Active Vision SX-340 User's Manual

Real Time Triplex Stand Alone DVR

[4 / 8 / 16 Channel DVR]   **V 1.23**

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⚠ SAFETY WARNING AND CAUTION

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT OPEN COVERS.
NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Please be aware of the following precautions before installing the DVR.

- **Avoid any place with moisture, dust, or soot.**
- **Avoid any place with direct sunlight or heating appliances.**
- **Keep the product away from electric shock or magnetic substances.**
- **Avoid high or low temperature.**
  (Recommended operation temperature is between 0°C ~ 40°C).
- **Do not place any conductive material through the ventilation.**
- **Turn off the system before installation.**
- **Ensure enough space for cable connections.**
- **Place the system on a solid surface with sufficient air ventilation.**
- **Avoid any surface that vibrates.**
- **Placing the system near electronic devices such as radio or TV may cause breakdown**
  to the product.
- **Do not disassemble the product without an assistance from the manufacturer.**
- **Do not place any heavy object on the system.**

Note	This equipment has been tested and found to comply with the limits for a CLASS A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

PLEASE READ THIS MANUAL THOROUGHLY FOR EFFECTIVE AND SAFE USAGE OF THE DEVICE.

⚠ SAFETY WARNING AND CAUTION

The following are warning and caution statements for the safety of the users and for the prevention of any property damage. Please read below thoroughly.

Warning and Caution signs

⚡ Warning	If you are not aware of this warning, you may be injured or be killed.	⚠ Caution	If you are not aware of this warning, you may be injured or cause property loss.

⚡ Warning

Turn off the system before installing the system. Do not plug in several electric devices to the same outlet.

• This may cause heating, fire, or electric shock.
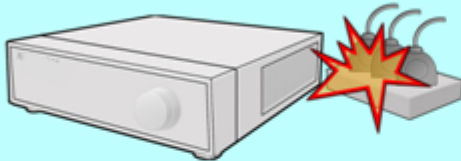
Do not place any liquid container on the system, such as water, coffee, or beverage.

• If liquid is poured onto the system, it can cause a system breakdown or cause fire.
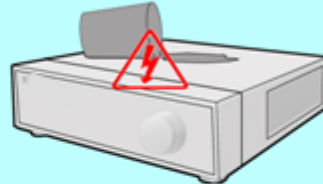
Prevent power cable from being severely bent or pressed by a heavy object.

• This may cause fire.
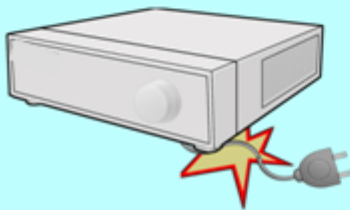
Clean the dust around the system on regular basis. When cleaning the system, always use dry cloth. Do not use wet cloth or other organic solvents.

• This may damage the surface of the system and can cause system breakdown or electric shock.

Avoid any place with moisture, dust, or soot.

• This can cause fire or electric shock.
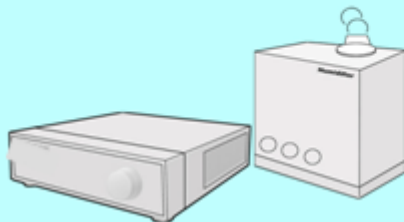
When pulling the power cable from the plug, do so gently. Do not touch the plug with wet hands and avoid using the plug if the holes on the outlet are too loose.

• This may cause fire or electric shock.

⚠⚡ Warning

D not attempt to disassemble, repair, or modify the system on your own. It is extremely dangerous due to high voltage running through the system.

• This may cause fire, electric shock, or serious injuries.
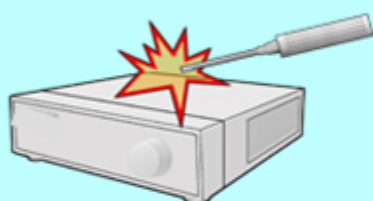
Install the system in a cool place without direct sunlight and always maintain room temperature. Avoid candle light and heat-generating devices such as heater. Keep the system away from places where many people pass.

• This may cause fire.
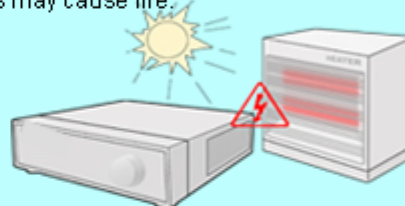
Check for any danger signs such as moist floor, loosened or damaged power cable, or unstable surface. If you encounter any problems, ask for assistance from your dealer.

• This may cause fire or electric shock.
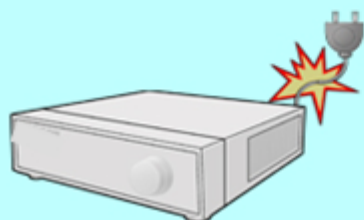
Install the system on a plain surface with sufficient air ventilation. Do not place the system on elevated surface.

• This may cause system breakdown or serious injuries.
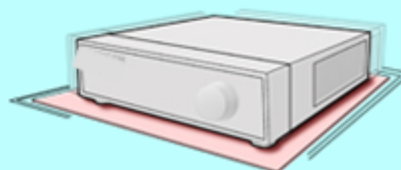
Keep at least 15cm between the back of the system and a wall for the cables connected into the system. Otherwise, cables may be bent, damaged, or cut.

• This may cause fire, electric shock, or injuries.
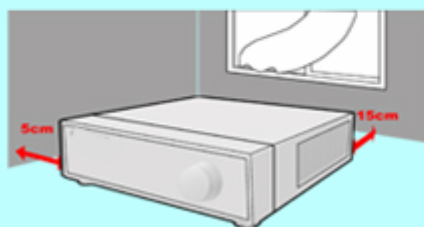
The power outlet must be placed on a ground, and the voltage range must be within 10% of the voltage rate. Do not use the same outlet with a hair dryer, iron, refrigerator, or any heating appliances.

• This may cause fire, heating, an electric shock.
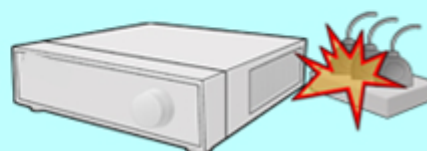
⚠ Warning

When the system's battery is deplete, you must change it with the same or equivalent type of battery specified by the manufacturer. Depleted batteries should be discarded according to manufacturer's instructions.

- This may cause an explosion.

If the system's HDD exceeded its life span, you may not be able to recover any data stored inside the HDD. If the video on the system screen appears 'damaged' while playing a recording stored inside the system's HDD, it must be replaced with a new one. Ask for an engineer's assistance for HDD replacement from your dealer.

- The manufacturer is not responsible for deleted data caused by user's mishandling.

⚠ Caution

Do not install the system in a place with high magnetic, electric wave, or wireless devices such as radio or TV.

- Install the system in a place without magnetic objects, electric frequencies, or vibration.

Install the system in a place with appropriate moisture and temperature level.

- Avoid installing the system with high (over 40℃) or low (under 0℃) temperature.
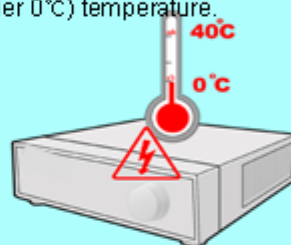
Prevent any substances from being inserted into the system.

- This may cause system breakdown.
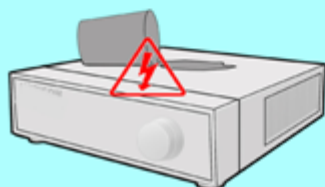
Do not place any heavy object on the system.

- This may cause system breakdown.
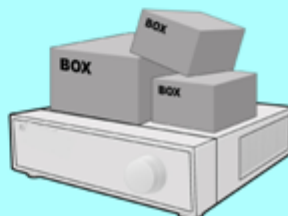
Install the system in a place with sufficient air ventilation.

- Keep at least 15cm distance between the back of the system and a wall, and at least 5cm distance between the side of the system and a wall.
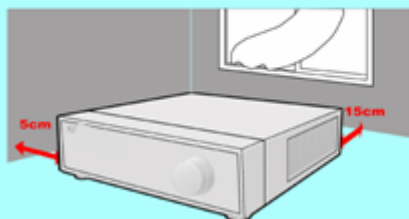
Install the system on a stable and leveled surface.

- The system may not operate properly.
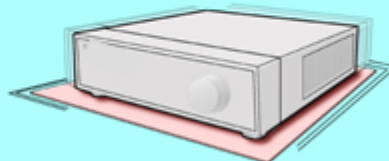
⚠ **Caution**

The system can be damaged from a strong impact or vibration. Avoid throwing objects within the vicinity of the system.
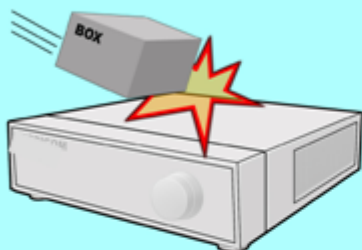
The outlet must be placed on the ground.
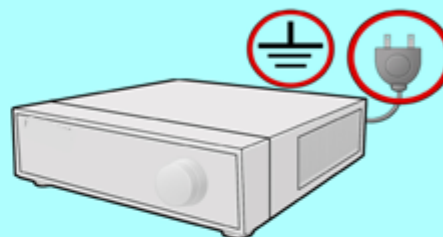
Avoid direct sunlight or any heating appliances.
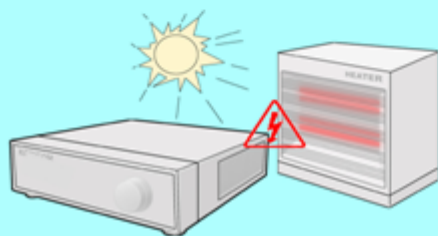
If there is strange sound or smell, unplug the power cable immediately and contact the service center.

▪ This may cause fire or electric shock.
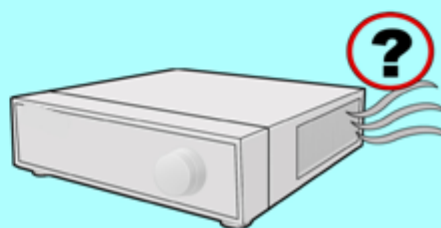
Ventilate the air inside the system operation room, and tighten the system cover firmly.

▪ System breakdown may be cause by inappropriate environment.

In order to maintain stable system performance, have your system checked regularly by the service center.

▪ The manufacturer is not held responsible for system breakdown caused by user's mishandling.

It is recommended to use AVR (Automatic Voltage Regulator) for stable power supply.

It is recommended to coil the core-ferrite around the connector of the system to avoid electromagnetic interference.

⦿ CHAP 1. INTRODUCTION

1. Overview

Digital Video Recorder (DVR) is the latest in surveillance technology that offers full digital recording, remote surveillance access, remote device control and more. The DVR system is a computerized surveillance system that combines all the features of a traditional videotape system by integrating a color quad processor, motion sensors, multiplexer, pan & tilt controls, time-lapse recorder and accessories to one unit. DVR images are stored on a Hard Disk Drive (HDD). This not only preserves the picture quality in its original state, but also allows fast data retrieval and larger storage capacity.

Unlike time-laps VCRs and low-end DVRs, Triplex DVRs allow playback of recorded video footage and remote access through internet while in recording mode simultaneously. DVRs are used in mission critical environments where security systems are on and it would be dangerous for the security officer to turn off recording just to view recorded data.

Our new Triplex DVRs can meet any required request from the industry and the customers with high quality and reliability, which will satisfy all of you and bring a big smile to you.

2. Common features

- Real-time 480/240/120 (16CH/8CH/4CH) fps live display & 120 fps recording / playback
- Triplex function : simultaneous recording, playback, backup and network transmission
- Dynamic IP and Web browser based remote monitoring support
- CD Back up available
- Composite Video, S-Video and VGA output available
- Alarm notification to registered e-mail address
- Real time single or multi-screen display
- 1 CH audio recording / playback function
- 720 x 480 digital video recordings and clear video quality in MJPEG
- Live camera viewing; no delay
- Various types of display modes such as Full, CIF, PIP, Zoom and Auto-Switch
- Independent color adjustment of each camera
- Hidden camera function
- Multiple language OSD supported
- Stores large amounts of video on Hard Disk Drive (HDD).
- Motion and event recording supported
- Easy retrieval of recordings organized by date, time and event
- Search by date/time list, event list, date/time.
- Multi-screen playback
- Pan/ Tilt/ Zoom camera control by RS-485 communication port
- IR remote control
- Loop-through connections
- User-friendly GUI (Graphic User Interface) & easy to operation
- Remote control through any PC with internet (The network viewer program provided)
- Self-diagnose system : error checking and restoring function
- Little or no maintenance

⊙ CHAP 1. INTRODUCTION

3. Specifications

Category		4CH DVR	8CH DVR	16CH DVR
Video Signal	Input	NTSC/PAL, 1V 75 Ohm, BNC (4, 8 and 16CH), Auto-loop throughout		
	Output	CVBS, S-Video, VGA		
Audio	Input / Output	2 X RCA (1CH Input , 1CH Output)		
	Recording Mode	Mono PCB 8KB / sec		
Display	Display FPS (NTSC/PAL)	120 / 100 FPS	240 /200 FPS	480 / 400 FPS
	Display Resolution	720 X 480 (NTSC) / 720 X 576 (PAL)		
	Screen Split Mode	Full, Quad, Split and 3 PIPs		
	Zoom Mode	2 X 2 Digital Zoom		
	Triplex Mode	Simultaneous Recording / Playback / Live / Network		
Recording	Video Compression	Real-time full duplex M-JPEG codec core		
	Video Resolution	720 (360) X 240 (NTSC) / 720 (360) X 288 (PAL)		
	Recording Ways	Continuous, Scheduled, Event (internal motion, external sensor)		
	Recording FPS	NTSC : 120 FPS / PAL : 100 FPS		
	Image File Size	NTSC : 3 ~ 25 KB / PAL : 4 ~ 27 KB		
	Internal Hard Drives	EIDE, ATA-100, MAX 2 HDs supported, Unlimited HDD Capacity		
	Remote access through Internet	Dynamic IP and Web Browser based remote monitoring		
Playback	Playback Mode	Live & Playback, Playback, Panorama		
	Playback Screen Mode	Full, Quad, PIP, Zoom, Split, Panorama		
	Searching Ways	Searching by Date / Time, Motion & Sensor		
	Zoom Mode	Digital 2 x 2 Zoom ; Playback available in Zoom Mode		
Alarm Control	External Alarm Input	Alarm Input : NO, NC Type		
	Alarm Output	Internal Buzzer, OSD, Internal Relay (Combined with External Device)		
	Alarm Setup Period	30 sec ~ 30 min		
Network	Protocol	TCP / IP ; RJ-45		
	Resolution	720, 360 Mode		
	Remote Control	Functional remote client software		
	Browser	Web Browser and Own Application provided		
	Recording	Moving Picture Recording, Still Image Capturing		
	Data Backup	Ethernet, CD-Burner		
Others	Auto Screen Switching	Switching Period : 1 ~ 60 sec		
	Signal Loss Detection	Automatic Alarm		
	Display Hidden Function	Display Hidden Function by Each Channel ; Recording Available		
	Remote Control	IR Remote Control, RS-485		
	Power Supply	12V 5A DC Adaptor (AC 100V – 240VAC 50~60Hz Input)		
	Dimension	17.0" X 14.1" X 3.0"		
	N. Weight	10.2 lbs	10.4 lbs	10.6 lbs
	Approval	FCC, CE		

◉ CHAP 1. INTRODUCTION

4. Contents

Please make sure the following parts are included with the main DVR when you open the product package.

Parts	Quantity
DVR	1 unit
DC Power Adaptor	1 pc
Power Cable	1 pc
Remote Controller	1 pc
Batteries	2 pcs
User's Manual and Install CD	1 pc
LAN Cable	1 pc

DVR

Batteries

Remote Controller

DC Adaptor

LAN Cable

Install CD

Power Cable

We strongly recommend you to fully understand this user's manual before installation.

| Note | This equipment has been tested and found to comply with the limits for a CLASS A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

PLEASE READ THIS GUIDE BOOK THOROUGHLY FOR EFFECTIVE AND SAFE USAGE OF THE DEVICE. |

CHAP 1. INTRODUCTION

5. Front Panel
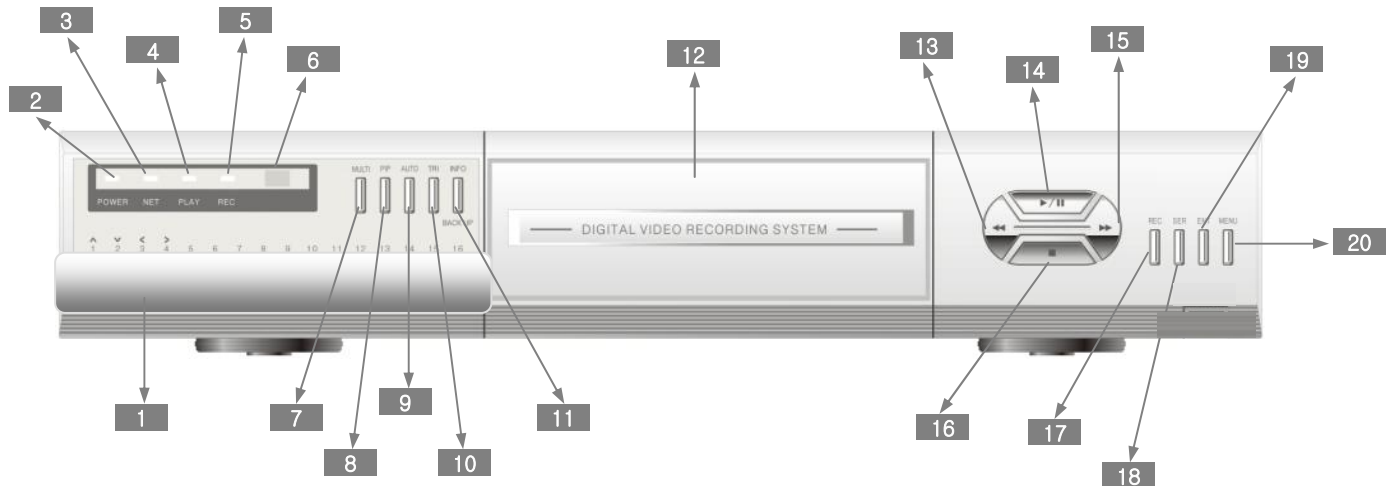
1. 1 to 16 Channel Selection / Direction Button
• To select a channel to be viewed as full-size screen during live display or playback.
• To navigate, press Up(1) / Down(2) / Left(3) / Right(4).

