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See <http://www.worldtimeserver.com> for information on different time zones and the time in Melbourne Australia compared to your local time.

WARRANTY INFORMATION

Swann Communications warrants this product against defects in workmanship and material for a period of one (1) year from it's original purchase date. You must present your receipt as proof of date of purchase for warranty validation. Any unit which proves defective during the stated period will be repaired without charge for parts or labour, or replaced at the sole discretion of Swann. The repair or replacement will be warranted for either ninety days or the remainder of the original one year warranty period, whichever is longer. The end user is responsible for all freight charges incurred to send the product to Swann's repair centres. The end user is responsible for all shipping costs incurred when shipping from and to any country other than the country of origin. The warranty does not cover any incidental, accidental or consequential damages arising from the use of, or the inability to use this product. Any costs associated with the fitting or removal of this product by a tradesman or other person, or any other costs associated with its use are the responsibility of the end user. This warranty applies to the original purchaser of the product only, and is not transferrable to any third party.

Unauthorised end user or third part modifications to any component or evidence of misuse or abuse of the device will render all warranties void.

FCC Notice

We, Swann Communications of 10612 Shoemaker Avenue, Bldg B, Santa Fe Springs, CA 90670 USA, declare under our sole responsibility that the product:

S243-4NU

To which this declaration relates:

Complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



DVR4-Net - Plus 4 Camera Digital Video Recorder

For Network & Web Monitoring with USB backup



User Manual

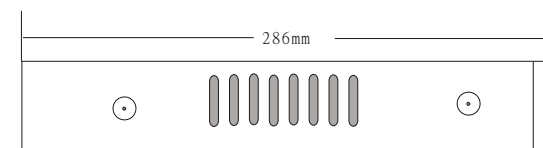
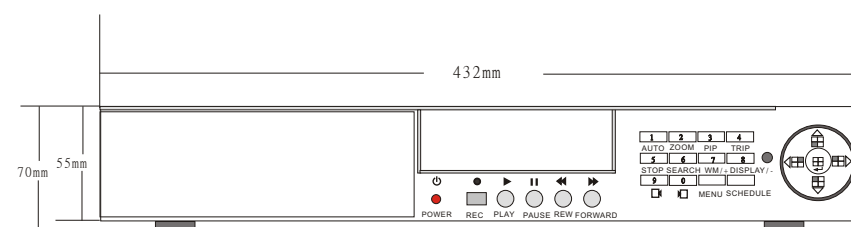
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Specifications

Item	Specification
Video signal	NTSC/PAL
Video input	Composite 1.0V p-p/75Ω BNC×4
Video output	Composite 1.0V p-p/75Ω BNC×2
Audio input	-8Db 22KΩ, RCA connector X 4
Audio output	-8Db 3KΩ, RCA connector X 1
Alarm input	4
Alarm output	1
Compression standard	Modified MJPEG
Record time	18-1680 hours/40G
Electron clock	Year/Month/Day; Hour/Minute/Second
Password	4 Digit Password protection
Power source	DC12V
Power	25W
Environment temperature	Work Temperature: +5°C~+50°C/+41°F~+122°F; humidity: < 90% Store Temperature: -0°C~+60°C/+32°F~+140°F; humidity: < 95%
Exterior size	432×55×286mm/ 17 x 2 x 11 inches
Weight	About 3.2Kg / 7lbs

Exterior Dimensions



To use the Swann DVR4-Net - Plus with remote viewing capabilities you may have to “open” ports on your Windows® Firewall, your Software Firewall or on the Broadband Router/Modem that you use to connect to the Internet. Please consult the documentation or help files on the relevant software or system for instructions on how to do this. To successfully access your cameras from the Internet you will need to have allowed access to and from the following ports from an outside connection. This process is also called “Port Forwarding” or creating a “Virtual Server” connection. For more information on Port Forwarding, please visit www.portforward.com

Once you have correctly forwarded the ports, please check to see what your external IP address is (this cannot start with 192.168.x.x). You can check this by going to <http://www.whatismyip.com> (note: you must do this on the server machine to find the correct external IP of the router.)

Once you have your external IP, you can open the Net Viewer software and enter the server IP as listed on [whatismyip.com](http://www.whatismyip.com) and use the default password: “0000”.

You may also have to place the IP address of the Swann DVR4-Net - Plus in the “DMZ” of your Firewall to enable the remote viewing interface. Information on how to do this should be detailed in the documentation covering operation of your Firewall.

As ADSL and CABLE MODEM network users usually use a dynamic IP address, once the MODEM restarts, the IP addresses can change. Users can opt for a static IP address which does not change by contacting their ISP. Otherwise users can apply for a DNS service through www.no-ip.com or www.dyndns.com

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Name	Quantity
4 Channel DVR	1
IR Remote Control	1
Power Cable	1
Power Adaptor	1
BNC to RCA Female Adaptors	6
Hard Drive Tray and 2 Keys	1
Remote Viewing Software	1
User Manual	1

If any of these components are missing, please contact your retailer.

Security Notice

• Power supply

This Digital-Video-Recorder uses a DC 12 volt indoor power supply. The voltage of the power must be verified before using. When the DVR4NET - PLUS is not in use for a long time, pull out the plug from the socket and disconnect the power.

• Security

This DVR4NET - PLUS is for indoor use only; in order to avoid the danger of a short circuit or electric shock, please do not expose the DVR4NET - PLUS to rain or a moist environment. If any solids or liquids enter the unit's case, please turn off the power supply immediately, and return the unit to a qualified technician to check the DVR4NET - PLUS before restarting it.

This DVR4NET - PLUS is a precise instrument; do not attempt to repair any component of the DVR4NET - PLUS by yourself as this will void warranty. If your DVR malfunctions in any way, please contact the dealer in your area or Swann Tech Support directly.

• Installation

Please choose an appropriate site to install the DVR4NET - PLUS, to ensure adequate ventilation around the DVR to avoid excessive heat. Do not install the DVR near a radiator, ventilating trunk, heat sources, under direct sunshine, dusty locations or anywhere there is a chance for mechanical vibration or impact.

Features of this DVR

- Video input: 4channels; video output: 2 channels.
- Audio input: 4channels; audio output: 1 channels.
- Four optional levels of image quality: very high, high, normal, low. Record and playback frame rate change enable for recording.
- Compression mode: Modified MJPEG.
- Compatible with NTSC and PAL format.
- Supports alarm recording and time recording.
- Multi-function searches: be able to distinguish different alarm records and time records from ordinary records; be able to search by time, by segment or by event.
- Support various playback modes: pause, several fast forward and backward play modes.
- Support zoom, auto, and PIP function.
- 4 alarm input and 1 relay alarm output.
- Equipped with IR remote control
- Supports video loss and motion detection functions.
- Supports watermark image security protection.
- Triplex operation, can play back and search while it is recording. Both live and playback pictures can be displayed on screen simultaneously.
- Totally independent from a PC platform, to give you the best opportunity to avoid loss of recording from shutdown caused by the failure of other programs and operating system malfunctions etc.

Home

Advanced

Tools

Status

Help

Virtual Server

Virtual Server is used to allow Internet users access to LAN services.

☒ Enabled
 ☐ Disabled

Name

LAN DVR

Clear

Private IP

192.168.2.167

Protocol Type

TCP

Private Port

5000

Public Port

5001

Schedule

☒ Always

☐ From

time

01

:

00

AM

to

01

:

00

AM

day

Sun

to

Sun

☒ ☐ ☐

Apply

Cancel

Help

Virtual Servers List

Name	Private IP	Protocol	Schedule	
☐ Virtual Server FTP	0.0.0.0	TCP 21/21	always	
☒ Virtual Server HTTP	192.168.2.99	TCP 80/80	always	
☒ Virtual Server HTTP1	192.168.2.100	TCP 80/88	always	
☐ Virtual Server DNS	0.0.0.0	UDP 53/53	always	
☒ Virtual Server SMTP	192.168.2.99	TCP 25/25	always	
☐ Virtual Server POP3	0.0.0.0	TCP 110/110	always	
☐ Virtual Server Telnet	0.0.0.0	TCP 23/23	always	
☒ LAN DVR	192.168.2.167	TCP 5000/5000	always	
☒ ssh	192.168.2.99	TCP 22/22	always	
☒ LAN DVR	192.168.2.167	TCP 5000/5001	always	
☒ LAN DVR	192.168.2.167	TCP 5000/5002	always	

Network Configurations

After connecting to Internet, DVR users should make the following configurations to make remote view/playback.

1): When in LAN, network administrators should open the following ports for specific computers: 5000- 5002. Please make sure that the other services don't use the same ports.

