

# Digital Video Surveillance System

## Engineering Manual

The picture might differ according to the specification and model.  
Contents of this user manual are protected under copyrights and computer program laws.

**HDD Used** : SATA HDD  
**Edition** : 20 Aug 2008

### Thank You

Thank you for purchasing !  
Before operating the system, please read this manual thoroughly and retain it for future reference.



# Contents

<b>1</b>	<b>SYSTEM SETTING.....</b>	<b>1</b>
1.1	PASSWORD RESET.....	1
1.2	FACTORY DEFAULT.....	1
1.3	FIRMWARE UPGRADE.....	2
<b>2</b>	<b>TIPS ON MENU SETTING.....</b>	<b>4</b>
2.1	LEVEL OF USER AUTHORIZATION (DVR & REMOTEMANAGER).....	4
<b>3</b>	<b>TIPS ON HARDWARE SETTING.....</b>	<b>8</b>
3.1	HOW TO CHANGE MCU CHIP.....	8
3.2	HOW TO INSTALL VIDEO LOOP-OUT BOARD (16 CH 240 FPS RECORDING MODEL ONLY).....	9
3.3	REWORK OF PTZ CHIP (ONLY FOR DVR WITH IDE HDD ONLY).....	10
3.4	PIN ASSIGNMENT OF TERMINAL BLOCK.....	11
<b>4</b>	<b>UTILITY SOFTWARE.....</b>	<b>13</b>
4.1	HDD CAPACITY CALCULATOR.....	13
4.2	[DAYLIGHT SAVING TIME] PATCH DOWNLOAD FROM MICROSOFT.....	13
<b>5</b>	<b>NETWORK SETTING.....</b>	<b>15</b>
5.1	DVR SETTING.....	15
5.2	REMOTEMANAGER SETTING.....	17
<b>6</b>	<b>KEYBOARD CONTROLLER.....</b>	<b>21</b>
6.1	SYSTEM CONNECTION.....	21
6.2	DVR SETTING.....	22
6.3	KEYBOARD SETTING.....	23
<b>7</b>	<b>IR REMOTE CONTROLLER.....</b>	<b>24</b>

# 1 System Setting

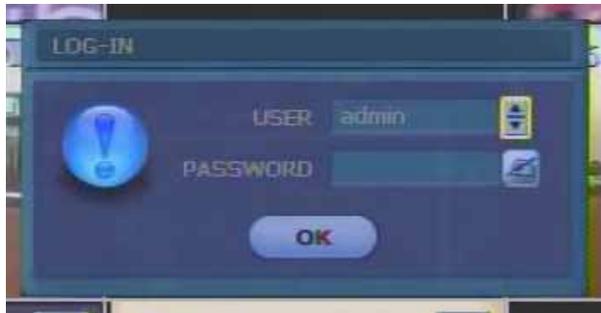
## 1.1 Password Reset

User can initialize admin password previously set and return to default password by using “Enter” button on front panel.

- 1) Keep pressing “Enter” button for about **15** seconds, until [LOG-IN] windows shows.
- 2) Input new desired password in [PASSWORD] box (Default admin password is “**1234**”)



\* Case photo may differ depending on the model \*



## 1.2 Factory Default

If the system is not properly operated during normal operation, booting or shutdown process, user can activate cold reboot (factory default) by using “Return” button on front panel.

- 1) Keep pressing “Return” button for about **15** seconds.
- 2) Then, the system reboots and whole configuration will be restored to factory default value.



\* Case photo may differ depending on the model \*

---

**Note** All the configuration values made by user will be deleted.  
The system setting will be originated by factory defaults. However, video data recorded is protected.

---

### 1.3 Firmware Upgrade

User can easily upgrade new firmware by using USB port on front or rear panel.

- 1) Save the latest firmware files in **ROOT directory** of your USB memory stick, and connect USB memory stick to USB port. For your reference, there are three different firmware(s) by each model – 4, 8 & 16 Ch.



- 2) Go to the menu of [MENU > SYSTEM INFO], and select [UPGRADE]



- 3) Select "USB HDD/Stick" in [METHOD], and press [SCAN]. Then, device name will be shown.

There are three kinds of METHOD(s) for upgrading firmware. User can select one of them.

- Using "DVD/CD-ROM"
  - CD+R , CD-R , DVD+R , DVD-R , DVD+RW and DVD-RW are available.
- Using "USB HDD/Stick"
  - One of the most convenient ways
- Using "FTP"
  - In this case, user has to input [HOST ADDRESS] of host server (TFTP Server).



- 4) Press [OK] to proceed firmware upgrade.
- 5) Click [OK] to reboot DVR after upgrade process is completed.
- 6) After system rebooting, check the [NEW VER] whether new version of firmware is successfully installed.