2 ~ 5. LED Signs
• There are four LED signs that indicate current status.
  2. POWER : DVR power status
  3. NET : ON means connection status via network.
           If someone accesses the DVR via network, LED light turns on.
  4. PLAY : ON means the DVR is in playback mode.
  5. REC : ON means the DVR is recording mode.

6. Remote Controller Sensor

7. Multi Button
• It converts to live display mode directly.
• To surf various live display modes like 16CH, 13CH, 9CH, 8CH, 6CH and 4 CH display
  by pressing the button repeatedly.

8. PIP Button
• To convert to PIP mode (Picture in Picture).
• To surf various PIP modes like 1PIP, 2PIPs and 3PIPs by pressing the button repeatedly.

9. AUTO Button
• To convert to auto switch mode.
• If you press AUTO on the front panel, channels will be automatically switched as follows.
  - Ch1 -> Ch2 -> Ch3 ->….-> Ch14 -> Ch15 -> Ch16 -> 16Ch in CIF -> Ch1 -> Ch2 …
  keeping this order until you press Auto button again to release the function.

◉ CHAP 1. INTRODUCTION

10. TRI Button
• To convert to triplex function like 8 channel live display and 8 channel playback in the screen simultaneously.
• Press the button first, you will have CH1 ~ CH 8 live displays and playbacks and press it again, you will do other channels like CH9 ~ CH16 live displays and playbacks.
  - **When you press the button in live display mode**, you will see 8 channel live displays and 8 channel playbacks with no video. To retrieve video from hard drive, press Playback button.
  - **When you press the button in playback mode**, you will see 8 channel live displays and 8 channel playbacks that have selected.

11. INFO (information) Button / BACKUP Button
• To show system information of DVR
• During Playback mode, it works as USB / CD backup button

12. CD-Burner
• To burn CD for data back-up

13. Rewind (◀◀) Button
• It supports REW1, REW2, REW3 and REW4.

14. Play (▶) and Pause (II) Button
• To play and pause the recorded videos

15. Faster Forward (▶▶) Button
• It supports FF1, FF2, FF3, FF4 and FF5

16. Stop (■) Button
• To stop playback

17. Record Button
• To start and stop recording.

18. Search Button
• To access recordings from HDD

19. Enter Button
• To enter a selection

20. Menu Button
• To access System Setup Menu.

⊙ CHAP 1. INTRODUCTION

6. Rear Panel

[16CH DVR]
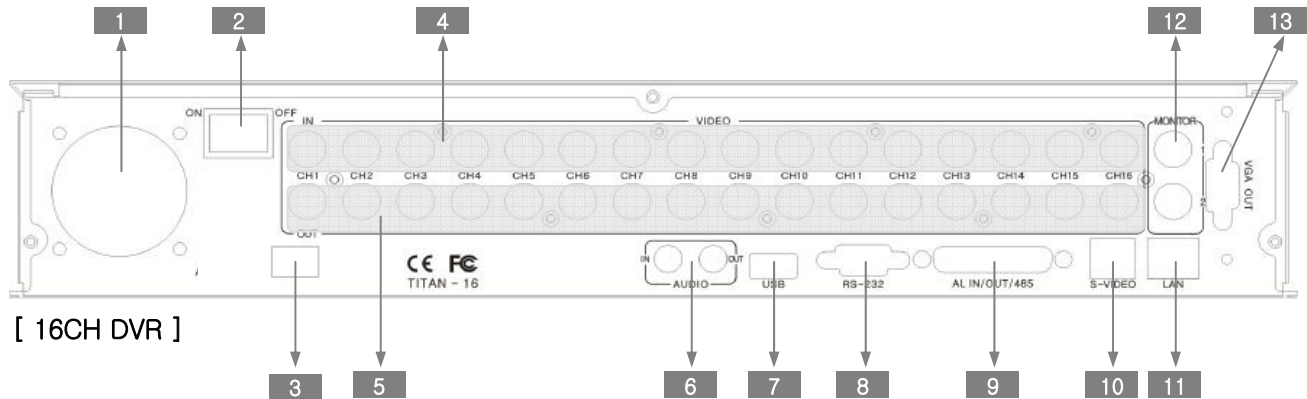
1. Cooling Fan

2. Power Switch

3. AC Power Switch

4. 16 BNC connectors for camera input

5. 16 BNC connectors for monitor output
• These are mainly for monitors. And also you can use these for VCR recorder backup.

6. Audio In / Out Port

7. USB Port

8. RS-232 Port (9 Pin D-Sub Connector)
• It is for factory use.

9. Alarm In / Out and RS-485 Port (25 Pin D-Sub Connector)
• It is to communicate with external sensors, alarm and PTZ camera to control.

10. S-Video Output

11. LAN Terminal
• It is to connect to LAN or Internet.

12. BNC connectors for monitor output
• These are mainly for monitors. And also you can use these for VCR recorder backup.

13. VGA Output Port
• This is mainly for PC monitors.

◉ CHAP 1. INTRODUCTION

7. Remote Controller

1. REC (Record)
2. Mute
3. CH1~CH10 (Channel selection)
4. MENU
5. INFO (Information)
6. Multi
7. PIP
8. AUTO
9. Zoom (2 x digital zoom)
10 ◀ Left (CD Backup Start in Playback mode)
11 ▲ Up
12 ▶ Right (CD Backup Stop in Playback mode)
13 ▼ Down
14. ENTER
15. All (Search menu)
16. Time (Search by date/time)
17. List   (Search by date/time list)
18 ■ Stop
19. REW (REW1, 2, 3 and 4)
20. FF   (FF1, 2, 3, 4, and 5)
21 ▶ Play
22. II Pause
23. P.B (Playback)
24. TRI (Triplex)
25. Panorama
26. P/T (Pan/Tilt)
27. Z/F (Zoom/Focus)
28. CD Backup
29. USB Backup
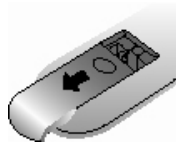
1. Open the battery container by sliding down the cover.
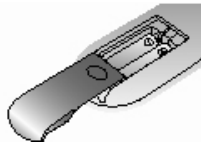
2. Insert two batteries according to directions provided.

3. Close the container by sliding up the cover.

◉ CHAP 2. INSTALLATION

1. HDD Installation

1 Unscrew the sides, rear of the DVR and remove the top cover.

2 Fix HDDs to rack mount by screwing as left.

3 Install the HDDs on the HDD plate and screw as left.

⚠ **HDD Jumper Setting Information**
Before install the Hard Disk Drives, please read the jumper setting
information on the label. If the jumper is not set properly,
the system will be disordered.

4 Make sure that the HDDs are set to "Master" & "Slave" properly
and then connect the power cable and IDE cable as left.

⚠ Check if HDD has no problem after HDD installation because
record function may not work well due to HDD problem.
It may reboot automatically when HDD has problems or it doesn't
detect HDD.
Contact your local distributor and exchange with new one when
you find your HDD has a problem.

5 Close the top cover and screw and turn on the power.

◉ CHAP 2. INSTALLATION

2. System Diagram

16 Cameras

16 Sensor Inputs

1 Alarm Out

BACKUP

CD-RW

Camcorder   VCR

DISPLAY

Monitor

PC Monitor

Internet

NETWORK

PC

Web Browser
WebViewer

Client Program
NetViewer
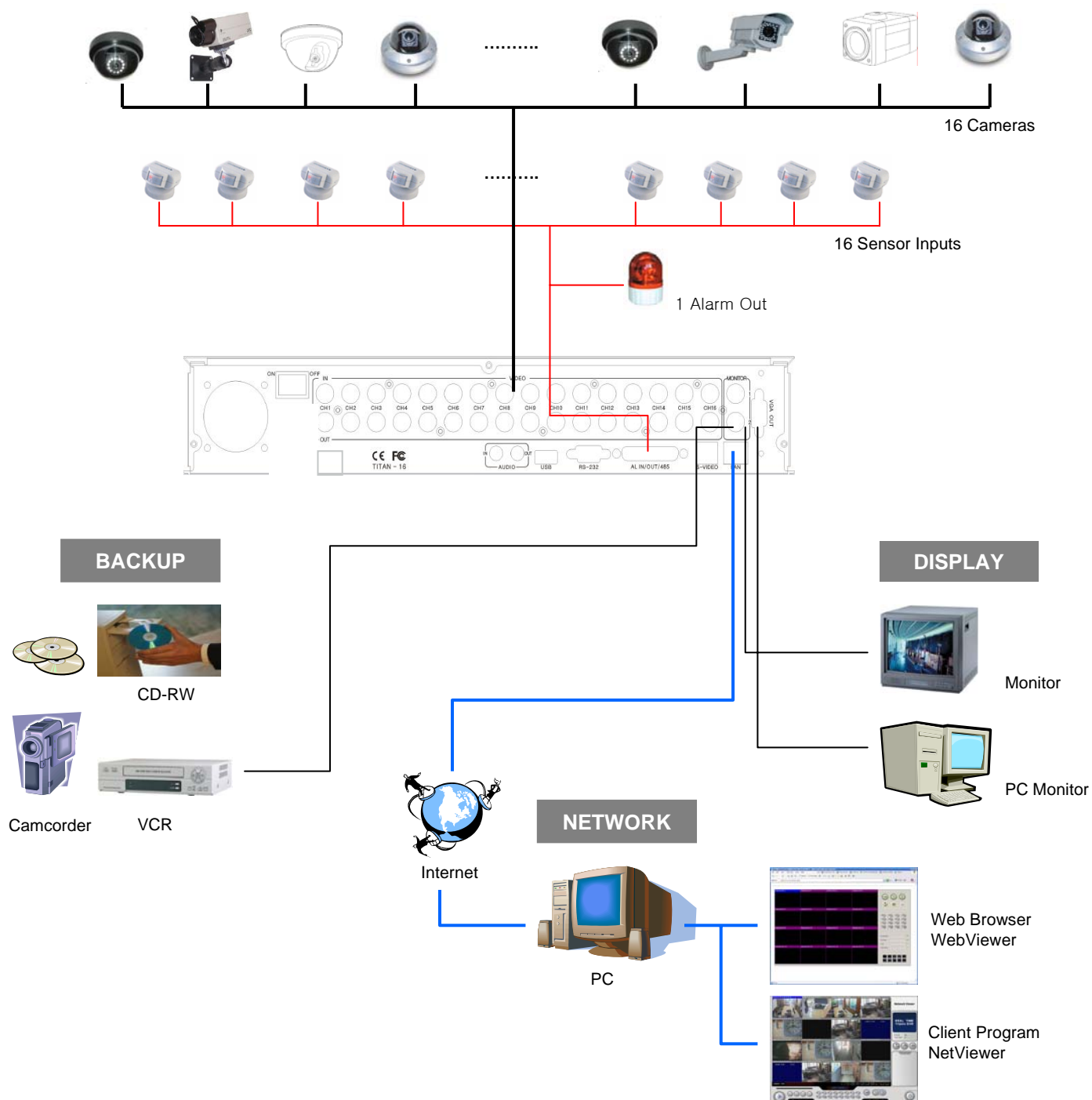
| Note | You can use general home TV or PC Monitor as CCTV monitor. |

◉ **CHAP 2. INSTALLATION**

3. PTZF Camera & Sensor Connection Diagram

1) RS-232   **3) VGA**

2) Alarm In/Out & RS-485

1) RS-232 (9 Pin D-Sub Connector)

No	Description
1	N/C
2	TX 232C
3	RX 232C
4	N/C
5	GND
6 ~ 9	N/C

* N/C : Connection Not Required

⊙ **CHAP 2. INSTALLATION**

2) Alarm In/Out & RS-485 (25 Pin D-Sub Connector)

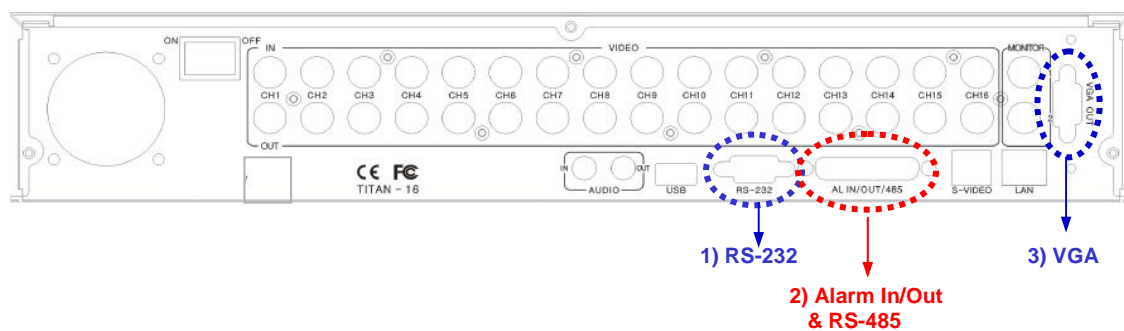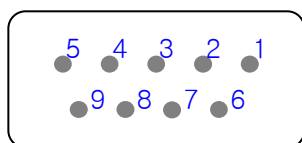13 12 11 10 9 8 7 6 5 4 3 2 1
25 24 23 22 21 20 19 18 17 16 15 14
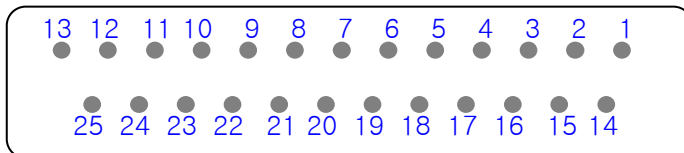
Description	16CH DVR	8CH DVR	4CH DVR
Sensor Input	1~16	1,3,5,7,9,11,13,15	1~4
GND	17~20	2,8,10,12,14,17,19,21,23,25	5~13,14,17~20
Alarm Out COM	21	16	21
Alarm Out NC	22	18	22
Alarm Out NO	23	20	23
485B	24	22	24
485A	25	24	25
RS232C Rx	-	4	15
RS232C Tx	-	6	16

3) VGA (15 Pin D-Sub Connector)

5 4 3 2 1
10 9 8 7 6
15 14 13 12 11
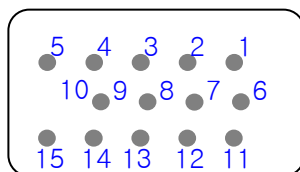
No	Description
1	RED (Red Video [75ohm, 0.7Vp-p])
2	GREEN (Green Video [75ohm, 0.7Vp-p])
3	BLUE (Blue Video [75ohm, 0.7Vp-p])
4 ~ 12	Reserved
13	HSYNC or CSYNC (Horizontal or Composite Sync.)
14	VSYNC (Vertical Sync.)
15	Reserved

⊙ CHAP 2. INSTALLATION

4. Network Connection

4.1 Using Static (Public) IP Address

You can use one of Static IP addresses, Subnet Mask and Gateway provided by your ISP (Internet Service Provider) for network connection between DVR and Net / Web Viewer. And you can connect DVR to your multi-port Broadband Modem directly.
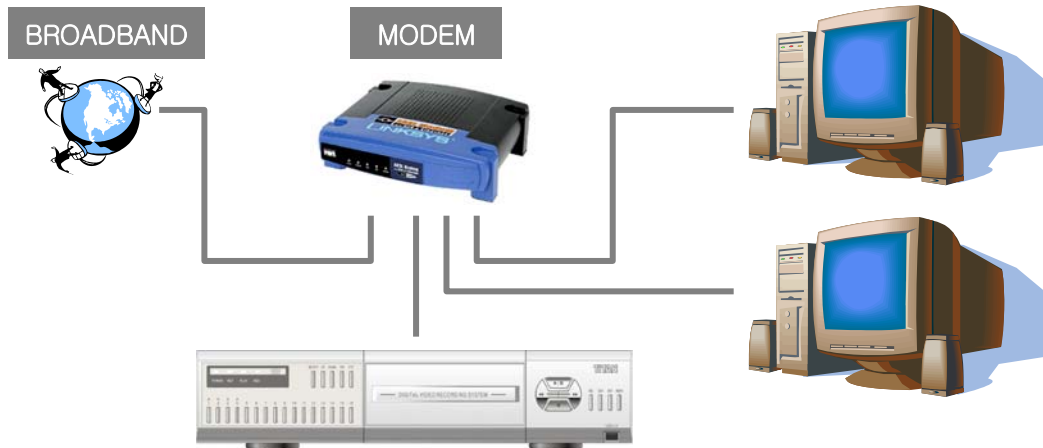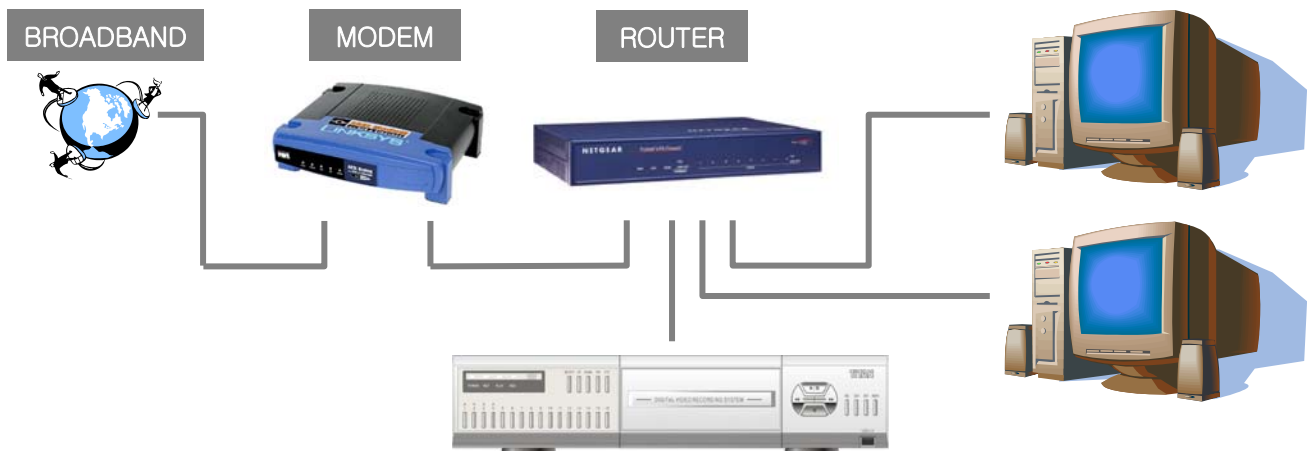
BROADBAND   MODEM

4.2 Using Dynamic IP Address

You can use Router with your Dynamic IP broadband modem. In this case, you should set the configuration of Router properly for network connection between DVR and Net / Web Viewer.
Please follow the instruction in next section to configure your Router correctly.