2): In case users use ADSL network and the surveillance system computer connect to the ADSL MODEM, then the ports have all opened by default. If not, please close fire wall by guidance of the ADSL MODEM user's manual.

3): In case you connect to Internet by proxy server, users should utilize port mapping software and open ports 5000, 5001, and 5002 for the surveillance computer.

4): In case users connect to Internet by router, then users should add the IP address of the surveillance computer and open the above mentioned ports in DMZ setup or Virtual Server setup (the names maybe different in various other kind of routers) of the router.

5): For CABLE MODEM type and ADSL MODEM type, the configurations are similar to the images below:

Home Advanced Tools Status Help

Firewall Rules

Firewall Rules can be used to allow or deny traffic from passing through the DI-624.

☒ Enabled ☐ Disabled

Name: LAN DVR Clear

Action: ☒ Allow ☐ Deny

Interface: WAN IP Range Start: * IP Range End: Protocol: TCP Port Range: 5000 - 5001

Source: WAN Destination: LAN

Schedule: ☒ Always ☐ From time 01 : 00 AM to 01 : 00 AM day Sun to Sun

Apply Cancel Help

System Setup

Before using the DVR, you must set up the system according to your needs and location; otherwise the DVR will run with the default settings which may be unsuitable. Refer to the button description pages starting on page 14 to describe the button functions in detail.

1. Using the Setup Menu

When in setup mode, pushing the up button or down button, will move the cursor among the various settings, continuous pushing will make the cursor move among the options one by one. The selected option will display in a yellow color.

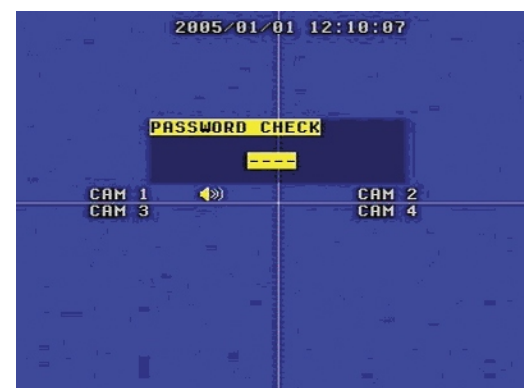
While choosing digital fields, e.g. year, month, day, hour, minute, second etc, push the left button or right button, to move to the different digits of one field, continuous pushing will make it move among digits one by one, and it can recur.

Please push the "+" or "-" button to change the value that the cursor shows, then push the **ENTER** button to enter the sub menu and push **Menu** button to return to previous menu.

2. Accessing the Menu

If the DVR is in recording mode you cannot access the menu unless you stop record first. Press the **Stop** button and enter the password to stop all functions then press the **Menu** button.

System setup is achieved through entering the setup menu, and then setting the options in each feature's window. To access the menu, please push **Menu** button on the front panel, it will display the password input window.



The password is a random combination of 4 digits of "0-9". The default is "0000". To enter the menu below, you have to input the correct password by pushing the digit buttons. If the password you input is incorrect, the system will automatically return to the main screen. If you want to cancel the input of the password, you can push the **Menu** button to return to the main screen again. While inputting the password, in order to avoid being revealed to a bystander, the password you input is displayed on the screen as "*" signs. To change the password, please refer to "password change" section.

3. System Setup

When the cursor is moved to System Set, please push the enter button and the System Setup window will appear, which is illustrated as below.



PLAY REPEAT: if you set this to "YES", when you play the video to the end of the HDD, it will automatically play the video from the beginning of the HDD again. If set to "NO", it will stop when the end of the recording is reached.

VIDEO SOURCE: switch the video format to suit the TV standard of your country, **NTSC** or **PAL**.

BUZZER SOUND: buzzer switcher, if set to "OFF", the buzzer will not work. The buzzer sounds when motion is detected, if motion detection is enabled.

Appendix D: Internet Viewing/Playback Configurations

About Networks

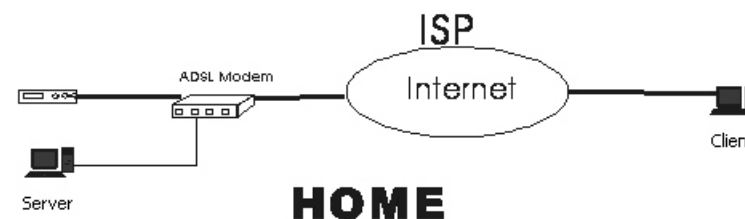
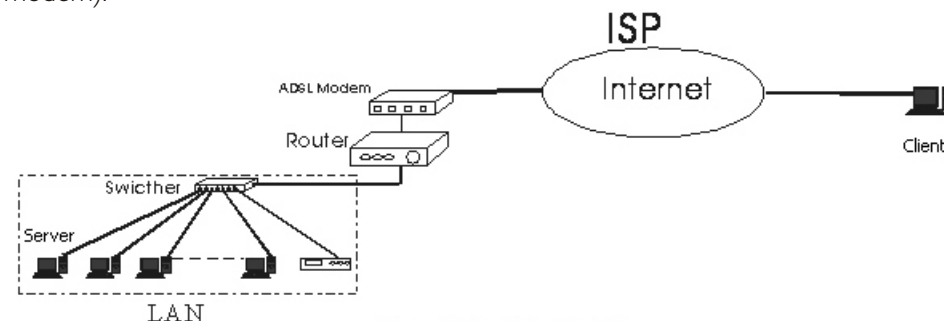
Users will generally use the following network types and hardware:

1): Local Area Network (LAN): This is an internal network usually operated via a hub, a switch, or a router and will usually operate within an office or household via wireless or Ethernet cable connections.

2): DSL (or ADSL): This is a specific type of broadband Internet access obtained by connecting a DSL or ADSL modem (or modem/router) to a normal telephone cable, and setting up an Internet account with an Internet Service Provider (ISP) such as AT&T or AOL.

3): Port Forwarding: This allows external connections to pass through security settings on routers and firewall devices. Ports need to be allowed in, and then directed to the specific IP address of the computer or device that the connection is intending to reach.

4): Router: This is a device that connects 2 separate networks (most commonly a LAN to the Internet) and comes with built in security options and allows multiple devices to connect to a LAN and gain Internet access (if the router is connected to a modem).



PTC4: (eight byte)

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
0xa0	Addr	0x00	0x07	0x00	<i>Var</i>	0xAF	Checksum

Byte8 = byte1 xor byte2 xor byte3 xor byte4 xor byte5 xor byte6 xor byte7

Var	Function	Var	Function
0x01	Ch1/up	0x0C	Schedule
0x02	Ch2/down	0x0D	0/next field
0x03	Ch3/left	0x0E	1/auto
0x04	Ch4/right	0x0F	2/zoom
0x05	Chall/enter	0x10	3/PIP
0x06	record	0x11	4/trip
0x07	Play	0x12	5/stop
0x08	Pause	0x13	6/search
0x09	Reward	0x14	7/WM/add
0x0A	Forward	0x15	8/display/DEC
0x0B	Menu	0x16	9/previous field

Note: This protocol is the same as PELCO-P's call function; you can use PELCO-P's call function to control the DVR. First, you must set right protocol, baud rate and address, second, you push the call button on the keypad, then enter the number according to the **Var** table above, then push the enter button.

Appendix C: record time for 120GB hard disk (hours)

Rec rate field/sec	Picture quality	Resolution	Recording time
60 fps	Very high	720	22.5 hours
60 fps	Low	720	60 hours
120 fps	Normal	360	22.5 hours
1 fps	Normal	720	2160 hours

Note: The above figures are from our test results using a default setup, and are for the users reference. Actual recording times may vary depending on hard disk size, subject complexity, camera resolution and movement within the frame.

4. Time/Date Set

When the cursor is moved to Time/Date Set, push the **Enter** button and the TIME/DATE SET window which is illustrated below will appear.



Please push up, down, left, and right buttons to move the cursor, push **+** and **-** buttons to modify the value.

FORMAT: the date display format, which can be different for USA, EURO and Australian users.

DISPLAY: if set to "OFF", time will not display on the screen.

LOCAL: time display position on the screen.

5. HDD Format Set

When the cursor moves to HDD FORMAT SET, please push **ENTER** button, the System Setup confirmation window will appear, which is illustrated below.



If you select "YES" and push the enter button, all video on the HDD will be deleted, if you do not want delete all recordings, please select "NO".

