CCTV Camera Pros

4Ch H.264 Hardware Codec

H.264 Network DVR

User's Manual VER 1.0



4 Channel Network DVR Real-time playback / USB backup

INSTALLATION & SAFEGUARDS

All the safety and operating instructions should be read before the unit is operated.

Environment Condition for Installation

- 1. To prevent electric shock or other hazard, do not expose units to rain, moisture, or dust.
- 2. Place this unit in a well-ventilated place and do not place heat-generating objects on this unit.
- 3. This unit should not be located in an area where it is likely to be subjected to mechanical shocks.





- 1. Ensure the power switch is in the OFF position prior to starting.
- 2. Do not attempt to open or remove the covers. That may expose you to dangerous voltage or other hazards.
- 3. Installation should be performed by qualified service personnel only.
- 4. This unit should be operated only from the type of power source indicated on the manufacturer's label and with the power supply included with the unit.





- 1. Before initial configuration or operation you must first set the TIME/DATE, followed by HDD clear. If you don't follow this steps first, that may cause non recording on the HDD or non saving setting value. Even though it is recorded, you cannot search recorded data.
- 2. When it comes to HDD capacity, you can use a big size of HDD.
- 3. When you set the record setup, you have to set the Record Configuration and also Schedule Setup. This unit records as per the Record type & Schedule setup. The default setting value for Schedule setup is Continuous mode.





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 may cause harmful interference in which case the manufacturer of the device is not responsible and the user would be responsible to correct the interference.

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CHAP 1. Features & Package Contents

1-1. Features

Live Display

Real time display per camera Auto Sequence PIP (Picture in picture) Digital Zoom of display (2X ZOOM) Freeze Simple playback mode Simple PTZ camera control

Record

Efficient image quality selection in 5 steps Audio recording Schedule recording Event record by alarm and motion detection Emergency recording

Network

IRS (Integrated Remote Station) DDNS supported

Playback

Search and playback by recorded data size, date/time, and event Various playback speed (forward and backward) Event Search

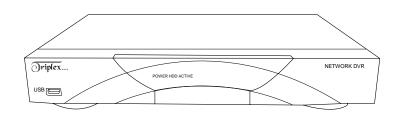
Data backup

Backup via USB memory stick / via network

Others

Supports UNI-CODE Supports SPOT Monitor PAL/NTSC Auto detection Video loss detection

1-2. Package Contents



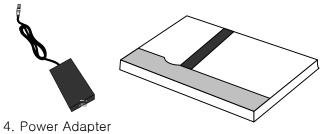


1. DVR Main Unit

2. Remote Controller



3. Power Cable



5. User's Manual



6. Software CD











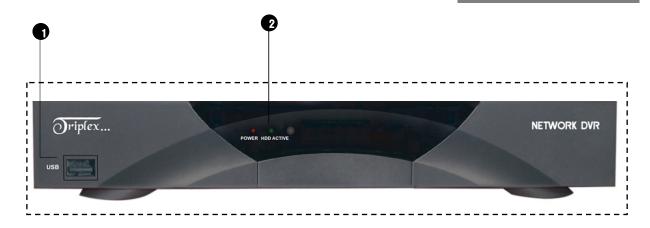
7. Rubber Pad 8. HDD absorber 9. HDD Bolts

10. Mouse

Package Contents	Description
1. DVR Main Unit	Stand-Alone Digital Video Recorder
2. Remote Controller	Remote controller
3. Power Cable	AC power supply to adapters for 12V DC power
4. Power Adapter	DC power supply
5. User's Manual	User's Manual
6. Software CD	IRS (Integrated Remote Station) program
7. Rubber Pad	Prevents DVR from slipping. Attach it to the bottom of main unit.
8. HDD absorber	Absorbs the mechanical shock of HDD against the case bottom.
9. Bolts	Bolts for fixing HDD.
10. Mouse	Enables to control all functions of DVR.

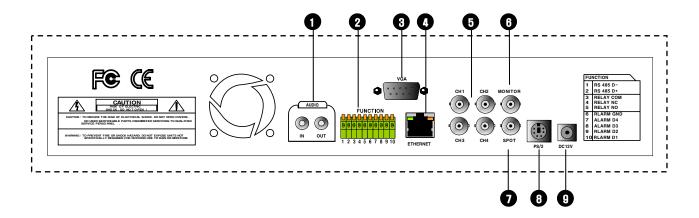
CHAP 2. Function of Each Button

2-1. Front



Name	Function
① USB HOST	Used for Data Backup and Firmware Update (Only USB memory stick should be used.)
② LED Lamps	Shows status of operation POWER: Power status HDD Active: HDD status

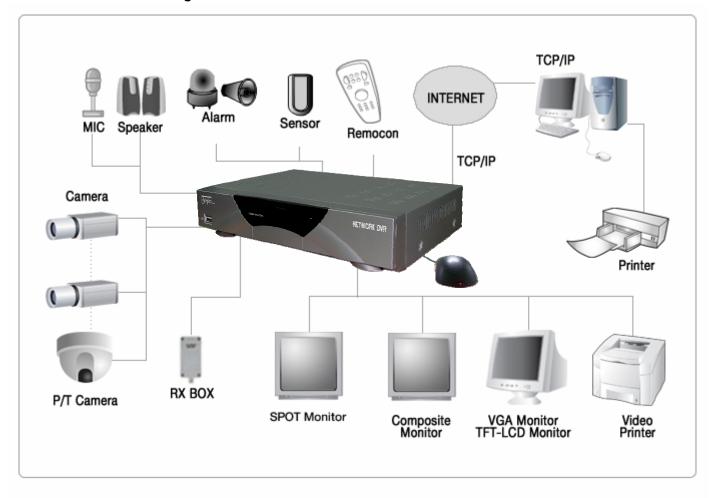
2-2. Rear



	Name	Function
1	Audio input	1ch audio input
	Audio output	1ch audio output
2	RS 485	Connection with PTZ camera or other external device using RS 485
	Relay output	Relay out terminal
	Sensor input	Sensor input terminal
3	VGA	Connection to VGA monitor (CRT or TFT LCD monitor)
4	Ethernet	Connection to Ethernet device
5	Camera input	4ch camera input (NTSC/ PAL)
6	Monitor output	1ch composite monitor output (NTSC/ PAL)
7	Spot monitor output	1ch spot monitor output (NTSC/ PAL)
8	PS/2	Connection to PS/2 Mouse
9	DC power	DC 12V

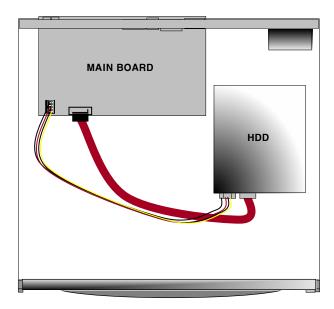
CHAP.3 Installation

3-1. Installation configuration

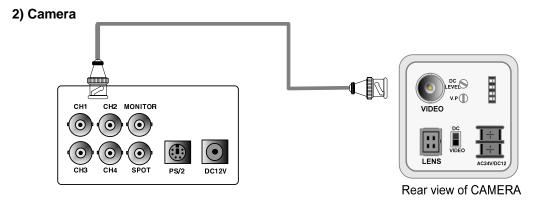


3-1. Installation

1) HDD



- 1. Connect Main Board and HDD using SATA data cable and HDD power cable.
- 2. Stick the HDD absorber (included in package) on the bottom of case and then install the HDD on top of them by using the bolts (included in package).
- 3. Screws must be inserted from outside of the case bottom.

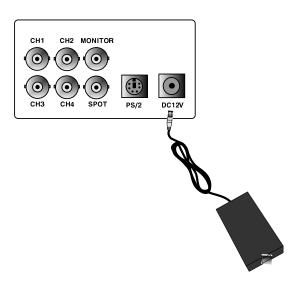


Connect camera to the camera input on rear panel of DVR marked CAMERA IN.

3) Monitor CH1 CH2 MONITOR CH3 CH4 SPOT PS/2 DC12V

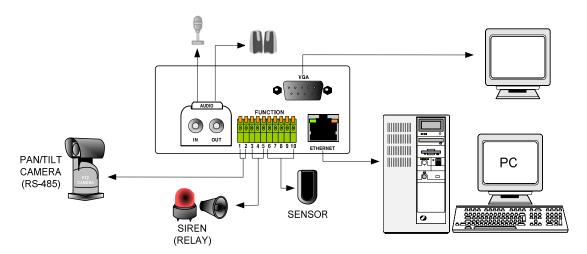
Connect the video output marked MONITOR to Video-In of Main monitor.

4) Power



DC over 12V adapter

5) Other External Device



RS-485 : Controls external device like PTZ camera.

(Pin No.1 & No.2)

RELAY Output: Relay Output (Pin No.3 & No.5).

SENSOR Input: Sensor Input – Alarm Input (Pin No.6 ~ No.10).

ETHERNET: Connection to LAN, WAN Audio Input: Connection to a microphone Audio Output: Connection to a speaker

VGA : Connection to CRT or TFT LCD monitor (D-SUB)

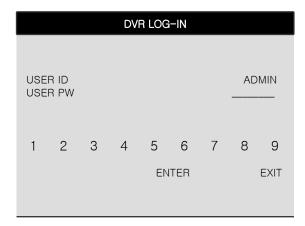
4-1. System Log-In

GENERAL USE OF MOUSE

Mouse buttons	Functions
Mouse Wheel	Increases or decreases setup value on the Menu mode
Right	Decreases setup value on the Menu mode
Left	Increases setup value on the Menu mode Execute all of the functions (clicking icons)

^{*} Please use a mouse pad for proper operation of the mouse.

