4Ch Real time / Triplex / Mux

### **Stand Alone DVR**

**User's Manual VER 1.3** 



4 Channel Stand Alone DVR USB Backup available

The most stable and reliable real stand alone Digital Video Multiplex Recorder

#### **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.



#### Before You Start

- 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. A jumper setting for CD-RW must be master.
- 4. 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.

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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 Simple playback mode Simple PTZ camera control

#### Record

Variable Record resolution (For higher picture quality or higher recording speed)
Efficient Image Quality step in 5 steps
Schedule recording
Event Record by alarm and motion detection

#### Network

Monitoring and Search by using Remote Viewer via network

#### Playback

Search and playback by recorded data size and date/time

Various steps in forward playback speed (X2, X4, X8, X16, X32 fast playback. 1/16, 1/8, 1/4, 1/2 slow playback)
Various steps in backward playback speed (X2, X4, X8, X16, X32 fast playback. 1/16, 1/8, 1/4, 1/2 slow playback)

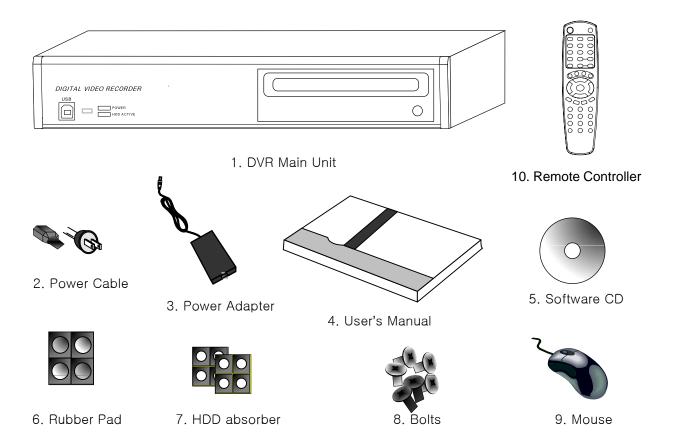
#### Data backup

Simple backup using CD-RW Remote viewer backup in AVI, JPEG file Supports bigger capacity of HDD USB Device Back-Up available

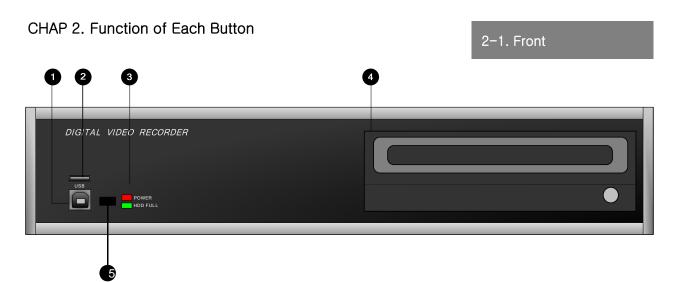
#### Others

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

#### 1-2. Package Contents

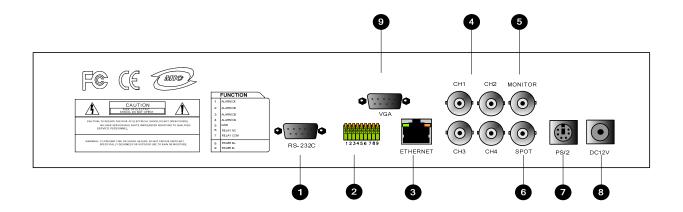


Package Contents	Description
1. DVR Main Unit	Stand-Alone Digital Video Recorder
2. Power Cable	AC power supply to adapters for 12V DC power
3. Power Adapter	DC power supply
4. User's Manual	User's Manual
5. Software CD	Remote Viewer Software & Backup CD Player
6. Rubber Pad	Prevent DVR from slipping. Attach it to the bottom of main unit
7. HDD absorber	Absorbing the mechanical shock of HDD against the case bottom
8. Bolts	Bolts for fixing HDD
9. Mouse	A mouse controlling all functions of DVR
10. Remote Controller	DVR control



Name	Function	
① USB Device	Used for updating Firmware	
② USB HOST	Used for Data Backup	
③ LED Lamps	Shows status of operation	
④ CD – RW	Used for Data Backup and Firmware upgrade	
⑤ IR	IR receiver	

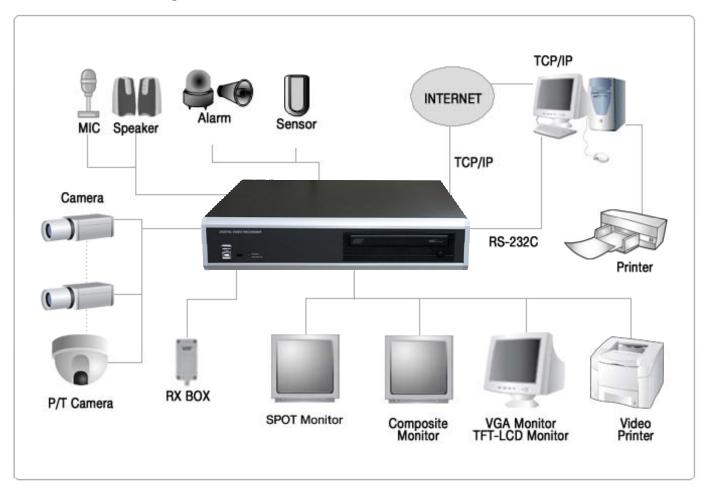
#### 2-2. Rear



	Name	Function
1	RS-232C	Connection to external device as PC using RS-232C to control the DVR
2	RS 485	Connection with PTZ camera or other external device using RS 485 interface
	RELAY Output	Relay out terminal
	SENSOR Input	Sensor input terminal
3	ETHERNET	Connection to ETHERNET device
4	CAMERA Input	Connection with camera (NTSC / PAL)
5	MONITOR Output	Connection with Composite Monitor (NTSC / PAL)
6	SPOT Monitor Output	Connection with Composite Monitor (NTSC / PAL)
7	PS/2	Connection with PS/2 MOUSE
8	DC Power	DC over 12V adapter
9	VGA	Connection to VGA Monitor (CRT type or TFT LCD monitor)

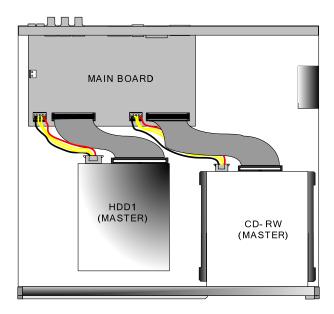
#### **CHAP.3** Installation

#### 3-1. Installation Configuration

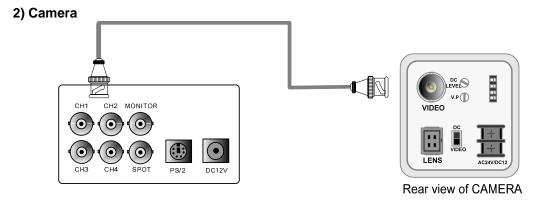


#### 3-2. Detailed Installation

#### 1) HDD



- 1. Connect Main Board and HDD1 using IDE cable and HDD power cable.
- 2. The jumper setting of HDD should be on Master when you install HDD.
- 3. 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).
- 4. Screws must be inserted from outside of the case bottom.

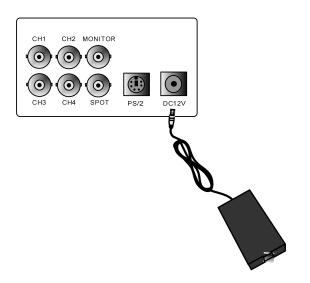


Connect camera to the camera input on rear panel of DVR marked CAMERA IN.

