Preface

Thank you for selecting our products. We will offer the best service for you wholeheartedly.

This manual applies for DVR7000 and DVR7200 series, and we will introduce DVR7016V as a sample. In this series, different product models' configuration will have a little difference, and it will work the difference between product function and operation.

It is for reference only. We will not provide any new information separately for later firmware update. The updating files will be added into the new edition of the user manual and will also be posted on our website in the download center. This user manual may have some inaccuracy or misprint. We sincerely hope your timely feedback and comments to let us correct and improve this booklet in the subsequent edition.

CONTENT

Chapter 1 Brief Introduction about the DVR

1.1 Summarization

DVR7000 series Digital Video Recorder are designed for audio digital surveillance system. They are based on NXP Trimedia and DSP DMS645 from TI, adopting H.264 compress format, integrate the embedded RTOS and processor to realize all of the functions like video and audio acquisition and compression, storing, remote control, PTZ control and alarm checking on a single board, which ensure the system's high-integration and reliability.

DVR7000 series support TCP/TP agreements (support ARP ,RARP,TCP,UDP,PPPOE,DDNS,DHCP)We adopt dual stream technology which can guarantee the WAN transmission effect but not influence the local storages at the same time. We provide complete network monitor client software; User can also enter the DVR to browse the video signal in every channel, control the PTZ and VOD etc. via IE.

DVR7000 series only support the remote controller and mouse operation.

1.2 Product Introduction

DVR7000 series CIF resolution standalone Digital Video Recorder:

Model Function	DVR7004	DVR7008V	DVR7016V	DVR7202	DVR7204	DVR7208
Video format	CIF	CIF	CIF	D1	D1	D1
Video input	4 channels	8 channels	16channels	2 channels	4 channels	8 channels
Audio input	4 channels	N/A	N/A	2 channels	4channels	8channels
Video output	Video/VGA	Video/VGA	Video/VGA	Video/VGA	Video/VGA	Video/VGA
Audio output	1 channel	1 channel	1 channel	1 channel	1 channel	1 channel
HDD Interface	SATAx1	SATAx2	SATAx2	SATAx2	SATAx2	SATAx2
Alarm input	4 channels	8 channels	16 channels	2 channels	4 channels	8 channels
Alarm output	2 channels	2 channels	2 channels	2 channels	2 channels	2 channels
Backup Interface	USB	USB	USB	USB	USB	USB
PS/2 Mouse	support	support	support	support	support	support

Chapter 2 Technology Guideline and Main Functions

2.1 Technology Guideline

1. Video parameters

Video input: composite video input PAL(25 fps) NTSC (30 fps) (BNC ,1V P-P ,75Ω)

Video output: 1 channel composite video output(BNC,1Vp -p,75Ω)PAL(625 line/frame)NTSC (525 line/frame)

1 VGA output or DVI digital display mode output (Frequency:60 Hz, resolution :800*600)

Support CIF 25 fps (DVR7000 series) and high definition D1 25 fps (DVR7200 series)

2.Audio parameters

Audio input: 4/8/16 channels audio input(BNC,2 Vp-p,10KΩ)

Voice-chat: 1 channel audio input(BNC,10K,2 Vp-p/50mV MIC in)

Audio output: 1 channel audio input(BNC,2 Vp-p,10KΩ)

3.Video Compression: H.264, CIF(352*288)D1(704*576)

4. Audio Compression: G.711, Audio sampling rate 8K sample/ sec., 16 bit/sample

5. Operation System: Real Time Operation System(RTOS)

6. HDD interface: 1-2 SATA interfaces support 48bit LBA working mode

7. Alarm interface:

Alarm input: Support opened circuit and delay closed circuit input, 2/4/8 channels alarm input

Alarm output: 2 channels alarm output (delay opened circuit, relay output)

8. I/O interface: RS485 interface supports network transparent channel connection, PS/2 mouse with keyboard, and serial port control keyboard.
9. Operation mode: multi-functional IR remote control, PS/2 mouse keyboard, serial port control keyboard
10. Backup interface: 1 SATA interface, 2 USB2.0 interfaces(on back panel), support data backup function
11. Network port: RJ 45 10M/100M Ethernet Interface
12. Power supply: 12V, 5A (DVR7004 is 3A)
13. Dimension: 405mm× 310mm× 55mm (DVR7004 is 325mm× 200mm× 55mm) (Length * Width * High, mm.)

2.2 Main Functions

High effective RTOS and embedded processor are adopted in this series DVR, as well as all functions needed for the monitoring system are integrated. Codex is solidified in the flash chip; to keep the system in high stability and reliability. System can also work in a long time surveillance environment and even in stringent circumstance.Note: The following features might differ from the below description since we have series products and different hardware and software versions.

◆ Compression features

1. Support PAL/NTSC4.43/NTSC3.58.
2. Video compression is H.264, supports VBR and CBR.
3. The image quality and compression rate adjustable.
4. Every video/audio channel is compressed separately. The audio standard is G.711, and the sample point is 8K sample point per second and 16 bit per sample point.
5. Video and audio are compressed to H.264 stream format. Audio and video will be kept synchronized for playback, and audio recording can be canceled if only video is in need.
6. Support dual stream encode.
7. 6 -level record quality is provided for select. Users can choose any preferred one.

◆ Network functions

1. Support TCP/IP protocols (support ARP, RARP, IP, TCP,UDP, PPPOE, DHCP, DDNS).
2. Client manager and IE browse can be used to control the DVR through network, such as record, VOD, PTZ control, etc.
3. By embedded PTZ protocols, user can control the PTZ on the DVR, the client manager and IE.
4. Firmware upgrade through network makes aftersale service much easier.

◆ Recording functions

1. Support: manual, schedule, motion detection, alarm record.

2. Video motion detection function: multi detection areas can be set up to 5 sensitive levels.
3. Support full screen shield and part area shield. Support real-time record shield and playback shield.
4. Support sensor alarm. One sensor can be linked to one or more cameras. Support alarm recall to PTZ preset point.
5. Monitoring center can record the real time compression code stream, and support synchronizing record video and audio into client PC.
6. Video and audio parameters of each camera can be set up separately.
7. Support OSD,support record status indication.
8. Support pentaplex operation.
9. Support record status inquiry function.

◆ Playback functions

1. Accurate time orientation;
2. Record information classification checking playback;
3. Support display function; big and small images could be changed.
4. Support real-time surveillance and playback that could be shown at the same time.
5. Support fast replay, slow replay, backward and pause and frame step playback.
6. Support playback and download recording files through client manager, and do not affect the recording quality.
7. Support multi-channels playback (DVR7200 , DVR7004 series except)

◆ Real time display features

1. Support RCA monitor and VGA output.
2. Support video parameter adjustment (brightness, contrast, hue, saturation).
3. Support simultaneous real time monitor and playback.
4. Support channel auto switch.
5. Support intercommunication between monitoring center and DVR network.

◆ Storing and backup functions

1. Support USB2.0 backup interface.
2. Backup record files through client manager software and windows IE.
3. Backup record files through windows IE.

◆ Alarm inspection functions

1. Local alarm: Video lost alarm, motion detection alarm, sensor alarm, no HDD alarm, no HDD space alarm, video abnormal alarm, HDD sector error alarm.
2. Remote alarm: Video lost alarm, motion detection alarm and sensor alarm can be sent to client manager. Also, you can open the motion detection record files using the client manager.
3. Video lost alarm, motion detection alarm and sensor alarm can be transmitted to the external equipment such as mobile phone or fixed phone within three seconds.

◆ Security guarantee

1. High quality 32 bits embedded microprocessor and embedded RTOS, which ensure the system's high-affectivity, reliability and stability.
2. Complete log search (sensor record log, motion detection record log, remote login log, record parameter modification log, update log, playback log, system boot-up log and backup log).
3. Multiple security guarantee function such as system lock, key lock, order check, user privilege (can add 16 users) .
4. Video lost alarm, motion detection alarm and sensor alarm can be transmitted to the external equipment such as mobile phone or fixed phone.
5. Network alarm linkage (alarm signal can be uploaded).
6. Watchdog function. When the system is abnormal, watchdog automatically detects and reboots the system.

◆ Exploitation Support

Client manager software and client management SDK.

Chapter 3 Equipment Installation and Illustration

3.1 Installation Environment and Cautions

Installation environment:

- Normal working temperature is -10℃-55℃. Storage temperature is -10℃-70℃
- The equipment must keep horizontal either in installation or on using
- Avoid installing in high temperature or humidity conditions
- Heat release fans are placed for cool down, so you should put the device on ventilated place
- The back of Net DVR should be placed 6cm away from the other device or wall while installing
- Moving the Net DVR between two places with high difference in temperature will shorten the using life
- Please install the lightning conductor when the machine is used in frequent thunder areas

Cautions:

● Don’t touch the power switch or the Net DVR by wet hands.

● Make sure the machine and its case are grounded (There is an earth interface on the back panel of the machine).

● Keep the power supplier stable to avoid abnormal power cutoff.

● Avoid dropping liquid or metal into machine that may cause short circuit or fire.

● Don’t record or playback until at least one HDD is installed.

● Short circuit would happen when moist dust is on the board , so user has to termly brush the board and other accessories to make the machine work in good condition.

● Video/audio/RS485 devices cann’t be plug or draw when the power is on, or else the equipment will be easily damaged.

● Use the power on/off button on the front panel instead of direct shut off the power directly when turn off the Net DVR, so that the hard disk won’t be damaged.

● After installation, machine can automatically detect hard disk. If an unformatted hard disk is detected, system will give off information whether to format the disk. For a used dick, please delete the used partition in PC, or system meight have errors. The system only supports FAT32 file format.

● When hot swap the SATA hard disk, please plug in/out the data cable and power cable together.

● In order to keep the integrality of the records, damaged disks should be exchanged promptly. (There is information about the error of the disk in the logbook.)

3.1.1Attentions on Installing Hard Disk

1. Recommend high speed hard disk above 7200 rpm.
2. The capacity of the single hard disk is above 32GB at least, and there are no limits for the largest capacity.
3. The selection and calculation for capacity:

Total capacity= channels number * record time needed (hours) *capacity per hour (M/hour)

For example: If you choose the recording bit rate type for CBR 512KB (refer to 4.3 for bit rate types), the HDD Capacity /hour/channel=bit rate (Mbps) * 3600s=512Kbps * 3600s=1800MBb=225MB (1MB=8Mb). Due to the various factors, the calculated result is for reference only. Some slight differences or small errors might exist in the calculation.

Audio recording capacity is about 15MB per camera per hour. In order to save HDD space, we suggest closing the audio except users mandatory require audio recording. If you choose CBR recording, the recording data will not differ from the bit rate option.

Notes: When HDD is full, the default set will let system overwrite the earliest recorded files.

4. The attachments, such as data cable, power line, and hard disk are prepared well. Notes: While installing, please pay attention to the power cable connecting with hard disk.

Installation steps, for model DVR7000.

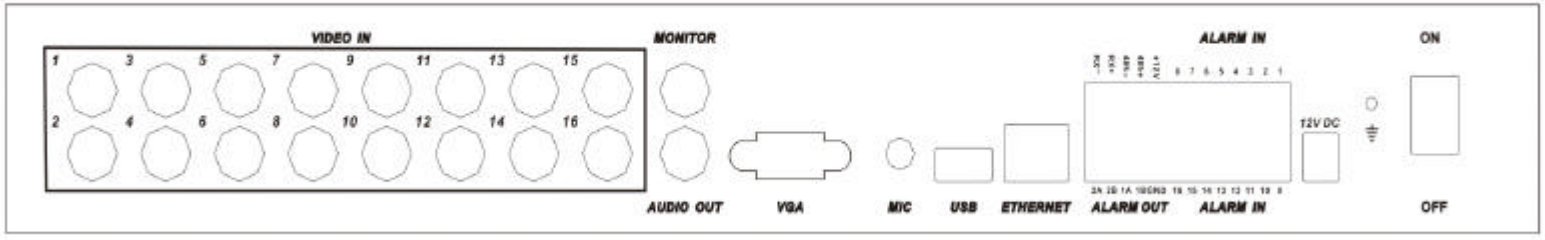
3.2 Package Checking

After opening the box, please check the host computer whether it is distorted or mangled. If there have, please do not use it and contact your suppliers in time. Meanwhile, please check all accessories of the host computer; do read the attached information carefully.(Notes: Accessories as for the packing list)

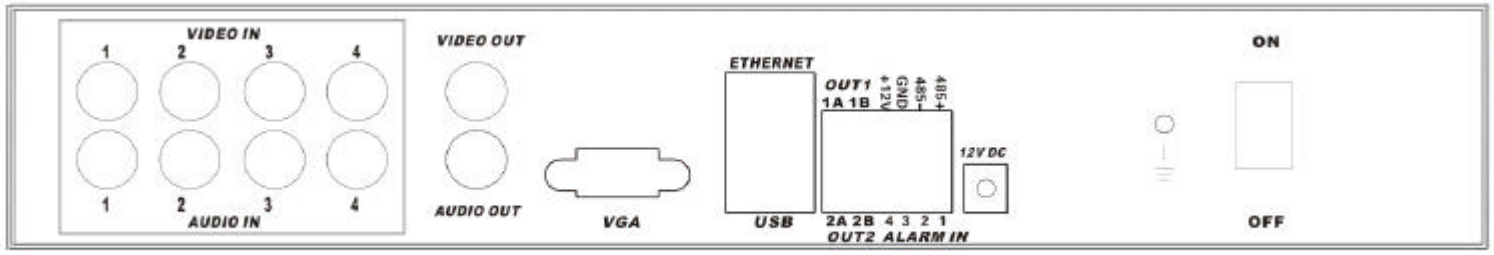
3.3 The Back Panel Instructions of Host Computer

3.3.1 The Back Panel chart for DVR7000

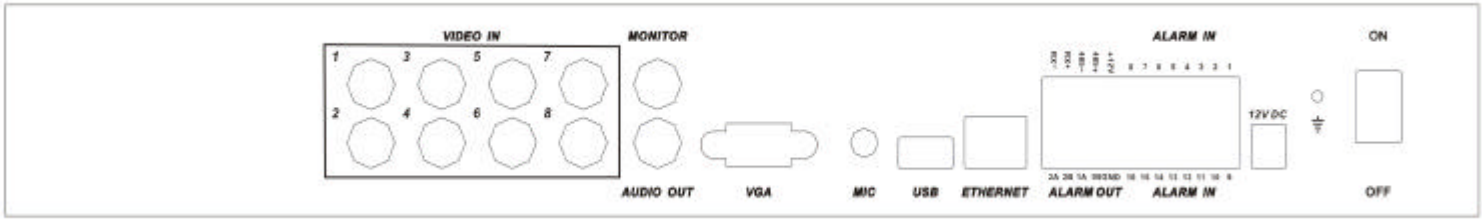
1,DVR7016V



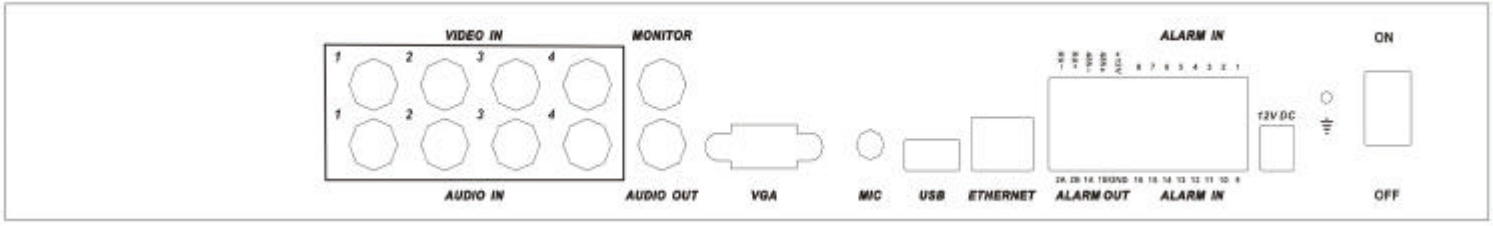
2,DVR7004



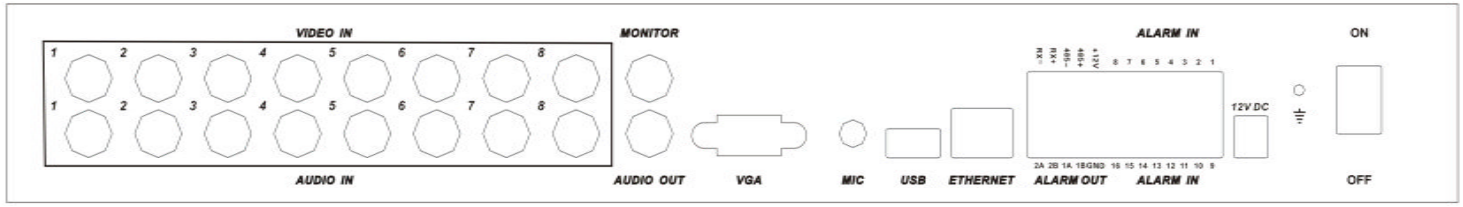
3,DVR7008V



4,DVR7204



5,DVR7208



Interface	Operation Manual
VIDEO IN	Connect(simulation) video input devices, standard BNC interface
Monitor VIDEO OUTPUT	Connect monitor, local video signal and menu output
AUDIO OUTPUT	Connect audio devices, local audio signal output
VGA	Connect VGA
MIC	Connect mike for voice intercommunication
USB	Connect USB, backup files
ETHERNET	Connect Ethernet device, such as HUB
ALARM- RS-485	Connect RS-485
12V DC POWER	Choose AC voltage 220V/110V through switch
ON/ OFF	Power supply switch

3.3.2 Video/Audio Connectio

DVR7000 series have no loop output.