BROADBAND   MODEM   ROUTER

⚠ If your Broadband Modem does not support internal loop back (port forwarding) function, and if you want to monitor DVR using a PC located in same Intranet, you should use Direct IP instead of DDVRLS in the connection menu of Net Viewer.
If your PC is located out of Intranet, you can use both DDVRLS and Direct IP to connect to DVR even though your Broadband Modem has limited features.
You will know about DDVRLS and Direct IP in **Chapter 9, Network Viewer**.

◉ CHAP 2. INSTALLATION

4.3 Router Configuration
If your DVR is connected to network through Router, you should configure Router properly.
There are 3 steps as follows.
1. WAN Setting
2. DHCP Setting
3. Virtual Server Setting
And 3 Routers from D-Link, Net Gear and Linksys are quoted as examples in this manual.
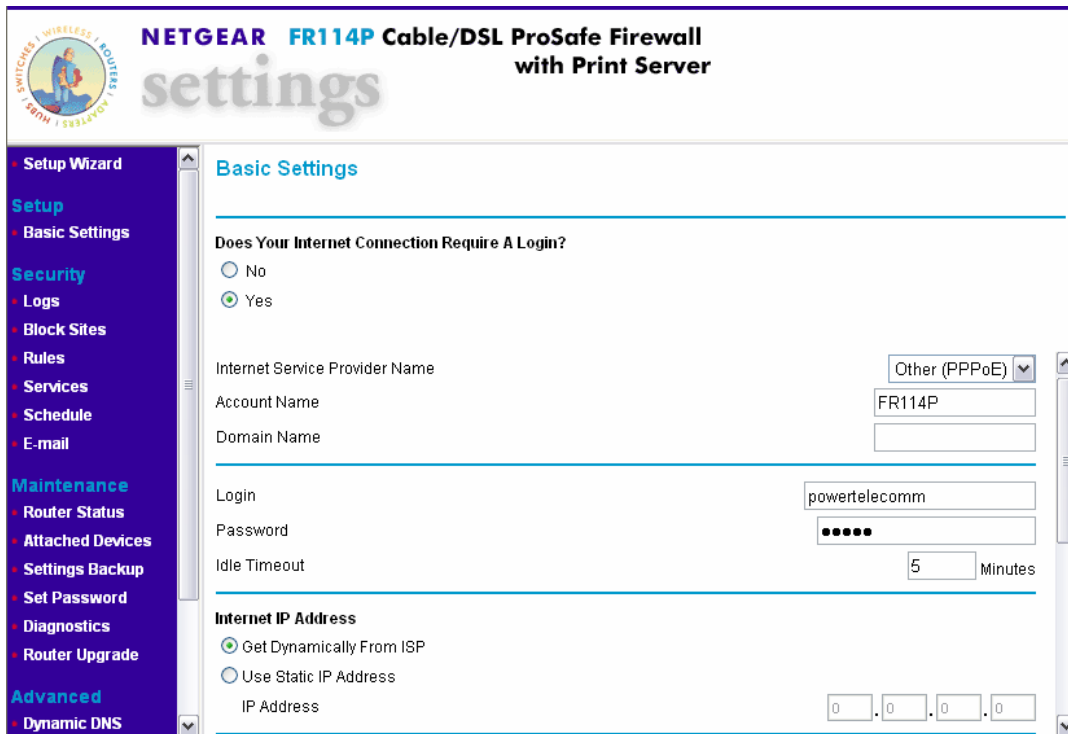
4.3.1 WAN Setting
When you connect to your Router, you can find menu for Wan setting. Please confirm the WAN setting. If you are using DSL service, you should select PPPoE, and you will see sub-menu to type in DSL user name and password.

CHAP 2. INSTALLATION

NETGEAR FR114P Cable/DSL ProSafe Firewall with Print Server

settings

- Setup Wizard

Setup
- Basic Settings

Security
- Logs
- Block Sites
- Rules
- Services
- Schedule
- E-mail

Maintenance
- Router Status
- Attached Devices
- Settings Backup
- Set Password
- Diagnostics
- Router Upgrade

Advanced
- Dynamic DNS

Basic Settings

Does Your Internet Connection Require A Login?
- ○ No
- ⊙ Yes

Internet Service Provider Name	Other (PPPoE) ∨
Account Name	FR114P
Domain Name	

Login	powertelecomm
Password	•••••
Idle Timeout	5 Minutes
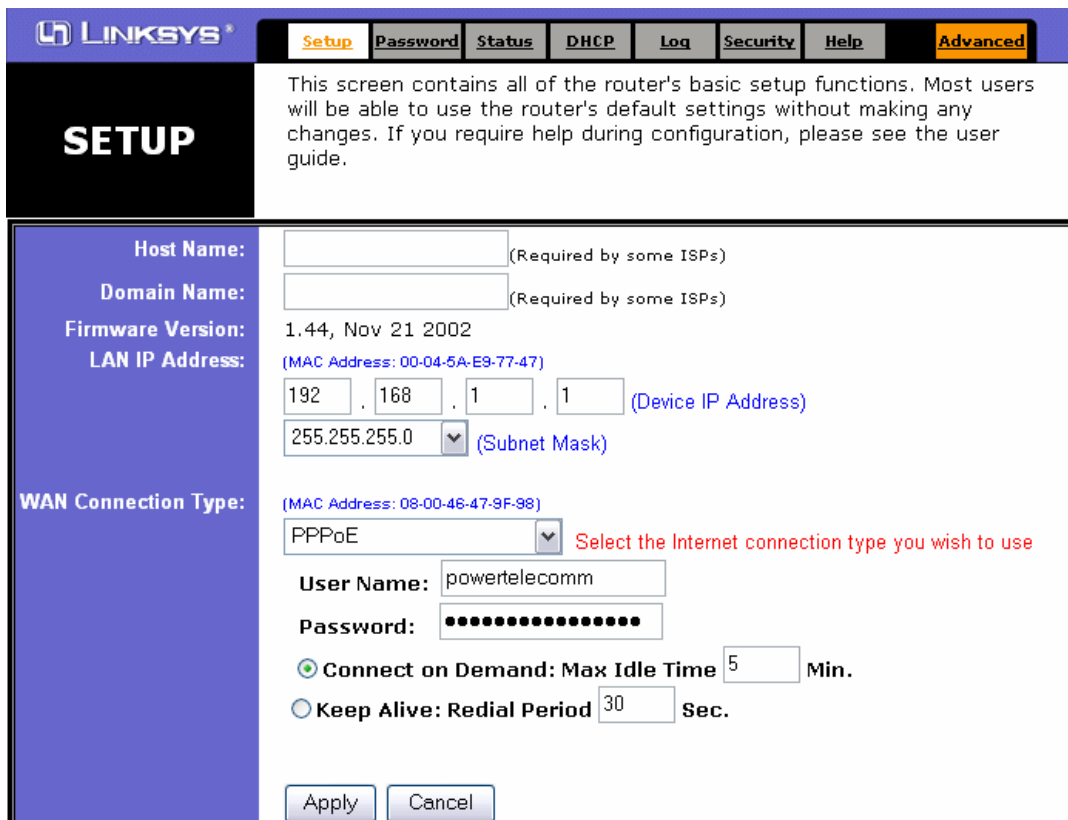
Internet IP Address
- ⊙ Get Dynamically From ISP
- ○ Use Static IP Address
  - IP Address 0 . 0 . 0 . 0

LINKSYS

Setup | **Password** | **Status** | **DHCP** | **Log** | **Security** | **Help** | **Advanced**

SETUP

This screen contains all of the router's basic setup functions. Most users will be able to use the router's default settings without making any changes. If you require help during configuration, please see the user guide.

Host Name:	[ ] (Required by some ISPs)
Domain Name:	[ ] (Required by some ISPs)
Firmware Version:	1.44, Nov 21 2002
LAN IP Address:	(MAC Address: 00-04-5A-E9-77-47)
	192 . 168 . 1 . 1 (Device IP Address)
	255.255.255.0 ∨ (Subnet Mask)

WAN Connection Type: (MAC Address: 08-00-46-47-9F-98)

PPPoE ∨   Select the Internet connection type you wish to use

User Name: powertelecomm

Password: •••••••••••••••••

- ⊙ Connect on Demand: Max Idle Time 5 Min.
- ○ Keep Alive: Redial Period 30 Sec.
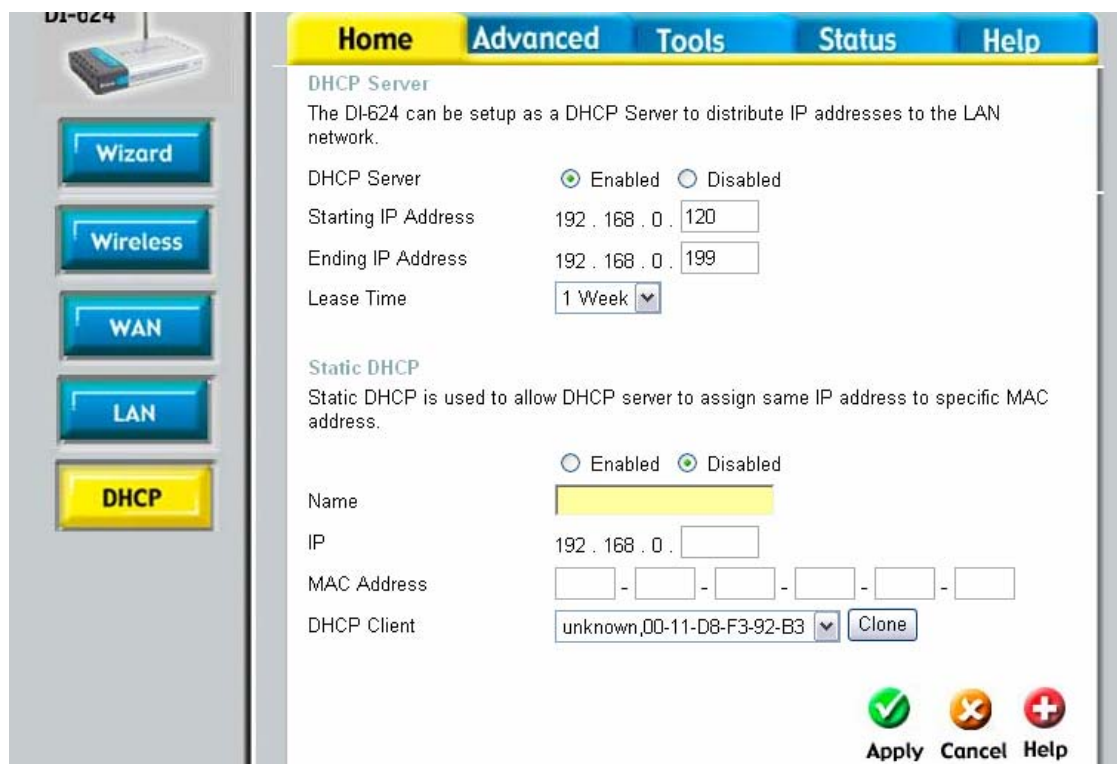
[Apply] [Cancel]

◉ CHAP 2. INSTALLATION

4.3.2 DHCP Setting
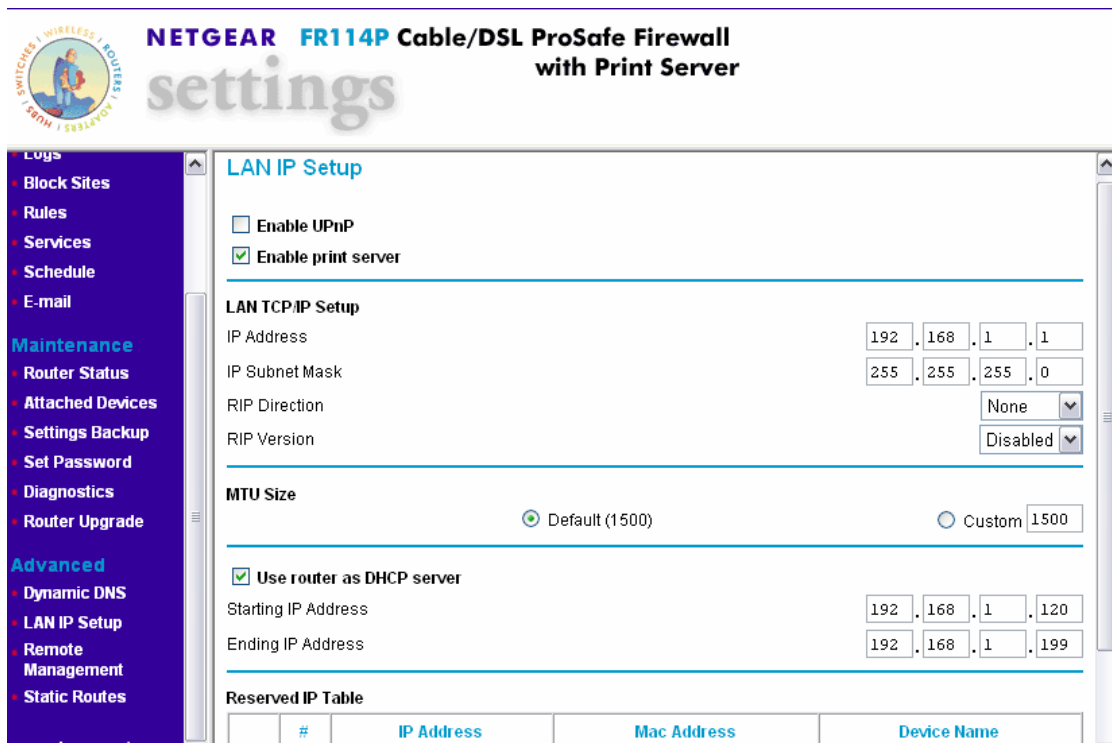
To assign DVR an unique private IP address in your intranet environment, please check the Starting and Ending IP address used by DHCP server.

You can assign any private IP address to your DVR, if it is out of the DHCP range.

◉ CHAP 2. INSTALLATION

◉ CHAP 2. INSTALLATION

4.3.3 Virtual Server Setting
You should register your DVR as a virtual server to Router. Please type in the private IP address of DVR to IP address field. (e.g. 192.168.0.110)
Protocol Type is TCP, and Private/Public Port numbers should be same with the Port numbers in DVR. And you can change the Video signal Port number in Network Setup menu to avoid the conflict with other network servers.
The default Port number in DVR is 9310. (It is for Video signal, and the Port number for Control signal is generated automatically as 9311, Video Port number + 1.)
You need to register both DVR Video Port and Control Port to Router as Network servers.
And please make sure that your Router dose not block the control / data to / from the DVR with filter and firewall features.

⊙ CHAP 2. INSTALLATION

◉ CHAP 2. INSTALLATION

LINKSYS®

| Filters | Forwarding | Dynamic Routing | Static Routing | DMZ Host | MAC Addr. Clone | Setup |

PORT RANGE FORWARDING

Port forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your router, they will be redirected to the specified IP.