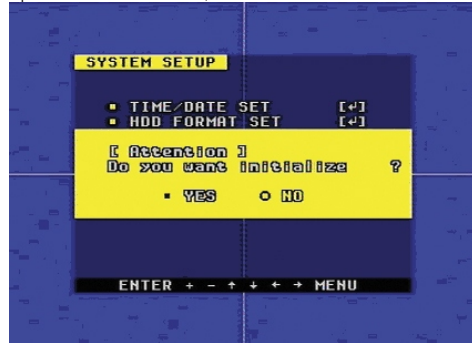
6. Auto Sequence Set

When the cursor is moved to Auto Sequence Set, push the **Enter** button and the AUTO SEQUENCE SET window will appear. Here you can set up the auto sequence time of each camera.



7. Factory Reset

When the cursor moves to Factory Reset, please push enter button, the confirmation window will appear.



If you select **"YES"** and push the enter button, all of the DVR settings will reset to default, if you do not want to reset to the default settings, please select **"NO"**.

8. Video Setup

When the cursor moves to Video Setup, please push enter button, the Video Setup window will appear.



BOUNDARY: boundary line color
BACKGROUND: background color.

PTC2: (seven byte)

Transmitting S.N	Transmitting worth	Instructions
Byte1	0x03	Fixed byte
Byte2	0xaa	DVR identifier word
Byte3	0x01	Fixed byte
Byte4	Device id	DVR device address
Byte5~7	Refer to PTC 1	Same command as PTC 1

PTC3: (seven byte)

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
0xFF	Addr	Var1	Var2			Check sum

Var1	Var2	Function	PELCO-D
0x00	0x08	Ch1/up	Up
0x00	0x10	Ch2/down	Down
0x00	0x04	Ch3/left	Left
0x00	0x02	Ch4/right	Right
0x04	0x00	Chall/enter	Iris close
0x00	0x40	Record	Zoom wide
0x00	0x20	Play	zoom tele
0x02	0x00	Search	Iris open
0x00	0x80	WM/+	Focus far
0x01	0x00	Display/-	Focus near

Byte 5 and byte 6 are random value from 0x00 to 0xff.

Byte 7 = mod [(byte2 + byte3 + byte4 + byte5 + byte6)/100]

Note: This protocol is the same as PELCO-D, which is used to control a speed dome. So, if you use PELCO-D to control a speed dome with your keyboard, you can also use the keyboard to control the DVR through this protocol using a different address to distinguish the DVR and the speed dome.

Appendix B: serial port protocol

Serial port setting: BAUD, n, 8, 1 (BAUD = 2400,4800,9600,19200,38400)
PTC1: (three byte)

Command (CHAR)	Hexadecimal Number	Function Description
/RE	0x2F 0x52 0x45	Record
/TP	0x2F 0x54 0x50	Play
/PE	0x2F 0x50 0x45	Pause
/RT	0x2F 0x52 0x54	Reward
/FT	0x2F 0x46 0x54	Forward
/FS	0x2F 0x46 0x53	Auto/1
/FS	0x2F 0x5A 0x4D	Zoom/2
/ZM	0x2F 0x50 0x50	PIP/3
/RS	0x2F 0x52 0x53	Trip/4
/SP	0x2F 0x53 0x50	Stop/5
/SH	0x2F 0x53 0x48	Search/6
/QY	0x2F 0x51 0x59	Water mark/7/+
/DY	0x2F 0x44 0x59	Display/8/-
/SE	0x2F 0x53 0x45	Previous field/9
/FF	0x2F 0x46 0x46	Next field/0
/AF	0x2F 0x41 0x46	Menu
/SC	0x2F 0x53 0x43	Schedule
/01	0x2F 0x30 0x31	Ch1/up
/02	0x2F 0x30 0x32	Ch2/down
/03	0x2F 0x30 0x33	Ch3/left
/04	0x2F 0x30 0x34	Ch4/right
/22	0x2F 0x32 0x32	Chall/enter

9. Name Setup

When the cursor moves to Name Setup, please push the **Enter** button, the Name Setup window will appear, which is illustrated as below.



Each channel's name can contain a combination of up to eight characters. Push the **UP** or **DOWN** button to move the cursor and push the **ENTER** button to select which channel you wish to modify, then push the **LEFT** or **RIGHT** button to select each character, then push **+** or **-** button to modify each character, and then push the **ENTER** button to save this name. **DISPLAY:** if set to "OFF", the channel's name will not display on the screen.

10. Bright/Contrast Setup

When the cursor moves to Bri/Con Setup, please push enter button, the Bri/Con Setup window will appear, which is illustrated as below.



BRI: picture brightness CON: picture contrast

Please push **UP**, **DOWN**, **LEFT**, and **RIGHT** buttons to move the cursor, push **+** and **-** button to modify the value. When the setting changes are complete, press the **MENU** button to save the changes and return to the previous menu.

11. Record Setup

When the cursor moves to Record Setup, then push enter button, the Record Setup window will appear, which is illustrated as below. Push up or down button to move the cursor. Push “+” or “-” button to change the value. While the DVR is in recording or playback mode, you cannot access to this menu unless you stop record or play first.



OVER WRITE: if set to “YES”, the DVR will automatically overwrite the HDD from the beginning when the HDD is full. If set to “NO”, the DVR will automatically stop recording when the HDD is full.

REC SPEED: the recording frame rate of the DVR, factory default setting is **30F/1SEC for NTSC (25F/1SEC for PAL)**, Which means DVR records the events at the speed of 30 shots of frames per second. The higher the record frame rate, the more natural look will be displayed on the screen when you playback. The lower the record frame rate, the more you can save the space on the hard disk drive. The highest frame rate is **60F/1SEC(PAL - 50F/1SEC)**.

REC QUALITY: There are four different video quality settings: **LOW, NORMAL, HIGH** and **VERY HIGH**. The higher the video quality, the clearer images when you playback. The lower the video quality, the more you can save the space on the hard disk drive.

RESOLUTION: the record picture size of the DVR, there are two modes: **360** and **720**, default is **360**. In **720** mode, the record picture is twice bigger than in **360** mode, but in **360** mode can save half of HDD usage.

PB SPEED: the frame rate of playback, default is **NO USE**, which means the same as record.

AUDIO ENABLE: audio select, the DVR has one record channel, you can select one in four channels, the default is channel one.

Q. What kind of hard disk drive should I purchase to make the DVR run?

A. Any PC compatible IDE, ATA hard disk drive will work.

Q. Does this DVR kit come with sensors, cameras, or hard disk drive?

A. No. You have to buy each accessory separately.

Q. What is the longest period that I can record?

A. Up to a year with a 250GB HDD at the lowest quality setting when set at 1 frame per second. See the table on page 37 for information on recording duration.

Q. Can I control the DVR with a computer or a keypad?

A. Yes, you can use a computer or a keypad to control the DVR through the RS485 port.

Q. Why can't I access the Time/Date Set, HDD Format Set or the Record Set menu?

A. You must stop recording or playback before you can access these menu settings.

Q. Why can't I access the Network Set menu?

A. Please stop the connection of the PC View software from the Internet before you access the Network Set menu.

Q. I push the record button, but the DVR does not start recording, why?

A. Push the display button to see if there is a hard disk detected, also if the DVR is in schedule mode (there is a “S” on the screen in yellow), you cannot start recording by pushing the record button, you have to push the schedule button again and enter your password to cancel schedule mode.

Q. I push the stop button, but the DVR does not stop recording, why?

A. If the DVR is recording in schedule mode (there is a “S” on screen), you cannot stop recording unless you quit schedule mode first. Push schedule button and enter your password to cancel schedule mode.

Q. There is movement on the screen, but the DVR does not start recording.

A. Make sure the motion detection of that channel is on, the area set is ok, the A/M rec time is not set to off, that time of schedule is set to “A”, and the DVR is in schedule mode. You can set the motion level to a higher setting such as HIGH or VERY HIGH if all other settings are ok.

Q. When the network connection between DVR and client computer is cut off, why does the DVR halt and the clock stop?

A. If the network is cut off abnormally, the DVR4Net will halt for 20 seconds without response to any front panel buttons while it resets. After 20 seconds, it will restore to normal state, but the icon that shows network status won't disappear until the network reset after 10 minutes. In this period the client computer cannot connect to the DVR and you can't enter the network menu.

Appendix A: Trouble shooting guide

Q. What kind of camera should I buy for this DVR?

A. This unit is designed to work with any of Swann's extensive Security Camera range, but any existing composite video camera using BNC or RCA interface for indoor/outdoor/infrared will work with the DVR. It doesn't matter whether it is color, black/white or a mix of both camera types. USB cameras are not suitable for use with the DVR4Net - Plus.

Q. What kind of alarm device should I buy for DVR?

A. Most sound alarms are compatible with our DVR, consult your alarm manufacturer for information on compatibility.

Q. I can't turn on the DVR.

A. Make sure that the power cord is plugged in correctly and the red power light on DVR front panel is on. Make sure your power point is turned on.