Mode of video output:

1. When system opens, it will automatically identify whether it has connected VGA or monitor, DVR7000 series do not support connecting the VGA or monitor at the same time, it only could be connected separately; DVR7200 series support connecting the VGA and monitor at the same time. For example, if you only connect VGA, VGA menu will be output, the monitor will not be output; it you only connect monitor, monitor menu will be output, the VGA will not be output.

Connecting the VGA and monitor at the same time, you could change TV/VGA by remote controller.

Audio output cautions: if you want to connect sound box for audio output, please use 3.5mm to two lotus flower cable for change.

3.3.3 USB connection

This port is just used to backup. The capacity for the U disk should be larger than 512M, and the format is FAT32. If you want to format the U disk, please enter the “disk management” (detailed refer to 4.7 disk management). The details for U disk refer to 4.11 backup operations.

3.3.4 Network Interface

There is a RJ45 10M/100M adaptive Ethernet interface which is used to connect the PC and the DVR. The indicator lights ACT and LINK are used to indicate current network status.

LINK (Network speed indicator) on —100M off —10M

ACT (Send/Receive data indicator) Blink —Sending/Receiving data

Notice: When you connect the computer’s network card with the host computer, please use the cross line; when the exchange machine connect the computer, please use the parallel line.

3.3.5 Alarm Input/Output Connection

Alarm input: Input resistance 22K Ω, Window contrast voltage (3.0 V-4.18 V).

(Note: there will be alarm when the voltage between 0V-3V or 4.18V-12V, and no alarm when the voltage between 3V-4.18V)

Alarm output: DVR7016V relay mode output (120VAC/1A,24VCD/1A), Normal (relay open), Alarm output (relay close).

Sensor power: The machine provides a +12V DC power output port.

The connection of sensor for alarm: please refer to appendix 3.

3.3.6 RS-485 Connection

Attentions for PTZ decoder connection:

1. Confirm that the PTZ decoder and Net DVR are one point ground connected, or common mode voltage might exist to cause the PTZ invalid.
2. Prevent high voltage inroad, carefully dispose connection cables secure thunder proof.

RS485: For PTZ control, series keyboard and transparency port connection.

3.3.6.1 The Way to Control the PTZ

1. In "Main menu" ->"System management" ->" Series set" of DVR, setting the "full duplex" and "semi duplex".
2. In " Main menu" ->" PTZ set" , set the protocol, baud rate and address code of the PTZ.
3. You can control the PTZ after login, the PTZ lamp on the front panel will be lighted.
4. You have to shift the image to the corresponding channel. If you want to control the PTZ in the division image model, you must let the channel fixed on the left-up corner.

3.3.6.2 Keyboard controlling

It you want to control more than one DVR in a status, you have to use the series keyboard (one series keyboard can control more than one DVR in the same model). The function of the keyboard is the same with the front panel of DVR. (Note: the keyboard must be added with the protocol from our company and go through the test of our company). Take the RS485 interface series keyboard for example:

1. In the DVR menu: “system management” ->“series set” , to set full duplex,semi duplex.
2. Connect with the power supplier.
3. Connect between RS485+ of the keyboard and RS485+ of the DVR, also RS485- of the keyboard and RS485- of the DVR.
4. Shift keyboard mode to DVR mode, input corresponding address code, then you can control DVRs.

The detail set of keyboard can refer to the user manual of keyboard.

3.3.7 Intercommunication Port

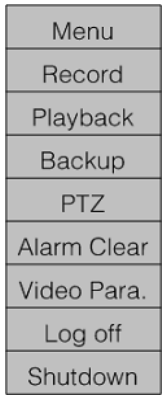
There is a voice input port on the back panel, which is used to connect with audio input device such as microphone. Please select active microphone or pick-up. The MIC voltage output is 50MV and the pick-up voltage output is 1000MV. Please refer to main menu->display setup-> intercom input-> there are options on the DVR menu for users to select MIC or pick-up as intercommunication input.

3.4 Front Panel Description

3.4.1 DVR7000 Front Panel and Layout Description

MARK	NAME	DESCRIPTION
POWER	Power Indication Light	When power the main board, the system is in operation, the light is green; when the system is in standby mode, the light is red; when the system is in standby mode, the light goes out.
REC	Record Indication Light	When the system is in the state, the indicator light flashes; When the system is in the non-video state, the light goes out.
IR	IR Remote Signal Indication Light	When you operate the host computer by using remote controller, the light is bright.
ALARM	Alarm Indication Light	When there has the alarm information, the indicator light flashes; when there has no the alarm information, the indicator light goes out.

3.5 Mouse Operation



Besides front panel and remote control, mouse also can be used to control the unit and manage the menu functions. System also supports mouse hot plug.

Right click the mouse:

1. If the system is in login status, right click mouse and shortcut menu will display, containing system menu, record, playback, backup, PTZ control, alarm clear,video parameter, login and power off.
2. If DVR is locked and in real time monitor status, the login menu will pop out when right click the mouse. The system default setting user name is " admin" , and password is 888888 (You can click the mouse trolley to choose a flexible keyboard).
3. Once entering the menu, right click the mouse, it will let you exit the current interface and back to the former menu or exit the main menu.

Left click the mouse:

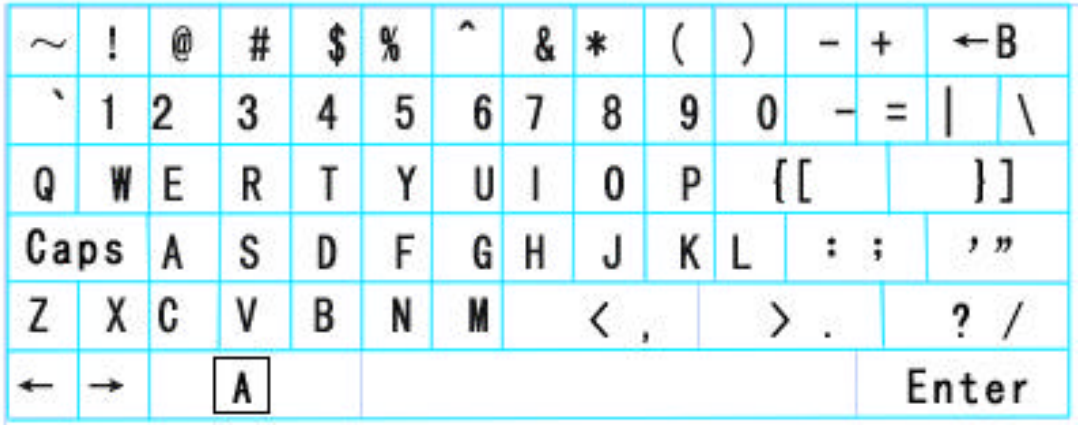
1. Left click the mouse, and you will enter the functional menu.
2. In the main menu, left click and choose the item to enter or set up the parameters.
3. When selecting the motion detection set up, left click the mouse to change the status of the motion detection square unit.
4. In playback status, left click the mouse to shift between play and pause.
5. To set up the video images parameters, you can change the brightness, contrast, saturation, hue of the image by left click the mouse on a certain point you prefer.
6. For data input, left click the mouse and select the software keyboard, it is the same as press the corresponding key on the PS keyboard.

Mouse Trolley:

1. In real time monitoring, clockwise roll the trolley to change the image format, and counterclockwise turn the wheel to shift the channels.
2. When change the number, rotate up means increasing the number, and rotate down means decreasing the number.

3. Rotate the trolley to select the word frame.
4. After refresh the file data or file log, move the cursor into file data or log frame, then you can rotate the wheel to flip the file data or log.
5. In playback, clockwise roll the trolley to fast rewind, and counterclockwise roll the trolley to fast forward.

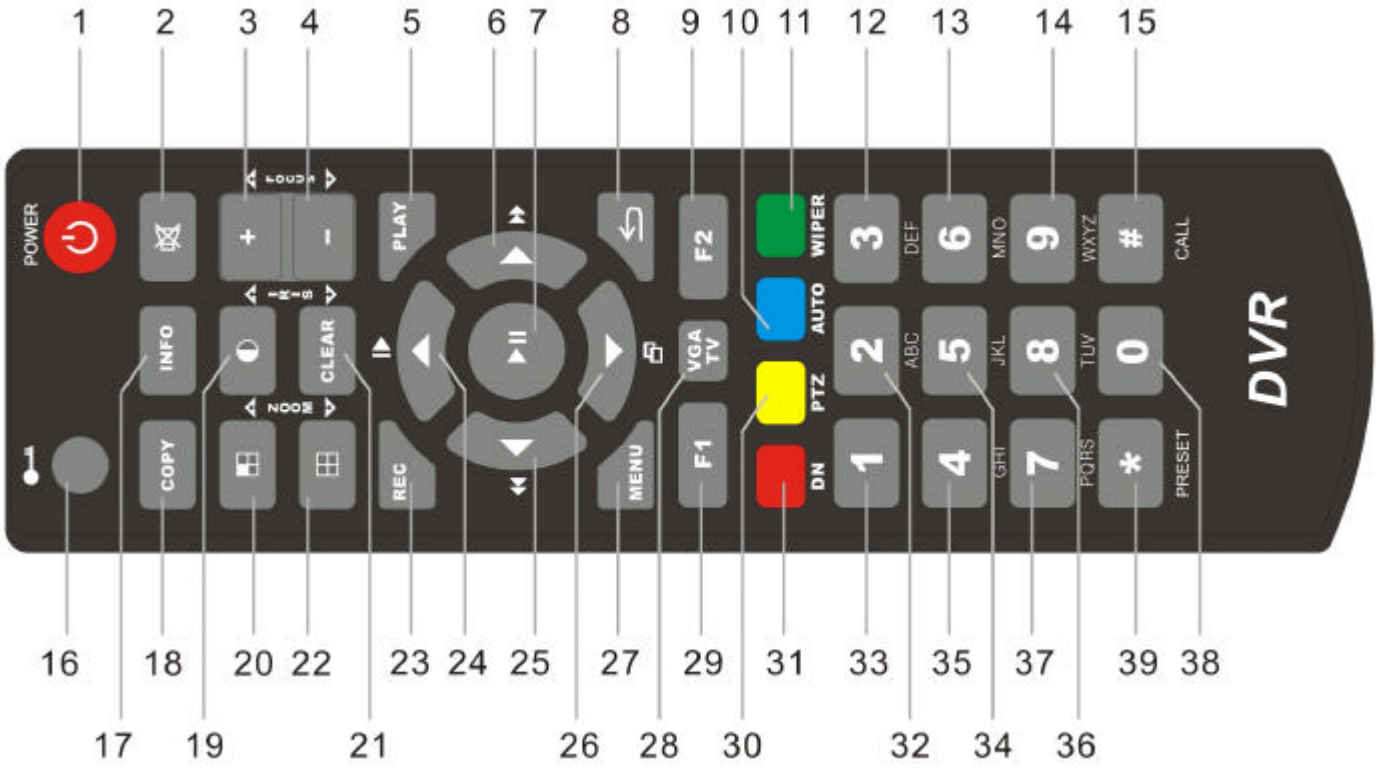
Click mouse trolley: If you click the trolley into input area,there will be a flexible keyboard.The interface is as following:



Notes: the GUI icons which support a flexible keyboard.

1. Setup time for schedule , motion and alarm record, setup time for alarm output, backup.
2. Network:IP setup, user name and password setup, DDNS setup.
3. Channel name setup, backup server name setup.
4. Server serial number.
5. Add and change user names.
6. Password setup.

3.6 IR Remote Control



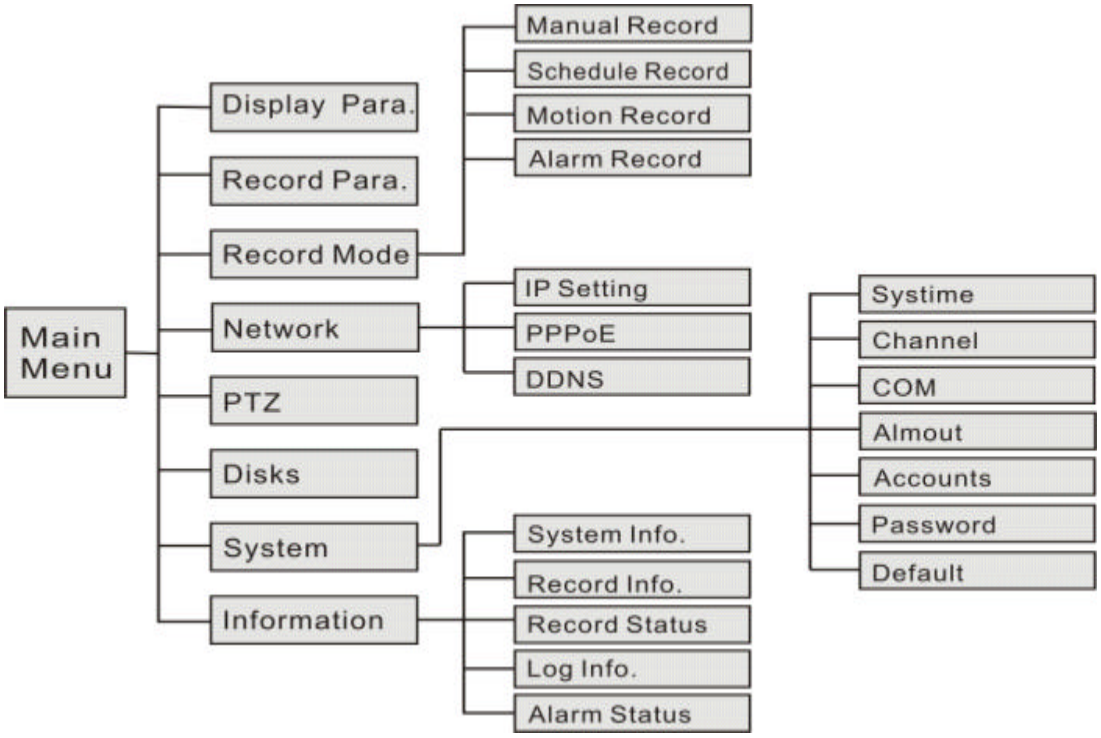
3.6.1 Remote Controller Layout

Keystroke instruction		
1. Power	14. 9WXYZ	27. Menu
2. Mute	15. Transfer	28. VGA/TV
3. +, Focus+	16. Log in/Log off	29. F1
4. -, Focus-	17. Information	30. PTZ
5. Playback	18. Backup	31. Server Index
6. Fast Forward	19. Image/Iris+	32. 2ABC
7. OK, Play/Pause	20. Shift/Zoom+	33. 1
8. Return	21. Clear/Iris-	34. 5JKL
9. F2	22. Format/Zoom-	35. 4GHI
10. Auto	23. Record	36. 8TUV
11. Rain Brush	24. Up, Slow Motion	37. 7PQRS
12. 3DEF	25. Left, Backward	38. 0
13. 6MNO	26. Down, Frame Forward	39. *, Reset

For detailed functional description, please refer to 3.4.1, the instruction of front panel. (Note: F1 and F2 are preserved functional keys.)

3.7 Menu Operation Description

3.7.1 Structure Chart



3.7.2 Menu Option Schedule

Menu	Submenu	Explanation
Display Setup		1. Display contrast: From 1:1 to 1:5, the color of background is changed from light to dark. 2.Video Format PAL,NTSC4.43,NTSC3.58. 3. Record Overwrite Mode. 4. Display Record Mode. 5. Voice call input: mic / voice pickup. 6. Auto Lock Setup:0-10 minutes. 7. Image auto switch Setup:3-60 seconds. 8. Date display format: year-month-day; day-month-year. 9. Preview, Playback OSD Setup: channel, time, date.
Record Parameters		1. Definition: CIF,D1. 2. Bit Rate: VBR, CBR, Constant HD . 3. Bit Rate Size: 100K,128K,256K,512K,1M,2M,3M,4M. 4. Image quality: 1-6 level(1 is highest). 5. Record Type: Manual, Schedule, Motion, Alarm, All. 6. Video Frame rate: PAL 2-25F/S,NTSC 2-30F/S optional. 7. Audio. 8. Network HD, Bit Rate(according to TCP stream).

