window will be appeared. (Program supports 1024 × 768 resolution)



<LIVE Mode (NORMAL)>



<LIVE Mode (FULL)>

If you want to change NORMAL screen mode to FULL screen mode, click the  icon.

The button descriptions related with the remote viewer's operation are as follows:

FUNCTIONS	ON	OFF
CONNECT / DISCONNECT		
OSD		
PTZ		
MODE		
SETUP		
CAPTURE IMAGE		
MIC		
MUTE		
AUDIO		
SEQUENCE		
DISPLAY MODE		
NEXT GROUP		
SCREEN MODE (FULL/NORMAL)		

**□ SETUP**



Set buffering time for stable video transmission via network. As buffering set time the video transmission is delayed.



When you connect the remote viewer, you can select channel that you want to connect.



Set Duration time (0, 1, 2, 4, 8, 15, 30, 60 Sec).

If you check  "Use the sequence mode at start up", sequence mode will be started when you connect to the A.I. DVR.

**□ STATUS**

Labels in the screenshot:  
 - DVR Name: DVR  
 - Date/Time: 2007/12/31 12:21:25 Tue  
 - Transmit frames per second: FPS 84  
 - Transmission network band width: kbps 251  
 - Number of connector: users 1  
 - Current band-width graph: (indicated by a red line graph icon)

<DVR Information Window>

**□ AUDIO SETUP**



You can set audio output. (1 channel or 2 channel or 1 & 2 channels Mix)

**□ PTZ CONTROL**



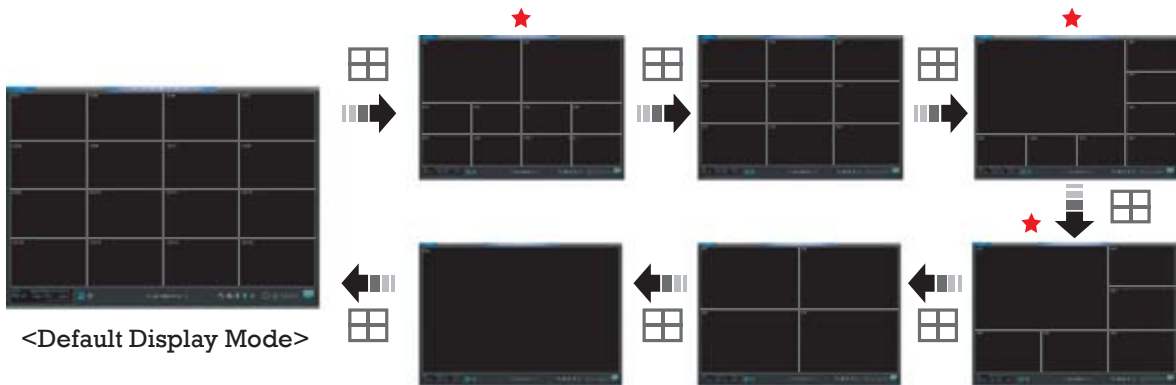
Please change display mode to 1 channel screen mode (want to control channel).

Click the **PTZ** icon and you can control Camera SPEED, FOCUS, DIRECTION, AUTO FOCUS and ZOOM at upper window.

When you want to exit PTZ mode, click (search mode) or (live mode) button.

### □ SEQUENCE & DISPLAY MODE

When you click a DISPLAY  button and SEQUENCE  button, screen will be changed as follows:



### NOTICE

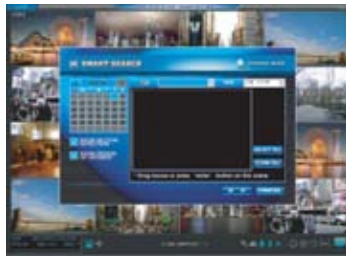
If you want to see large screen at some mode which marks with an asterisk ★, please double-click on desired channel. Large screen and small screen will be switched.

## DVR Remote Viewer (Playback & Backup)

To change PLAYBACK mode, click << GO SEARCH . To return monitoring mode, click >> GO LIVE.



<STATISTICS MODE>



<SMART SEARCH MODE>

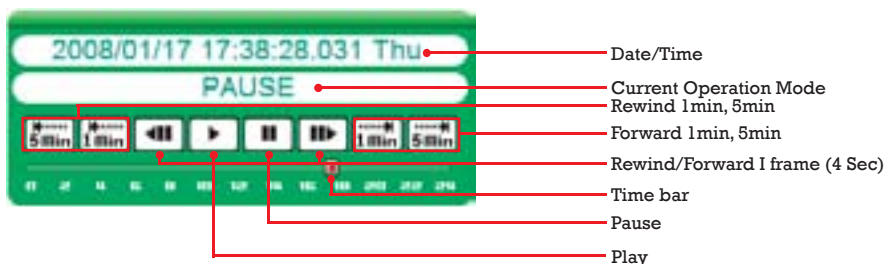


<EVENT SEARCH MODE>

Search process is same as DVR. For more detail see “**How to search recorded video**”.

### NOTICE

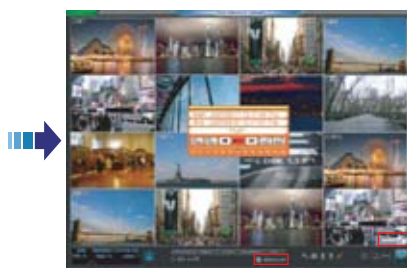
This image will be displayed on video channel when DVR does not have recorded video data.



