

# **IVS-184CPW**

IP video server



User's Guide

## Introduction

Thank you for purchasing our digital video server. It is an IP-based digital surveillance device. It has functions like video capture, real-time compression, network transmission and so on. It can transmit high-quality audio and video data streams in low-bandwidth network to achieve real-time video transmission in LAN/WAN, so that remote clients can enjoy the functions like image preview, recording, playback, snapping and alarming while staying at home.

The product applies to enterprises, banks, security checkpoints, highways and other places that need network video transmission and monitoring capability. This product is easy to install and operate.

### **Notes:**

DVS in this manual refers to all Digital Video servers, including HDD storage and SD card storage DVS.

### **Statement:**

◆ Contents in this manual may be different from the edition that you are using. Should any unsolved problem occur given that the product is used according to this manual, please contact our technical support department or your product suppliers.

◆ The content of this manual may be updated at irregular intervals without prior notice.

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# Chapter1 Product Overview

## 1.1 Product Application

DVS can be used for surveillance in public places, such as in supermarkets, kindergartens, factories, warehouses and so on. Also because of its strong image-processing performance, it can be used in some advanced environment, such as banks, net bars or transportation systems.



## 1.2 Features

- ◆ Built-in Web Server, users can visit the DVS to realize remote surveillance and control via IE.

- ◆ Adopt optimized H.264 video compression algorithm to satisfy the transmission of High Definition video at low network bandwidth.

- ◆ Support local storage of SD card and built-in SATA hard disk storage (see specific model), maximum capacity is 32GB.

- ◆ Adopt optimized G.726 audio compression algorithm to make the sound clearer.

- ◆ Support PAL/NTSC composite video.

- ◆ D1 High Definition real-time digital video server, fully compatible with Half-D1, CIF and QCIF

- ◆ Video bitrate can be adjusted continuously between 32Kbps and 16Mbps, frame rate can be adjusted from 1 to 30 (NTSC).

- ◆ Support LAN, WAN and IEEE802.11a/b/g/n wireless network transmission.

- ◆ RS-485 communication port. Support transparent serial port transmission, multiple PTZ, high-speed dome protocol, etc.

- ◆ Bi-directional audio talkback and broadcast

- ◆ 4 channel on/off alarm input and output

- ◆ Support alarm recording, manual recording and scheduled recording;

- ◆ Support video motion detection, able to trigger device alarm recording and snapping or linkage alarm for E-mail sending or FTP uploading. Motion detection of four areas is supported.

◆ Provide motion detection, video loss, sensor alarm and network failure linkage alarm functions, able to trigger snapping, recording, E-mail sending and FTP uploading.

◆ Support multiple network protocols: HTTP, TCP/IP, UDP, SMTP, DDNS, DNS, SNTP, BOOTP, DHCP, FTP, SNMP, RTP and UPNP.

◆ Support multi-user visit and multi-level password authorization management.

◆ Support remote secure upgrade function of the device.

◆ Auto-recovery when incident occurs and auto-connect if the network interrupts.

## 1.3 Technical Parameters

Video	Video input	1/2/4channel composite video, PAL or NTSC; BNC (1.0Vp-p,75Ω)
	Video Compression	H.264
	Video Definition	PAL: 176*144 (QCIF) , 352*288 (CIF) , 704x288(2CIF), 704*576(D1) NTSC: 176*128 (QCIF) , 352*240 (CIF) , 704x288(2CIF), 704*480(D1)
	Video Parameters	Brightness, Hue, Contrast, Saturation
	Streaming Format	Video Streaming or Audio&Video composite Streaming
	Video Frame Rate	PAL: 1-25fps NTSC: 1-30fps
	Video Compression BR	32Kbit/S~16Mbit/S
Audio	Audio Input	1/2/4 channel, RCA port, linear input
	Audio Compression	G.726
	Audio Output	Single-channel, RCA Interface, linear Output
	Talkback Input	Single-channel, MIC Interface
Network	Network	10M/100M self-adapting Ethernet port (RJ45)

	Interface	
	Wi-Fi interface	Support 802.11 b/g protocol and WPA, WPA2, WEP encryption protocols (see specific model)
Storage	SD card interface	Built-in SD card, supports SD card storage and snapshot, SD 2.0 standard, maximum 32G capacity
	SATA interface	Supports SATA hard disk interface, 1 built-in SATA hard disk (Depending on sepecific models)
PTZ	PTZ interface	RS-485
	PTZ Protocol	Support several PTZ protocols, able to control high speed dome
Alarm	Alarm Input	4 channel on/off input, supporting NO (normally open) or NC (normally close) mode.
	Alarm Output	4 channel on/off output, 120VAC 1A/24VDC 1A
Management	User Authentication	Account number, password encryption authentication
	Remote Monitoring	PTZ remote control, allows multiple users to visit one channel at the same time
	Remote Configuration	Remote configuration of system through network control
	Remote upgrade	Remote upgrade of system through network control
	Remote Reset	Remote reset of system through network control
Other	Input Power Supply	DC 12V/1A or DC 12V/3A(power adapter AC 100~240V , 50~60Hz)
	Maximum Power	Less than 18W
	Operating temperature	-10 ~ +55 °C
	Operating Humidity	10 ~ 85%

## 1.4 Application Environment



Minimum configuration of hardware environment

CPU: Pentium 2.0 GHz

System Memory: 256MB

Graphics Card: TNT2

Sound Card: necessary for audio surveillance and talkback

Hard Disk: minimum 40G capacity required for image recording.

 Recommended configuration of hardware environment


CPU: Pentium 2.6GMhz

System Memory: 512MB

Graphics Card: Nvidia Geforce FX5200 or ATI RADEON 7000(9000) serials  
128M Display Card Memory

 Operation system

32-bit Simplified Chinese & English editions of Windows2000,  
Windows2003, WindowsXP, Windows Vista, 64-bit Simplified Chinese & English  
editions of Windows2003, WindowsXP, Windows Vista

 Software Environment

IE 6.0 edition or above

DirectX8.0 edition or above

TCP/IP

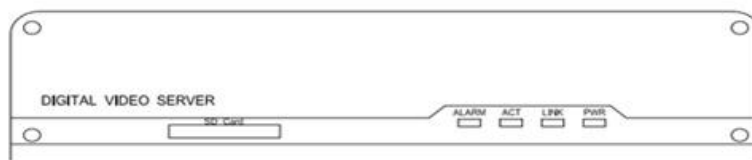
 Other requirements:

The PC installed with this software requires a graphics card that supports the color change and zoom of image, now the graphics card that has been tested are: Nvidia Tnt/Tnt2、Geforce Mx200/400/420/440 Fx5200/5600 series, ATI Radeon 7000/7200/7500/8500/9000/9200/9500/9600 series, MatroxG450/550 and INTEL845G/865G series. Please note that the graphics card driver must be hardware scaling supportive.



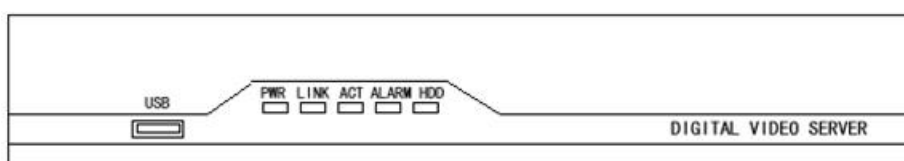
# Chapter2 Hardware description

## 2.1 Front Panel



***DVS Front Panel (SD Card Storage only)***

SD Card: SD card interface for SD card storage, currently maximum capacity is 32G.



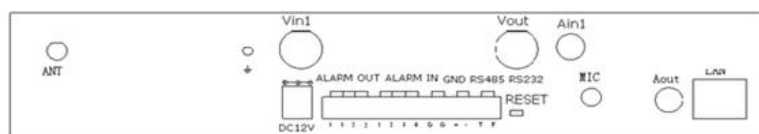
***DVS Front Panel (With HDD Storage)***

USB: USB interface to connect storage device like card reader, currently it does not support USB portable hard drive.

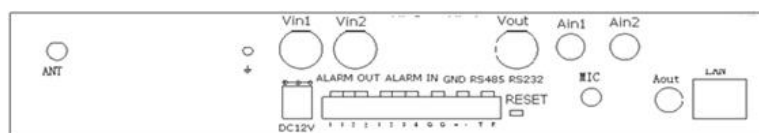
Pilot lamp:

panel labels	Pilot lamp status		Description
PWR	Red light	Always on	DVS normal power on
		Always off	DVS normal power off
LINK	Green light	Always on	Network OK
		Always off	No network, network cable disconnected or network blocked
ACT	Orange light	Always flash	Transmitting network data
		Always off	Network disconnected
ALARM	Red light	Always on	System alarm
		Always off	No Alarm
HDD	Blue Light	Always Flash	HDD reads and writes data
		Always off	HDD not work

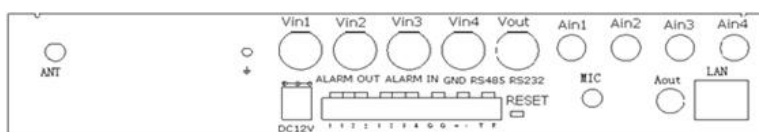
## 2.2 Back Panel



***DVS Back Panel (one channel)***



***DVS Back Panel (two channels)***



***DVS Back Panel (four channels)***

### Interface Description:

DC 12V: Power holes, used to connect power. Power specifications are DC12V/1A or DC12V/3A (depends on specific models), using unmatched power may lead to DVS damage or HDD not working.

### **Note:**

Use unmatched power may lead to DVS damage or HDD not working.

LAN: Ethernet Port. It is used to connect hub, switch or PC with graphics card installed in LAN.

Vin1—Vin4: 1~4 channel video input interface to access video source.

Ain1—Ain4: 1~4 channel audio input interface, linear input, 1K $\Omega$  impedance.

ANT: Wireless antenna for wireless network access.

MIC: Microphone input, used for talkback.

Aout: Audio output interface.

RESET: System parameters reset button, used to restore factory default settings.

Lightning protection nut.

### **Note:**

Make sure it is connected to the lightning protection network of the equipment room correctly.

### Alarm Output: Four-channel Alarm Output

1 - 1	2 - 2	3 - 3	4 - 4
Channel	Channel	Channel	Channel
1 relay output	2 relay output	3 relay output	4 relay output

### Alarm Input: Four-channel Alarm Input

1	2	3	4	G
Channel	Channel	Channel	Channel	Alarm input public area
1 alarm input	2 alarm input	3 alarm input	4 alarm input	

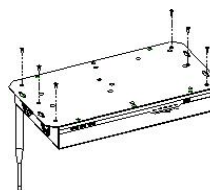
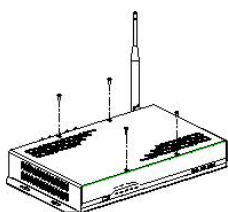
RS485 RS232 : two independent serial ports:

G	+	-	T	R
Public Area of Serial Port	RS485 Positive End	RS485 Negative End	RS232 Transmitting Port	RS232 Receiving Port

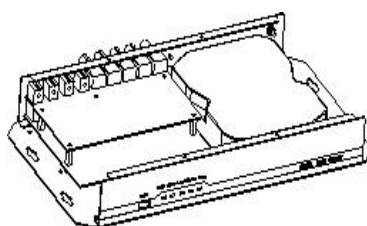
## 2.3 Install HDD

First of all, prepare a screwdriver. Loose the 10 screws on the top and bottom face of the housing according to the following Picture.