Record Mode	Manual Mode	Setting manual record.
	Schedule Mode	Setting continuous record time table.
	Motion Mode	1.Motion record time: 1－99 s. 2.Alarm schedule. 3.Motion detect sensitivity: 1－5 level(5 is the highest). 4.Setup motion detect area. 5.Select alarm output and voice alarm. 6.Channel replication.
	Alarm Mode	1. Alarm record time: 1－99 s. 2. Sensor ID. 3. Alarm schedule. 4. Relate the recording channel. 5. Alarm output and voice alarm. 6. Jump PTZ preset position. 7. Channel replication.

Network Setup	IP setup	Setting Server name, DNS server, IP address, Network transport ports, LAN multicast.
	Dial up setup	Setting dial-up username and password ,for PPPOE dial-up.
	DDNS	Embedded the Peanut Client software，support DDNS function.
PTZ Setup		Setting PTZ protocol, baudrate, address.
Disk Management		Display HDD status and information, implement HDD formatting function.
System Management	Time setup	Setup system time and date.
	Channel setup	Setup channel name, video-lost alert, mask area, channel replication ,automatic cruise.
	Serial port setup	1,Server Index No. Lock, 2,Serial Device(RS485) and serial port mode(full duplex, semi duplex) 3, Address Code Setup.
	Alarm output	1.Full screen when alarm triggered. 2. Buzzer alarm output. 3. Alarm retain time(0-300s). 4. Alarm recording time. 5. Alarm output duplication function.

System Management	User account management	Add and delete user account, change local user account and remote user account authority.
	Password setup	Setup on-off password, system and upgrade password.
	Restore to default setting	Restore to default setting.
Information	System info	Display software version, mainboard serial no., SCM version, IP address, NIC Mac address, file system, Video standard and language.
	Record info	Query the recording file data by sort.
	Recording Status	Display the recording status of each channel.
	log	Query system log.
	Alarm Status	Display the alarm status of each channel.
Back-up Function		Back-up recording date from DVR host.
Display		Adjustment for Brightness, Contrast, Saturation and Hue. Three different time period can be set (Period1,Period2 and Default).
Accurate Time Playback		Fast track to an accurate time point and playback.

Chapter 4 Device Operation

4.1 Power On/off and Login /Lock

Power on: After connected up the power cable, the front panel of the DVR will start and enter the standby state. Click the " power" button on the remote controller for 3 seconds to enter the running state.

Power off: When the system is under the running state, click "power" button on the remote controller to popup the shut down interface. After user typed the correct password (default is 000000) and clicked the 'confirm' button, the system will enter the standby state.

Login/Lock:To avoid unauthorized user using the machine or influencing the system's normal working, we specially set the key lock and unlock function for the machine.

4.1.1 Keystroke Unlock/Lock

When multi DVRs are put to work together, using the remote control may influence the machines which users do not intend to control. So, we set system key lock function correspond to remote control. Under the system management of DVR main menu, please enter series configuration and set up Device Number, then enable key lock and save it. Now to press the DN button on the remote controller, the DVR is locked, and you will see the LOCK light on the front panel is on.To unlock the DVR, please press the DN button and input the corresponding DVR Device Number. (Device Number range is 0-99,default set is 33. If the Device Number is forgot, you can get it back by password retrieval. Please refer to Section 4. 8 .6 password setup).

Note: If the remote control does not respond, please check if this function is enabled.

4.1.2 System Login

When the system is in the status of locking, press the“ ”button on the front panel or the remote controller about 1 second, the port of login will appear as follows.

Input user name and password on the login port(distribute in authority in advance), after you input correct user name and password and press “ ENTER” , the sign “ ” on the lower left corner will switch to “ User” automatically, and show the current user name. Then you can carry on the operations in the authority to the system at the moment.

Note:

1.After click the main menu and image button on the front panel and remote controller,there will display the user login interface.

2. Default User:admin,default password: 888888.

3. When you input the incorrect password 3 times continuously,the system will alarm and get into the status of locking automatically. In that case, you need to click the “ clear”on the front panel or remote controller to retype the password.

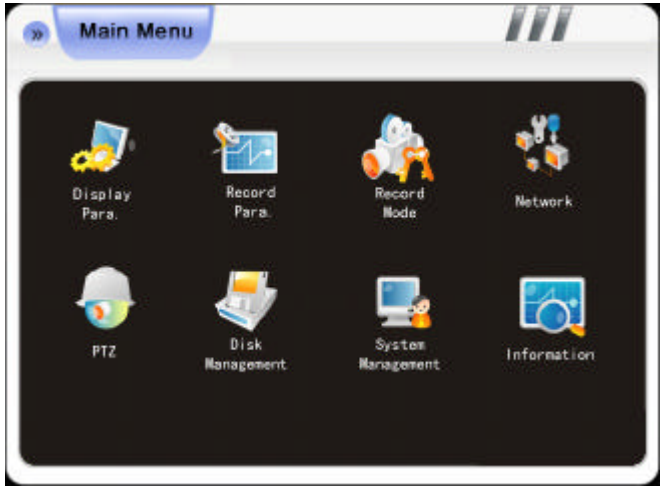
Note:For the sake of safety, please change the default password immediately.

4.1.3 System Lock

When the system is in the status of login,if there is no operation in several minutes(System default automatic lock time are 5 minutes).You can only do the operations such as login, set DN and switch scene format and so on at the moment.

4.1.4 Main Menu

After user log in successfully, and click the “MENU” on the remote controller or the front panel, the system will switch to main menu. The main menu will appear as follows:



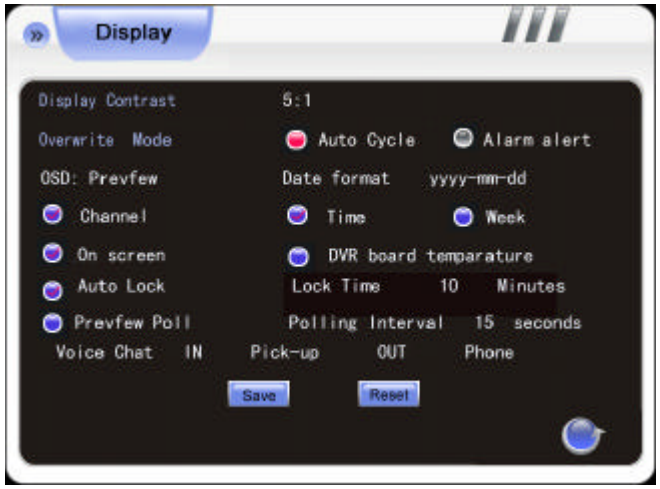
Submenu Introductions.

4.2 Display Setup

Display setup is used to setup the Display Contrast, Overwrite Mode, display record mode, auto Locking, auto locking, OSD ect. After log in the system,click “ Display” to enter display setup,the fig is as follow.

- Contrast

When you enable this option,you can setup the “Display Contrast” . There are 5 levels 1:1, 2:1, 3:1, 4:1, 5:1, and the default value is 5:1. When “ 1” is chosen, the background color is the lightest.



● Overwrite mode

This setting can effect in all channels.

(1) Auto Cycle: When the hard disk is recorded fully, this mode will automatically overlay the oldest record file.

(2) Alarm alert: When the hard disk is recorded fully, this mode will automatically prompt you whether to overlay the oldest record file or change the hard disk. (Attention: It will not record from popup hint to clicking " Confirm" . For avoiding lose recorded file by negligence, we do not commend that function.)

● Record mode

When you enable this option,the record status of each channel will be displayed on the top left corner. If channel 1 is for manual recording, " manual" is displayed.

● Mic and pickup option

Support Mic and Pickup input. Please choose Mic or pickup as voice chat device. Due to the output of Mic and pickup is 50MW and 1000MW, the DVR provides Mic and pickup options for voice chat device.After enable that function, user can select Mic and Pickup and user can input device in interface LINE IN to carry out the page function.

● Auto locking

When you enable auto locking, system will enter the status of locking in fixed time (0-10 min). 0 min is unlocked, and the default automatic lock time are 5 minutes. If there is no operation in fixed minutes, the system will be in the status of login automatically.

- Auto switch

Be uesd to start and stop auto image poll. User can set the polling interval after you select this option.(3-60s)(Note: This function only takes effter after the system in lock status.)

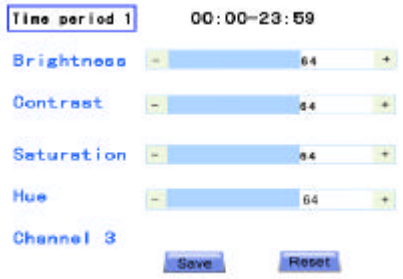
- OSD

It can display channel name, time and date optional. It can adjust the date format. There are two formats: year-month-day, month-day-year
(1)real-time: If you select the channel name, time, date, you will see the channel name on the left top corner of the screen, and the time and date will display on the left bottom.
(2)record: If you select the channel name, time, you will see the channel name on the left top corner of the screen, and the time will display on the right bottom.

Press " save" to let the setting take effect.Press "reset" to retrieve the default setting.

4.2.1 Video Parameters

User can set the brightness, contrast, saturation and hue.After log on,click the " Video Para" on the front panel to enter the following interface.



- Time period

(1)Parameters of each channel can be separately setup in two different time periods:time period 1 and time period 2. Move the cursor and choose a time period. By press + and -, you can adjust the time from 00:00 to 23:59. It'll restore to default settings if your setting is out of the time range.(Attention:If there is some time overlap for the setting of time period 1 and time period 2, the system will accept time period 1 setting)
(2)Default Value: Each channel video parameter in default status.

Note:User can set the two time periods separately. The setting of time period is for each day,and time period should be set by sequence.

- Brightness,contrast,saturation,hue

Video parameter has 4 options: brightness, contrast, saturation and hue, and range is 0-127. Default status brightness (64), contrast (64), saturation (64), hue (64).

- Current channel

When in multi-channel display mode, the current channel is the top left channel. When in single channel display mode, the current channel status is showing on the main screen.

After setup finished, user can click “Save” to save configuration and click “ Reset” to restore to default setting.

4.3 Record Parameter

The video parameters do not change with the record mode. Therefore after user use DVR to record,it is important to set the video parameter, since it is related to the definition and the HDD space of the recorded data. After log on, choose “ main menu” ->“ Record mode” into the setting interface of record parameters, and the setting interface is as follows.

- Channel

Customer can select the channel by number key “ +” , “ -” or by the mouse.

- Record mode

System has 4 record mode:(1)Manual Record (2)Schedule Record (3)Motion Record (4)Alarm Record;The priority is from low to high. Whether some channel is placed in record status is decided by manual record, schedule record, motion record, or alarm record.If only satisfy 1 of those conditions, the system will enable the recording of current channel.

- Resolution

Recording and playback resolution is CIF 352*288, D1 704*576.

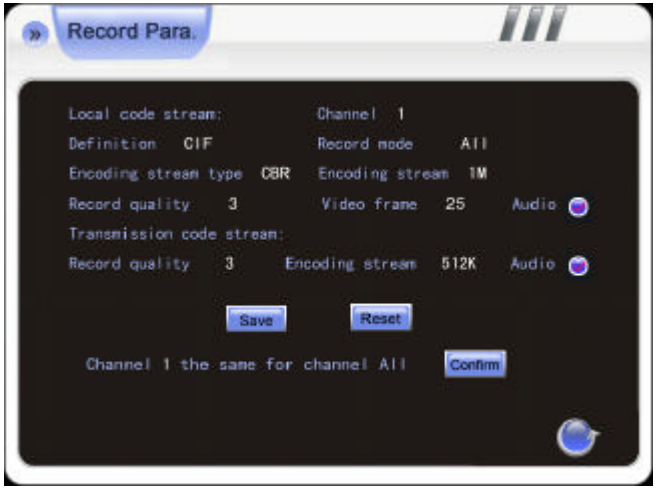
- Encoding stream type

Each bit rate type has different data capacity. There are 3 kinds of the bit rate, fixed video quality, CBR, VBR. Customer can choose accordingly.

◆CBR: The compression bitrate keeps constant even when image source changes. The characteristic for CBR is in limited bitrate to have good compression images, as well as easy to estimate the HHD occupation and network bandwidth.

◆ VBR: The compression bitrate is dynamically adjusted when the image source changes. For instance, when the video images are smooth, the compression bitrate is adjusted in low level, and when the video images are in big motion, accordingly, the compression bitrate is adjusted in high level. Thus, when recording, system maximally saves HDD capacity, and for net transmission, the bandwidth is also maximally utilized. The main characteristic for VBR is the video quality keeps constant, but the compression bitrate changes in compliance with image sources. The setting for bitrate level should be within the compression bitrate limitation.

◆Fixed video quality:6 level video quality is provided. Level 1 is the highest, and playback image is the best, but the HDD occupation is largest. The system default setting is in level 2.(Note:When the stream type is set to fixed video quality, set up the stream does not affect playback quality.)



● Encoding stream

Different steamrate can control the data transmission flux. There are 100K, 128K, 256K, 512K, 1M, 2M,3M,4M. eight stream rate options. (Note: When user select CBR or VBR, the bitrate will influence playback quality.)

● Video quality

There are six levels of video quality(1, 2, 3, 4, 5, and 6), and the video quality would decrease according to the increase of the numeral.

● Audio

The on / off switch for audio (Tick off indicates open, otherwise means off)

● Dual streams

1.The parameters of local stream are for main stream. The local stream parameter settings affect the recording main stream and network main stream.

2.The parameters of net stream are for sub stream. The net stream parameter setting affect network sub stream.

● Reset channel

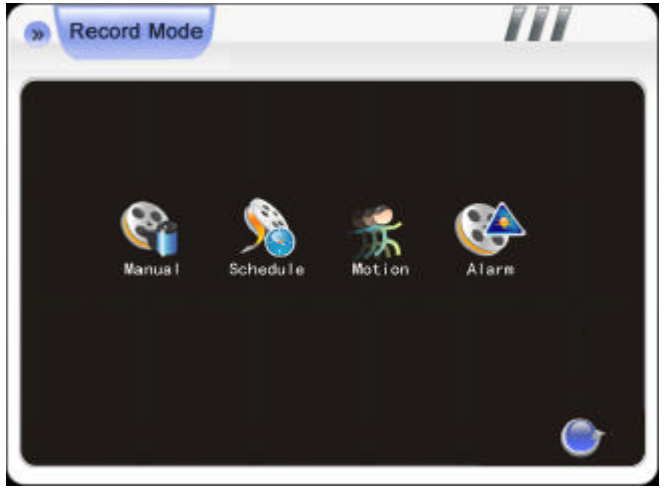
User can click Reset button to restore the current channel status.

● Copy channel

User can click Confirm button to copy the current channel parameter to all channels.

Set up after the completion of the above, according to " confirm" key to preservation, and then return to the higher level menu.

4.4 Record Mode



Enter Record Mode Login and choose " Record Mode" from Main Menu.

There are 4 kinds of the recording mode: Manual Record, Schedule Record, Motion Record and Alarm Record.

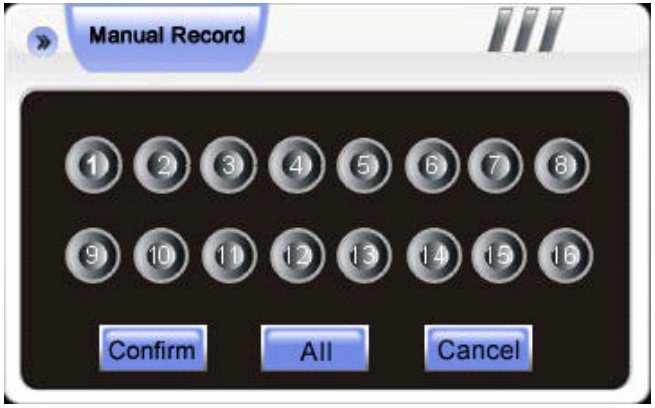
● Note: Before starting one or some record modes, please make sure the login user has the operation authority for " manual record" , " Schedule record" , " motion detection record" and "alarm record" . Before starting record, please also make sure there is HDD installed in the machine and the HDD can be formatted to data partitions. After recording modes are set up, the record status is easy to check in the GUI. (Refer to 16. 2 display setting). Users also can enter" information" ->" record status" to check the recording status for all channels (Refer to 4.9.3 record status)

4.4.1 Manual Record

Operations steps:

1. Choose " main menu" ->" Record mode" ->" manual record" to enter the setting interface of manual record. The setting interface is as follows:
2. Move cursor on the icon, and press " Confirm" to select or release. When the icon turns blue, the manual record is started. The setting wouldn't take effect until you move the cursor to confirm press " Confirm".
3. Click the "Enter" key to save up after the setting. Click " Cancel" , if user close not want to save it.