## □ HOW TO BACKUP



Click BACKUP button



Searching for backup interval  
Click BACKUP or BACKUP



Enter Backup setting mode

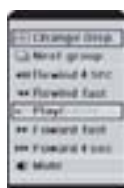


START DATE\_TIME-END DATE\_TIME

<BACKUP ICON>



<BANK PLAYER>



If backup window appears on the screen, you can select date and time, channels, and folder to back up.

When you click **OK** button, backup files will be created on this folder(C:\XDVR). To select other backup folder, press **FIND** button. If you want to play it, please double-click on file (File name: Start Year Month Day\_Time ~ End Year Month Day\_Time). Bank player will be appeared automatically. Play process is same as search viewer.

For more detail see “How to backup recorded video”.

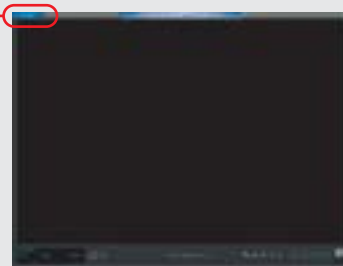
This context menu will be appeared when you right-click the mouse.



### NOTICE

Show the current mode status.

Live Mode -----	
Normal Search Mode -----	
Smart Search Mode -----	
Backup Search Mode -----	

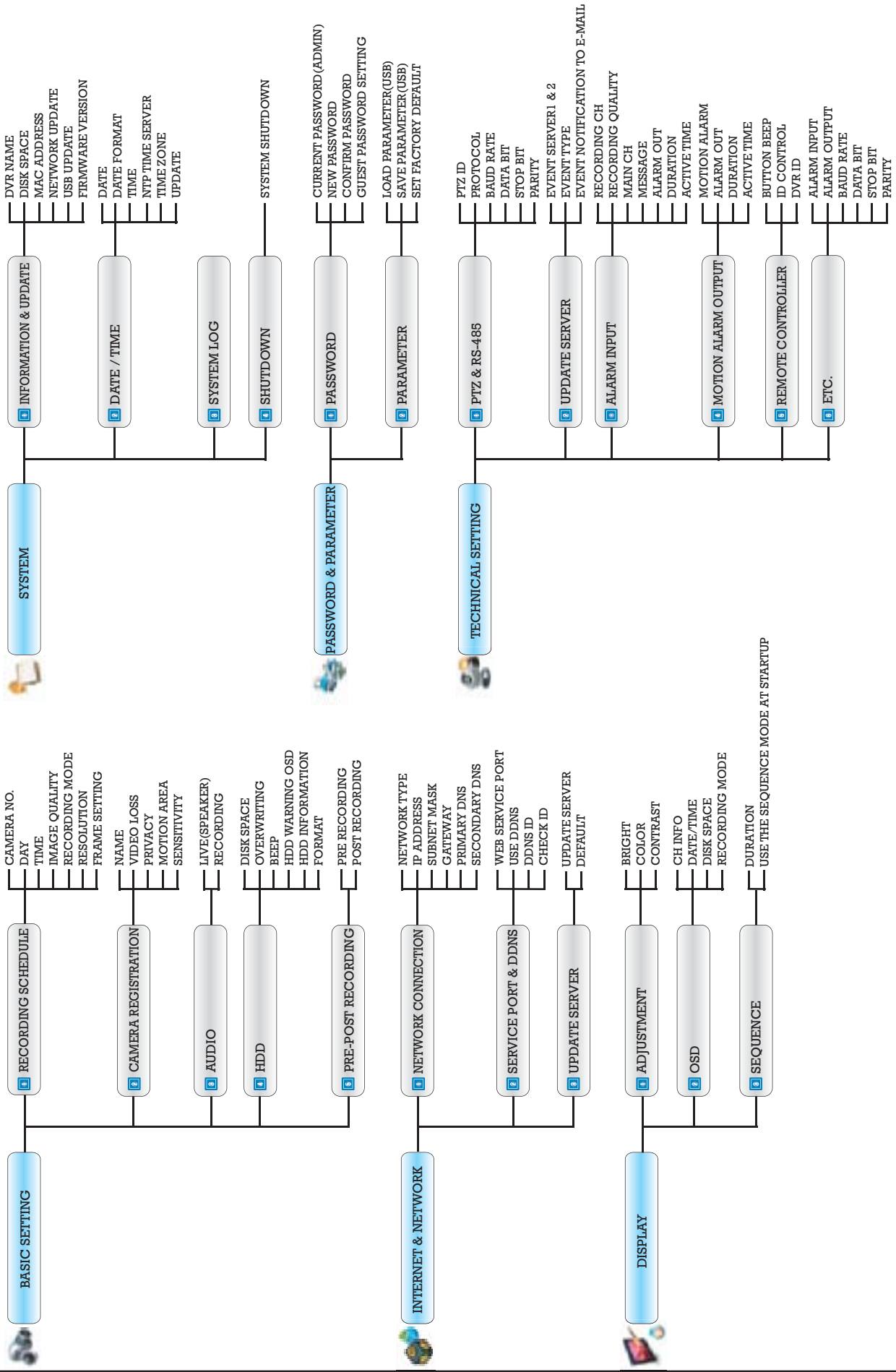


### PC Requirement for Remote Software(Recommended)

CPU	Pentium-4 2.0G or higher
MEMORY	512M or higher
VIDEO MEMORY	128M or higher
RESOLUTION	1024*768 or higher
LAN	100MB BASE Ethernet or higher
O/S	Microsoft® Windows™ 2000, XP, 2003
BROWSER	Microsoft® Internet Explorer™ 6.0 or higher