Q. I see nothing but a blue screen after I turn on the DVR.

A. Check the camera input and video output connection on DVR back panel. If you can't find a problem with these connections, check whether the camera power cable is firmly connected. Make sure the system format for NTSC and PAL is set to your TV standard.

Q. I see a fatal error message on the screen.

A. If you see the error messages such as "System fatal error is occurred", pull out and put in the hard disk drive or replace the hard disk. Also make sure that hard disk rack is firmly locked. Otherwise, replace the hard disk. Do not enable motion sensing when no HDD is fitted.

Q. Can I prevent other people from stopping the recording while I am gone?

A. If the DVR is in schedule or recording mode, no one can change the setting unless they use the correct password. You should change the password during the initial setup of the unit.

Q. How can I erase all data on the hard disk drive?

A. Select "HDD Format Set" option on the menu.

Q. I forgot my password. What should I do?

A. Enter "1234" when logging in instead of a normal password and it will reset the DVR's password to the factory default password of (0000).

Q. Can my desktop PC read the video data on hard disk drive in DVR?

A. Yes, you can use our Remote Viewing software to read all video data on hard disk via the ethernet connection, but you can't connect the HDD directly to a PC as the DVR HDD format can't be read.

Q. What happens if I install my PC hard disk drive into the DVR?

A. You can use a PC hard disk drive in the DVR. However, once it runs in DVR, it will delete any PC operation system and files on the hard disk drive.

12. Network Setup

Move the cursor to **Network Set**, then push the **ENTER** button, the network setup menu window will appear, which is illustrated below. If the PC View software is connected over the Internet or your Network to the DVR you cannot access this menu until you disconnect.



The settings for your **SUB NET**, **GATEWAY** and **IP ADDR(ess)** will vary depending on the settings applied to your current network. Please compare the settings in the properties of your computers network connection to help you set the DVR4Net network address. The first three groups of numbers in **IP ADDR** must be the same on both PC and DVR4Net, but the last three digits must be different on each machine (eg 192.168.001.167 for DVR4Net and 192.168.001.010 for your PC). Consult with a Network Technician or PC professional for further information on your network setup as changing these settings can affect your Internet connection if done incorrectly.

To change the network settings, push the **UP**, **DOWN**, **LEFT** or **RIGHT** button to move the cursor among the digit groups. Once the digit group is highlighted push the **ENTER** button then you can push **+** and **-** button to modify the value and then push **LEFT** or **RIGHT** to change digits within the group. When you have set the correct value, you can push the **ENTER** button and use the **LEFT** or **RIGHT** button to select another digit group. When you have finished push **ENTER** then **Menu** to save the settings and return to the **N/W Setup** menu.

NETWORK STATE: If the network condition is good and you have a fast connection, you can set speed to **LOCAL_LAN** and the network can then transmit at a higher rate, but if the network condition is not very good or your application will be through the internet, please set the speed to **EXTER_LAN**.

NET CMD PORT: This is the command transmitting port for your computer.

NET DATA PORT: This is the video transmit port for your computer.

If you change the VIDEO PORT, COMMAND PORT, or MAC address, then you must restart the DVR in order to use the net viewer software.

13. Mac Set

When the cursor moves to Mac Set then push enter button, the Mac Set window will appear, which is illustrated as below.



If you have more than one DVR in a local area network, you have to set each DVR to have an exclusive mac address, but remember that you have only one chance to modify the mac address, once you have changed the mac address, this menu will not appear again. If you want to change the mac address again, please load the factory set, then you can change the mac address again.

14. Alarm Setup

When the cursor moves to Alarm Set, then push enter button, the alarm setup window will appear, which is illustrated as below. Push upward or downward button to move the cursor. Push “+” or “-” to change the value.



ALARM ENABLE: alarm trigger switch, can be set to off, low lever or high lever. If users set it to off, the DVR will ignore the alarm input.

MOTION ENABLE: Motion alarm switch, can be set to on or off, if set to off, the motion alarm will be ignored.

MOTION LEVEL: motion sensitivity level, if the figure in the picture is small, please set to high or very high, the default is normal.

BUZZER SOUND: buzzer sound time when there is a sensor or motion alarm.

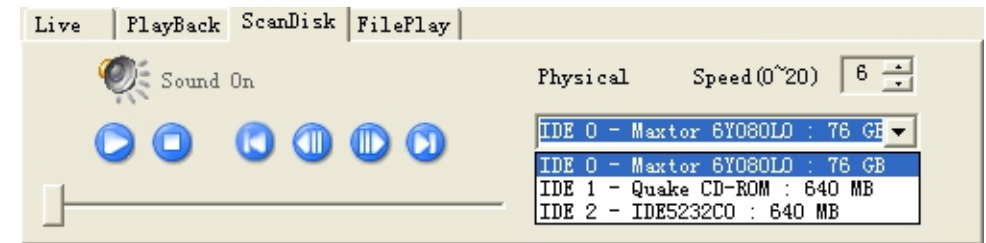
Note: Users must press the Schedule button after setting up the parameters to activate the settings.

| |

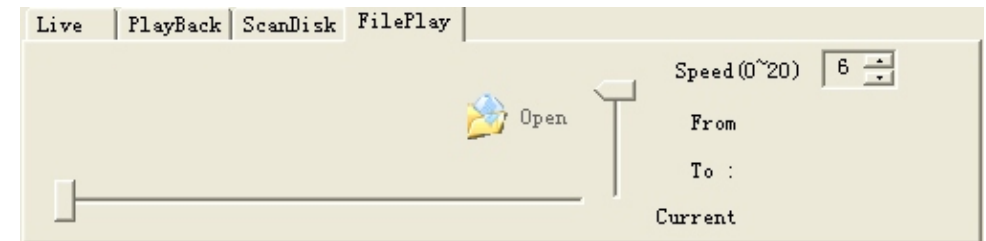
Double click the event list, you can see the playback video.

The record list operation is the same as event list operation.

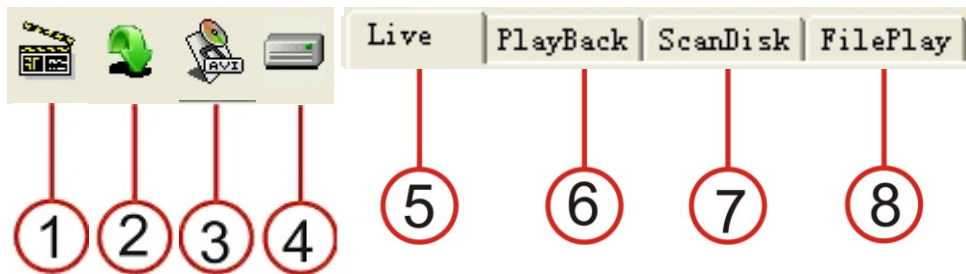
Drive Scan: Connect the HDD that was used in the DVR to a PC and then select Drive Scan, Drive Scan window will display, click on the  and select one HDD, then you can play all the video on the HDD.



File play: if the software is in File Play mode (click “File Play”), file play window will display, it can play the video on the HDD on your computer.



Click “Open”, select one video file, the click play to view the video file.



1. Play: select this to play the video on the DVR.
2. Stop: select this to stop the play.
3. AVI: select this to save the video to AVI format on your computer.
4. LOCAL: select this to save the video in Netviewer readable format on your computer.
5. Live: select this to see live video, just click the play button.
6. Playback: select to view the playback video in the DVR
7. ScanDisk: if you select this, you can view the video on the HDD or CD which is recorded in the DVR and then connect to the computer.
8. File Play: you can play the video file on the computer.

AVI Save: when playing video, click on the "AVI" button, and the video will save as AVI format on the local computer.

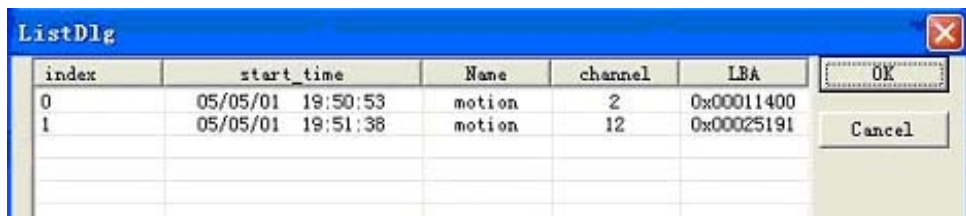
Local: when video is playing, click "Local" button, and the video will save to the local computer. You can play the file with this software, please refer to File Play.

Live Operation: if the software is in live mode (click Live Play), then click "Play", it will connect to the DVR, and the live pictures will be transmitted to display on the window. Click "Stop", it will stop transmitting pictures.

Net Search operation: if the software is in net search mode (click PlayBack), net search window will display. First, you should select the HDD of the DVR.



Click the "Get Event List" button, then click "Select Event List", if the DVR has event list, you can see the window below:



15. Motion Detection settings

1. When surveying nearby objects (2-10 meters)

For detection during daytime, please set motion detection sensitivity to **Normal** level; for detection at night, please set to sensitivity to **Low**.

2. When surveying objects in 50-100 meters area

The objects 50-100 meters away will be quite small on the screen. For detection during daytime, please set motion detection sensitivity to **High** level. At night set sensitivity to **Very High**.



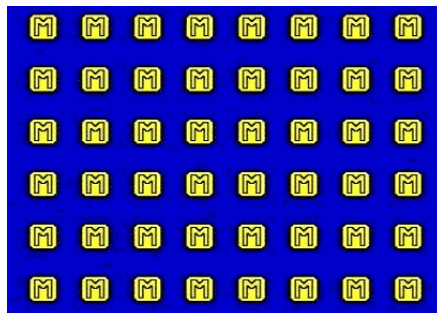
When covering a brightly lit area at night as below, please set sensitivity to **Normal** level.



Note: the above suggestions are a guide only based on testing in a general environment. You will need to select the best parameters according to the actual operation environment you are covering. Try different settings until you get the desired motion detection result.

16. Area Set

Move the cursor to Alarm Set, then push the **ENTER** button and the alarm setup window will appear. Push the **UP**, **DOWN**, **LEFT** and **RIGHT** button to move the cursor and push the **ENTER** button to change from detection **ON** to **OFF**. Push and hold **ENTER** to change all values to the same as the area you have selected.



If the area marker icon is set to yellow this area is monitored for motion detection, and if the icon is grey Motion sensing is disabled for that area.

17. USB Set

If you have plugged a USB device into the DVR, and the USB Set is highlighted, push the enter button to view the USB setup window.



USBBAKUP SAVE: There are two types of backup Modes: PICTURE and FILM.

In PICTURE mode, you can backup individual pictures.

In FILM mode, you can backup video.

18. Schedule Set

When the cursor moves to Schedule Set, please push enter button, the schedule set window will appear.



You change the recording schedule for a week by using this setup window.

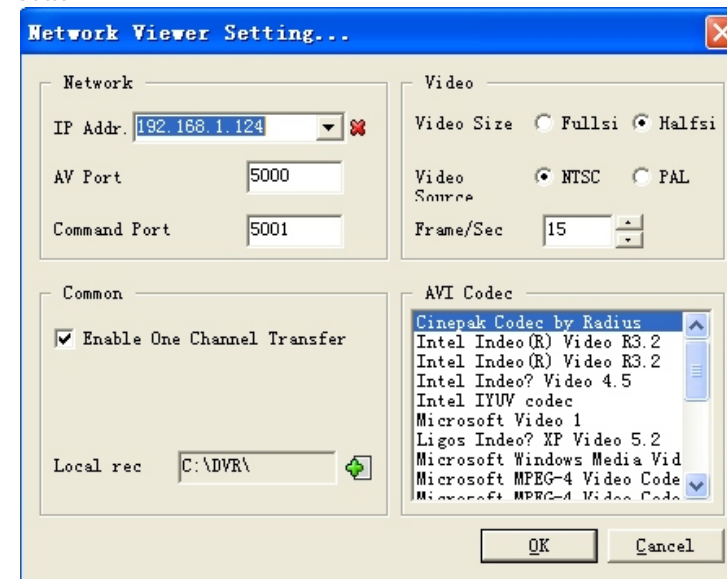
Please note: Military time must be used.

START: Start recording time

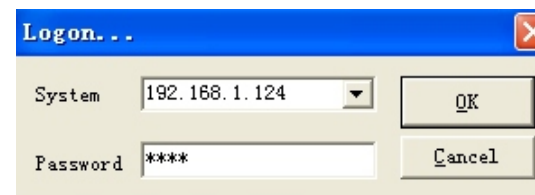
STOP: Stop recording time

Note: Manual record mode and schedule record mode (including motion detection record mode, sensor record mode and time schedule record mode) cannot be used at the same time. Once the user selects Schedule record mode, manual record mode will be disabled. If the user selects manual record mode, schedule record mode will be disabled.

Click "Setting" button, you will see the window below: Enter the IP address and click "OK" button.



Click connect button, then enter ID admin and password, the password is the same as the DVR password.

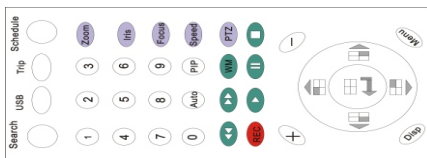


Click the OK button, if a successful connection is made to the DVR, you will see the window below.



To access the DVR via the Internet, you should firstly open default ports 5000, 5001, 5002 on your router. Please refer to your router manual for instructions on how to open the ports on your router.

18. Remote Control



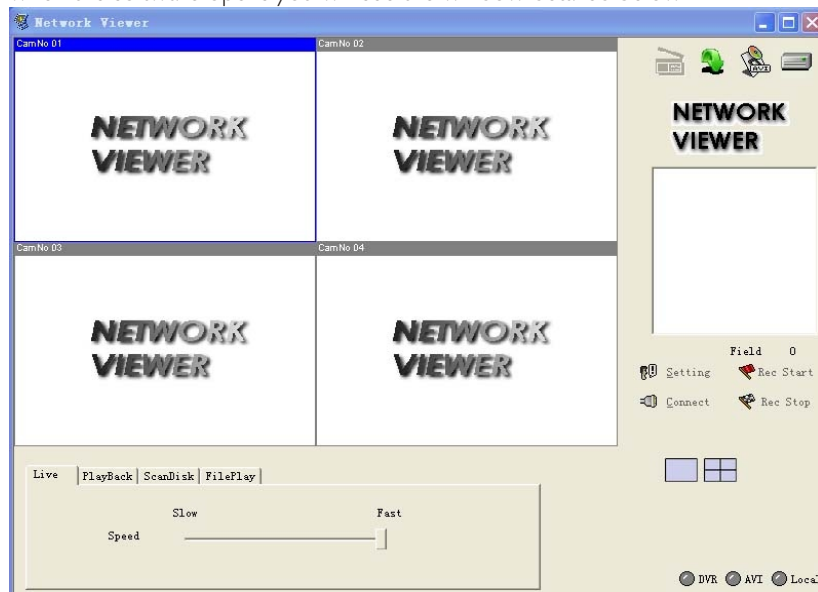
All the functions of the DVR can be operated by the remote control. The button function of the remote is the same as the front panel of the DVR.

19. Serial Port Control

To control the DVR through the RS485, you have to make sure the protocol and baud rate is set correctly, please refer to appendix B.

20. PC View Software Operation

Using the PC View software, you can view the DVR from the Internet or your Network. You can also view and backup the recorded video information on to the HDD of your computer. To install the software insert the CD into your CD-ROM drive, explore the CD through My Computer and double click on the file "setup.exe" then follow the prompts to install the software on to the computer from which you will be viewing your DVR4Net - Plus. Once the installation is complete, click (XP example) Start - All Programs - NetViewer - NetViewer, then when the software opens you will see the window detailed below:



19. Protocol Set

You must set the correct protocol so you can control the DVR with a Computer or Keyboard. Move the cursor to **Protocol Set**, then push the **ENTER** button and the **Protocol Setup** window will appear, which is illustrated below. Push the **UP** or **DOWN** button to move the cursor, and push **+** or **-** to change the value.



CHANNEL SEL: If you have a speed dome camera, select the channel which the camera is connected to.

BAUD RATE: Can change from 1200bps to 19200bps. The default is 2400bps.

DOME ADDR: The address of the speed dome camera, changeable from 0x00 to 0xff.

PROTOCOL SEL: The protocol of the speed dome camera: PELCO-P, PELCO-D, NEON, or LILIN.

DVRPROTOCOL SEL: The protocol used by the computer or keyboard to control the DVR, please refer to appendix B. The default is PTC1.

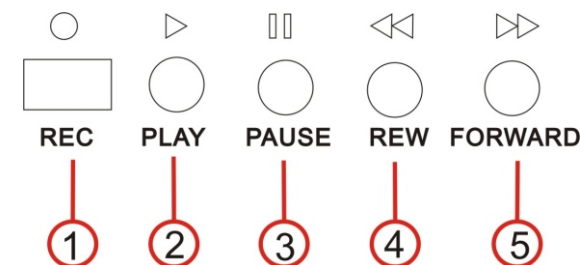
DVRADDR: The address of the DVR for the protocol, which can be changed from 0x00 to 0xff. The default is 0x01.