## 3) Monitor CH1 CH2 MONITOR O O O O

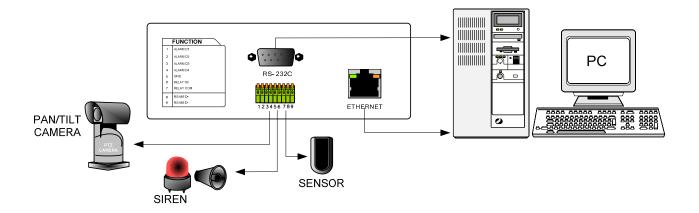
Connect the video output marked MONITOR to Video-In of Main monitor.

#### 4) Power



DC over 12V adapter

#### 5) Other External Device



RS-485: Control external device like PTZ camera.

(Pin No.8 & No.9 at D-SUB).

**RELAY Output**: Relay Output (Pin No.6 & No.7).

**SENSOR Input**: Sensor Input – Alarm Input (Pin No.1 ~ No.4).

**ETHERNET**: Connection to LAN, WAN t.

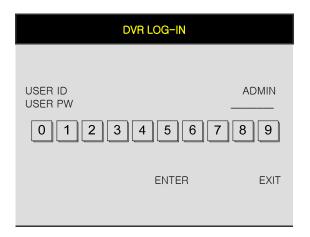
#### 6) RS-232C ASCII-code

Following ASCII-Codes (Hexa-Code) are for programmers who want to control DVR unit via the RS232C Port using keyboard of PC. ASCII-Code is 1 Byte.

녹화	'R'	DOWN	'J'	PTZ	'T'	CH1	'1'
STOP	ŝ	LEFT	Ή	ZOOM	ʻŽ	CH2	'2'
재생	'P'	RIGHT	'K'	FRZ	'F'	СНЗ	'3'
Pause	'A'	NEXT	'N'	MODE	'D'	CH4	'4'
SERCH	'E'	ENTER	0x0d	PIP	T		
MENU	'M'	-	<b>'</b> <'	SEQ	Ŷ		
UP	'U'	+	' <b>&gt;</b> '				

#### 4-1. System Log-In

- Move a cursor to lower right hand corner of display by using a mouse, then you will see 'Menu' Icon. Click the 'Menu' Icon to log in.
- 2) Then, you will see 'DVR Log-In' message shown as right.
- 3) You may log in as a ADMIN, MANAGER, or USER1 ~ USER8.
- 4) Input your password (Max. 8 digits are available for password)
- 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)

\* For security reasons, be sure to make note of your own password.

#### 4-2. Factory Default

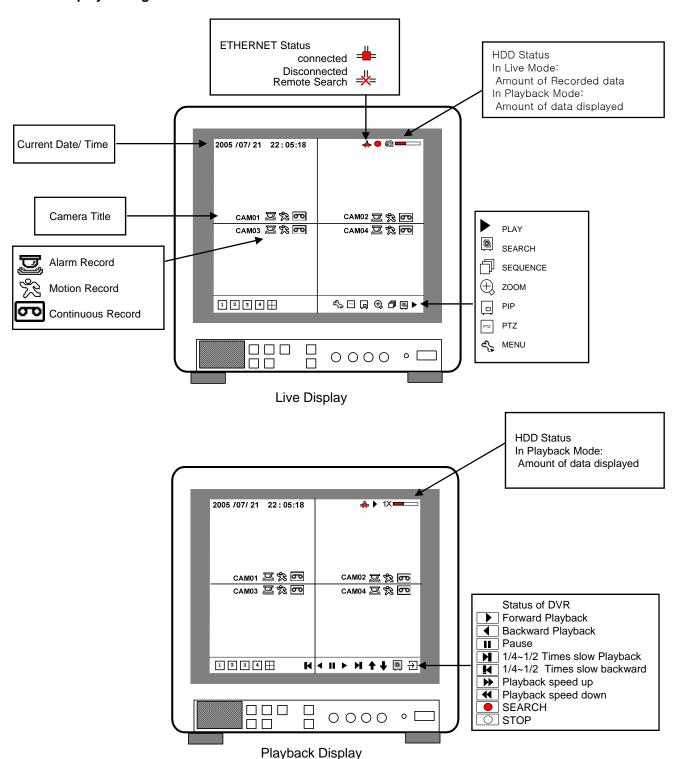
Before first operation, you must check out each channel is displaying properly and log in 'Main Menu' and set Time/Date and set HDD clear.

1. HDD Management

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

MODEL
SERIAL
BLOCKS
SIZE
SPEED
-----OVERWRITE
CLEAR ESC

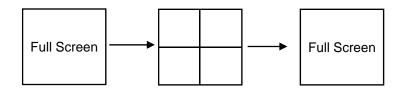
#### 4-3. Display Configuration



#### 4-4. Live View Setup

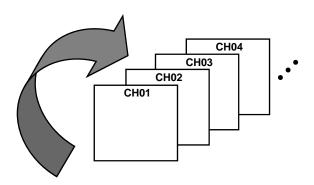
#### 1) Full / Multiple View

Move a cursor to 'split icon' on the lower left corner of display 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.



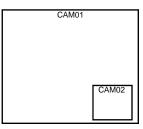
#### 2) SEQ

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



#### 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.



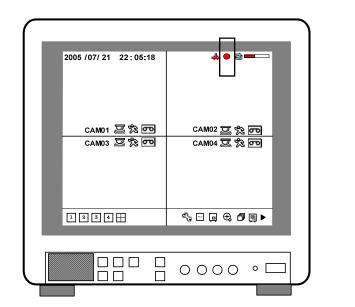
#### 4) ZOOM View

In live mode, if you click [ZOOM] icon, images are displayed in two times larger size. While using [ZOOM] mode, you can move the enlargement area by using a mouse. To exit ZOOM mode, click ZOOM] icon again.

#### 4-5. Record

It records as a setting made by a user in Schedule Mode.

- Schedule Record
   Go to MAIN MENU-SCHEDULE SETUP and setup schedule as you want. It records as a setting.
- Record Icon in Red indicates Schedule Record. Motion record, and alarm record.





Stop recording [WHITE]

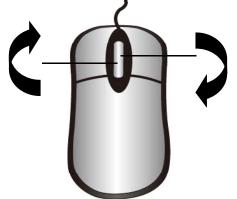
- This DVR unit does not record in following conditions;
- When Over write function is off and HDD is full
- \* When you back up recorded images by using CDRW burning.
- \* When you update a firmware
- ※ When you are in HDD management menu mode

#### 4-6. Playback

- 1. On record mode or stop mode, click [click] to play the recorded data in 1x speed.
- 2. How to use a mouse

Left button on a mouse is used for all command in menu.

You can adjust playback speed by moving a mouse wheel button up and down.



- 1/16x: 16 times slower than normal playback speed.
- 1/8x: 8 times slower than normal playback speed.
- 1/4x: 4 times slower than normal playback speed.
- 1/2x: 2 times slower than normal playback speed.
  - 1x: Normal playback speed
  - 2x : 2 times faster than normal playback speed..
  - 4x: 4 times faster than normal playback speed.
- 8x: 8 times faster than normal playback speed.
- 16x: 16 times faster than normal playback speed.
- 32x: 32 times faster than normal playback 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, then you see a window shown as below.

Select a target data by using a mouse.

In PERCENT SEARCH Mode, you can select a 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

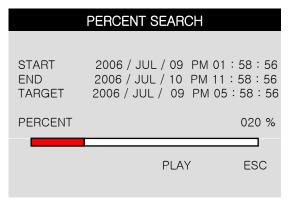
Search by time & date. Playback starts from the time & date selected.

