



HD VIDEO NETWORK RECORDER SERIES



Quick Installation Guide
DN-16114 • DN-16118

IMPORTANT SAFEGUARD



All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.



The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.



This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Federal Communications Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

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

Disclaimer

We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. The content of this manual is subject to change without notice.

This product doesn't have a standby / off mode.

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We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:






<http://download.dvrtw.com.tw/GPL/NVR/T-Series/linux.tar.gz>

1. HARDWARE OVERVIEW

1.1 Front Panel

Note: The functions on the front panel and rear panel may vary, depending on the mode you have.

1) LED indicators

Alarm or 	An alarm event occurs.
Internet or 	The device is connected to Internet.
e-SATA 	An external disk array is connected.
 *	This device is power-supplied.
 *	The device is connected to LAN.
Record*	Recording is on.
HDD*	Hard disks are installed in the device and connected well.

* For Selected models only

2) USB port ()

Insert a compatible USB flash drive for video backup.

Note: For the compatible list of USB flash drives, please refer to "APPENDIX 1 COMPATIBLE USB FLASH DRIVE LIST" at page 9.

3) Mouse port ()

Insert a mouse for function operation.

1.2 Rear Panel

1) eSATA

This port is used to connect a storage device supporting eSATA interface; for instance, a disk array.

Note: Please purchase a disk array supporting Linux system to ensure your device works properly. For the compatible list, please refer to "APPENDIX 5 DISK ARRAY COMPATIBLE LIST" at page 15.

Note: If the disk array is not connected or detected well, check the mode of your disk array, or do a reset default on your disk array and try again.

2) HDMI

This port is used to connect the monitor, which supports HDMI interface.

Note: Direct connection to the monitor, which supports VGA or composite interface, is not supported. Please prepare a converter in advance.

3) WAN (or INTERNET)

This port is used to connect your device to Internet.

4) DC IN

Connect the device to power with the regulated adapter.

5) (Power switch)

Switch to "—" to turn on the power, and "O" to turn off the power.

6) AUDIO OUT (for selected models only)

Connect to a speaker.

7) Video Input (w/PoN) (for selected models only)

They are used to connect IP cameras locally. This device supports PoN (power-over-network), which could provide power to all connected cameras. No power adapters are needed for cameras.

8) Video Input (w/PoE) (for selected models only)

They are used to connect IP cameras locally. This device supports PoE (power-over-ethernet), which could provide power to all connected cameras. No power adapters are needed for cameras.

9) EXTERNAL I/O (for selected models only)

Insert the supplied external I/O block, and users are able to connect external devices.