Buttons On the Front Panel

The front view of the video-recorder is illustrated as below, see over page for details of each button's function.



1. Recording/Playing Control Buttons Area



This is manual recording button. Push this button to record video on to the hard disk, Re-push this button or push stop button to stop recording (enter the password to confirm). Recording and stop will work simultaneously on all four channel's images. This button doesn't work when schedule mode is enabled.

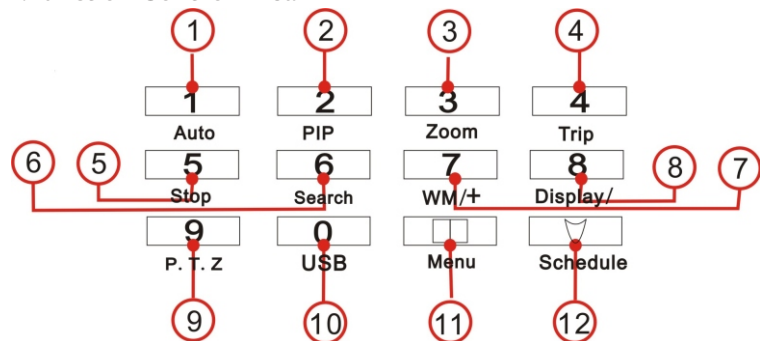
Push this button to start playing the video stored in hard disk, Re-push this button or push stop button, to stop playing . Playing and stop will work simultaneously on all four channel's images. This button doesn't work while Time recording and Alarming recording are enabled.

Push this button to stop playing temporarily; push the play button to continue to play.

Fast backward button. Push this button to start fast backward playing. Push play button to start normal playing from the present position.

Fast forward button. Push this button to start fast forward playing. Push play button to start normal playing from the present position. The fast forward has five speeds; every time you push the button the play speed will increase from slow to fast (2, 4, 8, 16 and 32x) and then back to slow.

2.Function Control Area



I.Auto/I: Auto key; push this button to set the DVR to auto dwell state which will show the different channels independently according to the time set in auto sequence set menu, you can set the dwell time of each channel. Push the channel select button to quit this mode. While inputting numbers, this button is used as number key of "1".

2.PIP/2: PIP key, push this button, to set the DVR to PIP (Picture in Picture) mode, please refer to PIP operation in user guide for details, push the channel select button to quit PIP mode. While inputting numbers, this button is used as number key of “2”.

3.Zoom/3: Zoom key, push this button, to set the DVR to zoom mode, please refer to zoom operation in user guideline for details, push the zoom button again to cancel zoom operation. While inputting numbers, this button is used as number key of “3”.

4.Trip/4: Trip key, push this button, to set the DVR to trip mode, please refer to trip operation in user guide for details. While inputting numbers, this button is used as number key of “4”.

16.Default Setting

The default setting for each item is shown in the chart on the next page.

You can choose “**FACTORY RESET**” in “**SYSTEM SET**” menu, and reset all settings to default.

17. Menu Option Table

SYSTEM
--

13.Information Display

If you push display button, the main information of the DVR will display on screen.

HDD MODEL: the HDD type.

HDD MAX: the size of the hard disk.

HDD USED: percentage of hard disk used.

PB REPEAT: playback repeating enable/disable

OVERWRITE: hard disk overwrite enable/disable

REC SPEED: record frame rate speed.

REC QUALITY: record picture quality.

IP ADDRESS: IP address of the DVR.



14.USB Backup

Plug in the USB device, go to the menu of USB set, check whether the USB device was detected, and there is enough free space on the USB device, select the backup mode, then completely exit the menu. USB backup is available only in playback mode.

If you selected "PIC" for the backup mode, press the **USB** button and an "S" will appear on the screen. When it disappears, the backup of the picture is finished, and you can un-plug the USB device to see the picture on a computer with the net viewer software.

If you selected "FILM" for the backup mode, press and hold the **USB** button until the "A" appears on the screen, press USB button again to select the end of the backup video. This may take a little time, and make sure the USB device has enough free space, if the "A" disappears, the backup is ok, and you can see the video on a computer with net viewer software. NOTE: if you backup a still picture, please choose full picture display.

* We recommend using high quality Sandisk or Legend (Australia only) USB thumb drives with the DVR. For long duration backups, we recommend saving the footage to VHS tape using a VCR.

15.PTZ Operation

This DVR can control speed dome cameras which are connected to the DVR.

To control the speed dome, make sure all the lines are correctly connected, first you must set the right protocol, baud rate, and speed dome's address, please refer to protocol set.

To control the speed dome, push the PTZ button, the character "PTZ CAM 1" will appear on the screen, which means you are now controlling the speed dome connected to channel one. Push the button again to control the speed dome that connect to the channel two, the text "PTZ CAM 2" will appear on the screen, the same for channel three, and channel four. Push the PTZ button one more time to exit from PTZ control.

During the PTZ control state, you can push the up, down, left, right button to move the camera, and push the enter button to stop. If you push the Iris button, the word "Iris" will appear on the screen, then you can push the "+" and "-" button to change the iris, the same to control the focus, zoom, and speed, also push enter button to stop.

5.Stop/5: Stop key, while recording or playing video, push this button to stop recording or playing. This button doesn't work while Time recording and Alarming recording. While inputting numbers, this button is used as number key of "5".

6.Search/6: Search key, push this button to enter search menu, please refer search play in user guideline for details. While inputting numbers, this button is used as number key of "6".

7.WM/7/+: Watermark key, if the DVR is playing video, you can push this button to see the watermark of the picture, if the video was recorded by this DVR and has not be changed, there will be a watermark symbol in each picture, push watermark key again to clear the display. While inputting numbers, this button is used as number key of "7", When in system setup menu, this is the +(increase) button.

8.Display/8/-: Display key, push this button to display current information on the screen, push again this to clear the information display. While inputting numbers, this button is used as number key of "8". When in system setup menu, this is the - (decrease) button.

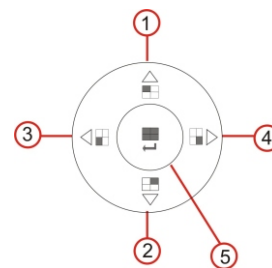
9.PTZ /9: Push this button to enter the PTZ control state, push once to control first speeddome, repush this button to cycle through second, third, and forth. Push this button again to quit PTZ control. While inputting numbers, this button is used as number key of "9".

10. USB/0: USB backup button, during playback push this button to backup video. While inputting numbers, this button is used as number key of "0".

11.Menu: Push this button to enter system setup menu, in menu setup mode, push this button to save settings and quit current menu.

12.Schedule: Push this button to enter schedule state, if the DVR is in schedule state, there will be an "S" symbol on screen, push again this button to quit schedule mode.

3.Channel Selection Control Area



1.First channel/up: Push this button to see full screen display from channel 1. While selecting menu items, push this button to move the cursor **UP**.

2.Second channel/down: Push this button to see full screen display from channel 2. While selecting menu items, push this button to move the cursor **DOWN**.

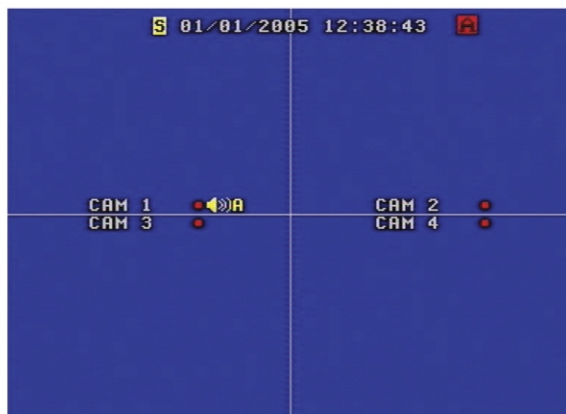
3.Third channel/left: Push this button to see full screen display from channel 3. While selecting menu items, push this button to move the cursor **LEFT**.

4.Forth channel/right: Push this button to see full screen display from channel 4. While selecting menu items, push this button to move the cursor **RIGHT**.

5.Quad Mode/Enter: Push this button to see all images of 4 channels at the same time. When the menu item is highlighted, push this button to select the menu or option.

Display Status While Running

1.Screen Display While Running



S: Means DVR is schedule on. **A**: There is an alarm input.
A: Channel 1 has an alarm input. **A**: Channel 1 is audio on.
R: DVR is recording video now.

2.Screen Display While Playing



P. B.: DVR is playing video. **L**: Live picture is loss.

01/07/2005 13:02:13: live video shows descriptions in white color
 01/02/2005 13:14:35: playback video shows descriptions in yellow color

11. Zoom Operation

Push zoom button, the DVR will be in zoom mode, which is illustrated as below. Push up, down, left or right buttons to move the zoom area, then push enter button to zoom, push zoom button again to cancel zoom operation.