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

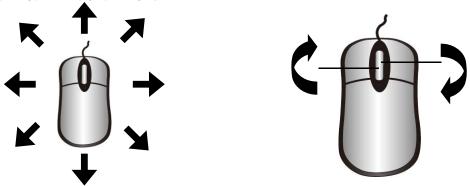
TIME/DATE SEARCH

EVENT SEARCH				
DATE/TI	ME	CHANNEL	EVENT	
//	::			
//	:	-		
/	::	-		
//	::	-		
//	::	-		
//	::	_		
//	::	-		
PAGE	000/000		ESC	

**EVENT SEARCH** 

#### 4-8. PAN/TILT/ZOOM Camera Operation

Click [PTZ] icon to control a PTZ camera. PAN/TILT is controlled by Left & Right buttons and Zoom In & Out is controlled by a wheel of a mouse. You can control a PTZ camera in 8 different directions as shown below.



#### 4-9. Data Backup

Click [MENU] icon first.

- 1. Insert empty CD-R media into CD writer and select the start time & date from which you want to back up.
- \* The START & END time / date in HDD sub-menu only shows start and end of recording. This is not selectable and editable.
- 2. To set start time of back-up and back-up data size of CD-R media inserted, use a mouse.
- \* End of back-up time 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.
- 3. Click 'BURN' then it starts burning a CD.
- 4. When burning is completed, CD-R media will come out automatically. In the next CD back-up, start time of CD-R shall be the end of previous CD-back-up, and you can back-up from that for continuous data back-up. If you need another back-up, repeat the above procedure. To stop backup, click 'ESC'.
  - \* While you are burning a CD, it is impossible to cancel burning process.
  - \* During burning process, DVR does not record.
- 5. You can verify the back-up CD and install the Backup CD Player on your PC to view the backup data.

	BACK-UP	
HDD START END		98 AM10:10:23 9 AM08:12:23
CD-R START END SIZE	2006/JUL/0	98 PM12:04:12 8 PM08:12:23 00MB -> 0MB
	BURN	ESC

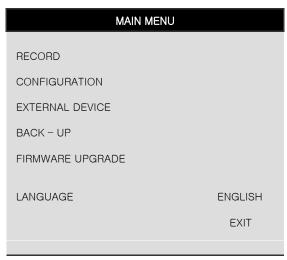
	BACK-UP
HDD START END	2006/JUL/08 PM 12:04:12 2006/JUL/08 PM 08:12:23
CD-R START END SIZE	2005/AUG/07 AM04:04:12 2005/AUG/08 PM08:12:23 700 MB - > 700MB
	BURN ESC

#### CHAP. 5 Set up

#### 5-1. General Operation

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

Mouse buttons	Functions
Mouse Wheel	Up and down of setup value on the Menu mode Up and down of Playback speed Zoom in and out in PAN/TILT/ZOOM mode
Rìght	Decrease of setup value on the Menu mode
Left	Increase of setup value on the Menu mode Execute all of the function (clicking icons)



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: Connection to a VGA monitor (CRT/TFT LCD), if optional VGA board is fixed on the main board.

You can set 'RESOLUTION' for VGA as shown below.

(VGA Default is 800X600.)

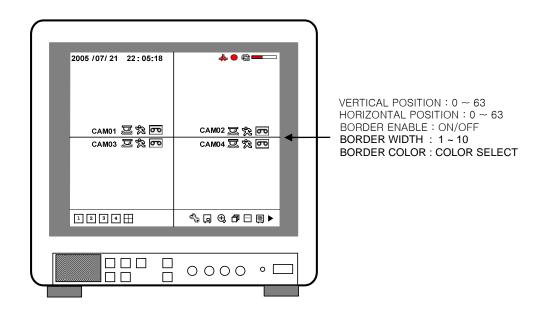
\*If there is no VGA option board fixed on the main board or not detected correctly, it displays "No VGA BOARD"

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

<sup>\*\*</sup> Please check the resolution range that your VGA monitor supports first before you use VGA monitor. If you select high resolution such as 1024X768, 1280X1224 on VGA SETUP with VGA monitor that does NOT support those high resolutions, image display may NOT be seen properly.

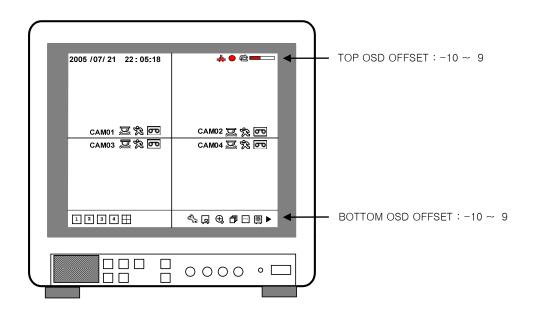
#### 2) SCREEN DISPLAY

SCREEN DISPLAY	
VERTICAL POSITION HORIZONTAL POSITION BOARDER ENABLE BOARDER WIDTH BOARDER COLOR	24 00 ON 01 GRAY
DEFAULT	ESC



#### 3) OSD SETUP



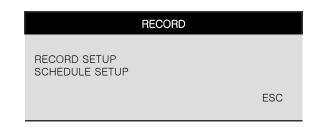


#### 5-3. RECORD

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 on the left.

#### 1) RECORD SETUP

You can change setup value by using a mouse.



RECORD SETUP

ALL-DEFAULT

CH 1 352 \* 240

**ESC** 

**HIGHEST** 

30.0 FPS

CHANNEL

QUALITY

RESOLUTION

FRAME RATE

DEFAULT

#### (1)CHANNEL: CHANNEL select

- (2) QUALITY: Set recording picture quality.
  (There are five quality steps)
  - LOWEST
  - LOW
  - NORMAL [DEFAULT]
  - HIGH
  - HIGHEST

To send more images via IP network and longer recording time, set Quality at 'LOW' or 'NORMAL' and record at 360x240.

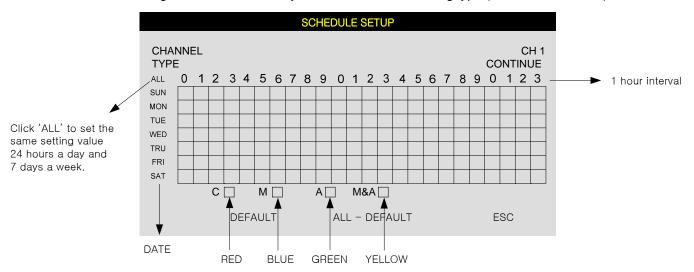
Data size of image in PAL system is a little bigger than NTSC system, but the total recording time is same as in NTSC system.

- (3) RESOLUTION: Set recording resolution
  - 704x240(NTSC), 720x288(PAL)
  - 352x240(NTSC), 360x288(PAL) [ DEFAULT ]
- (4) FRAME RATE: Set FRAME
  - $1 \sim 30 \text{ FPS(NTSC)}$  [ DEFAULT 7.5 FPS ]
  - $1 \sim 25 \text{ FPS(PAL)}$  [ DEFAULT 7.5 FPS ]

#### 2) SCHEDULE SETUP

Unless you selected other recording mode, DVR system records in Schedule Recording mode. In Schedule Recording mode, you set type of recording by 1 hour time interval. Default frame rate for continuous recording speed is 30 FPS.

Set Recording time interval for a day of the week and recording type (1 hour time interval)



TYPE: Set up Recording type CONTINUE: 24 hour recording ALARM: Alarm recording MOTION: motion recording

MOTION & ALARM: Motion & Alarm recording

\* Each type is indicated in different color of boxes.

You can set up schedule by dragging a mouse and all blocks can be activated or deactivated by using 'ALL' button.

\* Default setting is continuous recording.

#### 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 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.)

HDD MANAGEMENT		
MODEL SERIAL BLOCKS SIZE SPEEDOVERWRITE		6Y080L0 S3243212 3056 LBA 160 GB PIO4 
	CLEAR	ESC

MODEL : HDD MODEL NAME SERIAL : HDD SERIAL No.