Note: Once the manual record is started, it will keep record until being closed.



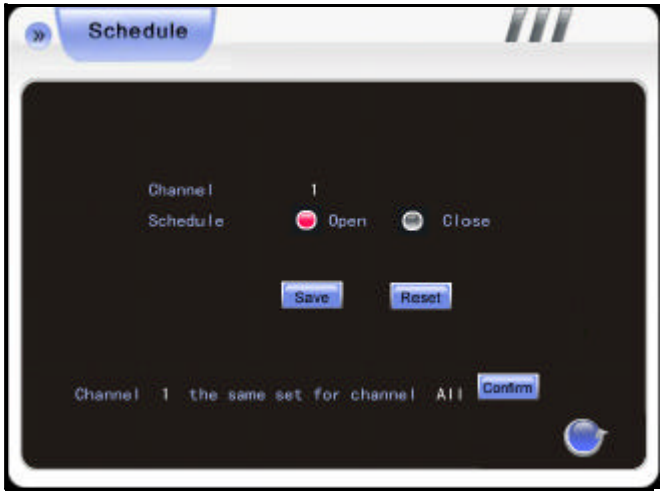
4.4.2 Schedule Record

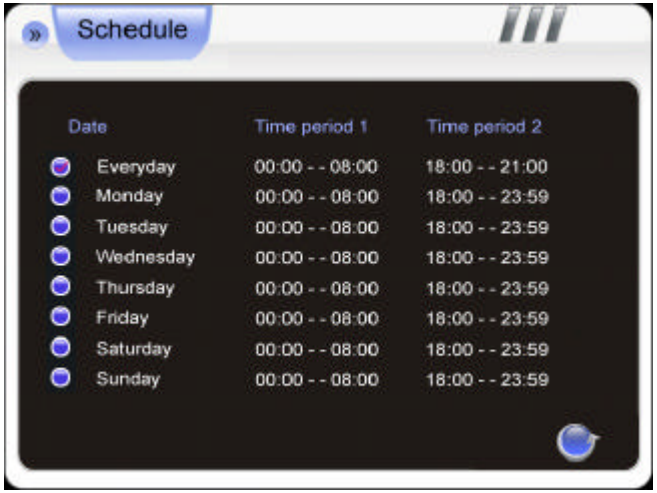
Enter the setting interface with schedule record and login to system, choose "main menu"->"Record mode"->"Schedule record" into the setting interface of schedule record. The setting interface is as follows.

Move the cursor and select "open" icon to set up the schedule record for the corresponding channel. If user selects "close" , it means schedule record is not effected.

4.4.2.1 Set Record Time

Press "save"to enter the record time setting interface as below.





User can set up two regular time periods for time record of every day, or set up two different periods for time record of every day in a week. Attention: The period wouldn't take effect until the corresponding day is selected. For example: If you want to select "Everyday" , move the cursor to the corresponding icon and press "ENTER" . (Play red hook means open, Otherwise close)(Attention: The constitution of time period is according to the order of sequence, time of each time period can't cross containment, and can't spring over a constitution.)

User may single click the mouse trolley getting the flexible keyboard to set up time period.

4.4.3 Motion Record

By analyzing the real-time video, the system could confirm whether the video scene has changed or not. User could set the motion record time, schedule time, sensitivity, detection area, alarm output channel and audio alarm.

1. Enter the setting interface with motion record and login to system, choose " main menu" ->" Record mode" ->" Motion record" into the setting interface of manual record, and the setting interface is as follows:
2. Set the alarm record time: It means the time period of recording, which is triggered by the motion alarm. The scope is 1~99 seconds.(Attention: The system would stop recording as the last motion detect alarm happened. For example: If the motion detect time is 5 seconds and the period is an hour, the corresponding channel will be recording all the time as the motion interval is less than 5 seconds.)
3. Select the channel to record.
4. Setup the Alarm Schedule: You can set different motion alarm periods for each channel. The everyday record period of a week can be set the periods of corresponding channel.
5. Select the sensitivity: The sensitivity of the motion detection is adjustable (1-5), and the sensitivity goes up in order from 1 to 5.

6. Setup the Motion area:Firstly, user needs to set the motion area. Move the cursor to detection area and click “ Confirm” to enter the motion area setup.Each channel motion detection areas: PAL-396(22*18),NTSC-330(22*15). The cursor is at the top left black square. You can set the motion detection area by moving the cursor, then press “ OK” to confirm it, and then the set area will turn to green. The rest area rather than for motion detection is in yellow. (Default setting is full area for motion detection.)
7. Alarm output and Alarm output time period: It’s used to set the linkage output of motion alarm. (Green indicates selected, and grey indicates unselected). Default time period for alarm output is 00:00-23:59.
8. Audio device: When you select this option, the audio device, which is connected to the machine, would ring when the system detects motion alarm.
All settings is ok,click the “save” button, and all the parameters will be kept. If you click “back”, the settings will be cancelled. If you click “ reset”, the system restore default.

4.4.4 Alarm Video

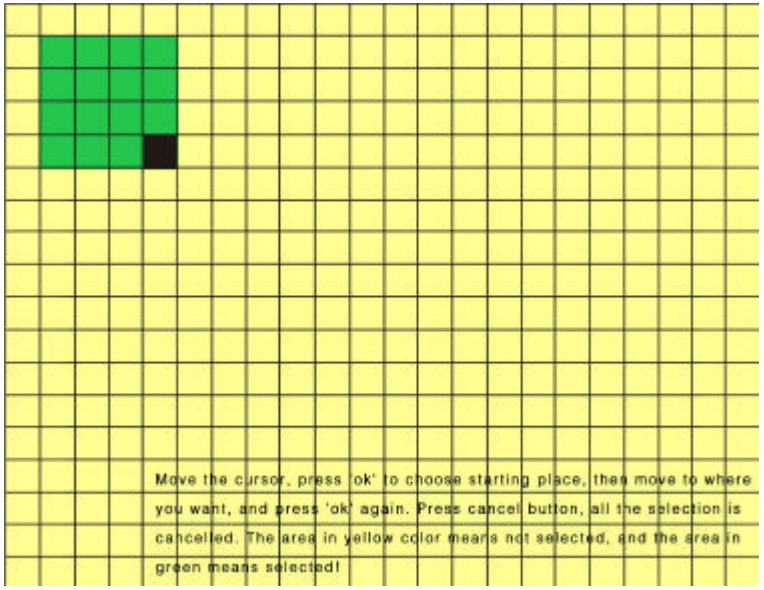
Alarm video setup computer:

1. Enter the setting interface with alarm video and login to system, choose “ main menu” -> “ Video mode” ->“ alarm record” into the setting interface of alarm video, and the setting interface is as follows.

2. Set up Alarm video time: choose the time of alarm video, the scope is 1 to 99 seconds. (Note: The video stopped time will begin at the last time of detecting to probe alarm according to the process of starting alarm linkage video. For example: set up the probe video time for 30 seconds, set up the channel anti-time for one hour, if the alarm interval been detected within an hour is always smaller than 30 seconds, then this channel in this hour will always be in the video state. From this point, we can see that if the probe did not reset after alarming, the video will always continue.);

3.Choose probe number: may choose different probes for alarm video, suggest the linkage of each probe and the corresponding video channel in order to find the video data according to access;

4.Choice of deployment time: on the " Open" icon click " OK" button to enter specific time -deployed settings of the passage ;(specific time-deployed settings please refer to 4.4.2.1 deployment time settings)



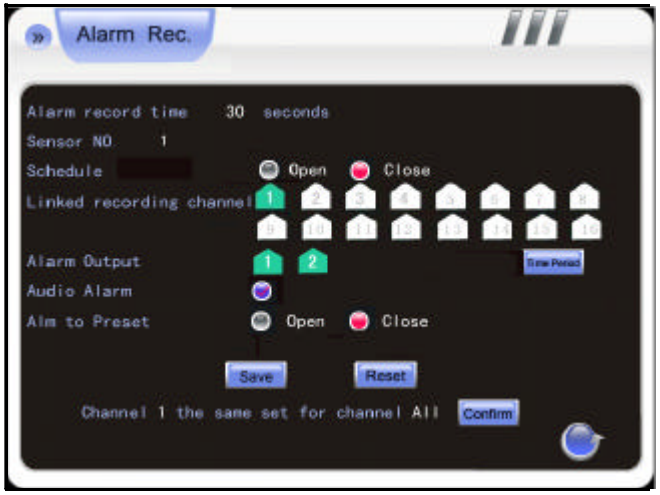
5,Set up linkage video channel: In case of happening to alarm, you can designate one or more channels for video, the setting way is to select a good channel during the process of " linked video channel" , and then click " OK" button (green to check) , The system defaults the probe of corresponding with linked video channel.

6,Alarm output settings: Set the alarm to trigger corresponding with alarm output (green for election);

7,Set sound alarm: after the option to enable voice alarm function, when the alarm was generated, there will have voice alarm (need external speakers and other equipment), settings way is to click " OK" to set up in the " Enable sound alarm" (a red hook for election);

8.PTZ preset

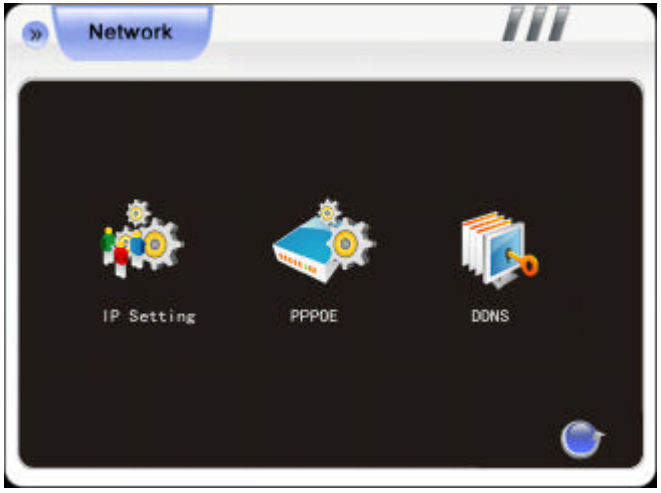
Set up cloud desk presetting spot: When the probe detected the alarm, cloud desk jumped to the point presetted, settings way is that in the “jump cloud desk presetting point,” choose “open” to enter the settings interface, select channel number and cloud desk presetting point, then returned.. (Note: the scope of Cloud desk presetting point is 1 to 255, 255 stands for shutting down; when copying the channel, this option will not be copied to other channels)

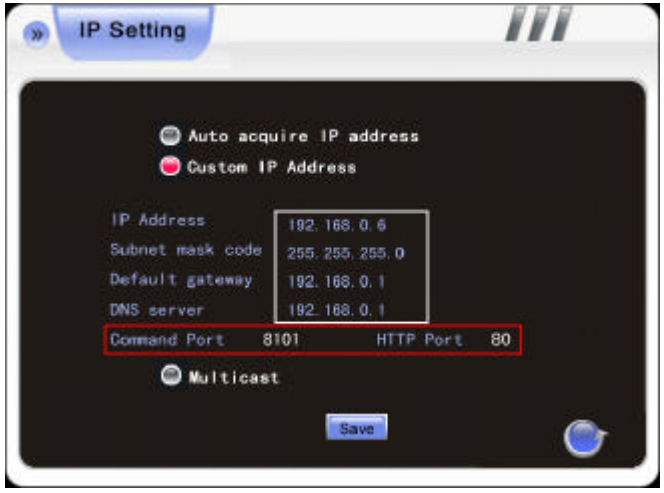


After finishing the settings, click the “Save” button to save all the parameters settings, click on the “replacement” will stand for restoring to default status, click on the “Back” button to withdraw from mobile video settings.

4.5 Network Setting

Enter the “ IP setting” , and choose the “ IP setting” and interface is as below left:





4.5.1 IP Setting

After login, through the “ main menu” ->“ Network Settings” button continuous operation into the “ network settings” interface, the interface is as follows right:

● Auto acquire IP address: the premise is that network has DHCP service. After starting the equipment, it will obtain a dynamic IP address .and displayed within the IP address column.

● Use the following IP address

If there is no service of starting-up activated automatically assigned IP address in the LAN, the system could choose “using the following IP address” to edit, acting as a static IP address that the System appointed.

IP settings: This IP must be unique. It can’t have conflicts with the IP of other servers or working stations in the same LAN. Default IP is 192.168. 0.6 when getting out of the factory.

Subnet mask code: Used to differentiate subnet.

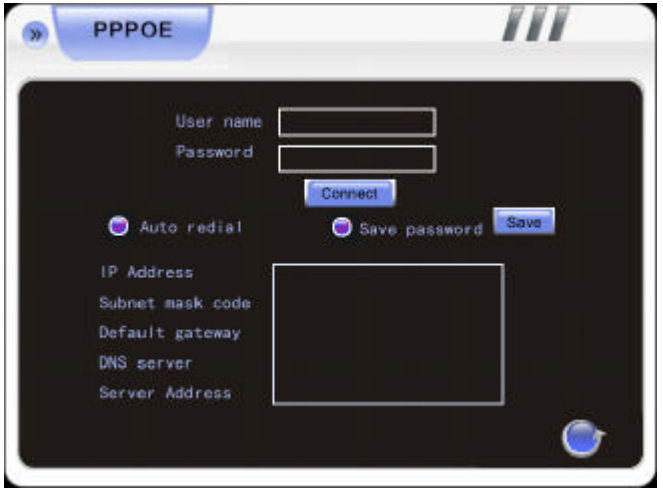
Default gateway: Used to realize communication between different networks, it needs to set up gateway address.

DNS server: Input the DNS address acquired by PPPOE.

● Command Port: the port for Data transmitting with client, Default set is 8101. It will take effect for amending the port needs to reopen the hard disk video recorders.

● HTTP monitoring Port: IE browse port, Default set is 80. It will take effect for amending the port needs to reopen the hard disk video recorders. After you change the HTTP port, you should type http://IP:port for IE browse.

● Multicast: This function only affects UDP stream (the main stream). This function enables multiple clients connect to and visit the same channel of one server DVR. Due to the limitation of the server source, maximum 32 clients can visit the same channel of a server DVR simultaneously. If this function is not enabled, for a server DVR, only maximum 32 channels image can be visited by clients. Red color means this function is enabled.



4.5.2 dial-up settings

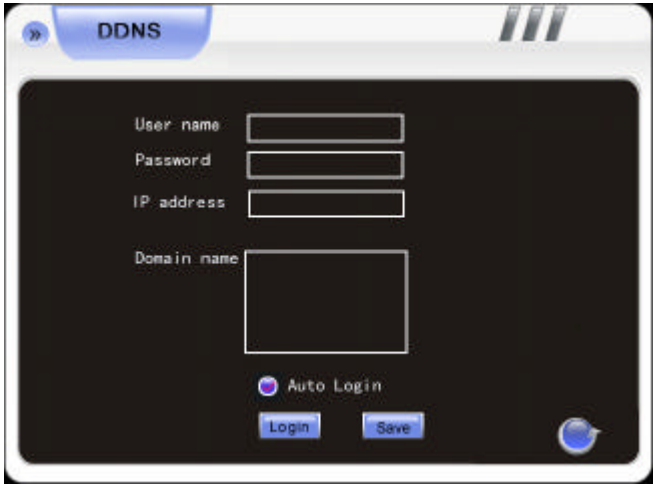
After entering a “network settings” interface, choose the “dial-up settings” to enter dial-up interface as the right graph shown:Dial-up setting is one of the ways to connect internet: The system can connect internet by dialing up ADSL directly.

- User name: ADSL account user name.
- Password: ADSL account password.
- Connect: After you input the correct ADSL account and password, focus the cursor on the icon and press “ ENTER” to connect the WAN.
- Auto Connect: If you select this option, system will automatically connect the WAN after disconnection.
- Save password: If you select this option, system will automatically save the ADSL password.
- Other information: It shows the network information of the pubic network after the ADSL connection succeeds. Click the “ ENTER” key to save the current status of automatically replay when drop the line presently and saving password option.

Note: When user name for ADSL is input and the net is connected, system will automatically save the user name for next time using.

4.5.3 DDNS

After entering” Network Settings” interface,select “ DDNS” for entering the “ DDNS” interface as the following right graph:



Our DVR system support domain name analysis function, which can analyze the address that directly dial to the wide area network, which can also analyze the address that go on the wide-area network by mapping.

- User name: The user name of the passport which is applied from www.oray.cn.
- Password: The password of the passport which is applied from www.oray.cn.
- IP address: After login successfully, it will display the WAN IP address.
- Domain name: show the resolved domain under the premise of the host of wide-area network connectivity.