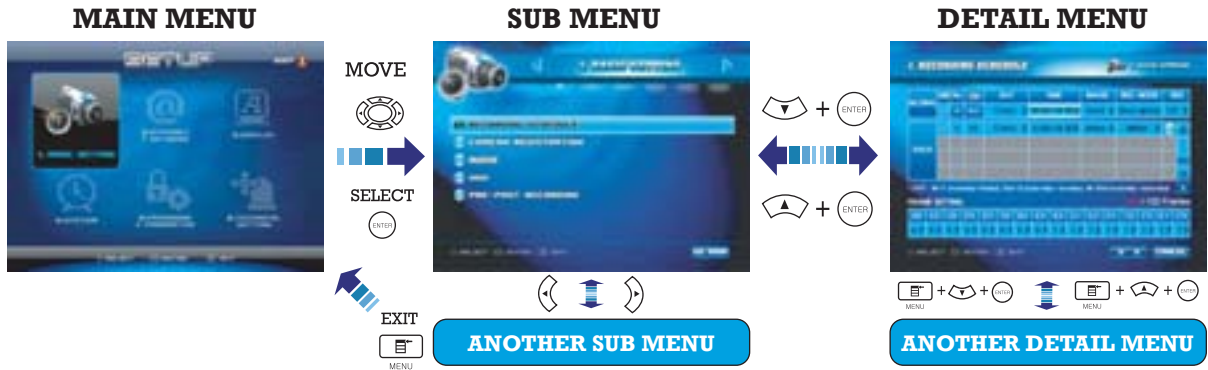
# SETUP Menu Diagram



# How to move the SETUP menus

1 Press  to display the **MAIN MENU**

2 Press  to select a tab, then press  to enter the sub menu.



**NOTICE**  
Move mouse cursor on the screen where you want to set and click to select.

## MOUSE FUNCTION

Left Key : To ENTER or SELECT menu or settings increase

Wheel : To scroll up or down

Right Key : To controll when view live or search mode or settings decrease



## LOG IN



Administrator is given all authorities to search the archive, backup the video and setup. Guest1~3 are given partial authority to search the archive, backup and network connection. Select one of users and type the password to login. If the Administrator's Password is null, some any users can control DVR without login.

**NOTICE**  
For the security purposes, set a password on **SETUP** menu. (**5.PASSWORD & PARAMETER - PASSWORD**)

## ON-SCREEN KEYBOARD



When the **ON-SCREEN KEYBOARD** appears, input characters and numbers by selecting them with the **ARROW** buttons and press **ENTER** to input it.

**Shift** Change Capital/Small letter

**Space** Space

**All clear** Delete all character or number

**Backspace** Delete character or number

**OK** Apply changes and close the **ON-SCREEN KEYBOARD**.

**CANCEL** Cancel changes and close the **ON-SCREEN KEYBOARD**.

# SETUP

Press **MENU** to enter the **SETUP** menu. Press one more time to exit.



- **BASIC SETTING** Recording schedule, Camera registration, Audio, HDD, Pre-post recording.
- **INTERNET & NETWORK** Network connection, Service port & DDNS, Update server.
- **DISPLAY** Adjustment, OSD, Sequence.
- **SYSTEM** Information & Update, Date/Time, System LOG, Shutdown.
- **PASSWORD & PARAMETER** Password, Parameter.
- **TECHNICAL SETTING** PTZ & RS-485, Event, Alarm input, Motion alarm output, Remote controller, Etc.



## 1. BASIC SETTING

### 1. RECORDING SCHEDULE

Press **[1]** + **[1]** buttons on remote controller to select **RECORDING SCHEDULE** in **SETUP** menu.



- **GLOBAL** Applies same recording settings to all cameras simultaneously.
- **EACH** Add **+** Max 16 schedules, to set recording settings of each camera separately. Higher schedule number(No.) is applied above all.
- **FRAME SETTING** The factory default setting are 8 and 7 (NTSC), which means DVR records at the speed of 7~8 frames per second. The higher recording frame is set the more natural video will be displayed on the screen when you playback. The lower recording frame is set the more space you will save on the hard disk drive. There are different record frame rate settings to choose 0, 1, 2, 3, 5, 7, 8, 10, 15, 30 frame per second (NTSC).

### ⚠ CAUTION

If you set to '0' frame, recording will be disabled even though PANIC.  
So recommend setting over 1 frame.

USE	Enabled/Disabled recording schedule.
No.	Schedule number.
	Select camera No. : All or 1 ~16 camera.
DAY	Select day : Every → Each Day → Mon~Fri → Mon~Sat → Sat~Sun
TIME	Select recording time : 00:00 ~ 24:00
IMAGE QUALITY	Select recording image quality : Normal → Good → Better(default) → Best
REC MODE	Select recording mode : Time Lapse(default) → Motion
RES.	Select resolution : CIF (352 × 240) → D1(720 × 480)
<b>+</b>	Add schedule of EACH camera setting.
	Delete schedule of EACH camera setting.

## 2 CAMERA REGISTRATION

Press **[1]** + **[2]** buttons on remote controller to select **CAMERA REGISTRATION** in **SETUP** menu.



- **NAME** Edit NAME (Max 15 characters). Use the **ON-SCREEN KEYBOARD** to enter a specific camera's name.