BLOCKS: HDD LBA BLOCK Number

SIZE: HDD TOTAL SIZE SPEED: HDD MODE

OVERWRITE: ENABLE, DISABLE

#### 2) TIME/DATE SETUP

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

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

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

DATE FORMAT: DATE(ASIAN/EUROPEAN

/AMERICAN)

HOUR FORMAT: (2H/24H)

MONTH FORMAT: (ENGLISH, NUMERIC)

TIME/DATE SETUP		
DATE	2006/JUL/08	
TIME	15:41 :45	
DATE FORMAT	ASIAN	
HOUR FORMAT	24HOUR	
MONTH FORMAT	ENGLISH	
	DEFAULT ESC	

#### 3) CAMERA SETUP

You can setup values for each camera.

CAMERA SETUP			
CHANNEL TITLE BRIGHTNESS CONTRAST SATURATION HUE	CH1 CAM01 0 0 0		
DEFAULT	ALL-DEFAULT ESC		

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

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

DEFAULT = CAM01\_\_\_ ~ CAM03\_\_\_

(3) COLOR: You can adjust color of image display of each camera by a mouse.

BRIGHTNESS: Adjusting brightness ( $-32 \sim 31$ ) [ DEFAULT = 0 ] CONTRAST: Adjusting contrast ( $-32 \sim 31$ ) [ DEFAULT = 0 ] SATURATION: Adjusting saturation ( $-32 \sim 31$ ) [ DEFAULT = 0 ]

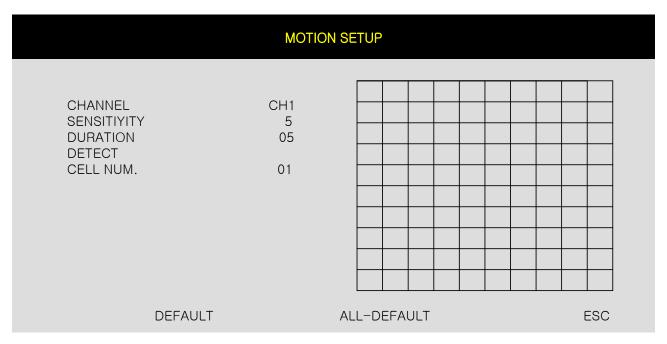
HUE: Adjusting hue  $(-32 \sim 31)$  [ DEFAULT = 0 ]

#### (4) Executing Buttons

ALL: 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: Used to exit

#### 4) MOTION SETUP



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

- SENSITIVITY: Adjusting sensitivity of a movement. You can adjust level 1 ~ level 5. [DEFAULT: 1]
- DURATION: Whenever motion is detected and it is set at Motion Recording mode,
   DVR records for a certain time being from the point of time when motion is detected.
   (1 sec.~99 sec.) [DEFAULT: 1 sec.]
- DETECT CELL NUM.: Select the minimum of CELL for MOTION EVENT to be activated.
- ALL-DEFAULT: Default setup for all channels

MOTION MASK SETUP: Set motion detection area.

- CELL: Move to the location which you don't want to detect and then click it by using left button.

  Motion is detected, when the cell is activated. Motion is not detected on non-activated cells.
- BLOCK ON: Select non detection area by block. (The blocked cells are non-activated area)

By clicking left button and dragging a mouse, you can block the cells.

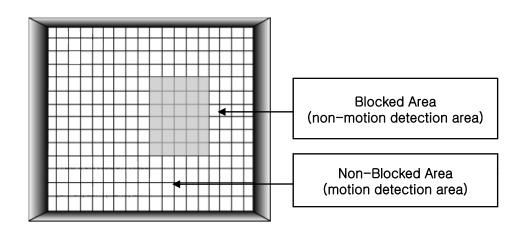
The right button is used for delete the blocked cells.

To save the setting value and exit, click 'ESC'.

- BLOCK OFF: Select detection area by using the right button of a mouse.

The right button is used for delete the blocked cells.

To save the setting value and exit, click 'ESC'.



CHAP. 5 Set up

01 SEC

01 SEC

**ESC** 

600 SEC

#### 5) INTERVAL SETUP

See the switching time interval for SEQ or PIP function. (1 sec. ~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

If EVENT UPDATE time is set at 5 sec, only following event happened 5 sec or more than 5 sec later previous event shall be listed on EVENT LIST.

to be listed on EVENT LIST.

#### 6) ALRAM 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 not to use alarm sensor connected to DVR.

DURATION: Set the duration of alarm when an ALARM is activated. (0 sec. ~ 300 sec.)

	ALRAM SETUP		
	CHANNEL INPUT DURATION	CH DISABLI 01 SEC	Ē
l	ALL-DEFAULT	DEFAULT ES	С

**INTERVAL SETUP** 

**DEFAULT** 

SEQUENCE SCREEN

PIP SCREEN

**EVENT UPDATE** 

#### 7) PASSWORD SETUP

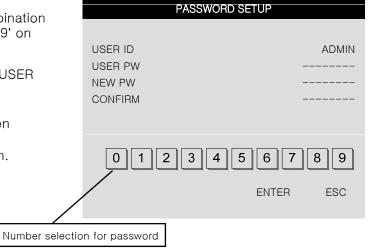
Set user ID and Password.

You can make up to 8 digit number combination for a password by clicking number '0'  $\sim$  '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 Set up

#### 5-5. EXTERNAL DEVICE

Set parameters of external devices connected to DVR like Ethernet, PTZ camera, Spot monitor etc. If you click ETERNAL DEVICE on the main menu, then you will see the window shown on the right.

#### **EXTERNAL DEVICE**

TCP/IP SETUP PAN/TILT SETUP SPOT SETUP

ESC

#### 1) TCP/IP SETUP

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

#### TCP/IP SETUP

IP SETUP
DDNS SETUP
CONNECTION SETUP

ESC

#### (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 and 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
	DEFAULT ESC

#### 2) PAN/TILT SETUP



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

**COMMAND SETUP** CHANNEL 01 MODEL PELCO-D PTZ ID 000 BAUDRATE 2400 BPS CMD DELAY 1 MSEC PAN/TILT STOP COMMAND LENGTH 16 CODE 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 DEFAULT ALL-DEFAULT **ESC** 

1) CHANNEL: Select channel

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

3) PTZ ID : Select PTZ ID (per each channel)4) BAUDRATE : Select data transmission speed5) CMD DELAY : Select command delay time

#### 3) SPOT SETUP

SPOT SETUP	
SWITCH INTERVAL ALARM POP UP MOTION POP UP EVENT POP UP DURATION	03 SEC ON ON 05 SEC
DEFAULT	ESC

- (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)

#### EVENT POP-UP DURATION Set EVENT POP-UP DURATION

If events (MOTION or ALARM) happen on several channel 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 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.

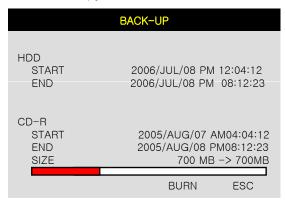
#### 5-6. BACK-UP

#### 1) CDR SETUP

You can back up the recorded data to CD using CD writer installed in DVR.

Refer to [START] and [END] of data on HDD and set copy from time, [START], and size of data copied, [SIZE], and move to BURN and click it to start copy.

	BACK-UP	
HDD START END		8 AM10:10:23 9 AM08:12:23
CD-R START END SIZE	2006/JUL/0	8 PM12:04:12 8 PM08:12:23 00MB -> 0MB
	BURN	ESC



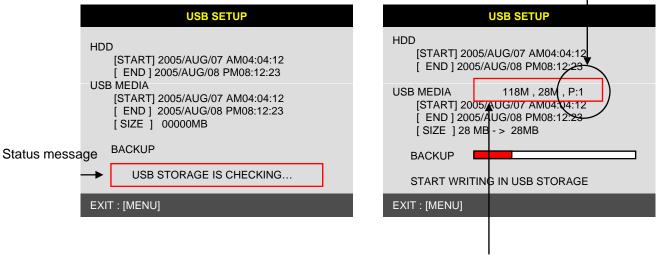
#### System Status Messages:

- 1. INPUT BLANK CD: CD writer has no blank CD.
- 2. CD-R MEDIA IS DETECTED: A blank CD-R media has been inserted and detected.
- **CD-RW BURNING START**
- CD-RW BURNING LEAD-IN
- CD-RW BURNING IMAGE DATA
- CD-RW BURNING CLOSE TRACK
- **CD-RW BURNING COMPLETE**
- 3. When burning is completed, CD-R media will be ejected automatically.
- 4. To copy more images, repeat above process. In the next back-up process, [START] time in CD-R sub-menu shall be [END] time in previous back-up, and you can copy images in series to many CDs as many as you want.