Operation: input user name, password, choose “log in” automatically, it will automatically go on resolving the domain name after dial-up successful, click “ save” key to keep the status of logging in automatically.

Note: The applied domain name needs to be activated in peanut shells site by analysis; enter the user name and password, just go on logging in as operation, the system will automatically save the user name and password to log in next time that do not need to re-enter.

Explanation: Digital video recorders have hard drives of peanut shells embedded analytical capabilities that can achieve the analysis in the domain of the host-side, only need to input applied peanut shells passport (user name) and password on “ the network settings” -> “ domain name analytic” menu interface, choose “ Save automatically log in” and click “Sign”, to resolve the domain name, the user can login client end or Web browser for remote access and control by this domain name that has been resolved. (Note: Due to the design of third-party software, if the domain name can not be resolved, please check whether there have similar notices that maintain server on the peanut shell site.)

Please note that the following is news from the peanut shells site:

From August 1, 2008, we will abolish the peanut shells embedded standard service sign business changes, allowing only peanut shells professional services / business services peanut shell-level login to use embedded peanut shell, For Windows / Linux version any client does not be affected by the adjustment of the business. About the introduction and upgrading

ways of peanut shells specialty/ business service, please log in to read the following address: http://www.oray.cn/PeanutHull/PeanutHull_ProUser.asp

4.6 PTZ Setup

After logging in, through “ main menu” -> “ PTZ setup” continual key-press operation for entering settings interface as following:

- In “ main menu” -> “ system management” -> “ serial port settings” -> for “serial port type” , please select “RS485 serial”; and for “ serial device” , please select “PTZ”. Save it and return to main menu.
- “ main menu” -> “ PTZ setup” -> “ the choice of ball-access channel”, select the appropriate agreements, baud rate, and address code for the ball.
- confirming the connection of the plus or minus connector correctly between positive and negative RS485 line with the hard disk recorder RS485.

Note: It could be controlled only when the ball machine agreement, baud rate and line-ball machine settings keep consistent.

- PTZ control: select the control channel (the single channel in full screen display, or the top left channel of multi channel display).

Control types: Front panel control (when PTZ light on the front panel is on), Remote control (when speed doom symbol is on the live view image), remote client manager control and IE control.

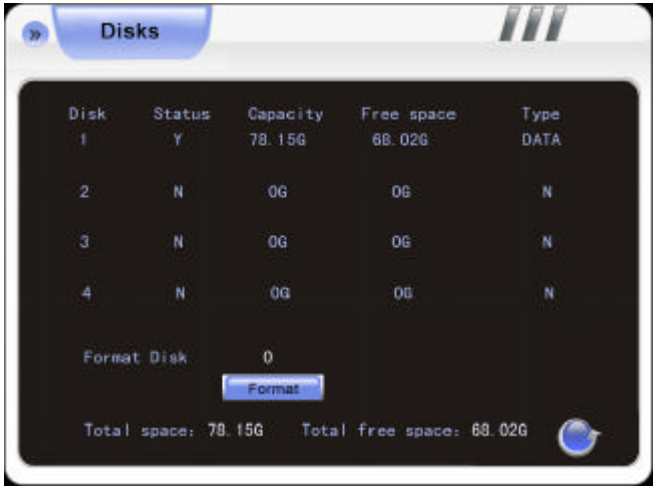
“ Preset” , “ Call” function introduction: Set PTZ in a position, click “ Preset” on remote controller or the front panel , and there will be a small blue pane displayed on lower-right of screen, please input number into it such as 001. Using the direction key to move PTZ, press “Transfer”on remote control or the “CALL” button on the front panel, input 001 into the small blue pane on lower-right of screen, and then PTZ will be turned the preset position. (The number for “preset” or “ call” must be set for 3 digitals, 001-255. 255 means closed).

4.7 Disk Management

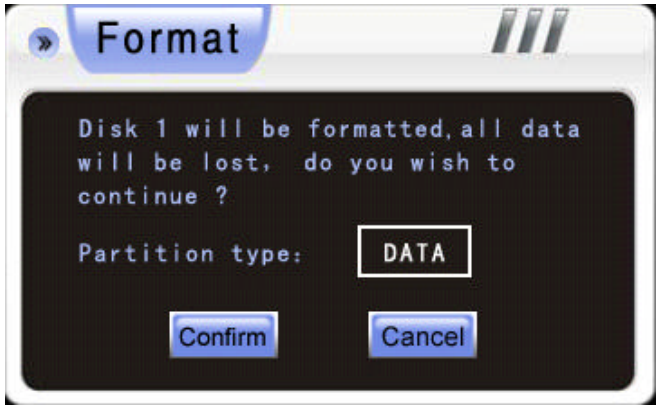
After login, user can through “Main menu” , “ Disks” enter the Disks interface as follow.

The 1st line displays the connective HDD number (DVR7016V has 4 SATA interfaces against HDD number 0 to 4; system default number is 0)

The 2nd line displays the HDD status. The 3rd, 4th and 5th lines display the HDD capacity, free space and partition type information. The last line displays the total HDD capacity and total free space.



4.7.1 Disk Format



The system only supports the FAT32 disk format, please format on hard drive recorders, and use above 32G disks: the system only identify a backup area.

Format: choose the disk number that needs to format, press confirmation key to enter the area identified by type (data or backup), such as the left graph, choose partition type, confirm it, then the interface will show " it is formatting……" , wait four seconds, the disk will be formatted.

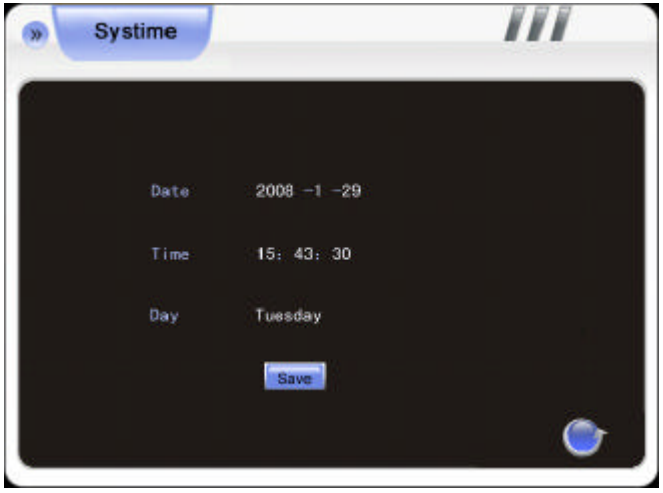
4.8 System Management

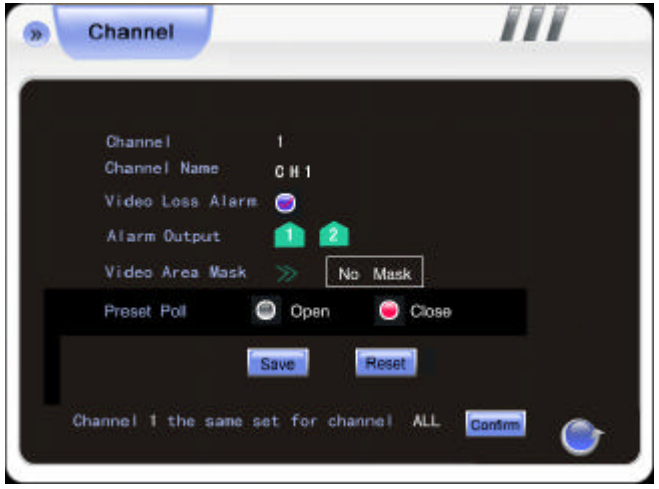
After login, user can through "Main menu" , " System Management" enter the " System Management" interface. The fig is as follow.

4.8.1 System Time

After login, user can through “ SETUP” , “ Sys Time” enter the system time interface. The fig is as follow:

This function is used to set or modify current system time, system uses a calendar function, as the week will be modified with changing the date. After saving the setting, the system will reboot automatically in order to make the modified time effective. (Attention: Please adjust the system time for first using. Because system time is in close relation with video record, do not adjust system time under normal circumstances.





4.8.2 Channel Setup

After log in, user can through “ System Management”, “ Channel” enter channel setting interface. The fig is as follow.

The channel setting is used to modify the channel parameters, such as: channel caption, video lost alarm for each channel and video full mask.

(1)Channel name

- The channel name can be established at most 16 Chinese characters or 32 English letter and numeral.(Except for front panel and remote control operation, system supports flexible keyboard. Users can click the mouse trolley to open and close the flexible keyboard.)
- Channel name fixed fold on the top left corner of the corresponding channel.
- User can use "#" on the remote controller or front panel to switch language.
- Chinese input adopt zone bit code, please refer to code table while inputting.

Note: When copying the channels, the channel names are not copied. The default setting of channel name is CH1, CH2, CH3 , CH4 .....

(2)Video lost alarm

If video lost alarm of a corresponding channel is set to open (√:Open).When the video is lost, the DVR will warn in three different ways, audio alarm, buzz alarm and alarm out warn. User can click " Info" to enter alarm status log and check the alarm information.

(3)Mask area setting

- Click and confirm the cursor  into mask area setting.
- Move the cursor and press it to choose a certain initial position. Move the cursor and get the mask area and confirm it by pressing the button. Green color indicates the mask area. Yellow color indicates no mask. Press the cancel button to cancel the operation. Each channel only supports on mask area.
- Return to channel setting interface, you can choose mask or no-mask at the right option frame.

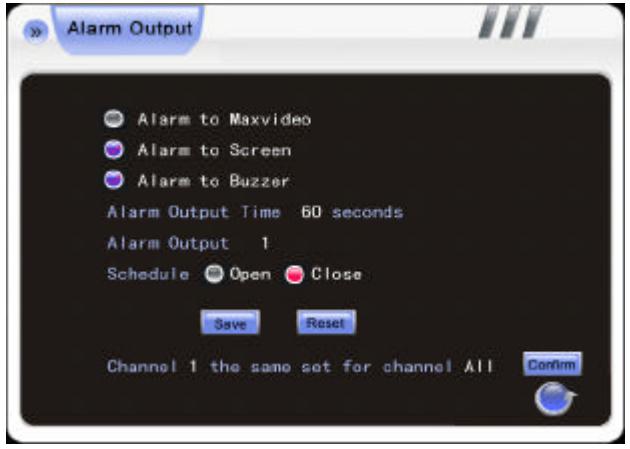
4.8.3. Serial Port settings

After log in, user can through "System Management" ->" Serial Port Settings" continually key-press operation enter serial port settings interface, the interface is as following:

DVR Number: (Default Value: 33).
Button Lock: Use for lock the remote control (See details in 4.1.1. Remote Control lock and unlock).
Serial port Type: RS485.
Serial port Mode: full duplex, semi duplex.
DVR Serie Port Address: Set the corresponding address code for serial keyboard. (Note: PTZ address should be set in PTZ setting interface.)

4.8.4 Alarm Output

After login, user can through " System Management" , " Alarm Output" enter the following interface.



Alarm output interface respectively have the following options: “Alarm window maximize,” “ buzzer alarm output” , alarm output, set alarm output deployment time.

- Alarm to fullscreen : When the system was in the state of the multi-screen video, the system detected the report, warning channel will turn to full-screen image automatically.
- Buzzer alarm output: When alarm triggered, the system will enable buzzer alarm.
- Alarm Output Time: (0~300 Sec.), system default is 100 Sec.
- Alarm output number and deployment time: Select 1-2 alarm output, set up the output deployment time, the system default the warning output deployed time as daily 00:00-23:59 that will open.

4.8.5 User Management

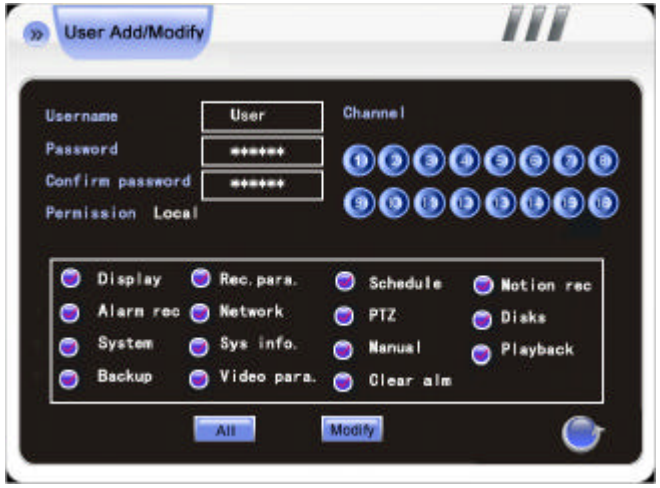
After login, user can through “ System Management”-> “Accounts” enter the user account port, the fig is as follow:

If you select the “ Display the user list when login” , you can use the “ -” ,“ +” buttons to select the user name instead of input character by character.

If “ Display the user list when login” is not selected, you need input user name when login.

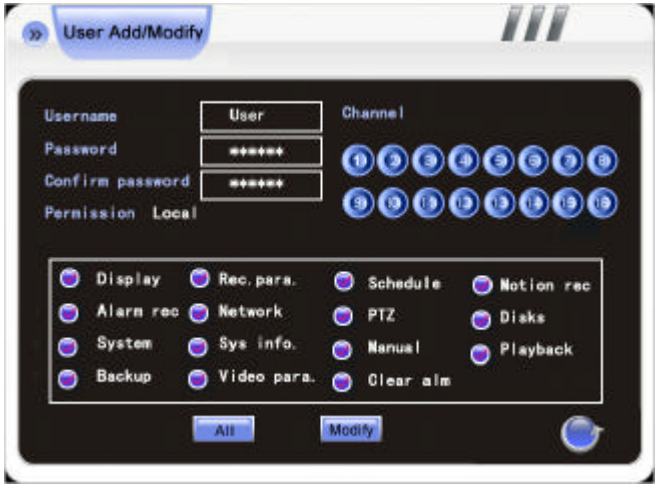
1. User add/modify

● User add: Only the administrator (admin) has the right to add or modify user accounts. When system is at the “User Account” port, press the “Add” icon to enter the “Account add/modify” interface as follow (Attention: System user authority has 2 kinds: Local and Remote).



The method of user authorization: Move the cursor to the function icons and confirm it. After the new user information is added, move the cursor to “Add” icon and press “confirm” . (Attention: system supports 16 users, and that means admin is allowed to add 15 users at most.)

● User modify: Only the administrator (admin identity) can modify users’ function authority and delete users. Users can only modify their own password. The method of modifying and deleting users is to move the cursor on the account name in “ User account” list, and press “ ENTER” once to select it.



After having a revision to the user's permission operation, move your cursor to " modify" button and press " OK" button to save, preserve and click " Back" button to go back to the higher level menu.

2. User delete

Please note only the administrator (who can use " admin" to login) has right to delete users.If you want to delete a user, choose the user's name in "Account" list, and focus on " Delete..." and press " ENTER" . Return to keep setting, and the user is deleted.

4.8.6 Password Setup and Password Default

After login, through " System Management" -> " Password" ,user can enter the power password interface. The fig is as follow.

There are two passwords in the power password interface. Be sure that you press the " ENTER" button while focusing on the " Save" icon after modifying the password. The explanation is as below.(Note:User can not set the Power password the same as the Upgrade password.)

1. Power password (Default value: 000000) is used to verify the password when you start, shut off the system or unlock the keystroke.
2. Upgrade password (Default value: 666666) is used to verify the password when you upgrade the system via USB.
3. Password restoration: Before introduce the operation of password restoration, there is another password that should be mentioned--admin's password (default setting is 888888).The password restoration will restore three system passwords (the power password, the update password and the admin's password), lock password and machine serial number.

When you forget the system password or the admin's password, the factory's default setting can be retrieved by the following operation (For safety, the password restoration pins are hidden designed).

Shut off machine and cut off the power supply:

For DVR7000:

1. Unload the cover screw, and remove the case lid from the machine.
2. Find U13 (labels RESET character) in the position of upper left corner of the front panel.
3. Jump the thread piece to put the legs 1, 2(next to the resistance R 13) of U 13 to the status of short circuit.
4. Connect the power supply, and start the machine. You can hear buzzer sounds, and it indicates that the passwords have been set to the default value at the moment.
5. Shut off the machine again, and cut off the machine power supply.
6. Pull out the jumping thread piece, and let the legs 1, 2(next to the resistance R 13) of U 13 to status of open circuit, and then insert the

jumper cap in the legs 3, 4.