Customized Applications	Ext.Port			Protocol TCP	Protocol UDP	IP Address	Enable
DVR VideoCt	9310	To	9311	☑	☐	192.168.1. 110	☑
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐
	0	To	0	☐	☐	192.168.1. 0	☐

UPnP Forwarding   Port Triggering

Apply   Cancel

⦿ CHAP 3. SETUP MENU

Getting Started

First, it is important to make sure that the DVR power is off before connecting all the necessary video, monitor and power cables to the DVR.
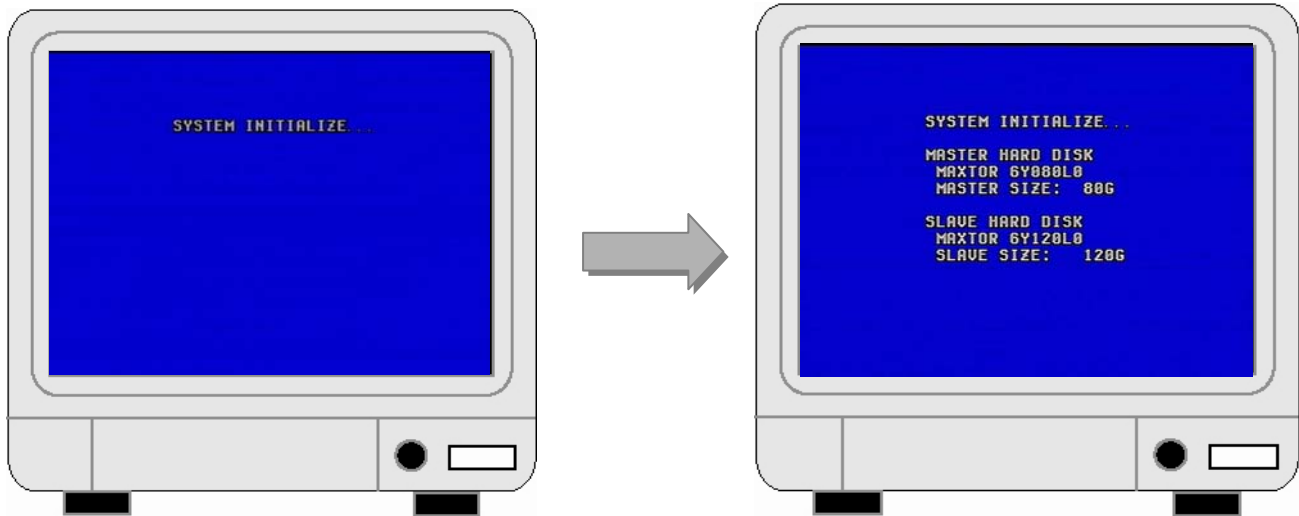
[System initializing]   **[HDD detected properly]**

You will see the above screen when you power on the DVR system properly.
It shows that the DVR starts and succeeds in detecting HDDs as master and slave.

> ⚠ 1. Check if HDD has no problem after HDD installation because record function may not work well due to HDD problem.
> 2. Contact your local distributor and exchange with new one when you find your HDD has a problem.

You will see information of current available hard drives and CD burner, USB memory stick as well as firmware version, when you press Info button. To exit to normal display, press Info button again.

◉ CHAP 3. SETUP MENU

System Setup Menu

Before starting full operation of the DVR system, you have to set the desired system configuration using the Setup Menu. Press MENU button to access the Setup Menu.

- • You can navigate through the 6 options up and down by pressing channel selection buttons (CH1 : Up, CH2 : Down. CH3 : Left, CH4 : Right) on the front panel of DVR or the direction buttons of the IR remote controller unit.

- • To get into a sub menu, press ENTER button where the pointer is located.

- • To exit the main menu, press MENU button.

- • If you are in a sub menu, you can always return to main menu by pressing MENU button.

◉ CHAP 3. SETUP MENU

1. Language

- When you first call the main menu using the MENU button, you'll see that the current language is highlighted (see screen shot above). Currently it supports English only.

- To exit main menu, press MENU button.

CHAP 3. SETUP MENU

2. System Setup

2.1 HDD Setup
This menu enables HDD setup.

1) Overwrite   ON/OFF
To enable (ON) or disable (OFF) to overwrite HDD.

2) Record OSD   ON/OFF
To show "REC" in green in the right bottom of screen during recording mode.

> Note   - "**MA-REC**" shows videos are recorded in master hard disk.
>   - "**SL-REC**" shows videos are recorded in slave hard disk.

3) Format
To format the HDD, press ENTER button and then select YES.

> ⚠ You have to make sure of it before HDD format.
> Once HDD formatted, you will not be able to retrieve any video that has
> been recorded previously.

• To return to main menu, press MENU button.

◉ CHAP 3. SETUP MENU

2.2 Password Setup
 This menu allows to set system passwords. It supports both Admin and User level passwords. Admin can access and control all information and User can access limited info without the ability to change the setup configuration.

1) Select   ON/OFF
  To enable (ON) or disable (OFF) a password.

2) Registration of Passwords
  To set your desired 4 letter password among 0~9, press ENTER & direction button. To use both remote controller and buttons on front panel, you can use only 1~4 or 1~8 buttons if you have 4 or 8 channel DVR. To return to the sub menu, press MENU button after completing password input.

  • To return to main menu, press MENU button.

⊙ CHAP 3. SETUP MENU

3) Input of Passwords

To input your 4 letter password among 0~9, press numeric buttons of remote control unit or front panel. The cursor moves to right when DVR receives each number.

Recording start and Playback functions do not require password even though DVR is Password On condition.

• To return to main menu, press MENU button.

> **Note** Remember that the Admin password was set to 1111 in factory mode. And 2222, 3333, 4444 are the default passwords for User1, 2, and 3. If you forgot the password and can not control DVR, please contact to whom sold DVR to you. He/She might be able to restore the default password.

CHAP 3. SETUP MENU

2.3 Channel Name Setup

To make camera names easy to remember, you can assign names to individual channels up to 8 characters per channel. For example, if your one external camera is located in a factory, you can name it as "factory". You can see videos with this name on the screen during operation.
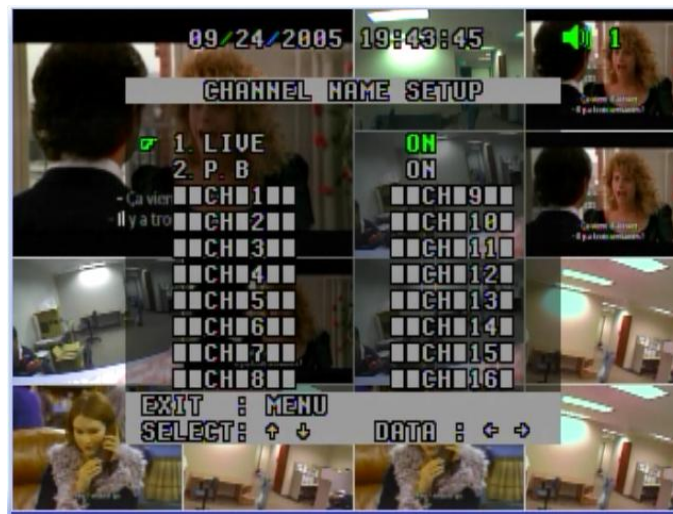
1) Live   ON/OFF

2) PB   ON/OFF
- **-** When turned ON, it enables display of camera names.
- When turned OFF, it disables display of camera names.

3) CH 1 ~ CH 16   ■ ■CH ■1/2/…/16 ■ ■
- When the pointer is located next to CAMERA1/2/3/4…/14/15/16,
  1. Press ENTER button
  2. See the active cursor on the first letter of ■ which means a blank.
  3. Surf along letters by pressing Up/Down button.
  4. When you find your desired letter, press Right/Left button to move the active cursor to the next letter.
  5. After the naming process is complete, press ENTER button and then press Up/Down button to move to other cameras.

To exit main menu, press MENU button.

⊙ CHAP 3. SETUP MENU

2.4 Date/ Time Setup

Everybody agrees that surveillance digital video recorders must indicate the exact date and time information in which an event took place in order to be used as evidence. Therefore, configuring the DVR to correct time and date is very important.
.
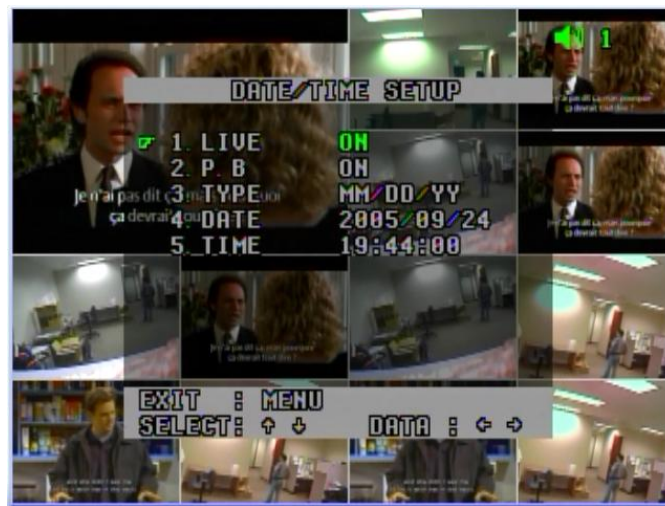
1) Live   ON/OFF

2) PB   ON/OFF
 - When turned ON, it enables Display of camera names.
 - When turned OFF, it disables Display of camera names.

3) Type   YY/MM/DD, DD/MM/YY, MM/DD/YY

4) Date   2005/09/24

5) Time   19:44:00
  - When the pointer is located next to Date or Time,
    1. Press ENTER button
    2. Set Date or Time
      - Select it by pressing Up/Down button
      - Move to the next by pressing Left/Right button
    3. When you finish setting Date/ Time, press MENU button and then press Up/Down button to move to other sub menu.

 To return to main menu, press MENU button.

⊙ CHAP 3. SETUP MENU

2.5 Beep & PTZ Setup

 This menu enables recording beep and external Pan/ Tilt & Zoom/ Focus cameras setup to communicate with.

1) PAN/ TILT   Pelco-D / Pelco-P / LG / Hitron / Dongyang
   Select a desired protocol which is used for communication between the external Pan/ Tilt camera and the DVR set.

> **Note**   Compatible Pan/ Tilt camera list
> - Pelco-D, Pelco-P, LG, Hitron, Dongyang protocol.

2) Rec Beep   ON/OFF
   To enable recording beep when pressing REC button to start and release the function.

3) HDD Fail   ON/OFF
   To enable to beep when the DVR detects a bad sector of HDD in recording mode or playback mode. It skips the bad sector that detected and records videos or plays recorded videos in the next sector of HDD automatically.

HDD is logically divided to a large amount of sectors. It may have some bad sectors out of a large amount of it. When this function is on, you are recommended to exchange with new one in order to preventing from any potential problems caused by the HDD with bad sectors.

• To return to main menu, press MENU button.

◉ CHAP 3. SETUP MENU

2.6 System Reset   ON/OFF
 To reset the system, press Enter button and select YES. Then system parameters go back to default values.
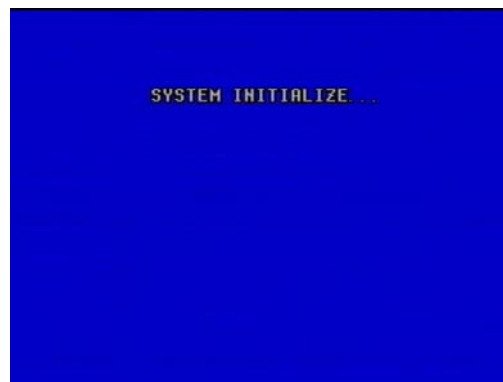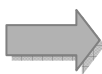
• To return to main menu, press MENU button.

> ⚠ You have to make sure of it before system reset.
> Once system reset, all data that you have selected previously, such as password, are converted to the factory default settings.

◉ CHAP 3. SETUP MENU

3. Display Setup

3.1 Blank Channel Setup
To enable to make channels hidden on the screen during live display mode as below.

CH 1 ~ CH 16   ON/OFF
To hide the channels on the monitor even though it is recorded, you can set ON for each channels.

To return to main menu, press MENU button.

> **Note**   Even though some channels are hidden in the screen during live display mode, the DVR has been recording them in HDD.

⦿ CHAP 3. SETUP MENU

3.2 PIP Channel Setup

 You can select PIP (Picture In Picture) options. PIP mode offers a convenient way of monitoring multiple channels while focusing more attention on a specific channel. It has a main video channel and up to 3 sub video channels on the screen.

Main	CH 1 ~ CH 16
Sub 1	CH 1 ~ CH 16
Sub 2	CH 1 ~ CH 16
Sub 3	CH 1 ~ CH 16

 To define which channel is the main channel for full screen or sub channel among 16 channels.

• To return to main menu, press MENU button

◉ CHAP 3. SETUP MENU

3.3 Adjust Channel Setup
 This menu allows video adjustment options for individual cameras.

1) Channel   CH1 ~ CH 16
  - To select your desired channel to adjust video display.

2) CON (Contrast)   50
   - To control light and shade of video display.

3) HUE   50
   - To control color tone of video display.

4) BRI (Brightness)   50
  - To control brightness of video display.

5) COL (Color)   50
  - To control saturation of color of video display.

• To return to main menu, press MENU button.

| Note | Default factory mode was set to 50. Remember that the values range from 01 to 99. |

◉ CHAP 3. SETUP MENU

3.4 Video Signal Type   NTSC/PAL

   To select your local video signal type between NTSC and PAL, press Enter button and select it.
 It reboots the system automatically after your selection.

⚠ It reboots the system automatically after your selection.
    Once it reboots, all data that you have selected previously is set to factory default.

3.5 Sequence   1 sec ~ 1 min

 To select interval time of Auto Switch.
With the Auto Switch feature, a range of interval time among some different views can be selected.

• To return to menu, press MENU button.
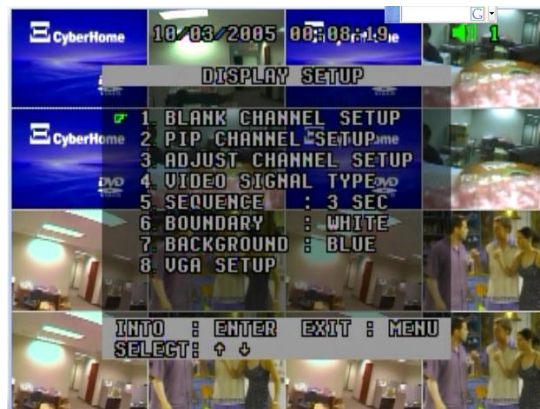
◉ **CHAP 3. SETUP MENU**

3.6 Boundary   White/Black/OFF
To select the boundary color that is divided into each channel.
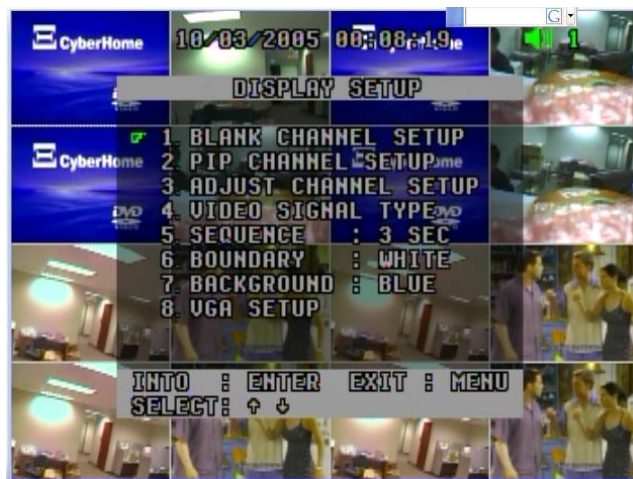
3.7 Background   Blue/Black
To select the background color of no video channels between two colors.
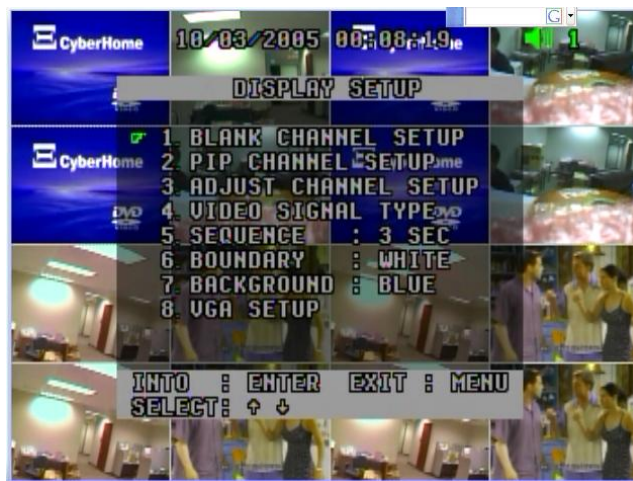
• To return to menu, press MENU button.

CHAP 3. SETUP MENU

3.8 VGA Setup
It supports 3 output resolutions, 800x600, 1024x768 and 1280x1024.

Output Contrast, Brightness and Color can be adjusted.

• To return to menu, press MENU button.

⊙ CHAP 3. SETUP MENU

4. Event Setup

This screen enables simple set up of DVR motion detection, alarm and external sensor configurations

4.1 REC Time   **30 sec ~ 30 min**

Once event recording is triggered, that channel is recorded for that period. Each channels works

independently.

4.2 Sensor In   **N.O/N.C**

The Sensor-in terminals of the DVR are used to connect external motion sensors or door/window contacts.

There are two types of general sensors in the market. The one is "normal mode-open", N.O, which means two sensor lines are not connected (open) in the normal mode but the lines are to be connected (close) in the activation mode. The other is "normal mode-close", N.C, which means two sensor lines are connected (close) in the normal mode but the lines are to be disconnected (open) in the activation mode.

• To return to menu, press Menu button.