#### 2) USB SETUP

User can back up the recorded data to USB Media using USB (HOST) port on front panel of DVR. Refer to [START] and [END] of data on HDD and set start and end time of data to USB Media (Memory Stick or USB HDD). Select backup file size, and move to BACKUP and press [ENTER] Button to start copy.

USB HDD control only: Partition can be selectable by Ch button 1~4.



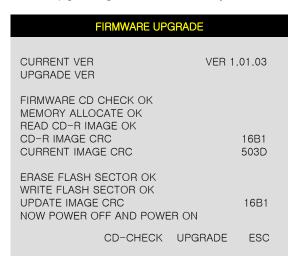
SIZE, FREE SPACE, PARTITION

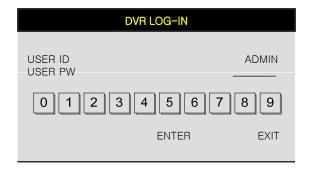
#### System Status Messages

- (1) If MEMORY STICK is not inserted:
  - USB STORAGE IS CHECKING...
  - USB STORAGE IS NOT AVAILABLE
  - RE-CONNECT THE USB STORAGE
  - CONECT THE OTHER USB STORAGE
- (2) When MEMORY STICK or USB HDD is recognized
  - USB STORAGE IS CHECKING ...
  - THERE IS A FREE SPACE ON STORAGE
  - USB STORAGE IS AVAILABLE
- (3) During Back-Up
  - CHANGE WRITE PROTECT MODE (Only WRITE PROTECT is caught, it can be seen)
  - START WRITING IN USB STORAGE
  - FINISH WRITING IN USB STORAGE
- (4) Error Message
  - THERE IS A PROBLEM ON USB PORT (If USB PORT fails to work properly)
  - USB STORAGE IS FULL (When USB is full)
  - FILE SYSTEM IS NOT SUPPORTED (If File System is not supported)
  - SIZE IS LARGER THAN FREE SIZE (If back-up size is larger than free space)
- \* Back-Up procedure is the same as CDR Back-Up.
- \* If Back-Up size is larger than 2GB, it creates several files. (It saves by 2GB).

#### 5-7. FIRMWARE UPGRADE

You can upgrade your DVR with a firmware by using CD-RW. Go to FIRMWARE UPGRADE menu and insert a CD containing a firmware. First, you click 'CD-CHECK'. After finishing 'CD-CHECK', click 'UPGRADE'. After you see a message 'POWER OFF AND POWER ON' at the bottom, then turn off and on your DVR unit to finish upgrading and restart the system.





#### CHAP. 6 Network Setup

#### 6-1. DVR Network Configuration

Please call your provider to identify what type of service they are providing you. You will need to know following:

Upload speed – For your own knowledge for expected frame rates.

Download speed - For your own knowledge for expected frame rates.

Addressing - For determining what scenario you should follow.

Router ON Site or Just a Modem - For determining what scenario you should follow.

\*\*NOTE: If your provider is using PPPoE (usually DSL providers), you MUST hlledave a router installed on site and follow CASE C For DVR setup and access.

\*Please verify Internet access after installing any new equipment (routers, switches, modems etc)

#### PC's TCP/IP Setting

Before configuring the DVR, please fill out the information below if applicable;

Choose any PC on your network and determine its TCP/IP settings;

IP Address :	(ex.192.168.1.5)
Subnet Mask :	(ex. 255.255.255.0)
Default Gateway :	(ex.192.168.1.1)

Next pages are several network scenarios. Please identify which scenario your current network falls within and follow the instructions for configuring and accessing your DVR via TCP/IP.

TCP/IP function enables you to see live pictures, recorded pictures and also allows you to backup, and control a PTZ camera via internet.

How to set Network depending on ISP

#### 1. Static IP

User input IP address in IP CONFIG SETUP which is assigned from ISP company.

- 1) Verify if IP address is OK or not with PC before connecting DVR.
- 2) Connect LAN cable to DVR after confirmation.
- 3) DVR: MENU→EXTERNAL DEVICE→TCP/IP.
- 4) Set DHCP to MANUAL and go into TCP/IP SETUP.
- 5) Verify if MAC ADDRESS starts from 00-0A-A2....
- 6) Input IP address which is assigned from ISP company.
- 7) Set IP PORT. (50000 recommended)
- 8) Input GATEWAY which is assigned from ISP company.
- 9) Input SUBNET MASK which is assigned from ISP company.
- 10) Go out of MENU SETUP.
- 11) Turn off and on Modem (Router) which is provided by ISP company.
  - -> This is to reset client of MAC from ISP company. User have to wait for 30 seconds after turing on.
- 12) Access DVR with Remote Viewer Software.



- \* If user fail to access, please verify 1,6,7,8,9,11 again.
- \* When speed is too slow and connection fails after access: MENU →EXTERNAL Increase value of Timeout to find the most suitable speed.

#### 2. Dynamic IP

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.
- 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. User have to wait for 30 seconds after turning on.
- 4) Turn off and on DVR.
- 5) DVR: MENU→EXTERNAL DEVICE→TCP/IP.
- 6) Verify if MAC ADDRESS starts from 00-0A-A2...
- 7) Set DHCP to AUTOMATIC and detect IP to get Dynamic IP.
- 8) Go out of MENU SETUP after getting IP successfully.
- 9) Access DVR with Remote Viewer Software.



- \* If user fail to access, please verify 1,3,4 again.
- \* When speed is too slow and connection fails after access: MENU → EXTERNAL DEVICE → TCP/IP SETUP → CONNECTION SETUP.

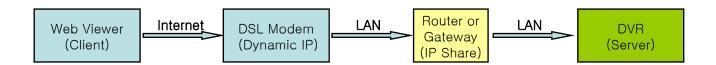
  Increase value of Timeout to find the most suitable speed.

#### 3. Dynamic IP of PPPoE (DSL)

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

Even though user have Static/Dynamic IP, if user want to use another device (PC) through IP SHARE, User can set NETWORK as follows.

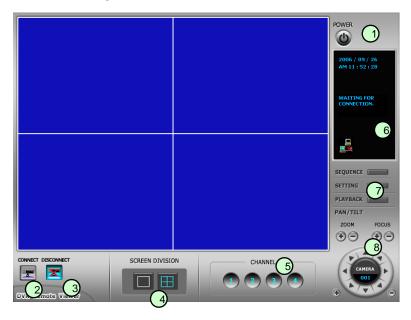
- 1) Verify if IP address is OK or not with PC before connecting DVR.
- 2) Connect Router (IP SHARE) to DSL modem as shown the following picture.
- 3) Set the internet connection on Router (IP SHARE). (Refer to the Router Manual).
- 4) Verify if sub-group of network in Router is OK or not.
- 5) Connect DVR to Router.
- 6) DVR: MENU →EXTERNAL DEVICE →TCP/IP.
- 7) Set DHCP to MANUAL and go into TCP/IP SETUP.
- 8) Verify if MAC ADDRESS starts from 00-0A-A2....
- 9) Input internal IP address which user assigned from Router.
- 10) Set IP PORT, (50000 recommended)
- 11) Input GATEWAY of Router.
- 12) Input SUBNET MASK of Router.
- 13) Go out of MENU SETUP.
- 14) Forward port from Router. (Refer to the Router Manual.)
- 15) Access DVR with external IP and Port (Port forwarded).
- \* If Router support DDNS, user can access Remote Viewer using Domain Information.