---

<b>Note</b>	<b>Before F/W Upgrade</b> It is recommended to install internal HDD before firmware upgrade, because system may use a certain sector of HDD as a virtual memory.
-------------	---

---

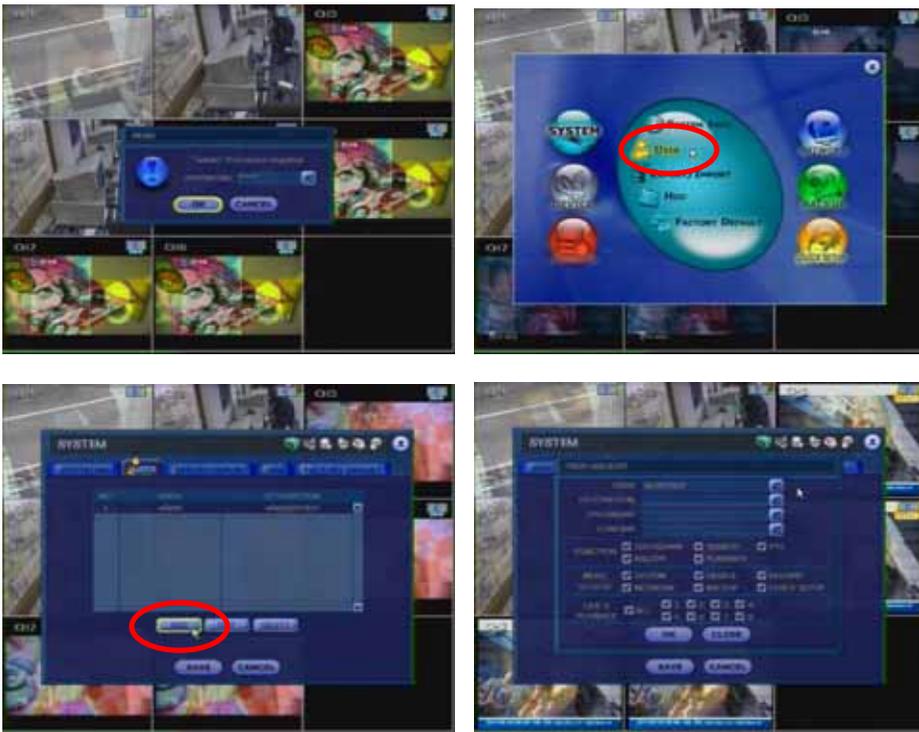
## 2 Tips on Menu Setting

### 2.1 Level of User Authorization (DVR & RemoteManager)

The administrator can control full function of the system (DVR and RemoteManager), and add the <New User> with a different authorized level as much as you can and also delete/edit <User> details.

#### 2.1.1. Setting of Authorized Level at DVR

- 1) Login the system as “admin” level. Default password for admin is “1234”.
- 2) Go to the menu of [SYSTEM > USER], and click [ADD].
- 3) You can add or edit user details.



#### Example : [How to set a <User> with “Live Monitoring only”]

- 1) Add a new user name, description and password.
- 2) Disable all options in [FUNCTION] and [MENU ACCESS].
- 3) In [LIVE & PLAYBACK], select channel(s) for live monitoring, and click [OK].
- 4) A new user has been added, and click [SAVE].

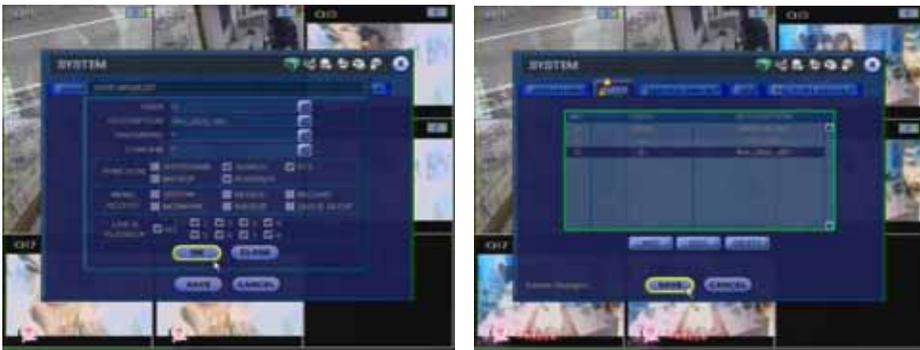


- 5) To verify this limited function,
- Go to the menu of [TOOL > USER]
  - Login as the user set as above.
  - User can get the live images. However, when user clicks <Playback>button or select any other function, warning message of “Permission not granted” will pop up.



**Example : [How to set a <User> with “Live Monitoring, Playback and PTZ” only]**

- 1) Add a new user name, description and password.
- 2) Disable all options in [FUNCTION], except for [SEARCH] and [PLAYBACK].
- 3) Disable all options in [MENU ACCESS].
- 4) In [LIVE & PLAYBACK], select channel(s) for live monitoring and playback, and click [OK].
- 5) A new user has been added, and click [SAVE].



- 6) To verify this limited function,
- Go to the menu of [TOOL > USER]
  - Login as the user set as above.
  - User can get the live images and search the recorded image. PTZ control is available, too.



- 7) However, when user selects any other function, warning message of "Permission not granted" will pop up.

### 2.1.2. Setting of Authorized Level at RemoteManager (RMS)

Level of authority for the user is linked up between DVR and RemoteManager.

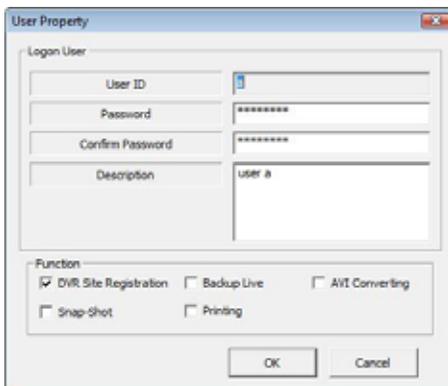
If a user has been restricted for a certain permissions in DVR operation such as "Live and Playback of each channel, Search, PTZ Control and Backup", then those restrictions will also be applied for same user when operating RemoteManager.

**Example : [How to set a <User> with “DVR Site Registration” only]**

- 1) Click DVR Site registration Icon  to open Site Manager.
- 2) In Site Manager, select [User List], and then select a certain user to assign authority level.