2. CONNECTION

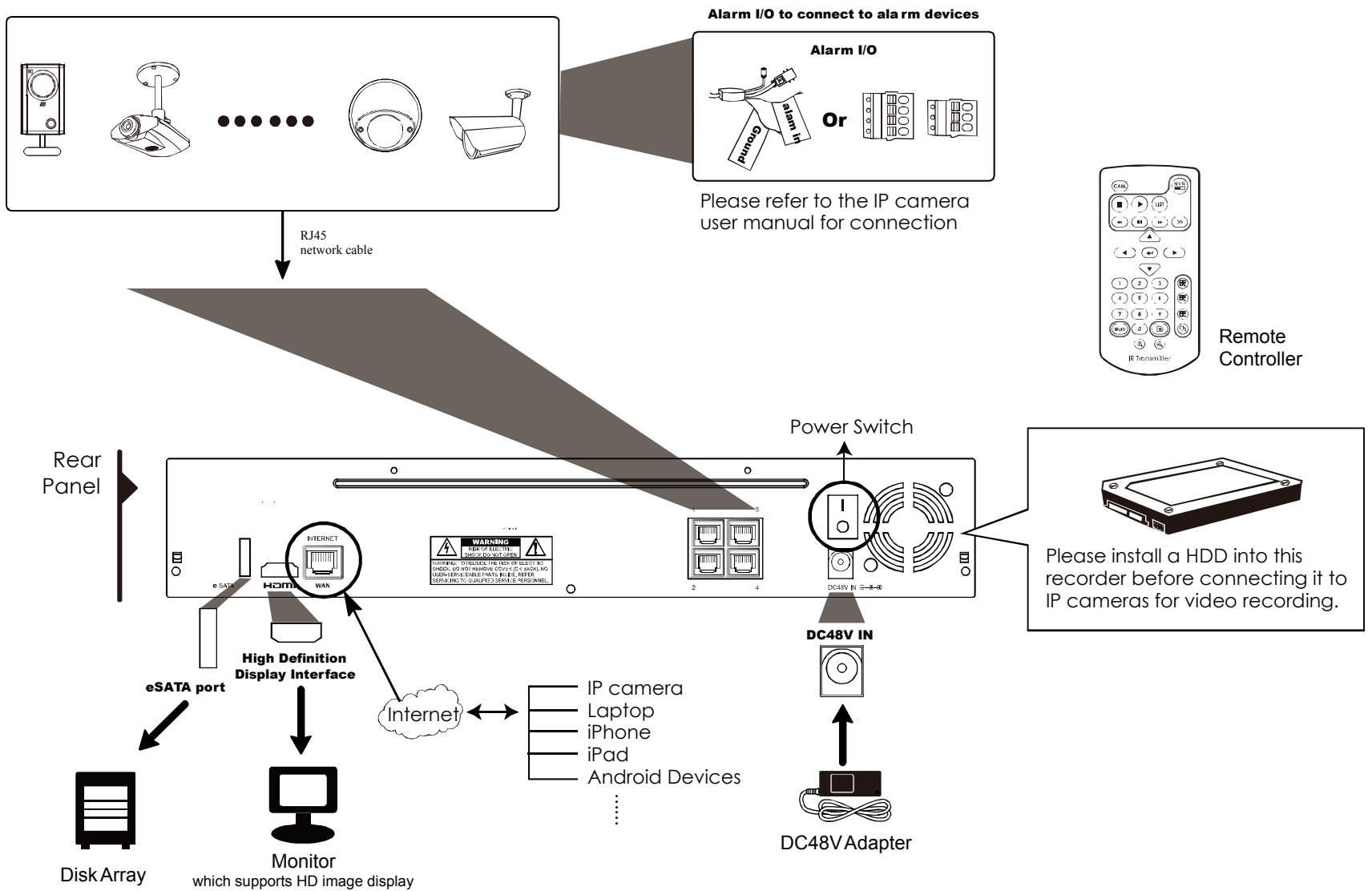
2.1 Camera IP Configurations by LAN

Auto mode is to simplify the complicated network settings within three minutes. The connection mode of the LAN port is "AUTO" by default. This mode is suitable when the LAN port of the device is connected to a hub.

Note: SETTING Path:  (ADVANCED CONFIG) → NETWORK → LAN → MODE.