- \* If user fail to access, please verify 1,4,15 again.
- \* When speed is too slow and connection fails after access: MENU →EXTERNAL DEVICE →TCP/IP SETUP →CONNECTION SETUP Increase value of Timeout to find the most suitable speed.

#### 6-2. Remote Viewer program

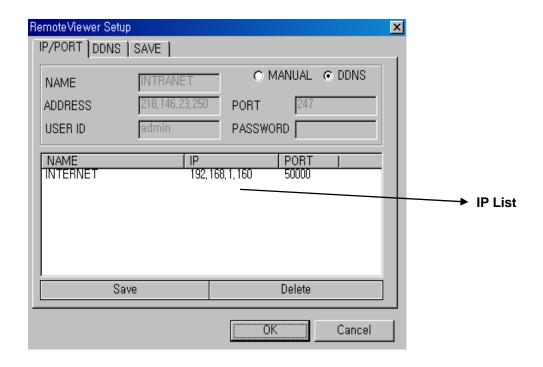
#### MAIN INTERFACE



- 1 **Power button**: Press the Power switch to exit the program. Please disconnect the live feed before powering off the software
- 2- Connect button: Press the Connect button to view the live images from the DVR. These are the same images being displayed on the monitor of the DVR, with a delay depending on your internet connection at both the DVR location and from where you're currently accessing.
- ③- **Disconnect button**: Press this button to disconnect from the DVR unit. Then you may power off the software.
- 4-Screen Division button: Select how many channels to view simultaneously (single, 4-split).

  When you select a view you will see the Channel Numbers highlighted which determine what channels are currently being viewed.
- **5- Channel number button**: Select the channel that you want to view based on what Screen Division view is enabled.
- **6-Status window**: Display's the current time and date based. The date is in the format: Year/Month/Day. You will also see the status of your connection.
- 7- Setting, Playback, and Sequence buttons; a. Setting: Enables the software configuration screen.
  - b. Playback: Enables the remote playback screen.
  - c. Sequence: When in single channel view, hitting the sequence button will sequence through all active channels at a speed specified in the settings menu.
- 8- PTZ control: You can control a PTZ camera via the software with these controls.
  - a. First, you must input or configure the specific PTZ protocol into the software in order to communicate with the PTZ device.
  - b. When you press any of the controls for the PTZ, please press and hold the button for 1-2 seconds per instance to compensate for the data transmission rate. If you do not and instead simply click the PTZ buttons, you may get undesired results (having the requested operation transmitted repeatedly, regardless of your intention).
  - c. The plus and minus buttons send the PTZ commands to the corresponding PTZ camera ID.

## **IP/PORT Setting Screen**



MANUAL Input IP address and PORT manually

**DDNS** Receive IP address and PORT from DDNS Server.

For further information of DDNS, please contact your vendor.

Name Name of IP address on the list.

Address Input IP address which is set on DVR

PORT Input PORT which is set on DVR

**ID** Input ID which is set on DVR. (Please input 'admin'.)

**Password** Input password which is set on DVR

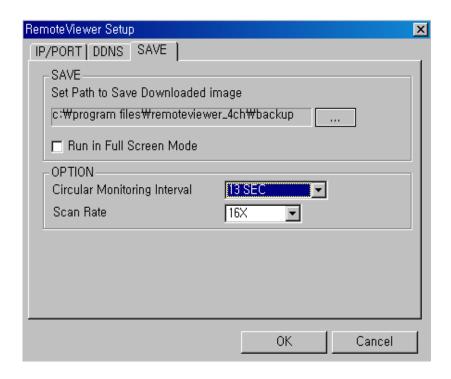
**IP List** It shows IP list which user input manually.

Save Button Save IP and PORT on the list.

Save IP and PORT on the list.

Delete Button Delete IP and PORT on the list.

### **PTZ/SAVE Setting Screen**



**Circular Monitoring Interval :** This indicates the speed of the channels sequence when the SEQUENCE button is used from the main interface.

**Scan Rate**: Set speed of playback.

**Set Path to Save Downloaded image :** Determines the location and folder on your PC where the downloaded video clips are stored.

**Run in full screen mode :** When checked, this will enable the program to re-adjust the interface to completely fill your computer screen.

# 

# PLAYBACK INTERFACE through Remote Viewer

Function of each button in Search window.

- 1 Exit: Exit to live window.
- 2 Full screen: Select a certain camera to view in full screen.
- ③ **Quad**: To view quad mode (4 channels at the same time)
- 4 **Time**: The recording time & date information of the pictures which is being played.
- (5) Channel selection : Select each camera.
- **6 Time selection**: Select a time from which user want to see. The playback will be started from this point.(drag the point using mouse)
- (7) Start and end time: Indicate record starting time and end time of images on HDD
- 8 Other operating button : Refer to the next page description.



: Play fast backward	: Move to the start of recording
: Play backward(1X)	: Move to the previous hour
: Play forward(1X)	: Move to the afterward hour
: Play fast forward	: Move to the end of recording
: Stop playback	

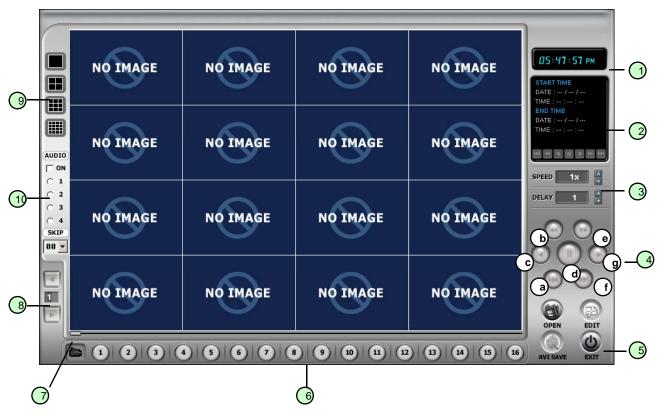
#### 9 Command button.

- a) SAVE: After pressing the Stop button, click SAVE button to save the currently viewed image in jpg format.
- **b) PRINT**: After pressing the Stop button, click PRINT button to print the currently viewed image.
- c) RECORD: Press this button to download playback images transmitted from DVR unit into your PC. User can see saved images using Windows Media Player.

## 10 Calendar

Use this to select the date you wish to search. The filled in square outlines the date that is at the beginning of the hard drives. The outlined square indicates the data at the end of the hard drives. Select the date you wish to view. Verify a filled in square for that particular date. If an invalid date is selected it will default to the beginning of the hard drive(s).

## 6-3. Back-up CD Player



DVR units are with a built-in CD-RW, and user can copy images to CD. Using back-up CD player, user can see images on back-up CD, and function of each button in Back-up CD player is as below.

- (1) **Time**: Current time.
- ② **Status Window**: Start & End of time & date, Status of operating button.