- 3) In User Property, tick the function you want to assign, then click OK.



**Note Users in RemoteManager’s User List**

Administrator (admin) of RemoteManager can assign each user’s authority.

- 1) Login the RemoteManager as admin, then add or modify user’s authority.

- \* DVR Site Registration (add / modify DVR sites in RMS)
- \* Backup Live (backup live video to remote PC)
- \* AVI Converting (convert SSF file to avi format)
- \* Snap-Shot (saving live image or VOD image to remote PC)
- \* Printing (print out live image or VOD image)

- 2) The authority of a certain user at RemoteManager is governed by the permission level set in both DVR and RemoteManger, that is, such user will be restricted according to the authority setting in DVR and RemoteManager as well.

**Note** Remote user should be pre-registered in DVR with designated permission level.

If user has been registered in RemoteManager only (not in DVR), then such user can not be connected to the DVR via RemoteManager.

### 3 Tips on Hardware Setting

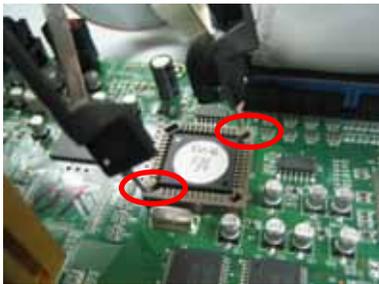
#### 3.1 How to change MCU Chip

MCU Chip delivers the command from DVR's main board to front panel, and thus controls full function of front buttons placed on front panel. If any front button is mal-functioned, MCU Chip has to be replaced.

- 1) Turn off and un-plug power cable from DVR. Open top cover of DVR. The MCU is located near the IDE cable
- 2) User has to use the dedicated [PLCC Extractor] tool to remove MCU Chip.



- 3) Put the tool into 2 slots of MCU socket, and gently pull out the MCU Chip



- 4) Put the new MCU into socket, and press down it to make sure it is firmly inserted into socket. Please note one of corner is in different shape (i.e. fool proof design). The MCU should be put in right position on the socket.



- 5) Turn on DVR, check MCU version in the menu of [SYSTEM > SYSTEM INFO].

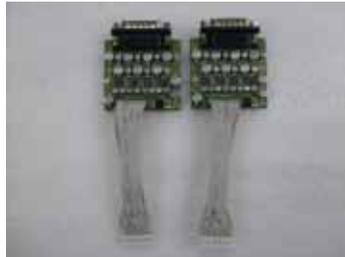
### 3.2 How to install Video Loop-Out Board (16 Ch 240 fps recording model only)

User has to install "Loop Board (Optional Item)" at a certain DVR model to get the loop-out video signal.

- 1) Firstly, make sure that you have following items ready for installation.



[8 Ch Loop-Out Board]



[16 Ch Loop-Out Board]

- 2) Connect the other end of loop cable at main board as below.
- 3) Firmly install loop board at rear plate of DVR case.  
Make sure that loop cable be connected as below photo, and should not be twisted.



[8 Ch Installation]



[16 Ch Installation]



---

**Warning**

- 1) Loop cable shall be provided as glue-mounted on loop board ex factory.
  - 2) If loop cable is reversely connected by mistake, it may leads to the burning of connected boards.
-

- 4) After installation of loop-out board inside the DVR, user can provide another device with video loop-out signal by using "External BNC Cable" as below.



[8 Ch Loop-Out]



[16 Ch Loop-Out]

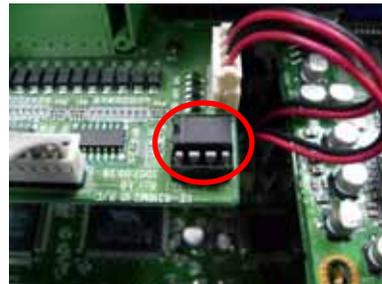
### 3.3 Rework of PTZ Chip (DVR with IDE HDD only)

For the PCB version v1.01 or before of IDE HDD-DVR, user may occasionally encounter the problem in controlling PTZ camera for a specific protocol due to weak PTZ command signal generated. In this case, we recommend user to rework PTZ chip according to following procedure or contact us for technical assistance.

- 1) Firstly, pull out "PTZ Chip (MAX3485)" from the socket on PCB (Main Board for 4-Ch & 8-Ch DVR and I/O Board for 16 Ch DVR).



[Main Board of 4-Ch &amp; 8-Ch DVR ]



[I/O Board of 16-Ch DVR]

- 2) Make short-circuited among pin # 2, 3 and 8 as below.  
(If necessary, contact us to get the reworked chip)



[Reworked PTZ Chip]

- 3) Put back reworked chip to the socket on PCB.