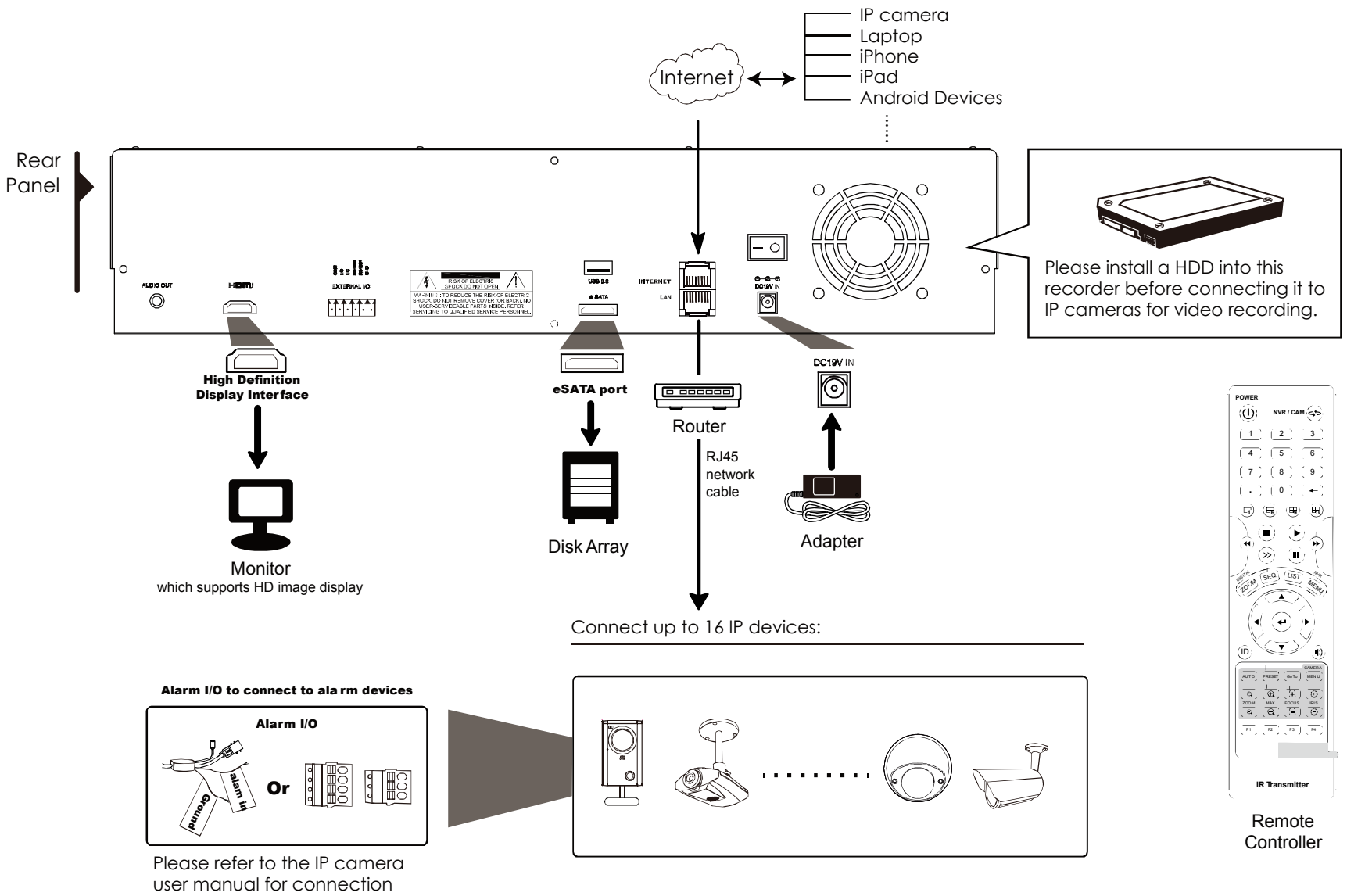
Type 1

Connect IP cameras as many as your recorder supports:



Note: For access this recorder remotely with your mobile device or laptop, you need to connect this recorder to Internet. For details, please get the setup manual from the supplied CD or from www.surveillance-download.com/user/network_setup/network_setup_recorder.pdf.

Type 2



Note: For access this recorder remotely with your mobile device or laptop, you need to connect this recorder to Internet. For details, please get the setup manual from the supplied CD or from www.surveillance-download.com/user/network_setup/network_setup_recorder.pdf.


The device will **automatically** configure the IP address of a camera connected by LAN if:

- The connected IP camera is our brand's IP camera.
- Reset the IP camera to default value (the default IP configuration method of the camera is "DHCP").
- The camera is powered on before the device is powered on.


If the device **doesn't** configure the IP address of your camera automatically as described above, your IP camera might **NOT** be:

- Our brand's IP camera.
- Set to "DHCP" as its default IP configuration method.

To solve this, use our brand's IP camera, and reconfigure its IP address to 10.1.1.xx (xx ranges from 11 ~ 253), in the same network segment as the device.

- a) Move your mouse to the left side of the screen to show the quick bar, and select . You'll see the list of every connected IP camera with its connection status to this device and MAC address.
- b) Select the IP address which is not used, and select "SETUP".

IP SEARCH			
IP	PORT	MAC	STATUS
10.1.1.12	88	00:0e:53:e5:9a:f1	CONNECTED TO CH1
10.1.1.13	88	00:0e:53:a6:91:18	CONNECTED TO CH2
10.1.2.14	88	00:0e:53:a5:9f:a2	UNUSED
10.1.1.15	88	00:0e:53:e1:4e:k5	CONNECTED TO CH3
10.1.1.16	88	00:0e:53:s5:3e:h6	CONNECTED TO CH4
10.1.1.17	88	00:0e:53:e6:4b:26	CONNECTED TO CH5

	CONNECT	SETUP	EXIT
-------------------------------------------------------------------------------------	---------	-------	------

- c) Select "DHCP" in "NETWORK TYPE".
- d) Click "APPLY" and "EXIT" to save your changes.

SETUP	
NETWORK TYPE	DHCP
IP	10.1.1.14
PORT	88
USER NAME	admin
PASSWORD	*****
NETMASK	255.0.0.0
GATEWAY	10.1.1.10
PRIMARY DNS	168.95.1.1

APPLY	EXIT
-------	------

- e) The device will then detect the IP camera and display images soon.

2.2 Manual Connection Setup

Note: SETTING Path:  (ADVANCED CONFIG) → CONNECTION.

To manually assign the address of your camera connected locally, click “URI” to modify.