  When user play forward/backward, recorded time will appear.
- ③ Play Speed button: User can adjust play speed by pressing up/down button. Speed (1/4X, 1/2X, 1X, 2X, 4X, 8X, 16X) Delay: (1, 2, 4, 8, 16, 32)
- 4 Operation button: User can search recorded data using these buttons.
  - a) Move the slide bar to start position
  - b) Play fast backward in preset speed
  - c) Play backward at 1x speed
  - d) Pause
  - e) Play forward at 1x speed
  - f) Play fast forward in preset speed
  - g) Move the slide bar to end position
- 5 Function button
  - a) OPEN: Open the Back-up CD Player.
  - b) EDIT: User can edit, save and print recorded image on Edit mode. This edit button will work when you selected one of 16 cameras.
  - c) EXIT: Exit from Back-up CD Player.
- 6 Channel button: Select channel to see pictures in full screen.
- (7) Slide Bar: Move to a point from which user want to see.
- Page button: This button is just working when screen-division is 4-split in 8 ch DVR, or 4-split or 8-split in 16 ch DVR. Moves to next page.
- (9) Screen division: 1/4/9/16

- 10 When you open the file, audio menu OSD will come up automatically.
- on : check to output recorded sound, then choose the audio channel 1,2,3 or 4
- skip : skip images forward.
- \* During playback, you can control

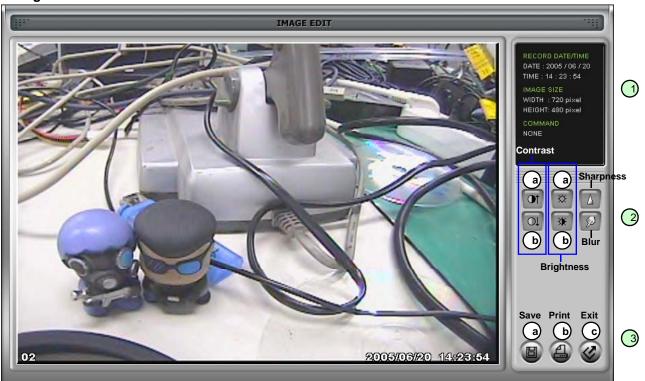






\* During playback, only one channel is displayed and can not be changed to multi or full screen.

#### **Image EDIT**



- 1 Image Edit Status Window: Shows record time & date, Image size, Command status.
- 2 Edit Button: User can adjust color tone of copied images using this button.
- Contrast:
  - a) make bright part of image brighter and dark part of image darker
  - b) To reduce light and shade, lower contrast a little
- Brightness
  - a) make an image brighter
  - b) make an image darker
- Sharpness : give sharp-edge effect
- Blur : make an image soft

## 3 Function button

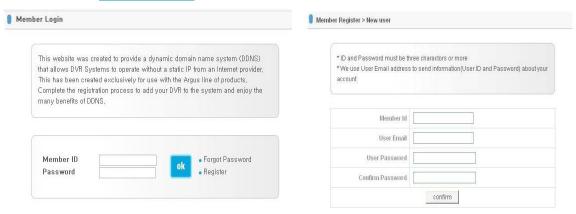
- a) Save: User can save an image in JPEG format. It is saved in the folder where you installed back-up CD player.
- b) Print: User can print current image user selected
- c) EXIT: Return to Back-up CD Player mode.

CHAP. 7 Web Viewer Setup

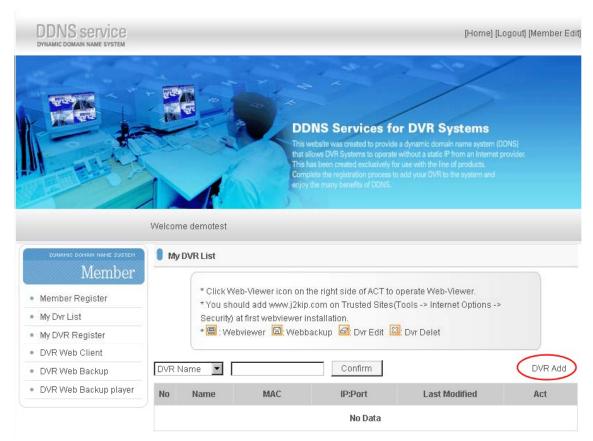
# CHAP. 7 Web-Viewer Setup

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

1) Please access www.j2kip.com and click Register Member ID.

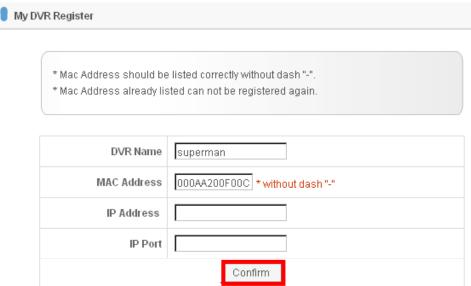


2) Please click DVR Add to register DVR.

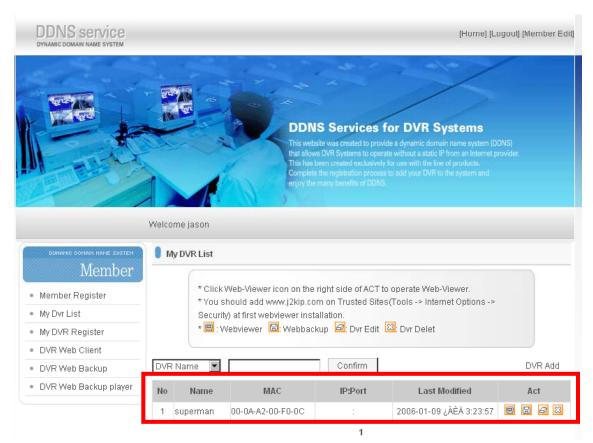


CHAP. 7 Web Viewer Setup

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.



## 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.

IP SETUP		
MAC ADDRESS DHCP MODE	00-00-00-00-00 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

CHAP. 7 Web Viewer Setup

4) Set DDNS ON/OFF 'ON'.

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

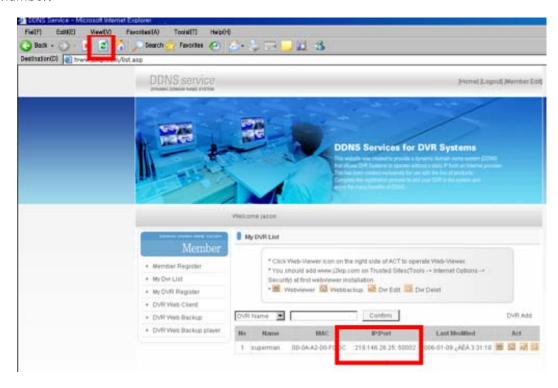
DDNS SETUP		
DDNS ENABLE DNS SERVER INTERVAL	ON 192.168.063.001 D-00 H-00 N-20 REGISTER	
DDNS STATUS IP ADDRESS IP PORT REMAIN TIME LAST REGISTRATION DATE	REGISTER OK 192.168.001.160 50000 D-00 H-00 N-20	
> WED. 12 JUL 2006  DEFAUL	09:21:36 GMT _T ESC	

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	ON 192.168.063.001 D-00 H-00 N-20 REGISTER	
DDNS STATUS IP ADDRESS IP PORT REMAIN TIME LAST REGISTRATION DATE	REGISTER OK 192.168.001.160 50000 D-00 H-00 N-20	
> WED. 12 JUL 2006 SUCCESS TO REGISTER DVR INI		
DEFAUL	_T ESC	

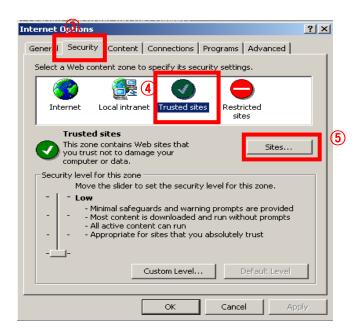
6) Go to your computer again after you see "SUCCESS TO REGISTER DVR INFO" and then Click 'refresh' button. Then, DDNS server automatically catches your DVR's IP address and Port number.