7. Place back the case lid.

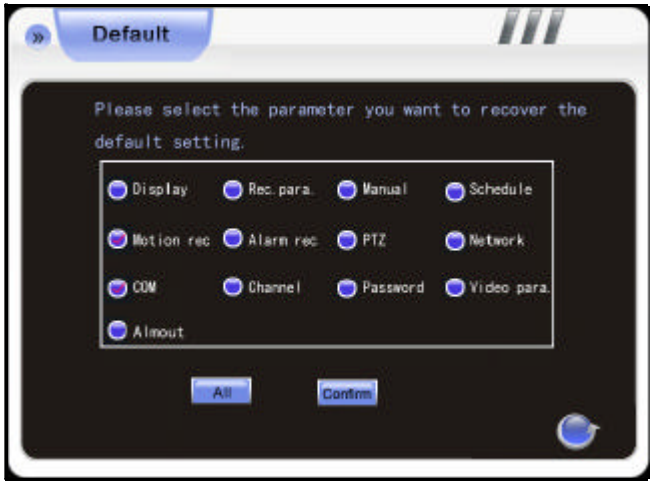
4.8.7 Renew Default

Reset system default set-up way: After login, user can through “ SETUP” -> “ Default” interface to enter the port whether to restore system default setting as following:

Note:Network management, System time, User account and Hard disk management wouldn’t be influenced.System default status is as follows:

(We take DVR7016V as an example)

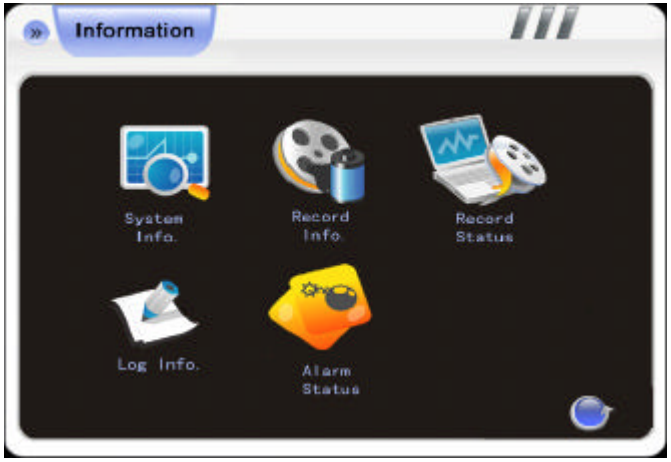
Display setup:Display Contrast(5:1); Video Format(PAL); Overwrite mode(Auto); Display record mode(Enable); Mic Input (MIC); Auto Locking(Enable) Auto Lock Time: 5 Minutes; Image Poll(Enable) Polling intervals: 15Sec; Date Format (Y-M-D); Display Channel Name (Enable); Display Time(Enable). Temperature (Open)



Record Parameter: Record Type (all);Resolution (CIF);Encoding Stream Type(CBR);Encoding Stream(2M);Local Record Quality (2);Local Video Frame (25);Local Audio(Enable);Transmission Encoding stream 512K;Network quality (3);Network audio (Enabled).
Record Mode: Manual record (Disabled);Schedule record (Disabled);Motion Detect record (Disabled);Alarm record (Disabled).
Network Setting: Auto redial after network break down (off) ;Auto log in (off).
PTZ Setup: Protocol (Unknown);Baudrate (Default);Address (correspond to channel number).
Channel Setup: Channel name (restore to default setting);Video Lost Alarm(Disabled);Alarm Output Channel(1~2);Video Mask(Disabled).
Uart Setup: DVR Number (33);Button Lock (Disabled);Serie Port Stype(RS-485);Serie Port Mode(Dualplex);Address(1).

4.9 Device Information

The information system includes system information, recording information, record status, system log, and alarm status. The fig. is as follow.



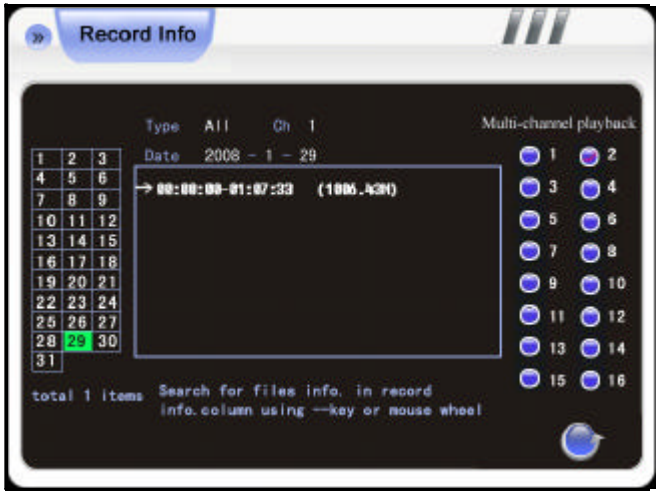
4.9.1 System Information

The system information port is as follows:

It displays software version, board number, SMC version, IP address, network card physical address, file system (the system only supports FAT32 file format) and language.

4.9.2. Record Information

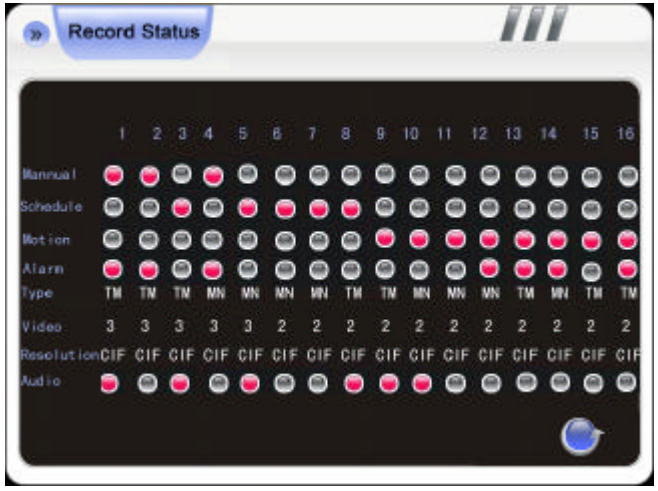
The fig is as below.



- The left side's date shows green; this means that the green date of current selection has the video data. The lower-left corner shows the date and access of all the video dates.
- Four video types: manual, schedule,motion, alarm, according to + or - switch types, the default display all types of video data.
- choose the time and channel after the video system to automatically refresh the data.
- Move the cursor to data, then clink Confirm to start replay the video.
- Use + or – for crossing the page.
- Multi-channels playback (7004, 7200 series except): multiple simultaneous playback supports 1, 2, 3, 4 maximum of four-way road. Search time intervals to choose whichever the ultimate channel is.

Note: the system supports precise time-like playback, according to panel, remote control or the right mouse button " -like" quick button to show "search video" flame.

4.9.3 Record Status

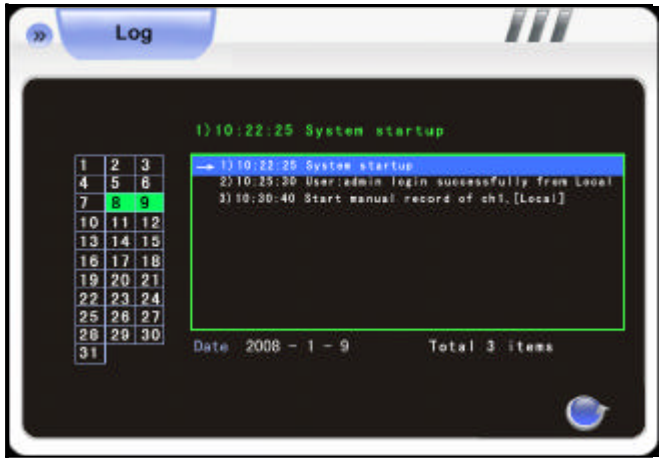


The fig is as follows:

It shows the record status of each channel's current video and audio (on or off) and if in the status of recording, the "Type" bar would show the type of current record(There are 4 types: MN(manual), TM(timer), MT(motion detection), AM(alarm).) Gray means off, and red means on. And it also shows the quality, and the audio of each channel. When a channel is not in recording status, the image quality shows " --".

4.9.4 Log Information

The interface is as below:



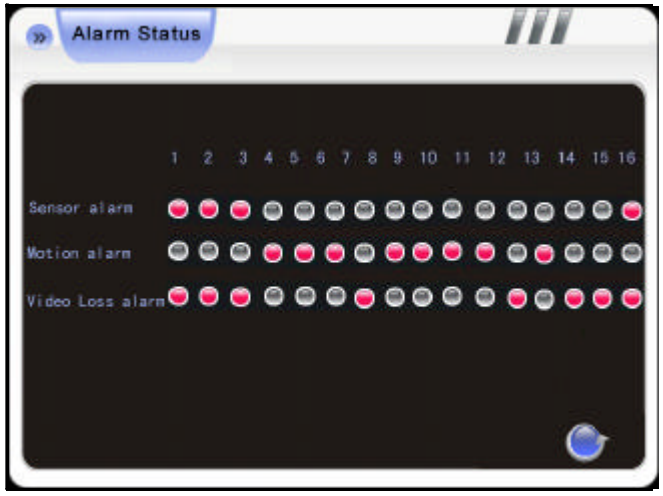
● The date in green color on left indicates there are record files exist in it in current month.

● Move the cursor onto a log line, and this item can be amplified and shown on top of the log frame.

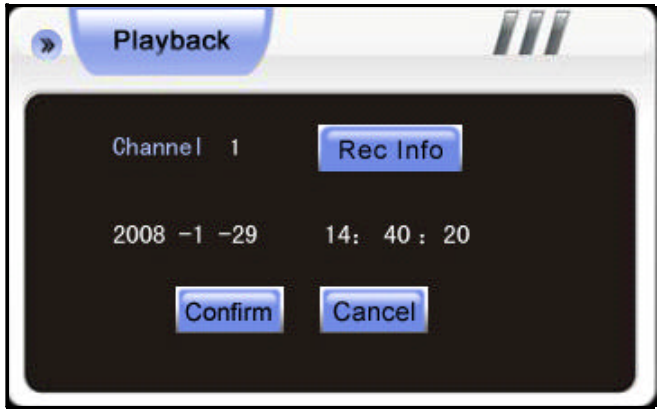
Attention: The figure next to the "Log" means the quantity of all logs in a day. System can store 1024 items for a day at most.The log files can't be recognised by PC. The log information of host Net DVR can be searched and checked in client manager. The log information includes: system start-up/shutdown logs, firmware version upgrade logs, alarm logs, PTZ control logs, user login logs, logs of system parameters changes, playback logs, backup logs, HDD format logs and client user login logs etc.

4.9.5 Alarm Status

The alarm status fig is shown as follow(as 16 channel the sample)
It shows the warning information of three alarm types of each channel: Sensor Alarm, Motion Alarm and Video Lost Alarm. You can clear the alarm through the "CLEAR" button of the remote controller, front panel on Net DVRs, or mouse.



4.10 Playback



●There are two ways of playback:

(1) Time search playback: Press the “playback” key on remote control or the “playback” button on front panel or right click the mouse to get the record log, and then select the files for an accurate time to playback.

(2) Category search playback:After login, press “Play” button to get the Playback interface. Press to enter the “ Rec Info” . Or press “ Info” to get “ File info” interface. Then users can search by category to playback selected files.

●Time search playback interface is as the right graph:

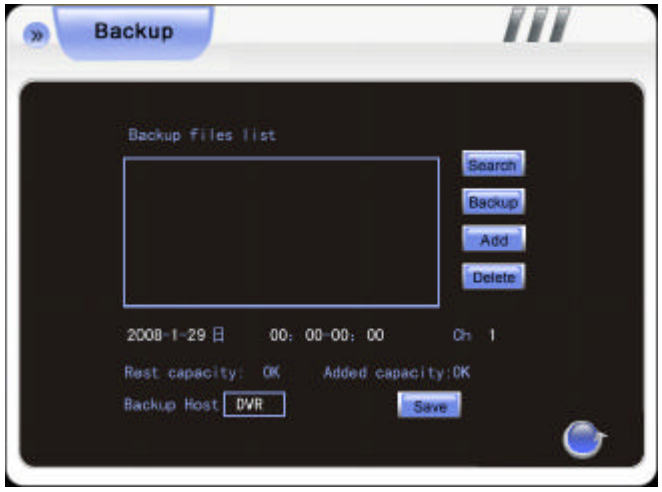
4.11 Backup Operation

There are two ways for backup: (1)Backup the file directly to the local hard disks.Backup the file to remote computer through network.To backup record file by remote PC will be described in Client User Manual. We only introduce local backup in this section.

- System only supports one backup HDD partition.
- System supports SATA disk and USB disk backup.
- Support USB disk and SATA HDD hot-swap.
- Backup disk must be FAT32 with capacity bigger than 512M.

4.11.1 Backup Files

"BACKUP" fig. is as follow:



Backup function allows to backup up to 16 record files for different channels in different time periods. See the details of backup process:

1. Input time period and channel number.

2. Move the cursor to " ADD" and press to confirm. The added file will appear in the backup files list. For more record files, please select the time period and channel number and add them to the list.

3. After you add all the files, move the cursor to " BACKUP" icon and press to confirm, then system would automatically start to backup.

Note: User can only backup recording data 15 minutes prior. For example: The time is 11:00 now, user can only backup recording files before 10:45.

Backup files list: Display added record files.

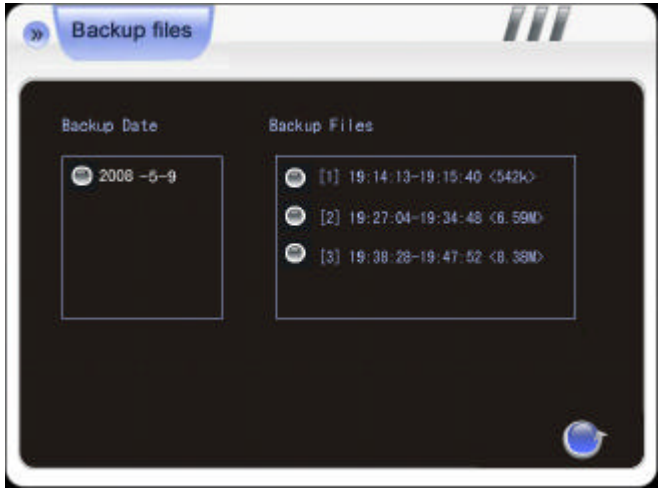
Backup host: User can name the host to differ it from other hosts. After setting up the host name, user can click "save" to confirm it.(Note: The host name can be set up to maximum 32 characters.)

4.11.2 Backup file playback

To playback the backup files, user has to enter the backup interface. Select the file and press " ENTER" to playback.

Backup file list: Display backup file information of a certain date.

Backup date: Display the backup files in current HDD backup partition. Move the cursor on the date icon and press “ ENTER” , and the file list at the right side would diaplay all files information of the date.



4.12 Software Update

Instructions of update :

➢ Please double check the version of the upgrade software, including machine model and boot interface. If you have any doubts, make sure it corresponds to yuor system, we recommend you keep the default version. Or in case you fail to upgrade the firmware, you can neither redo the system upgrade or restart the machine.

➢ do ensure supplying the power and the stability of network when upgrading. Network outages and interrupted power supply will cause upgrading failure. On a PC client remote upgrade download files completed, the host-side did not appear “the update was successful” in six minutes, which is resuming the equipment, later...” Tips, you can shut down and then reboot, then check whether the host computer update was successful.

➢Please double check the version of the upgrade software, including machine model and boot interface. If you have any doubts, make sure it corresponds to your system; we recommend you keep the default version. Or in case you fail to upgrade the firmware, you can neither redo the system upgrade nor restart the machine.

➢After upgrade, please visit our website or get electronic version of user manual from your suppliers, so you will understand new features after software upgrade.

➢ don’t modify the software, otherwise, we will take no responsibility and will not provide free updates.

➢ Make sure the Client Installation procedure is the same as the system (installation procedure is inside Software CD-ROM).

We take DVR7016V to introduce the operation procedures:

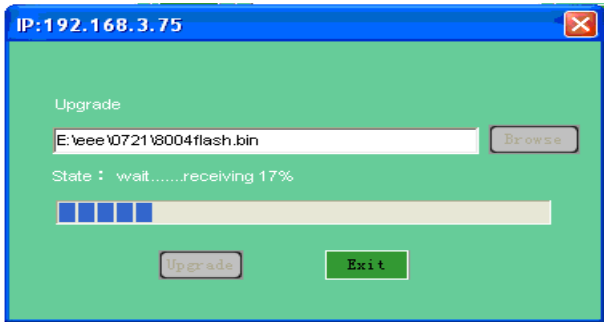
1.Connect the Net DVR to PC by coherent network cable or LAN (pay attention to prevent IP conflict).

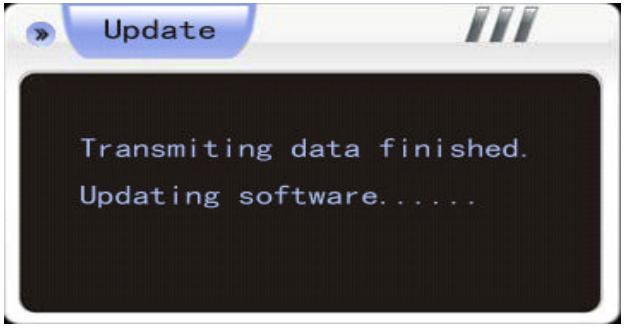
2. Before upgrading, please confirm the IP address of host computer, then enter client end.