[Main Board of 4-Ch & 8-Ch DVR ]



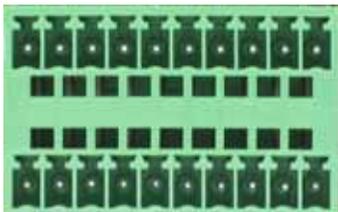
[I/O Board of 16-Ch DVR]

**Note** Above is applicable only on PCB v1.01 or before of IDE HDD Version DVR.

### 3.4 Pin Assignment of Terminal Block

#### [4 Ch Model]

1 2 3 4 5 6 7 8 9 10



11 12 13 14 15 16 17 18 19 20

No.	Sensor
2	Sensor 1
3	Sensor 2
4	Sensor 3
5	Sensor 4
6	Sensor Ground (1~4)
12	Sensor 5
13	Sensor 6
14	Sensor 7
15	Sensor 8
16	Sensor Ground (5~8)

No.	Alarm
7	Alarm 1 (+)
8	Alarm 2 (+)
9	Alarm 3 (+)
10	Alarm 4 (+)
17	Alarm 1 (-)
18	Alarm 2 (-)
19	Alarm 3 (-)
20	Alarm 4 (-)

No.	PTZ
1	RS 485 D+
11	RS 485 D-

4 sensor-inputs for 4 Ch model (Pin # 12~16 : Disabled)



## 4 Utility Software

### 4.1 HDD Capacity Calculator

The actual HDD capacity largely varies depending on the site situation and DVR setting such as movement complexity, recording mode (continuous or motion detection), PTZ camera and night-time noise, etc. The capacity calculated by HDDCalculator is just for your reference only based on continuous recording mode.

#### [Input Option]

- 1) Channel Selection : 4, 8 & 16 Ch
- 2) Video Mode : NTSC or PAL
- 3) Installed HDD Size
- 4) DVR Model : 100/120 fps, 200/240 fps, 400/480 fps



CH	ON/OFF	Resolution	FPS	Quality	Complexity	Audio	Rec.Time(H)	Data/Day (MByte)
1	On	CV	30	Standard	Normal	Off	24	
2	On	CV	30	Standard	Normal	Off	24	
3	On	CV	30	Standard	Normal	Off	24	
4	On	CV	30	Standard	Normal	Off	24	
5	On	CV	30	Standard	Normal	Off	24	
6	On	CV	30	Standard	Normal	Off	24	
7	On	CV	30	Standard	Normal	Off	24	
8	On	CV	30	Standard	Normal	Off	24	
9	On	CV	30	Standard	Normal	Off	24	
10	On	CV	30	Standard	Normal	Off	24	
11	On	CV	30	Standard	Normal	Off	24	
12	On	CV	30	Standard	Normal	Off	24	
13	On	CV	30	Standard	Normal	Off	24	
14	On	CV	30	Standard	Normal	Off	24	
15	On	CV	30	Standard	Normal	Off	24	
16	On	CV	30	Standard	Normal	Off	24	

### 4.2 [Daylight Saving Time] Patch Download from Microsoft

In 2007, the start and end dates for Daylight Saving Time (DST) in much of the USA and Canada was changed, extending the overall duration. Unless certain updates are applied to your P/C which RemoteManager is installed at, the time zone setting may be incorrect during extended period.

It may cause the time difference on the system clock of RemoteManager P/C, and thus RemoteManager will playback the image "one hour jump back to past" when user clicks time table on search mode.

If you find above problem, then visit the MS Support Center and download patch file. You can refer to following site [http://support.microsoft.com/gp/cp\\_dst](http://support.microsoft.com/gp/cp_dst).

Daylight Saving Time Help and Support Center - Windows Internet Explorer

http://support.microsoft.com/gp/rp\_dst

Daylight Saving Time Help and Support Center

Microsoft  
Help and Support

Help and Support Home | Advanced Search | Product Support Center | Community | Lifecycle | Contact Us | 中文網頁

## Daylight Saving Time Help and Support Center

In 2007, the start and end dates for Daylight Saving Time (DST) in much of the United States and Canada was changed, extending the overall duration. DST now begins on the second Sunday of March (in 2006, March 9), several weeks earlier than in years prior to 2007. DST will end later than usual, on the first Sunday of November (in 2006, November 2), more details on the new DST start and end times can be found [here](#). This results in a new DST period that is approximately three to four weeks longer than in previous years.

Observance of DST, and "Summer Time" in much of Europe, is often different around the world; many areas, countries and territories shift their clocks at different times throughout the year. During these changes, clocks are usually shifted by one hour. Some locations follow a set of standard, uniform rules for the start and end dates of DST, but some locations determine the dates on a much more dynamic basis.

Unless certain updates are applied to your computer, the time zone settings for your computer's system clock may be incorrect during the four-week period. In particular, you must make sure that both your Windows operating system and your calendar programs are updated.

### Do I have to update my computer?

**Home users:** If you use Windows Vista or have Automatic Updates turned on, you may not be affected by the change in daylight saving time. If you want to confirm, follow the steps in the Daylight Saving Time Update Guide below.

**IT professionals and IT managers:** The Daylight Saving Time Update Guide below will quickly lead you to KB articles and downloads for the products you specify in the guide.

### Daylight Saving Time Update Guide

**Note:** You must have [public network enabled](#) to use this guide.

Select the option that best applies to you

- Home user**  
I use a computer at home.
- Workplace user**  
I use a computer at work.
- IT professional**  
I manage a computer network.
- Developer**  
I develop software.
- Small and medium business user**  
I manage a small or medium business network.
- Partner**  
I use a Microsoft partner.
- Handheld device user (cell phones, PDAs, etc.)**  
I use Windows Mobile, Windows CE, or Windows Embedded.

This Daylight Saving Time Update Guide will help you make sure that your computer is updated for the new daylight saving time.