ADVANCED CONFIG			
CONNECTION CAMERA DETECTION ALERT NETWORK DISPLAY RECORD	CHANNEL	URI	CONFIG
	CH1	AVTECH://ip_office.ddns.eagleeyes.tw:80	SETUP
	CH2	ONVIF://10.1.1.14:88	SETUP
	CH3	AVTECH://10.1.1.30:88	SETUP
	CH4	AVTECH://10.1.1.12:88	SETUP
EXIT			


















Note: To configure this recorder to access other IP camera connected remotely for live viewing or video backup, you need to connect this recorder to Internet first. For details, please get the setup manual from the supplied CD or from www.surveillance-download.com/user/network_setup/network_setup_recorder.pdf.

3. USER INTERFACE








3.1 Local

3.1.1 Device Status

Note: The functions shown may vary based on the model or the access user level you use.


















	Key lock		Key unlock
	Channel lock		Channel unlock
	USB flash drive / device connected		No USB device connected
	Timer record on		Timer record off
	Overwrite on		Overwrite off
	Sequence mode on		Sequence mode off
	PTZ mode on		PTZ mode off
	Backup event queued and USB flash drive needed		USB flash drive full
	CPU loading		

Network Status:

	(WAN) Internet connected		(WAN) Internet disconnected
	(WAN) Local connection		
	(LAN) Auto mode -Mbit/s		(LAN) Auto mode -Gbit/s
	(LAN) DHCP / Static IP mode		(LAN) Camera disconnected







3.1.2 Channel Status

Note: The functions shown may vary based on the model or the access user level you use.

	Auto search on		Auto search off		Original size		Fit to screen
	Live audio on		Audio off		Audio playback on		Audio playback off
	Recording		PTZ control		Alarm event		Motion event
	Live information		Playback information		Digital zoom		Channel Playback
	Quick camera control						






3.1.3 Quick Operation

Move to the arrow mark to extend the quick menu bar and show the four functions as follows:

	Click to show the channel switch panel and select the channel you want.
	Click to display the playback control panel, and click  to play the latest recorded video clip, or click  to enter the search list.
	Click to open the IP search window and check the current connection status of each channel.
	Click to show the power off panel to either halt or reboot the system.










3.1.4 Main Menu

Right-click anywhere on the screen to show the main menu as follows, and right-click again to exit.


	QUICK START	Click to set the status display, image settings, and date & time.
	SYSTEM	Click to set the system configurations.
	EVENT INFORMATION	Click to enter the event search menu.
	ADVANCED CONFIG	Click to set CONNECTION, CAMERA, DETECTION, ALERT, NETWORK, DISPLAY, RECORD, and NOTIFY*.
	SCHEDULE SETTING	Click to set record timer and event timer.

* For selected models only

3.1.5 Playback Panel

	Fast Forward	Increase the speed for fast forward.
	Fast Rewind	Increase the speed for fast rewind.
	Play / Pause	Click to play the latest recorded video clip immediately, and click again to pause. In the pause mode, click  once to get one frame forward, and click  to get one frame rewind.
	Stop	Click to stop the video playback.
	Slow Playback	Click once to get 1/4X speed playback, and click twice to get 1/8X speed playback.
	Previous / Next Hour	Click to jump to the next / previous time interval in an hour, for example, 11:00 ~ 12:00 or 14:00 ~ 15:00, and start playing the earliest event video clip recorded during this whole hour.
	Quick Search	Click to enter the quick search menu for specific record data search.

APPENDIX 1 COMPATIBLE USB FLASH DRIVE LIST

Please upgrade the firmware to the latest version to ensure the accuracy of the following table. If the USB flash drive is not supported by this device, you will see  on the screen.

Note: Please use your PC to format the USB flash drive as "FAT32".

Note: You can backup up to 2GB video data for one-time USB backup. To backup more data, please set the time & channel(s) you want, and start USB backup again.

MANUFACTURER	MODEL	CAPACITY
Transcend	JFV35	4GB
	JFV30	8GB
Kingston	DataTraveler	1GB
PQI	U172P	4GB
Apacer	AH320	2GB
	AH320A	8GB
	AH220	1GB
	AH320	4GB
A-data	RB-18	1GB
Sandisk	Cruzer Micro	2GB
	Cruzer Micro	4GB
	Cruzer4-pk	2GB
Netac	U208	1GB
MSI	F200	4GB
SONY	Micro Vault Tiny 2GB	2GB
	Micro Vault Tiny 4GB	4GB
	Micro Vault Tiny	1GB

APPENDIX 2 COMPATIBLE HARD DISK LIST

Please upgrade the firmware of the device to the latest version to ensure the accuracy of the following table.

Note: It's necessary to install a hard disk first before firmware upgrade to ensure the upgrade process works properly.