- 1) After power on, a right-click of the mouse shows an icon bar on the screen. Then click the [Menu] icon on to log in.
- 2) Then, you will see 'DVR Log-In' message shown at right.
- 3) You may log in as an ADMIN, MANAGER, or USER1 \sim USER8.
- 4) Input your password (Max. 8 digits are available for password) and click 'ENTER'.
- 5) To exit, click 'EXIT' button.



If the password entered matches previously set password, you can log into 'MAIN MENU'. If an incorrect password is entered, you will see "PW IS NOT CORRECT" message on display. The factory default password is none. Just click 'ENTER' for first time initial log in.

-Factory default password

ADMIN : (Blank) MANAGER : '1' USER1~USER8 : '2'~'9'

- * For security reasons, be sure to make note of your own password.
- * The authority of MANAGER & USERS for changing critical settings of DVR is limited due to security reasons.

4-2. HDD Clear & Factory Default

Before first operation, you must check that each channel is displaying properly and log in 'Main Menu' and set Time/Date and set HDD clear.

1) HDD Clear

You can see HDD Model name, serial number, number of blocks and size of HDD. In order to clear HDD, click 'CLEAR' at the bottom as shown below.

(1) Please refer to 4-1. System Log in again. (2) Click 'EXTERNAL DEVICE'. Then, click 'ENTER'.

			DVI	R LOG	i–IN			
	R ID R PW						ADI	MIN —
1	2	3	4	5	6	7	8	9
				EN	TER			EXIT

MAIN MENU	
DISPLAY SETUP RECORD CONFIGURATION EXTERNAL DEVICE BACK-UP FIRMWARE UPGRADE FACTORY DEFAULT	
LANGUAGE	ENGLISH
	EXIT

(3) Click 'HDD MANAGEMENT'.

(e) energy rise with the content of				
CONFIGURATION				
HDD MANAGEMENT CAMERA SETUP MOTION SETUP ALARM SETUP INTERVAL SETUP TIME/DATE SETUP PASSWORD SETUP BUZZER SETUP				
ESC				

(4) Click 'CLEAR'.

HDD MANAGEMENT						
MODEL SERIAL BLOCKS SIZE SPEED	WDC WD3200JS-6 WD-WCAPD3 10485					
OVERWRITE	E	ENABLE				
	CLEAR	ESC				

(5) Please refer to 4-1. System Log in again. Then click 'FNTFR'

1116	THEII, CIICK LIVILA .								
	DVR LOG-IN								
USE USE	R ID R PW						AD	MIN —	
1	2	3	4	5	6	7	8	9	
	ENTER EXIT								

(6) Now you can see "HDD CLEAR IS COMPLETED".

HDD MANAGEMENT						
MODEL SERIAL BLOCKS SIZE SPEED	WDC WD3200J9 WD-WCAP 104					
OVERWRITE		ENABLE				
HDD CLEAR	IS COMPLETED CLEAR	ESC				

2) Factory Default

Factory default setting initializes DVR system.

(1) Please refer to 4-1. System Log in again. (2) Click 'FACTORY DEFAULT'. Then, click 'ENTER'.

DVR LOG-IN								
USE USE	R ID R PW						ADI	MIN —
1	2	3	4	5	6	7	8	9
				EN	TER			EXIT

(4) Choose ON for 'ALL'.

FACTORY DEFAULT			
ALL	OFF		
DISPLAY SETUP	OFF		
RECORD SETUP	OFF		
SCHEDULE SETUP	OFF		
CAMERA SETUP	OFF		
CONFIGURATION	OFF		
EXTERNAL DEVICE	OFF		
DEFAULT	ESC		

(5) Now you can see "FACTORY DEFAULT COMPLETED" as shown below.

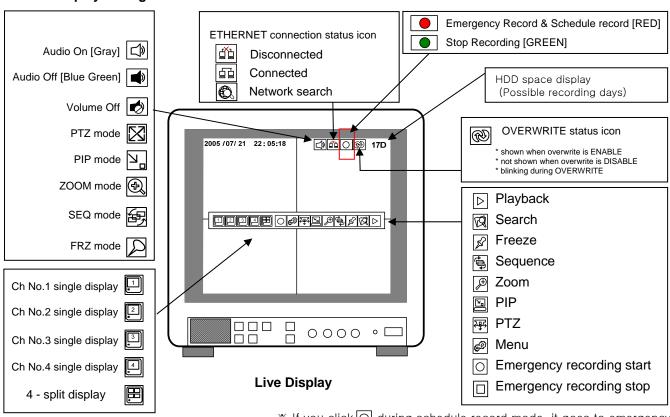
FACTORY DEFAULT	
ALL	ON
DISPLAY SETUP	ON
RECORD SETUP	ON
SCHEDULE SETUP	ON
CAMERA SETUP	ON
CONFIGURATION	ON
EXTERNAL DEVICE	ON
FACTORY DEFAULT COMPLETED DEFAULT	ESC

MAIN MENU	
DISPLAY SETUP RECORD CONFIGURATION EXTERNAL DEVICE BACK-UP FIRMWARE UPGRADE FACTORY DEFAULT	
LANGUAGE	ENGLISH EXIT

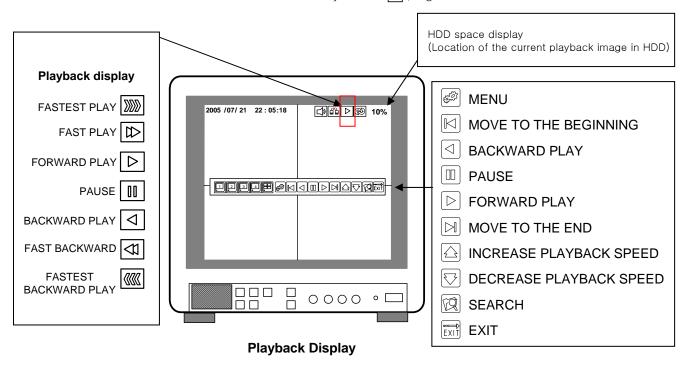
(2) Click 'DEFAULT'.

FACTOR	DEFAULT
ALL	ON
DISPLAY SETUP	ON
RECORD SETUP	ON
SCHEDULE SETUP	ON
CAMERA SETUP	ON
CONFIGURATION	ON
EXTERNAL DEVICE	ON
DE	FAULT ESC

4-3. Display Configuration



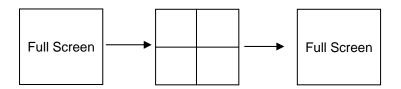
- * If you click O during schedule record mode, it goes to emergency record mode.
- * Once you click \square , it goes back to schedule record mode.



4-4. Live View Setup

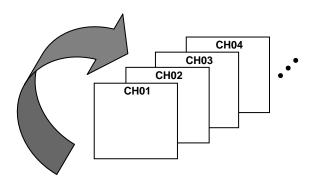
1) Full / Multiple View

Move the cursor onto [4 - split icon] In the icon bar and click it to view 4 channel division. To enlarge each channel, click 1,2,3,4 Icon. Then, you will see a channel in full screen mode.



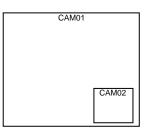
2) SEQ

Click 'SEQ' icon . It automatically displays full screen images in sequence. You can setup SEQ time interval on setup menu. (MAIN MENU -> CONFIGURATION -> INTERVAL SETUP -> SEQUENCE SCREEN)



3) Picture in Picture (PIP View)

When it is in full screen display mode, you can see other camera in a small window by clicking [PIP] icon , the other camera in small window is rotating in sequence to next number of camera and you can set the rotating time interval as per the procedure in MAIN MENU -> SCREEN SETUP -> PIP INTERVAL -> PIP SCREEN.



4) ZOOM View

In live mode, if you click [ZOOM] icon $^{\textcircled{\tiny +}}$, images are displayed in two times larger size. While using [ZOOM] mode, you can move the enlargement area by using the mouse. To exit ZOOM mode, click ZOOM icon again.

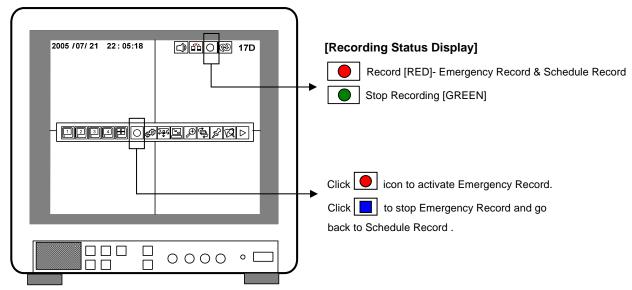
5) Freeze

Click [FRZ] icon and click a channel that you want to freeze temporarily in live mode. If you click [FRZ] icon again, it will cancel all.

4-5. Record

It basically records as a setting made in Schedule Record mode except for emergency record mode.

- Emergency Record
 Once you click this icon O, it keeps recording continuously regardless of schedule setting.
- Schedule Record (Continuous, Motion, Alarm and Motion/Alarm)
 Go to MAIN MENU-> RECORD -> SCHEDULE SETUP and setup schedule as you want.
 It records as a setting.
- Record Icon in Red indicates Emergency Record and Schedule Record.



- This DVR unit does not record in following conditions;
- When overwrite function is off and HDD is full
- * When there is no scheduled recording
- * When you update a firmware
- * When there is no event detected in motion, alarm and motion/alarm record mode of schedule record setting.

4-6. Playback

On record mode or live mode, click [playback] icon D to play the recorded data in 1x speed.

4-7. Search

There are three search methods controlled by a mouse wheel button, left and right button of a mouse. When you click [SEARCH] icon \(\overline{\mathbb{Q}} \), then you see a window shown as below. Select a target data by using the mouse.

In PERCENT SEARCH Mode, you can select certain data by clicking on the bar.

To move to the previous mode, click 'ESC'.

1. PERCENT SEARCH

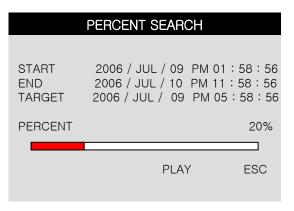
Search by percentage of total recorded data. It starts from image corresponding to set % of data on the search bar.

- 2. TIME/DATE SEARCH
 - Search by time & date. Playback starts from the time & date selected.
- 3. EVENT SEARCH

Search by event list (Motion, Alarm, Video Loss)



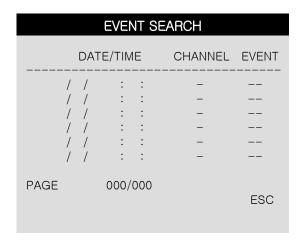
SERACH MAIN MENU



PERCENT SEARCH

TIME/DATE SEARCH				
START END	2006 / JUL / 09 PM 01 : 58 : 56 2006 / JUL / 10 PM 11 : 58 : 56			
TARGET	2006 / JUL / 09 PM 05 : 58 : 56			
	PLAY ESC			

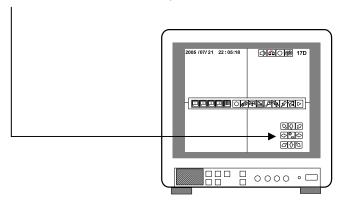
TIME/DATE SEARCH



EVENT SEARCH

4-8. PAN/TILT/ZOOM Camera Operation

Click [PTZ] icon in the icon bar, then you can see 'arrow' keys & '+/-' key shown below. Click these arrow keys to move a PTZ camera to each direction. By using '+/-' key, you can control ZOON IN/OUT function. ('+': ZOOM IN / '-": ZOOM OUT)



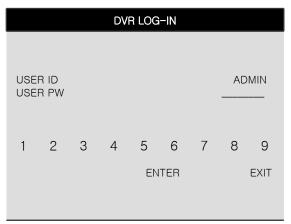
4-9. Data Backup

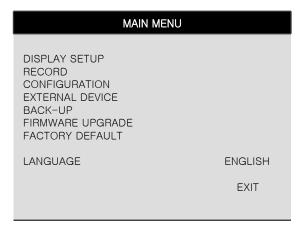
Right-click to see the icon bar and click [MENU] icon and go to 'Backup'.

(1) Please refer to 4-1. System Log in again.

(2) Click 'BACK-UP'.

Then, click 'ENTER'.



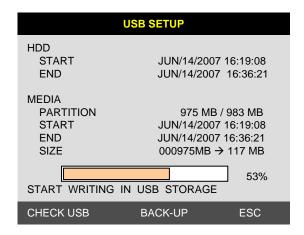


- (3) Insert USB memory stick and click 'CHECK USB'.
- * The START & END time / date in HDD sub-menu only shows start and end of recording. This is not selectable and editable.

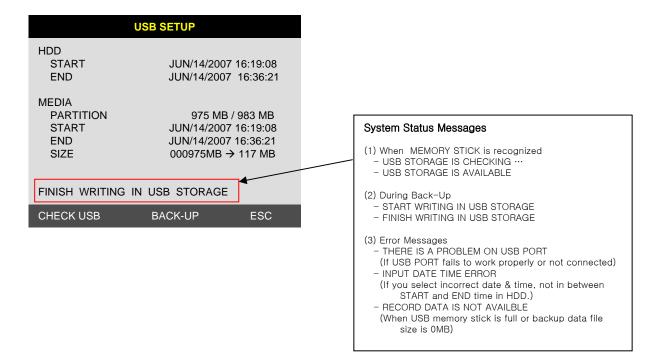


* Only USB memory stick should be used for backup.

- (4) To set start time of back-up and back-up data size in MEDIA sub-menu, use the mouse (left/right/wheel button).
 - End time of back-up will be calculated automatically as per start time & date and the back-up data size you set.
 - You can select the back-up data size (size of back-up data from start of back-up), but END of back-up time is automatically determined by DVR itself.
- (5) Click 'Back-up' to start USB back-up.



(6) You can verify the back-up by installing and running the Player on your PC. Refer to 6-3. Viewer



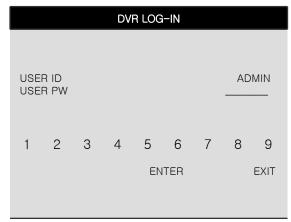
CHAP 5. Setup

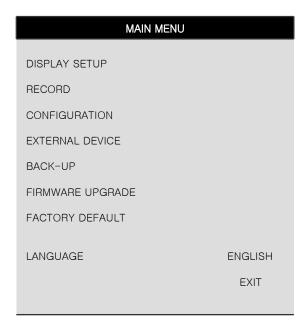
5-1. General Operation

Click the [MENU] icon and input user password to log in.

(1) Please refer to 4-1. System Log in again.

Then, click 'ENTER'.



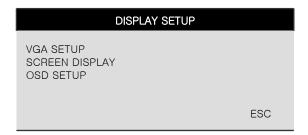


MAIN MENU

5-2. Display Setup

This is setup menu for display on the screen.

If you click 'DISPLAY SET UP', then you change setting values for display as shown below.



1) VGA Setup

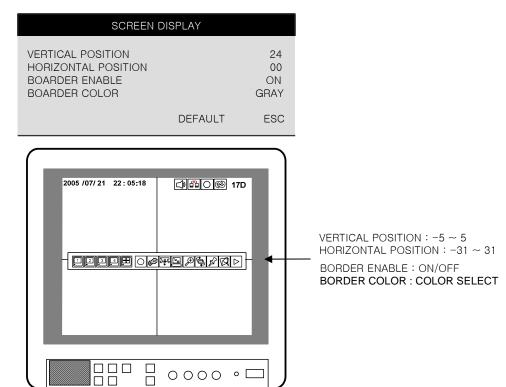
VGA SETUP				
RESOLUTION	800 X 600 / 60Hz			
	DEFAULT ESC			

VGA SETUP: Sets RESOLUTION for a VGA monitor (TFT LCD or CRT) as shown below. Default Resolution for VGA is 800x600.

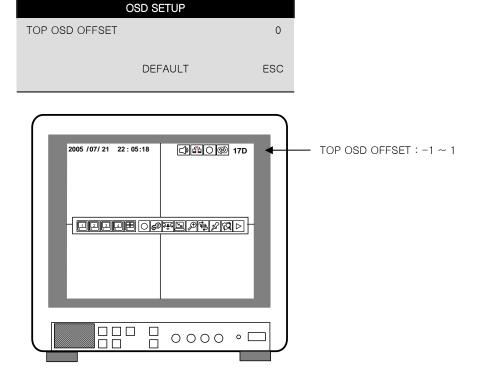
640X480 / 60Hz	640X480 / 75Hz
800X600 / 60Hz	800X600 / 75Hz
1024X768 / 60Hz	1024X768 / 75Hz
1280X1224 / 60Hz	1280X1024 / 75Hz

^{**} Please check the resolution range that your VGA monitor supports first before you use VGA monitor. If you select high resolution such as 1024X768, 1280X1024 on VGA SETUP with VGA monitor that does NOT support those high resolutions, image display may NOT be seen properly.

2) Screen Display Setup



3) OSD Setup



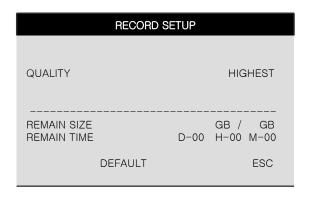
5-3. Record

This is the most important configuration of the DVR. When you select 'RECORD SETUP' in the main menu, you can see the window as shown below.



1) Record Setup

- (1) QUALITY: 5 step selectable
 - Highest
 - High
 - Normal
 - Low
 - Lowest



(2) REMAIN SIZE

Indicates HDD capacity remains by size (GB). / Indicates total HDD capacity (GB).

(3) REMAIN TIME

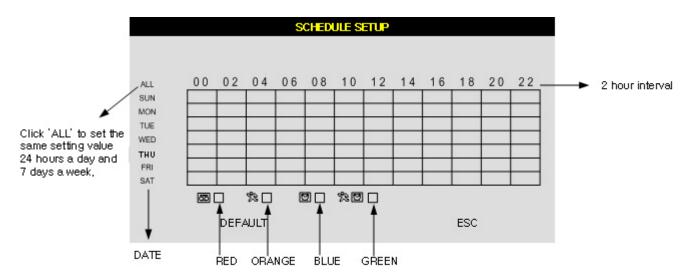
Indicates HDD capacity remains by time.

D- days, H- hours, M- Minutes

2) Schedule Setup

DVR system records in Schedule Recording mode. In Schedule Recording mode, you can choose four different types of recording modes and schedule by 2 hour interval from Sunday to Saturday. Default recording mode is continuous recording.

Set Recording time interval for a day of the week (Time interval : by 2 hour) and recording type.



党: 24 hour continuous recording (Red color)

(Orange color)

☑ : Alarm recording (Blue color)

★ ☑ : Motion & Alarm recording (Green color)

- Default setting is continuous recording.
- * Each recording type is indicated in different color of boxes.

You can set up schedule by dragging the mouse. In this case, the recording type of the boxes dragged is same as the one that you initially select. All blocks can be activated or deactivated by using 'ALL' button.

** Once you set up schedule record, DVR records as it is scheduled in normal times. In emergency situation, you can click oicon to make DVR record continuously. To exit emergency recording mode and go back to scheduled recording mode, click oicon. (please see page 15)

5-4. Configuration

When you click 'CONFIGURATION' on the main menu, you can go to 'CONFIGURATION' menu as shown on the right.

CONFIGURATION

HDD MANAGEMENT CAMERA SETUP MOTION SETUP ALARM SETUP INTERVAL SETUP TIME/DATE SETUP PASSWORD SETUP BUZZER SETUP

ESC

1) HDD Management

You can see HDD Model name, serial number, number of blocks and size of HDD. You can also clear HDD. (While you are in this HDD MANAGEMENT Mode, DVR does NOT record.)

MODEL : HDD MODEL NAME SERIAL : HDD SERIAL No.

BLOCKS: HDD LBA BLOCK Number

SIZE : HDD TOTAL SIZE SPEED : HDD MODE

OVERWRITE: ENABLE, DISABLE

What is OVERWRITE?

- When HDD is full, the oldest data in HDD is automatically deleted as DVR records new data.

HDD MANAGEMENT				
MODEL SERIAL BLOCKS SIZE SPEED	WDC WD3200JS WD-WCAP 104	D3768692 8576 LBA 250 GB PIO4		
OVERWRITE		ENABLE		
	CLEAR	ESC		

2) Time/Date Setup

In this setup, you can select date/time of DVR system and display format.

You can adjust values by using the mouse wheel or left/right button of the mouse.

* For the first time installation, date/time setup must be completed first.

DATE FORMAT: DATE(ASIAN/EUROPEAN

/AMERICAN)

HOUR FORMAT: (12H/24H)

MONTH FORMAT: (ENGLISH, NUMERIC)

TIME/DATE SETUP			
DATE TIME	JUN/15/2007 15:41 :45		
DATE FORMAT HOUR FORMAT MONTH FORMAT	AMERICAN 24HOUR ENGLISH		
	DEFAULT ESC		

3) Camera Setup

You can setup values for each camera.

CAN	MERA SETUP	
CHANNEL TITLE BRIGHTNESS CONTRAST SATURATION HUE	CAN	CH1 M01 1 7 14 -32
DEFAULT	ALL-DEFAULT	ESC

mode, click 'ESC'.

- (1) CHANNEL: You can select a channel which you want to change values.
- (2) TITLE: You can name each camera with 8-digit number or letter combination.

 Move the cursor onto a location that you want and choose numbers or letters by using mouse wheel or left/right button of the mouse. To exit to the previous menu

DEFAULT = CAM01___ ~ CAM03___

(3) COLOR: You can adjust color, for each camera by using the mouse.

BRIGHTNESS : Adjust brightness ($-32 \sim 31$) [DEFAULT = 1] CONTRAST : Adjust contrast ($-32 \sim 31$) [DEFAULT = 7]

SATURATION : Adjust saturation ($-32 \sim 31$) [DEFAULT = 14]

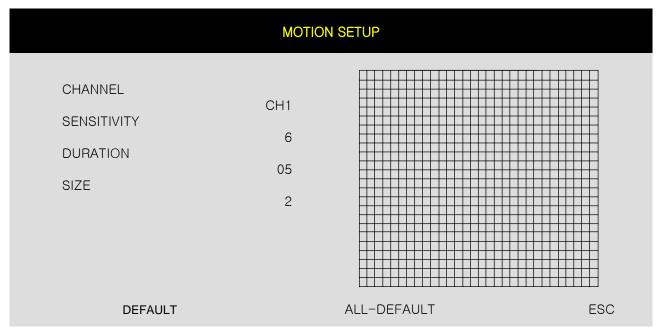
HUE: Adjust hue ($-32 \sim 31$) [DEFAULT = -32]

(4) Executing Buttons

ALL-DEFAULT: Initializing all values for all channel as a default setting value. (CH1 \sim CH4) DEFAULT: Initializing all values, for the applied channel, only as a default setting value.

ESC: Use to exit

4) Motion Setup



MOTION SETUP: You can change values by mouse wheel and left/right button of the mouse.

- SENSITIVITY: Adjust sensitivity of a movement. You can adjust level 1 \sim level 7.

[DEFAULT: 6]

- DURATION: Whenever motion is detected (set in Motion Recording mode),
DVR records for a certain time from the point when motion is detected.

(2 sec.~99 sec.) [DEFAULT : 5 sec.]

- SIZE: Select the CELL SIZE for Blocked Area (RED).

(1,2,3,6, and ALL) [DEFAULT: 2]

- ALL-DEFAULT: Default setup for all channels

MOTION MASK SETUP: Set motion detection area.

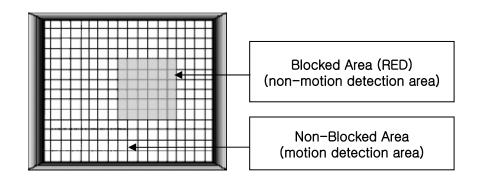
CELL: Move to the cell and then decide to make it activated or deactivated by clicking it.
 When the cell is activated, motion is detected. Motion is not detected on deactivated cells.

Whenever you click a cell, it changes between activated and deactivated.

BLOCK SETUP: First, you decide 'Activated' or 'Deactivated' by clicking a cell.

Then, if the initial cell is 'Activated', the blocks dragged by the mouse are also activated.

If the initial cell you select is deactivated, the blocks dragged are also deactivated.



01 SEC

01 SEC

ESC

600 SEC

5) Interval Setup

See the switching time interval for SEQ or PIP function. (1 sec. \sim 99 sec.)

SEQUENCE SCREEN :Set the sequencing switch time interval in live full screen.

PIP SCREEN: Set the sequencing switch time interval of PIP window.

EVENT UPDATE: Set the minimum time interval of event to be listed on EVENT LIST.

If EVENT UPDATE time is set at 10 sec, only following event happened 10 sec or more than 10 sec later previous event shall be listed on EVENT LIST.

6) Alarm Setup

Set type of alarm sensors connected to DVR unit. N.O represents Normal Open type and N.C Normal Close type.

INPUT: Select NORMAL OPEN, NORMAL CLOSE, or DISABLE.

DISABLE represents no use of alarm sensor connected to DVR.

DURATION: Set the duration of alarm when an ALARM is activated. (2 sec. ~ 99 sec.)

ALRAM SETUP					
CHANNEL		CH1			
INPUT	DIS	SABLE			
DURATION	0	1 SEC			
ALL-DEFAULT	DEFAULT	ESC			
7,22 3217,321	32.7.32.	200			

INTERVAL SETUP

DEFAULT

SEQUENCE SCREEN

PIP SCREEN

EVENT UPDATE

7) Password Setup

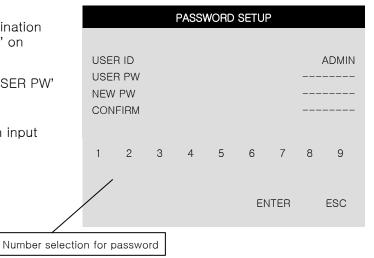
Set user ID and Password.

You can make up to 8-digit number combination for a password by clicking number '1' \sim '9' on password setup menu.

To change password, you need to click 'USER PW' first to activate the menu.

You must input current password and then input new password.

And input again new password to confirm.



* Changing the user Password in the first operation is recommended.

CHAP. 5 Setup

8) Buzzer Setup

You can select Buzzer OFF/ON on this setup menu.

BUZZE	R SETUP	
KEY TONE VIDEO LOSS ALARM ACTIVE MOTION DETECT		ON ON ON
	DEFAULT	ESC

5-5. External Device Setup

Please refer to 4-1. System Log in again.

Then, click 'ENTER'.

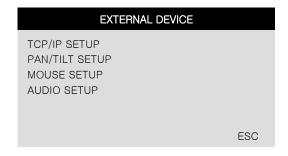
DVR LOG-IN								
USE USE	R ID R PW						AD	MIN
1	2	3	4	5	6	7	8	9
				EN	TER			EXIT

Click 'EXTERNAL DEVICE'

MAIN MENU	
DISPLAY SETUP RECORD CONFIGURATION EXTERNAL DEVICE BACK-UP FIRMWARE UPGRADE FACTORY DEFAULT	
LANGUAGE	ENGLISH
	EXIT

Set parameters of external devices connected to DVR like Ethernet, Mouse, etc.

If you click EXTERNAL DEVICE on the main menu, then you will see the window shown on the right.



1) TCP/IP Setup

TCP/IP function enables you to see live pictures and recorded pictures via the Internet.



(1) IP Setup:

Shows the network information assigned to the DVR unit. If the DHCP setup status is AUTOMATIC, you can set the IP port only. If the DHCP setup status is MANUAL, you must set all parameters.

If IP port number is blocked, a network specialist's advice is needed.

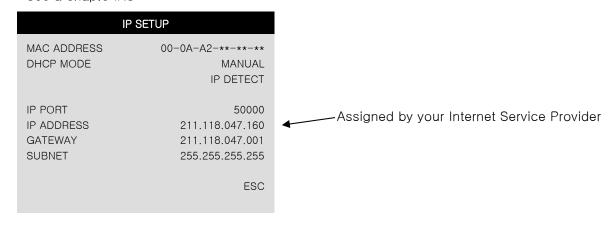
IP SETUP		
MAC ADDRESS DHCP MODE	00-0A-A2-00-FD-63 MANUAL IP DETECT	
IP PORT IP ADDRESS GATEWAY SUBNET	50000 192.168.001.160 192.168.001.001 255.255.255.255	
	ESC	

A. Static IP



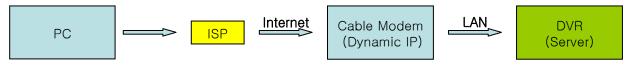
A static IP address is a number (in the form of a dotted guad) that is assigned to a computer by an Internet service provider (ISP) to be its permanent address on the Internet. Input IP address which is assigned by your ISP in IP CONFIG SETUP.

- 1) Verify if IP address is OK or not with PC before connecting DVR. (or inquires to Internet service provider that assigned IP address, GATEWAY, SUBNET MASK)
- Connect LAN cable to DVR after confirmation.
- 3) DVR: MENU \rightarrow LOG IN DVR \rightarrow EXTERNAL DEVICE \rightarrow TCP/IP SETUP \rightarrow IP SETUP.
- 4) Set DHCP to MANUAL.
- 5) Verify if MAC ADDRESS starts from 00-0A-A2....
- 6) Input the assigned IP address.
- 7) Set IP PORT. (50000 recommended)
- 8) Input GATEWAY (which is assigned by your ISP).
- 9) Input SUBNET MASK (which is assigned by your ISP).
- 10) Go out of MENU SETUP.
- 11) Turn off and on Modem (Router) which is provided by your ISP.
 - -> This is to reset client of MAC from your ISP. Wait 30 seconds after turning on.
- 12) Access DVR with Remote Viewer Software.
- See a chap.6 IRS



* If user fails to access, please verify 1,6,7,8,9,11 again.

B. Dynamic IP



This contrasts with a Dynamic IP address, wherein an IP address is assigned to a computer, usually by a remote server which is acting as a Dynamic Host Configuration Protocol server. IP addresses assigned using DHCP may change depending on the addresses available in the set scope. Dynamic IP Addresses assigned by Dynamic Host Configuration Protocol servers are used because it creates effiency within a network.

If you set 'AUTOMATIC' for DHCP Type on TCP /IP setup menu, IP information is automatically assigned from ISP's DHCP.

- 1) Verify if IP address is OK or not with PC before connecting DVR. (The internet connection confirmation)
- 2) Connect LAN cable to DVR after confirmation.
- 3) Turn off and on Modem (Router) which is provided by ISP company.
 - -> This is to reset client of MAC from ISP company. Wait 30 seconds after turning on.
- 4) Turn off and on DVR.
- 5) DVR: MENU → LOG IN DVR → EXTERNAL DEVICE→TCP/IP SETUP → IP SETUP.
- 6) Verify if MAC ADDRESS starts from 00-0A-A2...
- 7) Set DHCP to AUTOMATIC and click 'IP DETECT'.
- 8) Set DHCP to MANUAL
- 9) Go out of MENU SETUP after getting IP successfully.
- 10) Access DVR with Remote Viewer Software. See a chap.6 IRS

II	P SETUP	IF	SETUP
MAC ADDRESS DHCP MODE	00-0A-A2-**-** AUTOMATIC IP DETECT	MAC ADDRESS DHCP MODE	00-0A-A2-**-** MANUAL IP DETECT
IP PORT IP ADDRESS GATEWAY SUBNET	50000 211.118.047.160 211.118.047.001 255.255.255 ESC	IP PORT IP ADDRESS GATEWAY SUBNET	50000 211.118.047.160 211.118.047.001 255.255.255.255
		Assigned by you	r Internet Service Provi

* If user fails to access, please verify 1,3,4,7,8 again.

C. Dynamic IP of PPPoE (DSL)



DVR doesn't support DSL (PPPoE), user will need to set NETWORK with IP SHARE in order to access DVR remotely. At this time, user will need to port forward on DVR. Please contact IP SHARE Manufacturer if you need to know how to forward port.

Even though the user may have a Static/Dynamic IP, if you want to use another device (PC) through IP SHARE, set NETWORK as follows

- 1) Verify if IP address is OK or not with PC before connecting DVR. (The internet connection confirmation)
- 2) Connect Router (IP SHARE) to DSL modem as shown the following picture.
- 3) Set the Internet connection on Router (IP SHARE). (Refer to the Router Manual).
- 4) Verify if sub-group of network in Router is OK or not.
- 5) Connect DVR to Router.
- 6) DVR: MENU → LOG IN DVR → EXTERNAL DEVICE →TCP/IP SETUP → IP SETUP.
- 7) Set DHCP to AUTOMATIC and click IP DETECT.
- 8) Set DHCP to MANUAL
- 9) Verify if MAC ADDRESS starts from 00-0A-A2....
- 10) Set IP PORT, (50000 recommended)
- 11) Go out of MENU SETUP.
- 12) Forward port from Router (Refer to the next page).
- 13) Access DVR with external IP and Port (Port forwarded).
- * If Router supports DDNS, user can access Remote Viewer using Domain Information.

IP SETUP		
MAC ADDRESS DHCP MODE	00-0A-A2-**-** AUTOMATIC IP DETECT	
IP PORT IP ADDRESS GATEWAY SUBNET	50000 192.168.001.160 192.168.001.001 255.255.255.255	

IP SETUP		
MAC ADDRESS DHCP MODE	00-0A-A2-**-** MANUAL IP DETECT	
IP PORT IP ADDRESS GATEWAY SUBNET	50000 192.168.001.160 192.168.001.001 255.255.255.255	

* If user fails to access, please verify 1,4,7,8,12 again.

If you are using a router, please setting up DMZ and Port Forwarding instructions below.

[How to set DMZ]

- Set DMZ as per router manual, if you want to connect a DVR by using one internet line.
- Setting procedure and name of DMZ may be various from router manufacturers.
- For more detail information, please refer to router manual.

One example of how to set DMZ is shown below.

- 1) Access to your router. (Please refer to router manual provided by a router manufacturer.)
- 2) Find 'Applications & Gaming' and go to 'DMZ'.
- 3) Click 'Enable' and input IP address on 'DMZ Host IP Address'.
- 4) Click 'Save Settings' to save.

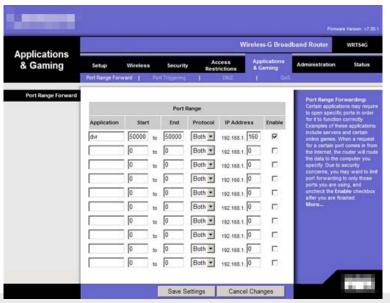


[How to do Port Forwarding]

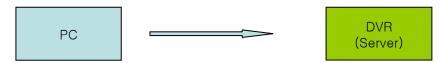
- Set Port Forwarding as per router manual, if you want to connect to several DVRs by using one internet line.
- Setting procedure and name of Port Forwarding may be various from router manufacturers.
- For more detail information, please refer to router manual.

One example of how to do Port Forwarding is shown below.

- 1) Access to your router. (Please refer to router manual provided by a router manufacturer.)
- 2) Find 'Applications & Gaming' and go to 'Port Range Forward' on the menu.
- 3) Input Port number of your DVR on 'Start' / 'End' section below.
- 4) Input IP Address and check 'Enable'. Then, click 'Save Settings' to save.



D. Direct connect to DVR



When you try to connect to DVR directly, you must use DIRECT CABLE.

a. PC's TCP/IP Setting

1. For WindowsXP/2000, Click [start] - [Control Panel] click



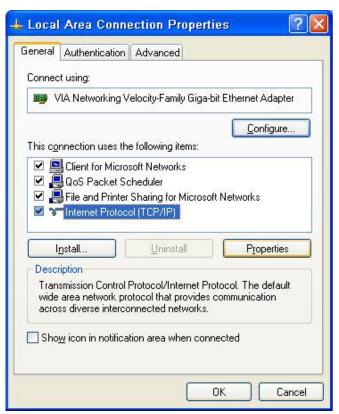
2. Double click [Network Connections]



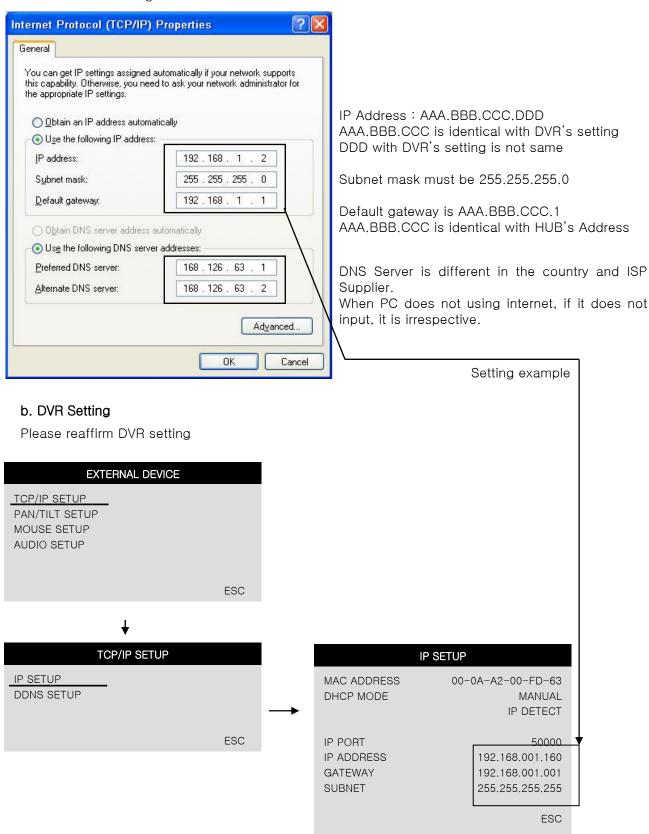
3. Right-button click [Local Area Connection]



4. Click 'Properties' [General] - [Internet Protocol (TCP/IP)]



5. IP Address Setting



(2) DDNS Setup:

Please refer to CH.8 DDNS Setup for more information.

Refer to CH7-2 DDNS set up in DVR on page 53.

DDNS SETUP

DDNS ENABLE DNS SERVER INTERVAL

OFF 192.168.063.001 D-00 H-00 N-20 REGISTER

DDNS STATUS
IP ADDRESS
IP PORT
REMAIN TIME

LAST REGISTRATION DATE

ESC

01

000

16

ESC

PELCO-D

002400 BPS

PAN/TILT STOP

1 MSEC

2) Pan/Tilt Setup



	PAN/TILT SETUP	
PAN SPEED TILT SPEED ZOOM SPEED		7 7 7
	DEFAULT	ESC

(1) CHANNEL: Selects channel

(2) MODEL: Selects camera model (protocol type) per each channel

(3) PTZ ID: Selects PTZ ID (per each channel)(4) BAUDRATE: Selects data transmission speed(5) CMD DELAY: Selects command delay time

3) Mouse Setup

If you increase sensitivity, mouse cursor moves fast.

4) Audio Setup

If you select a channel, the audio of the selected channel is recorded.

- (1) CHANNEL: By selecting a channel, you can set audio recording ON/OFF.
- (2) INPUT VOLUME: Volume setup for microphone
- (3) OUTPUT VOLUME: Volume setup for speaker

	MOUSE SETUP	
SENSITIVITY		3
	DEFAULT	ESC

ALL-DEFAULT

COMMAND SETUP

CHANNEL

BAUDRATE

CMD DELAY

COMMAND

DEFAULT

LENGTH

CODE

MODEL

PTZ ID

AUDIO SETU	
CHANNEL INPUT VOLUME OUTPUT VOLUME	CH1 00 00
DEFAULT	ESC

5) Spot Setup

(1) SWITCHING INTERVAL
Channel switching time (01 sec. ~ 99 sec.)

(2) ALARM POP-UP

When ALARM is detected, the image of channel connected with Alarm sensor pops up. Set ALARM detection pop-up (ON/OFF)

(3) MOTION POP-UP

Set MOTION detection pop-up (ON/OFF)

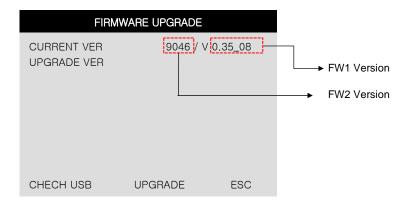
	SPOT SETUP	
SWITCHING INTE ALARM POPUP MOTION POPUP EVENT POPUP D		01 SEC ON ON 05 SEC
	DEFAULT	ESC

****** EVENT POP-UP DURATION

If events (MOTION or ALARM) happen on several channels at the same time, channel No. 1 has the first priority to pop up. For example, if events happen on channel No. 1, channel No. 2, and channel No. 4 at the same time, channel No. 1 pops up. If the motion disappears on channel No. 1, then channel No. 2 pops up for the time duration that you set. However, even though motion happens on channel No. 1 again within the duration, channel No. 2 still displays. If motion on channel No.1 keeps on going even after the duration, channel No. 1 pops up again.

5-6. Firmware Upgrade

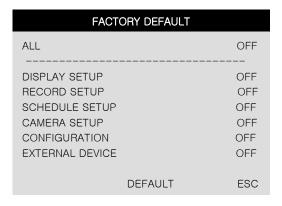
When it comes to firmware upgrade, you may ask your local dealer.



5-7. Factory Default

Factory default setting initializes DVR system.

Select categories below that you want to initialize and choose ON. Then, click 'Default' button. In order to initialize all of the categories below, choose ON for 'ALL'. Then, click 'Default' button. Please refer to CH.4-2 Factory default again. (see page14)



CHAP 6. IRS (Integrated Remote Station)

MAIN INTERFACE



IRS SETUP Inputs information for IRS network connection.

DVR SETUP Changes DVR setting over a network.

VIEWER Enables to show live image display.

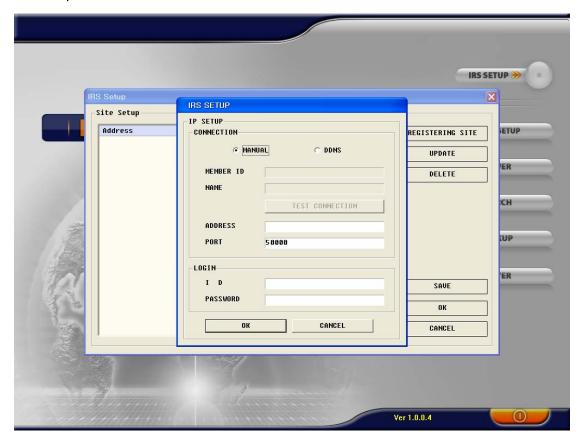
SEARCH Enables to search and show recorded image display.

BACKUP Enables to back up recorded images in DVR to your PC.

PLAYER Enables to play the backup images on your PC. (AM4 file)

^{*} Interface and functions of IRS are subject to change without prior notice.

6-1. IRS Setup



Select "Manual" to input IP address and port number manually. **MANUAL**

DDNS Select "DDNS" to use IP address and port number that you already registered in DDNS

server. (For more information about DDNS, please refer to page 54~59.)

MEMBER ID Input member ID that you registered in DDNS server.

NAME Input DVR name that you registered in DDNS server.

ADDRESS Input IP address manually. **PORT** Input port number manually.

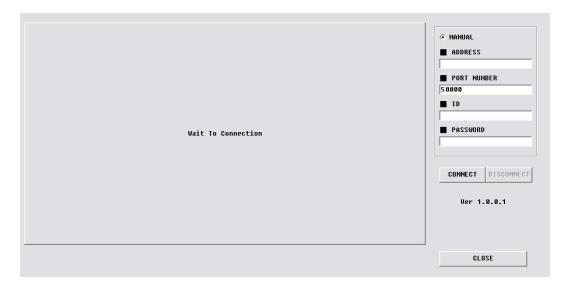
LOGIN

ID Input DVR ID which has been set in DVR already. (Input 'admin'.)

Password Input password of DVR.

* Interface and functions of IRS are subject to change without prior notice.

6-2. DVR Setup



You can change some settings of DVR listed below over a network.

(Alarm, Buzzer, Interval, Record Configuration, Record Schedule, Audio)

MANUAL Input IP address and port number of DVR manually.

ADDRESS Input IP address of DVR manually.

PORT NUMBER Input port number of DVR manually.

LOGIN

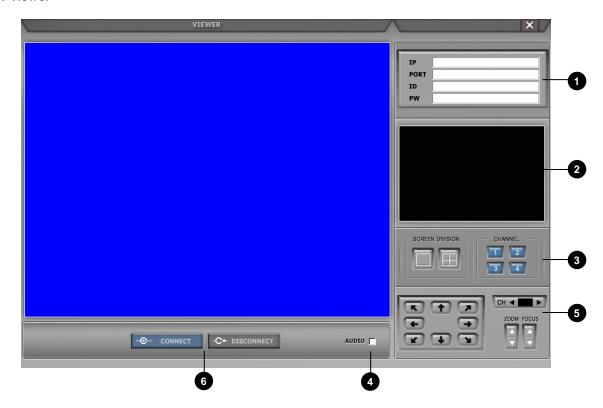
ID Input DVR ID which has been set in DVR already. (Input 'admin'.)

PASSWORD Input password of DVR.

CLOSE Click "CLOSE" to exit.

^{*} Interface and functions of IRS are subject to change without prior notice.

6-3. Viewer

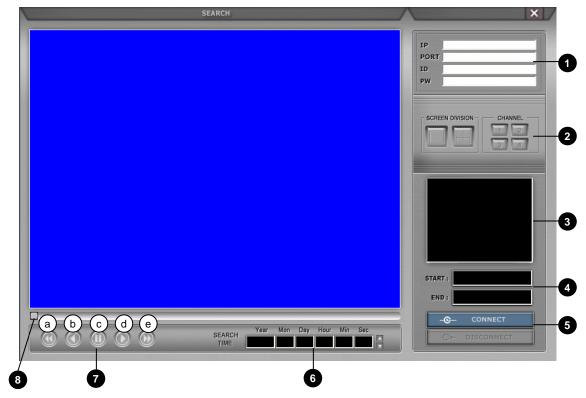


- 1 DVR connection setup: Input network information to connect.
 (IP / PORT / ID / PW)
- **2** System information: Displays connection status and operating information.
- 3 Screen display
 - a) SCREEN DIVISION: Selects full screen mode or 4-split mode
 - b) CHANNEL: Displays full screen for each channel.
- 4 Audio: Set Audio ON/OFF.
- **5** PTZ control: Controls PTZ camera remotely.

 (In order to control PTZ camera, PTZ setting in DVR must be completed in advance.)
- 6 Network connection
 - a) CONNECT: Click this button to connect to DVR & see live view over a network.
 - b) DISCONNECT: Click this button to disconnect.

* Interface and functions of Viewer are subject to change without prior notice.

6-4. Search

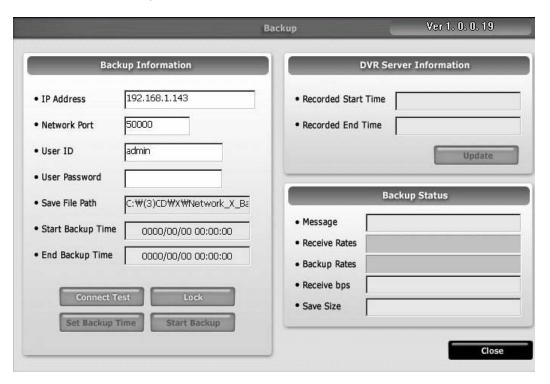


- 1 DVR connection setup: Input network information to connect.

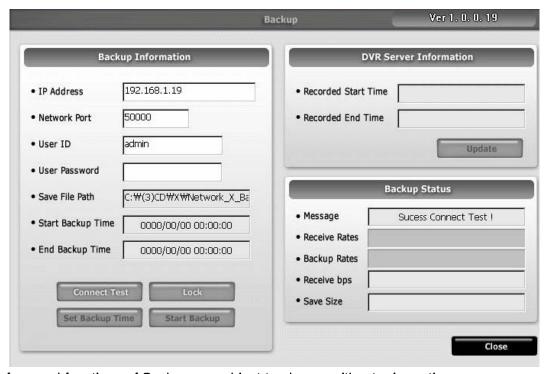
 (IP / PORT / ID / PW)
- 2 Screen display
 - a) SCREEN DIVISION: Selects full screen mode or 4-split mode
 - b) CHANNEL: Displays full screen for each channel.
- 3 System information: Displays connection status and operating information.
- 4 Recorded data display: Displays start time & end time of recorded data.
- 5 Network connection
 - a) CONNECT: Click this button to connect to DVR & see live view over a network.
 - b) DISCONNECT: Click this button to disconnect.
- 6 Search time: Input time and date to search images.
- 7 Operation buttons
 - a) Fast backward playback
 - b) Backward playback
 - c) Pause
 - d) Forward playback
 - e) Fast forward playback
- 8 Search bar: Enables to search recorded data by using this bar.
- * Interface and functions of Search are subject to change without prior notice.

6-5. Backup

1) To execute BACKUP, input IP Address & Port and click 'Connect Test' button.

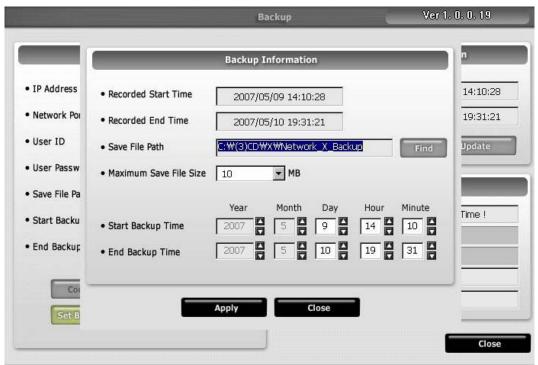


2) After Connect Test is done, you can see 'Success Connect Test!' message. Then, click 'lock' button and click 'Set Backup Time' button.

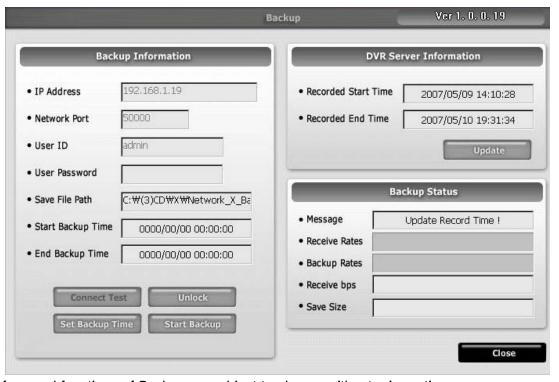


★ Interface and functions of Backup are subject to change without prior notice.

3) Now you set 'Start Backup Time', 'End Backup Time', 'Save File Path', 'File Size' and click 'Apply'.

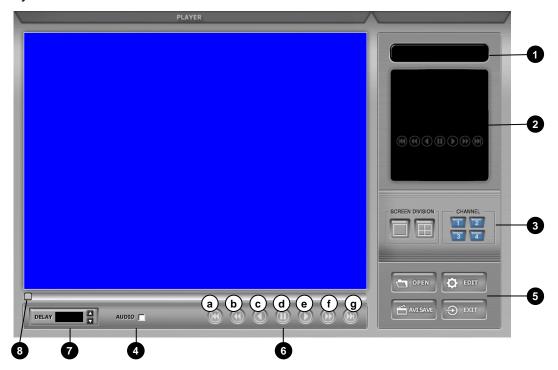


4) After finishing time setting, click 'Start Backup' to start backup. Then, you can see the backup file on the path that you chose.



* Interface and functions of Backup are subject to change without prior notice.

6-6. Player



- 1 Time display: Displays current time.
- **2** Recorded data display: Displays start time & end time of recorded data. Also, displays operating status during playback.
- 3 Screen display
 - a) SCREEN DIVISION: Selects full screen mode or 4-split mode
 - b) CHANNEL: Displays full screen for each channel.
- 4 Audio: set Audio ON/OFF
- **5** Operation buttons I
 - a) OPEN: Selects backup AM4 file.
 - b) EDIT: Enables to edit backup image, save and print.
 - *Edit function is available when one channel is selected.
 - d) AVI SAVE: Save backup images in AVI file format.
 - **AVI save function is available when one channel is selected.
 - c) EXIT: Ends backup player.
- 6 Operation buttons II: Search for recorded data.
 - a) Go to the beginning of recorded data and play.
 - b) Fast backward playback
 - c) Backward playback
 - d) Pause
 - e) Forward playback
 - f) Fast forward playback
 - g) Go to the end of recorded data and play.
- **7** Playback speed setting button: Able to adjust playback speed by using upper/lower buttons. DELAY: Adjusts playback interval. The higher, the slower. (1, 2, 4, 8, 16, 32)
- 8 Play bar: Enables to search recorded data by using this bar.
- * Interface and functions of Player are subject to change without prior notice.

Image EDIT

Click "EDIT" to go to image edit mode.



- 1 EDIT TOOL: User can adjust color tone of copied images using this buttons.
 - Contrast
 - : make bright part of image brighter and dart part of image darker
 - : To reduce light and shade, lower contrast a little.
 - Brightness
 - make an image brighter
 - make an image darker
 - Sharpness
 - gives sharp-edge effect
 - <u>Blu</u>r
 - make an image soft
 - Operation buttons
 - saves data in JPEG file format.
 - It is saved in the folder where player is installed. ('C:\WEB_BACKUP')
 - User can print current image selected.
- **2** EDIT: Return to player mode.
- * Interface and functions of Edit are subject to change without prior notice.

AVI SAVE

Click "AVI SAVE" to go to AVI saving mode.



- 1 OPTION: Used to save data in AVI file format.
 - CHANNEL: Selects channel
- FRAMERATE: Decides frames per second of data to be saved.
- SIZE: Decides the size of data to be saved automatically.
- START: Starts saving
- STOP: Stops saving. Once it is stopped, 'C:₩WEB_BACKUP' folder is opened automatically.
- 2 AVI SAVE: Opens 'Option' setting to start AVI saving.

 Closes 'Option' setting after finishing AVI saving and go back to player mode.

^{*} Interface and functions of AVI SAVE are subject to change without prior notice.

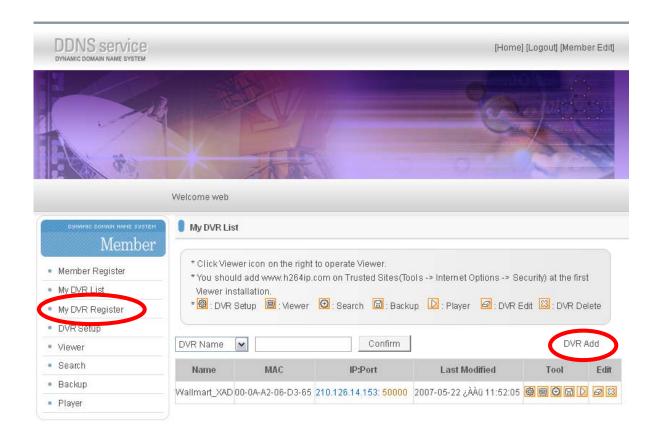
CHAP 7. DDNS Web-server

7-1. Registering DVR for DDNS (DDNS Web-server)

1) Please access www.h264ip.com and click Register Member ID.

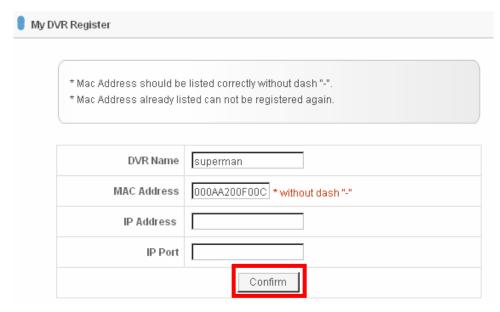


2) Please click 'DVR Add' or 'MY DVR Register' to register DVR.

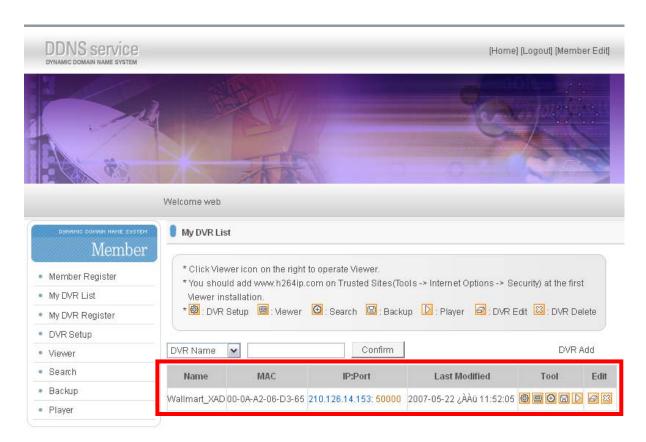


* Interface and functions of DDNS service are subject to change without prior notice.

3) Please click confirm after inputting DVR information (DVR Name and MAC Address only). Then, Click "Confirm" button.



4) Now, DVR is listed on DDNS web server without IP and Port number.



* Interface and functions of DDNS service are subject to change without prior notice.

7-2. DDNS set up in DVR

- * The following setting is a sample for a cable modem connected to DVR directly.
 - 1) Go to Menu
 - 2) Go to IP SETUP menu, if you set DHCP AUTOMATIC then it detects IP address automatically.

I	P SETUP
MAC ADDRESS DHCP MODE	00-0A-A2-00-00-00 AUTOMATIC
IP PORT IP ADDRESS GATEWAY SUBNET	50000 192 168 001 160 192 168 001 001 255 255 255 000 DEFAULT ESC

3) Go to the previous menu and click DDNS SETUP.

TCP/IP SETUP	
IP SETUP DDNS SETUP CONNECTION SETUP	ESC

4) Set DDNS ON/OFF 'ON'.

IP address which is assigned from DHCP server is automatically input on DNS SERVER.

DDNS SET	TUP	
DDNS ENABLE DNS SERVER INTERVAL	168.126.063.0 D-00 H-00 M- REGIST	-20
DDNS STATUS IP ADDRESS IP PORT REMAIN TIME	REGISTER 192.168.001.1 500 D-00 H-00 M-	60
> WED. 12 JUL 2006	09:21:36 GI	MT
	ES	SC

5) Go down to REGISTER and push ENTER button to renew IP registered on DDNS SERVER.
 (Interval : connection interval time between DVR and DDNS SERVER)
 D = Day, H = Hour, M = Minute

	DDNS SETUP		
	DDNS ENABLE DNS SERVER INTERVAL	168.126.0 D-00 H-0 RE	
<ddns messages="" status=""></ddns>	DDNS STATUS IP ADDRESS IP PORT REMAIN TIME LAST REGISTRATION DATE	REGIS 192.168. D-00 H-0	50000
	> WED. 12 JUL 2006 09 : SUCCESS TO REGISTER DVR INFO	21:36	GMT
<ddns error="" messages=""></ddns>		_	ESC

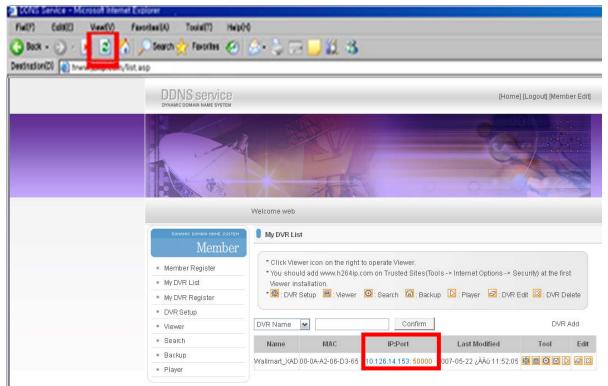
FAIL TO COMMUNICATE WITH DDNS SERVER:

(In this case, check out whether DNS server IP address is 168.126.063.001. If the IP address is same, please try another DNS server IP address provided by your ISP.)

FAIL TO REGISTER DVR INFO:

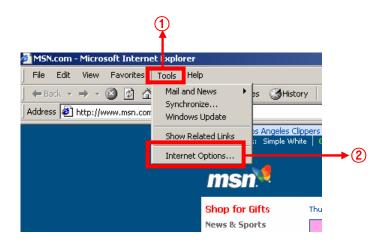
(In this case, please check out whether you registered your DVR in www.h264ip.com. And also check out your MAC address in your DVR is same as the one that has been registered in www.h264ip.com.)

6) Go to your computer again after you see "SUCCESS TO REGISTER DVR INFO" and then Click 'refresh' button. Then, DDNS server automatically catches your DVR's IP address and Port number.

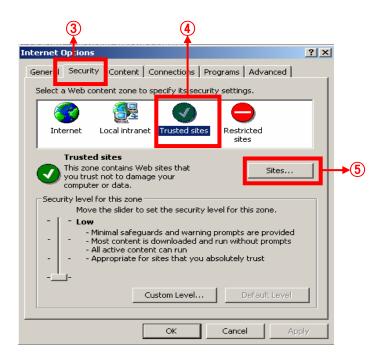


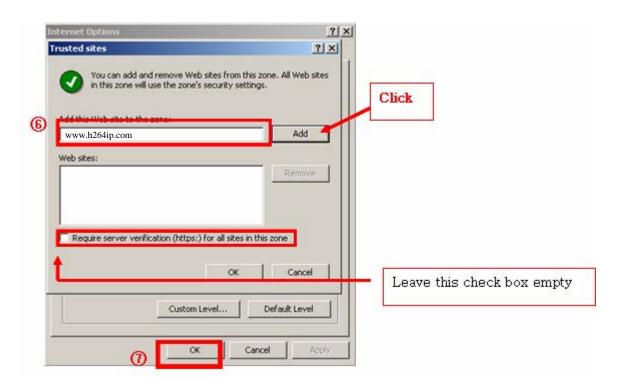
Note.

Before using Web-Viewer, please add www.h264ip.com on Trusted Sites at first installation as follows. (Tools -> Internet Options -> Security)



* Interface and functions of DDNS service are subject to change without prior notice.

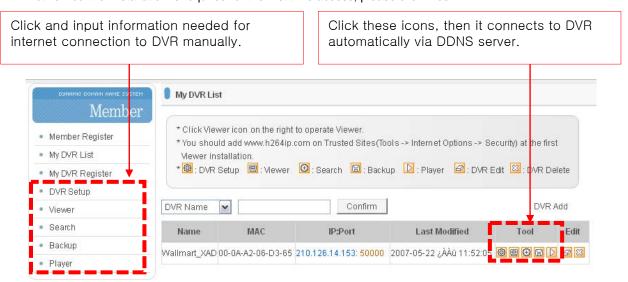




7-3. Web program

Some functions of IRS (Integrated Remote Station) such as Viewer, Search, Backup and Player are also available on the web.

*If ActiveX control installation is required for the first time access, please click 'Yes'.



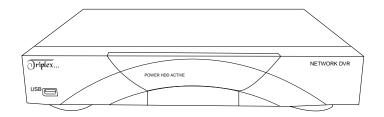
These functions such as Viewer, Search, Backup and Player are same as the ones in IRS. (Please refer to 'Chap 7. IRS' section from page 47 to 51.)

DVR Setup
 Viewer
 Enables to show live image display.
 Search
 Backup
 Enables to search and show recorded image display.
 Enables to back up recorded images in DVR to your PC.
 Player
 Enables to play the backup images on your PC. (AM4 file)

* Interface and functions of DDNS service are subject to change without prior notice.

CHAP. 8 Specifications

- H.264 Hardware Codec
- Real time live display in all channels
- Triplex (Playback / Recording / Ethernet)
- Web monitoring
- Easy control by Mouse
- USB memory stick for data backup.
- Easy PTZ Camera (MOUSE)
- Password protection
- Multi-language support



Multiplex function			Triplex (Playback / Recording / Ethernet)	
Storage Capacity	Internal	HDD	1 SATA HDD (no limit in capacity of HDD)	
Video	Inputs		4Ch	
	Output	Composite	2Ch (Monitor, SPOT)	
	Compression		H.264 Hardware codec	
	Compression Ra	ate	5 step selectable	
	Live Display Spe	eed	Real Time Live Display	
	Recording Mode	Э	Schedule Record (Continuous/Motion/Alarm)	
Recording / Search	Search		Event Search, Date/time Search, Percent Search	
Search	Recording Speed (NTSC/PAL)		Max. 120FPS(NTSC) 100FPS(PAL)	
	Recording Reso	lution	CIF (352x240/352x288)	
Audio Recording	_		1 Ch Input / 1 Ch Output	
Language			English, Spanish, French, Italian, German, Russian, Japanese, Chinese	
			To be added more	
Switching Interval			1~99 Sec selectable	
Live View Display			Full screen / 4-Split	
			Digital Zoom, PIP, Freeze, Sequence in live mode	
Alarm	Inputs		4 Alarm (NO/NC Selectable)	
	Outputs		1 (NO / NC)	
	Post Alarm		Alarm output duration : 2 ~ 99 Sec selectable	
Motion Area			30x24	
Network			Ethernet (TCP/IP) Web Solution (DDNS): DVR Setup, Viewer, Backup, Search	
Backup			USB Memory Stick / Download via IP Network	
PTZ Control			Via RS-485	
Firmware upgrade			Via USB	
Operation			P/S2 mouse, network	
Power Requirements			DC 12V 3.33A Adaptor	
Weight			2kg	
Dimensions (W x I	H x D) mm		370 X 260 X 62	

Design and specifications are subjected to change without notice.

CHAP. 9 Remote Controller