⚠ You have to make sure of sensor type between N.O and N.C before installation.
Otherwise, it may not work properly.
- N.O : Normal Open type sensor
- N.C : Normal Close type sensor

◉ CHAP 3. SETUP MENU

4.3 Event Action
To select notice method in order to make users get more attention when event recording occurs.
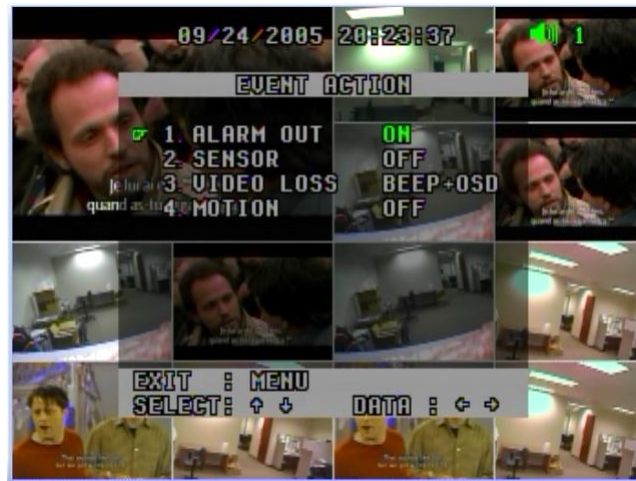
1) Alarm Out   ON/OFF
You can set to enable (ON) or disable (OFF) the outbound signal from the DVR.

2) Sensor   ON/OFF
When DVR detects signals from external sensors, DVR will beep or OSD to get your attention.
 - BEEP + OSD : Beeps and shows **"A" letter** together. DVR records channels which are activated by sensor.
 - OSD   : On-Screen-Display only. DVR records channels which are activated by sensor.
 - OFF   : Disables to activate the alarm action

 * 4 CH model records all 4 channels, when any one or more sensors are activated with BEEP+OSD or OSD
   option. But 8/16 CH models record each channel activated by sensor.

3) Video Loss   BEEP+OSD/ OSD/ OFF
If video signal from the cameras does not reach the DVR, a beep will sound to get your attention.
  - BEEP+OSD : Beeps and shows **"L" letter** together. No recording.
  - OSD   : On-Screen-Display only. No recording.
  - OFF   : Disables to activate the alarm action

4) Motion   BEEP+OSD/ OSD/ OFF
When DVR detects motion on certain part of the screen, DVR will beep or OSD to get your attention.
 - BEEP + OSD : Beeps and shows **"M" letter** together. DVR records channels which are activated by motion.
 - OSD   : On-Screen-Display only. DVR records channels which are activated by motion.
 - OFF   : Disables to activate the alarm action

 * 4 CH model records all 4 channels, when any one or more video motion are activated with BEEP+OSD or
   OSD option. But 8/16 CH models record each channel activated by video motion.

• To return to main menu, press MENU button

CHAP 3. SETUP MENU

4.4 Motion Setup
This menu enables users to set motion functions.

1) Channel   CH1~CH16
You must manually set each channel for the motion detection area. Select a channel for this motion detection.

2) Sensitivity   1~15
It offers 1 to 15 level of sensitivity. Remember that the higher level is more sensitive to detect motions.

3) Area   OFF/FULL/SET
 - OFF   : Disable to select motion areas.
 - FULL : Select full area as motion area.
 - SET   : To select the area as you desire, move to POSITON menu.

4) Position
 - Press Enter button and surf areas in the desired channel by pressing direction button and then press ENTER button to select, press it again to release.
 - **Once you select the areas, you don't need to select them again when you get back from other modes like OFF or FULL. It gives you easy-operation.**

• To return to main menu, press MENU button

◉ CHAP 3. SETUP MENU

5. Record Setup
Here you can set recording options.

5.1 Record Type   720 / 360
There are two recording modes: 720x240 and 360x240.
If you set it to 720 mode, DVR records the full size videos of 16 different channels.
If you set it to 360 mode, DVR records the half size videos of 16 different channels.

5.2 Record Speed   1~60 F/S, 120F/S (only available in 360 mode)
You can select various recording speed in field per second (F/S).
60 F/S in 720 mode means that it records 60 images per second.
Higher field per second requires more HDD space.

Depending on NTSC or PAL mode, range of fps available varies.
NTSC and PAL have the following fps available:
 - NTSC : 1~120 F/S
 - PAL : 1~100 F/S

5.3 Quality   Level 1~6
It is to set video recording quality of level 1~6. 6 is the highest quality.
Higher video quality, more HDD space required.

CHAP 3. SETUP MENU

5.4 Color Enrich   ON / OFF
 You can select color recording format.
ON supports better color, but OFF supports less HDD space for recording.

5.5 PB Speed   AUTO, 1~60 F/S, 120F/S (Only available in 360 mode)
 You can select various playback speed in field per second (F/S).
"AUTO" (Default) means that it plays videos at the same rate of recording speed.
60 F/S in each mode means that it plays 60 images per second even though the video was recorded in different recoding speed.

5.6 Channel Enables   CH1 ~ CH16 / Group 1~Group 4 (120 F/S recording in 360 mode)
  - ON   : Enable to record the channels
  - OFF : Disenable to record the channels
  - Each group indicates each 4 channels. (For example, group 1 shows CH1 ~ CH4)

* 4CH model does not support Record Channel Enable function. All 4 CHs are enabled.

◉ CHAP 3. SETUP MENU

5.7 Audio Setup
  1) Channel   **CH1~CH16**
     It is to select one audio channel among 16 channels.

  2) Icon Display   **ON/OFF**
     To enable icon of audio function in right top of screen as below.

5.8 Schedule Setup
  1) Schedule   **ON/OFF**
     To disable (OFF) or enable (ON) Schedule recording feature.

  2) Day   **Daily/ SUN~SAT**
     Select the desired day for schedule recording.
     - Daily, Sun, Mon, Tue, Wed, Thu, Fri, Sat

  3) Time
   When you finish to set Day, press ENTER button to go into the Timeline. Surf left or right in the
  timeline by pressing Left or Right button. If the cursor is on the desired time for schedule recording,
  press Up button to set or Down button to release.

◉ CHAP 3. SETUP MENU

6. Network Setup
To monitor and control videos remotely through network, you need to input the correct values.

6.1 IP Address   *000.000.000.000
 Set IP address of your DVR using arrow buttons. To move to other sub-menu, move cursor to ✳ position first, then press up or down button.

6.2 Subnet Mask   *255.255.255.000
 Set Subnet Mask of your DVR using arrow buttons. To move to other sub-menu, move cursor to ✳ position first, then press up or down button.

6.3 Gateway   *000.000.000.000
 Set Gateway of your DVR using arrow buttons. To move to other sub-menu, move cursor to ✳ position first, then press up or down button.

6.4 Type   INTERNET / INTRANET
  - Internet : It is recommended in Internet connection. And its display speed is slower than "INTRANET", but
          it guaranties no crashed video at any network traffic condition.
  - Intranet : It is recommended in Intranet connection. Its display speed is faster than "INTERNET". But the
          video will be crashed, if the network condition is not fast enough.
Set INTERNET/INTRANET using Left/right button.

6.5 Sequence   ON / OFF
  - ON : It is recommended in Internet connection. It sends each channels sequentially, so Client can receive
          each channels at same speed. But if network traffic is low, it will cause lower speed of transmission.
  - OFF : It is recommended in Intranet connection. Some channels will be updated slowly comparing others.

6.6 Network ID   ****** (up to 8 letters)**

6.7 Password   ****** (up to 8 letters)**
    You Must Register Your Network ID using Network Viewer first.
    Press Enter button and set Network ID & Password using direction button.
    To access DVR through Network Viewer program, you need to set same Network ID & Password to DVR.

 To return to main menu, press MENU button. **(All setting is effective after you exit the menu.)**

⊙ CHAP 3. SETUP MENU

⚠ 1. we would like to recommend you to check your local Firewall or personal network security programs. Sometimes they block certain ports for network security purpose.
2. If you don't have right information about network configuration, please contact your network administrator.

Note **To check and change Mac. Address**, **Network Server IP** and **Port number** of your DVR, press **CH6 button** in network setup mode.
The main reason of hidden menu of Mac. Address, Network Server IP and Port number is to prevent accidental changes by the user.

◉ CHAP 4. DISPLAY MODE

You can enjoy this "live mode" functions in display mode.

1. Live Mode
It converts to 16 channel live display on the screen as below by pressing Multi button.

You can surf 13 CH / 9 CH / 8 CH / 6 CH / 4 CH / 1 CH display by pressing Multi button repeatedly.

[13 CH display Mode]

[9 CH display Mode]

[8 CH display Mode]

[6 CH display Mode]

◉ **CHAP 4. DISPLAY MODE**

[4 CH display Mode]

[1 CH display Mode]

2. PIP Mode
 You can select PIP (Picture In Picture) options by pressing PIP button repeatedly. PIP mode offers a convenient way of monitoring multiple channels while focusing more attention on a particular channel. It has a main video channel view and up to 3 small video channel views on the screen.
 You can surf 1 PIP/ 2 PIPs/ 3 PIPs mode with 4 positions by pressing PIP button repeatedly.

 To release this mode, press other function button on the front panel.

3. Auto Mode
 If you select Auto Mode, channels will be switched automatically among 17 types of display in the order of "CH 1-CH 2-CH3- …- CH 15- CH 16-16 channel Mode" and keep the order until you press other function button. The DVR skips channels with no video.

 You can find that the DVR indicates Auto Mode in the upper left of the screen in this mode.
 To release this mode, press other function button on the front panel.

◉ CHAP 4. DISPLAY MODE

4. Pan/ Tilt/ Zoom/Focus Camera Control
Controlling an external Pan/ Tilt/ Zoom/Focus camera

4.1 Pan/ Tilt Function

Indicates Pan/Tilt function.

1) 16 channel display mode
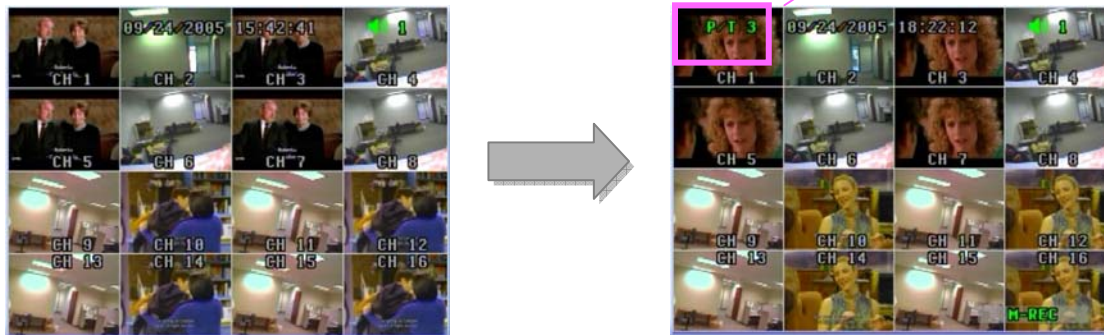
1. First press P/ T button in the remote controller.
2. Select your desired channel by pressing P/T button repeatedly.
3. Control the camera with the direction buttons (Up/ Down/ Right/ Left).
4. To release this function, press P/T button repeatedly until "P/T" disappears on the screen.

2) One channel Mode

1. First select your desired channel installed Pan/Tilt camera by pressing channel selection button.
2. And then you will see a full-size screen.
3. Press P/T button in the remote controller.
4. Control the camera with the direction buttons (Up/ Down/ Right/ Left).
5. To release this function, press P/T button again in the remote controller.

⊙ CHAP 4. DISPLAY MODE

4.2 Zoom/ Focus Function

1) 16 channel display mode

Indicates Zoom Focus function.
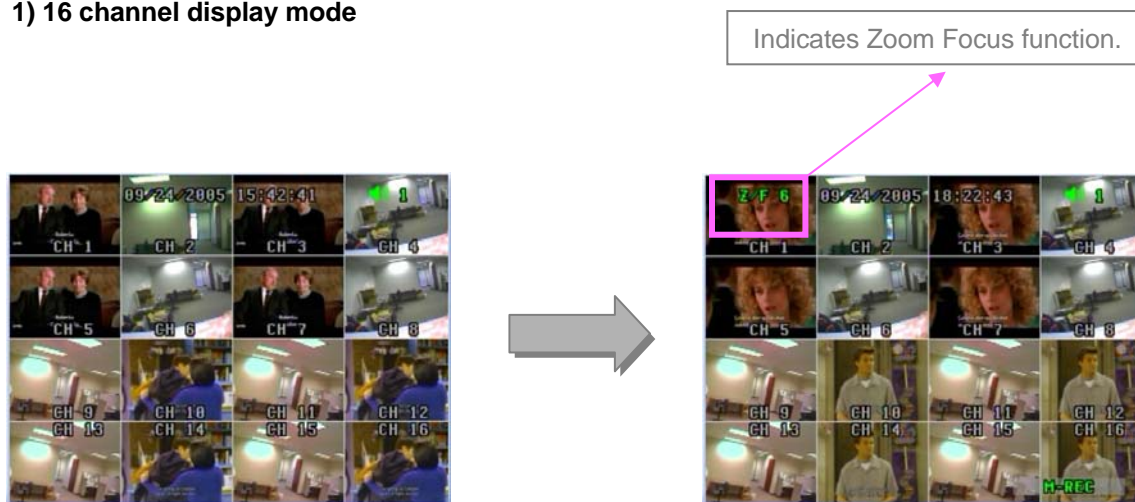
1. First press Z/ F button in the remote controller.
2. Select your desired channel by pressing Z/F button repeatedly.
3. Control the camera with the direction buttons (Up/ Down/ Right/ Left).
4. To release this function, press Z/F button repeatedly until "Z/F" disappears on the screen.

2) One channel Mode

1. First select your desired channel installed Zoom/Focus camera by pressing channel selection button.
2. And then you will see a the full-size screen.
3. Press Z/F button in the remote controller.
4. Control the camera with the direction buttons (Up/ Down/ Right/ Left).
5. To release this function, press Z/F button again in the remote controller.

◉ CHAP 4. DISPLAY MODE

5. Digital Zoom
 You can magnify a certain part of the full size screen two times digitally when you use this function
 as described below. This function can be applied to all display and search modes.
 You can operate this function with only remote controller.

1. Select the desired channel among 16 channels.

2. Press Zoom button in the remote controller.

3. Select the area by pressing Left/Right/Up/Down button
   in the remote controller .
   And then press Zoom button again.

4. You can see the video that is magnified two times digitally.

5. To exit this mode, push Zoom button again
   in the remote controller.

6. Panorama
 This function enables you to monitor each channel with 16 split-channel panorama mode in the screen.
 It can be applied in playback modes.

1. Play your desired video in the recording list first.

2. Press Panorama button in the remote controller.

3. Select your desired channel by pressing Panorama button repeatedly.

4. To exit this function, press Multi button.

⊚ CHAP 5. RECORDING MODE

1. If you press REC button, you will see REC in green on the right bottom of the screen. It means the DVR is in the recording process.
   - **MA-REC :** It records videos in Master HDD.
   - **SL-REC :** It records videos in Slave HDD.

- To release REC function, press REC button again.

2. It indicates that playback function is on in live display mode, which is one of our main features, that is simultaneous multi-function operation in one screen.
   - **MA-PLAY :** It plays videos that have been stored in Master HDD.
   - **SL-PLAY :** It plays videos that have been stored in Slave HDD.
   You will know how to initiate Playback mode in following 2 sections, Search Mode and Triplex Function.

3. It means that audio function is set to channel 1.

◉ CHAP 6. PLAYBACK - SEARCH MODE

[Search Menu]

With Triplex function, you can enter search mode while the DVR is in live or recording mode.
So you don't need to stop recording to initiate Playback mode.

Press SEARCH button and move to one option to retrieve video using "Up/Down" button.
Then press ENTER button to enter the selected search option.

To watch a desired recorded video, press ENTER button at the event highlighted. Then DVR replay the video.
Also you can designate exact date and time to retrieve video using DATE/TIME SEARCH option.

You can stop the video at any time by pressing "STOP" button. Also FF, REW, PAUSE are available in Playback mode.

1. Date / Time List Search
 Select Master or Slave using SER button.

It shows a list of recordings triggered by Manual or Schedule Recording. DVR generates separate event list at every hours, even though you record for long time for easy operation.
It supports up to 1,000 recordings.
You can select your desired date/ time in each recording list.

• To return to search menu, press MENU button again.
 And press MENU button in search menu, to exit to live display mode.

2. Event List Search
 Select Master or Slave using SER button.

It shows a list of recordings triggered by the motion and external event.
It supports up to 1,000 recordings.
You can select your desired date/ time in each recording list.

• To return to search mode, press MENU button again.
 And press MENU button in search menu, to exit to live display mode.

3. Date / Time Search
 Select Master or Slave using SER button.

You can designate a specific date and time to retrieve video. If you input Invalid date/time, DVR will display the closest video.

• To return to search mode, press MENU button.
 And press MENU button in search menu, to exit to live display mode.

◉ CHAP 7. PLAYBACK - TRIPLEX FUNCTION

You can now experience triplex function (simultaneous recording, playback and network transmission) with our new line of Digital Video Recorders.

- Press TRI button in live or recording mode, then you will see 1~8 live channels and 1~8 PB channels.
  To start playback, press PLAY button, then PB channels will display continuing last retrieved video.

- To see 9~16 channels live display and playback, press Up/Down button.

- To distinguish live and playback channels in one screen, channel names of playback are displayed as PB 1~16.
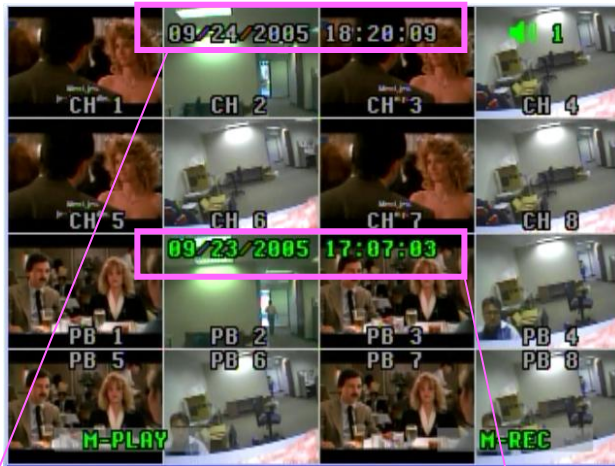
Date/Time in white means current real-time.