- **VIDEO LOSS** Select **Beep On** or **Beep Off**. Beep On mode will sound a beep from an internal buzzer if the camera signal is removed or the camera power is off.

- **PRIVACY** Select whether to display images on the monitoring screen for privacy. (On/Off) **PRIVACY** mode doesn't show the monitoring video but the video can be recorded and played in the search mode.

- **MOTION AREA** You can set the motion detection area for motion recording mode in this menu. If you select the motion area, it converts into the left screen. Click or drag the area you want to detect or press enter on the remote controller. You can **SELECT/CLEAR ALL** in context menu.



And the area chosen will mark with blue color. It records when the motion happen in set area with recording mode. Areas that happen to motion are cyan block.

- **SENSITIVITY** Motion sensitivity is marked by Most → Sensitive → Normal → Insensitive



### NOTICE

If you set to '0' frame, you can not set **MOTION AREA** and **SENSITIVITY**.

## 3 AUDIO

Press **[1]** + **[3]** buttons on remote controller to select **AUDIO** in **SETUP** menu.



- **LIVE(SPEAKER)** If the speaker is installed, you can select whether to turn sound **On/Off** via speaker on live mode.

- **RECORDING** If the **RECORDING** is **On**, the audio will be recorded with the video together.



### NOTICE

Audio is supported only 2 channels.

#### 4 HDD (Hard Disk Drive)

Press **[1]** + **[4]** buttons on remote controller to select **HDD** in **SETUP** menu.



- **DISK SPACE** Shows the used disk space on the HDD.
- **OVERWRITING** If you choose **Yes**, DVR overwrites previous recording when HDD is full. If you choose **No**, the recording is stopped when the HDD is full for recording. If free space remains less than 2 Giga byte, the disk space bar on **OSD** will be changed green to red color.
- **BEEP** If **“On”** is set, it will beep when the HDD becomes full.
- **HDD WARNING OSD** Displays a warning message when the DVR runs out of free space on the HDD for recording. Message will be flickered on the live screen when low disk space (less than 1.5G, about 2 second). Recording stop message will be flickered on the live screen when HDD remains less under 1G.
- **HDD INFORMATION** Shows the HDD’s model name and used & total disk space.
- **FORMAT** If you format the hard drive, it will erase all the recorded data and log on the HDD.



**⚠ CAUTION**  
 If you click **FORMAT**, warning window will be displayed. Once the HDD is formatted, all recorded data, system logs and event logs will be lost.

#### 5 PRE-POST RECORDING

Press **[1]** + **[5]** buttons on remote controller to select **PRE-POST RECORDING** in **SETUP** menu.



- **PRE RECORDING** Pre recording time means the amount of time recorded and saved before panic, alarm and motion events occurred. Video will be recorded from the buffer for the set period of fixed time (4~8 Sec).
- **POST RECORDING** Post recording time is the amount of time recorded after motion and alarm events are finished. Video will be continuously recorded for the set period of time after event is finished. Post recording time are 5, 10, 30 Sec, 1, 5, 10 Min.



## 2. INTERNET & NETWORK

❑ Set **Network Connection** and **DDNS** in INTERNET & NETWORK.

### 1 NETWORK CONNECTION

Press [2] + [1] buttons on remote controller to select **NETWORK CONNECTION** in **SETUP** menu.



- **NETWORK TYPE** Select either **STATIC IP** or **DHCP**.  
A **STATIC IP** address is a number (in the form of a dotted quad) that is assigned to a computer by an Internet service provider (ISP) to be its permanent address on the Internet.  
Short for **Dynamic Host Configuration Protocol(DHCP)**, a protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device may have a different IP address every time it connects to the network.
- **IP ADDRESS** Type the IP Address when you select **STATIC IP**.
- **SUBNET MASK** Type the Subnet Mask when you select **STATIC IP**.
- **GATEWAY** Type the Gateway when you select **STATIC IP**.
- **PRIMARY DNS** Primary DNS is used to refer the DVR's IP address to a preferred domain name.
- **SECONDARY DNS** Secondary DNS is used to refer the DVR's IP address for backup domain name.

#### NOTICE

When you select **DHCP** and press **APPLY** button , allocated IP information will be displayed.

### 2 SERVICE PORT & DDNS

Press [2] + [2] buttons on remote controller to select **SERVICE PORT & DDNS** in **SETUP** menu.



- **WEB SERVICE PORT** Type the web service port number.  
(Port No: 1 ~ 65534)
- **USE DDNS** If you want to use **DDNS**, please select here.
- **DDNS ID** Type the **DDNS** Name.
- **CHECK ID** Please click the **CHECK ID** button for register and change settings.

#### NOTICE

When **WEB SERVICE PORT** was set by 80 in **2. INTERNET & NETWORK - 2 SERVICE PORT & DDNS** menus, type ip address or domain into the address bar in Microsoft® Internet Explorer™. However, when port number is not 80, you must type port number behind IP address or domain. (ex. http://IP address or domain:port number)

If the registered **DDNS** ID is "dvr" and **DDNS SERVER** is "webdvr.net", you can connect to the DVR by entering the full domain name, "dvr.webdvr.net", through the Microsoft® Internet Explorer™. If your DVR is installed under a firewall or internet sharing router, you should set port forwarding, DMZ and other settings.

### 3 UPDATE SERVER

Press **2** + **3** buttons on remote controller to select **UPDATE SERVER** in **SETUP** menu.