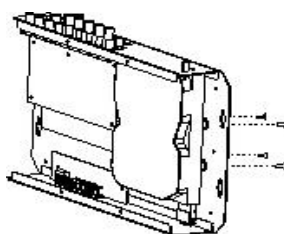
Then, connect the power and data lines of the HDD and fix the HDD on the housing with screws after that. See below pictures. Note that one side should face to the front panel, the other side faces to the back panel of the housing. See below pictures. Generally HDD panel faces up, and the panel with circuit board faces down.



*Open the screw on the top face      Open the screw on bottom of the housing*



*Installation location and direction of the HDD*

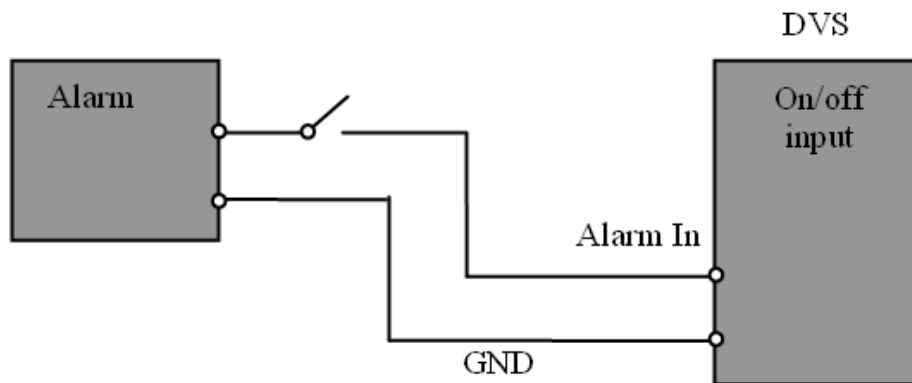


*The four screws fixing HDD*

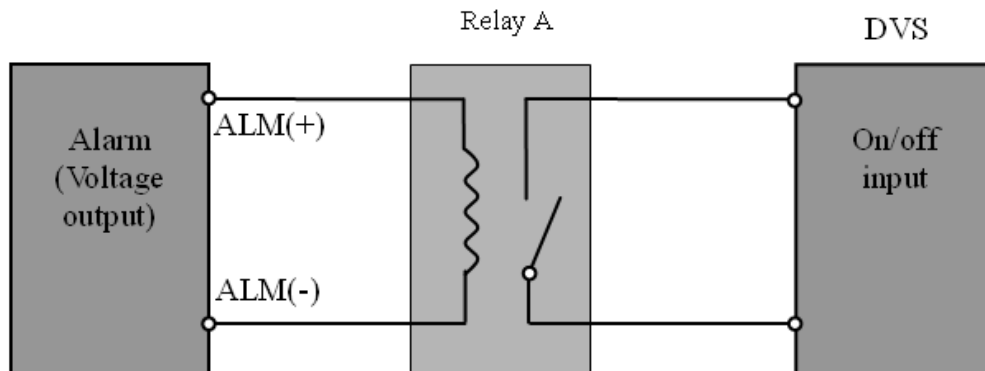
## 2.4 Alarm Connection Instruction

### 2.4.1 Alarm input connection mode

1 Alarm input signal is on/off input



2 Connect according to below mode if alarm input signal is not on/off signal.

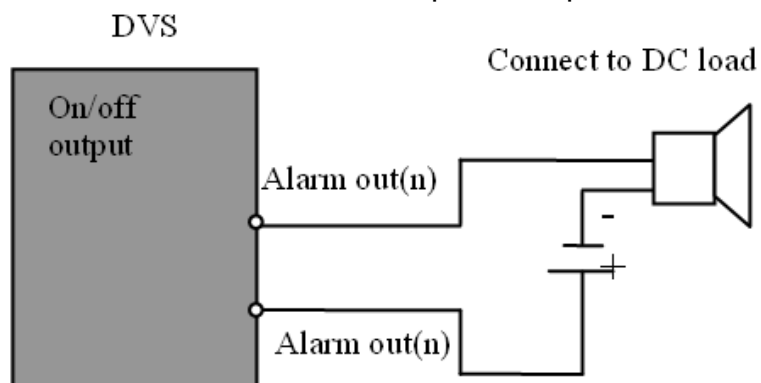


**Note:**

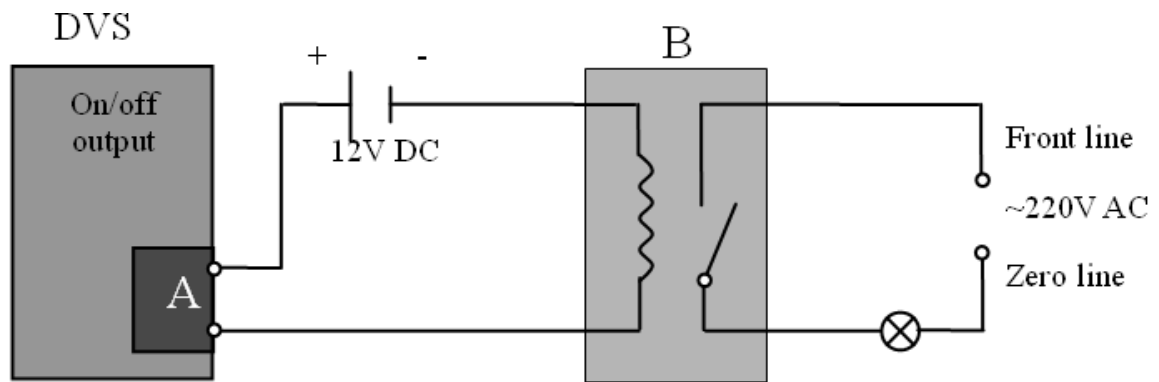
The output power of relay A must be lower than the on/off input rated power of DVS (120VAC/1A or 24VDC/1A).

## 2.4.2 Alarm output connection mode

1 User load is lower than the on/off output rated power



2 User load is higher than the on/off output rated power



Relay A is the built-in relay of DVS, on/off output rated power (120VAC/1A or 24VDC/1A).

Relay B is an add-on relay.

The power of relay B must be lower than the on/off output rated power of relay A (120VAC/1A or 24VDC/1A), the on/off output rated power of relay B must be selected according to actual load, and it should allow some surplus.

## 2.5 Network Connection

### 2.5.1 Connect DVS to network with IP share switch

See below picture for the connection mode:



***DVS is connected to network via share switch***

Step 1: Connect network cable to the LAN port of DVS.

Step 2: Connect power adapter to the power supply port of DVS, and switch on the utility power.

Step 3: Connect the other end of the network cable to switch, router or hub.

Step 4: After the connection completes, enter the IP address of DVS into IE for normal visit.

### 2.5.2 Connect DVS to PC with crossover cable

Connect DVS to PC with crossover cable, see below picture:



***Connect to PC via crossover cable***

Connection Indicator Light (Orange) will flash in five seconds under normal condition, indicating the physical connection of DVS has been finished successfully.

# Chapter3 Search Device

## 3.1 Search Device and Modify Network Parameters

Run “SearchNVS” to find the default IP and modify mega pixel IP camera network parameters according to clients’ local PC IP gateway (Such as IP address, subnet mask, gateway and so on)

### 3.1.1 Run SearchNVS software

How to run “SearchNVS”:

1. Find the NVSCenter software in 【Application】 file from the CD and then install it.
2. Click 【Start】 --- 【all programs】 --- 【NVS Center】 --- 【Search NVS】 to run it.

#### Note:

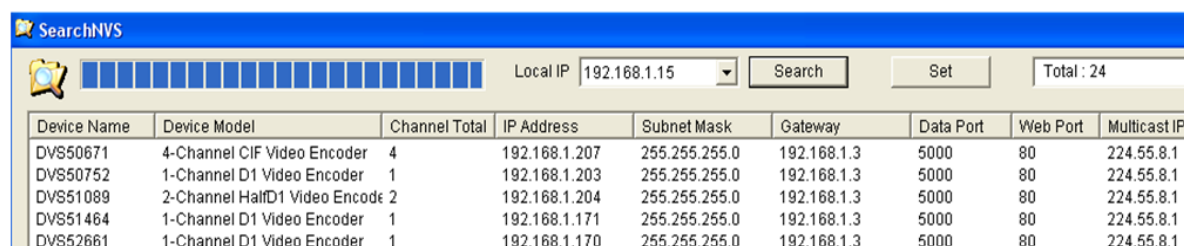
The default factory settings of the IP Camera are as follows:

IP: 192.168.55.160

Subnet mask: 255.255.255.0

User name: admin; Password: admin

Run the SearchNVS software to search and modify IP Camera network parameters. It is multicast protocol. But the firewall forbids the multicast data packet. So please close the firewall first.



Device Name	Device Model	Channel Total	IP Address	Subnet Mask	Gateway	Data Port	Web Port	Multicast IP
DVS50671	4-Channel CIF Video Encoder	4	192.168.1.207	255.255.255.0	192.168.1.3	5000	80	224.55.8.1
DVS50752	1-Channel D1 Video Encoder	1	192.168.1.203	255.255.255.0	192.168.1.3	5000	80	224.55.8.1
DVS51089	2-Channel HalfD1 Video Encoder	2	192.168.1.204	255.255.255.0	192.168.1.3	5000	80	224.55.8.1
DVS51464	1-Channel D1 Video Encoder	1	192.168.1.171	255.255.255.0	192.168.1.3	5000	80	224.55.8.1
DVS52661	1-Channel D1 Video Encoder	1	192.168.1.170	255.255.255.0	192.168.1.3	5000	80	224.55.8.1

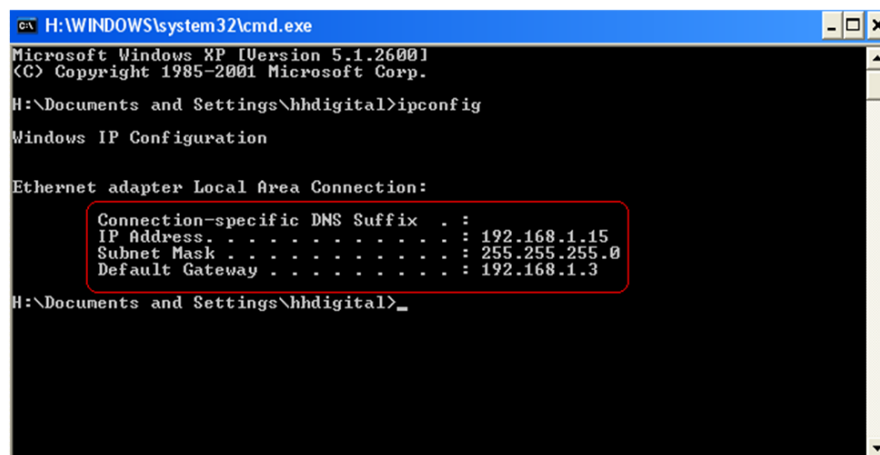
【Local IP】 Display the local PC IP. If your PC is NIC or multi-addressed local IP, please select one IP address to connect NVS.

The main window indicates that your PC has found the IP camera in LAN. If there are several IP cameras in your LAN, you can determine which camera is the one you purchased through “device name” in the main window. There is a unique device ID number in your package. The default device name is “NVS + device ID number”.

### 3.1.2 Set IP address

The gateway of your IP camera and local PC must be the same so that you can visit the IP camera. So we need to set the IP address for the IP camera before using.