Date/Time in green means playback date/time.

- If you press channel button in this mode, you can see the full channel video of playback mode in the screen.

- To see all 16 channels playback, press PB button, and to go back to Triplex mode, press TRI button.

- To exit to live display mode, press Multi button.

| Note | **To switch the hard drive between Master and Slave, press All button (remote control unit) or SER (front panel) in one of three sub-search menu.** |

◉ CHAP 8. PLAYBACK – TRICKPLAY & MULTI CH. DISPLAY

You can get FF, REW and Pause during Playback mode. It supports 5 steps of FF and 4 steps of REW. To change the FF/REW speeds, press FF/REW buttons repeatedly.

In Playback mode, there are two display mode. The one is single channel mode and the other is multi channels mode.

To see one channel full screen display, press channel number buttons. And to go back to multi channels display mode, press current single channel button again, then you will see multiple channels on the screen. To change the split mode, press Up/Down buttons to find your favorite multi channels display mode.

⦿ CHAP 9. CD / USB BACKUP MODE

You can copy video stored in DVR into CD or USB memory stick in Playback mode. During CD/USB backup, all other operation are prohibited. You can retrieve video from CD/USB memory stick using our Net Viewer easily. You can burn whole blank CD / USB memory stick or stop burning in the middle of burning process.

1. Insert blank CD into CD-Burner or insert USB memory stick to USB port.

2. Press SER button and select your desired video in the list.

3. Play the selected video.

CHAP 9. CD / USB BACKUP MODE

4. Press Info button of Front panel, then you will see menu to select either CD or USB backup.
   Or press CD Backup / USB Backup button of Remote Controller, then you can get in its Backup mode.

5. To backup to USB memory stick, select USB using Left (→) button, and press Select button on the Remote Control Unit.
   Then it starts writing playback video/audio to USB memory stick.
   When it completes burning, it goes into Pause mode. Also you can stop USB backup using Left (→) button on Remote Control Unit.

6. To backup to CD, select CD and press Select button on the Remote Control Unit. Then DVR checks the CD burner and blank CD available.

7. If DVR is ready to burn CD, you will see the READY condition.

   - Ready   : shows that it is ready for CD backup.

⊙ CHAP 9. CD / USB BACKUP MODE

8. Press ENTER button, then it starts CD backup showing the status at bottom of screen as below.

 - Burning : shows that it is in the process.

9. When it completes burning, it shows CLOSE during its closing procedure. Also you can stop CD burning using → button (Remote control unit).

 - Close   : shows that it finishes the process.

> **Note** Some CD-R or CD-RW can not be burnt fully or has compatibility problem. In this case, DVR can not burn full 730MB data into CD and we recommend to use USB backup.

10. Take out the CD or USB memory stick from DVR.
 If you want to see the video stored in CD / USB memory stick, put CD into PC or insert USB memory stick to PC which Net Viewer is installed in.
 You can retrieve backup data from USB memory stick or CD using File playback or CD Playback functions of Net Viewer.

11. To return to live display mode, press MENU button.

⊙ CHAP 10. NETWORK VIEWER

1. System Requirement

- Pentium III or above recommended
- O/S : Microsoft Windows XP, 2000
- 256MB RAM or above recommended
- Super VGA 16M or above recommended
- 10/100 Base T network card for LAN operation

2. Network Environment

	Client PC	DVR
Minimum	More than 128 Kbps	More than 128 Kbps
Recommend	More than 3 Mbps	More than 3 Mbps

3. Network Viewer Installation

To start network viewer installation,
1. Start Microsoft Windows.
2. Insert installation CD into the CD-ROM drive.
3. Execute Setup.exe, then it installs NetViewer automatically and generates Icon on the Desk Top screen.
4. Click the NetViewer Icon, then network viewer will appear on the screen as below.
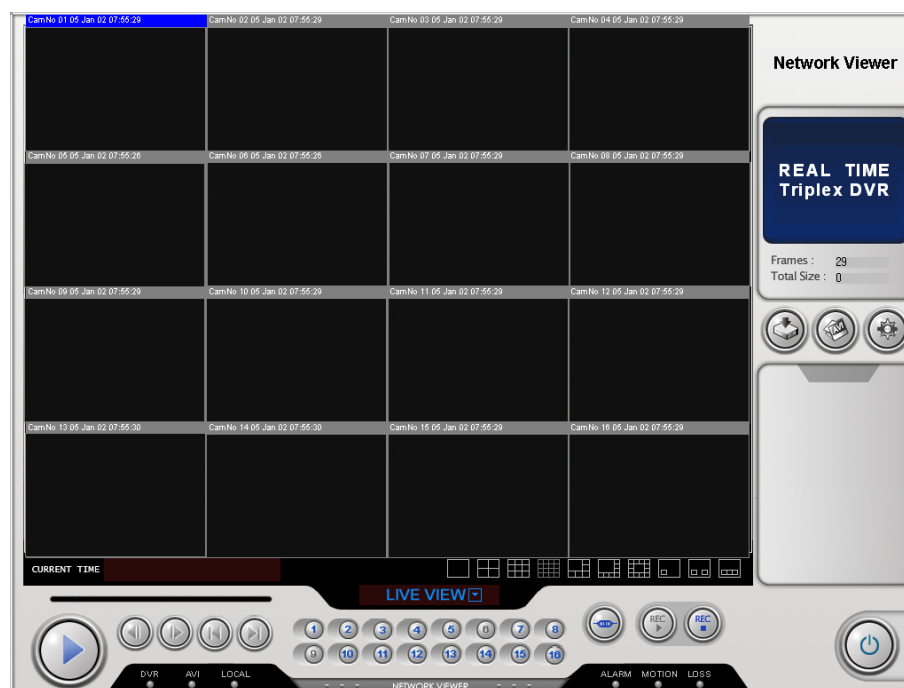
◉ CHAP 10. NETWORK VIEWER

4. Functions and Network Setup
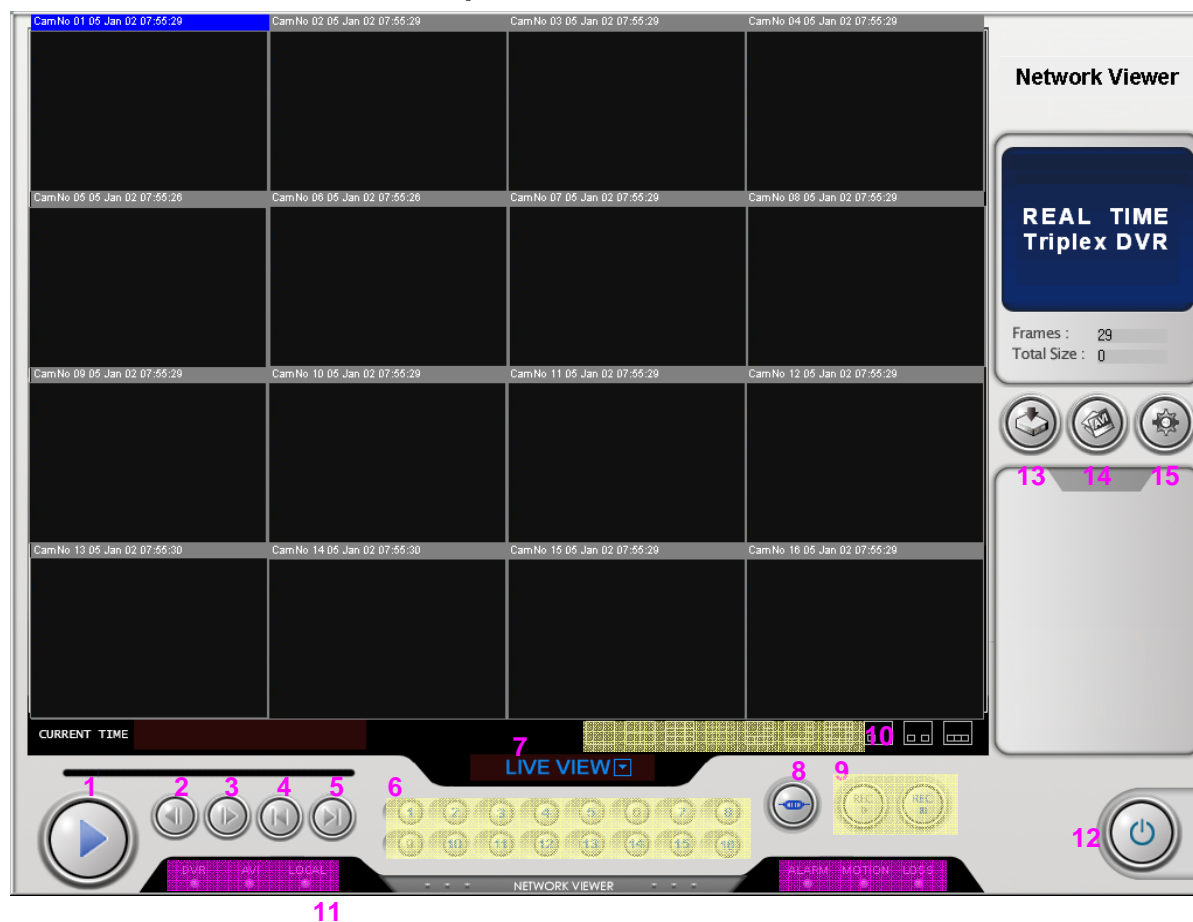
No	Names	Description
1	Play (Get Video)	Get video after connection to DVR or change operation mode
2	Reverse Step Play	Reverse frame Advance
3	Forward Step Play	Forward frame advance
4	Go to Start	Move to the start point of video
5	Go to End	Move to the end point of video
6	Channel Selection	Select a channel
7	Operation Mode	Select operation mode
8	Log In (Connect)	Connect to DVR with network IP & Password or DVR IP address
9	Record	Make remote DVR start or stop recording
10	Display Mode	Select display mode

⊙ CHAP 10. NETWORK VIEWER

11	LED	DVR	Show that the DVR is controlled by Network viewer
		AVI	Show that video is stored in by AVI file format
		Local	Show that video is stored in MJPEG format
		Connect	Show that Network viewer is connected
		Disconnect	Show that Network viewer is not connected
		Read	Show Network viewer is reading data from the CD or HDD local PC
12	Close		Close the network viewer
13	Local		Store the video in MJPEG format to local PC
14	AVI		Store the video in AVI format to local PC
15	Setup		Select AVI codec in local PC

Note
How to record video in AVI or MJPEG format
You can enjoy this function in all mode.
1. Record in AVI format
To start recording, press AVI button and to stop it, press the button again. When you press Setup button to select AVI codec resided in your PC, you might see several AVI codec. During the installation of the Network Viewer, please try to use those codec one by one to figure out which one works fine. Some of AVI codec in the list might not work properly. And please remember the AVI codec which you selected to use continuously. **You should register proper codec, before running NetViewer.**
2. Record by Local (MJPEG) format
To start recording, press Local button and to stop it, press the button again.
All videos are recorded in the default directory.
And also each LED (AVI or Local) is activated when the function is on.

Note
Default directory is as below.
1. AVI file - C:\DVR   2. Local (MJPEG) file – C:\DVR

Note
You should setup network configuration during installation of DVR and Network Viewer for remote control and monitoring through Network.
1. Click Log In (Connect) button and register your own network ID, Password and E-mail address for Dynamic IP Support and Event Notification. It is required only for the first connection during installation of DVR and Network Setup . If you use more than one DVR in a intranet, you should set different Port numbers to each DVRs.
2. ID and Password are composed of 8 letters. **You should get your own unique ID through authentication process first. Then you can type in your own Password and E-mail address.**
3. **You should type same ID and Password into Network Setup menu of DVR.**
4. If you want to use static IP address for DVR, please type DVR IP address into IP address field.

CHAP 10. NETWORK VIEWER
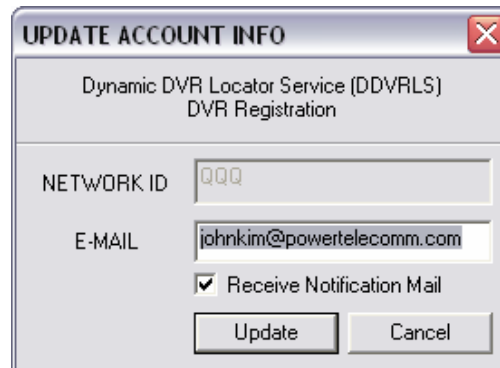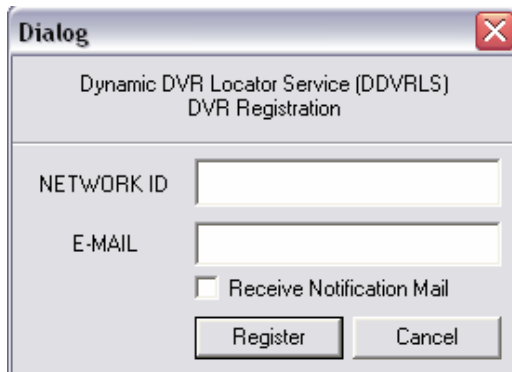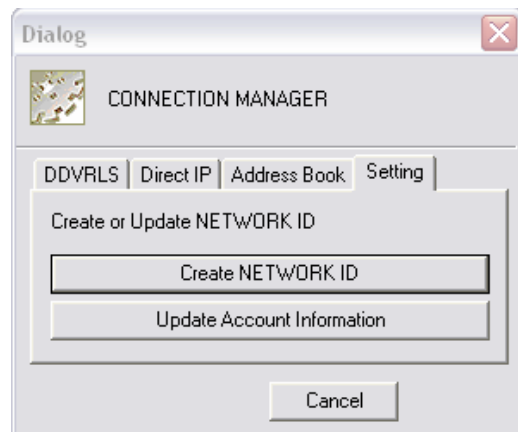
Note	**NETWOK ID Registration**

When you press Log In button, you will see Connect Manager.

If you are installing DVR and Network Viewer now, please press Setting.
Press Create NETWORK ID and type in your desired Network ID and E-MAIL address. Ann Click Register button.
Then Network Viewer will check the availability and ask you to try different ID if it is registered already by other DVR users.

To receive Alarm notification from DVR when events are happened, select Receive Notification Mail option. Then DVR will send an e-mail to you e-mail address when it detects events triggered by sensors and/or video motions.

And you can use Update Account Information to change your E-mail address.

⊙ CHAP 10. NETWORK VIEWER
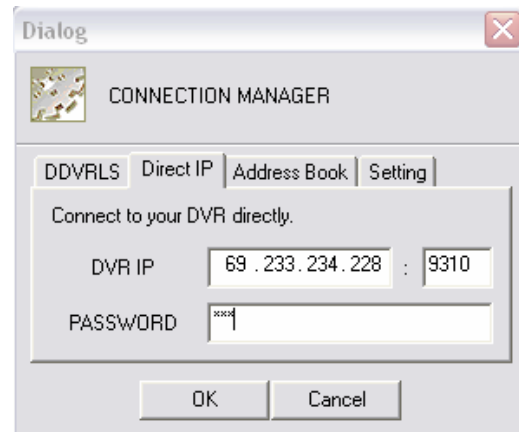
Note   **3. Dynamic IP Connection**
Our DDVRLS (Dynamic DVR Locator Service) enables you connecting to DVR only
with your registered Network ID and password
4. Direct (Static) IP Connection
Also you can use Direct IP connection with type in DVR IP address and Password.
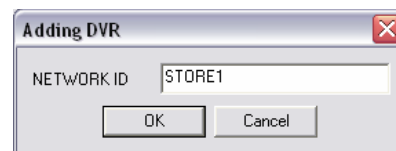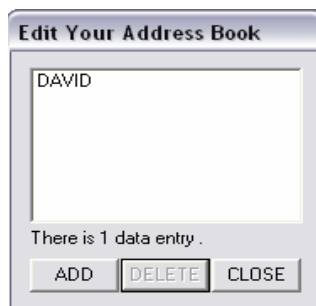
Note   **Address Book**

You can manage and access multiple DVRs easily using Address Book.
After when you register each DVRs to DDVRLS, you can register IDs of each DVR into
Address Book.
Then you can connect each DVR and switch one to another using this function.
If you try to add ID which is not registered, you will see error message.

⊚ CHAP 10. NETWORK VIEWER

5. Operation

This network viewer program has 5 types of operation modes.
 [Live View / Playback / Drive Scan / File Play / CD Play]
Each operation mode is designed for its own purpose.
Please refer to the details for your use.

If you want to disconnect Remote access connected from unknown client, press INFO button then press STOP button at DVR side.