- UPDATE SERVER Type the Update server address.
- DEFAULT Recover all the settings to the original settings by a manufacturer.



## 3. DISPLAY

❑ Set **ADJUSTMENT**, **OSD** and **SEQUENCE** in **DISPLAY**.

### 1 ADJUSTMENT

Press **[3]** + **[1]** buttons on remote controller to select **ADJUSTMENT** in **SETUP** menu.



Adjust **BRIGHTNESS**, **COLOR** and **CONTRAST** of each channel.



If you select one camera channel, it converts into this screen. You can see and change the **BRIGHTNESS**, **COLOR** and **CONTRAST** on the adjustment bar.

SETUP

#### NOTICE

If you set '0' frame at **SETUP** menu (**1. BASIC SETTING - 1 RECORDING SCHEDULE - FRAME SETTING**), you can not adjust this channel.

### 2 OSD

Press **[3]** + **[2]** buttons on remote controller to select **OSD** in **SETUP** menu.



- **CH INFO** Show or hide the camera name on the display monitor.
- **DATE/TIME** Show or hide the current date / time on the display monitor.
- **DISK SPACE** Show or hide the disk space bar.
- **RECORDING MODE** Show or hide the recording mode icon on the display monitor.

#### NOTICE


If **DATE/TIME** OSD is set to **Off** mode, audio recording and sequence icon will be hidden together.



## 3 SEQUENCE

Press **[3]** + **[3]** buttons on remote controller to select **SEQUENCE** in **SETUP** menu.



- **DURATION** On **SEQUENCE** mode, each channel is displayed on the screen for the preset duration. (Max. 60 Sec) And if you set to '0' second, screen mode will be skipped over. On **SEQUENCE** mode, a **SEQUENCE**  icon is displayed on live screen.
- **USE THE SEQUENCE MODE AT STARTUP** Select whether to use the **SEQUENCE** mode automatically when DVR starts up.

### NOTICE

You can not set '0 Sec' all of **DURATION**.  
You can not also set **DURATION** only 16 Channel mode.

## 4. SYSTEM

Set **INFORMATION & UPDATE, DATE/TIME, SYSTEM LOG** and **SHUT-DOWN** in **SYSTEM** menu.



### INFORMATION & UPDATE


Press **[4]** + **[1]** buttons on remote controller to select **INFORMATION & UPDATE** in **SETUP** menu.



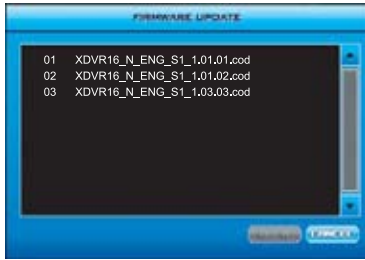
- **DVR NAME** Type the DVR Name. (Max 15 characters)
- **DISK SPACE** Show the used Disk Space for recording.
- **MAC ADDRESS** Show the MAC Address.
- **NETWORK** If you click the **UPDATE** button, the firmware will be updated via network.
- **USB** Update from a USB storage device. Connect a USB storage device with new firmware. And press or click the **UPDATE** button.
- **FIRMWARE** Show the Firmware Version.

How to update via network

If your DVR connect with internet, DVR will check the new firmware automatically by periods. Updates direction  message blinks on the OSD if there is firmware to update and shortcut  icon is displayed on the right bottom of the screen.

Click the icon or go to **SETUP** menu (4.SYSTEM -  INFORMATION & UPDATE). Then click the **NETWORK UPDATE** button. **UPDATE** will be progressed.

## ❑ How to update via USB storage



Select the firmware file from the list and press or click OK button. Once the firmware has been successfully updated, the DVR will be rebooted to apply changes. USB storage device's file system should be FAT32.

Before updating, firmware files (cod-file) should be copied into a "Firmware" folder on the USB storage device. If you connect several USB storage devices with firmware, the DVR will only recognize of a first connecting USB storage device.

### WARNING

Please note that because updating firmware has potential risk, please do it with caution! Do not turn off power or reset your system at this stage!

## 2 DATE/TIME

Press **[4]** + **[2]** buttons on remote controller to select **DATE/TIME** in **SETUP** menu.



- **DATE** Select the **DATE**.
- **DATE FORMAT** Select the **DATE FORMAT**.  
Year/Month/Day → Day/Month/Year → Month/Day/Year
- **TIME** Select the **TIME**.
- **NTP TIME SERVER** Select the **TIMESERVER**.  
time.windows.com → time.nist.gov
- **TIME ZONE** You can select **TIME ZONE** from a down list menu.
- **UPDATE** If you click **UPDATE** button, time will be renewed automatically by timeserver and GMT via internet.

### WARNING

If you set a date and time that is older than some of records, all data dated later than the new date and time will be deleted.

## 3 SYSTEM LOG

Press **[4]** + **[3]** buttons on remote controller to select **SYSTEM LOG** in **SETUP** menu.



The system log records all DVR events with the date and time it occurred:

system start and shutdown, system reboot, recording start and end, setup changes, etc.

The events are listed from the oldest to the most recent.

## 4 SHUTDOWN

Press **[4]** + **[4]** buttons on remote controller to select **SHUTDOWN** in **SETUP** menu.



### ⚠ CAUTION

If you turn the power off without shutting down the system, it can lead to data lost or cause physical damage of the HDD.  
DVR will verify abnormality of HDD at next start up. So, it may take booting time longer.