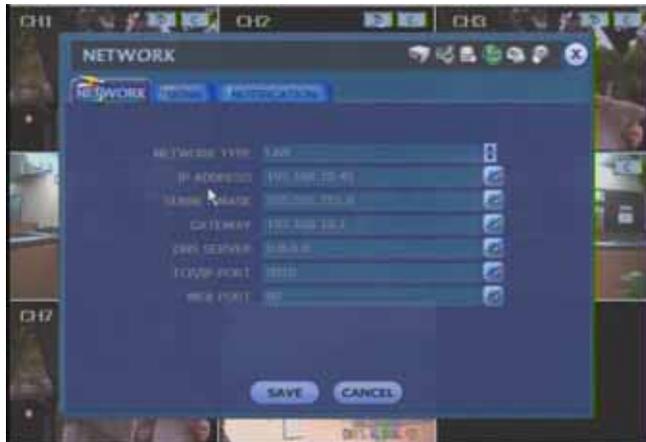
Internet | Protected Mode: Off | 100%

## 5 Network Setting

The system has built-in web server. User can connect to the system through fixed IP or dynamic IP over network, and get the live image and/or remotely manage the system.

### 5.1 DVR Setting

#### 5.1.1. Fixed IP



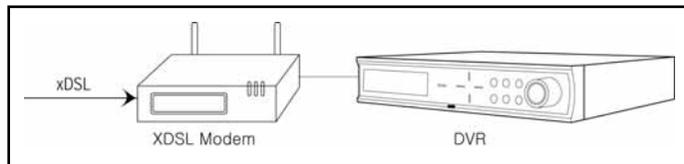
- 1) In <NETWORK> tab, set [NETWORK TYPE] to LAN.
- 2) Enter [IP ADDRESS], [SUBNET MASK] and [GATEWAY] of your Local Area Network.
- 3) DNS SERVER  
User has to input the IP Address of DNS Server provided by ISP (Internet Service Provider) for Internet Connection.
- 4) TCP/IP PORT  
Default value is "9010".  
It is used for remote connection by remote software and user can change to other value, if necessary.
- 5) WEB PORT  
Default value is "80"  
It is used for IE connection and user can change to other value, if Port 80 is blocked by ISP.

DVR needs several ports to be opened for remote image transmission, configuration, time synchronization and etc. Please refer to below port list to make sure that those ports are not blocked by firewall or other network setting.

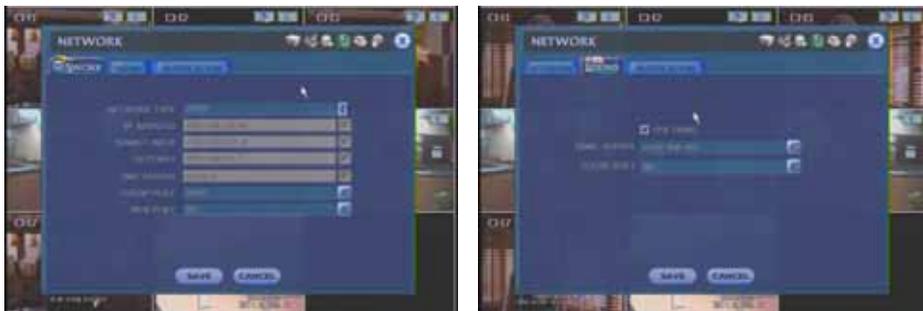
Protocol	Port	Usage	Remark	Editable	Location
TCP	9010	Control port of authorization service	TCP Base Port	Yes	Network/ Network
TCP	9011	Control port of VOD service	TCP Base Port +1		
TCP	9012	Data port of VOD service	TCP Base Port +2		
TCP	9013	Control port of Live service	TCP Base Port +3		
TCP	9014	Data port of Live service	TCP Base Port +4		
TCP	9017	System log service	TCP Base Port +7		
TCP	8002	DVR system time sync service		Yes	System Info & Date/Time Setting
TCP	8003	Event notify socket (requesting port)		Yes	Network/ Notification
TCP	80	Web service		Yes	Network/ Network
TCP	10000	DDNS Server	Fixed		Network/ DDNS

### 5.1.2. Dynamic Public IP

[ In case that xDSL modem is used without router ]

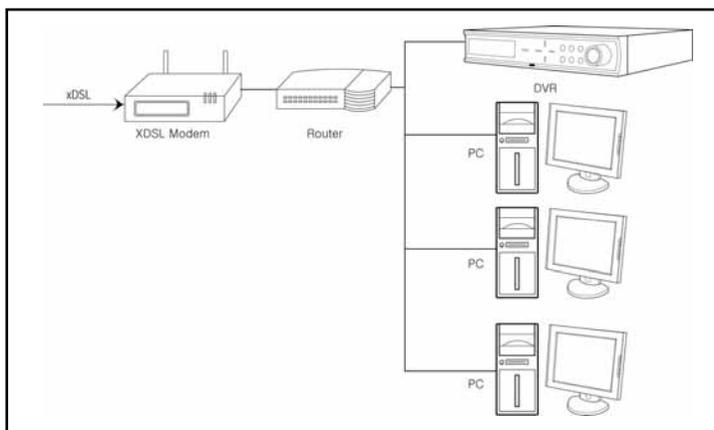


- 1) In <NETWORK> tab, set [NETWORK TYPE] to DHCP
- 2) TCP/IP PORT  
Default value is "9010".  
It is used for remote connection by remote software and user can change to other value, if necessary.
- 3) WEB PORT  
Default value is "80"  
It is used for IE connection and user can change to other value, if Port 80 is blocked by ISP.
- 4) In <DDNS> tab, tick on [USE DDNS]  
**[DDNS SERVER] and [TCP/IP PORT] are fixed. User cannot change these two items.**  
**DDNS Server : [cctv-link.net](http://cctv-link.net), TCP/IP Port : 10000**



**Note** | PPPoE modem is not supportive in this case.

[ In case that xDSL modem is used together with router ]



- 1) In <NETWORK> tab, set [NETWORK TYPE] to LAN or DHCP.
- 2) Enter [IP ADDRESS], [SUBNET MASK] and [GATEWAY] of your Local Area Network.
- 3) DNS SERVER  
User has to input the IP Address of DNS Server provided by ISP (Internet Service Provider) for Internet Connection.
- 4) TCP/IP PORT  
Default value is "9010".  
It is used for remote connection by remote software and user can change to other value, if necessary.
- 5) WEB PORT  
Default value is "80"  
It is used for IE connection and user can change to other value, if Port 80 is blocked by ISP.