To get your local PC IP configuration information: Click “start” and choose “run”, then, input “command” or “cmd”(Windows 2000/XP system). Click “confirm” and then input “ipconfig” and press “Enter” button, you will get the following information:



```
H:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

H:\Documents and Settings\hhdigital>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

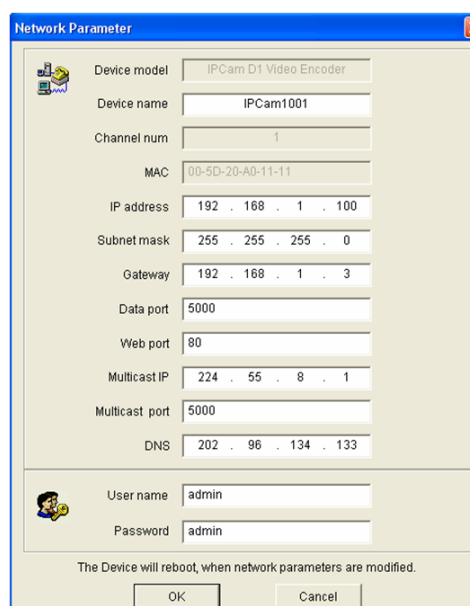
    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.1.15
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.3

H:\Documents and Settings\hhdigital>
```

Now please remember the above IP Address, Subnet Mask, Default Gateway, then, set the IP address of mega pixel ip camera according to your local PC IP address. For example: 192.168.1.100.

Please make sure the Default Gateway and Subnet Mask should be the same as your PC. And its IP should not be conflict with other PC or IP devices.

Click **【Set】** to get the following window:



Device model	IPCam D1 Video Encoder
Device name	IPCam1001
Channel num	1
MAC	00-5D-20-A0-11-11
IP address	192 . 168 . 1 . 100
Subnet mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 3
Data port	5000
Web port	80
Multicast IP	224 . 55 . 8 . 1
Multicast port	5000
DNS	202 . 96 . 134 . 133
User name	admin
Password	admin

The Device will reboot, when network parameters are modified.

OK Cancel

Modify related network parameters and click “OK”, then, the IP camera will save the parameters and restart.

## 3.2 Check Connection

Check to see whether the IP camera is running and properly connected. Click “Start”→ “Run”→ input “cmd” and press “Enter” Key to open command window. Input: ping 192.168.1.100 and click “Enter” button, then, the interface as below will be shown:



```
c:\ H:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

H:\Documents and Settings\digit>ping 192.168.1.100

Pinging 192.168.1.100 with 32 bytes of data:

Reply from 192.168.1.100: bytes=32 time<1ms TTL=64
Reply from 192.168.1.100: bytes=32 time<1ms TTL=64
Reply from 192.168.1.100: bytes=32 time<1ms TTL=64
Reply from 192.168.1.100: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

H:\Documents and Settings\digit>
```

If the command can generate a reply, meaning the IP camera works normally and is connected to network correctly. If not, please confirm the IP address and gateway settings, and check the network cables.

Then, use SearchNVS software to search and modify network parameters (such as IP address, subnet mask and gateway etc. according to clients' local IP information).

# Chapter4 Introduction of IE

## 4.1 Install ActiveX and Login Device

You need to install ActiveX Control when you visit DVS for the first time through IE browser.

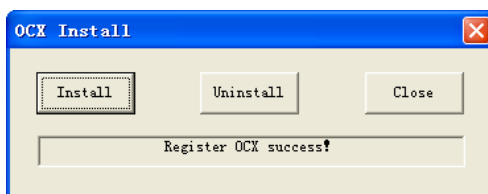
ActiveX installing method:

Input the IP address of the DVS into the address bar of Internet Explore to enter into login page, for example, enter 192.168.55.17.

Click [File] to download the ActiveX:




A new dialogue box appears, click [Run] or [Save] to download ActiveX, and then double-click the downloaded file "xdview.exe" to install it, see below picture:



Close current Internet Explorer, click "Install" button, the ActiveX will be automatically installed. After installation finishes, a dialog box with the message "Register OCX success!" will pop up.

Open Internet Explorer, and input the IP address of DVS, enter into login page as follow. Input User name (Default: admin)、Password (Default: admin) , click "login" to enter into the main interface.

### System Login

**USER LOGIN**

User name

Password

### Notice

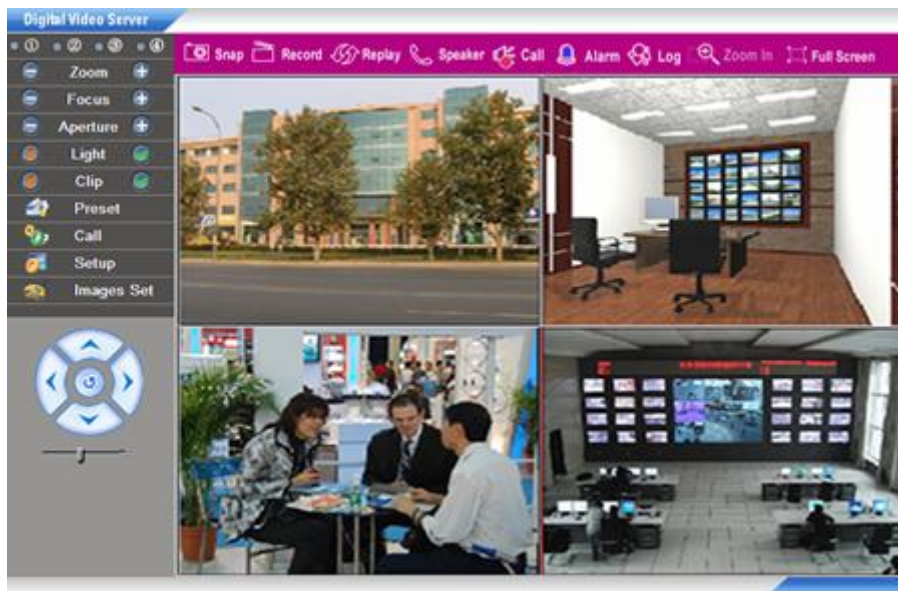
For initial access or issues with viewing the camera image, please click the link below to download the ActiveX setup file. Once the file is decompressed and installed, please login to the camera again.

After installing the OCX successfully, please delete cookies in computer when user logins error, IE tool-->Internet option-->browser history (delete temporary file, history, COOKIE...) or confirm the username and password.


Download OCX Setup File [File](#)


## 4.2 Live Preview

See below for the system main interface:





In the Liveview interface, users can do operations like Snapping, Recording, Playback, Talkback, Monitoring, Clear Alarm, Log Search, Partial Zoom-in of Image, Full-screen Viewing, Lightness and Color Adjustment and Lens Control.

[Snap]: click “Snap”, snap the current image and save it automatically in the storage directory of snapped images. The status displayed: 

[Record]: Manual image recording, automatically record current images and save them in the storage directory of recorded images after the recording function turned on. The status displayed: 

[Playback]: Click “Playback”, the playback page will pop up for searching and playback of recorded files or snapped images.

[Talkback]: After switch on the audio talkback switch, the talkback between PC and DVS can be performed given that audio talkback device is installed to the DVS. The status displayed: 

[Monitoring]: After switch on the monitoring switch, PC can monitor the sound at the device end. The status displayed: 

[Alarm]: When there is an alarm, double-click [Alarm] to cancel the alarm manually.

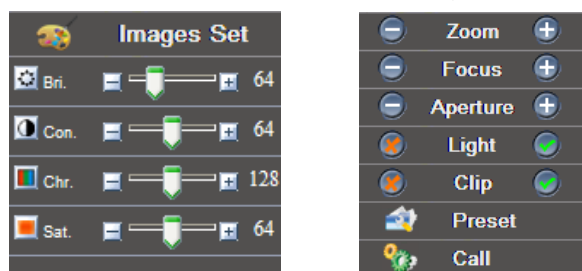
[Log]: Users can search for operations and alarm logs, the maximum capacity is 512 entries of message, when the number of entries exceeds 512, and system will delete records of the earliest date automatically.

[Zoom In]: This feature allows the manual drag and drop of video display area to realize partial zoom in. For 2-channel and 4-channel DVS, the partial zoom-in function can only be valid when one channel is displayed in single screen.

[Full Screen]: Allows full-screen video display, right click to exit full screen mode.

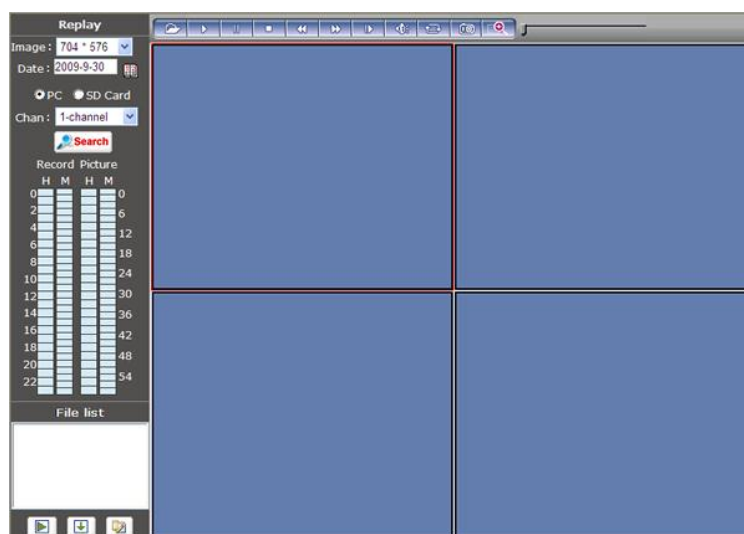
[Video Parameters]: Adjust the lightness, contrast, hue, saturation of video; see the picture at the left below.

[Lens Control]: Allows PTZ operations like Zoom, Focus, Aperture, Light, Brush, Preset, and Recall, see the picture at the right below.




## 4.3 Record Playback

Click [Playback] button: , enter into video playback page as follow:

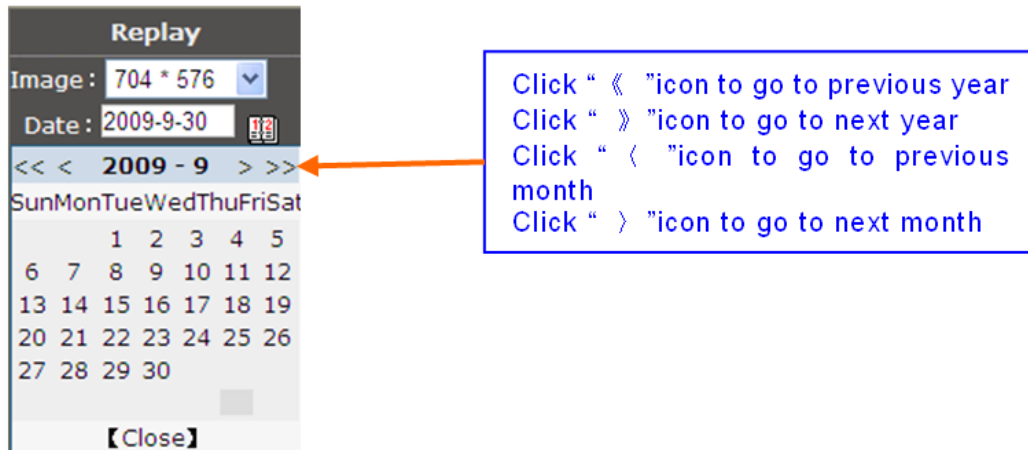


Users can search recorded image files or snapped pictures in local PC or storage device according to date.

[Definition]: Users can choose the desired definition for playback. When selected definition exceeds display definition, it should be scaled accordingly.

[Date]: Users can select certain date to perform recorded image file or snapped picture searching, click “date” button ,

The calendar page will pop up as below:



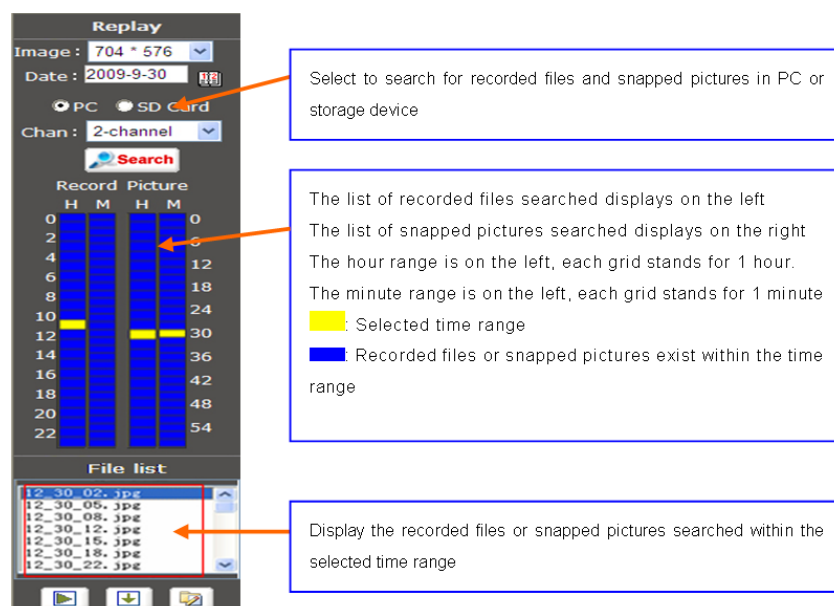
Select a specific date will be automatically shut down the calendar page, if you want to display the current default date, please choose [Close] to close the calendar page.


[Local]: Users can select certain date to perform recorded image file or snapped picture searching.

[Device]: Users can select certain date to search for recorded image files or snapped pictures in storage device.

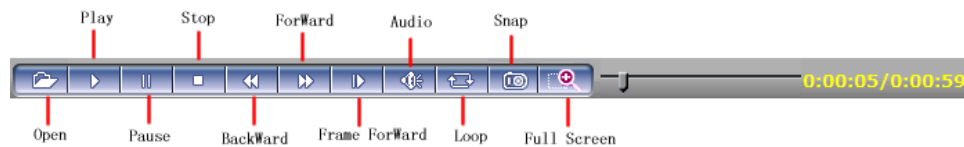
[File List]: Shows the recorded image files or snapped pictures searched in the File List.


The way to search for recorded image files or snapped pictures of a specific period:



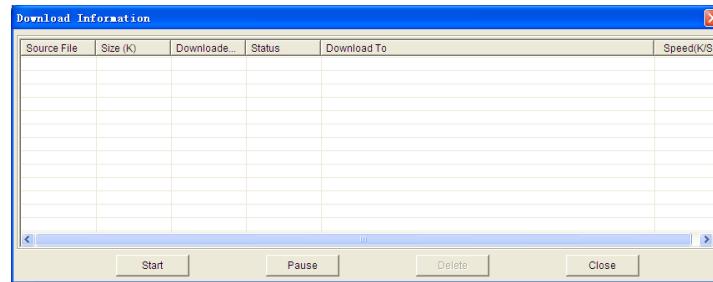
[Play]: Choose the recorded image or snapped picture in file list, right click the file or picture or click “play” button  to play. The contents will be

displayed in the right window, users can view the playing information and control the process, see below picture:



[Download]: Select the recorded files or snapped pictures searched from SD card in the file list, click “download” button  to download the files to PC.

[Download information]: Users can view the information downloaded after clicking “Download”, see below picture:

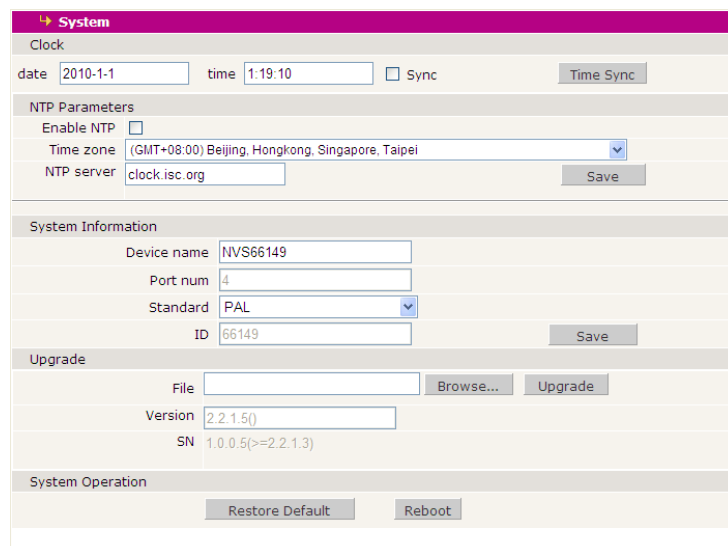


Click [Pause] to pause download manually, click [Start] to continue to download the unfinished files, click [Delete] to delete the downloaded files, click [Close] to close the download information interface.

## 4.4 Set System Parameters

### 4.4.1 System Settings

Below picture is the system settings page of DVS:



[System Clock]: Set date and time for DVS. Click “synchronize with PC” to synchronize the date and time of DVS with PC.

[Network Clock Setup]: when starting NTP function, DVS will correct the DVS system clock on NTP server regularly according to its setting.

[System Information]: Display device name, device number and video mode. The device name can be user-defined. Two video modes: PAL and NTSC.

[Reset] : All DVS parameters (excluding physical address) will be recovered as factory setting values.

**Note:**

Please use this function with caution.

[Reboot]: Click [Reboot], the DVS will restart automatically.

[Upgrade]: Click “Review” button and select correct file of upgrade (kernel file, suffix. uot). Click [upgrade], then, you can upgrade your system. The completion rate will be displayed during this process. After complete, DVS will restart automatically. Re-log in device, enter into system settings page and check to see whether the kernel edition is the upgraded edition. For example: Kernel edition of the current DVS is (V2.2.1.2) and the latest edition obtained from supplier is (V2.2.1.3). Then, the kernel edition after upgrade should be V2.2.1.3.

**Note:**

Don't cut off the power and internet connection when upgrading.

## 4.4.2 Video Settings

Below picture is the “Video settings” page of DVS:

The screenshot shows the 'Video' settings page for a DVS. At the top, there's a 'Channel' selector with buttons for 1, 2, 3, and 4, and a 'Copy to all channel' checkbox. Below this, the 'Title' is set to 'Camera 1'. The 'OSD' section has checkboxes for 'Title', 'Date', 'Time', 'Week', and 'Frame/Bitrate'. The 'Video Coding' section has two columns: 'Preferred Stream' and 'Alternate stream'. Under 'Preferred Stream', 'Coding' is H.264, 'Image' is 704 \* 576, 'Quality' is Fine, and 'Advanced' is checked. Under 'Alternate stream', 'Coding' is H.264, 'Image' is 352 \* 288, and 'Quality' is Fine. The 'Time snap picture parameter settings' section has 'Picture format' set to 'jpg' and 'Resolution' set to '704 \* 576'. A 'Mask area set' section is on the right, showing a blue mask area and a 'Mask area set' button. At the bottom, there's a 'Save' button.

[Channel]: Channel of DVS, 4-channel DVS has 4 channels; 2 or 1-channel DVS has 2 or 1 channel.

[Copy to all channels]: copy the parameter settings of current channel to all other channels.

[Video Name]: the name of video channel, displayed at the bottom left of image, maximum characters allowed: 32.

[Caption Overwrite]: display or not to display name, date, time, week and frame rate/bitrate of channels.



[Position Adjustment]: Can adjust the display position of video name and title.

[Coding algorithm]: H.264 and MJPEG.

[Definition]: set definition of images, modes supported are:

PAL mode – four definitions format: D1 (704\*576)/Half-D1 (704\*288)/CIF (352\*288)/QCIF (176\*144)

NTSC mode – four definitions format: D1 (704\*480)/Half-D1 (704\*240)/CIF (352\*240)/QCIF (176\*120).

[Image Quality]: Users can choose the right quality according to their needs: Best, Good, Normal, and the parameters can also be user-defined by checking [advanced settings] checkbox.

[I frame interval]: Adjustable between 5~200. Smaller I frame interval means higher image bitrate and better image quality. It is recommended to set I frame interval as above 25.

[Frame Rate]: Set encoding frame rate per second. Under poor network condition, frame rate can be reduced to control encoding bitrate to make motion images flow more smoothly.

[CBR/VBR]: CBR and VBR are optional. CBR adopts constant encoding bitrate, VBR adopts variable encoding bitrate.

[Bitrate]: The range of preferred and alternate stream is 30~16384Kbps. Higher bitrate setting can generate better image quality, but it occupies more bandwidth, please adjust the setting according to your actual bandwidth.

Under CBR setting, [Bitrate] is the constant bitrate of encoding.

Under VBR setting, [Bitrate] is the variable bitrate of encoding.

[Image quality]: Under CBR setting, bitrate range is set via [Image quality], 1 means that bitrate range is control by the software, 2~6 stands for a bitrate range of  $\pm 10\% \sim \pm 50\%$

Under VBR setting: Set image quality via “Image Quality”, smaller value of image quality means better quality and higher bitrate, but the bitrate will not exceed its set value.

[LAN default value]: I frame interval: 100, frame rate: 25, bitrate: VBR, 2048kbps, image quality: 2

[WAN default value]: I frame interval: 25, frame rate: 5, bitrate: CBR, 384kbps, image quality: 4.

**Note:**

Non-professional users please use “Advanced Settings” with caution.

[Video Masking On/Off]: enable or disable video masking.

[Mask Area Setup]: right click and move cursor to set image masking area, an image can be entirely or partially masked, maximum 4 areas supported.

[All]: mask the whole image.

[Clear]: clear masked areas.

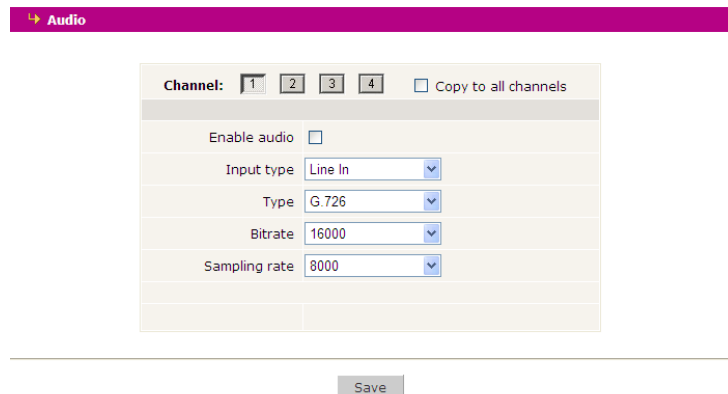


[Parameter setup for snapping function]: supports only images of JPG format currently, definition is the same as set in [video definition].

After set all the parameters, click [save] to make the parameters valid.

### 4.4.3 Audio Settings

See below picture for “DVS Audio Settings”:



[Channel]: Channel of DVS, 4-channel DVS has 4 channels; 2 or 1-channel DVS has 2 or 1 channel.

[Copy to all channels]: copy the parameter settings of current channel to all other channels.

[Audio on/off]: open or close the audio of DVS. After switch on this switch, PC can monitor the sound at the device end.

#### **Note:**

1. When there is no need for audio, close audio input to save network resource.

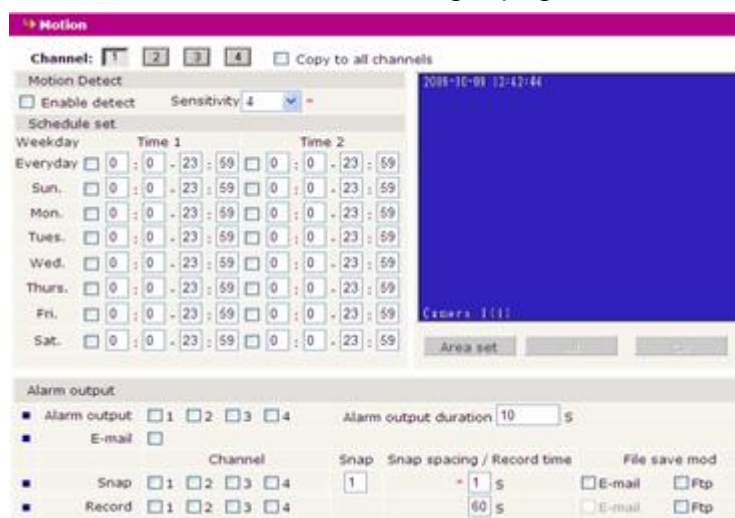
2. Audio is disabled by default.

After set all the parameters, click [save] to make the parameters valid.

### 4.4.4 Alarm Settings

#### 1. Motion Alarm

Below picture is the “motion alarm settings” page of DVS:



In this page, users can set features like motion detection on/off, sensitivity, detection time, linkage alarm output, linkage output duration, E-mail sending after alarm has been triggered, linkage device snapping/snapping, etc.

[Channel]: Channel of DVS, 4-channel DVS has 4 channels; 2 or 1-channel DVS has 2 or 1 channel.

[Copy to all channels]: Copy the parameter settings of current channel to all other channels.

[Detection On/Off]: Open or close motion detection.

[Sensitivity]: Set the sensitivity of motion detection, its range is 1~5, greater value means higher sensitivity.

[Motion detection time setup]: Set the period of motion detection. Any period in each day can be set up.

[Linkage alarm output]: When alarm is triggered, the built-in relays will be driven to output alarm.

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.0 means that there is no limit for alarm output.

[E-mail sending]: Send motion detection alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: Drive device snapping after alarm has been triggered, and save pictures to device HDD. For snapping parameters, if the number of pictures snapped at one time is set as 5, and the snapping interval is 1 second, that means when there is an alarm, 5 pictures will be snapped and the interval between each picture is 1 second. The pictures snapped can be saved via E-mail sending or FTP uploading.

[Linkage Recording]: Drive device recording after alarm has been triggered, and save record files to device HDD. The record files can be saved via FTP uploading.

**Note:**

Record packing duration= Alarm duration + duration set in linkage recording parameters.

[Set detective area]: Left click and drive the mouse to set the surveillance areas (4 areas at most).

[All]: Set the whole video as motion detection area.

[Clear]: Clear all motion detection area.

After setting all the parameters, click [save] to make the parameters valid.

## 2. Video Loss Alarm

Below picture is the "Video Loss Alarm" page of DVS:

**Video lose**

Channel: ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ Copy to all channels

**Video lose Detect**

☐ Enable detect

**Alarm output**

☒ Alarm output ☐ 1 ☐ 2 ☐ 3 ☐ 4 Alarm output duration:  S

☒ E-mail ☐

	Channel	Snap	Snap spacing / Record time	File save mod
<input checked="" type="checkbox"/> Snap	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="text" value="1"/>	* <input type="text" value="1"/> S	<input type="checkbox"/> E-mail <input type="checkbox"/> Ftp
<input checked="" type="checkbox"/> Record	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4		<input type="text" value="60"/> S	<input type="checkbox"/> E-mail <input type="checkbox"/> Ftp

\* Snap time for a float number, such as: 0.5 seconds, 1.5 seconds, and so on  
 \* When there is storage device (harddisk,SD card,U disk) connected with DVS,it is the default storage for alarm recording.

In this page, users can set features like video loss detection on/off, linkage alarm output, linkage output duration, E-mail sending after alarm has been triggered, linkage device snapping/snapping, etc.

[Channel]: Channel amount of DVS. 4-channel DVS has 4 channels; 2 or 1-channel DVS has 2 or 1 channel.

[Copy to all channels]: Copy the parameter settings of current channel to all other channels.

[Detection On/Off]: Open or close video loss detection.

[Linkage alarm output]: When alarm is triggered, the built-in relays will be driven to output alarm.

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.

0 means that there is no limit for alarm output.

[E-mail Sending]: Send video loss detection alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: Drive device snapping after alarm has been triggered, and save pictures to device HDD. For snapping parameters, if the number of pictures snapped at one time is set as 5, and the snapping interval is 1 second, that means when there is an alarm, 5 pictures will be snapped and the interval between each picture is 1 second. The pictures snapped can be saved via E-mail sending or FTP uploading.

[Linkage Recording]: Drive device recording after alarm has been triggered, and save record files to device HDD. The record files can be saved via FTP uploading.

### Note:

Record packing duration= Alarm duration + duration set in linkage recording parameters.

[Set detective area]: Left click and drive the mouse to set the surveillance areas (4 areas at most).

[All]: Set the whole video as video loss detection area.

[Clear]: Clear all video loss detection area.

After set all the parameters, click [save] to make the parameters valid.

### 3. Sensor Alarm

Below picture is the “sensor alarm settings” page of DVS:

**Sensor**

Channel: **1** ☐ Copy to all channels

**Sensor Detect**

☐ Enable detect      Sensor type: **NO**

**Schedule**

Weekday	Time 1	Time 2
Everyday	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Sun.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Mon.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Tues.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Wed.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Thurs.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Fri.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59
Sat.	<input type="checkbox"/> 0 : 0 -- 23 : 59	<input type="checkbox"/> 0 : 0 -- 23 : 59

**Alarm output**

☒ Alarm output    ☐ 1   ☐ 2   ☐ 3   ☐ 4      Alarm output duration: **10** S

☒ E-mail    ☐

	Channel	Snap	Snap spacing / Record time	File save mod
<input checked="" type="checkbox"/> Snap	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<b>1</b>	<b>1</b> S	<input type="checkbox"/> E-mail <input type="checkbox"/> Ftp
<input checked="" type="checkbox"/> Record	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4		<b>60</b> S	<input type="checkbox"/> E-mail <input type="checkbox"/> Ftp

\* Snap time for a float number, such as: 0.5 seconds, 1.5 seconds, and so on  
 \* When there is storage device (harddisk,SD card,U disk) connected with DVS,it is the default storage for alarm recording.

In this page, users can set features like sensor alarm detection on/off, sensor type, detection time, linkage alarm output, linkage output duration, E-mail sending after alarm has been triggered, linkage device snapping/snapping, etc.

[Channel]: Channel amount of DVS. 4-channel DVS has 4 channels; 2 or 1-channel DVS has 2 or 1 channel.

[Copy to all channels]: Copy the parameter settings of current channel to all other channels.

[Detection On/Off]: Open or close sensor alarm detection.

[Sensor mode]: NO and NC mode.

[Detection time setup]: Set the time period of motion detection. Any period in each day can be set up.

[Linkage alarm output]: When alarm is triggered, the built-in relays will be driven to output alarm.

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.0 means that there is no limit for alarm output.

[E-mail Sending]: Send video loss detection alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: Drive device snapping after alarm has been triggered, and save pictures to device HDD. For snapping parameters, if the number of pictures snapped at one time is set as 5, and the snapping interval is 1 second, that means when there is an alarm, 5 pictures will be snapped and the interval between each picture is 1 second. The pictures snapped can be saved via E-mail sending or FTP uploading.

[Linkage Recording]: Drive device recording after alarm has been triggered, and save record files to device HDD. The record files can be saved via FTP uploading.

**Note:**

Record packing duration= Alarm duration + duration set in linkage recording parameters.

[Set detective area]: Left click and drive the mouse to set the surveillance areas (4 areas at most).

[All]: Set the whole video as motion detection area.

[Clear]: Clear all motion detection area.

After set all the parameters, click [save] to make the parameters valid.

## 4. Network Failure

Below picture is the “network failure alarm settings” page of DVS:

Network fault alarm

Network fault alarm detect

☐ Enable detect

Alarm output

Alarm output ☐ 1 ☐ 2 ☐ 3 ☐ 4 Alarm output duration  s

E-mail ☐

Snap Snap spacing / Record time File save mode

Snap ☐ 1 ☐ 2 ☐ 3 ☐ 4   s ☐ E-mail ☐ Ftp

Record ☐ 1 ☐ 2 ☐ 3 ☐ 4  s ☐ E-mail ☐ Ftp

\* Snap time for a float number, such as: 0.5 seconds, 1.5 seconds, and so on

\* When there is storage device (harddisk,SD card,U disk) connected with DVS,it is the default storage for alarm recording.

Save

In this page, users can set features like network failure detection on/off, linkage alarm output, linkage output duration, E-mail sending after alarm is triggered, linkage device snapping/snapping, etc.

[Detection On/Off]: Open or close network failure alarm detection.

[Linkage alarm output]: When alarm is triggered, the built-in relays will be driven to output alarm.

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.0 means that there is no limit for alarm output.

[E-mail Sending]: Send video loss detection alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: Drive device snapping after alarm has been triggered, and save pictures to device HDD. For snapping parameters, if the number of pictures snapped at one time is set as 5, and the snapping interval is 1 second, that means when there is an alarm, 5 pictures will be snapped and the interval between each picture is 1 second. The pictures snapped can be saved via E-mail sending or FTP uploading.

[Linkage Recording]: Drive device recording after alarm has been triggered, and save record files to device HDD. The record files can be saved via FTP uploading.

**Note:**

Record packing duration= Alarm duration + duration set in linkage recording parameters.

[Set detective area]: Left click and drive the mouse to set the surveillance areas (4 areas at most).

[All]: Set the whole video as motion detection area.

[Clear]: Clear all motion detection area.

After set all the parameters, click [save] to make the parameters valid.

## 4.4.5 Network Settings

### 1. Basic Settings

Below picture is the “network settings” page of DVS:

Network	
<b>Basic Parameters</b>	
Enable DHCP	<input type="checkbox"/>
IP address	192.168.66.149
Subnet mask	255.255.255.0
GateWay	192.168.66.2
MAC	00-4a-20-a0-#-7d <input type="checkbox"/>
Data port No.	5000
HTTP port No.	80
Multicast address	224.0.0.0~239.255.255.255
Multicast port No.	5000
Preferred DNS	202.96.134.133
Alternate DNS	202.106.0.20
<b>Connect Parameters</b>	
Auto connect	<input checked="" type="checkbox"/>
Center URL	192.168.66.138
Center port No.	6666
<b>Send out Parameters</b>	
Low bandwidth mode	<input type="checkbox"/> *
* Low bandwidth mod is applicable for GPRS,CDMA1X.	
<b>DDNS Parameters</b>	
Enable DDNS	<input checked="" type="checkbox"/>
DDNS provider	mvddns.net
DDNS regName	nvs66149
DDNS password	123456
DDNS domain	nvs66149.mvddns.net
DDNS server URL	www.mvddns.net
DDNS server Port	30000
Data port map No.	5000
HTTP port map No.	80
<b>PPPOE Parameters</b>	
Enable PPPOE	<input type="checkbox"/>
PPPOE URL	
PPPOE username	
PPPOE password	
Online time	0minutes

[Basic Parameters]

IP Address: Set the device IP of DVS

Subnet mask: Default value is 255.255.255.0 (users are recommended not to change it)

Gateway: Set the gateway IP of DVS, for example when the device is connected to WAN via a router, the gateway IP is the router IP.

Physical address: The MAC address of DVS (users are recommended not to change it).

Data port: Default value is 5000 (users are recommended not to change it).

Web port: Default value is 80 (users are recommended not to change it).

Multi-cast IP: Send the IP address of multi-cast data. The range is 224.0.0.0~239.255.255.255.

Multi-cast port: Default value is 5000 (users are recommended not to change it).

DNS address: Please use DDNS function to set the DNS address as your local DNS address.

**Note:**

After revise and save parameters, the device will restart. If it is applied in LAN, please pay attention to avoid conflict between its IP address and the IP addresses of other devices or PC in the LAN.

[Active connection mode]

Active connection switch: Enable or disable active connection of the device to surveillance center.

Central server address: The address of surveillance center (e.g. 192.168.55.8).

Central server port: The port of surveillance center (e.g. 6000).

[Wireless network transmission mode]

Enable or disable wireless network transmission mode which applies to devices that are connected to wireless network of carriers.

[DDNS setting]

Bind the device with a fixed domain name by DDNS setting so that visit to the device can be realized no matter how the public IP changes (refer to Appendix C for detailed steps)

DDNS On/Off: Enable or disable DDNS function.

DDNS User Name: User registered in DDNS server.

DDNS Password: User password registered in DDNS server.

DDNS Domain Name: The Domain Name set for long-distance access after user log in.

DDNS Address: DDNS server address. When DDNS address is the domain Name, please set the DNS address in [Basic Parameters] correctly.

DDNS Port: Default port is 30000.

Data Mapping Port: When DVS is mapped to public network via router, fill in the public data port number after mapping.

Web Mapping Port: When DVS is mapped to public network via router, fill in the public web port number after mapping.

[PPPOE setting]

PPPOE switch: Enable or disable PPPOE dial-up function.

PPPOE address: After successful setting of device dial-up, it will display the public IP Address.

PPPOE user name: ADSL dial-up account, obtain from the IP service provider.

PPPOE password: ADSL dial-up password, obtain from the IP service provider.

On-line duration: Start timing after dial-up to see the online duration after successful dial-up.

After set all the parameters, click [save] to make the parameters valid.

## **2. Advanced Settings**

Below picture is the “advanced network settings” page of DVS:

## [Mail setting]

To set the mailbox addresses and parameters of alarm mails and WAN IP mails.

**SMTP server:** The address of servers that send the mails, the address format of mail servers varies from provider to provider, e.g. the SMTP server of 163 mailboxes is smtp.163.com.

**Mail sending address:** Mailbox that sends mails.

**Mail receiving address:** Mailbox that receives mails.

**SMTP user name:** The login user name of the mailbox that sends mails.

**SMTP password:** The login password of the mailbox that sends mails.

**Mail title:** Title of mails.

**SMTP Port:** Port of SMTP port. Different mail servers have different ports. For example, the server port of Gmail is 465.

Commonly used mail server configuration:

Gmail mail server:

SMTP server: smtp.gmail.com

SMTP user name: username@gmail.com

SMTP port: 465

SSL: enabled

Yahoo mail server:

SMTP server: smtp.mail.yahoo.com

SMTP user name: username@yahoo.com or username@yahoo.com.cn

SMTP port: 465

SSL: enabled

163 mail server:

SMTP server: smtp.163.com

SMTP user name: username

SMTP port: 25

SSL: disabled



#### [FTP setting]

FTP server sends the record files and snapped images generated after alarm has been triggered in FTP mode to specified FTP server. It supports 2 FTP servers. When the preferred one goes wrong, system will switch to the alternate one.

FTP URL: The IP address or HTTP address of FTP server.

FTP port: Port of FTP server. The default port is 21.

Remote path: Path on remote FTP server. If the path doesn't exist or has not been filled in, the device will create a file folder under the root directory of FTP server.

FTP user name and password: user name and password of FTP server.

#### **Note:**

Users must have the authority to write on the FTP server in order to upload record files and snapped images.

#### [Directional Sending]

Target IP: Set the target IP address.

Port: Set the port of target IP address.

On/Off: Send data packet to specified IP address and port or not.

#### [Public IP mail notification]

Mail notification on/off: Enable or disable public IP mail notification function.

Interval: Select the interval of public IP mail notifications.

After enable this function, when DVS starts or detects public IP changed, it will send notification mail to the mail address set in "mail setting".

#### [Wi-Fi setting]

#### **Note:**

Applie to models with Wi-Fi function only.

A wireless router needs to be deployed in order to use the Wi-Fi function of DVS, e.g. TP-Link WR340G 54M wireless router. The content and steps of the setting are as follows:

##### 1 Network parameters setup for wireless router

First enter into the wireless router "network parameter" page under the menu "LAN Setting", set the IP of wireless router

##### 2 Turn to the "basic setting" page under "wireless parameters" menu,

###### (1) Set SSID:

This SSID is for identity authentication of wireless network, it must be the same as the SSID setting of the DVS

###### (2) Frequency range

It determines the frequency range of the network, which is 1~13, default value is 6. Note: If your neighbor also uses wireless network and its frequency is 6, you should consider revise this parameter to 1 or 13 to reduce radio interference between the two routers.

### (3) Mode

Set the working mode of wireless router. The mode must be compatible with the supported modes of DVS.

Wireless mode supported by DVS: 802.11b/g protocol (small power Wi-Fi model) 802.11a/b/g/n protocol (high power Wi-Fi model)

#### (4) Enable Wi-Fi function (compulsory)

#### (5) Enable security setting (optional)

This option can enable the security certification of wireless router. If it is enabled, users need to select the corresponding security mode (encryption mode) and set up authentication password.

#### (6) Select security type (encryption mode)

WEP, WPA and WPA2

#### (7) Security options

WEP security type: developing system, sharing key and auto-selection

WPA, WPA2 security type: TKIP and AES

#### (8) Set key (authentication key)

### 3 The Wi-Fi function settings of DVS:

#### (1) Wireless network on/off

Select this switch will enable Wi-Fi function of DVS.

#### (2) IP address

Set the wireless IP address of DVS, e.g. 192.168.1.160.

#### (3) Gateway

Set the IP address of current wireless gateway, e.g. 192.168.1.1.

#### (4) SSID number:

It is the login name of Wi-Fi for identity authentication, it must be the same as the SSID number of the wireless router (e.g. zhangl).

#### (5) Password

It is the login name of Wi-Fi for identity authentication, it must be the same as the key of the wireless gateway (router/AP).

#### (6) Master authentication encryption type

Three encryption types are WEP, WPA and WPA2. Its selection must be the same as the security type setting of wireless gateway (router/AP).

#### (7) Auxiliary encryption mode

WEP encryption type: developing system, sharing key and auto-selection;

WPA, WPA2 encryption type: TKIP and AES

It must be the same as the security option setting of wireless gateway (router/AP).

After settings complete, save all parameters and disconnect the network cable. Then, DVS can be visited via wireless IP, such as 192.168.1.160.

**Note:**

The wireless network IP address and cable network IP address cannot be in the same segment.

The Wi-Fi switch appears to be grey when DVS doesn't have Wi-Fi function.

[UPNP setting]

Auto mapping of port: when there is server with UPNP function in the LAN, server will map the port to WAN automatically upon starting of this function.

UPNP NIC: The type of NIC connecting UPNP server.

UPNP Mode: Specified mode and auto mode:

Specified mode means to specify data mapping port and web mapping port to server.

Auto mode means data mapping port and web mapping port are set up by server.

UPNP server: Gateway address of IP server with UPNP function.

[RTSP setting]: Check RTSP switch to enable RTSP function, the default RTSP port is 554.

After set all the parameters, click [save] to make the parameters valid.

## 4.5 User Management

Below picture is the “user management settings” page of DVS:

You can set three users for every DVS, one is Administrator, and the others are general users. Administrator can set parameters for the DVS. However, Guest can not set parameters for DVS.

### **Note:**

User name and password must be 1-16-character-strings consisted of letters, numbers, underlines or dots. The Characters are case sensitive.

Default Administrator Name: admin	password: admin
Default Guest1 Name: guest 1	password: guest1
Default Guest2 Name: guest 2	password: guest2

## 4.6 Storage Settings

### 4.6.1 Device Management

Below picture is the “device management” page of DVS:

**Device Config**

**Storage device Info**

Choose NO.	TotalSize(M)	FreeSize(M)	State

Format Refresh

**Storage device record parameters**

Code stream: Preferred Stream Record file packet time: 1 M

**Other parameters**

☒ Overwrite old files when disk is full

☐ Auto search the storage device when start

\* When the device is not linked to the storage device (hard drive, SD Card, U disk), the device does not have function to store, But the video files, pictures can sent to the mail server to upload and Ftp

\* SD card hot-swap is not recommended, it may damage the SD card files.

Save

[Storage Device information]: View information of SD card here, including total capacity, free capacity, and formatting status. Users can also click [Formatting] button to format SD card, during the formatting process, please click [Refresh] button to the display formatting completion percentage.

#### [Device Recording Parameters]

Stream selection: Set record stream for the device, preferred stream and alternate stream are selectable.

Record files packing interval: Set packing intervals for each segment of record file when recording. 1 means files will be packed every 1 minute.

#### [Other Parameters]

Auto delete old files when storage device gets full: when the storage capacity of SD card is used up, the device will delete old files automatically. The way to delete old files: first, delete the files of the earliest date. If the space is still not enough, then, delete the files of the earliest date but one. Then go on like this if necessary. If the record files are taken on the current date, it will delete the files of the earliest hour first. The files of the current hour cannot be deleted. If the disk gets full in one hour, the device will stop recording and capturing images. After the one-hour session ends, system will delete the files of the hour and continue to record and snap.

Scan the disk when device starts: Check there is SD card or not when DVS starts.

#### **Note:**

1 Hot-plugging is not recommended for SD card, compulsory hot-plugging may damage the SD card, causing data loss or abnormal operation.

2 As disk formatting needs to take a long time, don't stop power supply during the process.

3 ext2 file is used to format system by default.

4 Storage DVS doesn't support hard disk that is formatted into logical partition or multiple partitions, so it is recommended to format the hard disk into only one main partition.

After setting all the parameters, click [save] to make the parameters valid.

## 4.6.2 Record Schedule

Below picture is the “record schedule” page of DVS:

Channel: 1 2 3 4 ☐ Copy to all channel

Record schedule

Weekday	Time 1	Time 2
Everyday	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Sun.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Mon.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Tues.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Wed.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Thurs.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Fri.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Sat.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59

File save mode

☐ E-mail ☐ Ftp

When there is storage device (harddisk, SD card, U disk) connected with DVS, it is the default storage for schedule recording.

Save

[Device Record Schedule]: set the period of scheduled recording, any period of each day can be set up.

[Record file storage mode]: set to save scheduled recorded files to FTP server via FTP uploading, FTP server can be set up in [FTP settings].

### Note:

Record files are saved via FTP uploading. HDD or SD card is needed for cache memory support, otherwise record files will be overwritten by new files due to insufficient cache memory space.

After set all the parameters, click [save] to make the parameters valid.

## 4.6.3 Snap Schedule

Below picture is the “snap schedule” page of DVS:

Channel: 1 2 3 4 ☐ Copy to all channel

Snap parameter

Snap spacing: 1.0 s

Snap schedule

Weekday	Time 1	Time 2
Everyday	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Sun.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Mon.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Tues.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Wed.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Thurs.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Fri.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59
Sat.	<input type="checkbox"/> 0 : 0 --- 23 : 59	<input type="checkbox"/> 0 : 0 --- 23 : 59

File save mode

☐ E-mail ☐ Ftp

Picture resolution and format in the "video" set

When there is storage device (harddisk, SD card, U disk) connected with DVS, it is the default storage for schedule snapshot.

Save

[Picture snapping parameters of the device]: Set the interval of DVS picture snap. The minimum interval is 1 second.

[Snap Schedule]: Set the period of scheduled snapping, any period of each day can be set up.

[Snapped files saving mode]: DVS snapped pictures can be saved via E-mail sending or FTP uploading. E-Mail server can be set up in [Mail Settings], FTP server can be set up in [FTP Settings].

After set all the parameters, click [save] to make the parameters valid.

## 4.7 Front-end Settings

Below picture is the “Front-end settings” page of DVS:

COM Set		
COM	RS485	RS232
Baudrate	4800	9600
Data bits	8	8
Stop bits	1	1
Check type	None	None
Flow ctrl	None	None

Embedded PTZ Protocol	
Channel	1 2 3 4
PTZ address	1
PTZ Protocol	No.1
Protocol file	PELCO_D(STD_Speed).CO
Update	
	Browse... Upload

Save

[Serial port settings]: When DVS is connected to RS485 (or RS232) communication or control device (e.g. PTZ decoder, dome camera), the parameters of RS485 (or RS232) need to set according to the settings of the communication control device (address, protocol, baud rate), and the corresponding protocol need to be downloaded.

### **Note:**

Only when the parameters and protocol are correctly set that the control of add-on communication control device can be implemented.

[PTZ decoder protocol]

Decoder address: 1~255.

Built-in protocol: echo the built-in protocol name of current DVS.

PTZ decoder protocol files uploading: to upload the decoder/dome camera communication protocol selected by users. The system supports hundreds of decoder/dome camera communication protocol. It can also be defined by users according to the standard format of protocol.

After set all the parameters, click [save] to make the parameters valid.

## 4.8 Local Settings

Below picture is the “Local Set” page of DVS:

The screenshot shows a configuration window titled "Local Set" with a purple header. It contains two main sections: "PC live view parameter settings" and "PC Storage parameter".

**PC live view parameter settings:**

- Code stream:** A dropdown menu set to "Preferred Stream".
- Preview mode:** A dropdown menu set to "Real time".
- Reset Mosaic:** An unchecked checkbox.

**PC Storage parameter:**

- Record file packet time:** A dropdown menu set to "1" with a unit indicator "M".
- Record file path:** A text input field containing "C:\XDNVS\". To the right of the field is a red note: "(Non-essential cases. Please keep the default path [C:\XDNVS])".

At the bottom center of the window is a "Save" button.

#### [PC real-time preview parameters setup]

**Stream selection:** set video stream for PC real-time preview, preferred stream and alternate stream are selectable. The parameters of preferred and alternate stream can be set up in [Video Settings].

**Preview mode:** users can choose real-time priority or fluency priority mode according to their needs.

**[Anti-crack]:** select this option to make image quality better, but CPU usage rate will be higher at the same time.

#### [PC record storage settings]

**Record files packing time:** set packing time of record file for local PC when recording.

**Record/snapped files storage directory:** Set the storage directory for local records and snapped files. The default path is C:\XDNVS.

# Appendix A: Network Interface for DVS

The default network ports of DVS are:

TCP	80	Web port
	5000	Communication port, audio/video data transmission port, talkback data transmission port
UDP	5000	Audio/video data transmission port
Multi-cast port	Multicast original port + channel number	



# Appendix B: Default Network Parameters

## 1. Default Wired Network Parameters:

Data Port: 5000

Web Port: 80

IP Address: 192.168.0.8

Subnet Mask: 255.255.255.0

Gateway: 192.168.0.1

DHCP: OFF

## 2. Default Wireless Network Parameters:

IP Address: 192.168.1.8

Subnet Mask: 255.255.255.0

Gateway: 192.168.1.1

Frequency: Auto

Mode: Auto

### **Note:**

The wireless network IP address and cable network IP address cannot be in the same segment.

# Appendix C: Application for DDNS

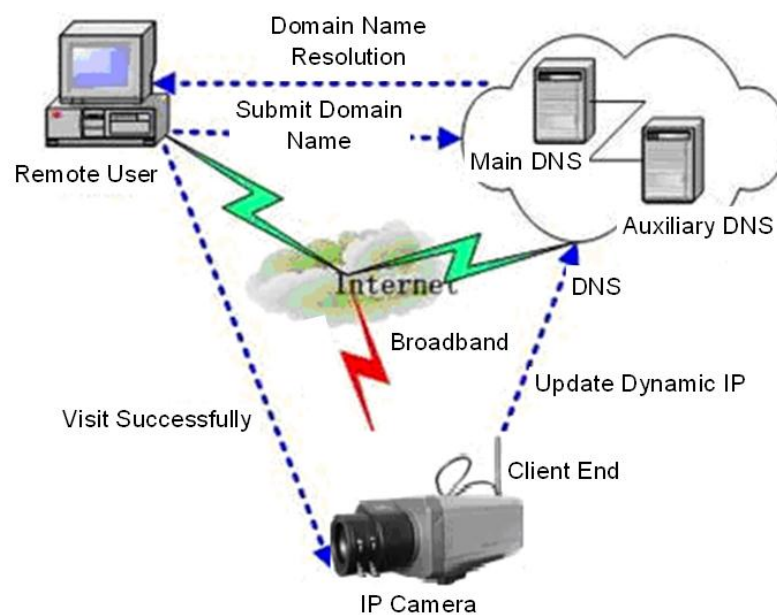
## IP Camera DDNS Introduction

### DDNS function

DDNS (Dynamic Domain Name Service) refers to the real-time analysis of a fixed domain name and the dynamic public IP address of the IP camera.

With this function, all Internet users can visit the IP camera via a fixed domain name.

### The DDNS process of IP camera



*The DDNS process flow diagram of IP camera*

## Application for DDNS

### Step 1: Sign up

Users need to sign up to manage and inquire about domain name status when using this dynamic domain name management system for the first time. Visit DDNS server (e.g: <http://www.mvddns.net>) to sign up. See the picture below:

Login

UserID:

Password:

[Forget PassWord?](#)

Announce

[User announcement](#)

动态域名
Dynamic Domain

Dynamic Domain service has made much more convenience for you:  
Before we had to use the special cable to operate other's device by network. But unfortunately, it is too expensive to stop using. Now we have Domain Management System--the latest solution "Dynamic Domain Service+Network Camera". It solves the all troubles!  
[Register Now](#)

动态域名
Dynamic Domain

Dear Users:  
The DDNS server has been upgraded. New system reserves some customer's data, the password was changed to 888888. Please login, revise the password and keep it secret (Get the password when you forget it). Sorry for inconvenience to you. DDNS system!  
2007.09.03

[Home](#) | [Register](#) | [Login](#) | [DownLoad](#) | [Demo](#) | [Help](#) | [LogOut](#)

Home == > Register

Take " " of have to fill in

UserID:*	<input type="text"/>
Password:*	<input type="password"/> (The minimal 6, the most 18)
Confirm password:*	<input type="password"/>
Name:	<input type="text"/>
ID card number:	<input type="text"/>
Address:	<input type="text"/>
Telephone:	<input type="text"/>
Email:*	<input type="text"/>
Hint problem:	Your native place <div></div> (Used for finding back a password)
Key:	<input type="text"/> (Used for finding back a password, inside 200 words)
	<input type="button" value="Confirm"/> <input type="button" value="Reset"/>

## Step 2: User login

Enter registered user name and password and click "login" to enter into domain name management interface as follow:

[Home](#) ==> [Login](#)

Login

UserID:

test2009

Register

Password:

\*\*\*\*\*

Forget Password

## Step 3: Domain name registration

A domain name must be registered first, then, put into use. Click "Domain name management", a page appears as follow:

42

Customer
 

ZMONTH  
(58.251.136.51)
 

Account
 Domain
 Information
 Password
 LogOut

Dynamic Domain list

Domain: http://  .mvddns.net  
 Remarks: 

Confirm Reset

PrevPage NextPage

Domain	IP	Device Name	IsOnline	Allow Analyze	Operation
zhmonth	221.182.46.87	IPCam305110	Off-line	Using	<a href="#">Delete</a>   <a href="#">Detail</a>
					1

- Add an domain not a demand an importation an ex- suffix , eg:demo1.mvddns.net Only Demand importation 'demo1'.
- Click 'allow analyze' item, can carry on a modification to the domain's information.

Register and submit the domain name to be used. For example:  
“test.mvddns.net”.

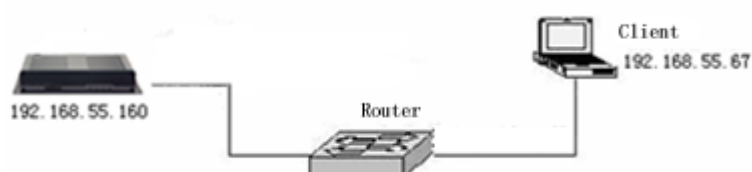
# Appendix D: Visit DVS under Different Network Environments

You can use your PC to connect DVS through LAN or WAN, the following contents will tell you how to use DVS under different network environments.

## 1 LAN

Your network administrator assigns a LAN IP address to DVS. The IP of your PC and DVS must be in the same network segment to make visiting possible.

See below picture for the network topology:



Please refer to below picture for the network settings:

Basic Parameters	
Enable DHCP	<input type="checkbox"/>
IP address	<input type="text" value="192.168.66.149"/>
Subnet mask	<input type="text" value="255.255.255.0"/>
GateWay	<input type="text" value="192.168.66.2"/>
MAC	<input type="text" value="00-4a-20-a0-#-7d"/> <input type="checkbox"/>
Data port No.	<input type="text" value="5000"/>
HTTP port No.	<input type="text" value="80"/>
Multicast address	<input type="text" value="224.55.8.1"/>
	224.0.0.0~239.255.255.255
Multicast port No.	<input type="text" value="5000"/>
Preferred DNS	<input type="text" value="202.96.134.133"/>
Alternate DNS	<input type="text" value="202.106.0.20"/>

Setup steps:

Step 1: Log in DVS via IE browser (the default IP is 192.168.55.160).

Step 2: Switch to the page [network settings], fill in the device IP address assigned by network administrator in to [Basic Parameters], e.g. 192.168.55.160;

Step 3: Fill in subnet mask, default value is 255.255.255.0;

Step 4: Fill in gateway address, default value is 255.255.255.0;

Click [Save] to save the parameters. Starts the device, enter its IP address into IE browser to visit it.

## 2 Internet

You have three ways to connect your DVS to Internet:

Fixed IP mode;

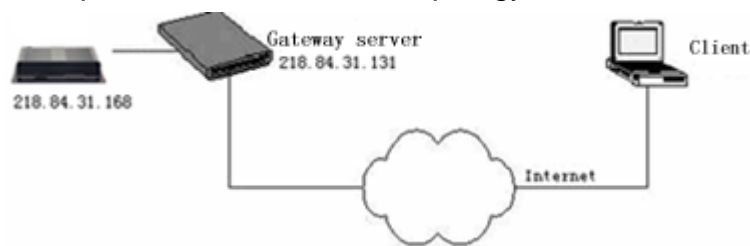
Broadband and router sharing Internet access mode (dynamic obtainment of extranet IP address mode) like ADSL and so on;

PPPoE dial-up access.

After DVS is connected to Internet, remote Internet users can visit DVS directly via domain name or IP address.

Fixed IP mode

See below picture for the network topology:



Please refer to below picture for the network settings:

Basic Parameters	
Enable DHCP	<input type="checkbox"/>
IP address	192.168.66.149
Subnet mask	255.255.255.0
GateWay	192.168.66.2
MAC	00-4a-20-a0-f7-d <input type="checkbox"/>
Data port No.	5000
HTTP port No.	80
Multicast address	224.55.8.1
	224.0.0.0~239.255.255.255
Multicast port No.	5000
Preferred DNS	202.96.134.133
Alternate DNS	202.106.0.20

Setup steps:

Step 1: Log in DVS via crossover cable direct connection.(For details, please refer to [Hardware Installation])

Step 2: Switch to the page [network settings], fill in the device IP address requested from network service provider in to [Basic Parameters], e.g. 218.84.31.168;

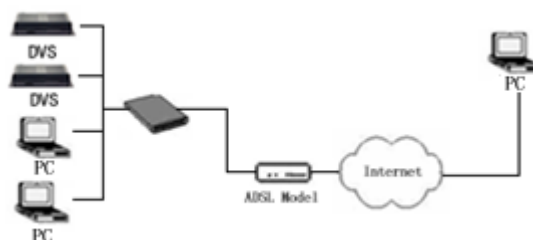
Step 3: enter correct subnet mask, e.g. 255.255.255.192;

Step 4: enter correct gateway, e.g. 218.84.31.131;

After setup completes, click [Save] and restart the device, then connect it to public network so that all Internet users can visit the DVS remotely via entering http://218.84.31.168 to IE browser.

Broadband and router sharing Internet access mode (dynamic obtainment of extranet IP address mode) like ADSL and so on;

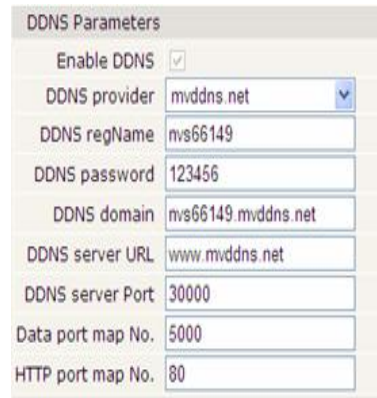
For dial-up access with router, see below picture for the network topology:



Users can set up DDNS domain name service at the same time. Fill the username and password which were applied in the DDNS server into the DDNS

setting item, implement port mapping from the router. The router judges and points to the DVS that need to be visited according to different ports, long-distance Internet users can visit the DVS on the network via domain name directly.

Please refer to below picture for the network settings:



DDNS Parameters	
Enable DDNS	<input checked="" type="checkbox"/>
DDNS provider	mvddns.net
DDNS regName	nvs66149
DDNS password	123456
DDNS domain	nvs66149.mvddns.net
DDNS server URL	www.mvddns.net
DDNS server Port	30000
Data port map No.	5000
HTTP port map No.	80

DDNS setup steps:

Step 1: Log in DNNS server (e.g.http://www.mvddns.net), register user account and password:(for details, please refer to Appendix 3)

Step 2: Click to open DDNS;

Step 3: Select DDNS service provider, e.g. mvddns.net;

Step 4: Fill in the registration name to log into DDNS server;

Step 5: Fill in the registration password to log into DDNS server;

Step 6: Fill in the domain name applied on DDNS server, e.g.: test.mvddns.net;

Step 7: Fill in DDNS server address, e.g.www.mvddns.net;

Step 8: fill in the port of DDNS server, default value is 30000 (users are recommended not to change it);

Step 9: fill in the port number of public network data after mapping, the default port is 5000.If several storage video servers are connected to one router, different data ports need to be specified for each device, and port mapping needs to be done for every specified port.

Step 10: fill in the port number of public network web after mapping, the default port is 80.If several IP cameras are connected to one router, different web ports need to be specified for each device, and port mapping needs to be done for every specified port.

After set all the parameters, click [save] and restart to make the parameters valid.

Port mapping setup steps:

Take the TL-WR340G router of TP-LINK as an example for illustration:

Step 1: Ask network administrator for the IP address of the router (i.e. LAN gateway address), login user name and password, then log in the router.

Step 2: Open “Transmission Rules”, select “Virtual Server”.

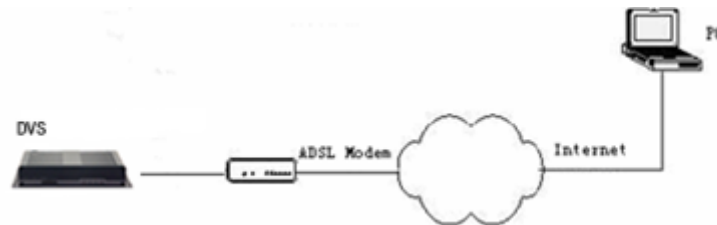
Step 3: Select “Add New Items”, enter the IP address of the DVS (e.g.192.168.1.100), port (e.g. 85), status (valid) and other information, click save.

Step 4: After save successfully, the rule will be effective.

Step 5: If DDNS is successfully set in “Network Settings” of DVS, direct visit to DVS can be realized via entering <http://test.mvddns.net:85> into IE browser.

PPPoE dial-up access

For DVS dial-up access, see below picture for the network topology:



Setup steps:

Step 1: Log in DVS via crossover cable direct connection.(For details, please refer to [Hardware Installation])

Step 2: Set PPPoE parameters.(for details, please refer to [PPPOE settings])

Step 3: Connect DVS to Internet.

Step 4: If DDNS service is successfully set for the device, the device can be visited via entering domain name into IE browser.

See below picture for PPPoE settings:

PPPOE Parameters	
Enable PPPOE	<input checked="" type="checkbox"/>
PPPOE URL	<input type="text"/>
PPPOE username	<input type="text" value="sz20129800@163.gd"/>
PPPOE password	<input type="password" value="••••••••"/>
Online time	<input type="text" value="0minutes"/>



# Appendix E: FAQ

## 1. Forget Password

Solution: There is a [RESET] button on the back panel of the DVS, press it to retrieve all default parameters (Factory Setting), user name and password are both “admin”.

### **Note:**

Please don't press RESET if you are not a professional operator. After reset, all parameters will restore factory settings (except for the physical network address).

## 2. DVS audio/video function fails after abnormalities or abnormal power cut occur during upgrade, core edition is V4.0.0.0 (Backup file)

Solution: Connect the power cord and network cable of DVS, press on RESET button and release it after 10 seconds, system will run the back-up programme automatically. After enter into the back-up programme, upgrade system. The back-up programme offers only upgrade and parameter setup functions, audio and video functions are not available.

## 3. No video image displayed in IE browser

Possible reason: ActiveX not installed

Solution: ActiveX must be installed when visiting DVS for the first time via Internet Explore.

How to install: Visit DVS, click [Download Address], file download dialog will pop up, select [Run] or [Save] to download. After download finishes, installation interface will pop up, click “install”, the installation of ActiveX will start automatically, “Register OCX success” dialog box will pop up to remind the completion of installation process.

## 4. Failed to visit DVS via IE after upgrade

Solution: Delete the caching of Browser.

Steps: Open IE—click “Tools”—select “Internet Options”—click “delete files” button in “Internet temporary files”, select “delete all offline contents”, then click “OK” and re-log in DVS.

## 5. The images do not flow

Possible reason 1: The frame rate of DVS is too low.

Solution: Improve the video frame rate

Possible reason 2: Too many users are viewing the image.

Solution: Block some clients or reduce the video frame rate.

Possible reason 3: The bandwidth is low.

Solution: Reduce video frame rate or video compression bitrate.

## 6. Cannot visit DVS via IE browser

Possible Reason 1: Network is disconnected.

Solution: Connect your PC to network, checking whether it works properly or not. Check whether there is cable failure or network failure caused by PC virus, until PCs can be connected with the command of Ping.

Possible reason 2: IP Address has been occupied by other devices.

Solution: Stop the connection between DVS and Network, hook up DVS to the PC separately, and reinstall IP address according to the proper operations recommended.

Possible reason 3: IP addresses are in different subnets.

Solution: Check IP address, subnet masking address of the DVS and the settings of Gateway.

Possible reason 4: Physical address of network conflict with DVS

Solution: modify the physical address of DVS.

Possible Reason 5: Web port has been modified

Solution: Contact Network Administrator to obtain related information.

Possible Reason 6: Unknown

Solution: Press RESET to retrieve default settings then connect it again, the default IP address is 192.168.55.160, subnet mask is 255.255.255.0

7. The color of images is abnormal (green or other colors)

Solution: Sometimes DVS images cannot display properly for the difference between Graphics Cards, the images appears to be green or other colors, then, you should run Config.exe (or run C:\windows\system32\Config.exe) to set the following parameters of display buffer: auto-detection, used display card memory or system memory, then reopen IE and connect DVS.

8. There is no sound while monitoring

Possible Reason: No audio input connection

Solution: Check audio connection of the host

Possible Reason 2: the audio option of DVS is off.

Solution: Check audio parameter settings to see if you have opened the audio.

9. Search NVS software cannot find device

Possible reason: Search NVS software adopts multicast protocol to perform searching. But the firewall forbids multicast data packet.

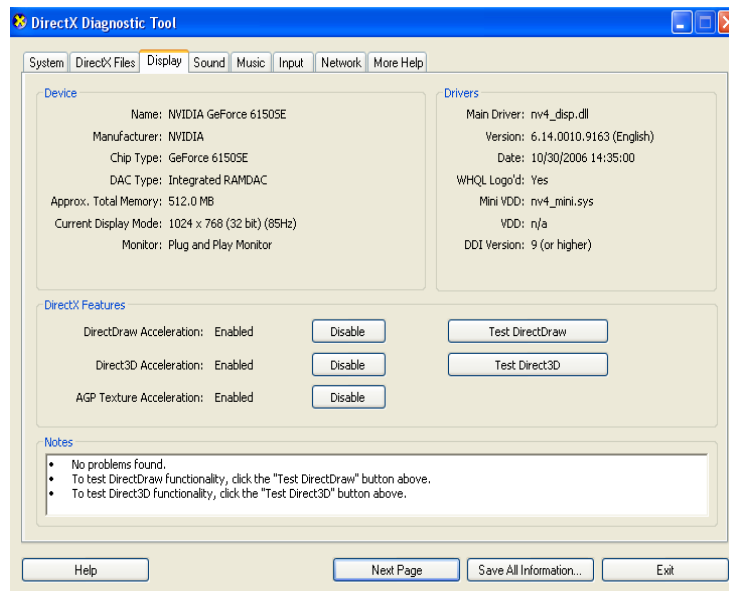
Solution: disable the firewall.

10. Image processing doesn't work properly.

Possible Reason 1: system issue, DirectX function is disabled, which will cause slow display of images and abnormal color.

Possible Reason 2: hardware issue, graphics card doesn't support image acceleration and hardware zooming functions.(For hardware issue, the only solution is to replace graphics card)

Solution: install DirectX image drive, then Start→Run→input "DXDIAG" as follows:



**Note:**

Enable DirectDraw speedup, Direct3D speedup, AGP veins speedup in DirectX function. If they can not be enabled, that means DirectX installation fails or hardware not supportive.