## 5. PASSWORD & PARAMETER

☐ Set **PASSWORD** and **PARAMETER** in **PASSWORD & PARAMETER** menu.

### ↑ PASSWORD

Press **[5]** + **[1]** buttons on remote controller to select **PASSWORD** in **SETUP** menu.



- **CURRENT PASSWORD** Type the current password. (Max 7 characters)  
The factory default password is null.
- **NEW PASSWORD** Type the new password.
- **CONFIRM PASSWORD** Type the new password once again to confirm.
- **GUEST PASSWORD** Type the guest password. (Max 7 characters)  
The factory default password is each guest1, guest2 and guest3.  
**Guest 1** can search, backup and connect via network.  
**Guest 2** can search and connect via network.  
**Guest 3** can only connect via network.

### 📌 NOTICE

If you forget your password, please press **RESET** button on the rear panel with a straight clip for about 3 seconds.  
You can not change guest authorities.

## 2 PARAMETER

Press **5** + **2** buttons on remote controller to select **PARAMETER** in **SETUP** menu.



- **LOAD PARAMETER** Load parameter saved on the USB storage.
- **SAVE PARAMETER** Save the current parameter on the USB storage. Configuration file "**DVRParm.dat**" will be saved in the "**Parm**" folder on the USB storage.
- **SET FACTORY DEFAULT** Recover all the settings to the original settings by a manufacturer.

### NOTICE

The configuration file "DVRParm.dat" should be saved into a "Parm" folder on the USB storage to load parameter.



## 6. TECHNICAL SETTING

❑ Set **PTZ & RS-485, EVENT, ALARM INPUT, MOTION ALARM OUTPUT** and **REMOTE CONTROL** in **TECHNICAL SETTING** menu.

### 1 PTZ & RS-485

Press **[6]** + **[1]** buttons on remote controller to select **PTZ** in **SETUP** menu.



- **PTZ ID** Select the PTZ ID. (0 ~ 99)
- **PROTOCOL** Select the PROTOCOL. (Default is Pelco-D.)
- **BAUD RATE** Select the BAUD RATE. (Default is 9600.)  
1200 → 2400 → 4800 → 9600 → 19200 → 38400 → 57600 → 115200  
Baud rate means the speed of between the devices.
- **DATA BIT** Select 5~8 the DATA BIT. (Default is 8.)  
Data bit means the number of data bit.
- **STOP BIT** Select 1 or 2 the STOP BIT. (Default is 1.)  
Stop bit means the number of stop bit between data transfer.
- **PARITY** Select the PARITY. (Default is No Parity.)  
No Parity → Odd Parity → Even Parity.  
Parity means the error check bit while the data is transferring.



#### NOTICE

All of settings must be the same as the PTZ camera's settings.

The settings is different from the camera's models. See the PTZ camera's manual for setting of RS-485.

### 2 EVENT

Press **[6]** + **[2]** buttons on remote controller to select **EVENT** in **SETUP** menu.



- **EVENT SERVER** Type the EVENT SERVER domain or IP address.  
Type the domain or IP address of the computer which used for operating CMS(Central Monitoring System) software.  
If you want to receive event message on CMS software, you must set the same port as CMS port.
- **EVENT TYPE** Select the EVENT TYPE.  
The event occurrence at the time of which it selects to inform as the event server which it sets.  
It will be available to set the time when it will receive the event message in event type by.
- **EVENT NOTIFICATION TO E-MAIL** Check if you want to receive event message by E-MAIL.  
Must do SETUP after check.
- **MAIL SERVER** Type sender MAIL SERVER address.  
If you do not type mail server address, event message mail will be classified by spam.
- **USER ID & P/W** Type mail account USER ID and PASSWORD.
- **MAIL ADDRESS** Type the E-mail address to receive event message mail.

### 3 ALARM INPUT

Press **6** + **3** buttons on remote controller to select **ALARM INPUT** in **SETUP** menu.



- **RECORDING CH / QUALITY** Select recording **Channel** (1~16 Ch) and recording image **QUALITY**. (Normal → Good → Better → Best → No Rec).
- **MAIN CH** Select Channel to display by full screen at alarm action (1~16 Ch).
- **MESSAGE** Type **TEXT** to show on screen at alarm action using screen keyboard (Max 15 characters).
- **OUT** Select alarm **OUT** channel (Alarm out 1~16).
- **DURATION** Select alarm **DURATION** time (5 → 10 sec).
- **ACTIVE TIME** Set alarm operating time. (Active time window will be appeared.)

### 4 MOTION ALARM OUTPUT

Press **6** + **4** buttons on remote controller to select **MOTION ALARM OUTPUT** in **SETUP** menu.



- **MOTION ALARM** Select using **MOTION** detect function or not.
- **OUT** Select alarm **OUT** channel (Alarm out 1~16).
- **DURATION** Select alarm **DURATION** time (5 → 10 sec).
- **ACTIVE TIME** Set alarm operating time. (Active time window will be appeared.)

### 5 REMOTE CONTROLLER

Press **6** + **5** buttons on remote controller to select **REMOTE CONTROLLER** in **SETUP** menu.