12.PIP Operation

Push PIP button, the DVR will be in PIP mode, which is illustrated as below.



You can push the **PIP** button again to change **PIP** mode Press and hold the **PIP** button to set each **PIP** picture. Press and hold the **PIP** button, until one channel name is highlighted yellow, then push the **LEFT** and **RIGHT** button to change selected channel, push the **+** and **-** button to change this channel's picture, then push **ENTER**.

9. Event Search

Move the cursor to **Event Search**, then push the **ENTER** button, the event search window will appear, which is illustrated below.

There are four types of event list: **MOTION**, **ALARM**, **SCH** and **NETWORK**.

MOTION means motion triggered alarm recording.

ALARM means external sensor triggered alarm recording.

SCH means scheduled time recording.

NETWORK means network activated recording.



Push the **UP** and **DOWN** button to move the cursor among the event list, push the **LEFT** or **RIGHT** button to see the **Previous** or **Next** page, and push the **ENTER** button to play the segment you have selected. Push the **SEARCH** button to return to the **Search Play** menu.

10. Start Stop Search

Move the cursor to Start Stop Search, push the **ENTER** button and the **Start Stop Search** window will appear, which is illustrated below.



All recorded segments are displayed here, push the **UP** or **DOWN** button to move the cursor among the segment list then push the **LEFT** or **RIGHT** button to see **Previous** or **Next** page, push **ENTER** button to play the segment you select. Push the **SEARCH** button again to return to the **Search Play** menu.

3. TRIP Display



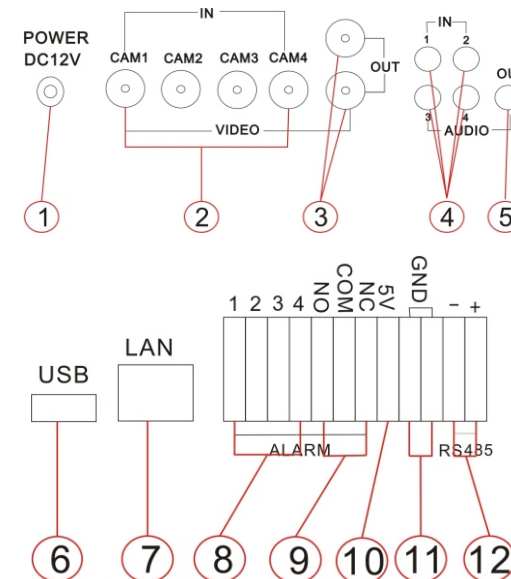
In **Trip Mode**, there will be eight pictures on screen, PB CH1 ~ PB CH4 are playback pictures, CAM 1 ~ CAM4 are live pictures.

Push **TRIP** button or channel buttons to exit **Trip Mode**.

System Connection

1. Back Panel and Connection Terminals

The power cord, camera input and video output signal terminals are all at the back of the DVR4Net. The connections to monitor, camera etc are all handled through the terminals and sockets on the back panel. The back view of the DVR4Net is illustrated as below.

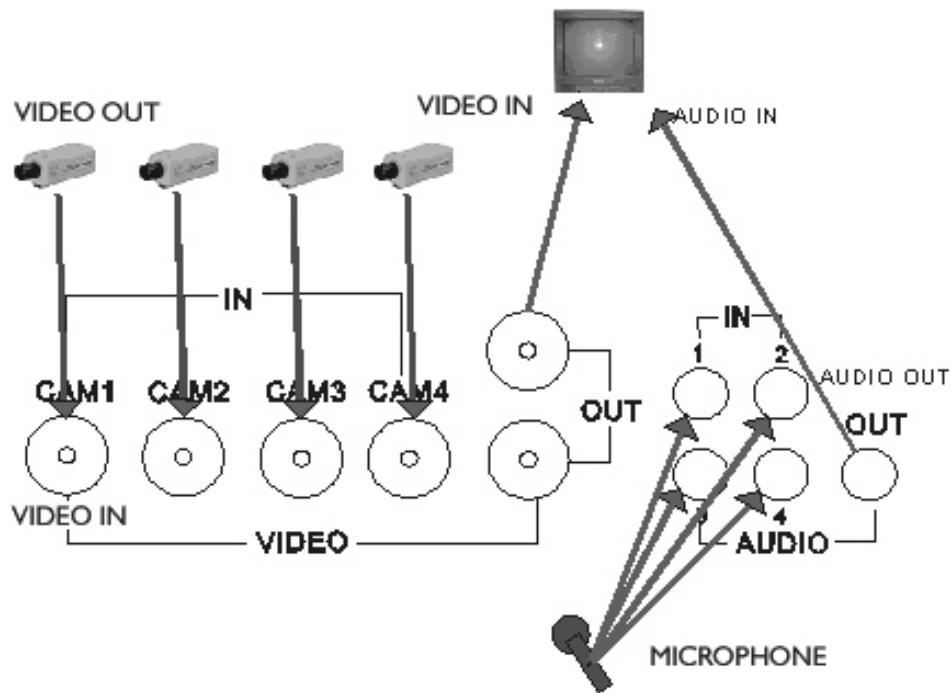


Each part of the back panel is illustrated as below:

1. DC Power Socket
2. BNC Video input 1, 2, 3, 4
3. BNC Video output
4. Audio input 1, 2, 3, 4
5. Audio output
6. USB port
7. RJ-45 network interface
8. Alarm input screw terminals
9. Alarm output screw terminals
10. +5V screw terminal
11. GND screw terminal
12. RS485 screw terminals

2.Video and Audio Connection

The DVR can support up to 4 cameras video input at the same time.



There are two steps for camera installation.

1. Connect the Video Signal Line to the DVR channel input.
2. Connect the power adaptor jack to the camera.

The DVR can connect 4 audio input channel's, but you can only select one for recording. To display the DVR picture, the DVR's video output signal should be transferred to your TV set or monitor. Any TV set that has a "Video Input" terminal is suitable for displaying the picture. The figure above shows the default video and audio signal line connection.

Note: You can only record one audio input at a time, so you can only connect one audio input at a time also. If you connect the audio to **cam 1**, you cannot connect audio to any of the sockets for **cam 2** to **cam 4**. You should disconnect them.

7.Search Play

Push the Search button to display the Search Play window on the screen.



TIME SEARCH: search recording by the time you enter.

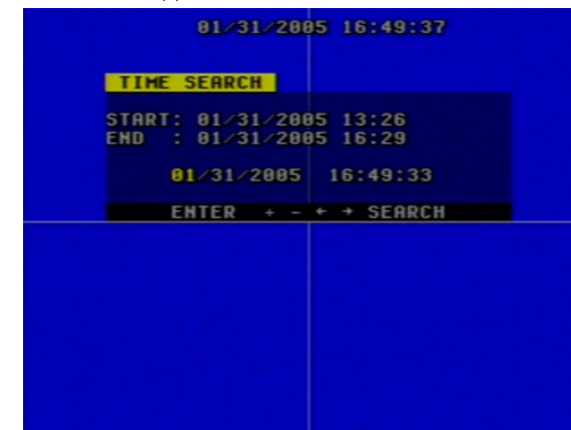
EVENT SEARCH: search recording by event list.

START STOP SEARCH: search recording by segment.

Push the **UP** or **DOWN** button to move the cursor, then push the **ENTER** button to enter the sub menu you have highlighted. Push the **SEARCH** button again to quit the search menu.

8. Time Search

Move the cursor to **Time Search**, then push the **ENTER** button and the **Time Search** window will appear, as illustrated as below.



Push the **LEFT** or **RIGHT** button to move the cursor, push **+** and **-** button to modify the time, then push the **ENTER** button to start play from the time you selected. Push the **SEARCH** button again to return to the **Search Play** menu.

If the time you enter doesn't match recorded video, the DVR will automatically play the video closest to the time you enter.

START: the first time you record.

END: the end time of the last recording, you must enter a time between start and end. If the HDD has been overwritten, the start time maybe not correct.

If **Schedule mode** is disabled the system will not start recording on alarm. Setting schedule on or off is achieved through pushing the **SCHEDULE** button on the front panel or remote, but not through the System Setup menu and window. When the unit is in **Schedule Mode** active, the character “S” will display on the screen. Alarm video recording can’t be stopped by pushing the **RECORD** or **STOP** button while **Schedule Mode** is active. To ensure that once **Schedule Mode** is set to on that the schedule cannot be accidentally stopped there is a password protection to stop **Schedule Mode**. You must press the **SCHEDULE** button then enter the correct password to turn **Schedule Mode** off.