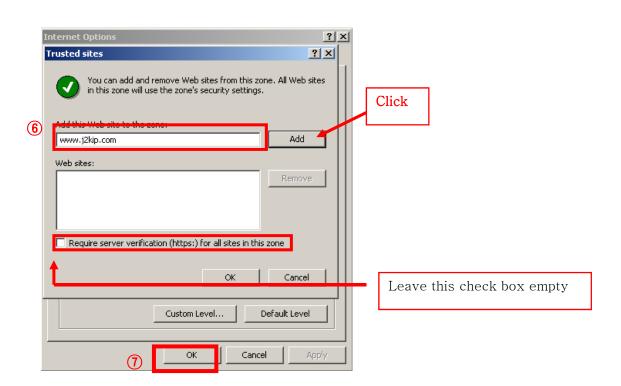


#### Note.

Before using Web-Viewer, please add <a href="www.j2kip.com">www.j2kip.com</a> on Trusted Sites at first installation as follows. (Tools -> Internet Options -> Security)







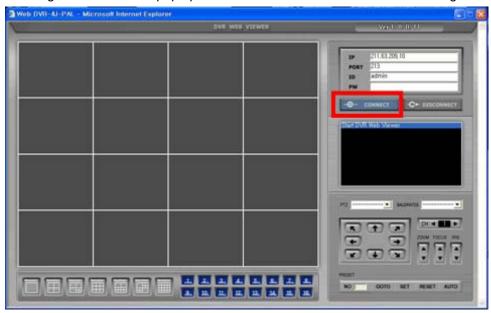
CHAP. 7 Web Viewer Setup

#### 7-3. Web Viewer

- 1) Please click the following icon to execute Web-Viewer.
- \*If ActiveX control installation is required for the first time access, please click 'Yes'.



2) The following Web-Viewer will pop up. Press 'connect' button to see the Live image.



3) You can see the Live image as shown below.

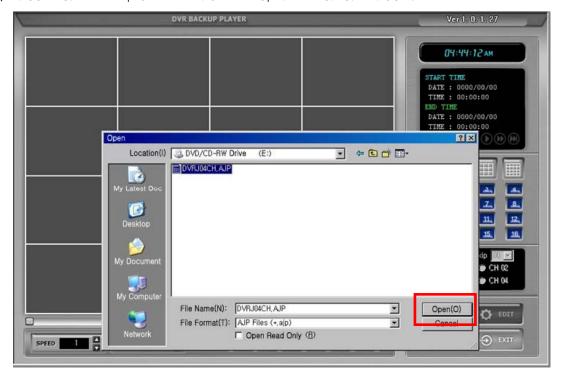


#### 7-4. Web Backup Player

- 1) To execute Web Backup Player, click web viewer icon on the right.
- \* \*If ActiveX control installation is reqired for the first time access, please click 'Yes'.
- 2) The following Web-Viewer will pop up. Press 'open' button to open the backup image file.



3) Choose one backup data file and click 'open' button on window.



4) You can see Backup images shown as below.



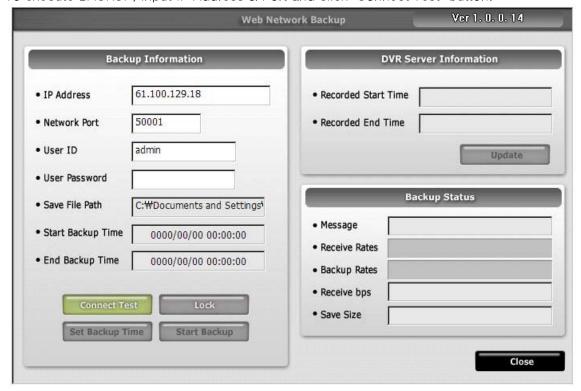
CHAP. 7 Web Viewer Setup

#### 7-5. Web Backup

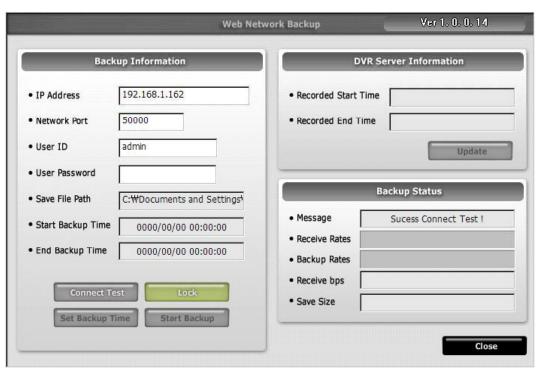
1) Log on to www.j2kip.com first and then, click 'DVR Web Backup' icon on the left.



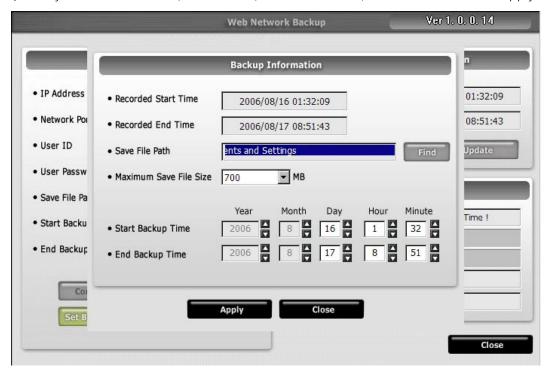
2) To execute BACKUP, input IP Address & Port and click 'Connect Test' button.



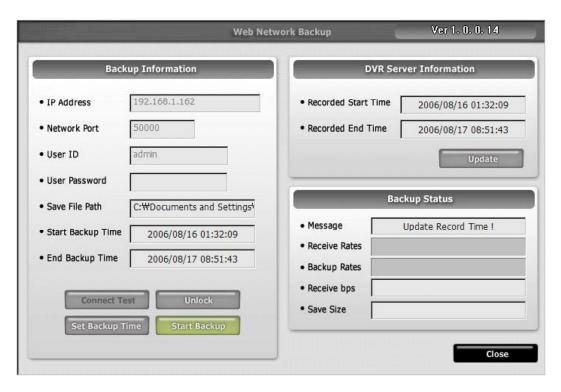
3) After Connect Test is done, you can see 'Success Connect Test!' message. Then, click 'lock' button and click 'Set Backup Time' button.



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

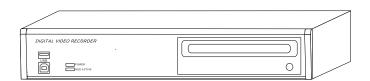


5) After finishing time setting, click 'Start Backup' to start backup. Then, you can see the backup file on the path that you chose.



# CHAP. 8 Specifications

- MJPEG Compression Algorithm
- Real time live display in all channels
- Triplex (Playback/Recording/Ethernet)
- Web monitoring and download through network
- Easy control by Mouse
- USB host for data backup.
- Easy PTZ Camera (MOUSE)
- Password protection
- Web control



Multiplex funct	ion		Triplex (Playback/Recording/Ethernet)
Storage	Internal	HDD	High capacity HDD support
Capacity		CD-RW	For Backup
	Inputs	Composite	4Ch
	Outputs	Composite	2Ch (Monitor / SPOT)
		VGA	1Ch VGA (Optional)
	Compression		MJPEG
	Compression Rate		LOWEST
			LOW
			NORMAL
			HIGH
			HIGHEST
	Live Display Speed		Real Time Live Display
_	Recording Mode		Time, Motion, Schedule, Alarm
	Search		Event Search, Date/time Search, Percent Search
	Recording Speed (N	TSC/PAL)	Max. 120IPS(NTSC) 100IPS(PAL)
	Recording Resolutio	n (NTSC/PAL)	Half D1 (704x240/704x288), CIF (352x240/352x288)
Switching Inte			1~99 Sec selectable
Live Division Screen			1 / 4 Split
			Digital Zoom, PIP in live mode
Alarm	Inputs		4 Alarm (NO/NC Selectable )
	Outputs		1 (NO/NC)
	Post Alarm		Alarm output duration : 1 ~ 99 Sec selectable
Network			Ethernet (TCP/IP), Web viewer included
Backup			USB / CD-RW Back up, Download via IP Network
PTZ Control			RS-485, MOUSE(PAN/TILT/ZOOM)
Firmware upgr	ade		USB Port for firmware upgrade, CD-R
Serial I/F		RS-485	For PTZ Camera Control
		RS-232C	For operation using keyboard of PC
Power Require	ements		
Weight			
Dimensions (V	VXHXD)mm		

Design and specifications are subjected to changes without notice.