---

**Note** DMZ (or Port Forwarding) setting in router should be well configured. DVR needs several ports to be opened for remote image transmission, configuration, time synchronization and etc. Please refer to above port list to make sure that those ports are not blocked by firewall or other network setting

---

- 6) In <DDNS> tab, tick on [USE DDNS]  
[DDNS SERVER] and [TCP/IP PORT] are fixed. User cannot change these two items.  
**DDNS Server : cctv-link.net, TCP/IP Port : 10000**



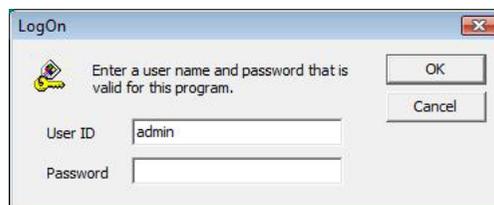

---

**Note** In this case, PPPoE modem can be used if the router is compatible to PPPoE function.

---

## 5.2 RemoteManager Setting

When execute RemoteManager software, you have to input User ID and Password. (User ID & password should be pre-registered in DVR's system setup menu : MENU > SYSTEM > USER). Default password is "1234"



### 5.2.1. Fixed IP

In <DVR Site Registration>, add new DVR site information as below.

- 1) Name : Assign DVR / Site name.
- 2) IP Address (or URL) : Input fixed local IP or public IP
- 3) Port : Input the TCP/IP port value which should be match with the value set in DVR's network setup.  
Location of DVR menu : MENU > NETWORK > TCP/IP PORT (Default value is "9010")
- 4) Web Port : Input the web service port which should be match with the value set in DVR's network setup.  
Location of DVR menu : MENU > NETWORK > WEB PORT (Default value is "80")
- 5) Channel : Input channel number

<b>Note</b>	<p>If user has changed TCP/IP PORT and WEB PORT in DVR's network setup, then user should change following setting accordingly.</p> <ol style="list-style-type: none"> <li>a) Port forwarding setup in router.</li> <li>b) Port values in RemoteManager's DVR site information.</li> </ol>
-------------	---

The screenshot shows a 'Site Property' dialog box with the following fields and values:

Field	Value
Name	233
IP Address(or URL)	192.168.0.233
Port	9010
Web Port	10000
Channel	1-16

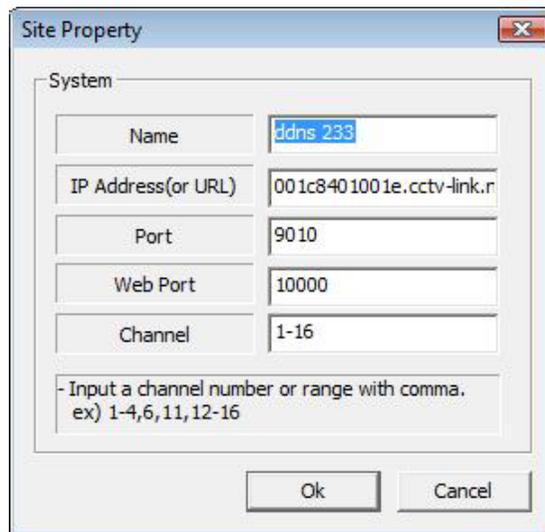
Below the fields, there is a note: '- Input a channel number or range with comma. ex) 1-4,6,11,12-16'. At the bottom of the dialog are 'Ok' and 'Cancel' buttons.

### 5.2.2. Dynamic Public IP

In <DVR Site Registration>, add new DVR site information as below.

- 1) Name : Assign DVR / Site name.
- 2) IP Address (or URL) : MAC address of DVR + cctv-link.net (e.g. 001c84010021.cctv-link.net)
- 3) Port : Input the TCP/IP port value which should be match with the value set in DVR's network setup.  
Location of DVR menu : MENU > NETWORK > TCP/IP PORT (Default value is "9010")
- 4) Web Port : Input the web service port which should be match with the value set in DVR's network setup.  
Location of DVR menu : MENU > NETWORK > WEB PORT (Default value is "80")
- 5) Channel : Input channel number.