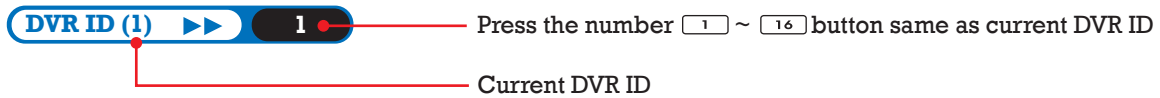


- **BUTTON BEEP** Select whether to make a beep when you press the button on the remote controller.
- **ID CONTROL** Enable "ID CONTROL" function to control the selected one by using DVR ID when several DVRs are installed in the same place.
- **DVR ID** Select a number of DVR ID.

If several DVRs are installed, you can control DVRs totally or selectively using one remote controller. If the DVR has the same DVR ID, it will be controlled simultaneously. If you want to control a specific DVR, check the  **ID CONTROL** and select one DVR ID on **DVR ID** tab.

## ❑ How to use DVR ID

Press ID  and current DVR ID number and then **ENTER**  button on the remote controller.





## 6 ETC.

Press  +  buttons on remote controller to select **ETC.** in **SETUP** menu.



- **SENSOR INPUT** Select sensor action way between **NC(NORMAL CLOSE)** or **NO(NORMAL OPEN)**.
- **ALARM** Select alarm action way between **High >> Low** or **Low >> High**.
- **BAUD RATE** Select the BAUD RATE. (Default is 9600.)  
1200 → 2400 → 4800 → 9600 → 19200 → 38400 → 57600 → 115200  
Baud rate means the speed of between the devices.
- **DATA BIT** Select 5~8 the DATA BIT. (Default is 8.)  
Data bit means the number of data bit.
- **STOP BIT** Select 1 or 2 the STOP BIT. (Default is 1.)  
Stop bit means the number of stop bit between data transfer.
- **PARITY** Select the PARITY. (Default is No Parity.)  
No Parity → Odd Parity → Even Parity.  
Parity means the error check bit while the data is transferring.

# SPECIFICATIONS

VIDEO	
Compression	H.264 Level (Professional MPEG-4 DMX-V3)
Data Size	0.2KB/frame
Image Size	D1 Level (704 × 480), CIF Level (352 × 240)
Video Input/Output	8CH DVR: 8/8ch, 16 CH DVR: 16/16ch
TV Output	2 CH (1.0Vpp, 75Ω, BNC)
VGA Output	1 CH (1024 × 768) *Can be used TV out simultaneously
Screen Split Control	1,4,9,16 & Auto sequence
Recording Frame	NTSC 120FPS / PAL 100FPS
AUDIO	
Compression	G.726 (ADPCM 8KHz sampling), 32 Kbps
Input/Output	2CH Line In / 1CH Line Out
ALARM	
Sensor Input	8CH DVR: 8 Programmable, 16CH DVR: 16 Programmable
Alarm Output	8CH DVR: 8 TTL, 16CH DVR: 16 TTL
GENERAL	
Operating System	Embedded DMX- V3 Engine Booting Time within 20 Sec Hacking and Virus Free
HDD Storage	1 Internal 3.5" EIDE HDD( Max 3 )
Backup Storage	CD-RW/DVD-RW/USB 2.0
External Control	USB Mouse, IR Remote Controller
H/W Watchdog	Auto Recovery System By Watchdog Time
Network	LAN 10/100 Base Ethernet(RJ-45)
Serial	RS-485 (Half Duplex, Terminal Block), RS-232 (D-Sub 9)
FUNCTIONS	
Recording Mode	Continuous, Scheduled, Motion Detection, Sensor Event, Manual
Search method	Statistics, Calendar, Event Search, Smart Search,
Motion Detection	22 × 15 Motion area block ,4 Steps sensitivity
Software	Built-in Remote Management (Monitor, Search, Backup) Program
STANDARDS	
Dimensions (W × H × D)	430mm × 90mm × 415mm
Weight	Approx. 7.3 Kg (included with HDD)
Operating Temperature	5°C ~ 50°C
Operating Humidity	20 ~ 80% RH
Power Source	AC 110/220V
	<b>For the safety of users and stable operation, you should use the rated power adapter that is provided with the package.</b>
	<b>For clearer video, it is strongly recommended to use the shield cable under noisy circumstances.</b>