Note: It's not recommended to use a green hard disk with this recorder to make sure it works properly.

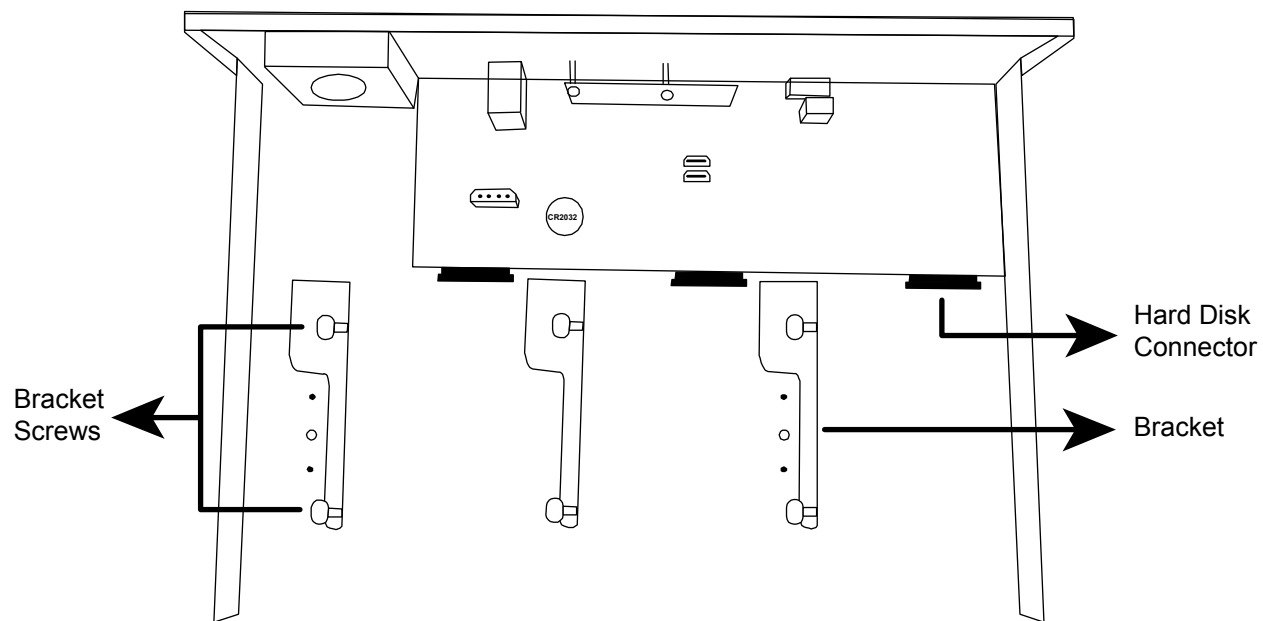
MANUFACTURER	MODEL	CAPACITY	ROTATION
Seagate	ST250DN000	250GB	7200 rpm
	ST3320613AS	320GB	7200 rpm
	ST33500320AS	500GB	7200 rpm
	ST3500410SV	500GB	7200 rpm
	ST3750330AS	750GB	7200 rpm
	ST31000525SV	1000GB	7200 rpm
	ST31000340AS	1000GB	7200 rpm
	ST2000DM001	2TB	7200 rpm
	ST2000VX000	2TB	7200 rpm
	ST3000VX000	3TB	7200 rpm
WD	WD2500AAKX	250GB	7200 rpm
	WD2500AAKX	250GB	7200 rpm
	WD3200AAKS	320GB	7200 rpm
	WD5000AACS	500GB	7200 rpm
	WD5000AZRX	500GB	7200 rpm
	WD6400AAKS	640GB	7200 rpm
	WD7500AAKS	750GB	7200 rpm
	WD10EADS	1TB	7200 rpm
	WD10EALX	1TB	7200 rpm
	WD10EURX*	1TB	7200 rpm
	WD15EADS	1.5TB	7200 rpm
	WD20EADS	2TB	7200 rpm
	WD20EURS	2TB	7200 rpm
	WD2002FAEX	2TB	7200 rpm
WD20EARS	2TB	7200 rpm	
Maxtor	STM3500320AS	500GB	7200 rpm
	STM3750330AS	750GB	7200 rpm
HITACHI	HDT725032VLA360	320GB	7200 rpm
	HDS7211050DLE630	500GB	7200 rpm
	HDS721010KLA330	1000GB	7200 rpm
	HDS723020BLA642	2TB	7200 rpm