<b>Note</b>	<p>If user has changed TCP/IP PORT and WEB PORT in DVR's network setup, then user should change following setting accordingly.</p> <ol style="list-style-type: none"> <li>a) Port forwarding setup in router.</li> <li>b) Port values in RemoteManager's DVR site information.</li> </ol>
-------------	---



The 'Site Property' dialog box contains the following fields and values:

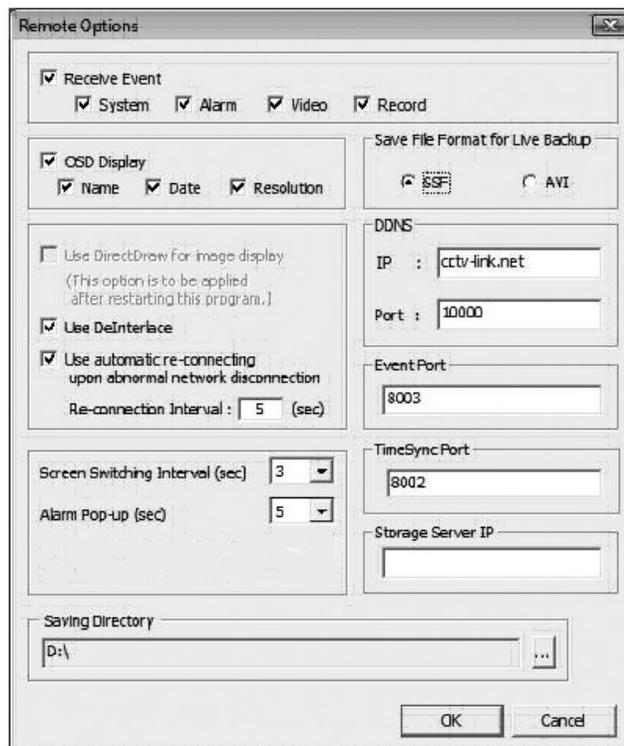
Field	Value
Name	ddns 233
IP Address(or URL)	001c8401001e.cctv-link.net
Port	9010
Web Port	10000
Channel	1-16

Below the fields, there is a note: "Input a channel number or range with comma. ex) 1-4,6,11,12-16". At the bottom, there are 'Ok' and 'Cancel' buttons.

In <Remote Options>, ], input default DDNS IP address and Port No.

**DDNS Server : [cctv-link.net](http://cctv-link.net), TCP/IP Port : 10000**

**[DDNS SERVER] and [TCP/IP PORT] are fixed. User cannot change these two items.**



The 'Remote Options' dialog box contains the following settings:

- Receive Event
  - System  Alarm  Video  Record
- OSD Display
  - Name  Date  Resolution
- Use DirectDraw For image display  
(This option is to be applied after restarting this program.)
- Use DeInterlace
- Use automatic re-connecting upon abnormal network disconnection  
Re-connection Interval : 5 (sec)
- Screen Switching Interval (sec) : 3
- Alarm Pop-up (sec) : 5
- Save File Format for Live Backup :  ASF  AVI
- DDNS
  - IP : cctv-link.net
  - Port : 10000
- Event Port : 8003
- TimeSync Port : 8002
- Storage Server IP : [Empty field]
- Saving Directory : D:\

At the bottom, there are 'OK' and 'Cancel' buttons.

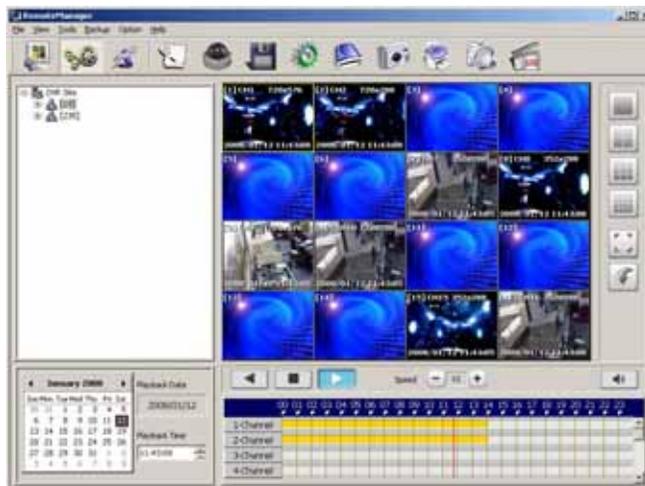
### 5.2.3. Connection for Live Monitoring

- 1) Select Live Mode icon 
- 2) Select a site from the DVR Site panel and drag it to the Channel Screen.



### 5.2.4. Connection for VOD Playback

- 1) Select Playback (VOD) Mode icon 
- 2) Select a site from the DVR Site panel and drag it to the Channel Screen.
- 3) User can search recorded video by selecting the date on calendar and input playback time (or click on the 0~24 hour slide bar)



## 6 Keyboard Controller

Keyboard Controller can be used to control PTZ cameras connected to the DVR and multiple DVR(s) simultaneously for effective system management.

### 6.1 System Connection

- 1) Firstly, make sure that you have following items ready for system setting.



[Keyboard Controller, Junction Box and RS-485 Cable]

- 2) Open the top cover of junction box, and make sure that jumper is located at "RS485" position.



- 3) Connect the keyboard and junction box with RS-485 cable.



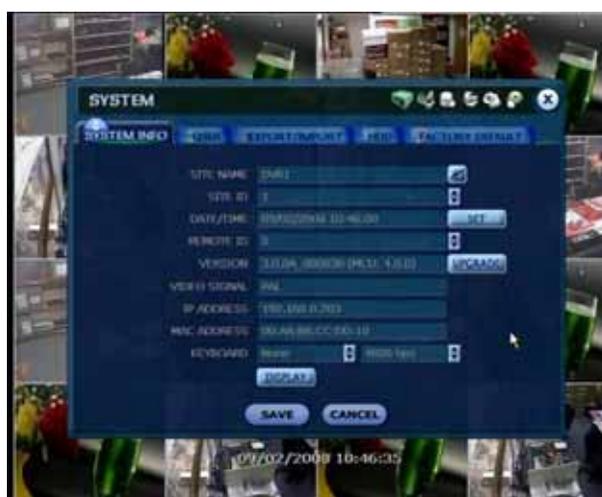
- 4) Connect the junction box with DVR and PTZ camera as below.