No	Mode	Description
1	Live View	To monitor live display
2	Playback	To playback videos in the HDD of DVR
3	Drive Scan	To search videos that are stored in local PC HDD
4	File Play	To play videos that are stored in local PC HDD
5	CD Play	To play videos stored in CD

5.1 Live View Mode
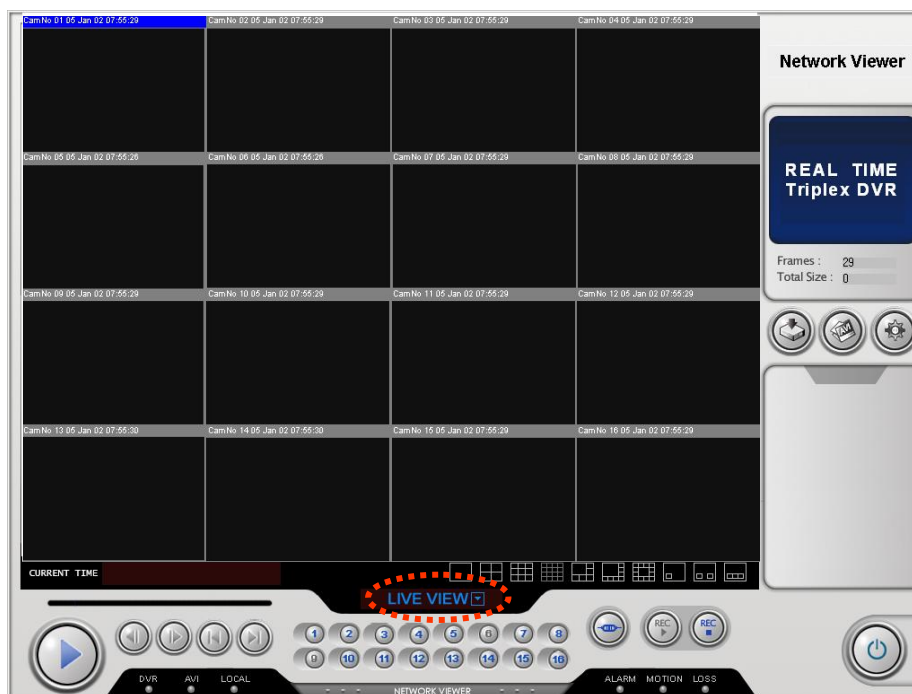
To connect to DVR,

1. Press Setup button and select AVI codec and other options.
2. Press Log In (Connect) button and type in your ID and password.

* DVR sends only channels which are displayed on NetViewer. If you choose only one channel, it sends only that channel to increase frame rate over the network.

⊙ CHAP 10. NETWORK VIEWER

5.2 Playback Mode
This mode enables you to access the recording list in the remote DVR.
When this function is on, "DVR" LED below is activated.

No	Names	Description
1	HDD Selection	Select HDD between master and slave
2	Event List	Access event list in the remote DVR
3	Record List	Access all recording list in the remote DVR
4	Date/Time Search	Search the video upon your specific date/time in the remote DVR

• To connect to Playback mode,
1. Press Setup button and select AVI codec and other options.
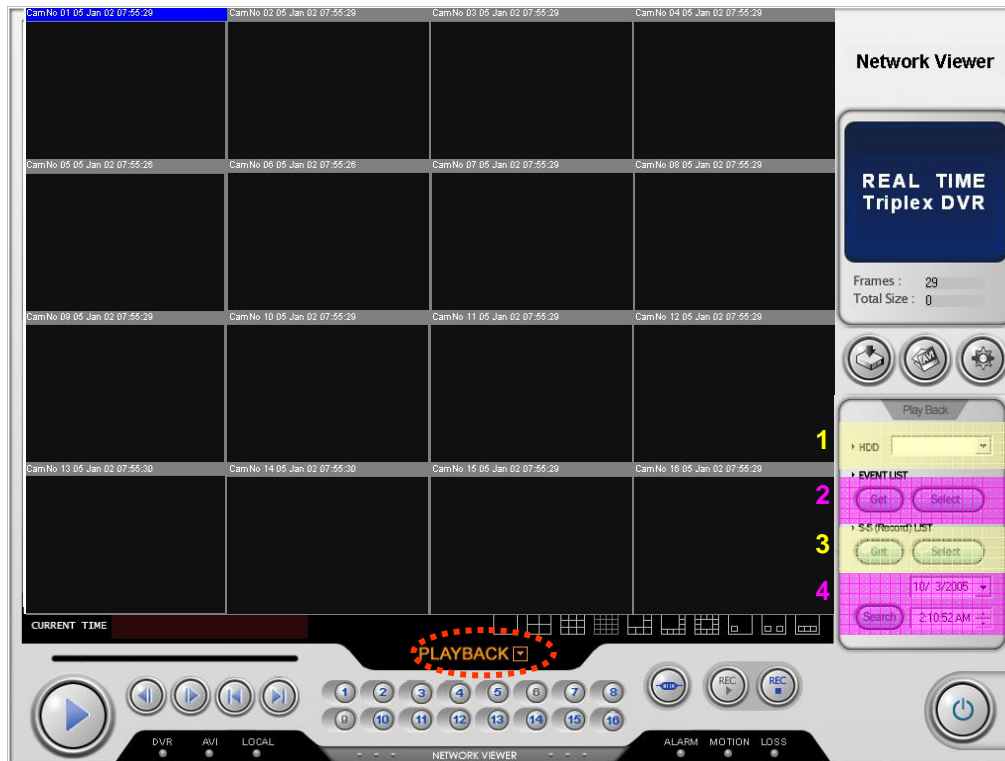2. Press Log In button and type in your ID and password.
3. Press Play button and then you will get live display.
4. Click operation mode and select playback mode.

• To access event list or all recording list,
1. Select a HDD between master and slave in the HDD selection menu.
2. Press Get button first and then press Select button to see the list.
3. Event or all recording list will be shown in the screen.
4. Select your desired one from the list.
5. Press Play button and you will get playback of the video.
To pause the video, press Play button again.

⦿ CHAP 10. NETWORK VIEWER

5.3 Drive Scan Mode

You can take out HDD from DVR and plug it into your PC. And you can see the video from that HDD using this function.
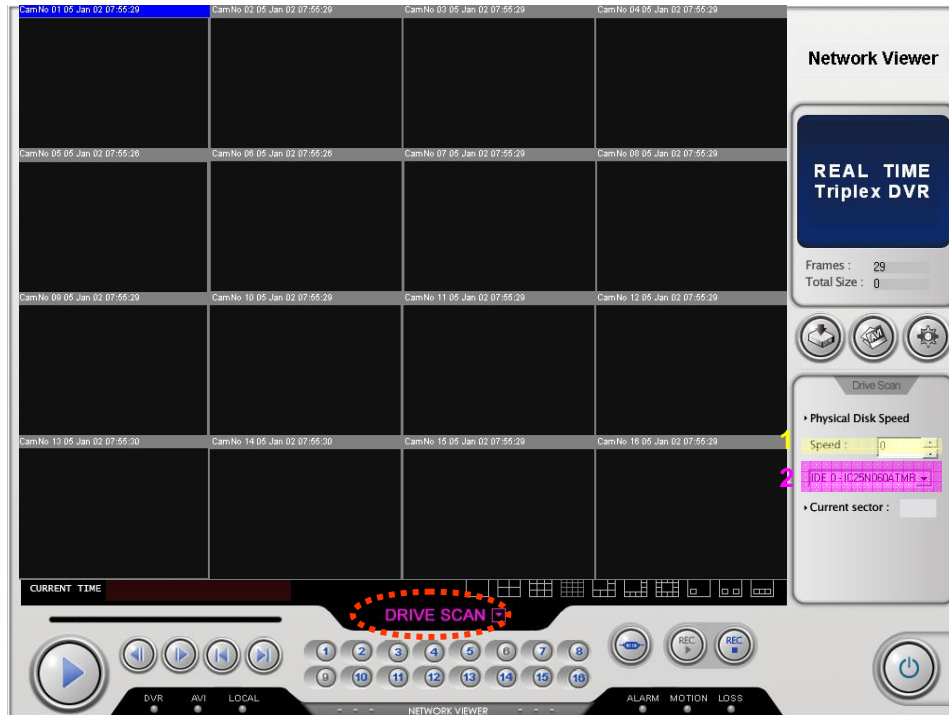
No	Names	Description
1	Playback Speed	Select playback speed
2	HDD Selection	Select the HDD

• To connect to Drive Scan mode,

1. Click operation mode and select Drive Scan mode.
2. Select playback speed and select HDD used in DVR.
3. Press Play button.
4. You will get the videos from the HDD.

◉ CHAP 10. NETWORK VIEWER

5.4 File / USB Back-up Playback Mode
This mode enables you to retrieve date stored in local PC or USB memory stick.
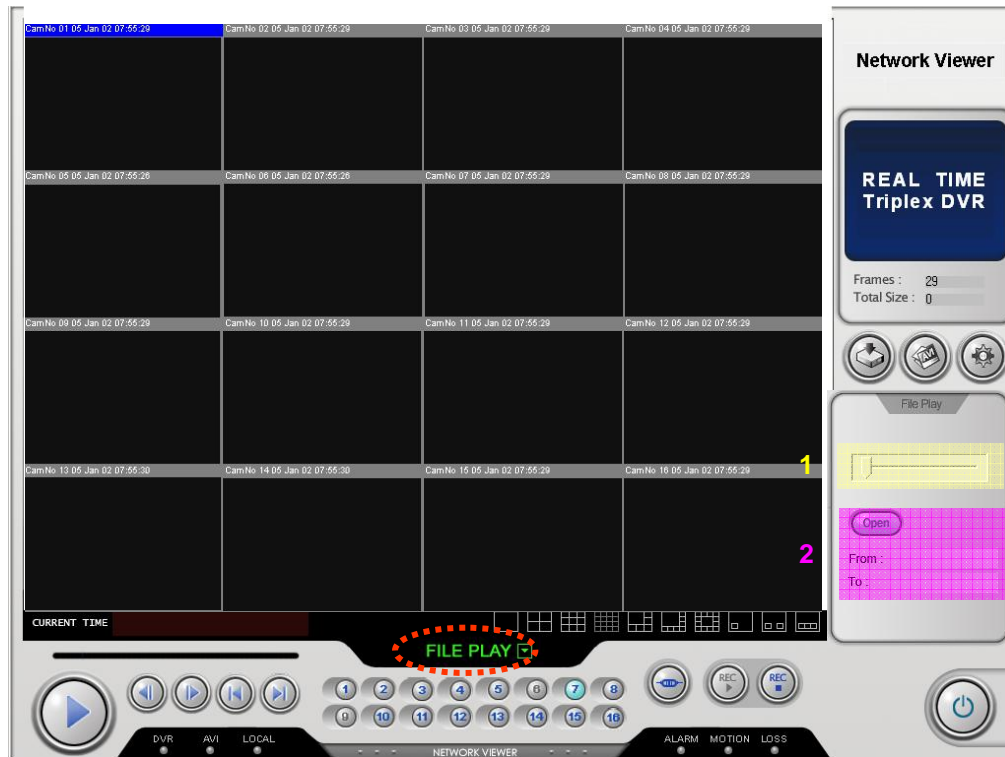
No	Names	Description
1	Track Bar	Click and drag to go to any point of the file
2	File open and time	Click Open button to select file to retrieve.

• To connect to File / USB Back-up Playback mode,

1. Click operation mode and select FILE PLAY mode.
2. Select the file from hard drive or USB memory stick using OPEN button.
3. Press Play button to start Playback and to Pause, press same button.

◉ CHAP 10. NETWORK VIEWER

5.5 CD Playback Mode
This mode enables you to play video back up CD.

No	Names	Description
1	Track Bar	Click and drag to go to any point of the file
2	Start / Stop	Start/Stop of file copy from CD to local hard drive (c:\)

• To connect to CD Play mode,

1. Click operation mode and select CD Play mode.
2. Select the drive that CD-ROM is installed in the Drive Selection menu.
3. To play video from CD, press Play button and to Pause, press same button.
4. To save the video from CD to your local hard drive, use Start and Stop buttons.

◉ CHAP 11. WEB VIEWER - CONNECT DVR VIA WEB BROWSER

1. System Requirement

 - Pentium III or above recommended
 - O/S : Microsoft Windows XP, 2000
 - 256MB RAM or above recommended
 - Super VGA 16M or above recommended
 - 10/100 Base T network card for LAN operation

2. Network Environment

	Client PC	DVR
Minimum	More than 128 Kbps	More than 128 Kbps
Recommend	More than 3 Mbps	More than 3 Mbps

3. Connect DVR via Web Browser

 1. Confirm the registration of Network ID and Password using Network Viewer during installation of DVR.
 2. Confirm Network ID and Password in Network Setup Menu of DVR during installation of DVR..
 3. You should register Network ID and Password before connecting DVR via web browser.
 4. Launch Web Browser.
 5. Go to **www.dvrviewer.com**, then you will get the screen below. (If your computer system blocks ActiveX control, please see next section, **4. Web Browser setup to enable Web Viewer**, to enable this function.)
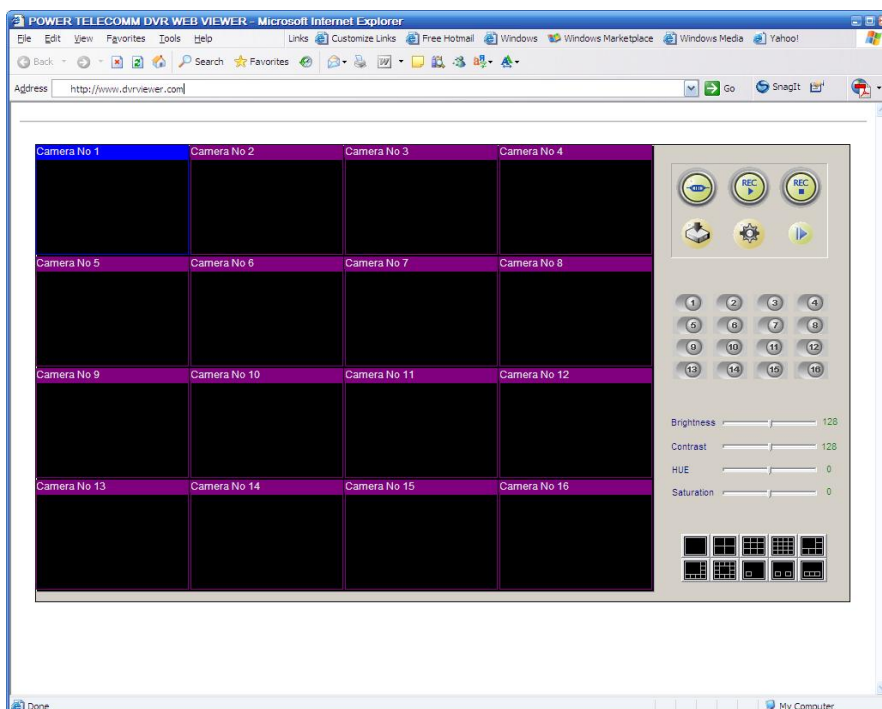
◉ CHAP 11. WEB VIEWER - CONNECT DVR VIA WEB BROWSER

4. Web Browser setup to enable Web Viewer
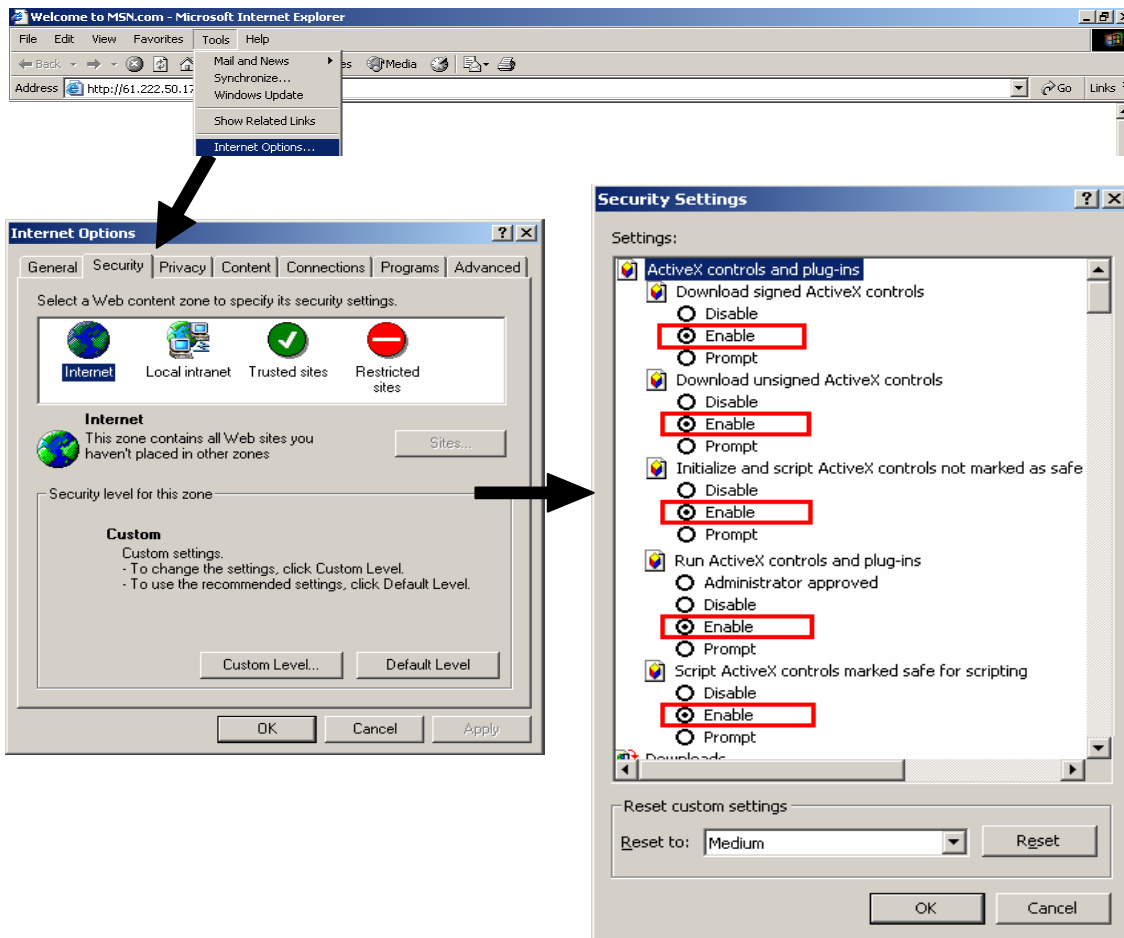
> **Note**   **If you experience that your web browser protect Web Viewer,**
>
> 1. Enable all option regarding ActiveX controls.
> 2. Open web browser, select Tools / Internet Options /Security /Custom Level, and select Enable following to the example below.
> 3. Go to **www.dvrviewer.com** again.