*For 4CH & 8CH models only

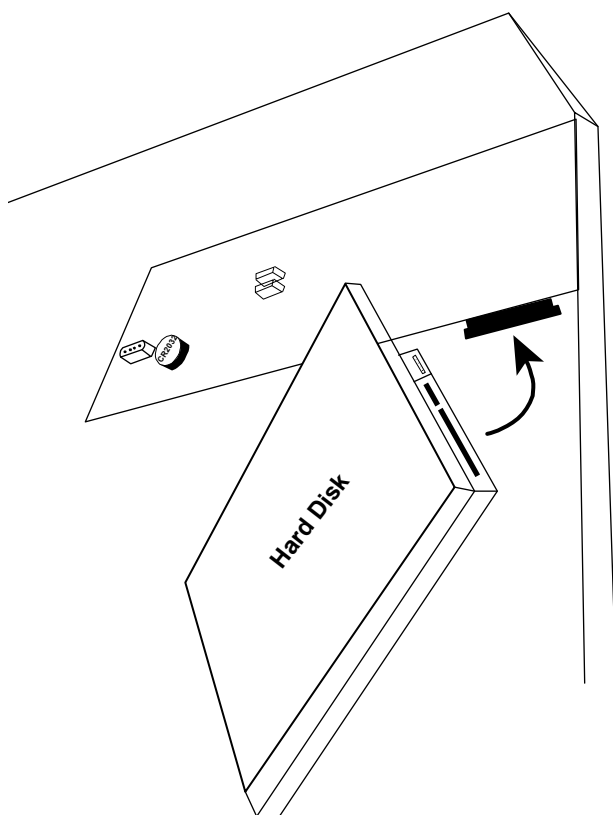
APPENDIX 3 HARD DISK INSTALLATION

Note: It's necessary to install a hard disk first before firmware upgrade to ensure the upgrade process works properly.

Step1: Remove the top cover, and find the hard disk connector and bracket in the device.

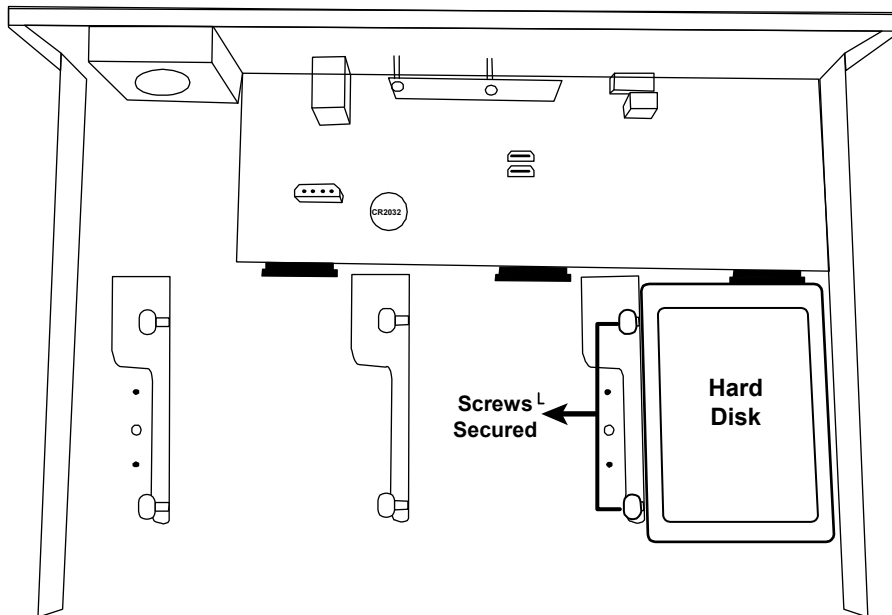


Step2: Get a compatible hard disk. With the PCB side facing down, insert the hard disk to one of the hard disk connector.



Step3: Fasten the hard disk to the bracket by securing the screws on the bracket.

Note: You may find screws in the sales package.



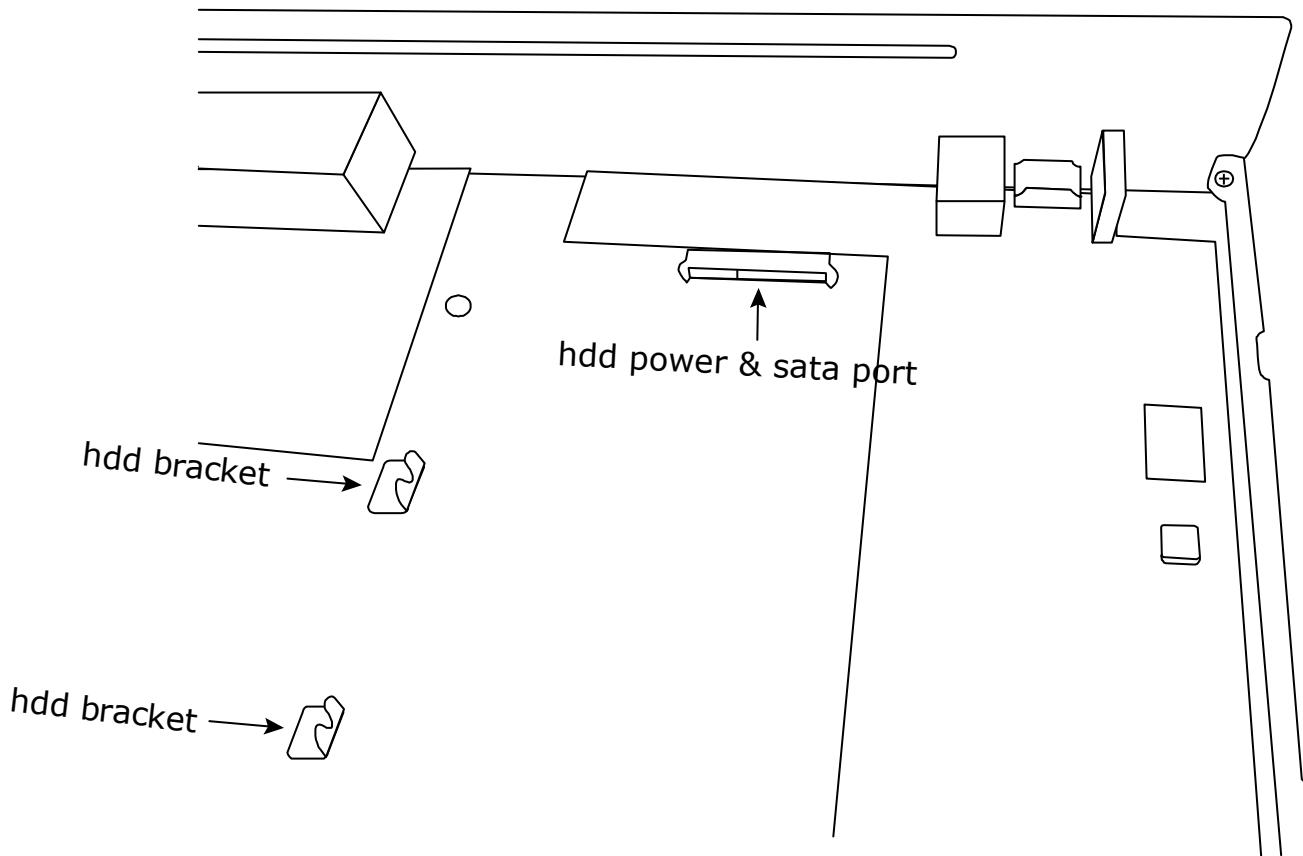
Note: For the 16CH model, you may purchase a bracket accessory separately to install two more hard disks in this device.

Step4: Replace the top cover and fasten the screws you loosened in Step1.

■ **Type 2**

Note: It's necessary to install a hard disk first before firmware upgrade to ensure the upgrade process works properly.

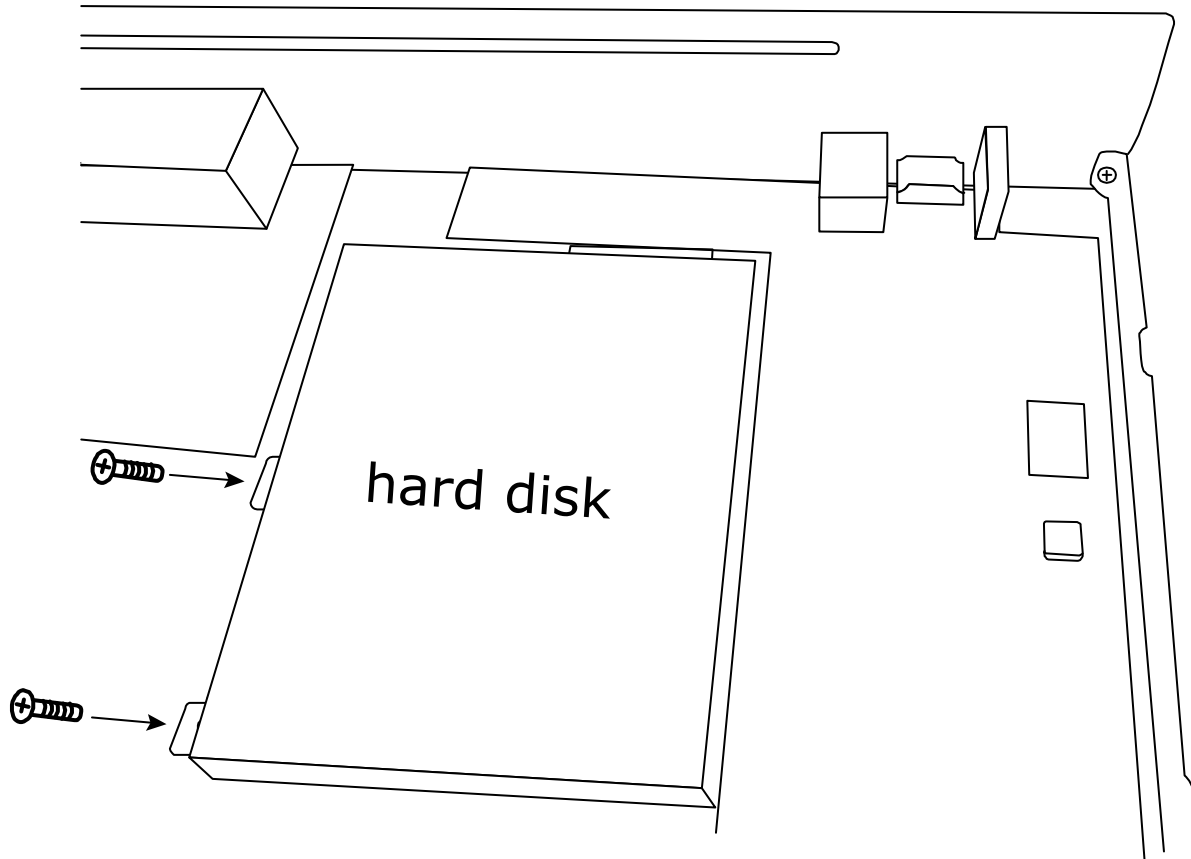
Step1: Remove the top cover, and find the hard disk connector and bracket in the device.



Step2: Get a compatible hard disk. With the PCB side facing down, align the hard disk with the hard disk power & sata port, and insert the hard disk.

Step3: Fasten the hard disk to the bracket by securing the screws on the bracket.

Note: You may find screws in the sales package.



Step4: Replace the top cover and fasten the screws you loosened in Step1.

APPENDIX 4 BATTERY REPLACEMENT

The time reset after power failure, for example, caused by a power outage, will cause the disorder of the recorded data, and users may have problems in searching the event clip they want. To keep the device time from resetting, a non-chargeable lithium battery, CR2032, is installed in the device.

However, the device time might still get reset when the battery is low or even running out of power. If so, please replace the device battery, CR2032, **right away** as instructed below.

➤ How to replace CR2032

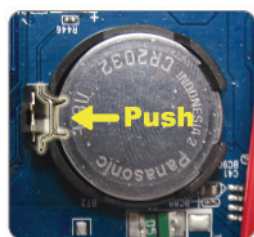
Note: The lithium battery, CR2032, is a non-chargeable battery, and should be purchased separately. Please replace only with the same or equivalent type battery in case of danger.

Step1: Stop all recording **immediately** to prevent the disorder of the recorded data. Then, back up the recorded data if necessary.

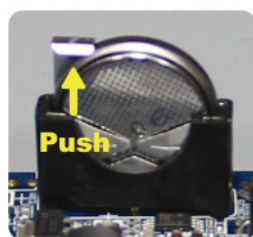
Step2: Power off the device, and disconnect the power.

Step3: Remove the device cover, and find the battery on the mainboard.

Step4: Push the release as indicated below to remove the battery.



Type1



Type 2

Step5: Get a new battery and install it to its slot on the main board.

- For Type 1, install it with the side of “CR2032” facing up as shown above.
- For Type 2, install it without the side of “CR2032” facing you as shown above.

Step6: Replace the cover and connect to power.

Step7: Set the date & time, and resume recording.

APPENDIX 5 DISK ARRAY COMPATIBLE LIST

This NVR series has an eSATA interface built-in for external disk array connection. Here's the compatible list for disk arrays.

Note: For the compatible hard disks used for those disk arrays listed below, please check their respective user manuals or official websites.

Brand	Model Number
Proware	EP-D501-AA
	EP-2123-UA-R
RAIDON	GT1650-SB3
	GR3630-SB3
STARDOM	DR5-WBS3