3. After login and choose “systematic set up”-> “ Remote updated”.

4. Choose “Browse” , choose the file to be updated, and refer to the following fig.(left figure).

5. The following fig. is displayed on DVR(regiht figure):





6. Waits for 3 seconds,the Net DVR will display “Transmiting data finished. Updating software .....”. It probably takes 1-2 minutes to update the software.

7. When a window that contains the information of upgrading successfully pops up, it means that the update finished. Then, the machine will automatically restart.

8. After the system restart, the admin password, power password and upgrading password will resume.

4.13 Power Resume

If the power is shut down unexpectedly when the system is in standby or working status, system could start automatically restart and resume to the original status after power back. The advantage of this function assure the system maintain the continuity condition for outage.

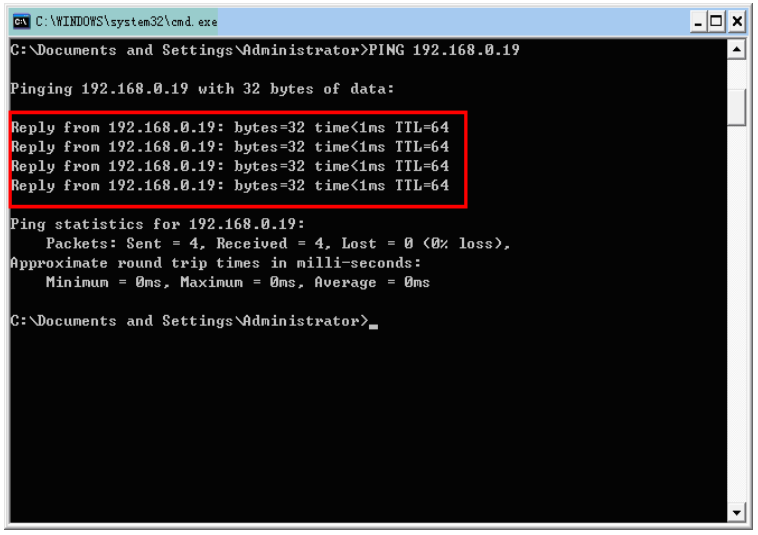
Appendix 1 IE Operation Instructions

Notice: Please set firewall rank for low or medium, and surf software or net assistant software, etc. should be blocked or unloaded. Otherwise the software may not run properly. Please guarantee to install DirectX 9.0 of Microsoft and confirm the Internet Explorer edition is 6.0 version or above.

1. LAN Configuration for IE Browse

1. “Ping”the host IP first to confirm if the DVR is connected.

2. Type the host IP into windows IE and connect to the DVR. Input user name and password to log in. If the log in is succeeded, the following interface will pop out.



3. Please refer to “ Client user guide” for further operation.

2. WAN Operation Instructions

■If there is a fixed WAN IP address that can be allocated to the DVR host, the DVR host can directly access wide-area network, and can be visited after set up IP, subnet mask and gateway.

■The host-setting steps are as follows: after logging, click the “Menu” button, enter "Network Settings", then choose and enter the “ Dial-up Settings” interface, input the user name and password, and click on the “Link” to make the DVR host access Internet by dial-up. After dial-up successfully, Net DVR will display relevant information. User can input the host IP address in windows IE and visit the host through network.

If you want to connect multiple DVRs to wide area network with only one IP, please refer to the following instruction:

Firstly, set up IP, subnet mask and gateway in the “ IP set up” interface of “network setting” in the main menu of host DVR. Note: Gateway must be set the same as the mapping router’s LAN IP. After set-up, connect the host to LAN to make the network mapping on the dial-up internet router. (Note: The instruction is for TCP protocol mapping)

Through the router mapping:

Host network interface settings are as following:

Note: The values of command port and HTTP port indicated by red box were 8101 and 80. Users can customize the value of the two ports. After setting and saving, DVR will restart to take the setting into effect.

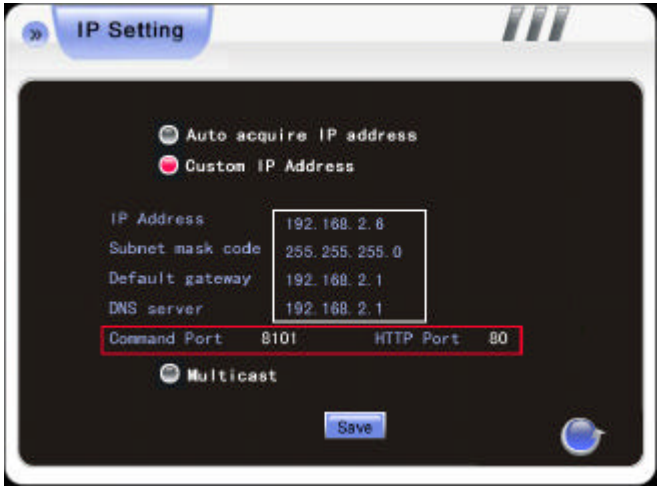


Fig 1

Take the TP-LINK as an example:

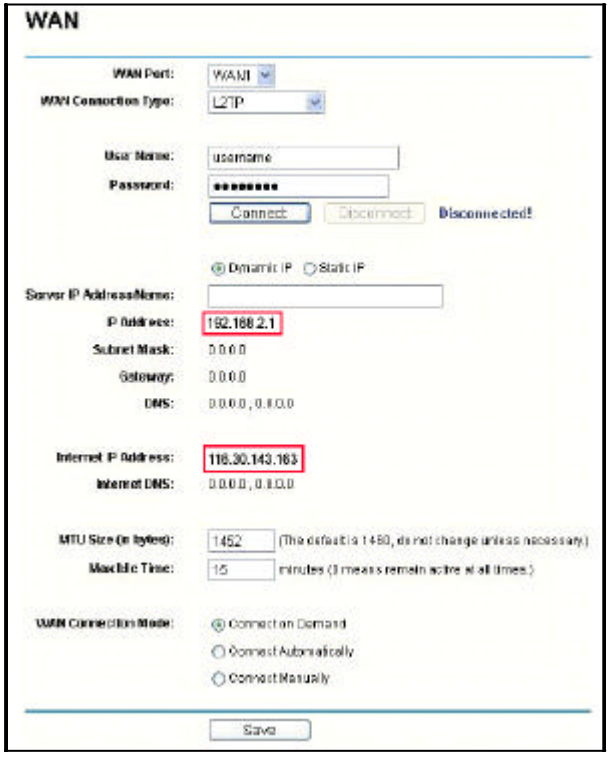


Fig 2

[1] After signing up routers, by choosing " Running Status" icon on left side menu of Figure 2, view the LAN IP and WAN IP address of the routers, such as, the LAN IP address 192.168.2.1, WAN IP address 116.30.143.163.

[2]Choose the " Transfer Rules" on Figure 2 left menu, as shown in Figure 3, respectively input " command port: 8101" , " HTTP monitor port: 80" , "IP Address: 192.168.2.6" , as shown in Figure 1, and choose to enable the agreement "ALL" . Click the " Save" to save the settings.

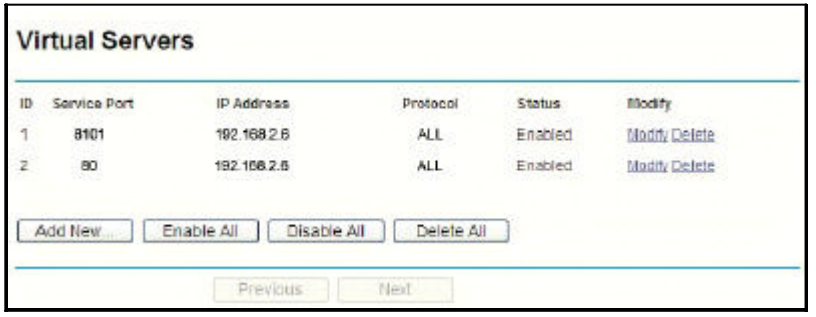


Fig 3

[3]Port Description: The command port is the TCP port of all DVRs communications, and HTTP port is IE browser port.

a. When the two ports are default setting, directly input the WAN IP address (116.30.143.163) shown in Figure 2 into client manager, and sign in. After login successfully, the interface is shown as Figure 4. For IE browse, directly input the WAN IP address (116.30.143.163) shown in Figure 2, and input the correct user name and password, you can log in. After login successfully, the interface is shown as Figure 5.

Fig 4

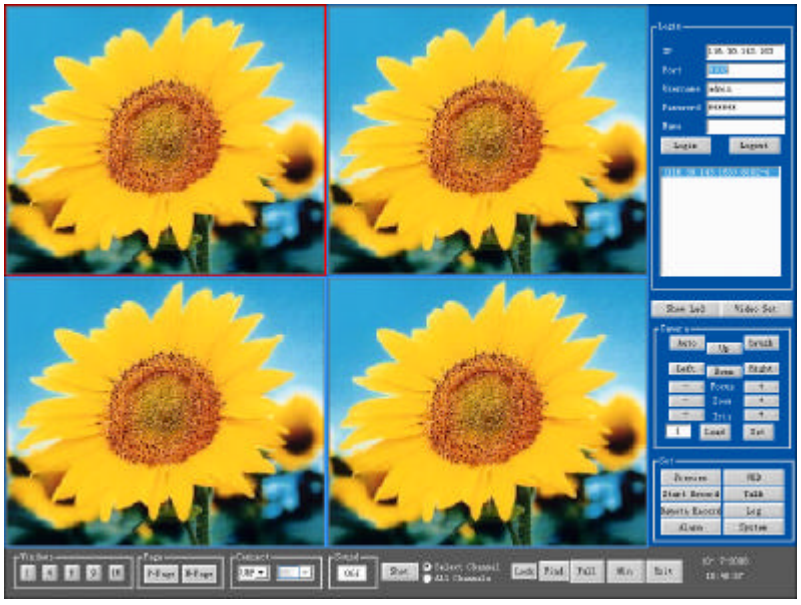


Fig 5

b. when these two ports are not the default values, for IE browser, input as the following mode: http://116.30.143.163:http port. For client manager, when login, input the command port in the login box.

Note: between IP address and port number, or between user name and port number, the punctuation ":" must be input.

Appendix 2: Net DVR Q&A

Thank you for choosing our DVR series products. We will always be at your services. In case you have any difficulty while using the products, please refer to the below frequently asked questions & answers. If you cannot find solution here, or the solution offered here still fails, please feel free to contact us by our hotline and/or technical support E-mail box. We will make most timely reply to your questions.

Testing Methods:
[1] Replace Method(Replace the power supply and HDD of the DVR).
[2] Minimum Load Method(Get rid of the HDD, video, audio and alarm resource).
[3] Upgrade(Solve some incompatible problems).

Note:Some problems may be caused by incorrect operation. If you can not make sure the problems, please run " Reset default"option.

(A)The problem about rebooting, self testing, system halted.


01: Why the DVR doesn't start up though power cable is well connected to power source?


01: 1. Check if you have turned on the switcher on the back panel. 2.Check if you have inputted the right power password and pressed Enter button.


02: I see the Super DVR logo, but why it stops at self-check process?


02: To detect if the problem is caused by hard disks, please remove all the hard disks and start system again. The DVR can start up without a hard disk. After start up, system will prompt " system does not detect the disk information, whether to continue". Click " OK" button, and the host can engage in normal operation.


03: My system can finally start up but seems to be quite slow. Why?


03: Hard disk error will take system much time on rechecking.

04: Why does my system restart after self-check?

04: 1.Check the hard disks if they are in FAT32 file format, if not, change to FAT32. 2. Check Color System setting in Record Parameter menu. In case this setting is PAL, while present video input is in NTSC format, which will cause system restart. 3. Please unplug the network cable, to see whether DVRs run normally, since there are serious problems of the network which may also cause the host to restart repeatedly.

05: Why my remoter doesn't work?

05: 1.Please check if the IR indicator light on the front panel flashes when you make operations with the buttons. If not, please check whether the remote control has run out of battery, or the remote control has been damaged. 2. Check if the front panel is in lock up status. If so, press Login/Lock button and input power password to unlock. 3. Please check if the host software locks the operation. If yes, please input user name, password to login, so to make IR remoter control work.

06: Why system halts at some certain time?

06: In case system halts at some certain time, for example, around 7:30am, please check your electricity system. This problem is mostly happened in factories, when at around 7:30, all machines start and cause power supply in a short temporarily. Try to make the DVR not connect to the same circuit as the industrial machines.

(B)Display Problems

01: Why there is nothing displayed on the monitor or the display keeps shaking?

01: 1.Check if the power is on or not. If the power is on, the power light at the front panel should be on. 2.Check the display mode. Refer to VGA/CVBS display switch from the user manual.

02: Why my DVR display images that seems to be interfered, and like water wave shape?

02: 1.Please check if the video cable has well connected. 2. Check if there are strong electricity current around the video cable. Please don't put video cable together with electricity cables to avoid interfering. 3.Please check if the DVR case is well grounded.

Only connect the case to ground by the screw on the back panel, while no other points connect to ground. 4.Please check camera, monitor and video cables if they are aging.

03: Why both the live display image and playback image are not showing the true color?

03: Please check if you have set the parameters well. (Please refer to chapter 4.2.1 for details)

04: Why my DVR displays distorted images on VGA monitor or cannot make full screen display?

04: 1.Please check if your VGA monitor is well set up. 2. Change your VGA monitor settings till make it full screen.

05: Why my DVR system shows disordered color?

05: 1.Please check you VGA data line, as well as connection condition between DVR to VGA monitor. 2. Check if the DVR system has overheat.

06: I started my system seeming to be successfull, but there was a certain channel displaying nothing, neither caption. Why?

06: Please make restore to factory default settings.

07: Why it displays mosaics when playback?

07: 1.Check the recording parameter setting. If the recording parameter is set too low, it can influence the image quality and cause mosaics. 2.If bad sectors exist in the HDD, it might cause mosaics when playback. Users need to check HDD.

(C)Client manager and remote functions

01: Why my windows system refused my installing client manager software?

01: You may haven't installed DirectX8.1 or above. Please make sure you have installed before installation.

02: How to make remote surveillance?

02: 1.Install the client manager software, and connect the computer to the network, e.g. LAN, ADSL.2. Set a fixed IP for the DVR:a.In LAN, manually give the DVR an IP, like 192.168.1.188.b.In Internet, you should apply for the fixed IP from Internet services suppliers.3. Client PC should also get an IP. If it's in the same LAN as DVR, then set manually an IP like 192.168.1.23 for the PC.

4. Test the connection between client PC and DVR by PING the DVR IP address on the PC.5. Input DVR IP address and port number in the client manager software, as well as the user name and password that is preset on DVR.

03: When I connect to remote DVR, but I can get only picture with mosaics, and sometimes pictures are still. Why?

03: 1.Please check the network conditions. It's probably blocked or very busy, so some video data may lose in transmission, which will cause mosaics. 2. Check the DVR server side, if the original images have mosaics. 3. On win2003 operating system, after the successfully sign, if DVR client cannot open image or images have mosaics, please set as the following: On the desktop space, click the right button of mouse, and select Attribute - > Settings - > High - > FAQ - > hardware acceleration option completely.

04: I have well connected the DVR with network cable (network cable indicator light flashes), but I fail to Ping the DVR from remote computers. Why?

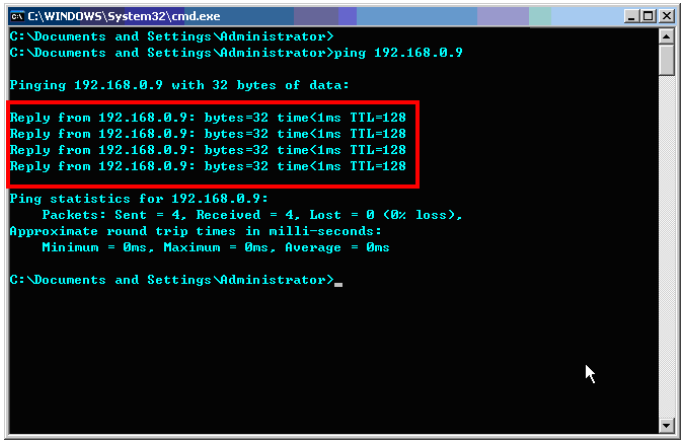
04: Please input "arp-d *" command on "Run Interface of Computer" to delete items set by inet_addr.