◉ CHAP 11. WEB VIEWER - CONNECT DVR VIA WEB BROWSER

5. Functions and Network Setup
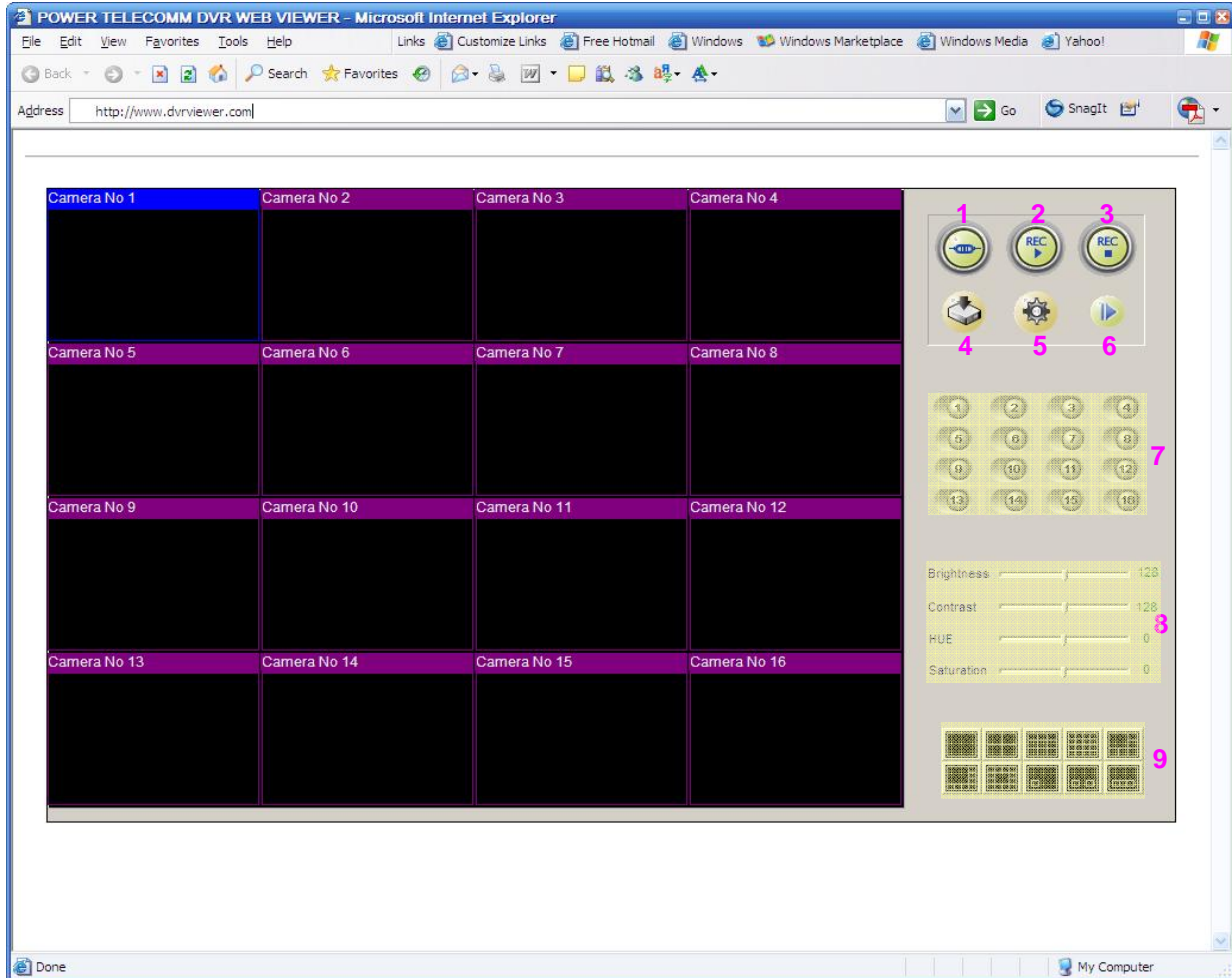
No	Names	Description
1	Log In	Connect to DVR
2	Record Start	DVR record start
3	Record Stop	DVR record stop
4	Record into PC	Record coming video from DVR, Record Start/Stop toggle
5	Image Capture	Still image capture in JPEG format
6	Playback	Playback videos in DVR and local PC
7	Channel Selection	Select channel for each video window
8	Video Adjustment	Adjust Brightness, Contrast, Hue and Saturation for each channel
9	Display Mode	Select display mode

◉ **CHAP 11. WEB VIEWER - CONNECT DVR VIA WEB BROWSER**

6. Log In
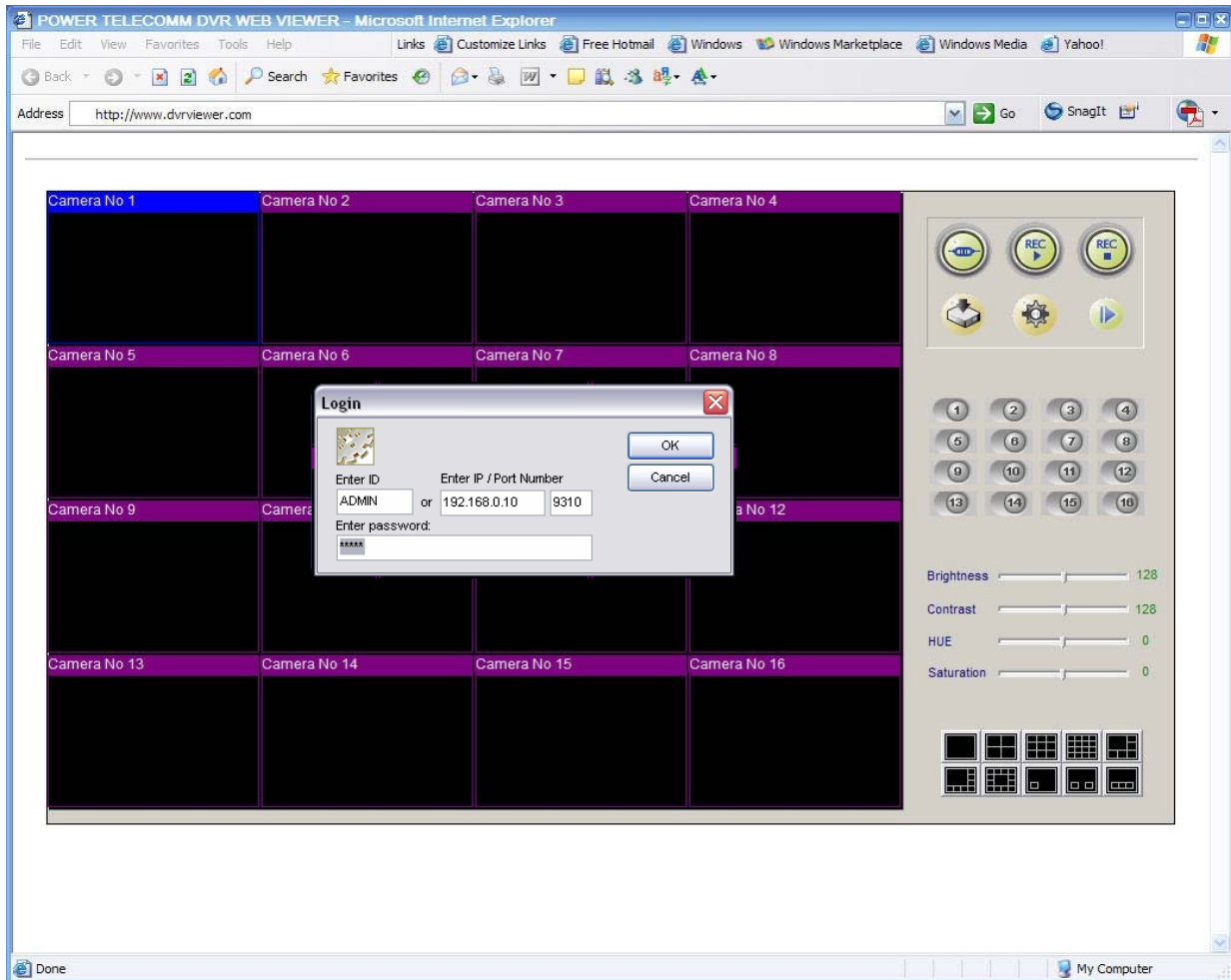
To connect to DVR,

1. Press Log In button and type in your Network ID and password or IP address of DVR.
   Please remember that Network ID and Password should be authenticated during installation of DVR and Network Viewer.
2. Press OK button and then you will get live display.

◉ CHAP 11. WEB VIEWER - CONNECT DVR VIA WEB BROWSER

7. Playback

To retrieve video from DVR or local PC,

1. Press Playback button, then you will see sub window.
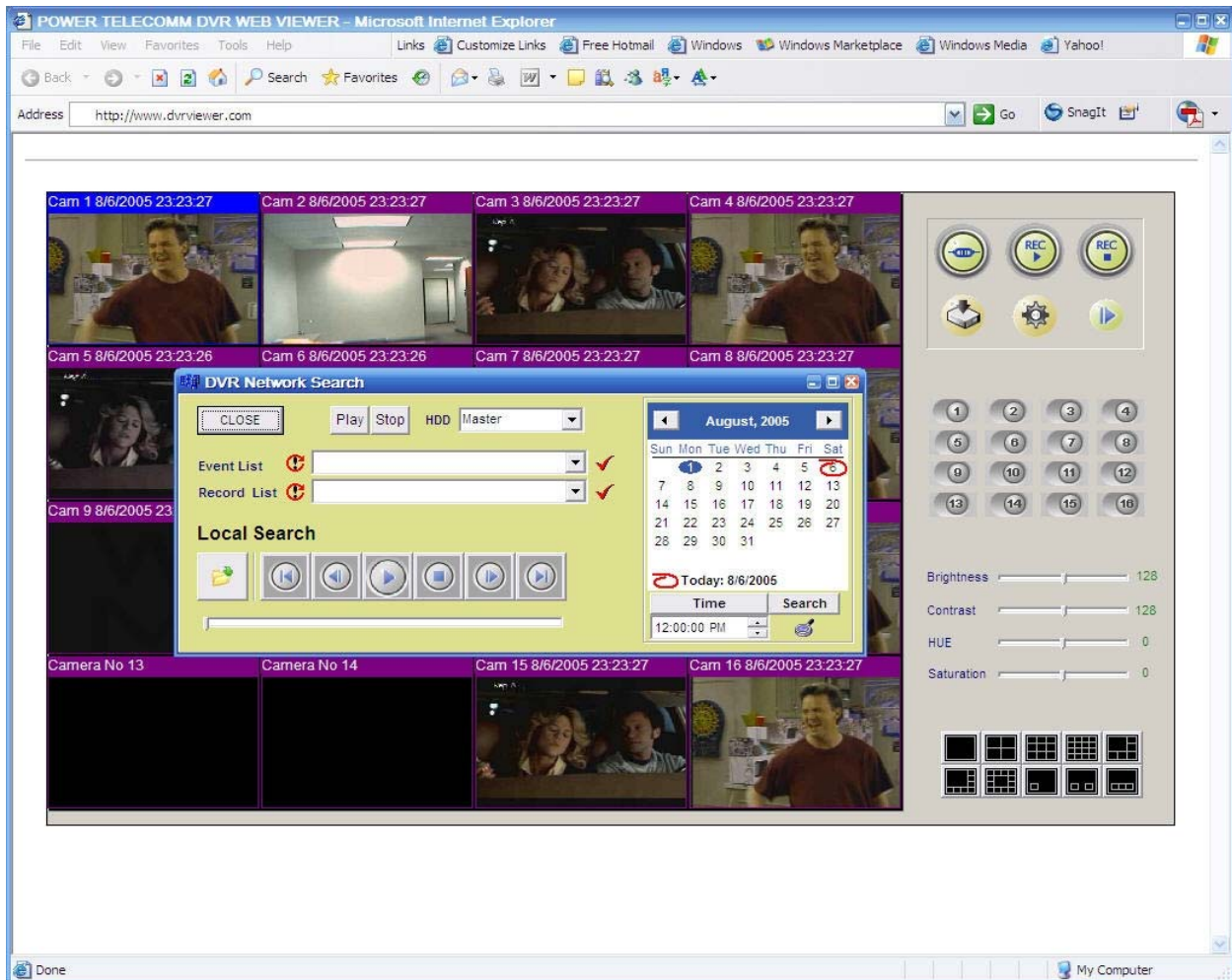
2. You can retrieve video from DVR in 3 different ways.
   - Select master or slave HDD of DVR.
   - Press Event List button, to get sensor, motion and network driven recording list.
   - Press Record List button, to get schedule and manual recording list.
   - Set Calendar and time, to get recording list of a specific time period.
   - Press Play and Stop button to start and stop playback.

3. You can retrieve video from local PC.
   - Press directory button, to designate the video file in your PC.
   - Use 6 buttons for Go-to-start, Reverse frame advance, Playback, Stop, Forward frame advance and Go-to-end.

◉ CHAP 12. SYSTEM INFORMATION

It shows all information about the DVR system like HDD, CD-burner and software version.
You can access system information easily just by pressing INFO (Information) button.

1) MASTER
  - Model : It shows the model no. of Master HDD.
  - Size   : It shows the size of Master HDD.
  - Rec.   : It means the capacity of used HDD.
  - Over   : It means how many times the HDD is overwritten.

2) SLAVE
  - Model : It shows the model no. of Master HDD.
  - Size   : It shows the size of Master HDD.
  - Rec.   : It means the capacity of used HDD.
  - Over   : It means how many times the HDD is overwritten.

3) CD-RW
  - It shows the model no. of CD-Burner installed in the DVR.

4) USB DRIVE
  - It shows available space in USB memory stick.

5) Version
  - It shows current software version of DVR.

• To exit from this menu, press INFO (Information) button again.

⊙ CHAP 13. Q & A

① **The system power does not turn on.**

☞ Check if the power cable is connected correctly.

☞ Check if the input voltage is correct.

☞ If the system power does not turn on when the power cable is connected correctly,

please contact the local distributor or manufacturer.

② **The system power is turned on, but no video is displayed on the monitor.**

☞ Check if the monitor power cable is connected properly

☞ Check to make sure the monitor is turned on.

☞ Check if the video output cable of the DVR is properly connected to the monitor.

☞ Unplug the power cable and plug in again.

③ **The camera numbers are displayed on the screen, but camera images are not displayed.**

☞ Check if the camera video output is connected to the DVR system correctly.

☞ Check if the power cable on the camera is connected correctly.

☞ Check if the video cable connecting the camera to the DVR system has a problem.

☞ This problem can occur because of weak video signal if the video is coming through

the video splitter when the video is connected to multiple systems. Connect the camera

directly to the DVR.

☞ Turn off DVR system and turn it on again.

④ **The camera video is shown on the screen, but the system doesn't record video.**

☞ Check to make sure the recording mode in the recording setting mode is not set to "NONE".

☞ Turn off the DVR and turn it on again.

⑤ **It is impossible to search through the recorded video.**

☞ Check if there is a recorded video data at the time that you are trying to search on the table.

☞ If there is no recorded video data, check to make sure the recording mode in the recording

setting mode is not set to "NONE".

CHAP 12. Q & A

6 **Audio data recorded with video data is not playing.**

☞ Check if the audio recording option is correctly set to the camera you wish to record audio.

☞ Check if the audio mute is enabled.

☞ Check if the microphone and speaker port on the rear of DVR system are connected correctly.

☞ Check if the connected microphone is working properly.

☞ Check if the connected speaker is working properly.

7 **Color of videos are strange or videos are shown abnormally.**

☞ Check if the camera connected to the system has a problem. Check to make sure the camera is not damaged by trying another camera into a working video output.

☞ Check if the video system setting is the same with your camera system. Depending on your region, the camera system can support either PAL, or NTSC. Depending on the camera system, the video process can differ greatly, therefore it can be difficult to recognize the video data if the video system setting is different from the camera system.

8 **There are a lot of (screen) noise on the image.**

☞ Check if the video signal output from the camera has a problem.Check to make sure the camera is not damaged by trying another camera into a working video output.

☞ Check if the video cable connecting the camera and the DVR is cut, cross-wired, or shorted.

☞ Check if there is a high voltage wire around the video cable connecting the camera to the DVR system. It can cause the noise problem to decrease video quality.

☞ Check if the video cable connecting the camera to the DVR system is the correct video cable. When a normal power-supplying cable is used instead of the video cable, screen noise can be generated.

9 **Sometimes the system restarts itself.**

☞ The system can restart itself due to watchdog function when any problem occurs to the DVR.

10 **The connected sensor is not operating.**

☞ Check if the type of sensor in Event Setup menu is the same with the connected sensor.

☞ Check if the system is set to use the sensor in recording schedule window in the recording setting menu.

☞ Check if the power cable of the sensor is properly connected.

☞ Check if the signal cable of the sensor is properly connected.