Check **Alarm Recording** setup before recording; confirm the video quality and the frame rate, as the record setting can’t be changed during the recording process.
As long as the alarm input signal is correctly set the alarm recording will continue during the period of time set up by **A/M REC TIME**, and when the outside the time period the alarm recording automatically stops.

5.Time Recording

Time recording starts and stops recording automatically according to the pre-arranged time period. It is applied to a fixed timetable, for example business hours time recording (or outside business hours time recording) with fixed start/stop time.
To start the **Time Recording** function you must have a record schedule setup beforehand. When this is done, push the **SCHEDULE** button on the front panel to set schedule mode to on and the schedule symbol “S” will display on the screen. The **Time Recording** mode will not work unless you activate **Schedule Mode**.
To make **Time Recording** mode active the system must be set to **Schedule Mode** active and that period is set to “T” in **Record Schedule** setup.
In Time Record mode, you must push the **SCHEDULE** button then enter the password to stop time recording.
Because Time recording is reliant on the system being set with the correct time, you must adjust the time to your correct local time before using this function.

6.Playback

Push the **PLAY** button and the system will begin to play the images recorded from the start of the most current recording.
If the recording is playing, push the **PAUSE** button to pause playing, push the **PLAY** button again to resume normal play.
To use **Fast Forward** playing or **Fast Backward** playing, push the **FORWARD** or **REW** button while the recording is playing to see faster playback. Push the **PLAY** button to return to normal speed playing from the current place.
Continuous pushing of the **FORWARD** button will change the fast-forward between five levels of speed (**X2, X4, X8, X16, X32**) in sequence. Continuously pushing the **REW** button will change the fast backward playback between four levels of speed (**X2, X4, X8, X16**) in sequence.
During playback mode, press the **Single Frame Forward** button to play a frame at a time, and hold the button in to continually play one frame at time while the button is held.
During playback mode, press the **Single Frame Rewind** button to play back a frame at a time, and hold the button in to continually play one frame at time while the button is held.
Push the **PLAY** button again to resume normal playback speed, or push the **STOP** button to stop playing.

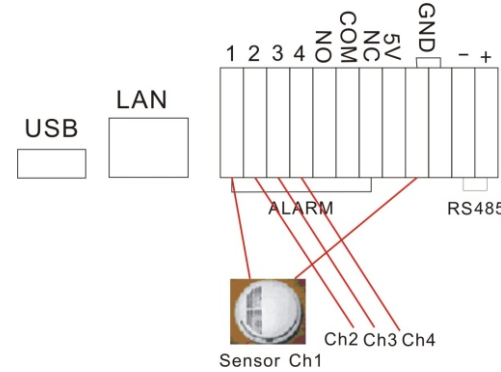
3.Alarm Connection

The DVR can support up to 4 alarm inputs and three alarm outputs.

Alarm input: There are two types of alarm input.

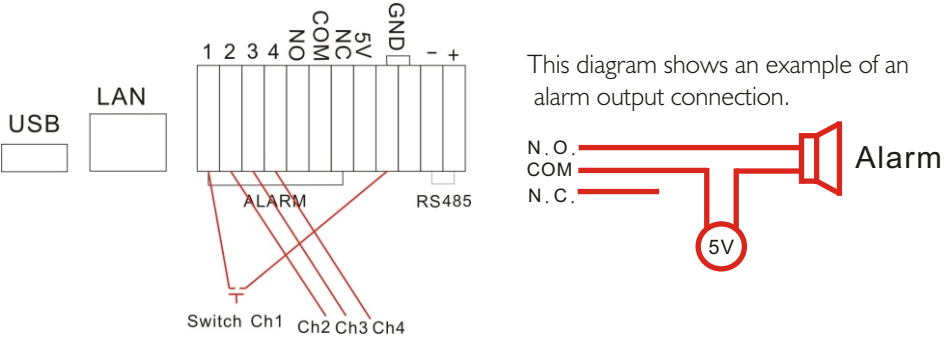
1. Voltage output 5V and 0V

- A:** If the sensor outputs high voltage (5V) normally and outputs low voltage when triggered (0V), then users must set DVR for low voltage alarm.
- B:** If the sensor outputs low voltage (0V) normally and outputs high voltage when triggered (5V), then users must set DVR for high voltage alarm.

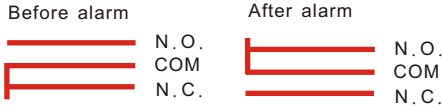


2. Open/Close output

- A:** N.O. Normally open/close when triggered. DVR must be set for low voltage alarm.
- B:** N.C. Normally closed/open when triggered DVR must be set for high voltage alarm.



Alarm output
There are three alarm output pins, the status of these pins is illustrated as below

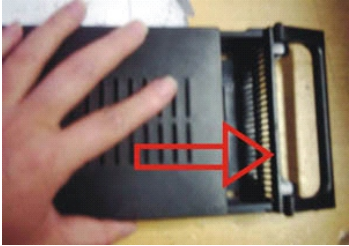
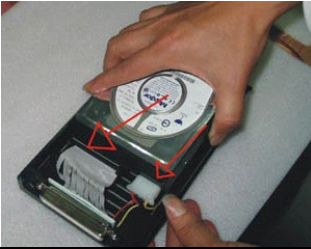
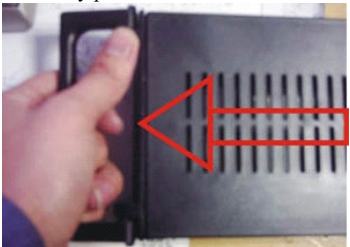


4.Hard Disk Connection

There are several steps to install the hard disk.

Note: If the DVR comes with a HDD, skip the following steps.

For instructions on how to jumper your hard disk drive (HDD) to "master", please refer to the information found on top of the hard drive or visit the hard disk drive manufacturers website.

1. Pull out the hard drive rack from the DVR side panel. 	2. Open the top cover of the drawer. 
3. Jump HDD to Master 	4. Connect the ribbon cable (IDE) cable & power cable. 
5. Close the top cover of the drawer and put the hard drive drawer back into the DVR. (Make sure the cables are firmly pressed onto the HDD interface) 	6. Lock the hard drive draw by turning the key clockwise. 

Quick User Guide

1.Start the DVR4Net - Plus

Before starting the DVR, please make sure all the items in the "Security Notice" at the beginning of this manual are fulfilled and that the input and output cables are all correctly connected. Also ensure the DVR's input video (NTSC/PAL) and the monitor (NTSC/PAL) are both set to the same standard. NTSC for USA & Canada, PAL for Australia, UK and most of Europe.

Fit the hard drive to the removable caddy and insert the removable caddy into the housing, then lock it up (turn the hard disk lock to the right) and connect the power which will then boot the DVR and it will start to work.

2.Turn off the DVR4Net - Plus

Only turn off the DVR when the system is inactive. Do not to turn off the DVR while playing or doing the **System Setup**. Turning off the DVR while recording may cause the recording to corrupt, and can cause the HDD to be unreadable in some cases.

Push the **Record** button to stop recording or push **Stop** button to stop playing or exit from **System Setup** menu, then turn off the power.

If do not wish use the video recorder for a long time, you should pull out the power line from the electrical outlet and store the unit where it will not be damaged.

3.Normal Recording

Connect the power to all related equipment; ensure that there is video input using direct connection to your TV or VCR.

Push the **Display** button to check spare space of the hard disk, if there is not much space, please consider changing your hard disk first or select **Overwrite** mode.

Check recording parameter setup before recording; select video quality, frame rate.

Note that you cannot change record setting during the process of recording.

Manual recordings are the normal recording condition. Under the manual mode

(non-schedule status), pushing the **Record** button will record all channel's video.

Push the **Record** button to begin recording, four channels will start simultaneous recording.

While in normal recording mode, push the **Record** or **Stop** button, and enter the right password, to stop recording.

During the process of recording if the hard disk is full and the system is set to automatic overwrite, the recording will not be interrupted but the DVR will automatically begin to overwrite recorded video from the earliest (oldest) recorded area. If the system is set to overwrite disabled, it will stop recording once the HDD is full.

4.Alarm Recording

Alarm recording is not started by manually pushing the Record button, it is automatically activated once **Schedule** mode is enabled.

Alarm recording can be activated by alarm input signal or motion, if the connection of alarm input equipment is correct, stable and reliable, and the alarm settings are correct.

For recording to be activated by exterior input signal or motion detection the system must be set to **Schedule Mode** active and that period is set to "A" in **Record Schedule** setup. You must also set the menu of **Alarm Setup** for exterior input alarm, and the alarm enable setting of that channel must be set to "ON". For **Motion Alarm**, the motion enable setting of that channel must set "ON", and set the area for motion detection must be set.