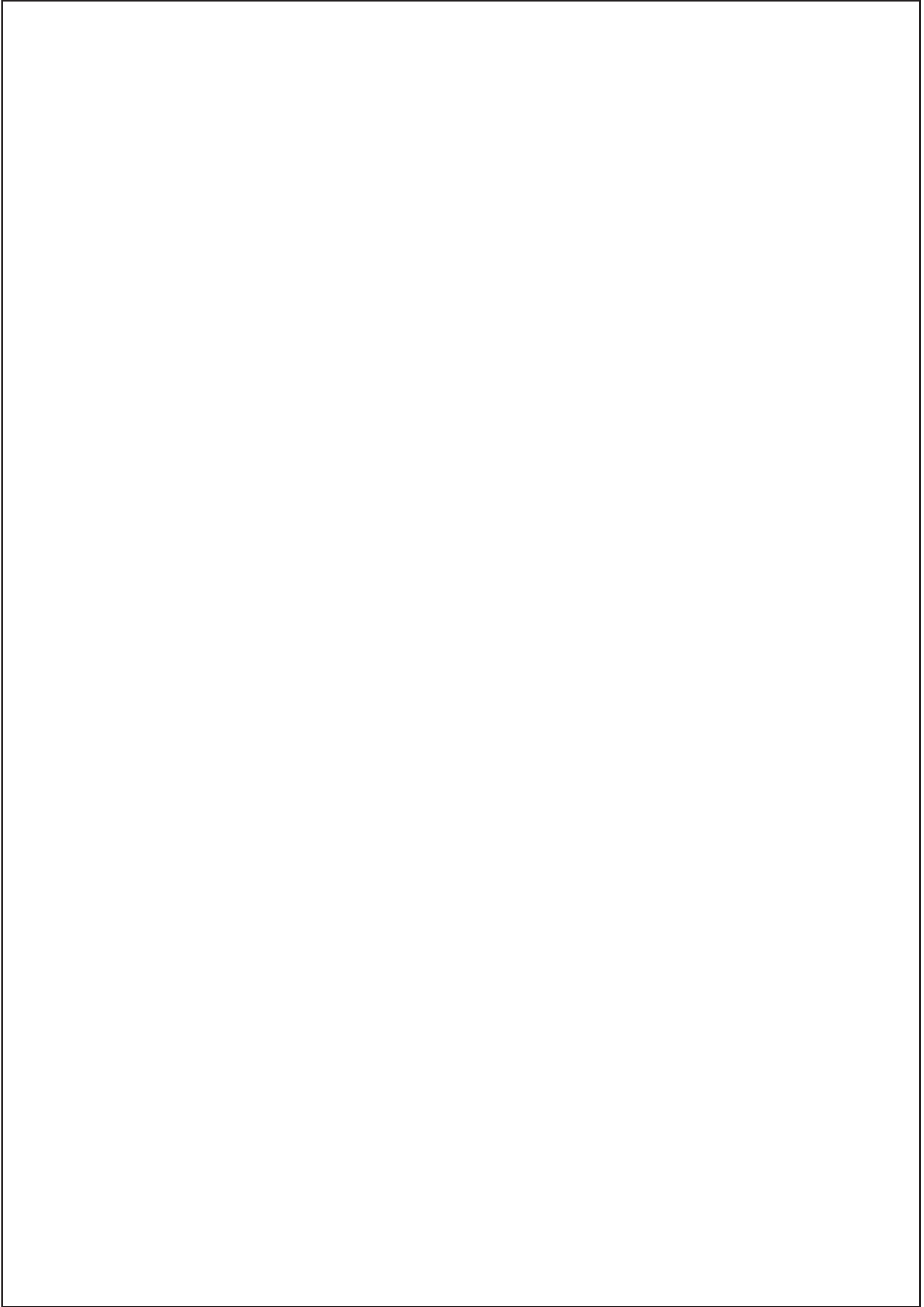


## TROUBLESHOOTING(FAQ)

	QUESTION	ANSWER
DEVICE	I can't turn on DVR.	Check power cord connection. Check the power source of outlet.
	What is the correct jumper setting for using a single hard disk drive?	Single master without slave. Most of HDD drives come with the jumper setting as a master without slave so you may not need to change the jumper setting after you purchase HDD and install it into DVR. Check the documentation that came with your hard drive.
	Can I install two hard drives in DVR?	Yes. DVR supports Max. 3 hard disk drives.
	How can I reset DVR to the factory default setting?	Select the 'set factory default' from "PASSWORD & PARAMETER/PARAMETER" in SETUP menu.
	I forgot my password. What should I do?	If you forget your password, press the factory RESET button on the rear panel with a straight clip for about 3 seconds. The default password see "PASSWORD & PARAMETER/PASSWORD" in SETUP manual.
	Can USB memory stick be used?	Yes.
VIDEO & AUDIO	I see nothing after I turn on DVR.	Check the camera input and video output connection on DVR rear panel. If you can't find any problem with these connections, check whether the camera power cable is firmly connected. Check "PRIVACY - On" in BASIC SETTING/CAMERA REGISTRATION menu.
	I can not see OSD.	Press OSD button with the remote controller. Check OSD setting in "DISPLAY/OSD" SETUP menu.
	I can not hear AUDIO.	Press Mute button with the remote controller. Check connection with audio cable. Check the power connection of output device.
RECORDING & PLAYBACK	How do I record?	Using the Time Record and Motion Record from "BASIC SETTING/RECORDING SCHEDULE/RECORDING MODE" SETUP menu. Press the PANIC button on the remote controller or REC button on the front panel.
	DVR is not record.	Check "BASIC SETTING/HDD/OVERWRITING-Yes" and check "BASIC SETTING/RECORDING SCHEDULE" in SETUP menu.
	Is it possible to backup the wanted section of video during the playback?	Yes, select starting and ending time, then use the Backup to save.
	Can I record everything 24hours 7days a week without stopping?	Yes. On 'Recording Schedule' on the SETUP menu, select "Time Lapse" and "Every".
	DVR stopped for recording.	Check HDD space. Set 'OVERWRITING-On' in "BASIC SETTING/HDD" SETUP menu.
ETC.	How can I erase all data on the hard disk drive?	Select 'FORMAT' option on the "BASIC SETTING /HDD" in SETUP menu.
	I hear beeping continuously at DVR.	Check connection between camera and DVR. Check the power connection of camera. Check if HDD gets full.
	Remote controller is not work.	Confirm and change whether battery of remote controller was consumed. Set by equal ID in case DVR and remote controller ID do not fit each other. For more detail. See "TECHNICAL SETTING /REMOTE CONTROLLER" in SETUP manual.
	What does that Event mean?	That means Motion, Log-in, Video-loss event activity.

***MEMO***

***NETWORK DVR***





# A.I. DVR