**Note** When you connect RS-485 cable, be careful for the polarity ((D+ → D+, D- → D-)).

## 6.2 DVR Setting

- 1) Go to the menu of [SYSTEM > SYSTEM INFO] to get the window as below.
  - Assign the SITE ID of DVR
  - Select the type of KEYBOARD :
    - There are two type of keyboard, TBT & HI-SHARP
    - **Select "TBT" if you use the keyboard same as the photo in this manual.**
  - Select the BAUD RATE of keyboard
    - **The baud rate set in DVR has to be same as the one set in keyboard.**



- 2) Make DVR setting as above, and click SAVE button.

### 6.3 Keyboard Setting

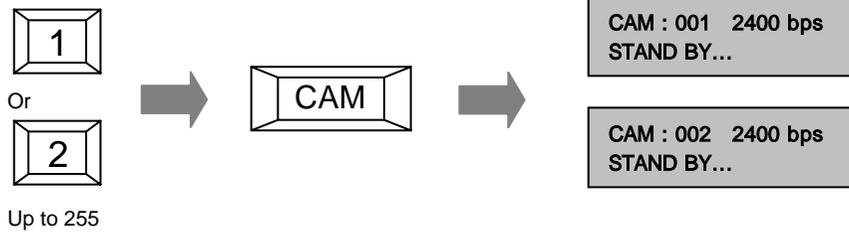
1) Select device address which you want to control by keyboard, DVR or PTZ camera.

- Initial Keyboard Display

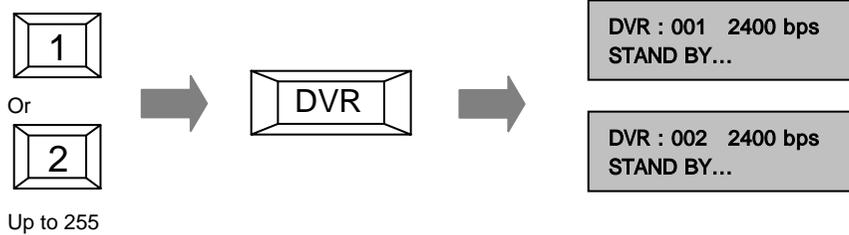
**CAM : 001 2400 bps  
STAND BY...**

- Show the selected unit (Camera or DVR)
- Show the selected unit address No. (001 ~ 255)
- Show the selected baud rate (2400/4800/9600 bps)
- Show the controller status

2) How to select address number 1 or 2 of PTZ camera.



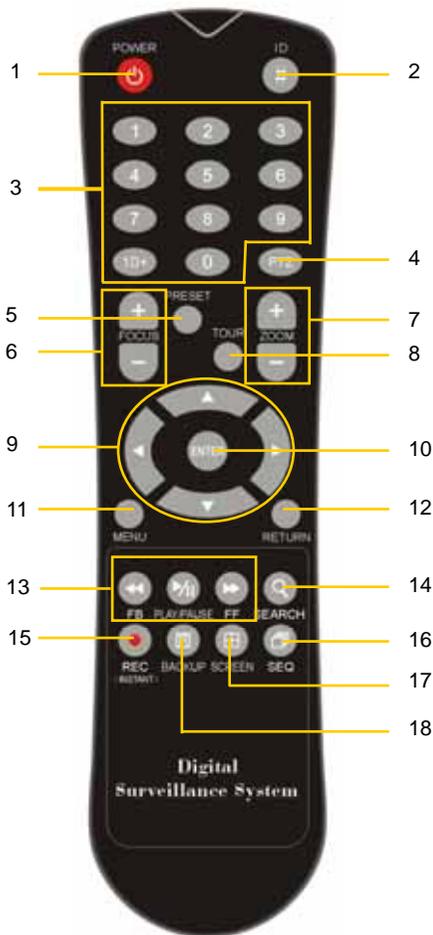
3) How to select address number 1 or 2 of DVR.



**Note** Please refer to keyboard manual for detailed operation.

## 7 IR Remote Controller

The function buttons of the IR Remote Controller are as below.



No.	Functions
1	Power Button
2	ID Selection Button
3	Numeric Button
4	PTZ Button
5	Preset Button on PTZ Mode
6	Focus Button on PTZ Mode
7	Zoom (In & out) Button on PTZ Mode
8	Preset Tour Button on PTZ Mode
9	Direction Button (Left/Right/Up/Down)
10	Enter (Selection) Button
11	Menu Button
12	Return Button
13	Playback Button on Search Mode (Fast Backward/Playback/Stop/Fast Forward)
14	Search Button
15	Instant (Emergency) Recording Button
16	Auto-Sequence Button on Live Display Mode
17	Screen Mode Button
18	Backup Button

### How to setup the ID in IR Remote Controller

- 1) Keep pressing ID selection button marked as “#” for about 5 seconds.
- 2) Set the ID number by pressing numeric button on IR Remote Controller.
  - ID number is available from 000 up to 255.
  - User has to press numeric button as three-digit number format.
  - For example, press “000” for 0, “023” for 23, “234” for 234..

**Note** To use the IR Remote Controller, set the initial ID to be same as the ID in the DVR in the menu of ; SYSTEM > SYSTEM INFO > REMOTE ID. (Default ID # for DVR and IR Remote Controller is “0”) All DVR(s) have same default ID when it is out from the factory. Therefore, when the default value is used, one IR Remote Controller can control several DVR(s) at once. To prevent this, it is recommended to set different ID between DVR and IR Remote Controller.