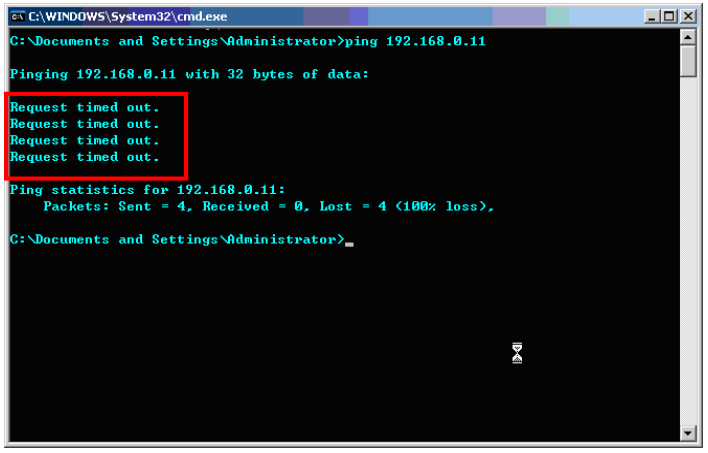
05: How to use client software to access DVR server?

05: A. Make sure whether the DVR server is turned on. B. Make sure the IP of DVR server is unique. C. Make sure the client software is installed correctly on the client side. D. Use command ping to check whether the computer connected to DVR host. If not, Please input "arp-d*" command to delete items set by inet_addr.

For example:

Following picture shows computer and 192.168.0.19 DVR connection has been established;Following picture shows computer and 192.168.0.11 DVR connection has not been established:





E. Enter the client software. F. Input the IP, Port, user name, password of the DVR server, and then click login.

Note: If you still can not login successfully, please confirm the above user name and password or repeat checking A-> F steps. If you can not login, please uninstall the client program, select new directory for installation, and then implement A-> F steps again.

06: I input DVR IP address, user name and password in client manager software, and system shows successfully connected to remote DVR, but I cannot view the cameras. Why?

06: 1.Please check if the computer has opened firewall protection. If so, close it or set the security level lower.2. Try to close/open the Multicast function in host DVR. When multicast data can't be received, some devices fail to have images although user successfully log in. 3. Check the model of your display card. Some diaplay cards are not compatible with our products.

(D)Record, video data and backup

01: Why my DVR system can't record audio?

01: 1.Please check if you have enabled 'Mute' function. 2. Please check the Record parameter setup window if you have enabled audio record. 3. Check the audio cable if it is in good condition.

02: Why I enable manual record, but there is no recording data in the file list?

02: 1. Check if you have set the correct search mode. Be sure that you have selected manual record mode to search the record data. 2. Please make sure you have formatted the HDD before use the DVR. The system only supports FAT32 format.

03: Why I cannot make timer record (schedule record)?

03: 1.Please check if you have corrected the set of the schedules. There are two period of time, and please make sure the first time period is before the second one. 2. Please check if power supply was cut off in the scheduled time periods. 3. Users needing the data has been covered. 4. User's hard drive has a physical damage or a logical error, which will result in the data to refresh normally.

04: Why I cannot make motion detection record?

04: 1. Please check the motion detection record schedule setting. There are two periods. The first one shall be ahead of the second one. 2. Please check if you have correctly selected the motion detection areas. 3. Maybe caused by too low sensitivity. Try to increase the motion detection sensitivity.

05: Why cannot I make alarm record?

05: 1. Please check the alarm record schedule setting. There are two periods. The first one shall be ahead of the second one. 2. Please refer to the alarm record setup window to check if the alarm linkage channels are well set. 3. Please check if the sensors are well mounted.

06: Why the recorded videos are not continuous?

06: 1. In case you are applying manual record or timer record mode, please check if power supply was cut off in the period. 2. In case

you are applying motion detection or alarm record mode, as system only records after the motion or alarm happens and lasts for a specific time and stops recording. So the recorded files may be not continuous.

07: Why use client manager software to backup data, click on the backup but not respond?

07: Check if firewall is open. Opening a firewall could lead the client program can not backup data from host-side.

08: Why show that backup is successful, but there is no backup data in the list?

08: Host side can not back up the data recorded within 15 minutes. (For example: It is now time 12:00, the video data between 11:45-12:00 can not be backupped.)

09: Why it displays mosaics when playback?

09: Hard disk errors may also cause mosaics. If it is logic damage, please repartition and reformat the hard drive. If it is physical damage, please replace a hard drive.

10: Why playback is quite slow?

10: 1. Please check whether you choose the slow playback. Our DVRs support 1 / 2, 1 / 4, 1 / 8, 1 / 16 of the slow-speed. 2. Please check whether the hard cable is connected well, meanwhile check whether there is a damage to the sector of hard disk. When there is an existence of a bad hard drive sector, it will appear the phenomenon such as playback pause.

11: Why the images are shaking during live view or playback?

11: Check the format of DVR and cameras system. Make sure they are in same format, PAL or NTSC.

(E)Alarm PTZ control

01: How to connect sensor to the system?

01: Our system supports general sensors, e.g. smoke sensor, IR sensor, and supports normal open and normal close working modes.

1. In case your sensing equipments are of high power consumption, to avoid damaging the alarm output module, please make relay extension connection.
2. In case you are using high frequency equipments, e.g. High frequency lights please make relay extension connection method, or alarm module may not work properly.

02: How to connect multiple PTZ cameras, or PTZ devices?

02: 1. Please make connection in star method: Connect multiple controlling lines (RS485) in parallel connection, and set addresses properly. 2. Bus connection: Connect 485+ and 485- to the DVR's 485+ and 485- pins, and connect the next DVR's 485+ and 485- to the first DVR's 485+ and 485-. You may need to add a terminal resistance. Please read the P/T unit manual.

03: I opened motion alarm and sensor alarm, but I got misinformation frequently. Why?

03: Please check and set motion detection sensitivity properly. (Motion detection is sensed motion by light intensity. In case you set it very high sensitivity; day & night changing may trigger an alarm)

04: How to clear the alarms?

04: Under the status of login, you can clear the alarms by pressing the " Clear" button on font panel or " Alarm Clear" key on the IR remoter, or by clicking "Alarm Clear" in the menu using mouse. If the host DVR is locked, please login first.

05: Why I cannot control PTZ devices, e.g. speed dome?

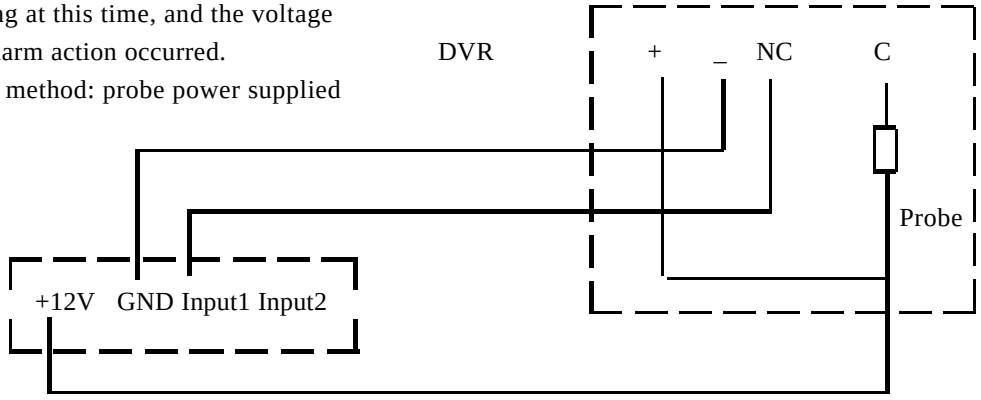
05: 1. please check if you have connected 485 controlling line to DVR correctly. 2. Please check DVR settings, i.e. protocol, baud rate are set the same as the PTZ device. 3. Check whether the address code of the PTZ devices and the settings of DVR host channel are consistent or not (if can not control, can adjust forward or back one address code for testing). 4. If several DVR hosts connect with a same PTZ, the host must enable " System Management" -> " Serial Port Setting" -> " Serial Port Keyboard" on DVR host. (Note: The host has over 30 kinds of commonly used protocols, please patiently test whether your PTZ or high-speed dome protocols can be used in our DVRs.)

Appendix 3: Alarm connection method

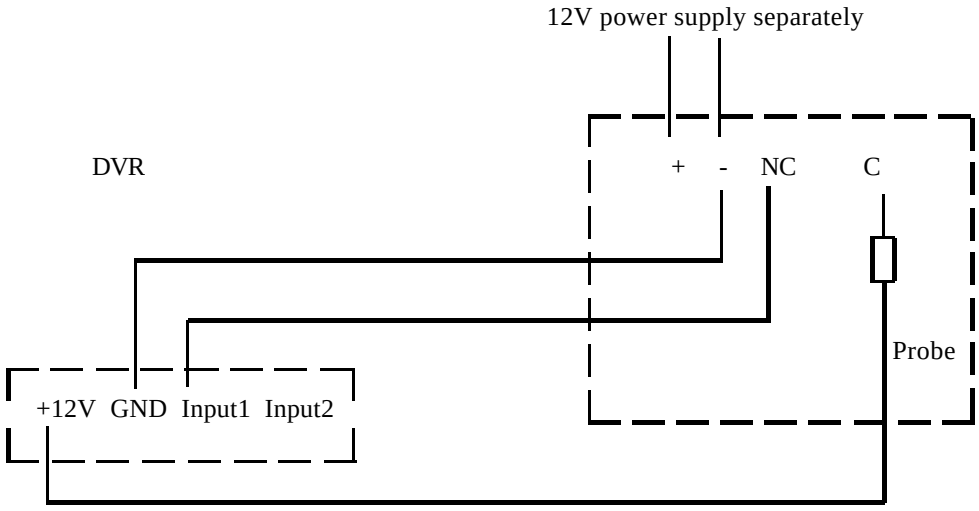
1. Alarm normally-closed connection

If the probe is normally closed, meaning that the normal time is connected, the plug at both ends of the probe just likes lead. The voltage out from12V, through the resistance, and then connected to the alarm input, this meets the needs of a specific voltage. If the alarm occurred, the alarm probe will cut, circuitry is equivalent to disconnecting at this time, and the voltage that entered the alarm input will be zero, alarm action occurred.

Typical alarm normally-closed connection method: probe power supplied by DVR.



Note: The alarm entrance that do not use should be closed in software, otherwise need to connect the short resistance at no useful alarm input entrance. If the voltage measured in the probe that computer host supply is less than 11 V, it will affect the normal alarm of probe and DVR, at this time could be considered that add 12 V power line or a separate power supply for the probe to ensure that the system work properly.



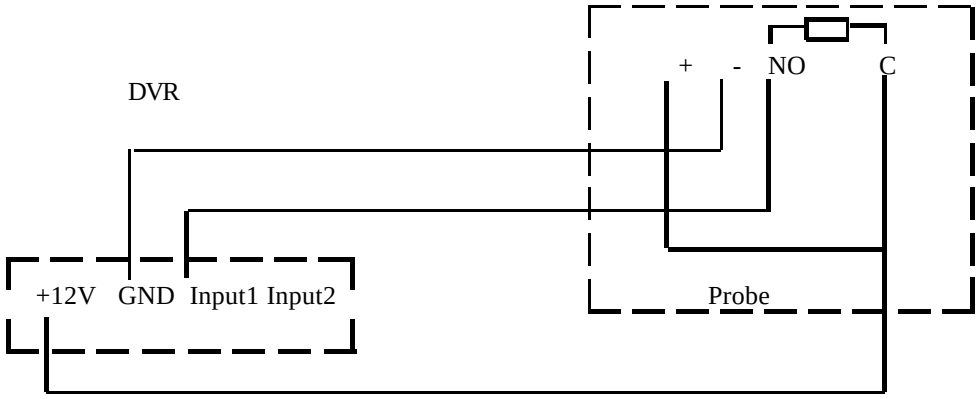
When a separate power supply, it is also conditional to connect the two ends, otherwise long-distance transmission may interfere and cause alarm misinformation.

If you use the probe series, as many probes use a alarm input, host computer will not be able to distinguish which one alarm. Only pay attention to the need for a resistor.

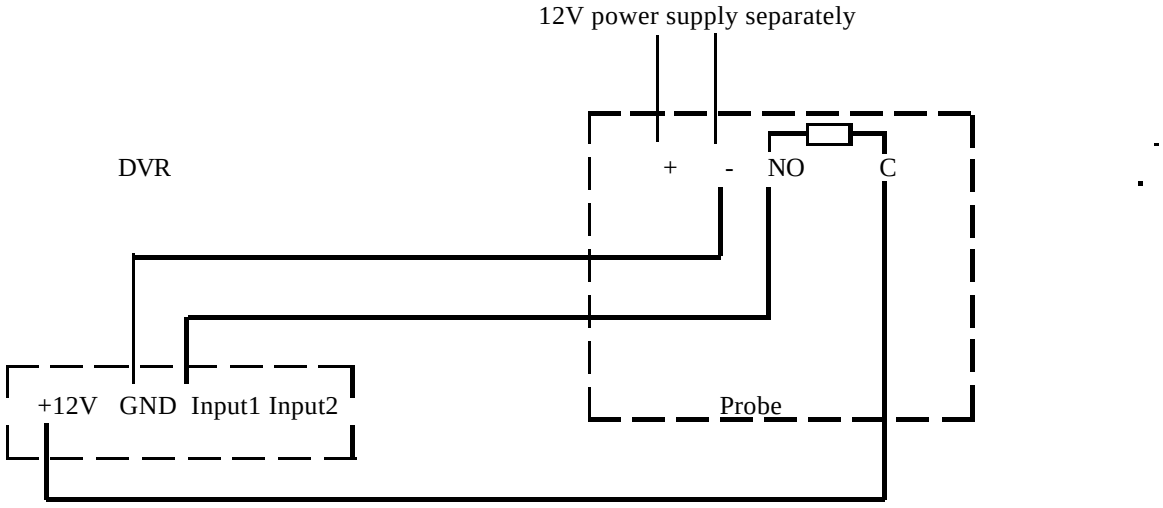
2. Alarm normally-open connection

If the probe is always open, that means it is usually broken, in order to ensure that the alarm input end is specific voltage, from 12 V out of power, after through the resistance to the alarm input end directly, connect probe to the resistance directly, if occurred, the resistance was short on both ends, then current comes out directly through 12 V, after the alarm probe, directly enter the alarm input end, the voltage of alarm input end will become 12 V, the alarm will occur.

Typical alarm normally-open connection: power supply from the probe is provided by DVR



If the distance between the probe and DVR is too far, the probe requires a separate power supply:



When supply power separately, it is also conditional to connect the two ends. If you use parallel probe, as many probes use an alarm output, computer host will not be able to distinguish which one alarm. Only pay attention to the need for a resistor.

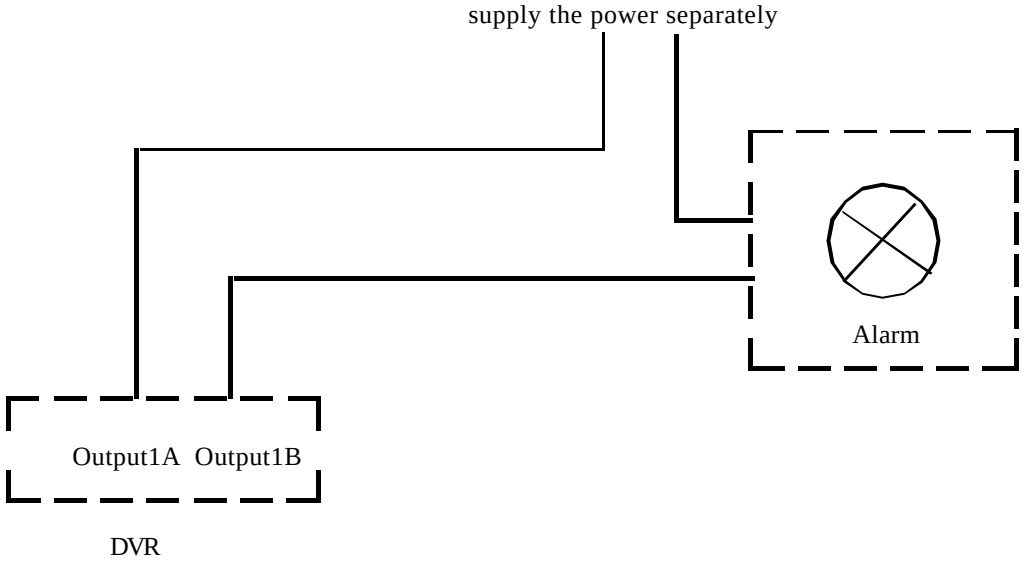
3. Alarm output connecting way

Alarm fan-out is normally disconnected, when need to alarm, it will close, it does not have voltage output, external speakers, lights, sirens could work regularly only when the exterior could supply the power.

Alarm's power usually is much bigger, preferably supply power separately, and do not use the DVR's power to supply. Each series alarm output touch-point parameters are as follows:

DVR7000 series: 120 V AC , 24VDC

Exceeding this power will damage the motherboard.



NOTES: