# VIOSTOR NVR NETWORK VIDEO RECORDER

## QVR

## **QNAP VIOSTOR RECORDING SYSTEM**

## User Manual (Version: 5.0.3)

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Thank you for choosing QNAP products! This user manual provides detailed instructions of using the product. Please read carefully and start to enjoy the powerful functions of the product!

- The VioStor NVR is hereafter referred to as the VioStor or the NVR.
- This user manual provides the description of all the functions of the VioStor NVR. The product you purchased may not support certain functions dedicated to specific models.
- This user manual (version 5.0.3) is applicable for the QVR version 5.0.3 only. If the VioStor NVR is running an older firmware version, please refer to the previous versions of the user manuals.

#### **Legal Notices**

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#### CAUTION

- 1. Back up the system periodically to avoid any potential data loss. QNAP disclaims any responsibility of all sorts of data loss or recovery.
- Should you return any components of the product package for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

#### **Important Notice**

- Reading instructions
   Read the safety warnings and user manual carefully before using this product.
- Power supply
- This product can only be used with the power supply provided by the manufacturer.
- Service

Please contact qualified technicians for any technical enquires. Do not repair this product by yourself to avoid any voltage danger and other risks caused by opening this product cover.

• Warning

To avoid fire or electric shock, do not use this product in rain or humid environments. Do not place any objects on this product.

#### **Regulatory Notice**



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Shielded interface cables, if any, must be used in order to comply with the emission limits.

CE<sub>CE NOTICE</sub>

Class B only.

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#### **Safety Warning**

- 1. This product can operate normally in the temperature of 0°C–40°C and relative humidity of 0%–90%. Please make sure the environment is well-ventilated.
- 2. The power cord and devices connected to this product must provide correct supply voltage.
- 3. Do not place this product in direct sunlight or near chemicals. Make sure the temperature and humidity of the environment are in optimized level.
- Unplug the power cord and all connected cables before cleaning. Wipe this product with a wet towel. Do not use chemical or aerosol to clean this product.
- 5. Do not place any objects on this product for the server's normal operation and to avoid overheat.
- 6. Use the flat head screws in the product package to lock the hard disks in this product when installing hard disks for proper operation.
- 7. Do not place this product near any liquid.
- 8. Do not place this product on any uneven surface to avoid falling off and damage.
- 9. Make sure the voltage is correct in your location when using this product. If you are not sure about the voltage, please contact the distributor or the local power supply company.
- 10. Do not place any object on the power cord.
- 11. Do not attempt to repair this product in any occasions. Improper disassembly of the product may expose you to electric shock or other risks. For any enquiries, please contact the distributor.
- 12. The chassis models should only be installed in the server room and maintained by the authorized server manager or IT administrator. The server room is locked by key or keycard access and only certified staff is allowed to enter the server room.

### Warning:

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- Do NOT touch the fan inside the system to avoid serious injuries.

## **Chapter 1.** Introduction

#### 1.1 Overview

The QNAP VioStor NVR (hereafter referred to as the NVR or the VioStor) is the high performance network surveillance solution for network-based monitoring of IP cameras, video recording, playback, and remote data access. Up to 128 channels from multiple QNAP NVR servers can be monitored simultaneously. The NVR supports IP-based cameras and video servers from numerous brands, for more information please visit

http://www.qnapsecurity.com/pro\_compatibility\_camera.asp.

The NVR supports video recording in H.264, MPEG-4, MJPEG, or MxPEG video compression. The NVR offers diversified display modes and recording features, e.g. scheduled recording, alarm recording, smart recording. The NVR also supports data search by date and time, timeline, event, and intelligent video analytics (IVA), including motion detection, missing object, foreign object, out of focus, and camera occlusion. All of these functions can be configured by using your web browser.

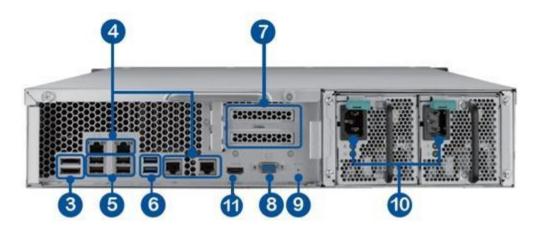
The VioStor Pro(+) Series NVR is the world's first Linux-based NVR capable of truly PC-less quick configuration, monitoring of IP cameras on the network, and video playback via the HDMI or VGA connector. The NVR can be operated by connecting to a high-definition (HD) VGA monitor or TV, and a USB mouse, USB keyboard (optional), and a USB sound card (optional).

\* The MxPEG video compression feature is not supported by VS-2008L, VS-2004L VS-1004L.

## **1.2 Hardware Illustration**

#### 1.2.1 VS - 12164 / 12156 / 12148 / 12140U-RP Pro+

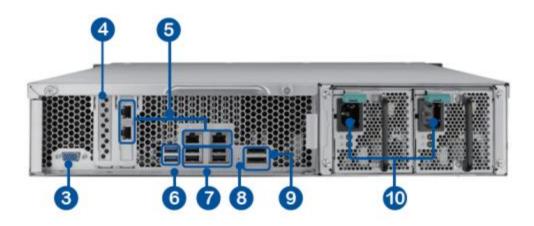




- 1 Power Button
- 2 LED Indicators: 10 GbE, Status, LAN, eSATA (Reserved)
- 3 eSATA x 2 (Reserved)
- 4 Gigabit LAN x 4
- 5 USB 2.0 x 4
- 6 USB 3.0 x 2
- 7 Expansion Slot x 2 (Reserved)
- 8 VGA
- 9 Password & Network Settings Reset Button
- 10 Power Connector x 2
- 11. HDMI

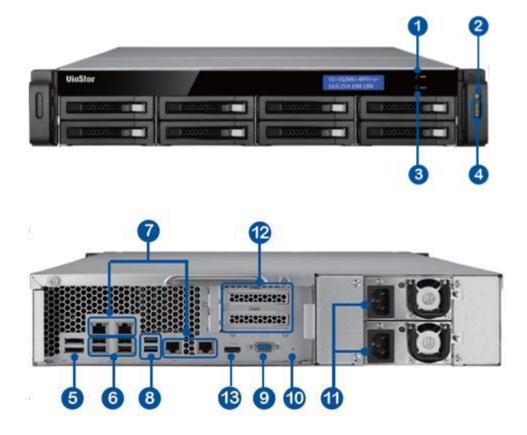
#### 1.2.2 VS - 12164 / 12156 / 12148 / 12140U-RP Pro





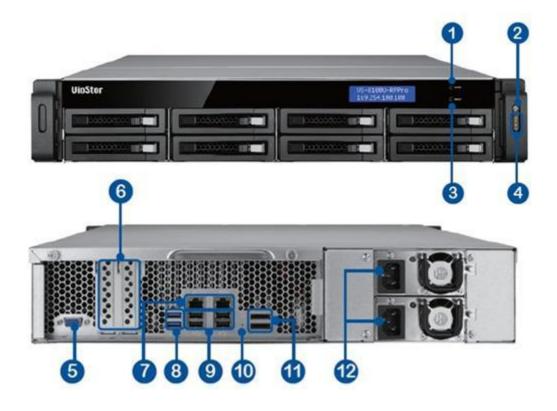
- 1. Power button
- 2. LED indicators: 10 GbE, Status, LAN, eSATA Select button(Reserved)
- 3. VGA
- 4. Expansion slot x 1 (reserved)
- 5. Gigabit LAN x 4
- 6. USB 3.0 x 2
- 7. USB 2.0 x 4
- 8. Password & network settings reset button
- 9. eSATA x 2 (reserved)
- 10. Power connector x 2

#### 1.2.3 VS - 8148 / 8140 / 8132 / 8124U-RP Pro+



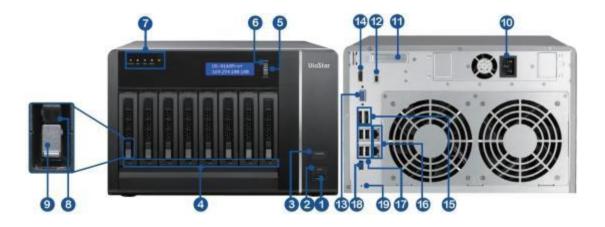
- 1. Enter Button
- 2. Power Button
- 3. Select Button
- 4. LED Indicators: 10 GbE, Status, LAN, eSATA (Reserved)
- 5. eSATA x 2 (Reserved)
- 6. USB 2.0 x 4
- 7. Gigabit LAN x 4
- 8. USB 3.0 x 2
- 9. VGA
- 10. Password & Network Settings Reset Button
- 11. Power Connector x 2
- 12. Expansion Slot x 2 (Reserved)
- 13. HDMI

#### 1.2.4 VS - 8148 / 8140 / 8132 / 8124U-RP Pro



- 1. Enter button
- 2. Power button
- 3. Select button
- 4. LED indicators: 10 GbE, Status, LAN, eSATA(Reserved)
- 5. VGA
- 6. Expansion slot x 2 (reserved)
- 7. Gigabit LAN x 2
- 8. USB 3.0 x 2
- 9. USB 2.0 x 4
- 10. Password & network settings reset button
- 11. eSATA x 2 (reserved)
- 12. Power connector x 2

#### 1.2.5 VS - 8148 / 8140 / 8132 / 8124 Pro+



- 1. USB 3.0
- 2. One-touch -video-backup button
- 3. Power button
- 4. Hard drive LEDs
- 5. Select button
- 6. Enter button
- 7. LED indicators: Status, LAN, USB, eSATA (Reserved), 10 GbE
- 8. Tray lock
- 9. Release button
- 10. Power connector
- 11. Expansion slot
- 12. Kensington security slot
- 13. VGA
- 14. HDMI
- 15. eSATA x 2 (reserved)
- 16. Gigabit LAN x 2
- 17. USB 2.0 x 4
- 18. USB 3.0
- 19. Password & network settings reset button

#### 1.2.6 VS - 6120 / 6116 / 6112 Pro+



- 1. One-touch -video-backup button
- 2. USB 2.0
- 3. LED indicators: Status, LAN, USB, Power, HDD1-6
- 4. Power button
- 5. Select button
- 6. Enter button
- 7. Power connector
- 8. K-Lock Security Slot
- 9. Gigabit LAN x 2
- 10. Audio In/Out
- 11. Password & Network Settings Reset Button
- 12. USB 3.0 x 2
- 13. USB 2.0 x 4
- 14. HDMI

#### 1.2.7 VS - 6020 / 6016 / 6012 Pro



- 1. One-touch -video-backup button
- 2. USB 2.0
- 3. LED indicators: Status, LAN, USB, eSATA(Reserved), HDD1-6
- 4. Power button
- 5. Select button
- 6. Enter button
- 7. Power connector
- 8. Gigabit LAN x 2
- 9. USB 2.0 x 4
- 10. eSATA x 2 (reserved)
- 11. VGA
- 12. Password & network settings reset button
- 13. Kensington security slot

#### 1.2.8 VS - 4116 / 4112 / 4108U-RP Pro+





- 1. USB 2.0
- 2. One-touch -video-backup button
- 3. LED indicators: USB, Status, HDD1-4, LAN
- 4. Power button
- 5. Power connector
- 6. HDMI
- 7. Gigabit LAN x 2
- 8. USB 3.0 x 2
- 9. USB 2.0 x 2
- 10. DI/DO
- 11. RS-485 (reserved)
- 12. Password & network settings reset button
- 13. Audio In/Out
- 14. RS-232 (reserved)

#### 1.2.9 VS - 4016 / 4012 / 4008U-RP Pro



- 1. One-touch -video-backup button
- 2. USB 2.0
- 3. LED indicators: Status, LAN, USB, eSATA(Reserved), HDD1-4
- 4. Power button
- 5. Power connector
- 6. Gigabit LAN x 2
- 7. USB 2.0 x 4
- 8. eSATA x 2 (reserved)
- 9. VGA
- 10. Password & network settings reset button

#### 1.2.10 VS - 4116 / 4112 / 4108 Pro+



- 1. One-touch -video-backup button
- 2. USB 2.0
- 3. LED indicators: Status, LAN, USB, HDD1-4
- 4. Power button
- 5. Select button
- 6. Enter button
- 7. Power connector
- 8. K-Lock Security Slot
- 9. Gigabit LAN x 2
- 10. Audio In/Out
- 11. Password & network settings reset button
- 12. USB 3.0 x 2
- 13. USB 2.0 x 4
- 14. HDMI

#### 1.2.11 VS - 4016 / 4012 / 4008 Pro



- 1. One-touch- video-backup button
- 2. USB 2.0
- 3. LED indicators: Status, LAN, USB, eSATA(Reserved), HDD1-4
- 4. Power button
- 5. Select button
- 6. Enter button
- 7. Power connector
- 8. Gigabit LAN x 2
- 9. USB 2.0 x 4
- 10. eSATA x 2 (reserved)
- 11. VGA
- 12. Password & network settings reset button
- 13. Kensington security slot

#### 1.2.12 VS - 2212 / 2208 / 2204 Pro+



- 1. One-touch-video-backup button
- 2. USB 3.0
- 3. LED Indicators: LAN, HDD1, HDD2
- 4. Power Button
- 5. Power Connector
- 6. Gigabit LAN x 2
- 7. USB 3.0 x 2
- 8. Password & Network Settings Reset Button
- 9. K-Lock Security Slot
- 10. Mic Input/ audio output
- 11. HDMI 1
- 12. HDMI 2 (reserved)
- 13. Alarm input/ output (reserved)

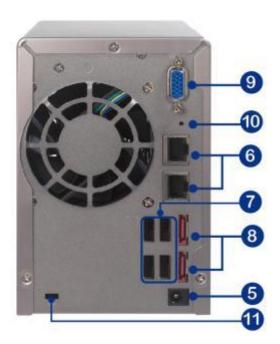
#### 1.2.13 VS - 2112 / 2108 / 2104 Pro+



- 1. One-touch-video-backup button
- 2. USB 3.0
- 3. LED Indicators: LAN, HDD1, HDD2
- 4. Power Button
- 5. Power Connector
- 6. Gigabit LAN x 2
- 7. USB 2.0 x 4
- 8. Password & Network Settings Reset Button
- 9. K-Lock Security Slot
- 10. Audio In/Out
- 11. HDMI

#### 1.2.14 VS - 2012 / 2008 / 2004 Pro





- 1. One-touch -video-backup button
- 2. USB 2.0
- 3. LED indicators: HDD1, HDD2, LAN, eSATA (Reserved)
- 4. Power button
- 5. Power connector
- 6. Gigabit LAN x 2
- 7. USB 2.0 x 2
- 8. eSATA x 2 (reserved)
- 9. VGA
- 10. Password & network settings reset button
- 11. Kensington security slot

#### 1.2.1 5 VS - S2212 / S2208 / S2204 Pro +



- 1. LED indicators: Status, LAN, HDD1, HDD2, USB (Backup)
- 2. Power button
- 3. One-touch -video-backup button
- 4. USB 3.0 x 2
- 5. Password & network settings reset button
- 6. Mic Input/ audio output
- 7. USB 3.0
- 8. Gigabit LAN x 2
- 9. HDMI
- 10. Power connector
- 11. K-Lock Security Slot

## Chapter 2. Install the NVR

For the information of hardware installation, see the 'Quick Installation Guide' (QIG) in the product package. The QIG can also be found in the product CD-ROM or QNAP website (<u>http://www.qnapsecurity.com</u>).

## 2.1 Personal Computer Requirements

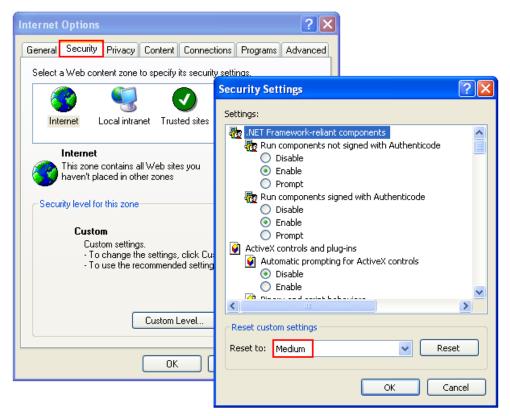
For better system performance, the computer should at least fulfill the following requirements:

No. of	Format	CPU	Others
Channels			
4 H.264/MPEG-4/		Dual core CPU,	• Operation system:
	MxPEG	2.0GHz or above	Microsoft Windows 8,
	M-JPEG	Intel Pentium 4 CPU,	7, Vista
		2.4GHz or above	<ul> <li>Memory: 4GB or</li> </ul>
8	H.264/MPEG-4/	Dual core CPU,	above
	MxPEG	2.4GHz or above	<ul> <li>Network port:</li> </ul>
	M-JPEG	Intel Pentium 4 CPU,	100Mbps Ethernet
		2.8GHz or above	port or above
12	H.264/MPEG-4/	Dual core CPU,	• Web browser: Google
	MxPEG	2.8GHz or above	Chrome
	M-JPEG	Intel Pentium 4 CPU,	38.0.2125.104 m,
		3.0GHz or above	Microsoft Internet
16	H.264/MPEG-4/	Quad core CPU,	Explorer 10/11
	MxPEG	2.33GHz or above	(desktop mode,
	M-JPEG	Dual core CPU,	32-bit), Mozilla
		2.4GHz or above	Firefox 33.0
20	H.264/MPEG-4/	Quad core CPU,	<ul> <li>CD-ROM drive</li> </ul>
	MxPEG	2.6GHz or above	<ul> <li>Recommended</li> </ul>
	M-JPEG	Dual core CPU,	resolution: 1280 x
		2.6GHz or above	720 pixels or above
40	H.264/MPEG-4/	Core i7 CPU 2.8GHz	

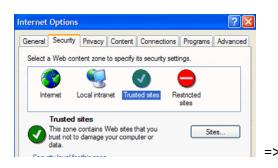
	MxPEG	or above
	M-JPEG	Quad core CPU
		2.33GHz or above
More than 48	H.264/MPEG-4/	Core i7 CPU 3.4GHz
	MxPEG	or above
	M-JPEG	Quad core CPU
		3.0GHz or above

#### Security Settings of the Web Browser

Please make sure the security level of the IE browser in Internet Options is set to Medium or lower.



Add your NVR's IP address to the list of Trusted sites.



Trusted sites	<			
You can add and remove Web sites from this zone. All Web sites in this zone will use the zone's security settings.				
Add this Web site to the zone:				
http://10.11.11.11/ Add				
Web sites:				
Remove				
Require server verification (https:) for all sites in this zone				
OK Cancel				

## 2.2 Browse CD-ROM

Run the product CD-ROM on a Windows PC to access the Quick Start Guide and user manual, and install the QNAP QVR Client, codec and software utilities Qfinder.

Browse the CD-ROM and access the following contents:

- Codec: The codec for playing AVI videos recorded by the NVR via Windows Media Player.
- Manual: The user manuals of the NVR.
- Qfinder: The setup program of QNAP Qfinder. This tool is used to discover the NVR servers available on the local network and configure the network settings of the NVR.
- QIG: View the hardware installation instructions of the NVR.
- QVR: The setup program for the QNAP QVR Client, an application to see the live view and play videos recorded by the NVR. If you were unable to install the QNAP QVR Client when connecting to the monitoring/playback page of the NVR, install the plug-in from the CD-ROM.
- Tool: This folder contains IPP library and monitor plug-in. If you failed to install the ActiveX plug-in when connecting to the monitoring page of the NVR by an IE browser, install the plug-in from the CD-ROM.

## 2.3 Hard Disk Drives Compatibility List

This product works with 2.5-inch and 3.5-inch SATA hard disk drives from popular hard disk brands. For the hard disk compatibility list, please visit <u>http://www.gnapsecurity.com/pro\_compatibility.asp</u>.

QNAP disclaims any responsibility for product damage/malfunction or data loss/recovery due to misuse or improper installation of hard disks in any occasions for any reasons.

## 2.4 IP Cameras Compatibility List

For the information of supported IP camera models, please visit <u>http://www.qnapsecurity.com/pro\_compatibility\_camera.asp</u>.

## 2.5 Check System Status

LED	Color	LED Status	Description	
		Flashes green and red alternately every 0.5 sec	<ol> <li>A hard drive on the NVR is being formatted</li> <li>The NVR is being initialized</li> <li>The system firmware is being updated</li> <li>RAID rebuilding is in process</li> <li>Online RAID Capacity Expansion is in process</li> <li>Online RAID Level Migration is in process</li> </ol>	
System Status	Red/ Green	Red	<ol> <li>A hard drive is invalid</li> <li>The disk volume has reached its full capacity</li> <li>The disk volume is going to be full</li> <li>The system fan is out of function</li> <li>An error occurs when accessing (read/write) the disk data</li> <li>A bad sector is detected on the hard drive</li> <li>The NVR is in degraded read-only mode (2 member drives fail in RAID 5 or 3 member drives fail in RAID 6 configuration, the disk data can still be read)</li> <li>(Hardware self-test error)</li> </ol>	
		Flashes red every 0.5 sec	The NVR is in degraded mode (one member drive fails in RAID 1, RAID 5 or two member drives fail in RAID 6 configuration)	
		Flashes green every 0.5 sec	<ol> <li>The NVR is starting up</li> <li>The NVR is not configured</li> <li>A hard drive is not formatted</li> </ol>	

#### LED Display & System Status Overview

		Green	The NVR is ready	
		Orango	The NVR is connected to the network	
	0	Orange		
LAN	Orange	Flashes orange	The NVR is being accessed from the network	
10 GbE*	Green	(Reserved)		
			The hard drive data is being accessed and	
		Flashes red	a read/write error occurs during the	
HDD (Hard	Red/		process	
Drive)	Green	Red	A hard drive read/write error occurs	
		Flashes green	The hard drive data is being accessed	
		Green	The hard drive can be accessed	
			1. A USB device is detected	
			2. A USB device is being removed from	
			the NVR	
		Flashes blue	3. The USB device connected to the	
		every 0.5 sec	front USB port of the NVR is being	
			accessed	
USB	Blue		4. The NVR data is being copied to the	
055			external USB device	
		Blue	The USB device connected to the front	
			USB port of the NVR is ready	
			1. No USB is detected	
		Off	2. The NVR has finished copying the	
			data to the USB device connected to	
			the front USB port of the NVR	
eSATA	Orange	Flashes	(Reserved)	

\*The 10 GbE network expansion function is reserved.

Beep sound	No. of Times	Description		
Short beep (0.5 sec)	1	1. The NVR is starting up		
		2. The NVR is being shut down (software		
		shutdown)		
		3. The reset button is pressed		
		4. The system firmware has been updated		
Short beep (0.5 sec)	3	The NVR data cannot be copied to the external		
		device by pressing the		
		one-touch-auto-video-backup button.		
Short beep (0.5 sec),	3, every 5 min	The system fan is out of function		
long beep (1.5 sec)				
Long beep (1.5 sec)	2	1. The disk volume is going to be full		
		2. The disk volume has reached its full		
		capacity		
		3. The hard drives on the NVR are in		
		degraded mode		
		4. Hard disk rebuilding process starts		
	1	1. The NVR is turned off by force shutdown		
		(hardware shutdown)		
		2. The NVR has been turned on successfully		
		and is ready		

## Buzzer (can be disabled in 'System Settings' > 'Hardware' >'Buzzer')

## 2.6 System Configuration

#### **Install Qfinder**

- 1. Run the product CD, the following menu is shown. Click 'Install Qfinder'.
- 2. Follow the instructions to install the Finder. Upon successful installation, run the Finder. If the Finder is blocked by the firewall, unblock it.
- 3. The Finder detects the NVR servers on the local network. If the server has not been initialized, you will be prompted to perform quick setup. Click 'Yes' to continue.

Note: If the NVR is not found, click 'Refresh' to try again.

 Enter the administrator name and password to perform quick setup. The default administrator name and password are as below: User name: admin

Password: admin

Note: Make sure all the IP cameras are configured and connected to the network.

#### **Quick Setup**

1. The quick setup page will be shown. Click 'Manual Setup' and follow the instructions to finish the configuration.

ONAP	VS-81209Yo1 English -
Welcome Mark you for design (MMP Vester Mdt, Means det Vester) The det distance generate distant for distance for distance design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, design of the west of any final form dead. Set distance, dead of the west of the west of the west of the set	
Manual S	
0 8	Copyright & QMM <sup>1</sup> Sociality, Inc. Millinghts Reserved.

2. Click 'Apply' to execute the quick setup.

ONAP					V9-0130Pm+	trights +
- Jilliada	a - 19487	/ 104	NETWORK	DINK		
	t <b>y</b>					
NAME / PASSWORD					1	3
	Nyth Prise of Adde	(in)				
DATE / TIME	Fastawordt Geo	hanged			11	a l
			ing, Changqing, Hong the /device Time	Rong, Urangi		
NETWORK					2.1	11
	Televitic Ob	cia en 19 addre	ss actoretically			

## Add IP Cameras

Please follow the steps below to add IP cameras.

1. Go to Surveillance Settings

Please login to the NVR as an administrator and click the Surveillance Settings



on the QVR desktop.

- 2. Go to [Camera Configuration] -> [Camera Settings].
- 3. Click 🛨 to add an IP camera.

Add	
Add a camera	
This wizard guides you through the following settings:	
Camera Configuration	
Recording Settings	
Schedule Settings	
Search camera(s) automatically	
Step 1/6	Next Cancel

4. Follow the steps to add the camera.

	Add	
Confirm Settings		
Please confirm the following ir	nformation	
Channel:	Channel 2	
Camera Brand:	Axis	
Camera Model:	Axis P3367	
Camera Name:	Camera 2	
IP Address/Port:	10.11.1.23/80	
Recording:	Enabled	
Multi-stream Profile:	System configured	
Enable manual recording:	Disabled	
Enable auto snapshot:	Disabled	
Step 5/6		Back Next Cancel

#### Live View

- Click the Monitor shortcut on the QVR desktop to go to monitoring page.
- 2. If it is your first time connecting to the NVR monitoring page, you will need to install the add-on.
- 3. The live video from the IP cameras configured on the NVR and the recording status of each channel are shown.

# Chapter 3. Use the NVR by Local Display

**Note:** This feature is supported by the VioStor Pro(+) Series NVR only. The models include VS-12164U-RP Pro(+), VS-12156U-RP Pro(+), VS-12148U-RP Pro(+), VS-12140U-RP Pro(+), VS-8148U-RP Pro(+), VS-8140U-RP Pro(+), VS-8132U-RP Pro(+), VS-8124U-RP Pro(+), VS-8148 Pro+, VS-8140 Pro+, VS-8132 Pro+, VS-8124 Pro+, VS-6120 Pro+, VS-6116 Pro+, VS-6112 Pro+, VS-6020 Pro, VS-6016 Pro, VS-6012 Pro, VS-4116U-RP Pro+, VS-4112U-RP Pro+, VS-4108U-RP Pro+, VS-4016U-RP Pro, VS-4012U-RP Pro, VS-4008U-RP Pro, VS-4116 Pro+, VS-4112 Pro+, VS-4108 Pro+, VS-4112 Pro+, VS-4108 Pro+, VS-4016 Pro, VS-4012 Pro, VS-4008 Pro, VS-2212 Pro+, VS-2208 Pro+, VS-2204 Pro+, VS-2112 Pro+, VS-2108 Pro+, VS-2104 Pro+, VS-2012 Pro, VS-2008 Pro, VS-2004 Pro, VS-52212 Pro+, VS-52208 Pro+, and VS-52204 Pro+.

Connect a monitor or TV to the NVR via the HDMI or VGA interface to perform PC-less quick configuration, monitoring, and video playback. To use this feature, follow the steps below:

- 1. Make sure at least one hard drive has been installed on the NVR.
- 2. Connect the NVR to the network.
- 3. Make sure the IP cameras have been configured and connected to the network.
- 4. Connect an HDMI or a VGA monitor or TV (suggested video output resolution: 1920 x 1080)\* to the HDMI or VGA interface of the NVR.
- 5. Connect a USB mouse and a USB keyboard (optional) to the USB ports of the NVR.
- 6. Turn on the NVR.

\*All Pro+ series support HDMI interface now.



When the NVR is turned on, the login screen will be shown. Select the language. Enter the administrator name and password. If the NVR has not been configured, skip the login page and enter Quick Configuration (refer to Chapter 3.1). Default user name: admin

Default password: admin

	UioStor NVR Network Video Recorder
User Name	admin
Password	*****
*	Remember Password
	Login
English 🗸	QWERTY V

Click To select the display language. If a USB keyboard is connected, click WERTY to choose the keyboard layout. Click the keyboard icon

to enter the necessary information if a USB keyboard is not available.

а	b	c	d	е	f	g	h	i	1	2	з
	k	1	m	n	0	P	q	r	4	5	6
5	t	u	v	w	x	У	z		7	8	9
ĀÅ	#+ =»			SPACE			•		0		

The monitoring page will be shown upon successful login, refer to Chapter 3.3 for details.

# 3.1 Quick Configuration

If the NVR has not been configured, Quick Configuration Wizard will be shown. Follow the instructions of the wizard to complete the system setup.

**Note:** All the changes will be effective only after applying the settings in the last step.

1. The system information will be shown. Select the language and click 'Next'.

Welcon	ne			
	to Quick Configuration V tion quickly.	Vizard. This wizard will help you	complete the syste	Im
System In	formation			
Model Na IP Addres		016Pro		
Date/Tim	10.002010	-11-18 08:02:31		
Time Zon	10.9 Handels	) Greenwich Mean Time : Dubli-	4	
Disk 1:	5.01	WDC WD5001ABYS-059.0	465.76 GB	
Disk 2:				
Disk 3:				
Disk 4:				
Firmware	Version: 3.3.1	Build 3517		r
English	•		Cancel	Next

2. Change the admin password or use the default password (admin).

Administrator F	Password				( <b>9</b> )
Change the adminis	trator password.				
User Name:	admin				
New Password:	•••••				
Verify Password:					
]] Use the original	password				
Note: If you select "	Use the original p	assword" , the admir	nistrator password	d will not be cha	inged.
				Back	Next

3. Select to obtain the network settings automatically or enter the network settings.

Network Settings							
Obtain an IP address and the second secon	automatic	ally by DHC	P				
O Use a static IP addres	S						
IP Address	0	0	0	0			
Subnet Mask	0	0	0	0			
Default Gateway	0	0	0	0			
Primary DNS Server	172	16	2	6			
Secondary DNS Server	172	16	2	7			
					Back	Next	

4. Enter the date and time settings. Select to synchronize the server time with an Internet time server. To enter a domain name for the NTP server, make sure the DNS server has been correctly set up.

Time Setting	
Time Zone:	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
Date/Time:	2010 11 18 08 06 51 YYYY MM DD hh mm ss
🔄 Synchronize w	ith an Internet time server automatically.
NTP Server	pool.ntp.org
	Back Next

5. Select the disk configuration. Click 'Disk Information' to view the hard disk drive details. Note that all the disk data will be deleted when the disk volume is initialized.

Disk Volume Cor	nfiguration		•
Please select a disk co	infiguration for the system.		
Disk Configuration	Do not set disk configuration	7	
	Do not configure the disk volume		
Note: All the hard disk configure a disk volum	drives will be formatted and the disk data will be cl e on the server.	eared if you select to	
Disk Information		Back Next	

6. Configure the IP camera settings. If no IP cameras have been set, try to search for the cameras on the local network.

Camera Name	Camera Brand	IP Address
Camera 1	Notice	
Camera 2	You did not configure any cameras yet. Do you want to search for the cameras on the local network (LAN)?	
Camera 3		
Camera 4		
Camera 5		
Camera 6		
Camera 7	Canoel OK	
Camera 8		

A. The cameras found will be shown. Select the IP cameras and click 'Add' to add the channels.

	Camera Brand	Camera Model	IP Address		
s 1	Axis	Q7401	10.11.16.85		
<b>0</b>	Axis	мпатт(w)	10.11.16.202		
P			A	OK	
	<b>9</b> 2	a 1 Axis	<ul> <li>Axis Q7401</li> <li>2 Axis M1011(W)</li> </ul>	<ul> <li>Axis Q7401 10.11.16.85</li> <li>2 Axis M1011(W) 10.11.16.202</li> </ul>	

B. To manually add an IP camera or edit the camera settings, click 🕨.

Car	nera Settings			
	Camera Name	Camera Brand	IP Address	
	Camera 1			•
2	Camera 2			
	Camera 3			
	Camera 4			
	Camera 5			
	Camera 6			
	Camera 7			
	Camera 8			

C. Enter the camera settings. Click 'Test' to test the connection. Click 'Remove' to delete the camera.

Camera Configura	ition - Camera 1	
Camera Brand	Axis	7
Camera Model	Axis 210A/211A	۲)
Camera Name	Camera 1	
IP Address/Port	10.11.16.112	80
User Name	root	
Password	*****	
Recording Settings	Motion JPEG , 640x480 , 12 FPS	•
Test Remove		Cancel OK

D. To edit the recording settings, click recording Settings'.

Define the recording settings and click 'OK'.

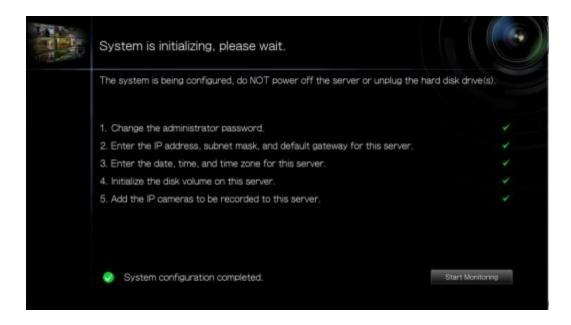
Recording Settings - (	Camera 1	
Video Compression:	Motion JPEG	T
Resolution:	320x240	•
Frame Rate:	3	•
Quality:	Compression 50	•
Audio Recording:	Disable audio	•
Digital Watermarking:	Disabled	•
		Cancel OK

Digital Watermarking: Enable this option to add digital watermarks to the video files recorded to the NVR. Use the Watermark Proof utility to verify if the video files were maliciously modified. For more information, refer to Chapter 6.3.

7. Verify the settings and click 'Next' to initialize the server.

Finish			
The changes you hav configuration; or click	ve made to the server are as below. Click "Next" to l k "Back" to return to the previous steps to modify t	begin the quick he settings.	
Model Name:	VS-4016Pro		
Password:	•••••		
Network:			
Date/Time:	2010-11-18 08:24:26		
Time Zone:	(GMT) Greenwich Mean Time : Dublin, Ed	di-	
Disk configuration:	Do not set disk configuration		
wan our right arron.	ATA WDC WD5001ABYS-059.0	465.76 GB	
Disk 1:	ATA WUC WUDOUTABTS-009.0	400.70.00	
	MIA WDC WD0001AB13-058.0	400.70 00	

8. After the system has been initialized, the NVR is ready for use. Click 'Start Monitoring' to enter the monitoring screen.



# 3.2 Surveillance Settings

To manage the surveillance settings such as administrator password, network and

time settings, click on the monitoring screen. Note that this button (option) will be shown for administrator access only.



Select the language and click the icons to configure the settings.

UioStor Network Video	NVR Recorder				
Settings					
20				٢	
Change Password	Nativork Sattings	Tina Settinga	Dae Voturne Confeuration	Carrera Settings	
					*
Restart/Shutdown			_	Start Monitoring	

lcon	Description
i.	Change the administrator password to login local display.
	Change the network settings.
(S),	Change the date and time settings.
	Check the disk volume information
	Configure the IP camera settings.
	Restart/ shut down the server.

# 3.3 Monitoring

Upon successful login, the monitoring screen will be shown. Monitor the IP cameras, change the display mode, enable or disable manual recording, control the PTZ cameras, and so on.



PTZ camera control panel	
lcon	Description
	Monitor:
	Enter the monitoring page.
	Playback:
	Enter the playback page.
<b>I</b>	Surveillance Settings:
6	Enter the surveillance settings page; allows admin access only.
	Hide left panel:
	Hide the panel on the left of the monitoring page.
>>	Show left panel:
	Show the panel on the left of the monitoring page.
	Options:
<b>\$</b>	Configure the event notification settings, video window display
	settings, screen resolution, etc.

View video image and IP camera info

7%	CPU Status:
	Display system CPU usage
	Hard drives Status:
	Display hard drive usage
	About:
	View the server name, NVR model, and firmware version.
1	Logout:
	Logout the NVR.
	Manual recording:
	Enable or disable recording on the IP camera. The
	administrator can select to enable or disable this function in
<u> </u>	'Camera Settings' > 'Recording Settings' on the web-based
	administration interface.
(4)	Audio (optional):
(1)	Turn on or off the audio support for the monitoring page.
	Microphone (optional):
S	Toggle microphone support for the monitoring page

#### **Event Notification**

lcon	Description
	Event notification:
	When the alarm recording is enabled and an event is detected,
	this icon will be shown. Click this icon to view the alert details.
	The alert sound can be turned on or off. To clear all the logs,
	click 'Clear All'.

Туре	Camera	Date & Time	Log
Alarm	0	2010-09-01 11:36:14	Logical input TB * is triggered
Alarm	0	2010-09-01 10:55:23	Logical input TB * is triggered
Alarm	0	2010-09-01 10:35:42	Logical input ô is triggered
Alarm	1	2010-09-01 09:33:32	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:30	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:29	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:27	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:26	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:23	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:21	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:19	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:18	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:15	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:13	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:11	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:09	Event(s) Triggered on Camera 1.
Alarm	1	2010-09-01 09:33:06	Event(s) Triggered on Camera 1.
Y		0010 00 01 00.00.01	Finally Triansaction Comments ,

## **PTZ Control Panel**

The term 'PTZ' stands for 'Pan/Tilt/Zoom'. If the IP camera supports PTZ, use the control panel on the NVR to adjust the viewing angle of the IP camera. These functions are available depending on the camera models. Please consult the camera's documentation for details. Note that the digital zoom function will be disabled when the PTZ function is in use.

lcon	Description
	<b>Pan and tilt:</b> If the PTZ camera supports pan and tilt functions, click these buttons to pan or tilt the camera.
Presets	<b>Preset positions:</b> Select the preset positions of the PTZ camera.
-+	<b>Zoom out/Zoom in:</b> If the PTZ camera supports zooming, click these buttons to zoom in or zoom out.
	<b>Digital zoom:</b> Select a channel and click this button to enable the digital zoom function. When enabled, click '+' to zoom in or '-' to zoom out.
	<b>Focus control:</b> Adjust the focus control of the PTZ camera.
Jul 25 12:54	System information: Display system time & date information

## **Display Mode**

The NVR supports various display modes for monitoring. Click the correct icon to switch the display mode.

lcon	Description
16 31 16 31	Full screen
	Single-channel mode
	4-channel mode
	6-channel mode
	8-channel mode
	9-channel mode
	10-channel mode
	12-channel mode
	4x4, 5x4, 5x5, 6x5, 8x4, 6x6 channel mode
1 -	Select the display page number
	Sequential mode. This mode can be used with other display modes. Click to enable or disable sequential mode. Click to define the time interval of which the channels will be displayed.
	and interval of which the channels will be displayed.

#### Live View Screen

Upon successful configuration of the IP cameras, enter the monitoring screen to view the live video from the cameras.



If the camera supports pan and tilt functions, click the channel on the screen and adjust the viewing angle with a mouse. If zooming is supported, scroll the mouse wheel to zoom in or zoom out the video. These functions are available depending on the camera models. Please consult the camera's documentation for details.

## **Camera Status**

The camera status is indicated by the icons shown below:

lcon	Camera Status								
SO	Scheduled or continuous recording is in process								
Y	This IP camera supports audio function								
	This IP camera supports PTZ function								
MO	Manual recording is enabled								
	The recording triggered by advanced event management ('Camera Settings'								
	> 'Alarm Settings' > 'Advanced Mode') is in process								
	The alarm input 1 of the IP camera is triggered								
2	The alarm input 2 of the IP camera is triggered								
	The alarm input 3 of the IP camera is triggered								
320	Motion detection recording is in process								
2	Digital zoom is enabled								

## **Connection Message**

If the NVR fails to display the video from an IP camera, a message will be shown in the channel window to indicate the status.

Message	Description						
Connecting	If the IP camera is located on remote network or the Internet, it may						
Connecting	take some time to establish a connection to the camera.						
	The NVR cannot connect to the IP camera. Please check the						
	network connection of the computer and the availability of the IP						
Disconnected	camera. If the IP camera is installed on the Internet, open the port						
	on the router or gateway to connect to the IP camera. Please refer						
	to Appendix A.						
No	You do not have access rights to view this channel. Please login as						
Permission	a user with access rights or contact the system administrator.						
Server Error	Check the camera settings or update the firmware of the IP camera						
Server EITO	(if any). Contact technical support if the error persists.						

#### Please note:

- 1. Enabling or disabling manual recording will not affect scheduled or alarm recording tasks. They are independent processes.
- 2. Right click on the IP camera channel and select the following options:
  - A. Full screen
  - B. Keep aspect ratio
  - C. Deinterlace (available on particular camera models only)
  - D. Keep original size
  - E. Dewarp fisheye images: for Vivotek FE8171V/ FE8172/ FE8174 Right click on the channel and enable the function. After that, you can select the Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Panorama (Full View), Panorama (Dual View), and Rectangle.

Remark 1: The camera firmware version should be v0100h or above. For the latest camera firmware, please visit:

http://www.vivotek.com/index.php.

Remark 2: If the selected Mount type is Wall then only Panorama (Full View) and Rectangle are supported in Dewarping mode.

Remark 3: If the selected Dewarping mode is Rectangle, you can use the PTZ control panel to operate PTZ functions (excluding digital zoom).

F. Dewarp panomorph images: for the specific camera models with panomorph lens

Before using this feature, you need to select the 'Enable panomorph support' option in the recording settings page. Right click on the channel and enable the function. After that, you can select the Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Perimeter mode, Quad mode, and PTZ mode. Remark 1: To see a list of camera models that support panomorph lenses, please visit <u>http://www.qnapsecurity.com/faq\_detail.asp?faq\_id=718</u>. Remark 2: This function is only available when the resolution of the video stream is higher than 640x480 on the monitoring page. Remark 3: If Dewarping mode is in PTZ mode, then in the channel, you can use the PTZ control panel or mouse (by holding down the mouse left button, and then moving the mouse or turning the mouse wheel) to change viewing angles or to zoom in/out of the screen. If the Dewarping mode is in Quad mode, the above methods can also be applied to operate PTZ functions in each divided screen.

### Options

To configure advanced monitor settings, click



- Event Notification:
  - When 'Enable alert for all surveillance events' option is enabled and a

亞

surveillance event is triggered, the alert icon will be instantly shown on the monitoring page. Click the icon to view the alert details.

- After enabling 'Issue notification when the disk reaches maximum operation time set below' in System Tools -> Hard Disk SMART, you can then 'Enable alert for disk error and warning' to receive alarm notifications if hard drive events occur.
- System Status Notification:
  - ✓ Display CPU status: will display the CPU status as seen below

E 🚺 🔍 🖉

- ✓ Display HDD status: will display the hard drive status as seen below
- Display Order: Click 'Reset' to reprioritize the monitoring channels to default.

CEnable alert for	all surveillance events
Enable alert for	disk error and warning
System Status Not	tification
🗆 Display CPU sta	atus
Display hard dri	ve status
isplay Order —	
Reset	Reset the display order of the monitoring channels.

The following options are provided under the 'Video' tab.

- Highlight the video window when an event is triggered: The video window will flash if an event is triggered.
- Display unauthorized channels: Select this option to show channels that the user does not have the access rights to.
- Display unconfigured channels: Select this option to show unconfigured channels.

Video Windows
✓ Display unconfigured channels
OK Cancel

The NVR automatically detects the resolution settings supported by the connected monitor and will use the optimum settings. To change the screen resolution, click 'Settings' under the 'Screen' tab. After configuring the resolution settings, the monitoring screen will be shown.

General Video	ion
Settings	To change the screen resolution, you will leave the current screen. Click "Settings" to proceed. After configuring the resolution settings, you will enter the monitoring screen.
	OK

If the monitor model cannot be detected, the NVR will provide resolution options of 1920x1080, 1400x1050, 1280x1024, and 1024x768.

UioStor Network Video	NVR Recorder					
	Montar model The resolutions suppor Bonen resolution: Bonen refresh rete	HIGSTA riad by the monitor	are shown below (1960a/0980 (80 Hz	in and a second se		

## 3.4 Video Playback

The videos on the NVR can be played using the local display. To use this feature,

click on the monitoring screen. Most of the icons on the playback screen are the same as those on the monitoring screen. Please refer to Chapter 3.2 for the icon description.

**Note:** The playback access rights to the IP cameras are required to play the videos. Login to the NVR as the admin and edit the playback access rights in 'User Management' using the web-based administration interface.

When the playback screen is shown, select a camera channel on the NVR. Next,

select the start and end time of the video and click 🛄 to start searching. The

videos that match the search criteria will be played automatically.

			8	cc 8		E		E 🚺 🔍 🗐 🗉
	144444444	a 2112-21 Camera	ttings 3 4 5 6 7 8 ttings					
Device of the second se	Mon 30 7 14 21 28 4				Fri 4 11 18 25 1 200			
Ui	oSta	or				10:38	Fighting and the second	٩ ()

**Note:** The number of days between the start and end dates must be less than or equal to 2.

#### **Playback Settings:**

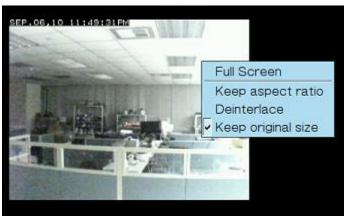


Play, pause, stop, reverse play a video file, or select to play the previous or next file. When playing a video, use the scroll bar to adjust the playback speed or click on the

digital zoom icon in/out the video.

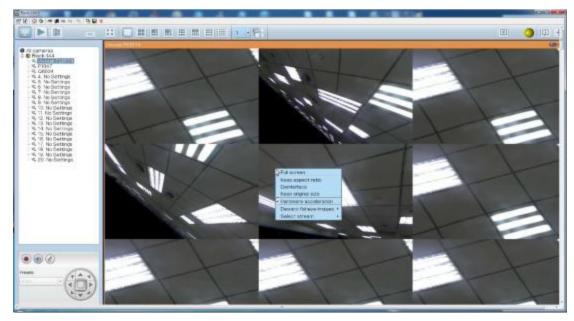
Right click on the IP camera channel to select the following options:

- 1. Full screen
- 2. Keep aspect ratio
- 3. Deinterlace (available on particular camera models only)
- 4. Keep original size



Dewarp fisheye images: for Vivotek FE8171V/ FE8172/ FE8174 5. Right click on the channel and enable the function. After that, you can select the Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Panorama (Full View), Panorama (Dual View), and Rectangle. Remark 1: The camera firmware version should be v0100h or above. For the latest camera firmware, please visit http://www.vivotek.com/index.php. Remark 2: If the Mount type is Wall, only Panorama (Full View), and Rectangle are supported in Dewarping mode.

Remark 3: If Dewarping mode is Rectangle, you can use the PTZ control panel to operate PTZ functions (excluding digital zoom).



6. Dewarp panomorph images: for the specific camera models with panomorph lens

Before using this feature, you need to select the 'Enable panomorph support' option in the recording settings page. Right click on the channel and enable the function. After that, you can select the Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Perimeter mode, Quad mode, and PTZ mode.

Remark 1: To discover what camera models can be installed with panomorph lenses, please visit <u>http://www.qnapsecurity.com/faq\_detail.asp?faq\_id=718</u>. Remark 2: The function is only available when the video stream resolution is higher than 640x480 on the monitoring page.

Remark 3: If Dewarping mode is in PTZ mode, for the channel, you can use the PTZ control panel or mouse (by holding down the mouse left button, and then moving the mouse or turning the mouse wheel) to change viewing angles or zooming in/out the screen. If Dewarping mode is in Quad mode, the above methods can also be applied to operate PTZ functions in each divided screen.

# 3.5 Video Conversion & Export

The NVR supports converting video files to AVI format and saving the files to an external USB storage device.

Note:

- To use this feature, connect a USB storage device to the front USB port of the NVR and ensure the device has been correctly formatted.
- Access rights to play the IP camera videos are required to convert the video files.

Follow the below steps to export IP camera video files from the NVR and convert the files to an AVI file.

1. Enter the playback interface of the NVR. Select a camera channel on the NVR.



			3	с <b>8</b>			3		
			ings tings tings						
20 1 1 19 20	7 14 21 28 4	Jun Tue 1 8 15 22 29 2014/0 2014/0	20 Wed 9 18 23 30 6 7/11	Thu 3 10 17 24 31	Fri 4 11 18 25 000				
Uio	Stor	r				10138	нн	Phylack speed	» 🔍 🕥

- 2. Select the IP camera.
- 3. Specify the start and end times of the video files.
- 4. Select the export format.

Standard AVI file: Convert recording files to standard AVI file. More time is needed to export, but no additional codecs are required.

Optimized QNAP AVI file: Convert files using an enhanced QNAP codec. Less time is needed to export, but the QNAP codec is required. QNAP Encrypted AVTI file: Protect the file with password protection and encryption

Export to:	USB Drive	•
Camera:	Camera 2	•
From:	2014/07/16	0.00
Τα.	2014/07/16	:03
Export format:	QNAP Encrypted AVI file	•
Password:	Standard AVI file Optimized ONAP AVI file ONAP Encrypted AVI file	
Total / Free size:	-	
Folder:	Camera-2_07-16-00-00~07-16-11-03	-
OK		Cancel

- 5. Enter the file name of the video file.
- 6. Click 'OK' to convert the video files to an AVI file and save them to the external USB storage device.

				cc #								📼 이 🖉	
	ARARARA MARARARA	No Set amera 3 amera 6 amera 6 amera 6 amera 6	tings 3 4 5 7										
18	49	No Set No Set No Se	ttings			Export to		US8 Drive			•		
cB	12	No Se	ttings			Camera:		Camera 1			•		
						From		2014/07/11	*	00:00			
						To:		2014/07/11	*	10:37			
						Export format		QNAP Encrypted AVI 1	ite		•		
						Password		••••					
•		Ji	N. 20	)14		Total / Free size		7659 MB / 7501 MB					
Ser 1	Mon	Tue	Wed	Thu	Fri	Folder:		Camera-1_07-11-00-00	-07-11-10-37				
10		1	2	3	4						_		
2	7	8	2	10	11		ОК			Cancel			
	21	15	16 23	24	18				L				
	28	29	30	31									
3	4	5	6	7		2							
Prom:		2014/	07/11	00	00								
To		2014/	07/11	\$ 10	36 ];								
Uio	Sto	r		- 24	11	12.38	нн	Playtach speed	· · · · · · · · · · · · · · · · · · ·	2		٩	0

# Chapter 4. QVR Basics and Desktop

## 4.1 Introducing QVR

Built on a Linux foundation, the QVR 5.0, QNAP VioStor Recording system has been designed around an optimized kernel to deliver high-performance services satisfying your needs in live view, recording, playback and more.

The intuitive, multi-window and multi-tasking QVR 5.0 GUI makes it incredibly easy to manage your VioStor NVR, utilize its rich surveillance applications, and install a rich set of applications in the App Center on demand to expand your VioStor NVR experience.

QNAP VioStor NVR has many professional features for remote monitoring, recording, and surveillance tasks under diverse environments but also functions with great simplicity. The QNAP VioStor NVR allows users to choose suitable network cameras for various situations. Businesses can enjoy high flexibility in deploying their ideal surveillance solutions with the broad-ranged offerings of compatible IP cameras. QNAP VioStor NVR also offers:

- An intuitive GUI with multi-window, multi-tasking , and multi-application support
- Real-time monitoring and recording (video/audio) from multiple IP cameras
- Cross platform surveillance center
- Multi-server monitoring (up to 128 channels)
- Interactive control buttons
- Instant playback
- Same-screen IP camera configurations
- Playback and speed control with shuttle bar
- Preview videos with thumbnails
- Intelligent video analytics (IVA)
- Digital watermarking
- Live monitoring, playback on Android and iOS mobile devices with VMobile
- Advanced event management
- Real-time SMS and email alert
- Install-on-demand applications via the App Center

## 4.2 Connect to the NVR

Follow the below steps to connect to the monitoring page of the NVR.

- 1. Run the Qfinder. Double click the name of the NVR, or enter the IP address of the server in your web browser to connect to the monitoring page.
- Enter the user name and password to login the NVR.
   Default user name: admin
   Default password: admin
- 3. To view the live video in your web browser, please add the NVR IP address to your list of trusted sites. When accessing the NVR via Internet Explorer, you will be prompted to install the ActiveX add-on.
- To view the live video with Google Chrome, Mozilla Firefox or by using the QNAP QVR Client on Windows PC, please visit <u>http://www.qnapsecurity.com/download.asp</u> to download and install the QNAP QVR Client for Windows first.
- To view the live video on Mac, please visit <u>http://www.qnapsecurity.com/download.asp</u> to download and install the QNAP QVR Client for Mac.

## 4.3 Using the QVR Desktop

After you finish the basic NVR setup and login to the NVR, the following desktop will appear. Each main desktop feature is introduced in the following sections.



#### Toolbar

#### Main Menu

Click E to show the Main Menu. It includes three parts: 1) QNAP applications; 2) system features and settings. Items under "APPLICATIONS" are developed by QNAP to enhance your NVR experience. Items under "SYSTEMS" are key system features designed to manage or optimize your NVR. These applications can add functionalities to the NVR (for their introduction, please refer to their description at the App Center.) Click the icon from the menu to launch the selected application.

#### Show Desktop

QNAP-VS-4116P

Click

to minimize or restore all open windows and

show the desktop.

#### Monitor page

Click

to enter monitor page

## Playback page

to enter playback page

## **Background Task**

Click

Click

to review and control all tasks running in the background (such as HDD

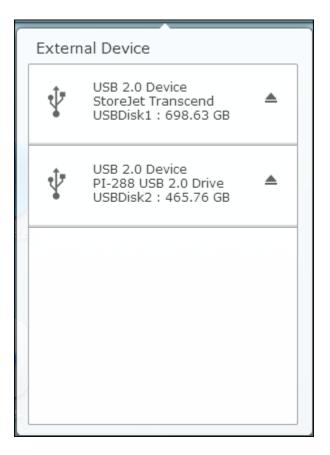
## SMART scanning.)

kground Tasks
Testing HDD SMART Disk1 0%

### **External Devices**

Click it is all external devices that are connected to the NVR via its USB ports. Click the device listed to open the File Station for that device. Click the "External Device" header to open the External Device page for relevant settings and operations

(for details on the File Station, please refer to the chapter on File Station.) Click to eject the external device.



### **Notification and Alerts**

Click 1 to check for recent system errors and warning notifications. Click "Clear

All" to clear all entries from the list. To review all the historical event notifications, click the "Event Notifications" header to open the System Logs. For more details regarding System Logs, please refer to the chapter on System Logs.

Event Notif	ications	
Show All	Error	Warning
/		
2		
2		
·		Clear All

## **Personal Setting**

Admin Control: Click

admin

to customize your user specific settings, change your

user password, restart/shut down the NVR or log out your user account.

Last login time: 2013/05/13 20:21		
٩	Options	
0	Change Password	
C	Restart	
٢	Shutdown	
8	Logout	
1	About	
l. C	Options ( 🔇 Options	

):

A. Profile: Specify your user email address.

			Options		00
Pro	file	Wallpaper	Change Password	d Miscellaneous	
Us	sername:	admin			
E-	mail:	E-mail			
				Ar	oply

B. Wallpaper: Change the default wallpaper or upload your own wallpaper.

	Options		•	
Profile	Wallpaper	Change Password	Miscellaneous	1
Select t	he default wallp	aper.		
			-mail	
		<u>A</u> y		
			A	pply

C. Change Password: Change your login password.

		Options		•	8
Prof	ile Wallpaper	Change Password	Miscellaneous		
	change your passw 1 password:	ord, please fill out the form	n below:		
Ne	w password:				
Ve	rify new password:				
			App	oly	$\supset$

D. Miscellaneous:

Options	•	8
Profile Wallpaper Change Password Miscellaneous		
<ul> <li>Warn me when leaving QVR</li> <li>Reopen windows when logging back into QVR</li> <li>Show the Dashboard button</li> </ul>		^
<ul> <li>Show the NVR time on the desktop</li> <li>Desktop Shortcut</li> <li>Reset desktop shortcuts to default settings.</li> </ul>		
Reset	ply	•

 Warn me when leaving QVR: Check this option, and users will be prompted for confirmation each time they leave the QVR Desktop

(such as clicking the back icon ( en anapmarket) in the browser or

close the browser (I is recommended to check this option.

• Reopen windows when logging back into QVR: Check this option, and

all the current desktop settings (such as the "windows opened before your logout") will be kept after you login the NVR the next time.

• Show the desktop switching button: Check this option to hide the next

desktop button (





) and only

display them when you move your mouse cursor close to the buttons.

Show the Dashboard button: If you would like to hide the Dashboard



button ( ) at the bottom right side of the NVR Desktop, uncheck this option.

- Show the NVR time on the desktop: If you prefer not to show the NVR time at bottom left side of the desktop, uncheck this option.
- Change Password: Click Change Password to change your login password.

2.	Restart: Click 🕝 Restart	to restart your NVR.
3.	Shutdown: Click Shutdown	to shut down your NVR.
4.	Logout: Click 🔇 Logout	to log yourself out.
5.	About: Click 🚺 About	to check the NVR model details

including, firmware version, HDDs already installed and available (empty) bays.

#### Search

Click and enter a feature-specific keyword in the search box to search for the

desired function and its corresponding online help. Click the result in the search box to launch the function or open its online QVR help.

Search Power ×		
Settings	💡 Power	
	🚐 UPS Settings	
	🚍 External Device	
QTS Help	📙 Power	
	🖺 UPS Settings	

#### **Online Resource**

Click is to display a list of online references, including the Quick Start Guide, QVR Help, Tutorials, and QNAP Forum. Customer Service is available here.

	Quick Start
	QVR Help
d	Tutorials
(-)	QNAP Forum
(S) 5)	Customer Service

## Language

Click to choose your preferred language for the UI.



#### **Desktop Preferences**

Click to choose the application icon displaying style and select your preferred application opening mode on the desktop. Application icons can be switched



between small thumbnails (



💁 ) and applications can be opened in the tab mode or the

window mode.

For the tab mode, the window will be opened to fit the entire NVR Desktop and only one application window can be displayed at once, while in the window mode, the application window can be resized and reshaped to a desirable style. Please note: if you login the NVR using a mobile device, only the tab mode is available.

#### **Desktop Area**

You can remove or arrange all applications on the desktop, or drag one application

icon over the top of another to put them in the same folder ( Group

#### Next Desktop and Last Desktop

Click the next desktop button ( ) (right side of the current desktop) or the last

desktop button ()) (left side of the current desktop) to switch between desktops.

The position of the desktop is indicated by the three dots at bottom of the desktop



#### Dashboard

All important system and HDD statistics can be reviewed on the QVR Dashboard.

System Hea	alth	HDD Health 🔳	Resource Monitor		
Uptime (	Good 0 day(s) 04:25:51	Good x1 Good	17% 19% LAN 2 \$52 KB/s 80 KB/s 976 732 488 244 CPU RAM		
Hardware		Scheduled Tasks	Storage		
System	30°C/86°F 🥑	All Jobs Last 24 hours	Single Disk: Drive 1		
CPU	43°C/109°F 🥑		Ready		
Fan	5882 RPM 🥩				
Online User	rs (5) 00:01:00	No scheduled tasks were executed.	Used: 395.78 GB Available: 1.42 TB		
	10.8.14.111 00:01:33	executed.			
1 admin	10.8.14.110				
🧘 admin	00:00:23 10.11.15.16				
1 admin	00:00:39 10.11.10.44				

- System Health: The status of the NVR system is indicated in this section. Click the header to open the "System Status" page.
- HDD Health: The status of the HDDs currently installed in the NVR will be shown in here. X1 means that only one HDD is currently installed in the NVR. For multiple HDDs installed in the NVR, the status indicated is only for the HDD with the worst condition. Click the "HDD Health" header to open the "HDD SMART" page in Storage Manager to review the status of each HDD. For details on the Storage Manager, please refer to the chapter on Storage Manager. Click the icon to switch between the "HDD Summary" page and the HDD status indicator. Please note that the color of the HDD symbol will change based on HDD health.
- Resource Monitor: The CPU, RAM and bandwidth usage is displayed here. Click the "Resource Monitor" header to open the corresponding page in System Status for details. Please note: if the port trunking feature is activated, the bandwidth statistics are the combined usage of all NICs.
- Storage: The shared folder (top five largest folders), volume and storage statistics are summarized here. Click the "Storage" header to open the corresponding page in System Status for details.
- Hardware: The system and HDD temperatures, fan speeds and hardware usages are summarized here. Please note: statistics listed here vary based on the NVR model purchased. Click the "Hardware" header to open the corresponding page in "System Status" for details.
- Online Users: All users currently connected to the NVR are listed here. To

disconnect or block a user or IP, right click the user and choose the desired actions. Click the "Online Users" header to open the corresponding page in "System Logs" for details.

 Scheduled Tasks: Tasks scheduled are listed here. Click the task dropdown list to list only the chosen category and the time drop down list to specify the time range for tasks to be listed.

Tip:

- All widgets within the Dashboard can be dragged onto the desktop for monitoring specific details.
- The Dashboard will be presented differently on different screen resolutions.
- The color of the Dashboard button will change based on the status of system

health for quick recognition ( ).

Slide-in window: System-related news will be displayed on the window at bottom right side of the desktop. Click the update to check the relevant details.



# Chapter 5. Remote Monitoring

Use Google Chrome, Mozilla Firefox, or Microsoft Internet Explorer and QNAP QVR Client to monitor the IP cameras of the NVR.

Note: QNAP QVR Client is a client application developed by QNAP Systems, inc., used to locally or remotely access QNAP NVR servers for performing video monitoring and playback functions. Users can find and download this application under the 'Utility' section of the QNAP Security website at

http://www.gnapsecurity.com/download.asp.

#### **Important Notice:**

- Before using the NVR, install the hard disks in the server correctly and finish the disk formatting and configuration. Otherwise, the server will not function properly.
- If your Windows OS is Windows Vista, Windows 7 or above, it is suggested to turn off UAC (User Account Control) for full surveillance functions. Please refer to <u>http://www.gnapsecurity.com/fag\_detail.asp?fag\_id=503</u>.

# 5.1 Monitoring Page

Upon successfully logging in, click on the QVR desktop to go to the monitoring page. Select the display language. Start to configure the system settings and use the monitoring and recording functions of the server.



The following table consists of the icons and their descriptions in the monitoring page.

Icon	Description
	QVR Desktop:
VioStorNVR	Return to the QVR desktop.
	Monitor:
	Enter the monitoring page. The administrator can
	grant access rights to the users to see the live view.
	Playback:
	Enter the video playback page. The administrator
	can grant access rights to the users to play back the
	videos.
	Event notification:
	When the alarm recording is enabled and an event is
	detected, this icon will be shown. Click this icon to
	view the alert details.

	Dual-display mode:
E	The NVR supports dual-display mode. (This
	function can only be used when the computer or the
	host is connected to multiple monitors.)
	Server list:
<b>±</b> []	Up to 128 channels from multiple QNAP NVR servers
	can be monitored.
	E-map:
	Upload E-map(s) and indicate the locations of the IP
	cameras. The administrators are allowed to edit
	and view the E-map(s). Other users can only view
	the E-map(s).
	Options:
	Configure the advanced settings of the monitoring
	page. Specify the source of the video/audio
	stream, event notification, and snapshot folder.

#### Note:

• Click the event notification icon to view the event details, enable or disable the alert sound or clear the event logs.

Event Notification			
	This dialog shows the event logs of the system. You can select an event og and click 'Clear' to delete the log; or click 'Clear All' to delete all logs.		
Туре	Date & Time	Log	^
🔥 Warning	2014-01-14 14:5	Motion detected on Camera 3.	
(1) Inform	2014-01-14 14:5	Motion Stopped on Camera 3.	
Warning	2014-01-14 14:5	Motion detected on Camera 3.	
Inform	2014-01-14 14:5	Motion Stopped on Camera 3.	
\Lambda Warning	2014-01-14 14:5	Motion detected on Camera 3.	4
<		>	
✓ Alert sound Clear All Close			

#### **Interactive Control Buttons**

Whenever you move the mouse cursor over a camera channel, the supported function buttons of the camera will show up for quick access.

lcon	Description
	Manual recording (Note 1):
	Enable or disable manual recording on the selected channel. The
$\mathbf{U}$	administrator can enable or disable this option on the surveillance
	settings page.
$\bigcirc$	Snapshot (Note 2):
$\odot$	Take a snapshot on the selected channel. When the picture is shown,
	right click on it to save it to the computer.
	Audio (optional):
	Turn on/off the audio support for the monitoring page. For more
	information about the compatibility of this feature, please visit
	http://nvr.qnapsecurity.com/n/en/product z g qvr/cat intro.php?hf=ol
	<u>d</u>
	Two-way audio (optional):
	Turn on/off the two-way audio support for the monitoring page. For
0	more information about the compatibility of this feature, please visit
	http://nvr.qnapsecurity.com/n/en/product z g qvr/cat intro.php?hf=ol
5	<u>d</u>
	Please note: the two-way audio function is currently only supported by
	the latest version of Internet Explorer.
	Dewarp fisheye images:
	For specific fisheye cameras (Note 3) and the specific camera models
0	with panomorph lens (Note 4), you can enable/ disable the dewarping
-	function. After enabling the function, you can then select mount type,
	dewarping mode.
	PTZ mode:
	1. Click & Go: Click on the camera screen at any point to align the
$\frown$	center of the screen using this point as the target.
$(\mathbf{\Phi})$	2. PTZ: Pan/Tilt/Zoom camera control.
	3. Auto cruising: This feature is used to configure the PTZ cameras to
	cruise according to the preset positions and the staying time set for
	each preset position.
	4. Enable live tracking: Available on Panasonic NS202(A) cameras.

	5. Disable live tracking: Available on Panasonic NS202(A) cameras.	
*123	Preset position: Select the preset positions of PTZ cameras.	
P	Digital zoom (Note 5): Enable/disable digital zoom.	
	Instant playback: On the Live-view page, whenever you want to look back to check suspicious events of a camera channel you just missed, just hit 'Instant Playback' button to bring up the window to review recent feeds. While you don't have to switch to the playback page to do so, you can still have full live views of other channels simultaneously.	
¢	Same-screen IP camera configurations: On the Live-view page, you can directly configure an IP camera's recording schedules when needed without leaving the Live-view page, maintaining seamless monitoring so you won't miss any suspicious events.	
	<ul> <li>Camera information:</li> <li>1. Properties (Note 6): Configure other monitoring options.</li> <li>2. Locate in E-map: Highlight camera icon on E-map.</li> <li>3. Connect to camera homepage.</li> </ul>	

#### Note:

- 1. Enabling or disabling the manual recording feature will not affect the scheduled or alarm recording.
- By default, the snapshots are saved in 'My Documents' or 'Documents'> 'Snapshots' on Windows.

If the snapshot time is inconsistent with the actual time that the snapshot is taken, it is caused by the network environment but not a system error.

3. Applied to specific fisheye cameras: Vivotek FE8171V/ FE8172/FE8173/ FE8174 After enabling the feature, you can select Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Panorama (Full View), Panorama (Dual View), and Rectangle.

Remark 1: If the Mount type is Wall, only Panorama (Full View), and Rectangle are supported in Dewarping mode.

Remark 2: If Dewarping mode is Rectangle, you can use PTZ control panel to

operate PTZ functions, excluding digital zoom.



4. Applied to specific camera models with panomorph lens Before using this feature, you need to select the 'Enable panomorph support' option in the camera configuration page. After enabling the feature, you can select Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Perimeter mode, Quad mode, and PTZ mode. Remark 1: To know the camera models that can be installed with panomorph lens, please visit <u>http://www.qnapsecurity.com/faq\_detail.asp?faq\_id=718</u>. Remark 2: The function is only available when the resolution of the video stream is higher than 640x480 on the monitoring page. Remark 3: If Dewarping mode is PTZ mode, for the channel, you can use PTZ control papel or mouse (by clicking and holding down the mouse left button)

control panel or mouse (by clicking and holding down the mouse left button, and then moving the mouse or turning the mouse wheel) to change viewing angles or zooming in/out the screen. If Dewarping mode is Quad mode, the above methods can also be applied to operate PTZ functions in each divided screen.

- 5. When the digital zoom function is enabled on multiple IP cameras, the zooming function will be affected if the computer performance is not high enough.
- 6. Properties
  - A. Streaming:
    - I. Use custom settings
      - i. Always stream from the server: Select this option to stream the audio and video data from the NVR. If the computer cannot connect to the IP cameras, select this option to allow the NVR to stream the data. No extra port forwarding is required; however, the performance of the NVR may be affected.
    - II. Always stream from the network camera: If the NVR and the IP

cameras are connected to the same local network, select this option to stream the video data from the IP cameras. If the NVR, the IP cameras, and the PC are located behind a router, virtual server, or firewall, configure port forwarding on the IP cameras to use certain ports.

III. Show stream information

Show video codec, frame rate, bit rate, current recording days and current recording size of this channel.

Properties			
General Axis			
Streaming			
Use custom settings			
Always stream from the server			
<ul> <li>Always stream from the network camera</li> </ul>			
Show stream details on camera channel			

B. OSD Settings: Specify the font color of the text on the channels.

OSD Settings	
OSD text color:	

- C. Display Mode:
  - Fit image to window: Select this option to fit an image to the browser window. Specify to keep the aspect ratio or not when resizing an image.
  - II. Display image in original size: Select this option to display an image in its original size if it is smaller than the browser window. You can also specify how an image will be resized if it is larger than the browser window.
    - i. Shrink image to fit window, maintaining aspect ratio
    - ii. Shrink image by 1/2, 1/4, 1/8... and so on to fit window

Di	splay Mode
	Fit image to window
	Keep aspect ratio
	Display image in original size. If the image is larger than the window, do the following:
	$\bigcirc$ Shrink image to fit window, maintaining aspect ratio
	Shrink image by 1/2, 1/4, 1/8and so on to fit window

D. Video Processing: Turn on 'Deinterlace' when there are interlaced lines on

the video.

E. Video Resolution: Specify to adjust the resolution automatically or use a fixed resolution. To adjust the resolution automatically, the NVR will select the resolution setting\* which best fits the size of your web browser window. Note that 'Stream from network camera' will not be available if the IP camera does not support streaming from camera or video resolution configuration. Both options will not be available if the IP camera does not support multiple streams.

Vide	o Re	solutio	n
VIGC	U RC	3010100	ļ

ally	
JPG] 🗸 🗸	
	JF0] +

\*If an IP camera supports different resolution settings, the NVR will select the smallest resolution larger than (or equal to) the size of the browser window. If all the supported resolution settings of an IP camera are smaller than the browser window, the largest resolution will be selected.

F. Let me choose other cameras to apply the same settings: Select this option to apply the changes to other IP cameras. Note that some settings may not be applied if the IP camera does not support the features, such as streaming from camera or video resolution configuration.

Let me choose other cameras to apply the same settings

Properties			
General Axis			
Streaming			
Use custom settings			
Always stream from the server     Always stream from the server			
Always stream from the network camera			
Show stream details on camera channel			
OSD Settings			
OSD text color:			
Display Mode			
Fit image to window			
Keep aspect ratio			
$\ensuremath{\bigcirc}$ Display image in original size. If the image is larger than the window, do the following:			
③ Shrink image to fit window, maintaining aspect ratio			
Shrink image by 1/2, 1/4, 1/8and so on to fit window			
Video Processing			
Deinterlace			
Video Resolution			
Stream from server Stream from network camera			
Adjust resolution automatically			
○ Fixed resolution VGA[MJPG]			
Let me choose other cameras to apply the same settings			
OK Cancel			

#### 5.1.1 Live Video Window

The live videos of the IP cameras configured on the NVR are shown on the monitoring page. Click the channel window to use the features supported by the IP camera, e.g. digital zoom or pan/tilt/zoom.



#### **Camera Status**

The camera status is indicated by the icons shown below:

lcon	Camera Status	
	The NVR and IP camera are connected.	
	The NVR is trying to establish connection to the IP camera.	
	The NVR cannot connect to the IP camera.	
	The configured action triggered by alarm event is in process	
(AO)	Alarm settings are configured, but not in process	
<b>S</b>	Scheduled or continuous recording is in process	
so	Schedule recording is enabled, but not in process	
MO	Manual recording is enabled	
MO	Manual recording is not in process	
4	This IP camera supports audio functions	
	This IP camera supports PT function with continuous PT	
٩	This IP camera supports PT function without continuous PT	
1	The alarm input 1 of the IP camera has been triggered	
2	The alarm input 2 of the IP camera has been triggered	

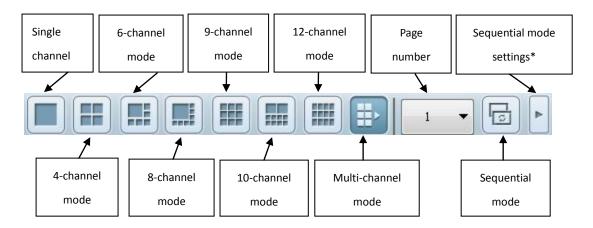
8	The alarm input 3 of the IP camera has been triggered	
*	A moving object has been detected	
Q	Digital zoom is enabled	

## **Connection Message**

When the NVR fails to display the video of an IP camera, a message will be shown in the channel window to indicate the status.

Message	Description	
No Permission	No access right to view the monitoring channel. Please login as an	
	authorized user or contact the system administrator.	
Server Error	Please check the camera settings or update the firmware of the IP	
	camera (if any). Contact the technical support if the error persists.	

## 5.1.2 Display Mode



The NVR supports different display modes for viewing the monitoring channels.

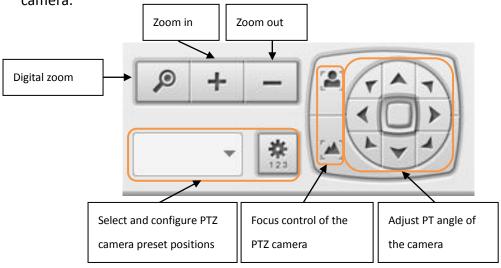
\*You can configure the sequential interval in the sequential mode settings.

## 5.1.3 PTZ Camera Control Panel

The term 'PTZ' stands for 'Pan/Tilt/Zoom'. If an IP camera supports the PTZ feature, use the control panel on the NVR to adjust the viewing angle of the IP camera. These functions are available depending on the camera models. Please refer to the user manual of the IP cameras for more information. Note that the digital zoom function will be disabled when the PTZ function is in use.

QVR 5.0 and above hides the PTZ control panel by default. You can enable the PTZ control panel in the options on the monitoring page.

Note: When you enable multi-display mode and the live view window is too small to show interactive control buttons, please enable PTZ control panel to control the camera.



lcon	Description		
	Digital zoom:		
	Select a channel and click this button to enable the digital zoom		
	function. This function can also be enabled by right clicking		
P	the display window of the PTZ camera. Press button		
	to zoom in or button to zoom out. You can also use		
	the mouse wheel to operate the digital zoom function.		
	Zoom out/zoom in:		
	If the PTZ camera supports optical zoom, you can press		
- +	to optically zoom out or button to optically zoom in.		
	When digital zoom function is enabled, you can press		
	to digitally zoom out or button to digitally zoom in.		
	Select and configure PTZ camera preset positions:		
	Select and view the preset positions of the IP camera from the		
	list. For some camera models, you can configure PTZ camera		
- ×	preset positions on the monitoring page. For more		
12:	information about the compatibility of PTZ cameras for preset		
	positions configuration, please visit		
	http://nvr.qnapsecurity.com/n/en/product_z_g_qvr/cat_intro.p		
	hp?hf=old. For other PTZ camera models please refer to the		
	user manual of the IP camera.		

### 5.1.4 Multi-server Monitoring

Follow the steps below to use the multi-server monitoring feature of the NVR.

1. Click 'Server List'

on the	monitoring	page.

Server List			
Please add a server to co	onnect to.		
Host Name	IP Address	Version	Auto Detect
🖣 1-16-8140UP	10.11.19.16	4.0.0(5823)	
			Add
			Modify
			Delete
			Default ID & Password
			ОК
			Cancel

A. Click 'Auto Detect' to search for the NVR on the LAN and add the server to the server list.

- B. Click 'Add' to add the NVR to the server list.
- 2. Up to 128 channels from multiple NVR servers can be added for monitoring.

#### **5.1.5 Monitor Settings**

o configure advanced monitor settings, click
Options
General Video Snapshot
Event Notification
Enable alert for all surveillance events
Enable alert for disk error and warning
Display Order Reset the display order of the monitoring channels.
PTZ Control Panel
OK Cancel

The following options are provided under the 'General' tab.

- Event Notification:
  - When 'Enable alert for all surveillance events' option is enabled and a
    - surveillance event is triggered, the alert icon will be shown on the monitoring page instantly. Click the icon to view the alert details.
  - After enabling 'Issue notification when the disk reaches maximum operation time set below' in System Tools -> Hard Disk SMART, you can then 'Enable alert for disk error and warning' to receive alarm notifications when hard drive events occur.
- Display Order: Click 'Reset' to reprioritize the monitoring channels to the default order.
- PTZ Control Panel: Select to show or hide the PTZ control panel.

			Opt	ions				
General	Video	Snapshot						
Strea	ming							
0	Stream	from server						
۲	Stream	from network	camera					
Video	Window	WS						
	Highligh	nt video windo	w when an e	vent is trigg	jered			
		unauthorized						
✓	Display	unconfigured	channels					
						OK	C	Cancel

The following options are provided under the 'Video' tab.

- Streaming
  - Stream from the server: If the IP camera cannot be connected from the computer, select this option and the video will be streamed from the NVR. This option does not require extra port mapping configuration; but may influence the performance of the NVR.
  - Stream from IP camera: If the NVR and the IP cameras are located on the same LAN, select this option to stream the video from the IP camera. Note that the port forwarding settings on the IP cameras must be configured if the NVR, IP cameras, and the computer are located behind a router, a virtual server, or a firewall.
- Video Windows
  - Highlight the video window when an event is triggered: The video window will flash if an event is triggered.
  - Display unauthorized channels: Select this option to show the channels that the user does not have the access right to monitor.
  - Display unconfigured channels: Select this option to show the channels that have not been configured.

Options
General       Video       Snapshot         Snapshot       Image       Image         Always ask me where to save the snapshot images       Image       Image         C:\Users\andrew\Documents\Snapshot       Image       Image         Preferred image format:       Image       Image         Image       Show timestamp and camera name       Image       Save the snapshot as it is displayed. If this option is not selected, the snapshot will be saved in its original size.
OK Cancel

The following options are provided under the 'Snapshot' tab.

- Snapshot
  - 1. Specify the location where the snapshots are saved and the image format (JPEG, BMP or TIFF).
  - 2. Show timestamp and camera name: Show the timestamp and the camera name on the snapshot.
  - 3. Save the snapshot as it is displayed: Select this option to save the snapshot as it is displayed on the window. Otherwise, the snapshot will be saved in its original size.

## 5.1.6 Instant Playback

On the Live-view page, whenever you want to look back to check suspicious events of a camera channel you just missed, just hit the 'Instant Playback' button to bring up the window to review recent feeds. While you don't have to switch to the playback page to do so, you can still have full live views of other channels simultaneously.

- 1. Please wait a moment for the system to process your request (depends on available network bandwidth).
- 2. Reverse play is used by default. When playing to the event time, you can drag the playback control button (gray part) to the right to change to normal playback.
- 3. You can double click on a specific time on the timeline to change the playback time.

**Note:** The range of searchable time is 24 hours.

## 5.1.7 Same-screen IP Camera Configurations

On the Live-view page, you can directly configure IP camera settings when needed without leaving the Live-view page, maintaining seamless s monitoring so you won't miss any suspicious events.

Camera Brand:	durin	-	
			A sea
Camera Hodel:	Axis M1113	w.	for the local
Camera Name:	QRAP		the set of
19 Address:	10.65.10.92		
Port:	80		
WAN IP Address:			
Part:	80		Test
User Name:	root		
Password:			
<ul> <li>Enable recording on this</li> </ul>	i camera		

- 1. Please wait a moment for the system to process your request (depends on available network bandwidth).
- 2. You can modify camera, recording and schedule settings. The settings will come into effect after clicking 'Apply.'

### 5.1.8 Auto Cruising

The auto cruising feature of the NVR is used to configure the PTZ cameras to cruise according to the preset positions and the staying time set for each preset position.

To use the auto cruising feature, follow the steps below.

- 1. On the monitoring page of the NVR, click camera homepage' to go to the configuration page of the PTZ camera.
- 2. Set the preset positions on the PTZ camera.
- 3. Return to the monitoring page of the NVR. Click Cruising' > 'Configure'.
- Click the number buttons to view the preset positions of the PTZ camera. 4. When this button is clicked, the name of the corresponding preset position is shown on the 'Preset Name' drop-down menu.



to select 'Auto

and select 'Connect to

Auto Cruising	
Server Name: Camera Name:	NVR Camera 6 233D
31	
	5 10
Preset Name:	Interval:
Add	Joo  sec    Update  Delete
Preset Name	Interval
Frable auto	) cruising
	OK Cancel

5. Add: To add a setting for auto cruising, select the 'Preset Name' from the drop-down menu and enter the staying time (interval, in seconds). Click 'Add'.

Preset Name:		Interval:	
fan	•	5	sec
Add	Update	Delete	
Preset Name		Interval	
fan		5	

 Update: To change a setting on the list, highlight the selection. Select another preset position from the drop-down menu and/or change the staying time (interval). Click 'Update'.

Preset Name:	Interval:
ipe	▼ 100 sec
Add Update	Delete
Preset Name	Interval
fan	5
Preset Name	Interval
ipe	100

 Delete: To delete a setting, highlight a selection on the list and click 'Delete'. To delete more than one setting, press and hold the Ctrl key and select the settings. Then click 'Delete'.

Preset Name:		Interval:	
201	•	30	sec
Add	Update	Delete	]
Preset Name		Interval	
fan		5	
ipe		100	
201		30	

8. After configuring the auto cruising settings, select the option 'Enable auto cruising' and click 'OK'. The NVR will start auto cruising according to the settings.

Preset Name	Interval	
1	180	
2	180	
ipe	180	
fan	300	
201	300	
Enable auto cruising		
	OK Ca	ncel

9. Auto cruising supports 'snapshot'

Add	Update	Delete	
Snapshot	Preset Name		Interval
J	Preset 1		5
J	Preset 2		5
7	Preset 3		5
J	Preset 4		5
J	Preset 10		5
1	811		

#### Note:

- The default staying time (interval) of the preset position is 5 seconds. Enter
   5 999 seconds for this setting.
- The system supports up to 10 preset positions (the first 10) configured on the PTZ cameras. Up to 20 settings for auto cruising can be configured. In other words, the NVR supports maximum 10 selections on the drop-down menu and 20 settings on the auto cruising list.

## 5.2 E-map

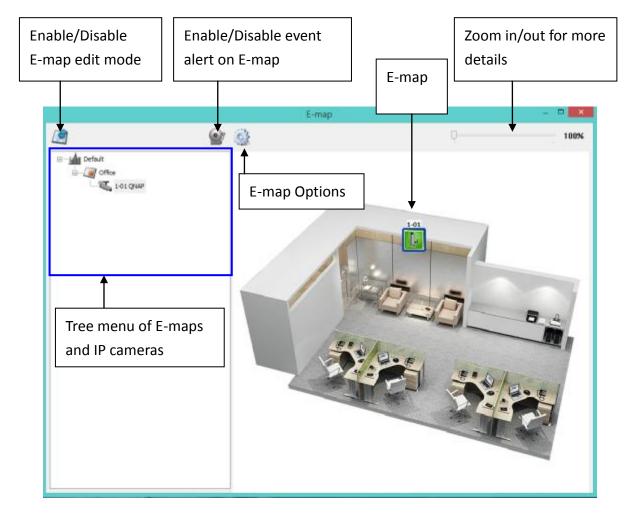
The E-map feature of the NVR is provided to for users to upload electronic maps to the system to indicate the locations of the IP cameras. Users can drag and drop the camera icons\* to the E-map and enable event alert to receive instant notification when an event occurs to the IP camera.

\*The camera icons are available only when the IP cameras have been configured on the NVR.

To use the E-map feature, login the monitoring page of the NVR as an administrator



An E-map example is shown below. The NVR provides a default E-map. Administrators can add or remove the E-maps whenever necessary.



# 5.2.1 Icons and Description

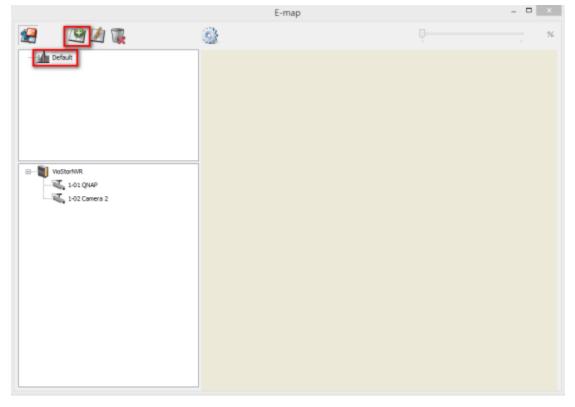
lcon	Description	
	Enable E-map edit mode.	
<b>2</b>	E-map edit mode in use. Click this icon to disable the edit mode.	
	Add an E-map.	
	Edit the name of an E-map.	
	Remove a map or a camera icon.	
	Event alert not in use. Click this icon to enable event alerts on the E-map.	
	Event alert in use. When an event occurs on an IP camera, such as a moving object being detected, the camera icon will change and flash to alert the administrator. To disable event alerts on the E-map, click this icon. Note: When event alerts are enabled, the E-map cannot be edited. The icon will become invisible.	
<u></u>	E-map Options. Click on this icon to change the "Icon Size" or "Double-click" on camera icon action.	
100%	Use this control bar to zoom in/out and see more details of E-map.	
	Icon for a set of E-maps.	
	Icon for a single E-map.	
	Icon for a PTZ IP camera.	
<i>A</i>	Icon for a fixed body or fixed dome IP camera. After dragging the icon to a map, right click on the camera icon to change the icon direction or delete the icon from the E-map.	

### 5.2.2 Add a Map Set or an E-map

To add a map set or an E-map to indicate the locations of the IP cameras, click to enable Edit mode.

A list of IP cameras configured on the NVR will be shown on the left. Click 'Default'





Enter the map name and select the file. **The E-map image must be a JPEG format file.** Click 'OK'.

Add Map				
Name	Floor 1			
File	1ikeshaw\Desktop\2014-04-16_181620.jpg			
	OK Cancel			

The E-map will be shown.

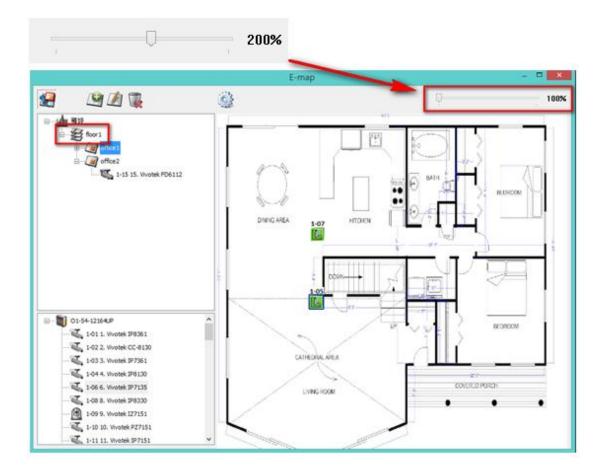


To add one or multiple E-maps, e.g. office1 and office2, under an E-map, e.g. floor1,

click the E-map icon of floor1 and then click is to add the E-maps one by one.

The icon of floor1 will be changed to swhen more than one E-map is added. To add another E-map of the same level of floor1, select 'Default' and add the E-map, e.g. floor2.

To zoom in or zoom out the E-map, you can use your mouse wheel or just change the percentage bar in upper left to enlarge or reduce the view of the E-map.



5.2.3 Edit a Map Name

To edit the name of an E-map, select the E-map and click

Enter the new

name and click 'OK'. To change the picture of the E-map, delete the E-map and add the new file.

#### 5.2.4 Delete a Map Set or an E-map



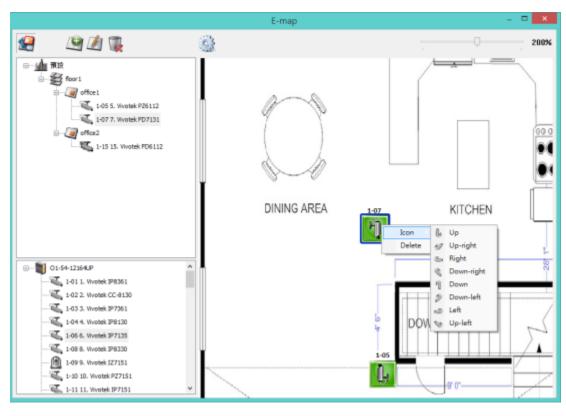
### 5.2.5 Indicate IP Cameras on an E-map

After uploading the E-maps, drag and drop the IP camera icons to the E-map(s) to indicate the camera location. The camera name will appear under the E-map on

the top left column. When an icon of a fixed body or fixed dome IP camera 🛸 is dropped to the E-map, right click the camera icon and adjust the icon direction.

The icon of a PTZ IP camera (a) cannot be adjusted. The naming rule of camera is as follows: [Order of Server]-[Order of Channel][Camera Name]. For example : "1-05 Corner" means channel 5 of NVR1 and its camera name is "Corner".

To delete a camera icon from the E-map, right click on the icon and select 'Delete'.



To save the changes made to the E-maps, click



to exit Edit mode.

When clicking an E-map or an IP camera on the left, the E-map or the E-map with the camera icon will be shown on the right immediately. The selected camera icon will

be highlighted with a blue bracket 🔚. And the view of IP camera will be shown in single-channel mode on the monitoring screen.

You can choose the Double-click action on the Camera Icon in "Emap Options" by



Emap Optio	ons
Icon Size : Medium V	
Double-click on Camera Icon action <ul> <li>Open live view</li> <li>Open live view in new window</li> </ul>	
	OK Cancel

- **Open live view**: Whether or not Edit mode is enabled, the view of IP camera will be shown in single-channel mode on the monitoring screen.
- **Open live view in new window**: Whether or not Edit mode is enabled, the view of IP camera will be shown on another window.



### 5.2.6 Enable/Disable Event Alert

To enable event alerts on an E-map, click



When an event occurs to an IP camera on the E-map, the camera icon will flash and indicate the event type. The E-map with the IP camera on which an event is triggered will be shown immediately<sup>\*</sup>. Double click on the camera/alert icon and the monitor screen will switch to display the alert camera channel in single-channel view on the monitor screen automatically.

\*The E-map with event alerts will not be switched to display automatically if the time difference between the event time and the last time the user uses the E-map (clicks the E-map window) is less than 20 seconds. In this case, refer to the tree menu on the left to locate the IP cameras with alerts/flashing icons.



The event type occurring to an IP camera can be identified by the camera icon on an E-map.

lcon	Description
<b>II</b>	A moving object has been detected
	The alarm input 1 of the IP camera has been triggered
E)	The alarm input 2 of the IP camera has been triggered
*	The alarm input 3 of the IP camera has been triggered
	An unidentified event has been triggered

# 5.3 Remote Monitoring from the QNAP QVR Client for

### Windows

- After installing the QNAP QVR Client for Windows, click Start → All Programs
   → QNAP → QVR → Surveillance Client to open the QNAP QVR Client for Windows.
- 2. The following window will be shown.

Login	
IP Address/Port	: 80
User name	
Password	
	Remember IP address/port
	Remember user name and password
	OK Cancel
L	

- 3. Enter the IP address/port, user name and password to login the NVR.
- 4. All the monitoring functions of the QNAP QVR Client for Windows are similar to those of the browser-based interface. Please refer to other sections of this chapter.

# Chapter 6. Play Video Files

Use Google Chrome, Mozilla Firefox, or Microsoft Internet Explorer and the QNAP QVR Client to playback the files recorded by the NVR.

- 1. To play the recording files in Internet Explorer, please add the NVR IP address to the list of trusted sites. When accessing the NVR via Internet Explorer, you will be prompted to install the ActiveX add-on.
- To play the recording files by Google Chrome, Mozilla Firefox or QNAP QVR Client on Windows PC, please visit <u>http://www.qnapsecurity.com/download.asp</u> to download and install the QNAP QVR Client for Windows.
- To play the recording files on Mac, please visit <u>http://www.qnapsecurity.com/download.asp</u> to download and install the QNAP QVR Client for Mac.

# 6.1 Playback Page

- 1. Click the playback button on the monitoring page or the QVR desktop.
- 2. The playback page will be shown. You can search and play the video files on



**Note:** The playback access right to the IP cameras is required to view and play the video files.

The following table consists of the icons and their descriptions in the playback page.

lcons	Description
6	Configure the options such as playing mode, snapshot
	settings, and digital watermark
	Multi-view mode (up to 16-view mode)
	Control all views: Control the playback settings of all the
	playback windows
	Convert the video files on the NVR to AVI files
	Select the playback video type (alarm recordings, regular
	recordings, recovery recordings, etc)
E	Open recording files
(())	Standard bandwidth mode
(+)	Low bandwidth mode
	Take a snapshot of the video
	Audio (optional): Turn on/off the audio support
	Search recording files by IVA
	Dewarp fisheye images:
	For specific fisheye cameras (Note 1) and the specific
	camera models with panomorph lens (Note 2), you can
	enable/ disable dewarping function. After enabling the
	function, you can then select mount type, dewarping
	mode.
•	Last time interval
€	Increase the interval of scales on the timeline
Q	Decrease the interval of scales on the timeline
•	Next time interval
0	Average Time-Divided Playback
P	Digital zoom: Enable/Disable digital zoom. When digital

zoom is enabled ( ), you can use your mouse wheel
to use digital zoom function.

### Playback and Speed Control Shuttle Bar

	Playback Control Button: Play/pause recording files
<	Speed up
>	Speed down
H	Last frame
H	Next frame
	Right side of shuttle bar is normal play, and left side of shuttle bar is reverse play. When you drag the playback control button to right, it will play normally. When dragging the playback control button to left, it will reverse play. When dragging to the center of shuttle bar, it will pause.

### 6.1.1 Play Video Files from NVR

Follow the steps below to play the video files on the remote NVR servers.

1. Drag and drop camera(s) from the server/camera tree to the respective playback window(s) to select the channel(s) for playback.



- 2. Select playback date from . You can examine each channel to know the time range when the files are recorded for each IP camera. The blue cells indicate regular recording files and the red cells indicate alarm recording files. If it is blank in the time period, it means no files are recorded at that moment.
- 3. Click **v** to start the playback.
- 4. Specify the time to play back the recording files at that moment.
- 5. Click III to control all the playback windows to play back the recording files.

When this function is enabled, the playback options (play, pause, stop, previous/next frame, previous/next file, speed adjustment) will be applied to all the playback windows.

#### Note

1. Applied to specific fisheye cameras: please refer to the below camera compatibility list

http://nvr.qnapsecurity.com/n/en/product\_z\_g\_qvr/cat\_intro.php?hf=old After enabling the feature, you can select Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Panorama (Full View), Panorama (Dual View), and Rectangle. Remark 1: If the Mount type is Wall, only Panorama (Full View), and Rectangle are supported in Dewarping mode.

Remark 2: If Dewarping mode is Rectangle, you can use PTZ control panel to operate PTZ functions, excluding digital zoom.

2. Applied to the specific camera models with panomorph lens.

Before using this feature, you need to select the 'Enable panomorph support' option in the camera configuration page. Right click the channel and enable the feature. After that, you can select Mount type, including wall, ceiling, and floor and then select Dewarping mode, including Perimeter mode, Quad mode, and PTZ mode.

Remark 1: To know the camera models which can be installed with panomorph lens, please visit <u>http://www.qnapsecurity.com/faq\_detail.asp?faq\_id=718</u>. Remark 2: The function is only available when the resolution of the video stream is higher than 640x480 on the monitoring page.

Remark 3: If Dewarping mode is PTZ mode, for the channel, you can use PTZ control panel or mouse (by clicking and holding down the mouse left button, and then moving the mouse or turning the mouse wheel) to change viewing angles or zooming in/out the screen. If Dewarping mode is Quad mode, the above methods can also be applied to operate PTZ functions in each divided screen.

### 6.1.2 Intelligent Video Analytics (IVA)

The NVR supports intelligent video analytics for video data search.

The following features are supported:

- Motion detection: Detects the movements of the objects in the video.
- Foreign object: Detects new objects in the video.
- Missing object: Detects missing objects in the video.
- Out of focus: Detects if the camera is out of focus.
- Camera occlusion: Detects if the IP camera is obstructed.

To use this function, follow the steps below:

1. Enter the playback page. Select one channel and click

**Note:** The intelligent video analytics support video search on one IP camera channel only.

2. Select recording type, start time and end time for video search.

Please select a time rar	nge	
Recording Type:	Search all recording data	•
From:	2012/ 6/25 🗨 11:00	•
To:	2012/ 6/25 🗨 15:27	•
	OK Cancel	

3. Configure the IVA settings for video search.

IVA Settings	
	Detection Mode
Define detection zone Define object size Please select an area for detection Select all Please when found F Highlight the detection zone	Search Cancel

 A. Select the detection mode: Motion detection, Foreign object, Missing object, Out of focus, or Camera occlusion. Multiple options can be selected.

Detection Mode
Motion detection
🗖 Foreign object
🗖 Missing object
Cut of focus
Camera occlusion
Adjust the sensitivity fo

B. Adjust the sensitivity for object detection.



C. Adjust the time interval for detecting the foreign objects and missing objects. If a foreign object appears or a missing object disappears for a period of time which is longer than the time interval, the NVR will record the event.

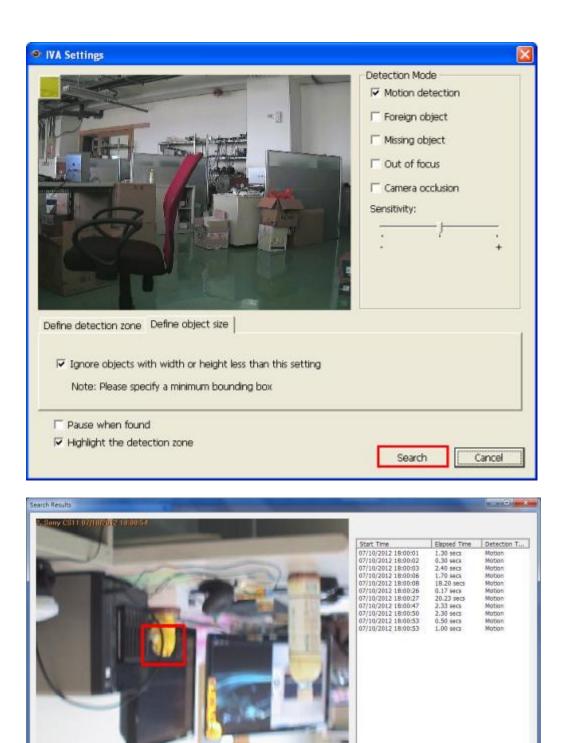
Interv	al(sec)	:		
- J	<u>_</u>		,	
1	5	10	15	20

**Note:** The Interval slide bar appears only when 'Foreign object' or 'Missing object' is selected.

- D. Define the detection zone. Mouse over the edge of the red zone and use the mouse to define the detection zone. Click 'Select all' to highlight the entire area.
- E. Define the object size for detection. Use the mouse to drag the yellow zone to define the minimum object size for detection.

IVA Settings	
	Detection Mode   Motion detection  Foreign object  Out of focus  Camera occlusion Sensitivity:
Define detection zone   Define object size   Please select an area for detection Select al	
Pause when found     Fighlight the detection zone	Search Cancel

- Ignore objects with width or height less than this setting: Enable this option to ignore all the objects smaller than the yellow zone.
- F. Enable/Disable other options for video search.
  - Pause when found: Enable this option and the video search will stop when a video file matching the search criteria is found.
  - Highlight the detection zone: The moving objects detected in the video will be highlighted in red boxes; the foreign or missing objects will be highlighted in yellow boxes; the video which is out of focus or obstructed will be displayed in transparent red.
- 4. Click 'Search' to start searching the video by IVA. The results will be shown.



#### Other options:

• Double click an entry on the search result dialog to play the video. The player will play the video starting from 15 seconds before the event to 15 seconds after the event.

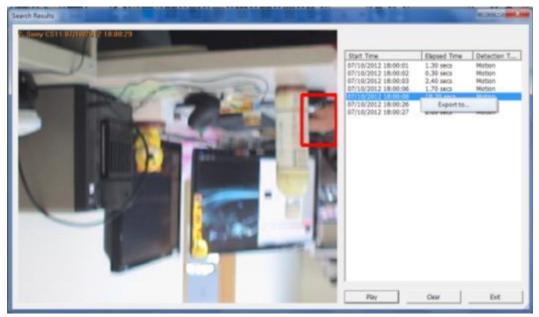
Clear

Play

Ext

• Right click an entry on the search result dialog to export the video (AVI format)

and save it to the computer. The exported video starts from 15 seconds before the event to 15 seconds after the event.



#### 6.1.3 Export NVR Videos

To convert the video files on the NVR and export the file, please follow the steps below.

- 1. Select an IP camera and click 📧 to 'Convert to AVI file'.
- 2. Select recording type, start time and end time for video exporting.

hannel Name:	QRIAP					
sport Output Ex	port Options					
Recording Type:	All recordings			•		
Fran:	2014/ 4/22	• 00.00	(a) Ter	2014/ 4/22	00-20	
	and the second			and the second second	-	
				-		
Destruction:			-			
Get PC		C:\Liters\Publ	c//ideos/		Bree	
🗇 Export folder of	n NiR					

A. Choose the recording type.

Recording Type: All recordings

B. Specify the time range. Specify a smaller time range, or the video file will be too large and take a long time to convert.



- 3. You can specify the location where the file will be saved on client PC or to the NVR.
- 4. Enter the file name.
- 5. You can modify the export options.

uler Recording Export Channel Name: QI Export Output Export	LAP		
Resolution Organisze Advanced Settings Solucie time stamp Solucie townel nam Advanced Add comment	Keep aspect ratio	Format AVG (MCPEG)	
			^
			- OK Cancel

A. Choose the exporting resolution.

Resolution Original size

B. Select to keep the aspect ratio of exported file or not.

Кеер	aspect ratio	
Tes		•

- C. Select the file format (video compression) of the exported file.
  - Format Avt (MIPEG) •
- D. You can select to include a time stamp and the channel name in the exported file or to add comments (will have one more txt file saved as same file name in the same folder).
- 6. Click 'OK'.
- 7. All the video files that meet the search criteria will be converted.

### 6.1.4 Export Video Files with Digital Watermark

The NVR supports digital watermarking to protect the videos and snapshots from unauthorized modifications. Digital watermarks can be added to the exported videos and snapshots in the playback page. The watermark cannot be removed and can only be verified by the QNAP Watermark Proof software.

To use digital watermarking in the playback page, follow the steps below.

- 1. Enter the playback page.
- Select is add digital watermarks in the exported snapshots or videos.

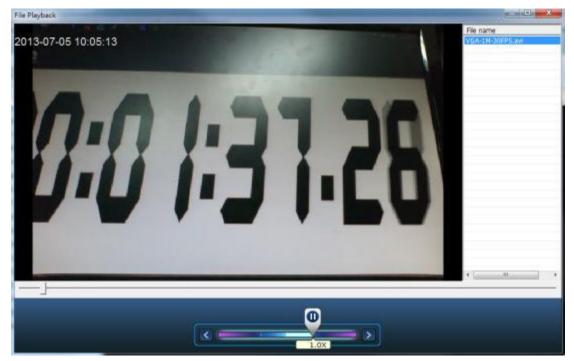
Settings 🔀
Playing Mode
<ul> <li>Play all traines</li> <li>Skip expired video frames when necessary, and make playback as smooth as possible</li> </ul>
C Real-time playback; skip all expired video frames
Snapshot
Snapshot Folder: D:\Documents and Settings\Administrator\My Doc Browse
Show timestamp and camera name
Watermark
Add digital watermark in the exported snapshot
Add digital watermark in the exported video
OK Cancel

3. Click Convert to AVI file' (refer to Chapter 6.1.3). Digital watermarks will be added to the exported video files and snapshots.

### 6.1.5 Enable Recording Video Files

Please follow the below steps to enable recording video files in the playback page.

- 1. Click 🖾 to enable AVI files
- **2.** Select the video files and start playback



### 6.1.6 Average Time-Divided Playback

Click to designate a channel for Average Time-Divided Playback. This can be divided for 4 channel or 9 channel display mode.



## 6.2 Play Video Files in the QNAP QVR Client for Windows

- 1. Click Start  $\rightarrow$  All Programs  $\rightarrow$  QNAP  $\rightarrow$  QVR Client  $\rightarrow$  Surveillance Client to open the QNAP QVR Client for Windows.
- 2. The following window will be shown.

Login	
IP Address/Port	: 80
User name	
Password	
	Remember IP address/port
	Remember user name and password
	OK Cancel

- 3. Enter IP address/port, user name and password to log into the NVR.
- 4. All the playback functions of the QNAP QVR Client for Windows are similar to those of the browser-based interface. Please refer to other sections of this chapter.

### 6.3 Watermark Proof

The Watermark Proof utility is installed automatically along with the QNAP QVR Client for Windows. From the Windows Start menu, select 'All Programs' > 'QNAP' > 'QVR Client' to locate 'Watermark Proof'.

Run Watermark Proof. The following window will be shown.

Filename	Result	
Stop when watermark error is	detected	
- ·		

Click to browse and locate the files. Multiple files can be selected at one time.

Click to check the files and view the proof result. When 'Stop when watermark error is detected' is selected, the checking process will stop if a failed file is detected. Otherwise the program will check all the files selected. If a video file has been modified, or is not exported with digital watermark, or not an NVR video

file, the proof result will be shown as 'Failed'.

Filename	Result	
2.avi	Failed	
1.avi	Passed	
2011-03-21 12-15-00~12-19-59.avi	Failed	
Stop when watermark error is detected	ŧ	
009/03/26 18:06:27 DCS-2121		
	A C	
	Call <sup>E</sup>	

# 6.4 Access the Recording Data

The recording data on the NVR can be accessed by the following services:

- Microsoft Networking (SMB/CIFS)
- FTP Server (FTP)

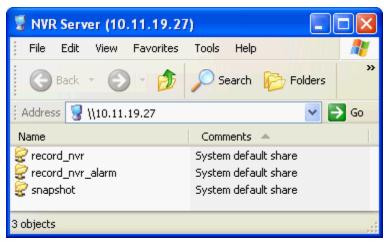
Note:

• To access the video files by these protocols, enter the user name and password with the administrator access right.

### 6.4.1 Microsoft Networking (SMB/CIFS)

Access the video files by the SMB/CIFS protocol on Windows OS.

 Run \\NVR\_IP from the Windows Start menu. For example, if the NVR IP is 10.11.19.27, enter \\10.11.19.27.



6.4.2 FTP Server (FTP)

Access the recording data by FTP:

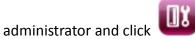
 In Google Chrome, Mozilla Firefox, or Microsoft Internet Explorer, enter ftp://username:password@NVRIP. For example, enter ftp://admin:admin@172.17.26.154 if the NVR IP is 172.17.26.154.

👰 ftp://10.11.19.17/		×
File Edit View Favorites Tools	Help 🥂	1
🕞 Back 🝷 🕥 🕆 🏂 🔎	Search 🎼 Folders 🛄 -	»
Address 👰 <u>itp://10.11.19.17/</u>	💌 🄁 Go	
10.11.19.17		
	Name	Siz
Other Places 🛞	Crecord_nvr Crecord_nvr_alarm Crecord_nvr_alarm	
		>

Note: You cannot play recording files via double click here.

# Chapter 7. Surveillance Settings

To enter the surveillance settings page of the NVR, login to the monitoring page as an



# 7.1 Camera Settings

#### 7.1.1 Camera Overview

You can view a camera preview and more information, including the camera name, IP address, connection status, recording setting, days recorded, recording file size, free disk space, CPU usage and internet bandwidth.



7.1.2 Camera Configuration

You can add/edit a camera's configuration, modify recording settings, and scheduled recording settings.

_			Surveillance Setting	5				• •
3 (8	🕮 Honitor 🕒	<ul> <li>Playback</li> </ul>						
Camera Settings								
🖳 Camera Status	Add							
Camera Configuration	Channel	Camera Name	Camera Brand	IP Address	Resolution	Frame Rate	Action	
Alarm Settings	1	PTZ	Axis	10.11.18.2	4CIF	Full fps	<b>2</b> ×	î
System Settings	2	fisheye	Vivotek	10.11.13.8	1920x1920(fisheye)	15 fps	2 🗶	
	3	Neeting Room	Axis	10.11.10.15	1280×720	Full fps	2 🗶	
Advanced Settings	4	Door	Axis	10.11.10.1	1290×720	Full fps	28	
Privilege Settings	5	НQ	Sony	10.11.14.2	1280×720	30 fps		
A Protocol Management	6						•	
Surveillance Logs	7						•	
Historical Users List	8						•	
Backup & Archive	9						•	
Recovery Management								
Storage Expansion Setting	10						٠	
License Management	11						٠	
	12						٠	
	13						۲	
	14						-	~

Please follow these steps to add a new camera.

1. Click do a camera.

Add	
Add a camera	
This wizard guides you through the following settings:	
Camera Configuration	
Recording Settings	
Schedule Settings	
Search camera(s) automatically	
Step 1/6	Next Cancel

## 2. 'Search camera(s) automatically' is enabled by default.

		Search Net	work Camera	
#	IP Address	Brand	Camera Model	MAC Address
Search	type: UDP / UPnP	*	¢ (	Ok Cancel

You can select the search type: UDP/UPnP or ONVIF.

3. You can also cancel this search and manually add the camera.

	Add	
Camera Configuratio	n	
		^
Channel:	Channel2	×
Camera Brand:	Select a brand	~
Camera Model:		~
Camera Name:	Camera 2	
IP Address:		
Port:	80	
RTSP Port:	554	Test
WAN IP Address:		
Port:	80	
RTSP WAN Port:	554	
User Name:		
Password:		<b>.</b>
Step 2/6		Back Next Cancel

Select the camera brand, model, name, IP address or domain name of the camera and the user name and the password to login to the camera. And select whether or not to enable the recording.

The NVR provides an interface for the users to enter the JPEG CGI command of the IP cameras in order to receive the video and audio streaming data from the IP cameras and monitor, record, and playback the video of the IP cameras on the NVR. Please refer to Note 1 for more information.

4. Click 'Next' for recording settings.

	Add	
Recording Settings		
Video Compression:	H.264	×
Resolution:	1920×1080	*
Frame Rate:	Full	~
Quality:	Compression 30	~
Enable panomorph supp     Enable manual recording     Enable real-time digital v     Minimum number of day     Enable auto snapshot		day(s)
Step 3/6		Back Next Cance

Configure the video compression, recording resolution, frame rate, and quality.

Enable audio recording, manual recording, recording data retention, real-time digital watermarking, and auto snapshot settings. For further information regarding cameras that support "User defined Multi-stream" and "Smart Recording", please refer to the list described in that section.

- A. Video compression: Choose a video compression format for the recording.
- B. Resolution: Select the recording resolution.
- C. Frame rate: Adjust the frame rate for the recording. Note that the frame rate of the IP camera may be affected by network traffic.
- D. Quality: Select the image quality for the recording. More disk space is required to save higher quality recordings.
- E. Audio recording (optional): To enable the audio recording, click 'Enable audio recording on this camera'.
- F. Enable panomorph support: For the specific camera models with panomorph lens, you can enable this option.
   Note: To know the camera models which can be installed with panomorph lens, please visit <u>http://www.qnapsecurity.com/fag\_detail.asp?fag\_id=718</u>.
- G. Manual recording: To allow manual activation and deactivation of manual recording function on the monitoring page, enable this option.
- Real-time digital watermarking: Enable this option to add digital watermarks to the video files as soon as they are recorded to the NVR.
   Use the Watermark Proof utility to verify if the video files were maliciously modified.
- Enable recording data retention: Turn on this function and specify the minimum number of days to keep the recording data. Note that the number of days entered here must be smaller than the maximum number of days to keep all recordings configured in 'System Settings' > 'Advanced Settings'.
- J. Enable auto snapshot: Select this option and the settings will be displayed. Configure up to 15 schedules for automatic snapshot taking or specify the number of snapshots (max 60) the NVR should take every hour. The snapshots are saved to the share folder of the NVR by default. Specify a remote server to where the files will be saved. Read/write access to the remote server is required.

Enable auto snapshot

#### Snapshot schedule

$\bigcirc$	Snapshot schedule											
ullet	Auto snapshot											
	Take	60	¥	snapshot(s) every hour								

#### Save to (apply to all channels):

- Snapshot folder on the NVR (/snapshot)
- Remote Destination
- K. Edge Recording: When Edge Recording is enabled on VioStor NVR, the camera can save the recording files on its local storage (such as a SD card) even when the connection to the NVR suddenly becomes unavailable. After the connection is resumed, the NVR will check its recording files and compare the recording schedule set by users. If the NVR detects that recording files are missing, it will request the camera to upload the missing part.
- 5. Click 'Next' for schedule settings.

												Add												
Sched	lule	Se	ttin	gs																				
🖌 Ena	able	sche	edul	e re	cord	ing																		
Active:		In	activ	/e: [																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sun																								
Mon																								
Tues																								
Wed																								
Thurs																								
Fri																								
Sat																								
tep 4/(	5															Ba	ick			Nex	đ		C	ance
	a	nd	l dı	rag	; 01	n tl	he	scl	ne	du	le t	ab	le	to	en	ab	le	sch	nec	lul	ed	re	cor	di
							_	_																

that period of time. Click 🔲 and drag on the schedule table to disable

schedule recording for that period of time.

#### Note:

- Starting and stopping manual recording will not affect scheduled or alarm recording tasks. They are independent processes.
- 2. When applying the changes, the recording operation will be temporarily paused (maximum 1 minute) and then restart.
- 3. The settings of the snapshot folder are global settings which will be applied to every channel.

You can then click 🖉 to edit the camera settings.

		Edit		
Camera Configuration	Recording Settings	Schedule Se	ttings	
Camera Brand:	Axis		~	
Camera Model:	Axis M1014		*	
Camera Name:	Camera 1			
IP Address:	10.8.10.41			
Port:	80			
RTSP Port:	554			
WAN IP Address:			Test	
Port:	80			
RTSP WAN Port:	554			
User Name:	root			
Password:	•••••			
<ul> <li>Enable recording on</li> </ul>	this camera			
			Apply	an

Click Apply to apply the settings.

#### Note:

4. All the settings will not take effect until 'Apply' is clicked. When applying the changes, the recording operation will temporarily stop (for a maximum of one minute) and then restart.

#### Add generic IP camera support with a CGI command

Follow the steps below to configure the IP camera:

- 1. Select 'Generic Model' for the camera brand.
- 2. Select 'Generic JPEG' for the camera model.

- 3. Enter the CGI path of the IP camera in the 'HTTP URL' field.
- 4. Enter the camera name or the IP address of the camera.
- 5. Enter the user name and the password of the IP camera.
- 6. Select to enable the recording or not.

**Note:** The NVR only supports JPEG CGI command interface, but does not guarantee the compatibility with all the IP camera brands.

## **User Defined Multi-stream**

In the past, users of digital surveillance systems were forced to make a tradeoff between the video quality of a camera stream and requested bandwidth. The same camera stream was used for both live view and recording, and more bandwidth was required if a high quality camera stream was selected. Fortunately, with the introduction of multi-stream technology, users now can choose the main stream for recording files and the sub stream for live view.



The multi-stream technology was already supported by VioStor NVR before firmware v4.1.0. However, stream properties such as resolution, frame rate, and compression mechanism could not be changed by users.

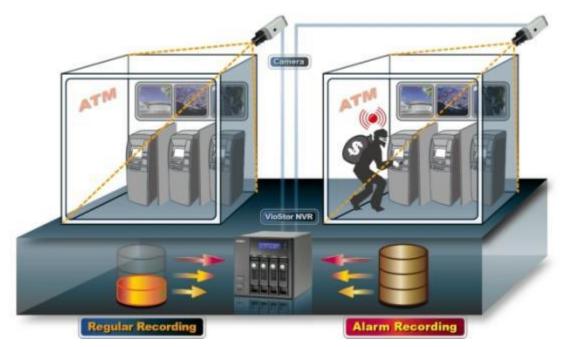
Streaming	
Use custom settings	
C Always stream from the server	
C Always stream from the network camera	
OSD Settings	_
OSD text color:	
Display Mode	_
Fit image to window	
T Keep aspect ratio	
○ Display image in original size. If the image is larger than the window, the following:	do
Sherikumagi to fit window, maritaning aspect ratio	
C Sherk mage by 1/2, 1/4, 1/6 and so on to /R window	
Video Processing	
Denterlace	
T Denterlace	
T Deinterlace Video Resolution Stream from server	
T Deinterlace Video Resolution	
T Deinterlace Video Resolution Stream from server	
Deinterlace  Wdeo Resolution  Stream from server  Adjust resolution automatically	

The multi-stream feature in firmware v4.1.0 has been enhanced. Users can configure stream properties after selecting "User Defined" from the drop-down list on the user interface, and users can choose stream properties based on their needs.

Please note that in the Multi-Stream Profile, the default value is "System-Configured".

#### Smart Recording

Smart Recording is a powerful feature in the field of digital surveillance as high quality videos are recorded during an unexpected event, and the low quality camera stream is used for regular recording. This is extremely beneficial as more details about an event can be revealed from the high definition camera stream recorded during that event, and less storage space is consumed comparing to when the high quality camera stream is used for Round-the-clock recording.



The VioStor NVR supports two recording modes: Round-the-clock Recording mode and Smart Recording mode, and they are described below:

 Round-the-clock Recording mode: The same stream from the camera is used for both regular recording and alarm recording. To use this function, please select one camera stream from the stream list.

Multi-strea	am Profile:		User defined	đ		1		
Recording	Mode:		Round-the-c	lock Rec	ording	1		
Regular Re	ecording:		Stream 1			1		
Stream	Video Compres	sion	Resolut	ion	Frame	Rate	Quality	
1	H.264	~	1920×1080	~	Full	*	Compression 30	*
2	Motion JPEG	~	640x480	¥	6	*	Compression 50	*
3	H.264	¥	1280×720	*	12	¥	Compression 30	¥
Enable	e audio recording	on thi	s camera					
Enable	e manual recordin	a						

 Smart Recording mode: Different camera streams are used for regular recording and alarm recording. To use this function, please select one camera stream for regular recording and another for alarm recording.

Multi-strea	m Profile:		User defined	ł			۷		
Recording	Mode:		Smart Recor	ding			۷		
Regular Re	cording:		Stream 2				Y	]	
Alarm Reco	ording:		Stream 1				۷		
Stream	Video Compres	sion	Resolut	ion	Frame	Rate		Quality	
1	H.264	*	1920×1080	*	Full	¥		Compression 30	~
2	Motion JPEG	~	640x480	~	6	~		Compression 50	*
3	H.264	~	1280×720	*	12	¥		Compression 30	~

As more cameras will be supported for Smart Recording in the future, please be sure to check out our camera compatibility list from time to time for your camera selection.

#### How to Configure Smart Recording?

- 1. Go to the "Camera Configure" to add a camera which supports user defined multi-stream.
- 2. Click 'Next' for recording settings.
- 3. Select "User defined" from the "Multi-stream Profile" dropdown list.
- 4. Select "Smart Recording" from the "Recording Mode" dropdown list.
- 5. Select camera streams for recording modes.
- 6. Select one camera stream from the "Regular Recording" dropdown list.
- 7. Select a different camera stream from the "Alarm Recording" dropdown list.

Recording Mode:     Smart Recording       Regular Recording:     Stream 2       Alarm Recording:     Stream 1	
Alarm Recording: Stream 1	
Su can 1	
Stream Video Compression Resolution Frame Rate Qua	ity
1 H.264 ¥ 1920x1080 ¥ Full ¥ Compression 3	o 👻
2 Motion JPEG V 640x480 V 6 V Compression 5	0 ~
3 H.264 ¥ 1280x720 ¥ 12 ¥ Compression 3	• 0

Please note: Scheduled Recording and Alarm Recording must be enabled first.

#### Limitations and Restrictions:

- 1. A camera stream can only be selected as for either Regular Recording or Alarm Recording.
- 2. The number of streams supported and stream properties (such as codec, resolution, frame rate and quality) vary based on camera models, and the same property value may not be available as other properties are changed. For example: if H.264 or Full HD is selected as the video compression setting for stream 1, users may only be left with M-JPEG or VGA for stream 2. This is a camera limitation.
- 3. Please refer to our camera compatibility list for supported camera models.
- 4. Because more bandwidth is required for Smart Recording, please estimate your bandwidth usage before using this feature. Take Vivotek IP8132 for example, this model offers three streams. Stream 1 uses 663Kbps, Stream 2 uses 1000K bps and Stream 3 uses 3000Kbps (Please refer to Vivotek Video Transmission Calculator for detail.) The total bandwidth required is 4663Kbps (663K + 1000K + 3000K). If 30 Vivotek IP8132 cameras are connected to a NVR for live view and Smart Recording is used, at least 133930Kbps bandwidth is required.

## **Edge Recording**

## How to Configure Edge Recording?

1. Go to the camera settings page.

Before adding this camera to the NVR, please ensure that the camera time is synchronized with that of the NVR.

AXIS	XIS P1343 Network Camera Live View   Setup   Help
- Basic Setup	Date & Time Settings
Instructions 1 Users 2 TCP/IP	Current Server Time Date: 2013-04-12 Time: 18/47/24
3 Date & Time	New Server Time
4 Video Stream 5 Focus	Time zone: GMT+08 (Beijing, Hong Kong, Shanghai) 💌
6 Audio Settings	Automatically adjust for daylight saving time changes.
STATE OF STATE	Time mode:
Video & Audio	O Synchronize with computer time
Live View Config	
· Live view coning	Date: 2013-04-12 Time: 18:47:23
Detectors	<ul> <li>Synchronize with NTP server</li> <li>NTP server peelintpren</li> </ul>
Applications	
STRUCTURE CONTRACTOR	Set manually
Events	Date: 2013-04-12 Time: 28:47:22
Recordings	Date & Time Format Used in Images
* Recordings	Specify date formati 💿 predefined YYYYY-MM-DD
System Options	O Own
About	Specify time format: ③ Predefined 24h 💓 With resolution: 1 second 💙
	O own
	Save Reset

The NVR will apply the settings in the edge profile to the AXIS camera automatically.

The codec setting of videos recovered from Edge Recording is fixed as H.264.

Stream F	Profile Se	ttings		0
Stream Profi	le			
Profile name:	NVRedgeProf	ïle	Video encoding:	H.264 🗸
Description:	NVR edge pro	ofile		
Image /	Audio H.26	MJPEG		
Image Appe	arance			
Resolutio	on:	640x480 (4:3)	]	
Compres	sion:	50 [0100]		
🗌 Mirror im	age:	Off		
Video Strea	m			
Maximum	n frame rate:			
		OUnlimited		
		Limited to 15	[030] fps	
<b>Overlay Set</b>	tings			
Text and	/or image ove	rlay		
none				

After enabling Edge Recording, please check if the camera is recording videos. If not, please enable "Continuous Recording" and make sure that the SD card is not full or damaged.

AXIS	AXIS P13	44 Networ	k Camera	Live View	Setup   <mark>Help</mark>
Basic Setup	Recor	ding List			0
	Filter				
Video & Audio	Recording	time:			
Live View Config	From:	First recording	¥	(yyyy-mm-dd	hh:mm)
The second s	To:	Now	2013-04-12	2 11:53 (yyyy-mm-dd	hh:mm)
Detectors	Event:	Any	*		
Applications	Storage:	Any	*		
- All and a start of the start of the	Sorti	Descending 💌			
Events	Results:	Max 20 🛩 reco	rdings at a time		
* Recordings					Filter
Continuous	Recordin	g 1 to 5 of 5			
Continuous	Start da	te & time	Duration	Event	
System Options	2013-04-2013-04-		Ongoing	continuous continuous	1
About	2013-04- 2013-04-		00:04:58 03:57:13	continuous	
	2013-04-	07 11:18:46	42:24:26	continuous	

After enabling Edge Recording, please make sure that "Recording Settings" have been enabled on the camera page and select "NVRedgeProfile" as the stream profile.

Basic Setup	Continuou	s Recording	0
2010 122200	Recording Settin	ngs	
Video & Audio	🗹 Enable		
Live View Config	Diski	SD card 💙	
Detectors     Applications	Stream profile:	NVRedgeProfile 💙	
Events			
Recordings List Continuous			

Please configure the "Remove recordings older than" setting for the SD- card.

• Video & Audio         • Live View Config         • Detectors         • Applications         • Events         • Recordings         • System Options         • Storage Management         • Network         • Storage Management         • Storage Management         • Storage Management         • Network         • Storage Management         • Storage Tools         • Storage Tools         • Storage Tools         • Maintenance         • Support	Basic Setup	Storage Overvie	W			0		
Ivee       Z.       Status       Total size       Deed space         > Live View Config       Status       ready       7.5 GB       2.9 GB         > Detectors       > System Options/Disk Management - AXIS P1344 Network            > Applications       > Events       >              > Recordings       > Storage Management <th>······································</th> <th><b>Camera Controlled Stora</b></th> <th>ge</th> <th></th> <th></th> <th></th> <th></th> <th></th>	······································	<b>Camera Controlled Stora</b>	ge					
Live View Config       Metwork Share       not defined         Detectors       System Options/Disk Management - AXIS P1344 Network	Video & Audio	Type 2.	itatus	Total size	Used space			
Applications     Applications     Events     Recordings     System Options/Disk Management - AXIS P1344 Network      Im管網站     Storage Management     Storagement     Storagement     Storagement     Storagement     Stor	+ Live View Config	Concerning of the State of the		7.5 GB	2.9 GB			
Applications     Applications     Events     Events     Secondings     Storage Management     Storagement     Storagement     Stor	Detectors	System Options/Disk 1	Management	AXIS P13	44 Network	🖻	1C	X
• Recordings       Storage Management         • System Options       • SD Card         • System Options       • SD Card         • Security       Date & Time 1.         • Network       Status:         • Storage Tools       Unmount         • Storage Tools       Enerode Stings         • Ports & Devices       Format         Maintenance       • Support         • Support       Fermove recordings older than:	Applications						1+	
System Options     SD Card       • System Options     File system: vfat       • Security     Date & Time 1.       • Network     Storage Tools       • Storage     Format       • Overview     Format       • Ports & Devices     Recording Settings       Maintenance     Support	+ Events	(						
System Options       File system: vfat         Security       Date & Time 1.         Network       Status:         Network       Storage Tools         Storage       Format         Overview       Format         Ports & Devices       Recording Settings         Maintenance       Memove recordings older than:         Support       Termove recordings older than:	Recordings	Storage Manageme	nt				0	
• Security Date & Time     Statusi     ready     Unmount       • Network • Storage Overview     Storage Tools     Entropy       • Ports & Devices Maintenance • Support     Recording Settings	120100000000000000000000000000000000000	SD Card						
Date & Time     1.     Statusi ready     Unmount       Network     Storage Tools     Image: Tools       Storage     Format     Check disk     Repair       Ports to Devices     Recording Settings     Image: Tools       Maintenance     Support     Image: Tools		File system: vfat						
Network     Storage Tools     Pornat     Check disk     Repair     Ports & Devices     Maintenance     Support     Remove recordings older than:     5     days		Statusi ready				Unmo	unt	
Storage     Overview     Pornat     Check disk     Repair     Ports     Auntenance     Support     Support     Remove recordings older than     5     days	<ul> <li>Network</li> </ul>	Storage Tools				1		
Ports & Devices         Recording Settings           Maintenance         Image: Control of the set	Contraction of Contraction Contraction of Contraction Cont	Format	Check d	isk	Repair			
Support     Support     Generations older than:     Support	Ports & Devices	Recording Settings	Para a secondaria			_	3.	
		Remove recordings older than		5	days 💌			
Advanced     Lock (write protection)	Advanced	Lock (write protection)						
About Ok Cancel	About		Ok	Cancel				

- 2. Go to the Camera Settings page. Please enable Edge Recording.
- Go to "Surveillance Settings" > "Recovery Management" to configure the recovery schedule, and check the recovery status and the status of Edge Recording attempts.

Applied models: AXIS P1343, P1344, P3343, P5534, M5013, Q1602

#### Limitations and Restrictions:

- 1. The camera audio function is not supported by Edge Recording.
- 2. The camera time must be synchronized with the NVR time for this feature to work.
- 3. Please refer to the camera user manual to finish related settings on the camera page.
- 4. Modification of Edge Recording related configuration is not supported on local display
- 5. Please make sure that the SD card can function properly and is formatted to VFAT and not EXT4.
- 6. The codec setting of videos recovered from Edge Recording is fixed as H.264.
- 7. Edge Recording will only check and recover recording files in the scheduled period.
- 8. Please refer to our camera compatibility list for your camera selection. http://www.gnapsecurity.com/pro\_compatibility\_camera.asp

#### 7.1.3 Event Management

The NVR provides 'Traditional Mode' and 'Advanced Mode' for event management. Select 'Traditional Mode' to use the standard alarm settings in response to the alarm events. To use advanced event management, select 'Advanced Mode'.

#### **Traditional Mode**

1. Alarm Settings

Select a channel (IP camera/video server) on the list and configure the alarm settings. The video recording will be activated when the alarm input of the selected channel is triggered or a moving object is detected.

When the option 'Activate alarm recording only on selected schedule' is enabled, the alarm recording will be activated only when the alarm input is triggered or a moving object is detected within the schedule. To apply the same settings to all the channels on the list, click 'Apply to all cameras'.

		Surveillance	Settings		000
3	Nonitor 🛛 📮 Pla	vback			?
Camera Settings     E. Camera Overview     Camera Configuration	Traditional Ministry Sectors 10 (1997)				
Aarm Settings	Channel N	Camera Name	IP Address	Alarm Recordings	
	1	1. Sony VE600B	10.11.14.186	OFF	
<ul> <li>System Settings</li> </ul>	2	2. Axis P1354	10.65.12.206	OFF	
🔧 Advanced Settings	3	3. 3VC VN-H137	10.65.12.206	OFF	
1 Privilege Settings	4	4. Axis P1355	10.65.12.207	OFF	
A Protocol Management	5	5. Axis P1357	_10.65.12.211-Jasion	OFF	
Surveillance Logs	6	6. Axis M1114	10.65.13.57	OFF	
Historical Users List	7	7. Axis M3006	10.65.12.210	OFF	
Backup & Expansion	8	8. Axis P3384	10.65.12.209	088	
Recovery Management License Management		recording rding when motion is detected larm recording only an selecte			

#### Note:

- All the settings will be effective after clicking 'Apply'. When applying the changes, the current recording process will temporarily pause (maximum 1 minute) and then restart.
- To avoid blocking by the firewall, the IP cameras or the video servers configured for alarm recording must be located on the same subnet as the NVR.
- To switch from traditional mode to advanced mode, select 'Advanced Mode' and click 'Go to the settings page'.

2. SMSC Settings

Configure the SMSC server settings to send SMS messages to the specified phone number(s) from the NVR. The default SMS service provider is Clickatell. You can add your own SMS service provider by selecting "Add SMS Provider" from the drop-down menu.

When "Add SMS service provider" is selected, enter the name of the SMS provider and the URL template text.

**Note:** The URL template text must follow the standard of the SMS service provider to receive the SMS alert properly.

E A Vissienter	🖳 🕨 🕼 Garvellance G. R. 🔍 🔍 🗐 👘 💭
	C Monitor D Hayback
Camera Settings  Camera Configuration  Camera Configuration  Camera Configuration  Configuration  Configuration  System Settings  Configuration  Configurat	Traditional Mede Marm Settings SMSC Extrings SMSC Extractings SMSC Extractings SMSC Extractings Clobated SEL pert: 443 SMS Server Login Name: admin SMS Server Login Password: SMS Server Login Pa
	Anak

## Advanced Mode

The advanced mode consists of the event and action sections. Define the action to take for each event triggered on the IP cameras or the video servers connected to the NVR.

To configure the advanced event management by the 'Advanced Mode', select an event type on the left event list and configure the actions to take on the right.

#### Note:

- Click 'Apply' to apply the settings or 'Exit' to exit the settings page. If the 'Advanced Mode' is selected on the 'Alarm Settings' page, the advanced settings will be applied after the NVR restarts even if you have selected to exit the settings page. The settings will be cancelled if 'Traditional Mode' is selected after exiting the 'Advanced Mode'.
- To avoid blocking by the firewall, the IP cameras or the video servers configured for the alarm recording must be located on the same subnet as the NVR.
- To switch from the advanced mode to the traditional mode, select 'Traditional Mode' and click 'Apply'.

## Events:

The events supported by the NVR are classified as camera events (motion detection, alarm input, camera disconnection), NVR events (recording failure), and external events (user-defined events).

**Note:** The camera events available depend on the features supported by the IP cameras or video servers.

Event List
Edit
Connection Failure
4 💿 7. Axis M3006
Motion Detection
Connection Failure
4 💿 8. Axis P3384
Motion Detection
Alarm Input1
Connection Failure
<sup>4</sup> Surveillance event
Recording Failure
<sup>4</sup> External event
4 🖪 User-defined Event 😌
jason 🗢

Button	Description		
Edit	Edit an event. This button cannot be used to edit camera		
	disconnection.		
٢	Add an external event. This button is not applicable to the		
	camera events and the NVR events.		
٢	Delete an external event. This button is not applicable to the		
	camera events and the NVR events.		

The NVR supports the following event types. Before specifying the action settings, select the events to manage and configure the settings.

1. Motion detection

This option allows the NVR to trigger an action when a moving object is detected by the IP camera or the video server. Select 'Camera event' from the 'Event List'. Locate the channel and click 'Motion Detection'. Next, click the edit button, enable this option, configure the settings, and click 'Apply'. Set the schedule to define the active period of the alarm settings and define the action on the right (discussed in the later sections).

_	Surveillance Settings	000
	Moritor Playback	?
Camera Settings     E. Camera Overview	Traditional Mode Advanced Mode	
Camera Configuration	Add Action	Add Delete
Advanced Settings  System Settings  Advanced Settings  Printlege Settings  Printlege Settings  Surveillance Legs  Historical Users List	Execute the action when a moving object is detected by the IP camera     Specify the FTP address for the NVR to receive the alarm messages from the IP camera (optional)     IP Address:     Part:     Set schedule	Operation III III III III
Backup & Expansion Recovery Management	ApplyCancel	
License Management	▲ ● 2. INC WH137       Connection Failure       If I   Page 1 /1   P   2   Display item: 1-4, Total: 4	Show 10 Hitems

#### 2. Alarm input

This option allows the NVR to trigger an action when the alarm input of the IP camera or the video server is triggered. Select 'Camera event' from the 'Event List'. Locate the channel which supports alarm input and click 'Alarm Input'. Next, click the edit button, enable this option, configure the settings, and click 'Apply'. Set the schedule to define the active period of the alarm settings. After that, define the action on the right (discussed in the later sections).

	Surveillance Settings	000
	Monitor Displack	?
Camera Settings     E. Camera Overview	0 Traditional Mode 🛞 Advanced Mode 🚇	
Camera Configuratio	Add Action	Add Delete
Alam Settings System Settings Advanced Settings Advanced Settings A Privilege Settings A Privilege Settings A Privilege Settings Historical Users List	Execute the action when the alarm input of the IP camera is OPEN     Set achedule	Operation
Backup & Expansion Recovery Nanagement	Apply Cancel	
License Hanagement		play Show 10 w Items
	Apply	

3. Alarm event

The alarm input and the motion detection settings of some IP cameras or video servers may be combined together and called 'Alarm Event' on the Event List. Edit the event settings and define the action on the right (discussed in the later sections).

4. Connection failure

This option allows the NVR to trigger an action when the IP camera or the video server is disconnected. Select 'Camera Event' from the 'Event List'. Locate the channel and click 'Connection Failure'. After that, define the action on the

right (discussed in the later sections).

5. Recording failure (NVR event)

This option allows the NVR to trigger an action when the video recording of the IP camera or the video server fails due to the hard disk bad blocks, file system crash, or other reasons. Select 'NVR event' from the 'Event List'. Click 'Recording failure'. Then define the action settings on the right (discussed in the later sections).

6. External event (user-defined events)

To create a self-defined event on the NVR, select 'User-defined Event' under 'External event' on the 'Event List'. Then click the + button. Enter the event name, for example, 'door'.

After creating an event, click the event name and define the action on the right (discussed in the later sections). After configuring the action settings, enter the CGI command (including the self-defined event name) in the web browser to trigger the action anytime. The format of the CGI command is: http://NVRIP/cgi-bin/logical\_input.cgi?name=event-name. For example, http://10.8.12.12:80/cgi-bin/logical\_input.cgi?name=door

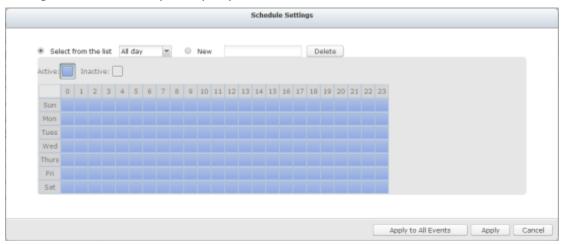


#### **Event schedule settings:**

When editing an event (not including camera disconnection, NVR events, and external events), click 'Set Schedule' to define when the alarm settings will be active.

To create a new schedule, select 'New' and enter a schedule name. The schedule supports a maximum of 25 characters (double-byte characters, spaces, and symbols are allowed). Select the day and time when the alarm settings should be active. Click + to add a schedule; or – to delete a schedule. Up to 6 settings can be defined for each schedule.

The settings will be shown on the graphical table. Click 'Apply' to save the settings. To use the same schedule for all the events, click 'Apply to All Events'. Select to use the default schedule or a formerly created schedule from the list. The default alarm settings are active all day, every day.



### Actions:

The NVR supports different actions which can be activated when the selected events are triggered on the IP cameras or the video servers. The actions include video recording, email alert, SMS alert, buzzer, PTZ camera control, alarm output, and logic output.

Button	Description			
	Edit an action:			
	Select an event on the left. All the actions defined for this event will			
	be shown. Select the box in front of the action name to edit. Then			
	click this button on the 'Action' column to edit the action settings.			
Add	Add an action:			
	After configuring an event on the left, click 'Add' to create an action in			
	response to the event. Click 'Apply' to save the settings.			
Delete	Delete an action:			
	Select an event on the left. All the actions defined for this event will			
	be shown. Select the box in front of the action name to delete and			
	click 'Delete'. Multiple actions can be deleted.			

Note: Please ensure the action in the event settings has been enabled; otherwise the
action will not be executed.

<ul> <li>Execute the action when a moving object</li> <li>Specify the FTP address for the NVR to realize the Address:</li> <li>Port:</li> </ul>	ct is detected by the IP camera eceive the alarm messages from the IP camera (optional)
IP Address:	eceive the alarm messages from the IP camera (optional)
Port:	
Set schedule	
	Apply Can

1. Recording

Select the channels (IP cameras or video servers) which will start recording when an event occurs. The following options are also available:

- A. Enter the time (in seconds) the recording should be executed after the event has been triggered.
- B. Start recording when the event starts and stop recording when the event

ends.

Option (ii) is applicable to duration events only. A duration event is an event with a start and end time and lasts for a set period of time. It does not include the events related to status changes, such as a camera disconnection or NVR recording failure.

If the action is triggered by a duration event and both settings (i, ii) are enabled, the NVR will execute the second setting (ii) only.

Click 'Select from the list' to select an action setting which has been configured before.

		Add Add	in	
Action Type Rocord	ing	2 8 New 0	Select from the list	
Select one or m	ore channels to start	recording when an eve	nt is triggered.	
Ch-01 Ch-06 Ch-11 Ch-16	<ul> <li>Ch-82</li> <li>Ch-87</li> <li>Ch-12</li> </ul>	0 ch-03 ch-08 0 ch-13	<ul> <li>Ch-04</li> <li>Ch-09</li> <li>Oh-14</li> </ul>	0 Ch-85 0 Ch-10 0 Ch-15
* This option is above are enab	action when the ever applicable to duration led, the NAR will exert in event is an event w	ute this setting only.	ction when the event on is activated by dur nd lasts for a period o	ation event and both settings
				coluita All Events Cancel

#### 2. Camera control

Configure the PTZ camera to adjust to the preset position for monitoring or act according to the HTTP URL entered when an event is triggered. Select a preset position from the drop-down menu or enter the HTTP URL.

Click 'Select from the list' to select an action setting which has been configured before.

**Note:** The preset names will appear only after the preset settings of the PTZ cameras have been configured.

	Add Addion	
n Tape Renerations	R New O Select from the list	
Select a preset position of to the preset position or o	(the PT2 camera or enter the HTTP URL. The IP camera will adjust the monitorin to further action according to HTTP URL, when an event is trippered.	ig angle
Action Name:		
Camera Namer	Please select a cavera.	
2 Preset Position		
8 HTTP URL		

3. Alarm output

Select to activate the alarm device connected to the IP camera when an event is triggered. The following options are available:

- A. Enter the number of second(s) the alarm device will be active for when the event is triggered.
- B. Activate the alarm device when the event starts and stop the alarm device when the event ends.

The option (ii) is applicable for duration events only. A duration event is an event with a start and end time and lasts for a set period of time. It does not include the events related to status change, such as a camera disconnection or NVR recording failure.

Click 'Select from the list' to select an action setting which has been configured before.



#### 4. Email

To receive an instant email alert when an event is triggered, enter the SMTP settings. Multiple email addresses can be entered as the recipients. Snapshots of multiple channels (IP cameras/video servers) can be attached to the alert emails.

Click 'Select from the list' to select an action setting which has been configured before.

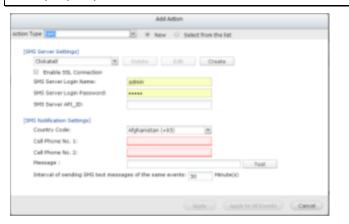
		Add Addian			
Action Type		H 8 New 0 1	ielect from the list		
E-mail (SHTP) serve	r address:				- i
Enable SMTP Av	thentication				
User Name					
Password					
Sender:					
Recipients:					
5-0 ject:					
Content:					- 1
Use 55,/ TL5 et	eare connection				
Attached with s	napshot				
0.0+01			E 05-04	Ch-45	
<ol> <li>Ch-06</li> </ol>		() Ch 08	<ol> <li>Or 09</li> </ol>		
			U Ch-14		
	send the alert emails	when the same kind of	events is triggered.	() second(s)	
					Cancel
					area

#### 5. **SMS**

To allow the system administrator to receive an instant SMS alert when an event is triggered, enter the SMS server settings. The default SMS service provider is Clickatell. To add other SMS service providers, click 'Add' and enter the provider's name and the URL template text.

Click 'Select from the list' to select an action setting which has been configured before.

**Note:** Always follow the standard of the SMS service provider to receive the SMS properly.



#### 6. Buzzer

Enable the buzzer when an event is triggered. The following options are also available:

- A. Enter the time (in seconds) the buzzer will sound when the event is triggered.
- B. Execute the buzzer when the event starts and stop the buzzer when the event ends.

The option (ii) is applicable to duration events only. A duration event is an event with a start and end time and lasts for a set period of time. It does not include the events related to status change, such as a camera disconnection or NVR recording failure.

If the action is triggered by a duration event and both settings (i, ii) are enabled, the NVR will execute the second setting (ii) only.

Click 'Select from the list' to select an action setting which has been

### configured before.

Add Addion
Action Type Toront 💌 🖲 New 😳 Select from the list
Enable the buzzer on the MAR. The buzzer will sound when an event is triggered.
Test
Execute the action for 30 second (s) when the event is triggered
Execute the action when the event starts and stop the action when the event ends*.
* This option is applicable to duration events only. If the action is activated by duration event and both settings above are enabled, the MR will execute this setting only.
Note: A duration event is an event with start and end time and lasts for a period of time. It does not include the events related to status change, such as camera's connection fakure or NVR recording failure.
Apple Apple to All Events Cancel

#### 7. User-defined Action

Add a self-defined action when an event is triggered. Enter the login account and password, IP address, port, and the HTTP URL of other surveillance devices to manage the devices such as fire protection devices, power controller, and air conditioning control.

Click 'Select from the list' to select an action setting which has been configured before.

	Add Addion
Iction Type Tour Oxford Action	🛎 🖲 New 🕓 Select from the list
Enter IP address, part, HTTP US will be activated when an even	L, user name, and password of another network surveillance device. The device t is triggered.
Action Name:	
IP Address:	
Port:	
HITP URL:	
User Name:	admin
Password:	
	(Assle) (Asslets Alforda) (Const

# 7.2 System Settings

#### 7.2.1 Advanced Settings

Recording length and keeping period	
Maximum length of each recording file: $10 \sim \text{minute(s)}$ .	
When the available storage is less than $_{10\%}$ $\sim$	
<ul> <li>overwrite the oldest recordings</li> </ul>	
stop writing recordings	
Maximum number of days all recording files are kept 10 day(s)	
Number of days alarm recording files are kept 10 day(s)	
Alarm Recording	
Start recording video (at minimum) 30 second(s) before the event occurs.	
Stop video recording 30 second(s) after the event ends.	
Local Display Settings	
Enable anonymous access	
- vige	

~

You can configure the advanced recording settings in this section.

- Maximum period for each recording file
   Specify the maximum length of each recording file (maximum 15 minutes).
- When the available storage is less than...%
   Specify if the NVR should overwrite the oldest recordings or stop recording when the available storage capacity is less than the specified percentage of the total storage capacity.
- Maximum number of days all recording files are kept ... day(s) Enter the number of calendar days that the NVR should keep the recording files. Please make sure the storage capacity is enough to save the data for the number of calendar days specified. When the recording data has reached the expiry date, all of the expired video files will be deleted. For example, if the NVR is configured to delete the recording data after 7 calendar days, on the 8th day, the files recorded on the first day of each camera will be deleted so that the NVR can start to save the data on the 8th day.
- Number of days alarm recording files are kept ... day(s)
   Specify the number of days that alarm recordings will be retained.
- Pre-/Post-alarm recordings
  - Start recording video...second(s) before the event occurs: Enter the number

of seconds to start the recording before an event occurs.

- Stop video recording...second(s) after the event ends: Enter the number of seconds to stop the recording after an event ends.
   The maximum number of seconds for the above settings is 300 (5 minutes.)
- Local display

To allow guest access to the monitoring screen of the NVR by local display, select 'Enable anonymous access'.

• Auto logoff

Set the timeout period to log off the users from the configuration page of the NVR when the idling time has reached.

**Note:** The timeout logoff does not apply to the monitoring, playback, advanced mode, device configuration, system update, remote replication, and logs & statistics pages.

- Network intrusion detection
   The system will alert users when possible attacks on the network are detected and give recommendations for actions to take.
- Maximum number of concurrent logins (http)
   You can define the maximum number of http user sessions at the same time (maximum: 32.)

**Note:** All of the settings will be effective only after clicking 'Apply'. When applying the changes, the recording will temporarily pause (for up to 1 minute) and then restart.

## 7.2.2 Privilege Settings

You can check the rights of camera management for all users. You can also modify access right of monitoring, playback, PTZ control, and audio for a general user. If you want to add a user, please go to [Control Panel] -> [Privilege Settings] -> [Users].

		Surv	eillance Settings			•	00
	🚦 Monitor 🚨	Playback					2
Camera Settings Camera Status Camera Configuration Among Am	Yeu can mana User: admin Channel 1 2		for the camera in this ; Allow all access meena	Deny all access	≥ PTZ Cont III III	≥ Audio ⊠ ⊠	
1 Privilege Settings							
Surveillance Logs Historical Users List Backup & Expansion Recovery Nanagement License Management							
	Apply						

## 7.2.3 Protocol Management

RTP (Real-time Transfer Protocol) is a standardized packet format for delivering real-time audio and video data of the IP cameras on the Internet. The real-time data transfer is monitored and controlled by RTP (also RTCP). The default setting is 6100–6299. If the IP cameras use different RTP ports, enable 'Specify RTP port range' and specify the port numbers.

**Note:** Make sure the ports have been opened on the router or firewall to ensure normal monitoring and recording.

Specify RTP port rang	ge: 6100 ^	6299			

# 7.3 Surveillance Logs

This page shows the surveillance logs such as camera connection, motion detection, and camera authentication failure.

isplay: All eve	ents 🗠 Camera: A	- ×			
Level	Date & Time +	Type	Camera	Content	
0	2013-11-26 13:50:37	Alarm	1	Motion Stopped on Camera 1.	ŕ
<b>A</b>	2013-11-26 13:50:31	Alarm	1	Motion detected on Camera 1.	
0	2013-11-26 11:22:48	Connection	5	Camera 5 disconnected.	
0	2013-11-26 10:14:20	Alarm	1	Motion Stopped on Camera 1.	
<u> </u>	2013-11-26 10:14:17	Alarm	1	Motion detected on Camera 1.	
0	2013-11-26 10:12:11	Alarm	1	Motion Stopped on Camera 1.	
<b>A</b>	2013-11-26 10:12:07	Alarm	1	Motion detected on Camera 1.	
0	2013-11-26 10:11:56	Alarm	1	Motion Stopped on Camera 1.	
<b>A</b>	2013-11-26 10:11:48	Alarm	1	Motion detected on Camera 1.	

Download Log

Please Note: The logs are currently only available in English.

7.3.1 Surveillance Logs

				Surv	eillance Settings			0 0
3	🙂 Moni	tor D P	layback					
Camera Settings     E. Camera Overview	Surv	veillance Even	t Logs	Surveillance	Connection Logs	Online Surveillar	nce Users	
Camera Configuration	Displa	y: All events	¥ 5	ave				
Event Management	Туре	Date -	Time	Users	IP	Computer	Accessed resources	Action
<ul> <li>System Settings</li> </ul>	0	2014-06	14:04:04	admin	10.65.12.159		Monitor	Login OK
🔧 Advanced Settings								
1 Privilege Settings								
👗 Protocol Management								
Surveillance Loge								
Backup & Expansion								
Recovery Management								
License Management								
	14 4	Page 1	a k k	21			Display item: 1-1, Total: 1	Show 10 × Items
	14.4	rays 1	141.5.51	~			company rolffic 1-1, rocal: 1	10-0-0-10 10 100-00

## 7.4 Recovery Management

This page is related to the edge recording feature. You can edit the recovery schedule, monitor the recovery status, and the edge recording status here.

1. Recovery Schedule: Schedule for recovery of recorded data. Available when edge recording is in use.

You can edit the recovery schedule in this tab.

Click and to drag the edit recovery schedule.

Sun													
Mon													
Tues													
Wed													
Thurs													
Fri													
Sat													

2. Recovery Status: Status for the recovery of recorded data. Available when edge recording is in use.

You can monitor the recovery status in this tab.

	edule	- 80	COVE	ny si	atus		Edge	Reco	rang	Statu	1						-					-
Sort by: Da	w 1	Dat	e: 2	014/	04/19	13																
Chan.	Typ	e of R	ecov	ery				Start	Time				Ð	nd tir	ne					Stat	us.	
2	Ed	ge re	cordi	ng			2014	/04/1	9 00:	00:00		20	14/04	1/19	00:1	1:55				Wat	ing	
2	Ed	ge re	cordi	ng			2014	/04/1	9 00:	11:55		20	14/04	4/191	00:4	1:55				Wat	ing	
2	Ed	ge re	corde	ng			2014	/04/1	9 00:	41:55		20	14/04	4/19	00:5	9:59				wait	ing	
								main	0.00-			~		. inn						-	-	
Channel: 2																						
		10																				
Channel: 2														,								
		2	2	i	- 5	6	7 (	1 9	10	, 11	12	13 14	15	16	17	18	19	20	, 21	, 22	23 2	đ
	2	2	2	i	_		7 i			'n		13 14		16 #COV				20	21	, 22	23 2	4
Channel	2	2	2	_	Ques	ied fo		overy				13 14	R		ering	now		20	, 21	, 22	23 2	4

3. Edge Recording Status: Status of edge recording

You can check time synchronization between the NVR and cameras, the status of cameras set up for edge recording, and the details of recording files stored on camera's SD card.

	Brand	Model	Camera Name	Time	Status
1	Axis	Axis M5013	1 M5013	N/A	Disconnected
2	Axis	Axis M5013	2 M5013	2013/12/19 10:16:42	Ready

# 7.5 License Management

The VioStor NVR offers various channel base license depending on different models. After purchasing a license, you can add extra recording channels.

	Surveillar	nce Settings					00
	C Noriter C Flarback						2
Camera Settings     E. Camera Status     Greena Configuration     Alam Settings     System Settings	Expand Recording Channels The 'violater roll' offers' various channel base please contact authorized reselver for assists thtp://www.new.new.com/selsingers. Hear to install Bicasse Click <u>install comp</u> to install the loanse. Current, / Maximum number of recording .	ance. Or you can conta for authorized reseller	ict QNAP Secu	s. To add extra n nity	umber of record	ing channels,	
Advanced Settings	System UDI: AA500744DAE696Q1371000				Ins	tal Ucense ]	
1 Prollege Settings	License Name	FAK Cha	ernel Number	Expire Days	Status	Action	
A Protocol Management Serveillance Logs Historical Deers List Backep & Expension Recovery Honagement	VicStor IVIS - 18 Channel Bass License	- 16			Activated		
Licese Rasagement	(6 4 Page 1 /1 7 6 2)		D	aplay kore: 1-1,	total: s Show	10 millions	
	Note: The number of recording channels supported <u> http://www.gracoscutiv.com</u> before purch The machine on the Uncompact descending on the Uncompact	asing or activating the	ficense on the	I NVE .		as very	

You can click "Install License" to begin installing the license to the NVR.

## 7.5.1 License Activation

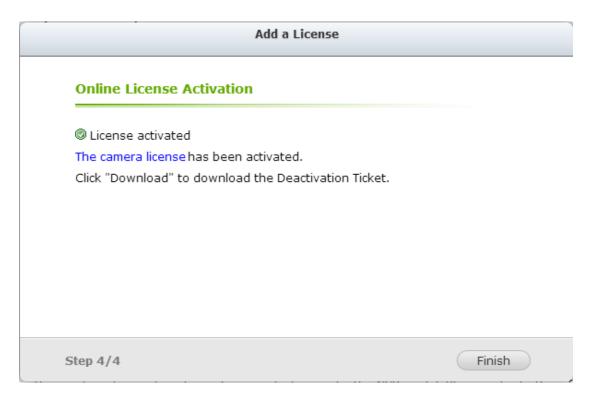
## **Online Activation**

Step1. If your VioStor NVR is connected to the Internet, please select "Online Activation".

	Ade	d a License
	ctivate the License	
•	Online Activation Activate the license online. Ma Internet.	ke sure the system is connected to the
0	Offline Activation Activate the license offline.	
Ste	0 1/4	Next Cancel
		Key (PAK) code to activate the license.
	Ade	d a License

code to activate.	
1ED45A1EA266C14BFB4EE	E968
Note: Make sure the syste	m is connected to the Internet.

Step3. The License has been activated. Please click [FINISH] button to close the window.



Step4. The additional camera license will be displayed in the license management list after the license activation.

## **Offline Activation**

Step1. If the VioStor NVR is behind a firewall or doesn't have an Internet connection, please select "Offline Activation".

	Add a License	
A	ctivate the License	
	<ul> <li>Online Activation         Activate the license online. Make sure the Internet.     </li> <li>Offline Activation         Activate the license offline.     </li> </ul>	system is connected to the
Sta	.n 1/4	Next Cancel
Ste	p 1/4	Next Cancer

Step2. Please copy the system UDI and go to the License Store for offline license activation.

	Add a License
C	Offline License Activation
s	Step 1: Retrieve License File
	To retrieve the license file, please visit the License Store and enter the system UDI and PAK.
	http://license.gnap.com/activate.html
S	ystem UDI:72D02117D4389BQ12CI000
Ste	Back Next Cancel

Step3. Please login to the License Store with your registered account.

<b>QNAP</b>		Account Global/English				
LICENSE PURCHASE	CREATE ACCOUNT					
+ Turbo NAS	I am a new customer.	Returning Customer				
-SLICENSE MANAGEMENT	Register an Account By registering an account you will be able to shop faster, be up to date with the status of your order, and keep track of the orders you have previously made Continue	1 am a registered customer.         Email:         Password:         Forgot Password?         Enter the code in the box below:         2000020000000000000000000000000000000				
Offine Deactivation						
• Contact Us • EAQ						
		Try a different made Type characters:				
		Sign in .				

Step4. At Offline Activation page, please fill out the UDI and PAK fields and then click the [Activate] button.

ONAP	Sign_out 1 Account Globa/English 💽
LICENSE PURCHASE	OFFLINE ACTIVATION
Turbe NAS	Copy the system UDI from your Surveillance Station Pro and upload the PAK here. After the activation is verified, you will get a Permission File.
Diffine Activation	Step 1 Please fill out your device UDI
Diffine Deactivation	Your UDI can be copied from the Survellance Station Pro.
: Contact Us	Step 2 Please fill out the PAK Please fill out the PAK you want to activate on this device.
PayPal.	Enter the code in the box below:
	Type characters

Step5. You will receive an email with an attached permission file after the offline activation is verified.

QNAP'	Sign.out   Account Global/English .
LICENSE PURCHASE	MESSAGE
+ Turbo NAS	The activation is ventied, please check the receiver's email for Permission File.
LICENSE MANAGEMENT	
Offine Actuation     Offine Deactuation	Return to Account
INFORMATION	
<u>Contact Us</u> <u>FAQ</u>	
PayPal.	

Step6. Please check the email and download the permission file. The permission file can only be used on the VioStor NVR with the UDI you specified. Please do not decompress the permission file.

QNA	AP License Store - Your Permission file	坎件匣 x	•	2
+	license_support@qnapsecurity.com.tw g 寄给 我 回	CP 6月19日 (5 天以前) 立	*	*
	Dear Customer,			
	Congratulations! You can now activate the license offline. and import it to the server to activate the new camera reco file can only be used with the specific system UDI you regi	ording channel. Please notice that the pe		n
	QNAP Systems, Inc. License Store Customer Service			
	Email: license_support@qnapsecurity.com.tw			
	QNAP'			
>				
(	a 137D5384567AF7B53180B59B.act.tgz			
	图 2K 下载			

Step7. Please go back to the offline activation page on your VioStor NVR. You will need import the permission file to activate the license.

Add a License			
Offline License Act	ivation		
Step 2: Import	t License File		
Import the license file to activate the new camera recording channel.           Browse			
Step 3/4	Back Next Cancel		

Step8. The license has been activated.

Add a License			
Offline License Activation			
© License activated			
The camera license has been activated.			
Click "Download" to download the Deactivation Ticket.			
Step 4/4	Finish		

#### 7.5.2 License Deactivation

Please select the "License deactivate" button to begin the process of deactivating a license. If your VioStor NVR is connected to the Internet, please select "Online deactivation". If not, please select "Offline deactivation".

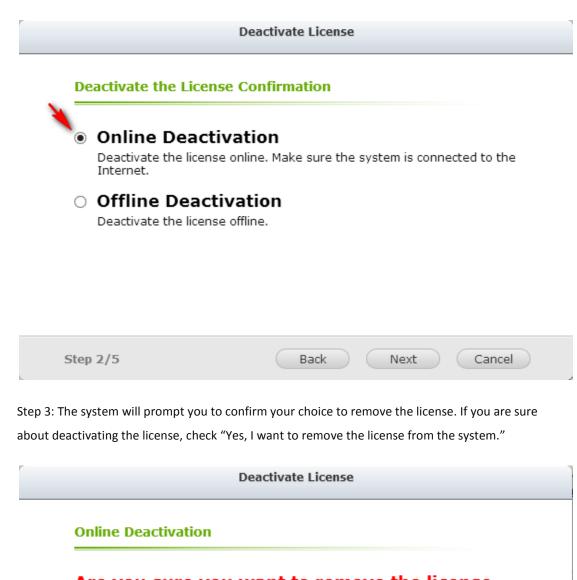
Surveillance Settings				0 0		
	Monitor Playback					0
Camera Settings  Camera Status  Camera Configuration  Alarm Settings  System Settings	Expand Recording Channels The Viotitor NUR officer various channel base icense depends on different models. To add extra number of recording channels, please contact authorized reseller for assistance. Or you can contact QNAP Security ( <u>http://onapsecurity.com/Salesinguiry.aspx</u> ) for authorized reseller. How to install license Click <u>install license</u> to install the license. Current / Maximum number of recording channels:8/12					
🔧 Advanced Settings	System UDI:72D02117D43898Q12C1000				Insta	Il License
1 Privilege Settings	License Name	PAK	Channel Number	Expire Days	Status	Action
A Protocol Management	Surveillance Station Pro - 12 Channel Base Lic		12		Activated	
Surveillance Logs	VioStor NVR - 4 Channels License	836B3799	4		Activated	0
Historical Users List	WoStor NVR - 4 Channels License	BOFA9OF5	4		Deactivated	
Backup & Expansion	VioStor NVR - 4 Channels License	56291401	4		Activated	0
Recovery Management						
License Hanagement	Note:       The number of recording channels supported van the number of recording ch	or activating	R model. Please ref the license on the l	er to the informa		
	The maximum number of recording channels supported is for reference only. The actual recording performance may vary depending on the IP cameras, video contents, network bandwidth, recording settings, and other running applications on the NVR. Please contact an authorized reseller or the camera vendors for more information.					

#### **Online Deactivation**

Step 1: After you press the "License deactivate" button, you will be prompted to confirm that you want to deactivate the license.

Deactivate License	Deactivate License			
Deactivate the License Confirmation				
Warning! The license will be removed fr	Warning! The license will be removed from this system.			
39A7B4468727E39969D6802	39A7B4468727E39969D68023			
To continue, click "Next".				
Step 1/5	Next Cancel			

Step 2: Please select "Online Deactivation".

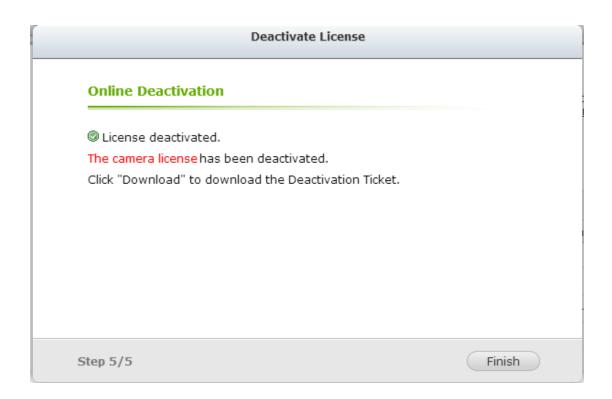


### Are you sure you want to remove the license from the system?

✓ Yes, I want to remove the license from the system.

Step 4/5	Back	Next	Cancel

Step 4: The license has been deactivated. Please click [FINISH] button to close the window.



#### Step 4: And now you will see that the status of the license has changed to "Deactivated".

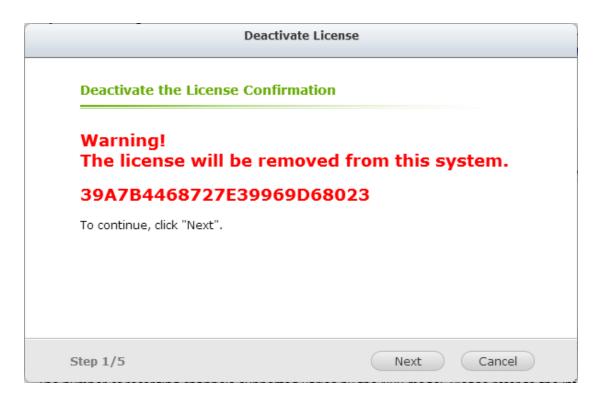
Click Install License to install the license. Current / Maximum number of recording chan	nels:4 / 12				
ystem UDI:72D02117D4389BQ12CI000				Insta	all License
cense Name	PAK	Channel Number	Expire Days	Status	Action
urveillance Station Pro - 12 Channel Base Lic		12		Activated	
ioStor NVR - 4 Channels License	83683799	4		Deactivated	
ioStor NVR - 4 Channels License	BCFA9CF5	4		Deactivated	
ioStor NVR - 4 Channels License	56291401	4		Activated	0

Note: If you want to transfer the License to another VioStor NVR, please download the "deactivation ticket" from the icon "" (under the "Action" column). Then contact QNAP support for help.

#### **Offline Deactivation**

Expand Recording Channels

Step 1: After you press the "License deactivate" button, you will be prompted to confirm that you want to deactivate the license.



Step 2: Please select "Offline Deactivation".

	Deactivate License
D	Deactivate the License Confirmation
C	Online Deactivation Deactivate the license online. Make sure the system is connected to the Internet.
•	Offline Deactivation     Deactivate the license offline.
Ste	ep 2/5 Back Next Cancel

Step 3: Please read the instructions carefully. After you deactivate the license on the system, you will need to download the deactivation ticket and visit the QNAP license store to complete the deactivation. <u>http://license.gnap.com/deactivate.html</u>

	Deactivate License
Off	line License Deactivation
	ep 1: Deactivate the License on the system Remove the license from the system and download a Deactivation Ticket.
	ep 2: Deactivate the License on the License ore
	To complete the deactivation, please visit the License Store and submit the Deactivation Ticket.
	http://license.gnap.com/deactivate.html
Step	3/5 Back Next Cancel

Step 4: The system will prompt you to confirm your choice to remove the license. If you are sure about deactivating the license, check "Yes, I want to remove the license from the system."



Step 5: The system will show that the license had been deactivated. Please download the deactivated ticket from the column "Action".

	Surveillar	ce Console				0.00
	. Henter					10.000
Convers Settings     Convers Status     Convers Status     Convers Configuration     Alarma Configuration     Alarma Settings     Systems Settings	Expand Recording Channels The Violitor NML offers various channel base- please contact authorized revelier for assista for authorized reseler. How to install Ticense Click <u>appair Losense</u> to install the license. County: Maximum number of recording o	nce. Or you can c	in different models ontact QNLP Secur	. To add extra nu ey thito://anapos	mber of recording southy com/Selestr	channiels, neutruitepu)
A Advanced Settings	System UDI: AA5000N0DA80980QNAP0000				lint	al License
1 Privlege Settings	License Name	PAK	Channel Number	Expire Days	Status	Action
A Protocol Management	Wester NVR - 16 Channel Base License	-	10		Activated	
Surveillance Logs	VieStor NVR - 4 Chartrels Libertee	39A78446		-	Deactivated	۲
Historical Users List	VioStor NVR - 4 Channels License	75757495		5 <del>1</del>	Deactisated	
Remote Replication	VIaBtor NVR - 4 Channels License	CFCBC28	4	-	Deactivated	00
Serveillence Recovery Mana Storage Expansion Setting	11 + Page 1 (1 + H 2			Display item: 1-4	Total: 4 Show 1	o mitoro
Eleme Hangement	Note:					
	The number of recording channels supported http://www.gnapescarky.com/ before purcha				Sion on	

Step 6: Then please go to the QNAP license store, import the deactivation ticket and then enter the code in the box. Please click "Apply" after you finish all these steps.

QNAP'	Sign out   Account English - Global 💌
A LICENSE PURCHASE	OFFLINE DEACTIVATION
Turbo NAS	QNAP License Deactivation Service allow you to apply license deactivation.
A LICENSE MANAGEMENT	Step 1 Please upload your deactivation ticket
<ul> <li>Offline Activation</li> <li>Offline Deactivation</li> </ul>	邊標檔案 RMV_39A7B4469D68023.tgz
Contact Us • Contact Us • FAQ	Enter the code in the box below: Chhe6 Try a different image
	Type characters [cnhe6]
PayPal.	Apply
	Copyright ©2012; QNAP License Store v0.9. This site is best viewed in 1024 x 768 true color with IE7.0+, Firefox 3+ or Chrome 6+.

Step 7: The license store will show "License deactivated".

QNAP'		S	ian out   Account	English - Global 🔽
A LICENSE PURCHASE	MESSAGE			
<ul> <li>Turbo NAS</li> </ul>	Licen	se deactivated		
A LICENSE MANAGEMENT				
Offline Activation     Offline Deactivation	Return to Account			
INFORMATION				
Contact Us     EAQ				
PayPal.				
	Copyright @2012; QNAP License Store v0.9. This site is best	viewed in 1024 x 768 b	rue color with 1E7.0+, I	Firefox 3+ or Chrome 6+.

Note: If you want to transfer the License to another VioStor NVR, please download the "deactivation ticket" from the icon "" (under the "Action" column). Then contact QNAP support for help.

Show Desktop	UC WA	1000				and the second se	-
0	Surveiller	ce Console				00	
Convers Settings  Convers Settings  Convers Configuration  Atom Settings  System Settings	Expand Recording Channels The Vostor first offers various diaronal base is please contast authorized resolier for assista for authorized results. How to install Receive Click Instal Leone to install the Reenex. Click Instal Leone to restal the Reenex.	sce. Or you can o	in different models ontact QNJP Secur	, to add extra nu ty litito://anapse	Niber of recording county.com/Salestin	thannais, aurs.asp.c)	
Advanced Settings	System LDI: AA5000NODA8098QNAP0000				lint	al Licente	
1 Privlege Settings	License Name	PAK	Channel Number	Expire Days	Status	Action	
A Protocol Management	VieStor NVR - 15 Channel Base License	-	10	-	Advated	_	
Serveilance Logs	VicStor NVR - 4 Charinele License	39878446		-	Deactivated	۲	
Historical Users List	VioStor NVR - 4 Channels License	75757495		it i	Deactisated	(	
Remote Replication	VioBtor NVR - 4 Channels License	OFCBC28	4	-	Deactivated		
Serveillence Recovery Have							
Storage Expension Setting	10 4 (Page 1 /1) + H @		10	Display Bart: 3-4,	Total: 4 Show 1	o - Reno	
License Hanagement	Note: The number of recording channels supported <u>http://www.anapported.com/</u> before purchas The maximum number of recording channels depending on the IP cameras, rideo contents Rease contact an authorized resolver or the p	ang or activating supported is for r metwork bandw	the license on the eference only. The odth, recording set	NVR , actual recording ; imps, and other r	performance may	ary a on the NoT.	

## 7.6 On-line Users List (Only for Upgrade from Previous

## Version)

This page shows the information of the users before you upgraded to QVR 5.0, e.g. the user name, IP address, and login time.

			Surveilland	e Settings			•	0
3	🙂 Monitor	Playback						
Camera Settings	Display the info	mation of the u	sers that have acco	essed the system via	networking services	5		
Camera Overview	Login Date -	Login Time	Users	Source IP	Computer name	Connection	Accessed Resources	
0 Camera Configuration	2014-06-23	09:30:44	admin	10.65.12.101		HTTP	Monitoring	
Event Management	2014-06-23	09:30:46	admin	10.65.12.101	ceylonzeng-pc2	Samba	record_nvr	
<ul> <li>System Settings</li> </ul>	2014-06-23	09:30:47	admin	10.65.12.101	ceylonzeng-pc2	Samba	record_nvr_alarm	
Advanced Settings	2014-06-23	09:30:44	admin	10.65.12.101		HTTP	Administration	
1 Privilege Settings	2014-06-23	09:46:11	admin	10.65.12.101		HTTP	Monitoring	
A Protocol Management	2014-06-23	09:46:21	admin	10.65.12.101	ceylonzeng-pc2	Samba	record_nvr	
Surveillance Logs	2014-06-23	09:46:21	admin	10.65.12.101	ceylonzeng-pc2	Samba	record_nvr_alarm	
	2014-06-23	09:46:11	admin	10.65.12.101		HTTP	Administration	
Badrup & Expansion	2014-06-23	10:09:15	admin	10.65.9.9		HTTP	Monitoring	
Recovery Management	2014-06-23	09:46:42	Anonymous	127.0.0.1		HTTP	Monitoring	
License Management (Archived) Historical User List	H d Deer	1/3 🕨 🕅					tal: 21 Show 10 M Ib	

Please Note: The logs are currently only available in English.

# Chapter 8. Backup & Expansion

## 8.1 External Backup

The NVR supports instant and scheduled data backup between the internal disk volumes on the NVR and external USB/eSATA storage devices. To use this feature, follow the steps below.

	Backu	up & Expansion	000
			?
Construct Video Backup Construct Video Backup Remote Replication Storage Expansion	The external backup function allows you to create a backup job and back up the data Create a Job Task / Backup Prequency	to copy the video files from the local disk volume to an a to the external storage device on the specific port. Status	

- 1. Connect one or more external storage devices to the USB interfaces of the NVR.
- 2. Click "Create a job".
- 3. When the wizard is shown, read the instructions carefully and click "Next".

#### Synchronization Job Wizard

This wizard helps you create a sync job through the following steps. 1. Connect to an external storage device.

2. Configure real-time or scheduled sync options.

Click "Next" to start.



- 4. Select the backup locations.
  - A. Select an external disk volume\* from the drop-down menu. The NVR supports EXT3, EXT4, FAT, NTFS, and HFS+ file systems. The general information of the storage device will be shown.
  - B. Click "Next".
- 5. Configure the replication schedule.

	Create a Job
Re	plication Schedule
۲	Back up Now
0	Schedule The "External Device Backup" feature will back up new files, files that have been modified or renamed within the scheduled period. Hourly 00 Y: 10 Y
Step	3/7 Back Next Cancel

Choose between immediate backup and scheduled backup. The options are:

- A. Back up Now: Immediately copies files that are different from the source folder to the target folder.
- B. Schedule: Copies files that are new, changed, and renamed from the source folder to the target folder according to the schedule.
  - Hourly: Select the minute when an hourly backup should be executed,
  - e.g. select 01 to execute the backup job every first minute of an hour, 1:01, 2:01, 3:01...
  - Daily: Specify the time when a daily backup should be executed, e.g. 02:02 every day.
  - Weekly: Select a day of the week and the time when a weekly backup should be executed.
  - Periodically: Enter the time interval in hour and minute that the backup job should be executed. The minimum time interval is 5 minutes.
- C. Click "Next".
- 6. If you choose "Back up Now" and click "Next," you can configure the backup settings as below.

	Create a Job
Back	ıp Settings
Chann	el Backup
Cha	nnel Settings
	stem will back up all recording channels by default if the channel backup is are not changed.
Backu	p Period
	stem will back up all the recording files on the specified days by default i ckup period setting remains unchanged.
۲	Back up recording files for the last 3 day(s).
0	Configure the time period for backup
	2013/12/22 (00:00) ~ 2013/12/24 (23:59)
Peri	od Settings
Step 4/	7 Back Next Cancel

A. Configure backup channel.

If the backup channel settings are not changed, the system will back up all recording channels by default.

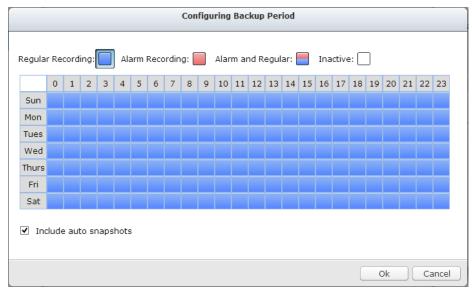
You can click "Backup channel" to configure the backup channels.

Configuring B	Backup Channels
Available Channels	Selected Channels Ch1 - Camera 1 Ch2 - Camera 4 Ch4 - Camera 4 Ch7 - Camera 4 Ch8 - Camera 4 Ch8 - Camera 4 Ch8 - Camera 4
	Ok Cancel

B. Configure backup duration and files

If the backup duration settings are not changed, the system will back up all of the recording files on the specified days by default.

- Set the number of days that the latest recordings should be backed up.
   If 3 days are entered, the recordings of today, yesterday and the day before yesterday will be backed up.
- Or set the time period for backup.
- You can click "Backup duration and files" to configure the backup duration and files.



Enable "Include auto snapshots" to also copy the auto snapshot files when the recordings are configured to back up.

- C. Click "Next".
- 7. If you choose "Schedule," you can configure the backup settings as below.

	Create a Job
Backup Settings	
Channel Backup Channel Settings	
The system will back up all re settings are not changed.	ecording channels by default if the channel backup
Backup Period The system will back up all the backup period setting read Period Settings	he recording files on the specified days by default if mains unchanged.
itep 4/7	Back Next Cancel

A. Configure backup channel.

If the backup channel settings are not changed, the system will back up all of the recording channels by default.

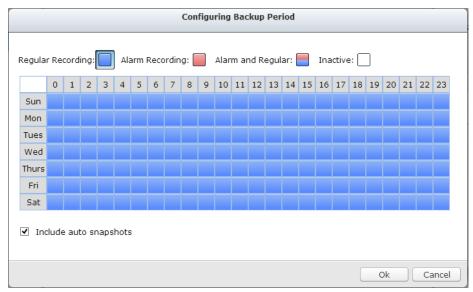
You can click "Backup channel" to configure backup channels.

Configuring I	Backup Channels
Available Channels	Selected Channels Ch1 - Camera 1 Ch2 - Camera 4 Ch4 - Camera 4 Ch7 - Camera 4 Ch8 - Camera 4
	Ok Cancel

B. Configure backup duration

If the backup duration settings are not changed, the system will back up all of the recording files on the specified days by default.

• You can click "Backup duration and files" to configure backup duration and files



Enable "Include auto snapshots" to also copy the auto snapshot files when the recordings are configured to back up.

- C. Click "Next".
- 8. Advanced Settings include the ability to overwrite old recordings and to enable password protection.

Overwrite the oldest record	dings	
Enable password protection		••••
Confirm password		•••••
Step 4/7	Back	Next Cancel

9. Enter a name for the backup job. A job name supports up to 63 characters; it cannot start or end with a space. Click "Next".

(	Create a Job			
Please enter a name for th	e backup ta	sk		
USBDisk1				
Specify a name for the sync job.	It is a require	d field and ca	nnot be empty	/.

10. Confirm the settings and click "Next".

	Create a Job
Confirm Settings	
Job Name:	USBDisk1
Backup Location:	USBDisk1
Task type:	Hourly
Channel:	1,2,4,7,8
Backup Schedule:	00:10
Step 6/7	Back Next Cancel

11. Click "Finish" to exit the wizard.

## 8.2 One Touch Video Backup

This option is valid only for series with a One Touch Video Backup button. Enable this option to allow users to connect an external storage device to the front USB port and press the "One Touch Video Backup" button to back up recording files.

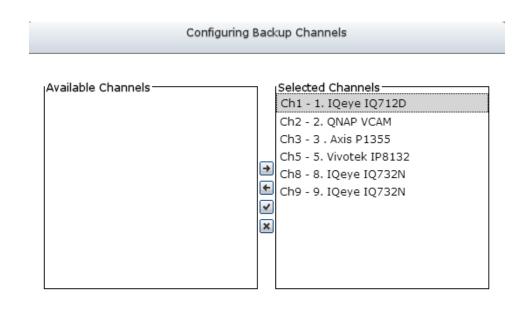
	Badup K Deparation	
		12
External Badup     One Truck Video Badrup     Revolte Replication	26 Enable One Touch Value Radiup Enable this Feature, connect an external storage device to the first USB post and press the "One Touch Value Badrup" button to kedrup recording Res.	
🛃 Marage Expansion	Channel Radiup	
	The system will back up all recording channels by cellul. If the channel backup settings are not changed.	
	Ouered Settings	
	Kadup Shedde	
	The system will back up all recording free on the specified days by default if the bookup duration and file settings remain unchanged.	
	8 Rade up reserving flux for the last. 3 day(c).	
	Configure the time period for backup	
	[3140644] [2] [30406] = [3144043] [2] [32.30]	
	reviol retiring	
	NUTH CARDA	
	Enable also hozzer	
	Advanced Dattinga	
	Overwise the ideat recordings	
	Enable preserved protection	
	Confine password	
	kote:	
	Backage Drags and/hold the "Deer Trans" to due Reduced' indices the true seconds and unique to be holdow (2) the abolic processing and unique a short brang, resarring that the backage task has started (2) The USE 1020 light will blance with and/or task in the abolic processing and unique to the started (2) The USE 1020 light will blance with and/or task in the abolic processing and unique to the started (2) The USE 1020 light will blance with and/or task in the abolic processing and unique to the started (2) The USE 1020 light will blance with and/or task in the abolic processing and	
-		

To use this function, please follow the steps below:

- 1. Connect a USB storage device, for example, a USB disk drive to the front USB port of the NVR.
- 2. Enable the option "Enable One Touch Video Backup."
- 3. Configure backup channel.

If the backup channel settings are not changed, the system will back up all recording channels by default.

You can click "Backup channel" to configure the backup channels.



Ok Cancel	

4. Configure backup duration and files

If the backup duration settings are not changed, the system will back up all of the recording files on the specified days by default.

- A. Set the number of days that the latest recordings should be backed up. If
   3 days are entered, the recordings of today, yesterday and the day before
   yesterday will be backed up.
- B. Or set the time period for backup.
- C. You can click "Backup duration and files" to configure backup duration and files.

									Co	nfig	uring	Bad	ckup	Per	iod									
Regula	r Re	cord	ling:		A	arm	Reco	ordir	ng: (		Alar	m a	nd R	egul	lar:		Ina	activ	e: [					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sun																								
Mon																								
Tues																								
Wed														_					_					
Thurs																								
Fri																								
Sat						-							-	_	-	-			-				-	

Include auto snapshots in the specified period

Enable "Include auto snapshots" to also copy the auto snapshot files when the recordings are configured to back up.

5. Advanced Settings include the ability to overwrite old recordings and to enable password protection.

Advanced Settings	
Overwrite the oldest recording	gs
Enable password protection	••••
Confirm password	•••••
Step 4/7	Back Next Cancel

When "Enable password protection" is applied, you will need to enter the

password to playback recording files via E (Open playback files).

- 6. Click "Apply".
- 7. Press and hold the video backup button for 3 seconds and the NVR will immediately start copying the recording data to the USB device. If the USB device is recognized, the USB LED will glow blue. The USB LED will flash blue when the data is being copied. The LED will turn off after the data has been copied. Then users can safely remove the device.

**Note:** Only USB devices with at least 10GB storage capacity are supported by this video backup function.

### **Buzzer Control**

After enabling the alarm buzzer, if you hear one short beep, it means 'Backup has started.

### 8.3 Remote Replication

Use the remote replication feature to copy the recording data of the local NVR to a remote QNAP network attached storage (NAS). The remote QNAP NAS is hereafter referred to as 'the remote storage device'.

**Note:** Before using this function, make sure the Microsoft networking service of the remote storage device is enabled, and the corresponding path and user access right has been correctly configured.

1. Login to the QVR desktop and go to 'Backup & Expansion' > 'Remote Replication'.

<ul> <li>Enable Remote Replication</li> <li>Back up alarm recordings only (instead</li> <li>Back up the recordings of the last 1</li> </ul>	d of all recordings) day(s) only
Remote Destination	
Remote Host IP Address:	10.65.11.28
Destination Path (Network Share/Directory)	Public / RR for 11.8
User Name:	jason
Password:	•••
Remote Host Testing	Test (Status:)
Replication Schedule	
Daily	00 * : 00 *
Weekly	Sunday 🛩

2. Enable remote replication (supports multiple choices)

1	Ena	able Remote Replication		
		Back up alarm recordings only (inst	tead of all	recordings)
		Back up the recordings of the last	3	day(s) only

In the above example, the NVR only copies the alarm recording data of the latest 3 days to the remote storage device.

• Select 'Enable remote replication' to activate this feature. The NVR will execute an automatic backup of the recording data to the remote storage device according to the settings.

- Select 'Back up alarm recordings only (instead of all recordings)', the NVR will only copy the alarm recording data to the remote storage device. If this option is unselected, the NVR will back up all of the recording data to the remote storage device.
- Select 'Back up the recordings of the latest...day(s) only' and enter the number of days, the NVR will back up the latest recording data to the remote storage device automatically according to the settings. If this option is unselected, the NVR will copy all of the recording data to the remote storage device.

#### 3. Configure the remote storage server

Remote Destination	
Remote Host IP Address:	
Destination Path (Network Share/Directory)	/
User Name:	
Password:	
Remote Host Testing	Test (Status:)

Enter the IP address, path, user name and password of the remote storage device.

**Note:** It is recommended to execute the 'Remote host testing' function to verify the connection to the remote storage device is successful.

### 4. Configure the remote replication schedule

Remote Destination		
Remote Host IP Address:		
Destination Path (Network Share/Directory)		
User Name:		
Password:		
Remote Host Testing	Test	(Status:)

For example, to enable the NVR to copy the recording data automatically to the remote storage device at 01:15 every Monday, please do the following: Select 'Replication Schedule', select 'Weekly', enter 01 Hour: 15 minute, and select 'Monday'.

### 5. Select the backup options

Replication Now

Overwrite the oldest recordings when the available storage on the remote host is less than 4GB
 Perform mirroring replication by deleting extra files on the remote destination
 Note: When remote replication is in process, the recording performance will be decreased

- Select 'Replication Now', the NVR will back up the recording data to the remote storage device immediately.
- Select 'Overwrite the oldest recordings when the available storage on the remote host is less than 4GB'; the NVR will overwrite the oldest recording data when the free space on the server is less than 4GB.
- Select 'Perform mirroring replication by deleting extra files on the remote replication', the NVR will synchronize the recording data between itself and the remote storage device and delete any extra files on the remote storage device.

When the above options are all selected and remote replication is executed, the NVR will do the following:

- i. The NVR checks if there are files on the remote storage device that are different from the local source. If yes, the differentiated files will be deleted.
- ii. Next, the NVR checks the free space of remote storage device. If the free space is larger than 4GB, the remote replication will be executed immediately.
- iii. If the free space of the remote storage device is less than 4GB, the NVR will overwrite the recording data of the oldest day and then executes the remote replication.

6. The NVR displays the latest 10 remote replication records.

Start Time 🗸	Finish Time	Replicated Data Size	Status
2014-06-15 00:00	2014-06-15 02:17	801.3 MByte(s)	Failed (Remote access error)
2014-06-12 21:34	2014-06-14 00:04	13.37 GByte(s)	Failed (Remote access error)
2014-06-05 16:00	2014-06-06 11:16	13.98 GByte(s)	Failed (Remote access error)
2014-05-26 00:28	2014-05-26 06:33	3.13 GByte(s)	Failed (Remote access error)
2014-05-19 00:00	2014-05-21 11:53	37.09 GByte(s)	Failed (Remote access error)
2014-05-12 00:00	2014-05-17 11:37	79.05 GByte(s)	Failed (Remote access error)
2014-05-05 00:00	2014-05-05 13:35	8.20 GByte(s)	Failed (Remote access error)
2014-04-29 15:38	2014-04-29 20:57	3.98 GByte(s)	Aborted (The remote replication was cancelled)
2014-04-26 23:43	2014-04-27 15:01	7.16 GByte(s)	Failed (Remote access error)

In the above example:

- When the status is shown as 'Failed (Remote access error)': Check to see if the remote storage device is running and if the network settings are correct.
- When the status is shown as 'Failed (An internal error occurred)': Check the hard drive status of the NVR and view the Event Logs.

**Note:** The time required by the NVR to replicate the data to the remote storage device varies depending on the network environment. If the remote replication takes too long, some recording files may be overwritten by the NVR. To avoid this, it is recommended to refer to the status messages to analyze the time required for the remote replication and adjust the replication schedule accordingly.

### 8.4 Storage Expansion

Without a doubt, storage plays a significant role in the field of digital surveillance. However, users everywhere are facing the challenge of storage capacity for long-term recording. Now, QNAP Security has introduced the storage expansion feature to eliminate this problem. Making the right storage decision with regard to storage expansion is truly important to save money & time for all users. The various QNAP Turbo NAS models are the solution that expands on the storage capacity of the NVR to save more recording files. The storage expansion can provide up to 64TB (16-bay model) additional space per channel, totaling more than 200TB. Integration of both QNAP devices can help users easily save a significant amount of recording files.

#### Key features:

1. Addressing user needs: Users can expand their storage capacity based on their needs.

- 2. Reducing expense: This is a cost-effective choice for expanding storage capacity.
- 3. Highly scalable for future storage expansion.

### Limitations and Restrictions:

- 1. Currently, Storage Expansion is supported only by the VioStor Pro(+) series and QNAP Turbo NAS x69, x79, x70 series (with firmware version v4.0.2 and above), and they are required to be set on the same LAN.
- 2. A gigabit switch is required for this application.
- 3. For NVR and NAS servers located on the same subnet, please always use static IP addresses and the same subnet mask.
- 4. Modification on storage expansion related settings is not supported on local display.
- 5. The file moving process between the NVR and NAS will be completed even if it is suddenly interrupted (for example, the destination folder is deleted). For example, the cache count is set to six hours. The destination is changed to none in the middle of the processing. When this happens, the NVR will still move recording files to the NAS until the entire process is finished.

#### Note:

In order to ensure that Storage Expansion can be executed during the recording process, please be advised to estimate the limitation on network throughput for

specific VioStor NVR series.

The following is suggested limitation of the network throughput for specific NVR models:

```
VS-8100 Pro+/8100U-RP Pro (+)/12100U-RP Pro (+) series: 360 Mbps.
```

VS-2100 Pro+/4100 Pro+/6100 Pro+ series: 160 Mbps.

VS-2000 Pro/4000 Pro/6000 Pro series: 90 Mbps.

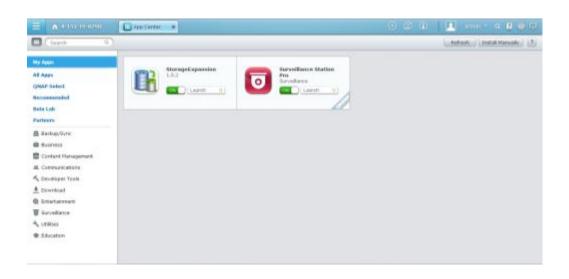
How to configure Storage Expansion?

Step 1:

Install the StorageExpansion QPKG on the NAS

Note: Please visit our download center to download the QPKG. Before installing the QPKG package, please make sure the QPKG is correct, read the instructions carefully and back up all the important data on the NAS.

Download and unzip the StorageExpansion package.
 To install the QPKG, please click "Browse" to select the correct QPKG file and click "INSTALL".



Disable: disable the StorageExpansion QPKG.

Remove: remove the StorageExpansion QPKG.

2. Click the link to connect to the webpage and configure the settings. Check available NVRs on the list and their status on this page.

NV	R List				
	NVR MAC Address	NVR IP Address	NVR Port	NVR Destination Folder	Status
	00089BDA00DE	192.168.7.29	80	12164SEREP	
÷	Delete	ra <a pag<="" th=""><th>e 1 of 1</th><th>⊳ ⊳ <b>10 ∨</b></th><th>NVR 1 - 1</th></a>	e 1 of 1	⊳ ⊳ <b>10 ∨</b>	NVR 1 - 1
i l	Delete	ia a Pag	e 1 of 1	⊳ ⊳I <b>10 ∨</b>	NVR 1 - 1
ا ش IS	Delete	re <e pag<br="">Descript</e>			NVR 1 - 1
	Delete Connection Success				NVR 1 - 1
	Connection Success	Descript	ion	▶ ► 10 ▼ assignments (please check	NVR 1 - 1
	Connection Success Failure of storage expany your setting on the stora	Descript sion due to incorrect st ge expansion page.)	ion orage expansion		NVR 1 - 1
	Connection Success Failure of storage expany your setting on the stora	Descript sion due to incorrect st ge expansion page.) on because Subnet Mask	ion corage expansion	assignments (please check nd NVR should be the same.	NVR 1 - 1

Note: The status of an NVR will become V after storage expansion

assignment is completed.

Step2:

Please make sure that the StorageExpansion QPKG has been installed on the NAS and enable Storage Expansion.

 Go to "Camera Setting" → "Storage Expansion" to configure relevant settings on the page.

_			Beckup & Expansion			000
•						2
External Backup	Overview	Storage Expansion Assi	priment			
One Touch Video Backup Remote Replication	NAS List					
B Storage Expansion	Add Status	Edit Remove	Create a Job 😣 Destination	Volume	Total Size	Free Size
	Recording Stora	pe Details				
	Recording Store	ge Details			Recording Time Period	Action

2. Click "Overview" then the "Add" button.

NAS List					
Add	Edit Remov	e Create a Job 🧕	2		
Status	IP Address	Destination	Volume	Total Size	Free Size
Recording Storage	Details				
	e Details			Recording Time Period	Action
Recording Storage					
Recording Storage					
Recording Storage					
Recording Storage					
Recording Storage					
Recording Storage					
Recording Storage					
Recording Storage					

Please enter the IP, port, username, password, destination, volume and cache count for the NAS.

NAS IP Address:		
Port:	8080	
User Name:		
Password:		
Destination:		
Volume:	Select a disk volume	~
Backup buffer:	6	

Note:

Destination Folder: The folder created on the NAS to save recording files.

Volume: The volume assigned for storage expansion.

Backup buffer: The time period for recording files to be moved to the NAS. The range is from 2-48 hours.

3. Config NAS: Modify NAS settings on this page.

NAS IP Address:	10.11.14.151		
Port:	8080		
User Name:	admin		
Password:	•••••		
Destination:			
Volume:	Select a volume	~	Query Volume
Cache Count:	48		Hours

4. Click "Storage Expansion Assignment" to choose a NAS as the storage unit for each channel.

Overview	Storage Expansion Assignment				
Storage Expan	sion Assignment				
Channel	Camera Name	NAS IP Address	Destination	Action	
1	1. Sony P1	10.65.11.27	sin9527110	2	~
2	2. Sony CS11	10.65.11.27	sin9527110	2	1
3	3. Sony CS10	10.65.11.27	sin9527110		
4	4. Sony Z20	10.65.11.27	sin9527110	0	
5	5. Sony EM600	10.65.11.27	sin9527110	2	1
6	6. Sony CS50	10,65,11,27	sin9527110		
7	7. Sony P5	10.65.11.27	sin9527110		
8	8. Sony RZ25	10.65.11.27	sin9527110	2	
9	9. Sony RZ30	10.65.11.27	sin9527110		
10	10. Sony RZ50	10.65.11.27	sin9527110		
11	11. Sony RX550	10.65.11.27	sin9527110	2	
12	12. Sony SNC-DF40	10.65.11.27	sin9527110	2	~

### Review all of the configured settings and recording storage details under "Overview".

HARS LAR							
AM CAR	Lamove Create a Jub @						
Status 🗇	1P Address	Destination	volume	Total Size	Free Size		
0	10.11.18.172	john_imi_1		84	84		
0	10.11.19.112	1800		Shi.	na.		
e 🛛	10.48-11.27	si#95271.30		2.68 TB	199-94-68		
Incording Horage Details (	)						
acording Storage Details				Recording Time Perio	d	Activ	en.
🗮 chú : 1. Senv Pá							
Localhad				3834/07/13 - 2014/87	tan.	-	
2945-10.45.11.37				10.2			
m ch2: 2. Swry CS11							
Theatheat				163			
2045: 10.45.11.27				1674			
🖷 ch3: 3. 3ury C830							
- Localitant				2814/07/13 - 2014/07	24		
2948: 20.65.11.37				10.14			
e 🧮 shii: 6. Kary 220							
						-	-

The page will automatically refresh the status every fifteen minutes.

# Chapter 9. Control Panel

## 9.1 System Settings

### 9.1.1 General Settings

System Administration

Enter the name of the NVR. The NVR name supports maximum 14 characters and can be a combination of the alphabets (a-z, A-Z), numbers (0-9), and dash (-). Space (), period (.), or pure number are not allowed.

Enter a port number for the system management. The default port is 80. If you are not sure about this setting, use the default port number.

### **Enable Secure Connection (SSL)**

To allow the users to connect the NVR by HTTPS, turn on secure connection (SSL) and enter the port number. If the option "Force secure connection (SSL) only" is turned on, the users can only connect to the web administration page by HTTPS connection.

	Control Panel	000
Search Q		2
System Settings	System Administration Term	
General Settings     Statage Manaper     Statage Manaper     Natwork     Sesurity     Hardware     Power     NetRoston     Froware Update     Backup / Restore     External Device     System Status     System Logs     thinkeys Settings     Statends     System Logs	Server name:       Violitantell       (IP Address: 10.8.10.186)         Visu can change the default port number (HTP) for Web Administration.       System part:       60         System part:       60	ĸ
G mean stress	(unstatu)	

Time

Adjust the date, time, and time zone according to the location of the NVR. If the settings are incorrect, the following problems may occur:

The display time of the recordings will be incorrect.

The time of the event log displayed will be inconsistent with the actual time when an action occurs.

### Synchronize with an Internet time server automatically

Turn on this option to synchronize the date and time of the NVR automatically with an NTP (Network Time Protocol) server. Enter the IP address or domain name of the NTP server, for example, time.nist.gov, time.windows.com. Then enter the time interval for synchronization. This option can be used only when the NVR is connected to the Internet.

### **Disable RTC synchronization**

Disable this option to enable RTC synchronization. Note: A real-time clock (RTC) is a computer clock (most often in the form of an integrated circuit) that keeps track of the current time.

### Set the server time the same as your computer time

To synchronize the time of the NVR with the computer time, click "Update" next to this option.

System Administration	Time
Current date and time:	2014/04/24 18:24:39 Thursday
Time zone:	(GMT+08:00) Taipei
Date and time format:	1111/MM/DD # 24HR #
Time setting:	
	# Manual setting
	Date/Time: 2014/04/24 🖾 / 18 🖛 : 23 🖝 : 38 🖝
	Ø Synchronize with an Internet time server automatically
	Server: pool/etp.org
	Time synchronization at 00 (m) :00
	Time intervali 01 (m) dav(x)
	Disable RTC synchronization
	Set the server time the same as your computer time Update
Apply	
Apply All	

Note: The first time synchronization may take several minutes to complete.

### 9.1.2 Storage Manager

### **Volume Management**

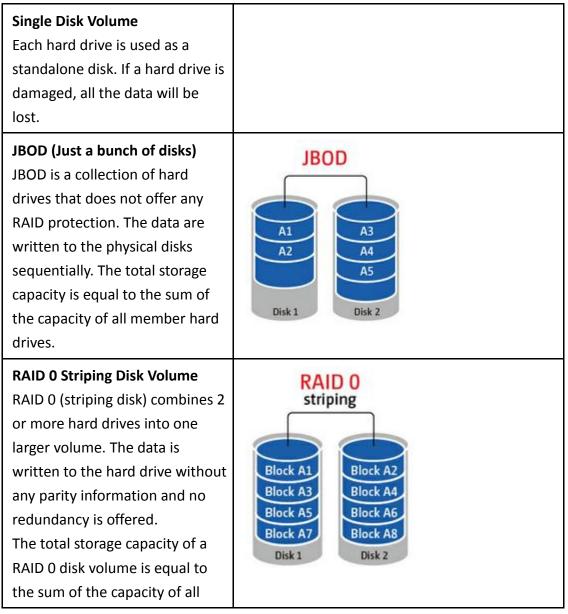
This page shows the model, size, and current status of the hard drives on the NVR. You can format and check the hard drives, and scan the bad blocks on the hard drives. When the hard drives have been formatted, the NVR will create the following default share folders:

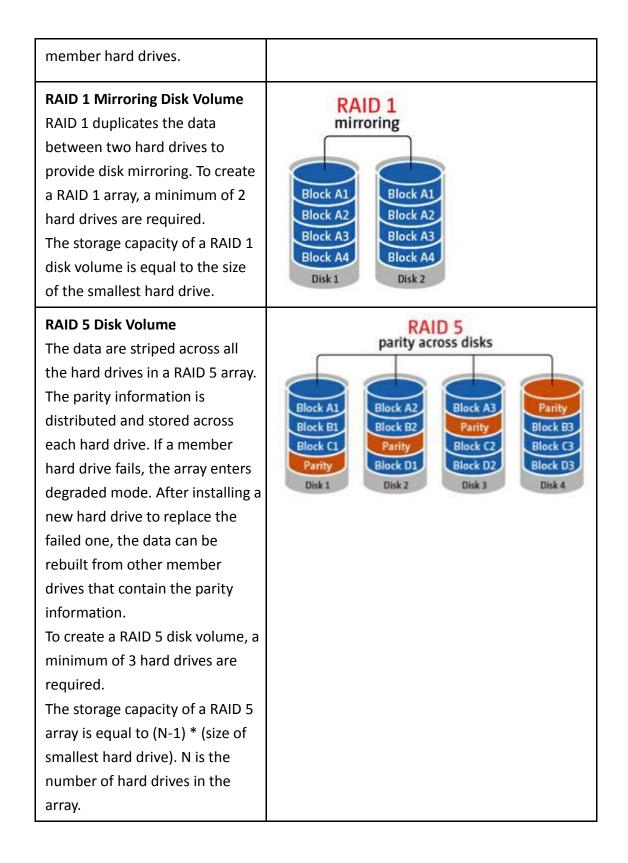
- mp4: The shared folder for MP4 Recordings App.
- record\_export: The shared folder for Recording Export Pro APP.
- record\_nvr: The default shared folder for regular recording files.
- record\_nvr\_alarm: The default shared folder for alarm recording files.
- snapshot: The default shared folder for auto snapshot.

**Note:** The default shared folders of the NVR are created on the first disk volume and the directory cannot be changed.

	(← →) III		<u> </u>			ł
Overview	Volume Managemer	RAID Management Hard Dis				
System Settings						
General Settings	Create					
😝 Storage Manager	Connect Conference	ation: Physical Disks				
📈 Network		PCOIL: Hulyacal Disks				
🔓 Security	Scan now Disk	and di	E		SMART Information	
Hardware	Drive 1	Model WDC WD1002FAEX-0023A05.0	Capacity 931.51 GB	Status Ready	Good	
Power	Drive 2	WDC WD1002FAEX-0023405.0	931.51 GB	Ready	Good	
Notification	Drive 3	1100 11020021407-00204070		No Disk		
Firmware Update	Drive 4	-		No Disk		
Backup / Restore	Drive 5	WDC WD1002FAEX-0023405.0	931.51 GB	Ready	Good	
External Device	Drive 6			No Disk		
System Status	Drive 7	WDC WD1002FAEX-0023A05.0	931.51 GB	Ready	Good	
2 System Logs	Drive 8	-		No Disk		
_	Note Heat Process	re going to install a hard drive (new or us	and which has never	here installed on the	NUR holize, the hard	
Privilege Settings	drive will be forma	atted and partitioned automatically and a	ll the disk data will be	deared.	a never blenone, the hand	

Disk Configuration	Applied NVR Models
Single disk volume	All models
RAID 0	2-drive models or above
RAID 1, JBOD (just a bunch of disks)	2-drive models or above
RAID 5, RAID 6, RAID 5+hot spare	4-drive models or above
RAID 6+hot spare	5-drive models or above
RAID 10	4-drive models or above
RAID 10+hot spare	5-drive models or above





### RAID 6 Disk Volume

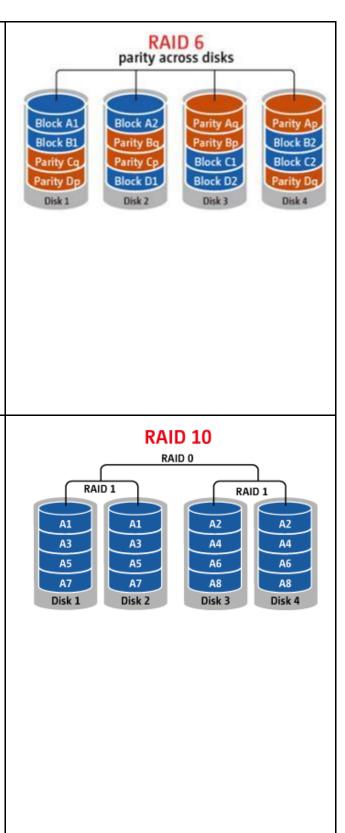
The data are striped across all the hard drives in a RAID 6 array. RAID 6 differs from RAID 5 that a second set of parity information is stored across the member drives in the array. It tolerates failure of two hard drives.

To create a RAID 6 disk volume, a minimum of 4 hard drives are required. The storage capacity of a RAID 6 array is equal to (N-2) \* (size of smallest hard drive). N is the number of hard drives in the array.

### RAID 10 Disk Volume

RAID 10 combines four or more disks in a way that protects data against loss of non-adjacent disks. It provides security by mirroring all data on a secondary set of disks while using striping across each set of disks to speed up data transfers.

RAID 10 requires an even number of hard drives (minimum 4 hard drives). The storage capacity of RAID 10 disk volume is equal to (size of the smallest capacity disk in the array) \* N/2. N is the number of hard drives in the volume.



### RAID Management

You can perform online RAID capacity expansion (RAID 1, 5, 6, 10) and online RAID level migration (single disk, RAID 1, 5, 10), add a hard drive member to a RAID 5, 6, or 10 configuration, configure a spare hard drive (RAID 5, 6, 10) with the data retained, enable Bitmap, recover a RAID configuration, and set a global spare on this page.

				~				
General Settings	Storage Manager	Network	Security	<b>Mardware</b>	Power	Notification	Firmware Update	0
Volume Mana	agement	RAID Management	HDD SMART	1				
Action •								
Disk / Volume			Total Size	810	map		Status	
RAID 5 Disk Volume	Drive 4 8 12		3693.71 GB		no		Ready	
UD 5 Disk Volume	Drive 4 8 12		3693.71 GB		no		Ready	

To expand the storage capacity of a RAID 10 volume, you can perform online RAID capacity expansion or add an even number of hard disk drives to the volume.

### Expand Capacity (Online RAID Capacity Expansion)

### Scenario

You bought three 250GB hard drives for initial setup of a NVR and configured RAID 5 disk configuration with the three hard drives.

A half year later, the data size of the department has largely increased to 1.5TB. In other words, the storage capacity of the NVR is running out of use. At the same time, the price of 1TB hard drives has dropped to a large extent.

### **Operation procedure**

In "Storage Manager" > "RAID Management", select the disk volume for expansion and click "Expand Capacity".

Action • Expand Capacity		Total Size	Bitmap	Status
Add Hard Drive Migrate	з	459.13 GB	no	Ready
Configure Spare Drive				
Enable Bitmap				
Recover Global Spare				

Click "Change" for the first hard drive to be replaced. Follow the instructions to proceed.

Disk	Model	Capacity	Status	Description
Drive 1	WDC WD2500AAKX-22ER	232.89 GB	Ready	You can replace this drive.
Drive 2	WDC WD2500AAKX-22ER	232.89 GB	Ready	You can replace this drive.
Drive 3	WDC WD2500AAKX-22ER	232.89 GB	Ready	You can replace this drive.
ce Disk Volu lystem can o	me: RAID 5 Disk Volume: Drive nly support expanding the volum	10000	and under).	

Tip: After replacing the hard drive, the description field shows "You can replace this drive". This means you can replace the hard drive to a larger one or skip this step if the hard drives have been replaced already.

**Caution:** When the hard drive synchronization is in process, do NOT turn off the NVR or plug in or unplug the hard disk drives.

When the description displays "Please remove this drive", remove the hard drive from the NVR. Wait for the NVR to beep twice after removing the hard drive.

I.

Cancel Disk	Model	Capacity	Status	Description
Drive 1	WDC WD2500AAKX-22ER	232.89 GB	Ready	Please remove this drive.
Drive 2	WDC WD2500AAKX-22ER	232.89 GB	Ready	No operation can be executed on this d
Drive 3	WDC WD2500AAKX-22ER	232.89 GB	Ready	No operation can be executed on this d
rce Disk Volu system can o	me: RAID 5 Disk Volume: Drive nly support expanding the volum		and under).	Expand Capacity

When the description displays "Please insert the new drive", plug in the new hard drive to the drive slot.

Change				The second se
Disk	Model	Capacity	Status	Description
Drive 1	-	20	No Disk	Please insert the new drive.
Drive 2	WDC WD2500AAKX-22ER	232.89 GB	Ready	No operation can be executed on this d
Drive 3	WDC WD2500AAKX-22ER	232.89 GB	Ready	No operation can be executed on this d
Source Disk Volu The system can o	me: RAID 5 Disk Volume: Drive nly support expanding the volum		and under).	Expond Capacity

After plugging in the hard drive, wait for the NVR to beep. The system will start rebuilding.

Charlos Disk	Model	Capacity	Status	Description
Drive 1	Seagate ST31000528AS	931.51 GB	Rebuilding (0%)	No operation can be executed on this d.
Drive 2	WDC WD2500AAKX-22ER	232.89 GB	Rebuilding (0%)	No operation can be executed on this d
Drive 3	WDC WD2500AAKX-22ER	232.89 GB	Rebuilding (0%)	No operation can be executed on this d
system can o	me: RAID 5 Disk Volume: Drive nly support expanding the volum		8 (and under).	
				Espand Capacity

After rebuilding has completed, repeat the steps above to replace other hard drives.

After changing the hard drives and disk rebuilding has completed, click "Expand Capacity" to execute RAID capacity expansion.

Change				
Disk	Model	Capacity	Status	Description
Drive 1	Seagate ST31000528AS CC	931.51 GB	Ready	You can replace this drive.
Drive 2	Seagate ST31000528AS CC	931.51 GB	Ready	You can replace this drive.
Drive 3	Seagate ST31000528AS CC	931.51 GB	Ready	You can replace this drive.
Source Disk Volum				
	e disk volume capacity to approximate ly support expanding the volume size		der).	
				Expand Capacity

Click "OK" to proceed.

The NVR beeps and starts to expand the capacity.

Action •			
Disk / Volume	Total Size	Bitmap	Status
RAID 5 Disk Volume: Drive 1 2 3	459.13 GB	no	(12%) Expanding (12%) - 00:00:20

1

The process may take from hours to tens of hours to finish depending on the drive size. Please wait patiently for the process to finish. Do NOT turn off the power of the NVR.

After RAID capacity expansion has finished, the new capacity is shown and the status is "Ready". You can start to use the NVR. (In the example you have 1.8TB logical volume.)

Action •			
Disk / Volume	Total Size	Bitmap	Status
RAID 5 Disk Volume: Drive 1 2 3	1845.38 GB	no	Ready

Tip: If the description still shows "You can replace this hard drive" and the status of the drive volume says "Ready", it means the RAID volume is still expandable.

## Migrate (Online RAID Level Migration)

During the initial setup of the NVR, you bought a 250GB hard drive and configured it as single disk.

After a period of time, more and more important recordings are saved on the NVR. There is a rising concern for hard drive damage and data loss. Therefore, you planned to upgrade the disk configuration to RAID 5.

You can install one hard drive for setting up the NVR and upgrade the RAID level of the NVR with online RAID level migration in the future. The migration process can be done without turning off the NVR. All the data will be retained.

You can do the following with online RAID level migration:

- Migrate the system from single disk to RAID 1, RAID 5, RAID 6 or RAID 10
- Migrate the system from RAID 1 to RAID 5, RAID 6 or RAID 10
- Migrate the system from RAID 5 with 3 hard drives to RAID 6

# You need to:

- Prepare a hard drive of the same or larger capacity as an existing drive in the
   RAID configuration.
- Execute RAID level migration (migrate the system from single disk mode to RAID 5 with 4 hard drives).

Go to "Storage Manager" > "Volume Management". The current disk volume configuration displayed on the page is single disk (the capacity is 250GB).

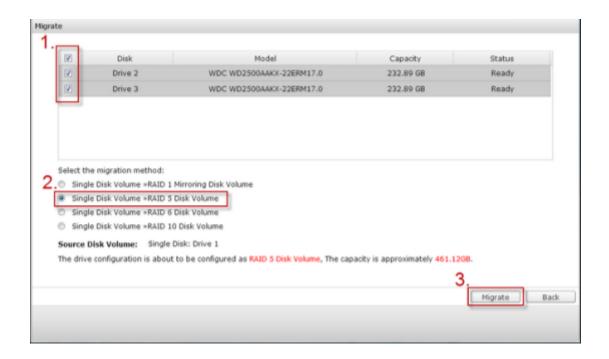
Plug in the new 250GB hard drives to drive slots 2 and 3 of NVR. The NVR will detect the new hard drives. The status of the new hard drives is "Unmounted".

Scan now					
Disk	Model		Capacity	Status	SMART Information
Drive 1	WDC WD2500AAKX-22ERM1	7.0 2	232.89 GB	Ready	Good
Drive 2	WDC WD2500AAKX-22ERM1	7.0 2	232.89 GB	Ready	Good
Drive 3	WDC WD2500AAKX-22ERM1	7.0 2	232.89 GB	Ready	Good
Drive 4				No Disk	
Drive 5				No Disk	
rive will be for	are going to install a hard drive (n matted and partitioned automatical uration: Logical Volumes	ew or used) ly and all the	which has neve a disk data will	er been installed on be cleared.	the NAS before, the hard
rive will be for	matted and partitioned automatical	ly and all the	which has neve e disk data will	er been installed on be cleared.	the NAS before, the hard
Irive will be for Current Config	matted and partitioned automatical uration: Logical Volumes Check File System Remove	ly and all the	which has neve a disk data will Total Size	er been installed on be cleared. Free Size	the NAS before, the hard Status
rive will be for Current Config Format	matted and partitioned automatical nuration: Logical Volumes Check File System Remove	ly and all the	e disk data will	be cleared.	
rive will be for Current Config Format Disk / Volume	matted and partitioned automatical uration: Logical Volumes Check File System Remove Five 1	ly and all the	e disk data will Total Size	Free Size	Status

## Go to "Storage Manager" > "RAID Management", click "Migrate" from the "Action."

Add Hard Drive		
Migrate	227.76 GB	 Ready
Configure Spare Drive	227.76 GB	 Ready
Bitmap	227.70.00	 Nearry
Recover		Unmounted
Set Global Spare		 Onmounced

Select one or more available drives and the migration method. The drive capacity after migration is shown. Click "Migrate".



Note that all the data on the selected hard drive will be cleared. Click "OK" to confirm.

When migration is in process, the required time and total drive capacity after migration are shown in the description field.

The NVR will enter "Read only" mode when migration is in process during 11%–49% to assure the data of the RAID configuration will be consistent after RAID migration completes.

After migration completes, the new drive configuration (RAID 5) is shown and the status is Ready. You can start to use the new drive configuration.

The process may take from hours to tens of hours to finish depending on the hard drive size. You can connect to the web page of the NVR to check the status later.

# Use Online RAID Capacity Expansion and Online RAID Level Migration Add a hard drive

Follow the steps below to add a hard drive member to a RAID 5 or RAID 6 disk configuration.

- 1. Make sure the status of the RAID 5 or RAID 6 configuration is "Ready".
- 2. Install a hard drive on the NVR. If you have a hard drive which has already been

formatted as single disk volume on the NVR, you can add this hard drive to the RAID 5 or RAID 6 configuration. You are recommended to use hard disk drives of the same storage capacity for the RAID configuration.

- Select the RAID 5 or RAID 6 configuration on the "RAID Management" page and3. click "Add Hard Drive".
- Select the new hard drive member. The total drive capacity after adding thedrive will be shown. Click "Add Hard Drive."
- All the data on the new hard drive member will be deleted during this process. The data on the original RAID 5 or RAID 6 configuration will be retained. Click
- 5. "OK". The NVR will beep twice.

To add hard drives member to a RAID 10 disk volume, repeat the above steps. Note that you need to add an even number of hard disk drives to a RAID 10 volume. The storage capacity of the RAID 10 volume will increase upon successful configuration.

This process may take a few hours to tens of hours to complete depending on the number and the size of the hard drive. Please wait patiently for the process to finish. Do NOT turn off the NVR during this process. You can use a RAID configuration of larger capacity after the process.

## **Configure Spare Drive**

You can add a spare drive to or remove a spare drive from a RAID 5, 6, or 10 configuration.

Follow the steps below to use this feature.

- Make sure the status of the RAID 5, 6, 10 configuration is "Ready".
   Install a hard drive on the NVR. If you have a hard drive which has already been formatted as single disk volume on the NVR, you can configure this hard drive as the spare drive. You are recommended to use hard disk drives of the same
- 2. storage capacity for the RAID configuration.
- Select the RAID volume and click "Configure Spare Drive."
   To add a spare drive to the selected configuration, select the hard drive and click "Configure Spare Drive." To remove a spare drive, unselect the spare drive and
- 4. click "Configure Spare Drive."
- 5. All the data on the selected hard drive will be deleted. Click "OK" to proceed.

The original data on the RAID 5, 6, or 10 disk volume will be retained. After the configuration completes, the status of the disk volume will become "Ready".

**Note:** A hot spare drive must be removed from the disk volume before executing the following action:

- Online RAID capacity
- expansion
- Online RAID level
- migration
- Adding a hard drive member to a RAID 5, RAID 6
- or RAID 10 volume

### Bitmap

Bitmap improves the time for RAID rebuilding after an unexpected error, or removing or re-adding a member hard drive of the RAID configuration. If an array has a bitmap, the member hard drive can be removed and re-added and only blocks changes since the removal (as recorded in the bitmap) will be re-synchronized. To use this feature, select a RAID volume and click "Enable Bitmap".

Volume Management	RAID Mana	gemant Hard Disk SMART		
Action +				
Expand Capacity		Total Size	Bitmap	55.40.46
Add Hard Drive Higrato	5 7	2760.07 GB	na	Ready
Configure Spare Drive	_			
Enable Bitmap Recover				

**Note:** Bitmap support is only available for RAID 1, 5, 6, and 10.

### **Recover (RAID Recovery)**

RAID Recovery: When the NVR is configured as RAID 1, RAID 5, or RAID 6 and any number of hard drives is unplugged from the NVR accidentally, you can plug in the same hard drives into the same drive slots and click "Recover" to recover the volume status from "Not active" to "Degraded mode".

If the disk volume is configured as RAID 0 or JBOD and one or more of the hard drive members are disconnected or unplugged, you can plug in the same hard drives into the same drive slots and use this function to recover the volume status from "Not active" to "Normal". The disk volume can be used normally after successful recovery.

Disk volume	Supports RAID recovery	Maximum number of disk removal allowed
Single	No	-
JBOD	Yes	1 or more
RAID 0	Yes	1 or more
RAID 1	Yes	1 or 2
RAID 5	Yes	2 or more
RAID 6	Yes	3 or more
RAID 10	No	-

# Note:

After recovering a RAID 1, RAID 5 or RAID 6 disk volume from not active to degraded mode by the RAID recovery, you can read or write the volume normally. The volume status will be recovered to normal after synchronization.

If the disconnected drive member is damaged, the RAID

recovery function will not work.

	Standard RAID 5	QNAP RAID 5	Standard RAID 6	QNAP RAID 6
Degraded mode	N-1	N-1	N-1 & N-2	N-1 & N-2
Read Only Protection (for immediate data backup & hard drive	N/A	N-1, bad blocks found in the surviving hard drives of the array.	N/A	N-2, bad blocks found in the surviving hard drives of the array.

replacement)				
RAID Recovery (RAID Status: Not Active)	N/A	If re-plugging in all original hard drive to the NVR and they can be spun up, identified, accessed, and the hard drive superblock is not damaged.	N/A	If re- plugging in all original hard drives to the NVR and they can be spun up, identified, accessed, and the hard drive superblock is not damaged).
RAID Crash	N-2	N-2 failed hard drives and any of the remaining hard drives cannot be spun up/identified/accessed.	N-3	N-3 and any of the remaining hard drives cannot be spun up/identified/accessed.

N = Number of hard disk drives in the array

# Further information about RAID management of the NVR:

The NVR supports the following actions according to the number of hard disk drives and disk configurations supported. Please refer to the following table for the details.

Original Disk Configuration * No. of Hard Disk Drives	No. of New Hard Disk Drives	Action	New Disk Configuration * No. of Hard Disk Drives
RAID 5 * 3	1	Add hard drive member	RAID 5 * 4
RAID 5 * 3	2	Add hard drive member	RAID 5 * 5
RAID 5 * 3	3	Add hard drive member	RAID 5 * 6
RAID 5 * 3	4	Add hard drive member	RAID 5 * 7
RAID 5 * 3	5	Add hard drive	RAID 5 * 8

		member	
RAID 5 * 4	1	Add hard drive member	RAID 5 * 5
RAID 5 * 4	2	Add hard drive member	RAID 5 * 6
RAID 5 * 4	3	Add hard drive member	RAID 5 * 7
RAID 5 * 4	4	Add hard drive member	RAID 5 * 8
RAID 5 * 5	1	Add hard drive member	RAID 5 * 6
RAID 5 * 5	2	Add hard drive member	RAID 5 * 7
RAID 5 * 5	3	Add hard drive member	RAID 5 * 8
RAID 5 * 6	1	Add hard drive member	RAID 5 * 7
RAID 5 * 6	2	Add hard drive member	RAID 5 * 8
RAID 5 * 7	1	Add hard drive member	RAID 5 * 8
RAID 6 * 4	1	Add hard drive member	RAID 6 * 5
RAID 6 * 4	2	Add hard drive member	RAID 6 * 6
RAID 6 * 4	3	Add hard drive member	RAID 6 * 7
RAID 6 * 4	4	Add hard drive member	RAID 6 * 8
RAID 6 * 5	1	Add hard drive member	RAID 6 * 6

RAID 6 * 5	2	Add hard drive member	RAID 6 * 7
RAID 6 * 5	3	Add hard drive member	RAID 6 * 8
RAID 6 * 6	1	Add hard drive member	RAID 6 * 7
RAID 6 * 6	2	Add hard drive member	RAID 6 * 8
RAID 6 * 7	1	Add hard drive member	RAID 6 * 8
RAID 10 * 4	2	Add hard drive member	RAID 10 * 6
RAID 10 * 4	4	Add hard drive member	RAID 10 * 8
RAID 10 * 6	2	Add hard drive member	RAID 10 * 8
RAID 1 * 2	1	Online RAID capacity expansion	RAID 1 * 2
RAID 5 * 3	1	Online RAID capacity expansion	RAID 5 * 3
RAID 5 * 4	1	Online RAID capacity expansion	RAID 5 * 4
RAID 5 * 5	1	Online RAID capacity expansion	RAID 5 * 5
RAID 5 * 6	1	Online RAID capacity expansion	RAID 5 * 6
RAID 5 * 7	1	Online RAID capacity expansion	RAID 5 * 7
RAID 5 * 8	1	Online RAID capacity expansion	RAID 5 * 8
RAID 6 * 4	1	Online RAID capacity	RAID 6 * 4

		expansion	
RAID 6 * 5	1	Online RAID capacity expansion	RAID 6 * 5
RAID 6 * 6	1	Online RAID capacity expansion	RAID 6 * 6
RAID 6 * 7	1	Online RAID capacity expansion	RAID 6 * 7
RAID 6 * 8	1	Online RAID capacity expansion	RAID 6 * 8
RAID 10 * 4	1	Online RAID capacity expansion	RAID 10 * 4
RAID 10 * 6	1	Online RAID capacity expansion	RAID 10 * 6
RAID 10 * 8	1	Online RAID capacity expansion	RAID 10 * 8
Single * 1	1	Online RAID level migration	RAID 1 * 2
Single * 1	2	Online RAID level migration	RAID 5 * 3
Single * 1	3	Online RAID level migration	RAID 5 * 4
Single * 1	4	Online RAID level migration	RAID 5 * 5
Single * 1	5	Online RAID level migration	RAID 5 * 6
Single * 1	6	Online RAID level migration	RAID 5 * 7
Single * 1	7	Online RAID level migration	RAID 5 * 8
Single * 1	3	Online RAID level	RAID 6 * 4

		migration	
Single * 1	4	Online RAID level migration	RAID 6 * 5
Single * 1	5	Online RAID level migration	RAID 6 * 6
Single * 1	6	Online RAID level migration	RAID 6 * 7
Single * 1	7	Online RAID level migration	RAID 6 * 8
Single * 1	3	Online RAID level migration	RAID 10 * 4
Single * 1	5	Online RAID level migration	RAID 10 * 6
Single * 1	7	Online RAID level migration	RAID 10 * 8
RAID 1 * 2	1	Online RAID level migration	RAID 5 * 3
RAID 1 * 2	2	Online RAID level migration	RAID 5 * 4
RAID 1 * 2	3	Online RAID level migration	RAID 5 * 5
RAID 1 * 2	4	Online RAID level migration	RAID 5 * 6
RAID 1 * 2	5	Online RAID level migration	RAID 5 * 7
RAID 1 * 2	6	Online RAID level migration	RAID 5 * 8
RAID 1 * 2	2	Online RAID level migration	RAID 6 * 4
RAID 1 * 2	3	Online RAID level migration	RAID 6 * 5

RAID 1 * 2	4	Online RAID level migration	RAID 6 * 6
RAID 1 * 2	5	Online RAID level migration	RAID 6 * 7
RAID 1 * 2	6	Online RAID level migration	RAID 6 * 8
RAID 1 * 2	2	Online RAID level migration	RAID 10 * 4
RAID 1 * 2	4	Online RAID level migration	RAID 10 * 6
RAID 1 * 2	6	Online RAID level migration	RAID 10 * 8
RAID 5 * 3	1	Online RAID level migration	RAID 6 * 4
RAID 5 * 3	2	Online RAID level migration	RAID 6 * 5
RAID 5 * 3	3	Online RAID level migration	RAID 6 * 6
RAID 5 * 3	4	Online RAID level migration	RAID 6 * 7
RAID 5 * 3	5	Online RAID level migration	RAID 6 * 8

# Hard Disk S.M.A.R.T

Monitor the hard disk drives (HDD) health, temperature, and the usage status by HDD S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology).

Field	Description
Summary	Display the hard drive S.M.A.R.T. summary and the latest test result.
Hard disk information	Display the hard drive details, for example, model, serial number, HDD capacity.
SMART information	Display the hard drive S.M.A.R.T. information. Any items that the values are lower than the threshold are regarded as abnormal.
Test	Perform quick or complete hard drive S.M.A.R.T. test.
Settings	Configure temperature alarm. When the hard drive temperature is over the preset values, the NVR records the error logs. You can also set the quick and complete test schedule. The latest test result is shown on the Summary page.

The following information of each hard drive on the NVR is available.

		~
Volume Manageme	nt RAID Management	Hard Disk SMART
Monitor hard disk health	n, temperature, and usage statu	is by the hard disk S.M.A.R.T. mechanism.
Issue notification where the second secon	hen the disk reaches maximum of	operation time set below: 30000 Y Hours Settings
Select Hard Disk:	Disk 1	×
Summary		
Hard Disk		
Information		Good
SMART Information	No errors were	detected on the hard disk. Your hard disk should be operating properly.
Test		
Tex	Hard disk model:	WDC WD20EVDS-63T3B0 01.0
Settings	Drive capacity:	1863.02 GB
	Hard drive health:	Good
	Temperature:	36°C/96°F
	HDD I/O Status:	Good
	Test time:	
	Test result:	Not tested

9.1.3 Network

TCP/IP

(i) IP Address

Configure the TCP/IP settings, DNS Server and default Gateway of the NVR on this page.

			Control Panel				0 0
Search Q	( ) ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (						
Et Overview © System Settings	109/0P 00	N5 Service		<u> </u>			
🗒 General Settings	IP Address						
Storage Manager , Notwark						Refresh	Part Trunking
A Security	Edit Link	Interface	DHCP	2 <sup>p</sup> Address	Subret Hask	Gateway	NAC address
Hardware	i 🖉 😐	Ethemot.1+2	No	10.65.9.27	255.255.254.0	20.65.8.1	00.06.98.08
Power  Rotification  Rotifica	8 Use the following this are primary this are primary this are primary the	I server address aut lowing DNS server a erver: 10 .8 S server: 108 .85	ddress	Default G Use the s	<b>lateway</b> attings fron: Ether	net 1+2 g	

Click Click Click to edit the network settings. For the NVR with two LAN ports, users can connect both network interfaces to two different switches and configure the TCP/IP settings. The NVR will acquire two IP addresses which allow access from two different subnets. This is known as multi-IP settings\*. When using the Finder to detect the NVR IP, the IP of the Ethernet 1 will be shown in LAN 1 only and the IP of the Ethernet 2 will be shown in LAN 2 only. To use the port trunking mode for dual LAN connection, see section (iii).

## **Network Parameters**

Under the Network Parameters tab on the TCP/IP Property page, configure the following settings:

		тс	P/IP - Pro	perty			
N	etwork Parameters	DHCP (	server				
0 0	ork Speed: Ibtain IP address settin Ise static IP address		negotiatio iatically vi			×	
F	ixed IP Address:	10	.65	.9	.27		
S	ubnet Mask:	255.	255 ¥	254 ¥	. 0	*	
D	efault Gateway:	10	.65	8	1		
Jumb	o Frame:	1500				~	

### **Network Speed**

Select the network transfer rate according to the network environment to which the NVR is connected. Select auto negotiation and the NVR will adjust the transfer rate automatically.

### Obtain the IP address settings automatically via DHCP

If the network supports DHCP, select this option and the NVR will automatically obtain the IP address and network settings.

### Use static IP address

To use a static IP address for network connection, enter the IP address, subnet mask, and default gateway.

## Jumbo Frame Settings (MTU)

"Jumbo Frames" refer to the Ethernet frames that are larger than 1500 bytes. It is designed to enhance Ethernet networking throughput and reduce the CPU utilization of large file transfers by enabling more efficient larger payloads per packet. Maximum Transmission Unit (MTU) refers to the size (in bytes) of the largest packet that a given layer of a communications protocol can transmit.

The NVR uses standard Ethernet frames: 1500 bytes by default. If the network appliances support Jumbo Frame setting, select the appropriate MTU value for the network environment. The NVR supports 4074, 7418, and 9000 bytes for MTU.

**Note:** The Jumbo Frame setting is valid in Gigabit network environment only. All the network appliances connected must enable Jumbo Frame and use the same MTU value.

## **DHCP Server**

A DHCP (Dynamic Host Configuration Protocol) server assigns IP addresses to the clients on a network. Select "Enable DHCP Server" to set the NVR a DHCP server if there is none on the local network where the NVR locates.

### Note:

Do not enable DHCP server if there is one the local network to avoid IP

- address conflicts or network access errors.
- The DHCP server option is available to Ethernet 1 only when both LAN ports of a dual LAN NVR are connected to the network and Ethernet 1 is assigned • with a fixed IP.

**Start IP, End IP, Lease Time:** Set the range of IP addresses allocated by the NVR to the DHCP clients and the lease time. The lease time refers to the time that an IP address is leased to the clients. During that time, the IP will be reserved to the assigned client. When the lease time expires, the IP can be assigned to another client.

		TCP/IP - Prope	rty	
N	letwork Parameters	DHCP server		
S	nable DHCP Server Start IP address: nd IP address: .ease Time :	10 .65 .1 10 .65 .1 1 day 0	.100 .200 Hour	
			Apply	Cancel

(ii) DNS Server

A DNS (Domain Name Service) server translates between a domain name (such as google.com) and an IP address (74.125.31.105). Configure the NVR to obtain a DNS server address automatically or specify the IP address of a DNS server.

Primary DNS Server: Enter the IP address of the primary DNS server. Secondary DNS Server: Enter the IP address of the secondary DNS server.

								Refresh	Port Trunking
Edit	Link Int	terface		Dł	ICP	IP Address	Subnet Mask	Gateway	MAC addres
8	O Et	hernet 1-	+Z	N	D.	10.65.12.111	255.255.254.0	10.65.12.1	00:08:9B:D
4									
DN5 Serv	rer					Default Ga Use the se		net 1+2 ×	
🕘 Obtai	in DNS ser the followin				uy.				
<ul><li>Obta</li><li>Øset</li></ul>		ng DNS se			.11				

### Note:

Apply All

Please contact the ISP or network administrator for the IP address of the primary and the secondary DNS servers. When the NVR plays the role as a terminal and needs to perform independent connection, for example, BT download, enter at least one DNS server IP for proper URL connection.

- Otherwise, the function may not work properly.
   If you select to obtain the IP address by DHCP, there is no need to configure
- the primary and the secondary DNS servers. In this case, enter "0.0.0.0".
- (iii) Default Gateway

Select the gateway settings to use if both LAN ports have been connected to the network (dual LAN NVR models only).

(iv) Port Trunking

Applicable to NVR models with two or more LAN ports only.

The NVR supports port trunking which combines two Ethernet interfaces into one to increase the bandwidth and offers load balancing and fault tolerance (also known as failover). Load balancing is a feature which distributes the workload evenly across two Ethernet interfaces for higher redundancy. Failover is the capability to switch over to a standby network interface (also known as the slave interface) when the primary network interface (also known as the master interface) does not correspond

correctly to maintain high availability.

To use port trunking on the NVR, make sure at least two LAN ports of the NVR have been connected to the same switch and the settings described in sections (i) and (ii) have been configured.

Follow the steps below to configure port trunking on the NVR:

1

. Click "Port Trunking".

										Refresh	Port Trun
Edit	Link	Interfa	ece		1	OHCP	IP Address	Subnet M	ask	Gateway	MAC a
	•	Ethern	net 1-	-2	3	No	10.65.12.111	255.255.2	254.0	10.65,12,1	00:00
DUIS 6-	2.1229						Defents of				
DNS Se	515. State 1						Default Ga		_		-
	ain DNS						Use the se	ttings from:	Ether	net 1+2	*
	the follo DNS set		10	.8	2	.11					
	ary DNS			.8	.8	.8					
	206 0000			15	- 207						

2.Select the network interfaces for a trunking group (Ethernet 1+2, Ethernet 3+4, Ethernet 5+6, or Ethernet 7+8). Choose a port trunking mode from the drop-down menu. The default option is Active Backup (Failover).

	TCP/IP - Port Trunking	8
incompatible mode settin	nembership and mode. Pl gs might cause the netwo ance. For more informatio	ork interface to hang or
Interface	Standalone	Trunking Group 1 Active Backup
Ethernet 1	۲	Active Backup Balance XOR
Ethernet 2	۲	Broadcast IEEE 802.3ad
Use the settings from:	Ethernet 1 ¥	Balance-tlb Balance-alb
		Apply Cancel

3. Select a port trunking group to use. Click "Apply".

	TCP/IP - Port Trunking		8
incompatible mode settin	nembership and mode. Plo gs might cause the netwo lance. For more informatio	ork interface to hang or	
Interface	Standalone	Trunking Group 1 Active Backup	
Ethernet 1	0	۲	
Ethernet 2	0	۲	
Use the settings from:	Trunking Group 1 (Etherne	et 1+2) 💌	
		Apply Ca	incel

4. Click "here" to connect to the login page.



5. Click the Edit button under "IP Address" to edit the network settings.

Edit U	.ink	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address	Speed	MT
	•	Ethernet 1+2	Yes	10.8.12.153	255.255.254.0	10.8.12.1	00:08:98:CF:05:98	100Mbps	15

**Note:** Make sure the Ethernet interfaces are connected to the correct switch and the switch has been configured to support the port trunking mode selected on the NVR.

The port trunking options available on the NVR:

Field	Description	Switch Required
Balance-rr (Round-Robin)	Round-Robin mode is good for general purpose load balancing between two Ethernet interfaces. This mode transmits packets in sequential order from the first available slave through the last. Balance-rr provides load balancing and fault tolerance.	Supports static trunking. Make sure static trunking is enabled on the switch.
Active Backup	Active Backup uses only one Ethernet interface. It switches to the second Ethernet interface if the first Ethernet interface does not work properly. Only one interface in the bond is active. The bond's MAC address is only visible externally on one port (network adapter) to avoid confusing the switch. Active Backup mode provides fault tolerance.	General switches
Balance XOR	Balance XOR balances traffic by splitting up	Supports static

	outgoing packets between the Ethernet interfaces, using the same one for each specific destination when possible. It transmits based on the selected transmit hash policy. The default policy is a simple slave count operating on Layer 2 where the source MAC address is coupled with destination MAC address. Alternate transmit policies may be selected via the xmit_hash_policy option. Balance XOR mode provides load balancing and fault tolerance.	trunking. Make sure static trunking is enabled on the switch.
Broadcast	Broadcast sends traffic on both network interfaces. This mode provides fault tolerance.	Supports static trunking. Make sure static trunking is enabled on the switch.
IEEE 802.3ad (Dynamic Link Aggregation)	Dynamic Link Aggregation uses a complex algorithm to aggregate adapters by speed and duplex settings. It utilizes all slaves in the active aggregator according to the 802.3ad specification. Dynamic Link Aggregation mode provides load balancing and fault tolerance but requires a switch that supports IEEE 802.3ad with LACP mode properly configured.	Supports 802.3ad LACP
Balance-tlb (Adaptive Transmit Load Balancing)	Balance-tlb uses channel bonding that does not require any special switch. The outgoing traffic is distributed according to the current load on each Ethernet interface (computed relative to the speed). Incoming traffic is received by the current Ethernet interface. If the receiving Ethernet interface fails, the other slave takes over the MAC address of the failed receiving slave. Balance-tlb mode provides load balancing and fault tolerance.	General switches

Balance-alb	Balance-alb is similar to balance-tlb but also	General switches
(Adaptive Load	attempts to redistribute incoming (receive	
Balancing)	load balancing) for IPV4 traffic. This setup	
	does not require any special switch support	
	or configuration. The receive load balancing	
	is achieved by ARP negotiation sent by the	
	local system on their way out and overwrites	
	the source hardware address with the	
	unique hardware address of one of the	
	Ethernet interfaces in the bond such that	
	different peers use different hardware	
	address for the server. This mode provides	
	load balancing and fault tolerance.	

### **DDNS Service**

To allow remote access to the NVR using a domain name instead of a dynamic IP address, enable the DDNS service.

The NVR supports the DDNS providers: <u>http://www.dyndns.com</u>, <u>http://update.ods.org</u>, <u>http://www.dhs.org</u>, <u>http://www.dyns.cx</u>, <u>http://www.3322.org</u>, <u>http://www.no-ip.com</u>.

# 9.1.4 Security

Security Level

Specify the IP address or the network domain from which the connections to the NVR are allowed or denied. When the connection of a host server is denied, all the protocols of that server are not allowed to connect to the NVR.

After changing the settings, click "Apply" to save the changes. The network services will be restarted and current connections to the NVR will be terminated.

	Control Panel	000
🚺 (Search Q)		2
Coverview  System Settings  System Settings  Storage Manager  Network  Source  Power  Notification  Firmware Update  Roduka  Firmware Update  Roduka  System Status  System Status  System Logs  Philoge Settings  Network Services	Security Level Certificate & Private Key  Allow all connections Deny connections from the list Allow all connections from the list Allow all connections from the list Allow all connections from which the connections to this server will be allowed or rejected.  Enter the IP address or Network Domain Time Left for IP Blocking  Apply	
Ca menuer advices	Category Ala	

# Certificate & Private Key

The Secure Socket Layer (SSL) is a protocol for encrypted communication between the web servers and the web browsers for secure data transfer. You can upload a secure certificate issued by a trusted provider. After uploading a secure certificate, users can connect to the administration interface of the NVR by SSL connection and there will not be any alert or error message. The NVR supports X.509 certificate and private key only.

Download Certificate: To download the secure certificate which is currently in use.

Download Private Key: To download the private key which is currently in use.
 Restore Default Certificate & Private Key: To restore the secure certificate and private key to system default. The secure certificate and private key in use will be overwritten.

	administration interface by SSL o	rusted provider. After you have uploaded a secure o onnection and there will not be any alert or error me	essage.
f you upload a estore the sec	n incorrect secure certificate, you ure certificate to default and acce	may not be able to login the server via 55L. To reso ess the system again.	olve the problem, you can
tatus:default	secure certificate being used		
Download Ce	Download Private Ke	ey Restore Default Certificate & Private Key	
Certificate:ple	ase enter a certificate in X.509PE	M format below.	View Sample
			(
Private Key:pl	ease enter a certificate or private	: key in X.509PEM format below.	View Sample

# 9.1.5 Hardware

Configure the hardware functions of the NVR.

### General

	Control Panel	000
Search Q	(e ) =	2
	General       Buzzer       Smart Fan         Imable configuration reset switch       Enables the light signal alert when the free storage size is less than the value Size: 3072         MB       Enable Redundant Power Supply Mode	
() Network Services		

### Enable configuration reset switch

When this function is turned on, you can press the reset button for 3 seconds to reset the administrator password and the system settings to default. The disk data will be retained.

System	Basic system reset (1 beep)	Advanced system reset (2 beeps)
All NVR models	Press the reset button for 3 sec	Press the reset button for 10 sec

## Basic system reset (3 sec)

After pressing the reset button for 3 seconds, a beep sound will be heard. The following settings will be reset to default:

- System administration password: admin.
- TCP/IP configuration: Obtain IP address settings automatically via DHCP.
- TCP/IP configuration: Disable Jumbo Frame. TCP/IP configuration: If port trunking is enabled (dual LAN models only), the port
- trunking mode will be reset to "Active Backup (Failover)".

- System port: 80 (system service port).
- Security level: Low (Allow all connections).
- LCD panel password: (blank)\*.

\*This feature is only provided by the NVR models with LCD panels.

## Advanced system reset (10 sec)

After pressing the reset button for 10 seconds, you will hear two beeps at the third and the tenth seconds. The NVR will reset all the system settings to default as it does by the web-based system reset in "Administration" > "Restore to Factory Default" except all the data are reserved. The settings such as the users, user groups, and the shared folders previously created will be cleared.

## Enable light signal alert when the free size of SATA disk is less than the value:

The status LED flashes red and green when this option is turned on and the free space of the SATA hard drive is less than the value. The valid range of the value is 1-51200 MB.

## Enable warning alert for redundant power supply on the web-based interface:

If two power supply units (PSU) are installed on the NVR and connected to the power sockets, both PSU will supply the power to the NVR (applied to 1U and 2U models). Turn on the redundant power supply mode in "System Settings" > "Hardware" to receive warning alert for the redundant power supply. The NVR will sound and record the error messages in "System Logs" when the PSU is plugged out or does not correspond correctly.

If only one PSU is installed on the NVR, do NOT enable this option.

	1	Enable configuration reset switch
	1	Enables hard disk standby mode: The status LED will turn off if there is no access within
		Time: 30 minutes 🗶 😣
	1	Enables the light signal alert when the free storage size is less than the value (Only support simple volume.)
		Size: 3072 MB
	1	Enable write cache (EXT4 delay allocation)
	$[\mathbf{Z}]$	Enable Redundant Power Supply Mode
	-	
_		
	App	AY AB

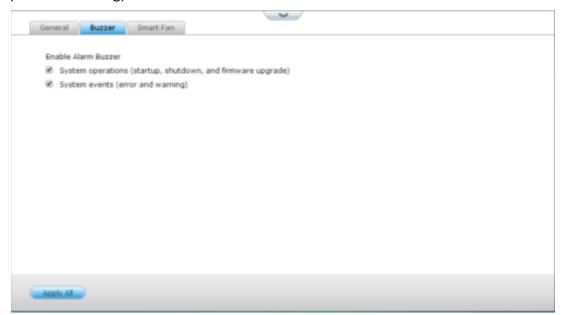
\* This function is disabled by default.

### Buzzer

#### Enable alarm buzzer

Turn on this option to allow the alarm buzzer to beep when certain system operations (startup, shutdown, or firmware upgrade) are executed or system events

(error or warning) occur.



## Smart Fan



Smart Fan Configuration:

Enable smart fan (recommended)

- Select to use the default smart fan settings or define the settings manually. When the system default settings are selected, the fan rotation speed will be
- automatically adjusted when the NVR temperature, CPU temperature, and hard
  drive temperature meet the criteria. It is recommended to enable this option.
  Set fan rotation speed manually
- By manually setting the fan rotation speed, the fan rotates at the defined speed
  continuously.

## 9.1.6 Power

Power Recovery

Configure the NVR to resume to the previous power-on or power-off status, turn on, or remain off when the AC power resumes after a power outage.

	Control Panel	000
Search Q	(← →) m	2
S Overview	Power Recovers	
System Settings	- A MARINA MA	
General Settings	Resume the server to the previous power on or power off status.	
😸 Storage Manager	Turn on the server automatically.	
📈 Network	The server should remain off.	
🔒 Security	hpphy	
Hardware		
🕴 Power		
Notification		
Ermware Update		
🐞 Backup / Restore		
External Device		
System Status		
📰 System Loga		
1 Privilege Settings		
G Network Services		
	(_Acole Al_	

# 9.1.7 Notification

SMTP Server

The NVR supports email alert to inform the administrator of system errors and warning. To receive the alert by email, configure the SMTP server.

- Select an email account: specify the type of email account you would like to use
  for email alerts.
- Email: Enter email address of the alert recipient.
  - Password: Enter the login information of the email account.

	Control Panel	000
🖬 (Search Q)	(← →) Ⅲ	2
Cverview	SMTP Server Alert Notification	
🔅 System Settings	amile aerier Alert Noonkation	
General Settings	Select an e-mail account: MGmail	
🍯 Storage Manager	E-mail:	
減 Network	Password:	
🔒 Security	Send a Test E-mail	
Hardware		
Power	Apply	
💓 Notification		
Firmware Update		
🏨 Backup / Restore		
External Device		
🜉 System Status		
📰 System Logs		
1 Privilege Settings		
Retwork Services		
	(Apoly All)	

## Alert Notification

Select the type of instant alert the NVR will send to the designated users when system events (warning/error) occur.

Alert Notification		
	a, do the following immediately:	
Send system error alert by		
Send system warning alert	to: 🗉 e-mail	
E-mail Notification Settings		
E-mail address 1:		
E-mail address 2:		
Send a Test E-mail		
Note: The SMTP server mus	t be configured first for alert mail delivery.	

## **E-mail Notification Settings**

Specify the email addresses (maximum 2) to receive instant system alert from the NVR.

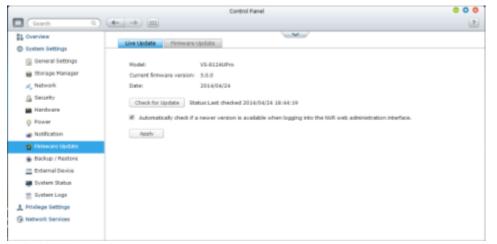
# 9.1.8 Firmware Update

Live Update

Select "Automatically check if a newer version is available when logging into the NVR web administration interface" to allow the NVR to automatically check if a new firmware version is available for download from the Internet. If a new firmware is found, you will be notified after logging in the NVR as an administrator.

Click "Check for Update" to check if a firmware update is available.

Note that the NVR must be connected to the Internet for these features to work.



# Firmware Update

Number         v10-012.41/Fro           Current filmmages variation:         3.0.0           Date:         2014.91/24           Date:         2014.91/24           Date:         2014.91/24           Date:         2014.91/24           Date:         2014.91/24           Date:         2014.91/24           Description         2014.91/24           Description         0.00           Description         0.00           Download the relation of the carea variable as the firmware firm QNUP values in the carea. Variable bits:         0.00           Download the relation of the carea variable as the firmware firm QNUP values in the carea variable as the firmware.         0.00           Enters: values of values of the carea variable as the firmware exact the prover to avoid any potential data bits data the the relation of the carea values.         2.00           S CRS the (Browsea		
Date: 2014/04/24  bitions updating system fermions, please make sure the product nodel and fermions uncerean are correct. Police the steps below to updating system fermions  Download the relation relates of the cares version as the fermions  offer updates that the correct fermions  offer updates used to node our out well to update the fermions  offer updates used to node our out well to update the fermions  offer updates used out well to update the fermions  offer updates used out offer updates used to update the fermions  offer updates used out offer updates used to update the fermions  offer updates used out offer updates used to update the fermions  offer updates used out offer updates  offer u	Hodat	¥5-#1240/Pro
Advect updating system firms are, please stale pure the product model and firms are censor are consol. Police the stage below     opdate firms are     opdate     firms     are     opdate     firms     are     consol     firm	current Removante version:	3.8.0
Is update ferminal. Developed the relates of the same variable as the forevaria first QNAP walkate <u>the division presence to one</u> Read the relation relates candide to notice sure into need to update the forevaria. Each true (because, j) both to notice sure and update the new are seven to work any potential data two during overtees update. Circle true (because, j) both to to be at the correct freeware exact for overtex update. Circle the (because, j) both to to be at the correct freeware exact for overtex update. Circle the (because, j) both to be at the correct freeware exact for overtex update. Circle the (because, j) both to be at the correct freeware exact for overtex update. Circle the (because) Becausebut as the forevariance and the correct freeware exact for the test overtex update. Becausebut as the forevariance update the forevariance as the forevariance update the second potential data to be exactly update for the second potential data.	Date:	2014/04/24
referen notes samful fit make sure sus real for update the forware. 2. Before suddating system forware, body up all disk data on the server to avoid any potential data into during system update. 3. Cick the [bookses_] budyen to adoit the consert forware exapt for system update. Cick the [bookses_] budyen to adoit the consert forware. 2. Before subdate for system update. 2. Before subdate for forware.		moars, please make nore the product model and femners version are correct. Follow the steps below
S. Cick the [Browse.] (when to addit the operant how are exact for avoider update. Cick the [Update treater] button to applicate the fermione.  Browses.  Browses.  Soften update Sectors  Soften update the setwork prevention status, prevent	<ol> <li>Download the release in release rotes carefully to</li> </ol>	otas of the same version as the fereware from QNM wabsite <a href="http://www.ananeworldo.com/">http://www.ananeworldo.com/</a> Read the to make name you read to update the foreware.
fortion update may take here of seconds to several nitudes to complete depending on the network convertion status, piezes	5. Cick the Browse, J hat	
		Browto

Note: If the system is running properly, you do not need to update the firmware.

Before updating the system firmware, make sure the product model and firmware version are correct. Follow the steps below to update firmware:

Download the release notes of the firmware from the QNAP Security website <u>http://www.qnapsecurity.com</u>. Read the release notes carefully to make sure it is

- 1. required to update the firmware.
- Download the NVR firmware and unzip the IMG file to the computer.
   Before updating the system firmware, back up all the disk data on the NVR to
- avoid any potential data loss during the system update.
   Click "Browse" to select the correct firmware image for the system update. Click
- 4. "Update System" to update the firmware.

The system update may take tens of seconds to several minutes to complete depending on the network connection status. Please wait patiently. The NVR will inform you when the system update has completed.

### Update Firmware by QNAP Qfinder

The NVR firmware can be updated by the QNAP Qfinder. Follow the steps below:

1. Select a NVR model and choose "Update Firmware" from the "Tools" menu.

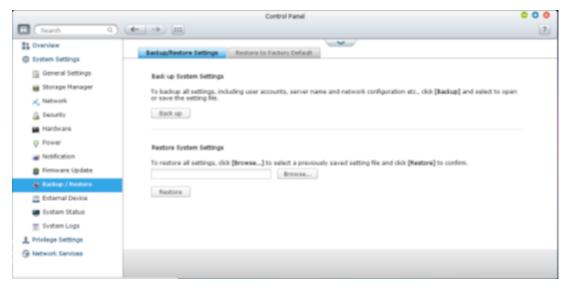
levent Connect Lettings (To	and binin					
	Map Network Drive Restat Gener Shot doore Gener Remote Wake Up (W Search Network Cent Off Tatlings				©	a 1144 -
and Die	Opdate Formare		and the second se			A day
And a second	Resource Monitor Huma Upland	-	Marine Barrier T			HIS ALLEY
VSN			V5H-200	and the second second	7 1.1.15 (20140313)	00-0E-98-02-E1-PA
NVRCHED10	NMBAR Replicator Official		V5-81.48		4.2.0 (7426)	00-08-98-09-69-10
WotilorWW	COst .		V5-4110		✓ 5.0.0 (20140419)	00-08-98-DA-BA-AS
Humphrey	Visitize Placer /		V9-2113	PY0+	A.2.0 (7531)	00-00-90-04-36-69
A WARFEORC	Vulgate Marter		V5-2012	Pro	7 5.0.0 (20140419)	00-08-98-8F-83-7C
Emly	10.8.10.105		TV5-470		✓ 4.1.0 (20140421).	00-08-98-ED-2A-EB
webstebackup	10.8.10.229		75-6CR0	79U-62*	£ 3.7.3 (20120801)	00-06-98-C9-D0-84
websitebackupi	10.8.10.221	-	75-600	19U-8P	± 3.7.3 (20120601)	00-08-98-09-00-68
NASD3716C	10.8.10.67	-	T5-ECIA	290-5AS-AD	4.1.0 (20140423)	00-08-98-DC-95-2C
Afred	10.8.20.32	-	TS-679	Pro	£ 4.0.5 (2013)023)	00-00-08-79-00-19
T5879	10.8.10.164	÷.	15-029	Pro	4.1.0 (20131220)	00-08-98-08-00-00
NASDB52AD	10.8.30.305	+	75-870	hu	4.0.7 (20140410)	00-08-98-08-52-AD
gank-pit/70	10.8.10.212	gnepgek870	15-875	Pro.	. 4.1.0 (20131219)	00-08-98-06-53-18
NASDLBA09	10.8.10.121	#	75-0035	1402	1 3.7.3 (20120801)	00-08-98-01-84-09
writh-mail	10.8.10.60		T5-607	No	. 4.1.0 (20140131)	00-08-98-CB-08-3A
NASC7778F	10.8.10.99	34.	15-659	Pro E	4.0.5 (20140117)	00-06-98-C7-77-8F
Cath Canad	10.0 10 100		10.434	2000	# ADE (30140113)	00.08.08.84.04.30

- 2. Login the NVR as an administrator.
- 3. Browse and select the firmware for the NVR. Click "Start" to update the system.

**Note:** The NVR servers of the same model on the same LAN can be updated by the Finder at the same time. Administrator access is required for system update.

# 9.1.9 Backup/Restore

Backup/Restore Settings



#### Back up System Settings

To back up all the settings, including the user accounts, server name, network configuration and so on, click "Backup" and select to open or save the setting file.

#### **Restore System Settings**

To restore all the settings, click "Browse" to select a previously saved setting file and click "Restore".

**Restore to Factory Default** 

Ł

To reset all the system settings to default, click "RESET" and then click "OK".

**Caution:** When "RESET" is pressed on this page, all the disk data, user accounts, shared folders, and system settings will be cleared and restored to default. Always back up all the important data and system settings before resetting the NVR.

To reset the NVR by the reset button, see "System Settings" > "Hardware".



# 9.1.10 External Device

External Storage

The NVR supports external USB storage devices\* for backup and data storage.

Connect the external storage device to a USB interface of the NVR, when the device is successfully detected, the details will be shown on this page.

USBDisk1	USBDisk2 P1-288	USBDisk3 Generic	
Total:698.63 GB (NTFS)	Total:465.76 GB (NTFS)	Total:3.83 GB (EXT4)	
Used:694.64 GB Free:3.99 GB	Used:70.25 GB Free:395.51 GB	Used:133.12 MB Free:3.70 GB	
Ready	Ready	Ready 🔐	

#### **Storage Information**

Select a storage device and click Storage Information to check for its details.

	Storage Information	×
Storage Name	USBDisk2	
Manufacturer	PI-288	
Model	USB 2.0 Drive	
Total / Free Size	465.76 GB / 395.51 GB	
File System	NTFS	
( Shared Folder	USBDisk2	
Device Type	USB 2.0	
Status	Ready	

\*The number of USB interfaces supported varies by models. Please refer to <u>http://www.qnapsecurity.com</u> for details.

It may take tens of seconds for the NVR server to detect the external USB device successfully. Please wait patiently.

#### Format

The external storage device can be formatted as EXT3, EXT4, FAT32, NTFS, or HFS+ (Mac only) file system. Click "Format" and select the option from the drop-down menu.

The NVR supports external drive encryption. To encrypt an external storage device, click "Encryption". Select the encryption method: AES 128-, 192- or 256-bit and enter the password (8-16 characters). Select "Save encryption key" to save the password in a hidden location on a hard drive of the NVR. The NVR will unlock the encrypted external storage device automatically every time the device is connected. Click Format to proceed.

Fo	rmat External Storage	e Drive	8
File System: 🕕	EXT4 V Mainly for NAS and Linu		
Encryption:	AES 128 bits		
Password:			
Verify Password:	•••••		
🗹 Save encryption key			
		Format Cancel	

Click "OK" and all the data will be cleared.

·	
?	All disk data will be removed. Are you sure?
	OK Cancel

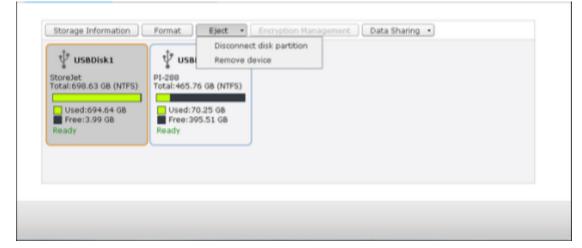
The device will be "Ready" after disk initialization.



#### Eject

"Eject" offers two different options. "Disconnect disk partition" allows you to remove a single disk partition or a disk drive in a multi-drive enclosure. "Remove external device" allows you to disconnect external storage devices without the risk of losing any data when the device is removed.

First choose a device to eject, click "Eject" and then to disconnect the disk partition or remove the device.



#### **Encryption management**

If an external storage device is encrypted by the NVR, the button "Encryption Management" will appear. Click this button to manage the encryption password/key, or lock or unlock the device.

# Lock the device

**Note:** The external storage device cannot be locked if a real-time or scheduled backup job is running on the device. To disable the backup job, go to "Control Panel" > "External Device" > "External Storage"

- 1. To lock an encrypted external storage device, click "Encryption Management".
- 2. Select "Lock this device" and click "Next".

	Encryption Management
Er	ncryption Management
۲	Lock this device
0	Manage encryption key
	Next Cancel

3. Click "Next" to lock the device.

Encryp	ption Management
Encryption Management	
Click "Finish" to lock the device r	now.
🔲 Do not save encryption key	
	Back Next Cancel

# Unlock the device

1. To unlock an encrypted external storage device, click "Encryption Management".

2. Select "Unlock this device". Click "Next".

	Encryption Management
En	ncryption Management
۲	Unlock this device
0	Manage encryption key
	Next Cancel

Enter the encryption password or upload the key file. Select "Save encryption key" to save the password in a hidden location on a hard drive of the NVR. The NVR will unlock the encrypted external storage device automatically every time

3. the device is connected. Click "Next".

	Encryption Managen	ient	
Encryption Manage	ment		
Unlock this device by: Password: 🗹 Save encryption key	••••	🔿 Key File	
	Back	Next Canc	el

# Manage the encryption key

To change an encryption password or download an encryption key file, click

- 1. "Encryption Management".
- 2. Select "Manage encryption key". Click "Next".

	Encryption Management
Er	ncryption Management
0	Lock this device
۲	Manage encryption key
	Next Cancel

Select to change the encryption password or download the encryption key file to

3. the local PC. Click "Next".

		Encryption Management
En	cryption Manager	nent
	Change encryption k Old password:	ey
pa	New password: Verify new ssword:	•••••
0	Download encryption Password:	n key file
		Back Next Cancel

## UPS

By enabling the UPS (Uninterruptible Power Supply) support, you can protect your NVR from abnormal system shutdown caused by power disruption. In the event of a power failure the NVR will shut down automatically or enter auto-protection mode by probing the power status of the connected UPS unit.

# Standalone mode – USB

To operate under USB standalone mode, follow the steps below:

- 1. Plug in the USB cable on the UPS to the NVR.
- Select the option "Enable UPS Support".
   Choose between whether the NVR will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NVR should wait before
- executing the option you have selected. After the NVR enters auto-protectionmode, the NVR resumes the previous operation status when the power restores.
- 4. Click "Apply All" to confirm.

1	Enable UPS Support
	Enable Network UPS Support
	IP address 1
	IP address 2
	IP address 3
	IP address 4
	IP address 5
	IP address 5
	Turn off the server after the AC power fails for
	minute(s): 5
	The system will enter ""auto-protection" mode after the AC power fails for
	minute(s): 2
	"Auto-protection: when the power restores, the system automatically resumes to its previous state
UP	PS Information
N	Orma Manufacture: American Power Conversion
	ttery capacity: 100% Model: Smart-UPS 1500
Est	timated protection time: 5:35:0 (hh:mm:ss)

#### Standalone mode – SNMP

To operate under SNMP standalone mode, follow the steps below:

1. Make sure the NVR is connected to the same physical network as the

SNMP-based UPS.

- 2. Select the option "Enable UPS Support".
- 3. Select "APC UPS with SNMP management" from the "Protocol" drop down menu.
- Enter the IP address of the SNMP-based UPS.
   Choose between whether the NVR will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NVR should wait before executing the option you have selected. After the NVR enters auto-protection
- 5. mode, the NVR resumes the previous operation status when the power restores.
- 6. Click "Apply All" to confirm.

1100	
UPS	
Enable UPS Suppo	irt.
Protocol:	APC UPS with SNMP management
IP Address of UPS	172.17.25.220
	arver after the AC power fails for
minute(s):	
	ill enter ""auto-protection" mode after the AC power fails for
minute(s):	when the power restores, the system automatically resumes to its previous state
UPS Information	
Normal Battery capacity:	Manufacture: American Power Conversion Model: apc-snmp-ups
Normal	Model: apc-snmp-ups
Normal Battery capacity:	Model: apc-snmp-ups

#### Network master mode

A network UPS master is responsible for communicating with network UPS slaves on the same physical network about critical power status. To set up your NVR with UPS as network master mode, plug in the USB cable on the UPS to the NVR and follow the steps below:

Make sure the NVR (the "UPS master") is connected to the same physical

- 1. network as the network UPS slaves.
- 2. Select the option "Enable UPS Support".
- 3. Click "Enable network UPS Support". This option appears only when your NVR is

connected to the UPS by a USB cable.

Choose between whether the NVR will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NVR should wait before executing the option you have selected. After the NVR enters auto-protection

mode, the NVR resumes the previous operation status when the power restores.
 5.Enter the "IP address" of other network UPS slaves to be notified in the event of power failure.

6.Click "Apply All" to confirm and continue the setup for the NVR systems which operate in network slave mode below.

	nable UPS Support							
	Enable Network UPS Support	nort						
		ddresses to be notified in the event of power failure						
	IP address 1:	10.8.19.27						
	IP address 2:	23.58.11.249						
	IP address 3:	71.55.7.56						
	IP address 4:	192.168.0.55						
	IP address 5:							
	IP address 6:							
	Turn off the server afte	the AC power fails for						
	minute(s):	5						
e	The system will enter ""auto-protection" mode after the AC power fails for							
	minute(s):							
	Auto-protection: when the	power restores, the system automatically resumes to its previous state						
No Batte	rmal	Manufacture: American Power Conversion Model: Smart-UPS 1500						
Estim	ated protection time: 3:	:0 (hh:mm:ss)						

#### Network slave mode

A network UPS slave communicates with network UPS master to receive the UPS status. To set up your NVR with UPS as network slave mode, follow the steps below:

1. Make sure the NVR is connected to the same physical network as the network UPS master.

- 2. Select the option "Enable UPS Support".
- 3. Select "Network UPS slave" from the "Protocol" drop down menu.
- 4. Enter the IP address of the network UPS server.
- 5. Choose between whether the NVR will shut down or enter auto-protection

mode after AC power fails. Specify the time in minutes that the NVR should wait before executing the option you have selected. After the NVR enters auto-protection mode, the NVR resumes the previous operation status when the power restores.

6. Click "Apply All" to confirm.

Enable UPS Support		
Protocol:	Network UPS slave	M
IP address of network UPS server:	10.8.12.153	
Turn off the server after the AC	power fails for	
minute(s):	5	
The system will enter "*auto-pr minute(s):	otection" mode after the AC	C power fails for
"Auto-protection: when the power	restores, the system autom	atically resumes to its previous state
UPS Information		
UPS Information AC power status: Battery capacity: Estimated protection time:		lanufacture: Iodel:

**Note:** To allow the UPS device to send SNMP alerts to the QNAP NVR in case of power loss, you may have to enter the IP address of the NVR in the configuration page of the UPS device.

#### Behavior of the UPS feature of the NVR

In case of power loss and power recovery, the events will be logged in the "System Event Logs".

During a power loss, the NVR will wait for the specified time you enter in the "UPS Settings" before powering off or entering auto-protection mode. If the power restores before the end of the waiting time, the NVR will remain in operation and cancel its power-off or auto-protection action.

Once the power restores:

If the NVR is in auto-protection mode, it will resume to normal operation.

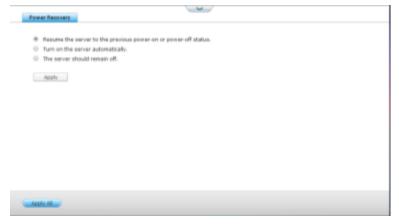
If the NVR is powered off, it will remain off.

Mode	Advantage	Disadvantage
Auto-protection mode	The NVR resumes after power recovery.	If the power outage lasts until the UPS is turned off, the NVR may suffer from abnormal shutdown.
Power-off mode	The NVR will be shut down properly.	The NVR will remain off after the power recovery. Manual power on of the NVR is required.

# Difference between auto-protection mode and power-off mode

If the power restores after the NVR has been shut down and before the UPS device is powered off, you may power on the NVR by Wake on LAN\* (if your NVR and UPS device both support Wake on LAN and Wake on LAN is enabled on the NVR).

If the power restores after both the NVR and the UPS have been shut down, the NVR will react according to the settings in "System Settings" > "Power Recovery".



# 9.1.11 System Status

System Information

View the summary of system information such as the server name, memory, firmware and system up time on this page.

System Information         Resource Monitor           System Information         Resource Monitor           Server name         W1-27-41240.Pro           Redef name         V5-41240.Pro           Redef name         V5-41240.Pro           Redef name         Q119304572           Intel name         2447.9 MB           Intel name version         5.0.0 Build 20140424		System Status	0 0 0
tankany           ierver næne         W1-27-6124UP           fodel næne         VE-8124UPro           iarlaf nænber         Q119304572           foldel nænory         2647.9 MB           ferne are varsion         5.0.0 Build 20140424			0 0 0 2
ierver name         W1-27-41240/P           fodel name         VE-01240/Pro           ketal number         Q119304572           total memory         2047,9 MB           immare varsion         5.0.0 Build 20140424	System Information Network Status Hardware	Information Resource Monitor	
Internet         V5-61240/Pro           Karkal number         Q119304572           Istal memory         2647,9 HB           Immare varian         5.0.0 Bulk 20140424	Summary		
latial number         Q119304572           latal memory         2647,9 368           limeare varsion         5.0.0 Build 20140424	Server name	W1-27-4124UP	
Istal removy         2647,9 HB           Istractive         5.0.0 Build 20140424	Nodel name	VS-0124UPro	
fermane version 5.0.0 Build 20140424	Serial number	Q119034572	
	Total memory	2047.9 MB	
vatam up time 0 day 4 Hour 23 Hisube(s)	firmnare version	5.0.0 Build 20340424	
	System up time	0 day 4 Hour 23 Himute(s)	
ima zone (OPIT+06:00) Taipei	Time zone	(OMT+06.00) Taipei	

#### **Network Status**

View the current network settings and statistics on this page and they are displayed based on network interfaces. Click the up arrow at top right to collapse the interface page and down arrow to expand the page.

	System Status	0 0 0
		2
System Information Network Status Har	dware Information Resource Monitor	
Ethernet 1		
Link:	Up	
IP address	10.65.9.27	
NAC address	00:08:9b:cb:30:20	
Submet mask:	255.255.254.0	
DNS	10.8.2.11 168.95.1.1	
Packets received	53563547	
Packets sent	9747100	
Error packets	0	
Ethemet 2		
Link	Up	
IP address	10.65.9.27	
MAC address	00:08:96:00:30:31	
Subnet mask	255.255.254.0	
0NS	10.8.2.11 168.95.1.1	
Packets received	36193192	

# Hardware Information

View basic hardware information of the NVR on this page.

	System Status	0 0 0
		• • •
System Information Network Status Hardwa	Resource Monitor	
Hy MAR		
CPU usage	19.5 %	
Total memory	2647.9 HB	
Rea memory	2541.9 MB	
CPU temperature	44°C / 111°F	
System temperature	43°C / 109°F	
System fan 1 speed	7309 MPM	
System fan 2 speed	7042 MPM	
System fan 3 speed	7.269 MPM	

## **Resource Monitor**

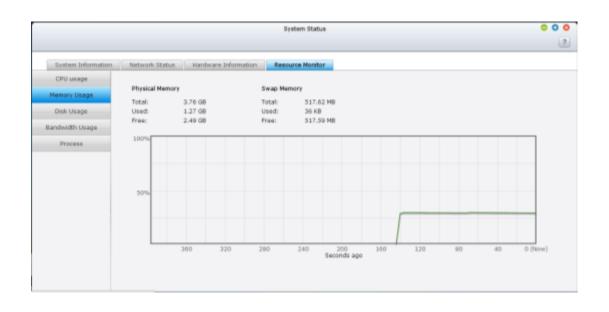
•

You can view the CPU usage, disk usage, and bandwidth transfer statistics of the NVR on this page.

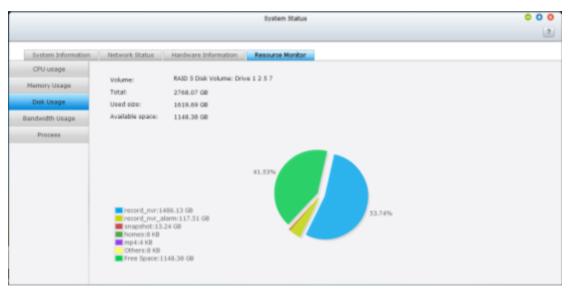
# CPU Usage: This tab shows the CPU usage of the NVR.

	System Status	• • •
		6
System Information	Network Status Hardware Information Resource Monitor	
CPU usage		
Memory Usage	CPU (Hyper-Threading) 100% 100%	
Disk Usage		
Bandwidth Usage		
Process	50%	
	٢٠	
	100%	
	50%	
		H

Memory Usage: This tab shows the memory usage of the NVR by real-time
dynamic graph.



Disk Usage: This tab shows the disk space usage of each disk volume and its
shared folders.



Bandwidth Usage: This tab provides information about bandwidth transfer of each
available LAN port of the NVR.



Process: This tab shows information about the processes running on the NVR.

00			System Status		
			lardware Information Resource Monitor	on Network Status #	System Informati
Henor	CPU usage	PID	Users	Process Name	CPU usage
24883	7.5 %	26367	admin	qided	Herrory Usage
13926	5.5 W	25350	admin	nvrd	Plenory Usage
010	0.3 %	9744	admin	х	Disk Usage
	0.3 %	10202	admin	md0_raid5	andwidth Usage
7577	0.3 %	18331	admin	_thttpd_	Process
735	0.3 %	25793	admin	snapshotd	110,005
	0.1 %	13057	admin	Rush-910	
42	0.1 %	25952	admin	bdbbe	
42	0 %	24531	admin	iscaid	
346	0 %	9596	admin	aved	
71	0.%	9741	admin	elombuebd	
61	0.%	1	admin	ink	
74	0.%	9761	admin	xcompingr	
25	0 %	9990	admin	loand	
54	0 %	1939	admin	wdd	

•

# 9.1.12 System Logs

**Recording Statistics** 

The NVR can store 10,000 recent event logs, including warning, error, and information messages. If the NVR does not function correctly, refer to the event logs for troubleshooting.

					System Logs	0 0 0
						?
	Recording Statist	lics System	Connection Logs	Online Users		
All ever	nts 🔟 Clea	r Save				Content Search
Гуре	Date	Time	Users	Source IP	Computer name	Content
0	2014-02-05	10:47:29	System	127.0.0.1	localhost	CMS-Lite 0.52 has been installed in /share/HDA_DATA/.qpkg/CMS-Lite.
0	2014-02-05	10:47:08	System	127.0.0.1	localhost	VCAM 0.1 has been installed in /share/HDA_DATA/.qpkg/VCAM.
0	2014-02-05	09:25:35	System	127.0.0.1	localhost	System started.
0	2014-02-05	09:23:12	System	127.0.0.1	localhost	System was shut down on Wed Feb 5 09:23:12 CST 2014.
0	2014-02-05	09:21:44	admin	10.8.10.96		[Power Management] System will be restart now.
0	2014-02-05	09:20:39	System	127.0.0.1	localhost	[Firmware Upgrade] System updated successfully from 5.0.0(2014011) to 5.0.0(20140205).
9	2014-02-05	09:18:11	System	127.0.0.1	localhost	[Firmware Upgrade] Start to update the firmware.
0	2014-01-29	11:48:48	System	127.0.0.1	localhost	myQNAPdoud user [mikeshaw@qnap.com] has been signed in
0	2014-01-29	11:48:42	System	127.0.0.1	localhost	myQNAPcloud CloudLink has been turned on
0	2014-01-29	11:48:37	System	127.0.0.1	localhost	myQNAPdoud DDNS has been turned on
0	2014-01-28	13:34:54	System	127.0.0.1	localhost	System started.
0	2014-01-28	13:32:34	System	127.0.0.1	localhost	System was shut down on Tue Jan 28 13:32:34 CST 2014.
14 4	Page 1 /2	▶ N 0	ndmin	10.0.10.174		Display item: 1-50, Total: 52 Show 50 m Rev

# System Connection Logs

The NVR supports recording HTTP, FTP, Telnet, SSH, AFP, SAMBA, and iSCSI connections. Click "Options" to select the connection type to be logged. The file transfer performance can be slightly affected when this feature is turned on.

Tip: Right click a log and select to delete the record or block the IP and select how long the IP should be blocked. To clear all the logs, click "Clear".

					System L	ogs		000
								2
	System Event La	System	Connection Log	Online Users				
al ev	ents - Stop		options Sa					Accessed Resources Sec 3
ype	Date	Time	Users	IP	Computer name	Connection Type	Accessed resourc	es Action
0	2014-04-24	19:13:32	admin	10.65.12.98		HTTP	Administration	Login OK
	2014-04-24	19:04:05	admin	10.65.12.98		HTTP		Logout
	2014-04-24	19:04:04	admin	10.65.12.98		HTTP	Administration	Login OK
0	2014-04-24	18:45:59	admin	10.65.12.98		HTTP		Logout
)	2014-04-24	18:45:58	admin	10.65.12.98		HTTP	Administration	Login OK
	2014-04-24	18:44:13	admin	10.8.10.56		HTTP	Administration	Login OK
	2014-04-24	17:54:44	admin	10.65.12.98		HTTP		Logout
	2014-04-24	17:54:43	admin	10.65.12.98		HTTP	Administration	Login OK
	2014-04-24	17:25:44	admin	10.65.12.98		HTTP		Logout
)	2014-04-24	17:25:43	admin	10.65.12.98		HTTP	Administration	Login OK
Δ.	2014-04-24	17:10:13	admin	10.65.12.98		HTTP	Administration	Login Fail
)	2014-04-24	17:10:12	admin	10.65.12.98		HTTP	Administration	Login OK.
4.4	Page 1 /5	1112		10.77.15.00				Display item: 1-50. Total: 210 Show 50 m Re

Start Logging: Turn on this option to archive the connection logs. The NVR generates a CSV file automatically and saves it to a specified folder when the number of logs reaches the upper limit.

-	Options
Se	lect the connection type to be logged. HTTP SMB (Windows)
	When the number of logs reaches 10,000, archive the connection logs and save the file in the folder:
	Apply Cancel

The file-level access logs are available on this page. The NVR will record the logs when users access, create, delete, move, or rename any files or folders via the connection type specified in "Options".

ul eve	nts 💌 Stop Logg	o Options	Clear	Save			Accessed	Resources Sec ¥
pe	Date	Time	Users	Source IP	Computer name	Connection typ		
0	2013-05-10	17:31:52	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio	Read
	2013-05-10	17:31:50	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio	Read
0	2013-05-10	17:31:48	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio	Read
	2013-05-10	17:31:48	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio	Read
	2013-05-10	17:31:47	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Mistead_QN	Read
	2013-05-10	17:31:35	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Chrome_gra	Read
0	2013-05-10	17:31:30	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Chrome_gra	Read
	2013-05-10	17:31:29	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Chrome_gra	Read
	2013-05-10	17:31:28	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Mistead_QN	Read
	2013-05-10	17:31:28	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Mistead_QN	Read
4 4	Page 1 /3 🕨	н I @				1	Display item: 1-10, Total: 22	Show 10 M Iten

Online Users

The information of the on-line users connecting to the NVR by networking services is shown on this page.

Tip: You can disconnect the IP connection, add it to the blocked IP list and select how long you want it to be blocked.

Recording Statistics         System Connection Logs         Online Users           Type         Login Time         Users         Source IP         Computer name         Connection L., Accessed Resources           1         2014-02-05         09:46:11         admin         10.8.10.96         mikeshaw-pt         Samba         record_nwr           1         2014-02-05         10:37:52         adm         Disconnection Add to the block list         >         Administration	Users search V
Users search Users Source IP Computer name Connection t Accessed Resources 2014-02-05 09:46:11 admin 10.8.10.96 mikeshaw-pc Samba record_nvr 2014-02-05 10:37:52 adm Disconnect this connection P Administration	Users search 3
Appe         Login Date         Login Time         Users         Source IP         Computer name         Connection t Accessed Resources           2014-02-05         09:46:11         admin         10.8:10.96         mikeshaw-pc         Samba         record_nwr           2014-02-05         10:37:52         admin         Disconnect this connection         P         Administration	Users search (8
2014-02-05 09:46:11 admin 10.8.10.96 mikeshaw-pc Samba record_nwr	
2014-02-05 10:37:52 adm Disconnect this connection Administration	
2014-02-05 10:37:52 admi P Administration	
Add to the block list 👂	
Discourse of this second birst of the 10 h	
Disconnect this connection and block the IP +	

#### Advanced Log Search

Advanced log search is provided to search for system event logs, system connection logs and online users based on user preferences. First, specify the log type, users, computer name, date range and source IP and click "Search" to search for the desired logs or reset to list all logs.

					System Logs	e 😁 😁
						2
	System Eve	nt Logs System	Connection Logs	Online Users	Syslog Client Managemen	6
All ever	nts 🗶 🔄	Clear Save				Content Search R
Log typ	pe:	All events			✓ Date:	2013-05-03 3 2013-05-11 3
Users:		system			Source IP:	
Compu	Aer name:	1				
Type	Date 2013-05-0	Time 7 17:07:04	Users System	Source IP 127.0.0.1	Computer name localhest	Content (Drive 1) The scanning is stopped by user.
<b>A</b>	2013-05-0	17:07:04	System	127.0.0.1	localhost	(Drive 1) The scanning is stopped by user.
0	2013-05-0	17 17:06:55	System	127.0.0.1	localhost	[Drive 1] Start scanning bad blocks.
0	2013-05-0	08:04:00	System	127.0.0.1	localhost	[USBDisk2] Device detected. The file system is ntfs.
0	2013-05-0	02:46:29	System	127.0.0.1	localhost	[USBDisk2] Device removed.
0	2013-05-0	23:23:50	System	127.0.0.1	localhost	[Video Station] Video Station is enabled successfully.
14.4	Page 1	/1 > > 2				Display item: 1-5, Total: 5 Show 50 - Item

Please note that for online users, only the source IP and Computer name can be specified.

# 9.2 Privilege Settings

The NVR supports 3 types of users:

1. administrator

The system default administrator accounts are 'admin' and 'supervisor' (default password: **admin**). Both of them have the rights of system administration, monitoring, and playback. The administrators cannot be deleted. They have the rights to create and delete new administrators, system managers, and general users, and change their passwords. Other newly created 'administrators' have the rights of system administration, monitoring, and playback but some rights are different from 'admin' and 'supervisor'.

2. system manager

The default system manager account is 'sysmgr' (default password: **admin**). This account has the right of system administration and cannot be deleted. 'sysmgr' can create and delete other system manager and general user accounts, and assign monitoring, playback, and administration rights to them. Other newly created system managers will also have the administration right but some rights are different from 'sysmgr'.

3. user

The general users have only the rights of monitoring and video playback. They have no administration authority.

The following information is required to create a new user:

Username: The username is case-insensitive and supports multi-byte characters,

- such as Chinese, Japanese, Korean, and Russian. The maximum length is 32 characters. The invalid characters are: "/ []:; | = , + \*? <>`'
- Password: The password is case-sensitive and supports maximum 16 characters. It is recommended to use a password of at least 6 characters.

	Control Panel	o 0 0
💶 🤇 Search		2
計 Overview 尊 System Settings	Create Deloto	Action
Privilege Settings Users	admin	
() Network Services	supervisor symp	0 700

Create a User

To create a user on the NVR, click "Create".

Follow the instructions of the wizard to complete the details.

			Privilege S	Settings			
Username:			Channel	Monitoring	Playback	PTZ Control	🗆 Audio
Password:	0-16 characters		1				
		o short	2				
erify Password:			3				
Jser Type:	user	~	4				

# 9.3 Network Services

#### 9.3.1 Win

# **Microsoft Networking**

To allow access to the NVR on Microsoft Windows Network, enable file service for Microsoft networking. Specify also how the users will be authenticated.

	Control Panel	000
( → ) =		• • •
Microsoft Networking	<u> </u>	
Enable file service for Microsoft ne	Eworking	
Server description (Optional):	NVR Server	
Workgroup:	M/R.	
Advanced Options		
Apply		
Apply Al		
	<ul> <li>Enable file service for Microsoft ne Server description (Optional): Workgroup: Advanced Options</li> <li>Apply</li> </ul>	Marosoft Networking

# **Advanced Options**

	Advanced Options 😣
	Enable WINS server
	Use the specified WINS server
	WINS server IP address: 0 .0 .0 .0
<b>~</b>	Local master browser
	Allow only NTLMv2 authentication.
Na	me resolve priority: DNS only
	Login style: DOMAIN\USERNAME instead of DOMAIN+USERNAME for FTP, AFP, & File Station
	Automatically register in DNS
	Enable trusted domains
	Apply Cancel

# WINS server:

If the local network has a WINS server installed, specify the IP address. The NVR will automatically register its name and IP address with WINS service. If you have a WINS server on your network and want to use this server, enter the WINS server IP. Do not turn on this option if you are not sure about the settings.

# Local Domain Master:

A Domain Master Browser is responsible for collecting and recording resources and services available for each PC on the network or a workgroup of Windows. When you find the waiting time for connecting to the Network Neighborhood/My Network Places too long, it may be caused by failure of an existing master browser or a missing master browser on the network. If there is no master browser on your network, select the option "Domain Master" to configure the NVR as the master browser. Do not turn on this option if you are not sure about the settings.

# Allow only NTLMv2 authentication:

NTLMv2 stands for NT LAN Manager version 2. When this option is turned on, login to the shared folders by Microsoft Networking will be allowed only with NTLMv2 authentication. If the option is turned off, NTLM (NT LAN Manager) will be used by default and NTLMv2 can be negotiated by the client. The default setting is disabled.

#### Name resolution priority:

You can select to use DNS server or WINS server to resolve client host names from IP addresses. When you set up your NVR to use a WINS server or to be a WINS server, you can choose to use DNS or WINS first for name resolution. When WINS is enabled, the default setting is "Try WINS then DNS". Otherwise, DNS will be used for name resolution by default.

Login style: DOMAIN\USERNAME instead of DOMAIN+USERNAME for FTP, AFP, and File Station

In an Active Directory environment, the default login formats for the domain users are:

- Windows shares: domain\username
- FTP: domain+username

- File Station: domain+username
- AFP: domain+username

When you turn on this option, the users can use the same login name format (domain\username) to connect to the NVR via AFP, FTP, and File Station.

**Automatically register in DNS:** When this option is turned on and the NVR is joined to an Active Directory, the NVR will register itself automatically in the domain DNS server. This will create a DNS host entry for the NVR in the DNS server. If the NVR IP is changed, the NVR will automatically update the new IP in the DNS server.

**Enable trusted domains:** Select this option to load the users from trusted Active Directory domains and specify their access permissions to the NVR in "Privilege Settings" > "Shared Folders". (The domain trusts are set up in Active Directory only, not on the NVR.)

# 9.3.2 FTP

# **FTP Service**

When you turn on FTP service, you can specify the port number and the maximum number of users that are allowed to connect to the NVR by FTP at the same time.

	Control Par	uil .		000
(m) (m)				2
PTP Service Advanced			<u> </u>	
General Enable FTP Service Protocol type:			(Explicit)	
Port number:	21			
Unicode support:	# Yes	.0	No	
Enable anonymous:	C Yes		No	
Note: If your PTP client does i	not support Unicode,	please a	elect 'No" for Unicode Support.	
Connection				
Maximum number of all FTP co	innections:	34	2	
		nt: 10	2	
Analy Al				
	General  Connection  Connection  Roots: Jone Protocol type:  Port number: Unicode support: Enable anonymous: Note: If your PTP client does n  Connection  Roots: If your PTP client does n  Connection  Roots: In the protocol of all PTP co Roots: Intervent of all PTP co Roots: Intervent of all PTP co Roots: Intervent of connection  Connection  Content of the PTP transfer limited		FTP Service         General <ul> <li>Enable FTP Service</li> <li>Protocol type:</li> <li>PTP with SSL/LS</li> </ul> Port number:       21         Unicode support:       Yes         Enable anonymout:       Yes         Note:       If year PTP clent does not support Unicode, please and the sum number of all FTP connections:         Connection       Maximum number of all FTP connections:         Enable FTP transfer limitation	Image: State         Image: State         General         Image: State         Protocol type:         Image: State         Prot number:         21         Unicode support:         Image: State         Ima

To use the FTP service of the NVR, enable this function. Open an IE browser and enter ftp://NVR IP. Enter the username and the password to login the FTP service.

# Protocol Type:

Select to use standard FTP connection or SSL/TLS encrypted FTP. Select the correct protocol type in your client FTP software to ensure successful connection.

## **Unicode Support:**

Turn on or off the Unicode support. The default setting is No. If your FTP client does not support Unicode, you are recommended to turn off this option and select the language you specify in "General Settings" > "Codepage" so that the file and folder names can be correctly shown. If your FTP client supports Unicode, enable Unicode support for both your client and the NVR.

# Anonymous Login:

You can turn on this option to allow anonymous access to the NVR by FTP. The users can connect to the files and folders which are open for public access. If this option is turned off, the users must enter an authorized username and password to connect to the server.

# Advanced

FTP Service Advanced	FTP Service Advanced					
Passive FTP port range:	Use the default port range Define port range: 55536 - 56550					
Respond with external IP	address for passive FTP connection request					
External IP address:						
Acely All						

#### Passive FTP Port Range:

You can use the default port range (55536-56559) or specify a port range larger than 1023. When using this function, make sure you have opened the ports on your router or firewall.

# Respond with external IP address for passive FTP connection request:

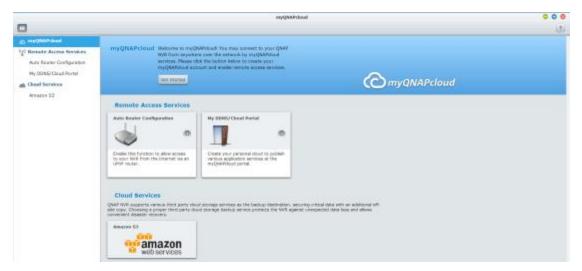
When passive FTP connection is in use, the FTP server (NVR) is behind a router, and a remote computer cannot connect to the FTP server over the WAN, enable this

function. When this option is turned on, the NVR replies the IP address you specify or automatically detects the external IP address so that the remote computer is able to connect to the FTP server.

# **Chapter 10. QNAP Applications**

# 10.1myQNAPcloud Service

The myQNAPcloud service is a function which provides host name registration, mapping of the dynamic NVR IP to a domain name, and auto port mapping of UPnP router on the local network. Use the myQNAPcloud wizard to register a unique host name for the NVR, configure automatic port forwarding on the UPnP router, and publish NVR services for remote access over the Internet.



To use the myQNAPcloud service, make sure the NVR has been connected to an UPnP router and the Internet and click the myQNAPcloud shortcut from the NVR Desktop or Main Menu.

# 10.1.1 Remote Access Services

myQNAPcloud wizard

The first time you use the myQNAPcloud service, you are recommended to use the myQNAPcloud wizard to complete the settings. Follow the steps below: 1. Click "Get Started" to use the wizard.



2. Click "Start".

Welcome to myQNAPcloud!
Hello! Welcome to myQNAPcloud wizard. This wizard helps you set up the QNAP NVR for remote access on the Internet by the steps below:
1. Create or sign in a myQNAPcloud account
2. Register your NVR
3. Enable myQNAPcloud remote access services
Start
Quit

 Please use your myQNAPcloud ID(QID) and password to login.
 (Click "Create myQNAPcloud account" if you don't have myQNAPcloud account.)

Welcome to myQNAPcloud!				
Sign in myQNAPclou	ud account			
Please sign in myQNAPcl account )	oud account to proceed ( or Create myQNAPcloud			
myQNAPcloud ID (QID) :	Your email			
Password :	Password			
	Forgot your password?			
	Resend activation email			
Step 1/4	Next Cancel			

4. Enter a name to register your NVR and click "Next".

#### Welcome to myQNAPcloud!

#### Register your myQNAPcloud device name

Please enter a name to register your QNAP NVR. This name will be used to access your NVR remotely.

#### qvrtest

After finishing the wizard, you can access your QNAP NVR remotely with the following Internet address:

qvrtest.myqnapcloud.com

Step 2/4	Next	Cancel

5. The wizard will configure your router automatically.

Welcome to myQNAPcloud!				
Configuring your router				
Please wait patiently. The router configuration minute.	will be completed in a			
Configuring network environment and applying	myQNAPcloud services 7%			
Step 3/4	Next Cancel			

6. Review the summary page and click "Finish" to complete the wizard.

#### Welcome to myQNAPcloud!

#### Summary

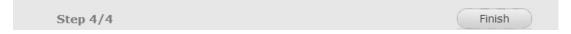
Congratulations! You have completed the following settings. You can now access your QNAP NVR remotely on the Internet.

Auto router configuration (UPnP port forwarding)
 Setup successfully

 myQNAPcloud device name qvrtest
 Connect to the QNAP NVR from the myQNAPcloud website (http://www.myqnapcloud.com) by entering the device name, or use the following Internet address: name: qvrtest.myqnapcloud.com

#### Publish NVR services on the cloud portal:

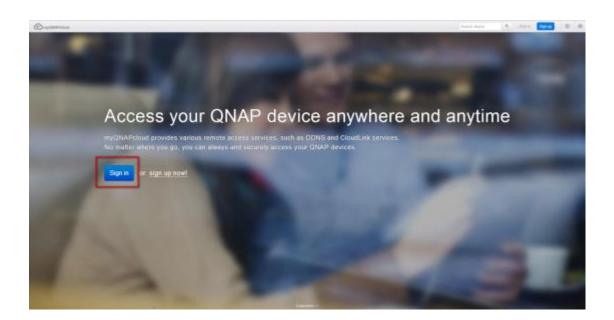
QVR, File Station



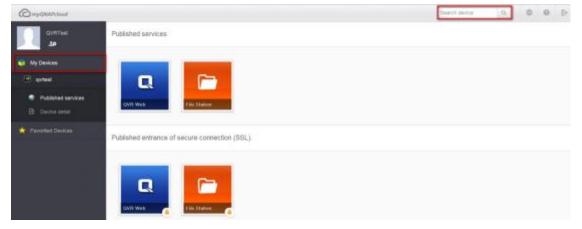
Manage and configure your myQNAPcloud account

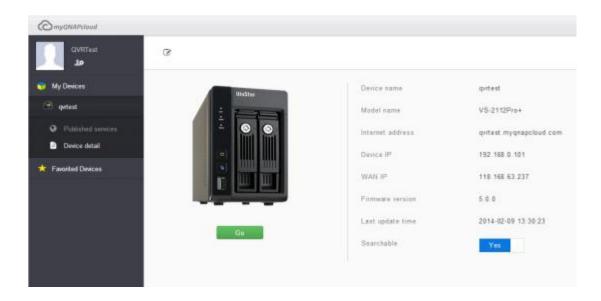
Click "Manage myQNAPcloud Account" on top of the page after launching myQNAPcloud or log into your account at <u>http://www.myqnapcloud.com.</u>

myQNAPcloud	myQNAPcloud ID (QID) : qvrtest@gmail.com myQNAPcloud Device Name : qvrtest 🖋 QNAP NVR Internet Address : gvrtest.mygnapcloud.com			ocloud.com
	M	anage myQNAPcloud Acco	unt	Sign out.



After click your login ID(QID) and password in "Sign in", you can enter your device name in "Enter device name" to search your devices. Or you can select "My Devices" from the drop down menu in left side to review all your device published services and details, including the name, DDNS address, LAN and WAN IP.





Or, select button "My Account" in top left corner to check your profile, change your password and monitor your account activity.

@myQNAPcloud	
	Published services
😼 My Devees	
🖻 quitest	
Published services	QVR Web : The Station
★ Fantrikel Devices	Published entrance of secure connection (SSL).
	QVR Web C

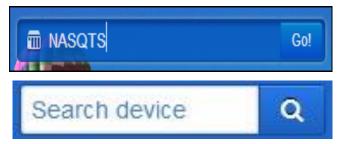
OmyQNAPcloud		
GV/RTest qvrtest@gmail.com	Profile	
1 Profile		myQNAPcloud ID
Change Password		qvrtest@gmail.com
Activities		First Name
Back to myQNAPcloud Portal		QVR
		Last Name
		Test
		Display Name
		QVRTest
		Gender
		Male
		Bithday
		1984 • / 12 • / 18 •
		Mobile Number
		10000
		I'd like to receive latest information from QNAP.
		Yes
		Prefemed Language
		繁體中文

(C) myGNAPeloud	
GVRTest extensional.com	Change Password
+ Proble	Old Password
Change Password     Activities	New Password
Activities     Back to myCRAP-cloud Poltal	Confirm New Password
	Submit

OVRTest overest@gmail.com	Activities				
L Polis	<b>Ø2014-02-09</b>				
<ul> <li>Change Fasseurd</li> <li>Advites</li> </ul>	0 01:30:17 pm	•	Device Register device	Source IP J Country Device Name Device Model	118-168-83-2377/Talwan qertem VS-2112Pra+
Back to myONAP doub Pertaining Control Pertainin	0 <mark>01 29:33 pm</mark>	•	Device Bign im	Source IP / Country	118.168.63.237/Taiwan
	0 01:27:62 pm	0	myQNAPcloud Portal Sign in	Source IP / Country	118.168.63.237 / Tarwan
	0 01 27 51 pm	0	Auth Center Sign in	Source IP / Country	118.168.03.227 / Taiwan

Access NVR services via the myQNAPcloud website

To access the NVR services via the myQNAPcloud website, specify the NVR you registered with in the search box and click search button in the right.



The published public NVR services will be listed.

Complication of				Search device	9	0	0	()-
	Welcome to gvrt	test's cloud portal						
	Published Services	Private Services	Ado to Pavarited D	evices				
	Q							
		k lizze						
	Published entrance of secur	re obmection (SSL)						
		_						
	Q							
	gan me	1 TAN						

er name	
ess code	
	er name cess code

Enter the access code to browse private services.

After entering the user name and access code, you can browse private services.

Note: For configuration on private NVR services, please refer to the DDNS/Cloud
Portal section later in this chapter.

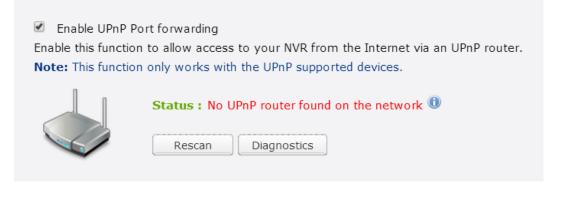
#### Auto Router Configuration

In "Remote Access Services" > "Auto Router Configuration", you can enable or disable UPnP port forwarding. When this option is enabled, your NVR is accessible from the Internet via the UPnP router.



**Note:** If there is more than one router on the network, only the one which is set as the default gateway of the NVR will be detected.

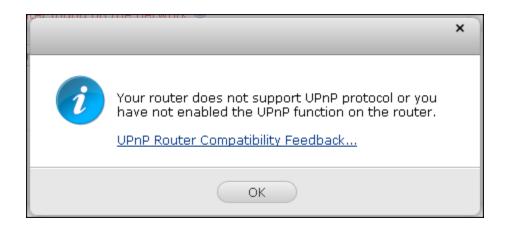
Click "Rescan" to detect the router if no UPnP router is found on the local network and "Diagnostics" to check the diagnostic logs.



Network Diagnostics	
NAT PMP Diagnostics initnatpmp() returned 0 (SUCCESS) using gateway : 192.168.0.1 sendpublicaddressrequest returned 2 (SUCCESS) readnatpmpresponseorretry returned -100 (TRY AGAIN) readnatpmpresponseorretry returned -100 (TRY AGAIN) readnatpmpresponseorretry returned -7 (FAILED) UPnP Diagnostics upnpc : miniupnpc library test client. (c) 2006-2011 Thomas Bernard Go to http://miniupnp.free.fr/ or http://miniupnp.tuxfamily.org/ for more information. List of UPNP devices found on the network : desc: http://192.168.0.1:12592/rootDesc.xml st: urn:schemas-upnp-org:device:InternetGatewayDevice:1	
	Close

If the UPnP router is incompatible with the NVR, click ①and then click "UPnP Router Compatibility Feedback…" (<u>http://www.qnap.com/go/compatibility\_router.html</u>) to contact the

technical support.



Select the NVR services to be allowed for remote access in section "Forwarded Services". Then click "Apply to Router". The NVR will configure the port forwarding on the UPnP router automatically. You will then be able to access the NVR services from the Internet.

Forwarde	d Services			
Apply to	Router			
Enabled	Status	Service Name	Ports	Protocol
	ок	NVR Web	80	TCP
	ок	Secure NVR Web	443	тср

#### Note:

If more than two NVR are connected to one UPnP router, please specify a different port for each NVR. If the router does not support UPnP, users are required to configure port forwarding manually on the router. Please refer to the links below:

Application note: <a href="http://www.gnap.com/go/notes.html">http://www.gnap.com/go/notes.html</a>

- FAQ: http://www.qnap.com/faq
- UPnP router compatibility list:
- http://www.gnap.com/UPnP Router Compatibility List

### My DDNS

With the Cloud Portal, web-based NVR services such as web administration and File Station can be published to <u>http://www.mygnapcloud.com</u>.

By enabling the NVR services in this step, they are opened for remote access even if they are not published.

Enable the My DDNS service in "Remote Access Service" and the NVR will notify the myQNAPcloud server automatically if the WAN IP address of the NVR has changed. To use the myQNAPcloud service, make sure the NVR has been connected to an UPnP router and the Internet.



#### Note:

- The myQNAPcloud name of each QNAP NVR is unique. One
- myQNAPcloud name can only be used with one NVR.
- A registered myQNAPcloud name will expire in 120 days if your
- NVR remains offline within the period. Once the name is
- expired, it will be released for new registration by other users.

#### **Cloud Portal**

In "Remote Access Services" > "My DDNS/Cloud Portal" > "Cloud Portal", the web-based NVR services are shown. Select "Publish" to publish the NVR services to myQNAPcloud website.

tubilah Servicea			
ou can publish MiR services to myQNARdoud website. (https://www	e.mvanaadood.com).		
elect "Publish" to publish the IV/R services to myQN4Pdoed websit			
react, aurorate, to prove the brownied procession brow brown errors	is. The private services on mcQM4Pdowd website are only visible to specified users with m	ey@MAPdoud.Access Code.	
	<ol> <li>The provide services on recommond website are only visible to specified users with it status</li> </ol>	ryQNAPdoud Access Code. Publish	Private
WR Services			Palvabe
WR Services WR Web	85.80.44	Publish	
elent zwate to note the patiented twit services from patien accer with tenzies MR Neb This Sation Secure WR Web	ittatus Drubled	Publish 10	

Select "Private" to hide the published NVR services from public access if you don't want every user can access this published NVR service. The private services on the myQNAPcloud website are only visible to specified users with the myQNAPcloud access code.

NVR Services	Status	Publish	Private
NVR Web	Enabled	×.	N .
File Station	Enabled	×.	N .
Secure NVR. Web	Enabled	<b>W</b>	N.
Secure File Station	Enabled	<b>V</b>	8

Set myQNAPcloud Access Code for private services: Enter a code of 6-16 characters (a-z, A-Z, 0-9 only). The code is required when NVR users attempt to view the private NVR services on the myQNAPCloud website.

myQNAPcloud Access Code	
Set the myQNAPcloud Access Code: <b>Note</b> : The code must be 6-16 charact	ters (a-z, A-Z, 0-9 only).

**Note:** If a disabled NVR service is published, the service will not be accessible even the corresponding icon is shown on myQNAPcloud website (http://www.myQNAPcloud.com).

Click "Add Users" and specify maximum 9 local NVR users who are allowed to view the private NVR services published on the myQNAPcloud website.

User Management	
	to are allowed to view the private NVR services published on myQNAPcloud website. These users may ne for remote access. Maximum 9 users can be specified.
Select the users and click "Send Invitation" to send	an email with instruction to access the services.
Delete Add Users Send Invitation	
🗇 Usemame	myQNAPcloud Website

Select the users and connection method: myQNAPcloud website. Click "Apply".

Select users and their privileges		
Username	myQNAPcloud Website	
admin		
supervisor		
sysmgr		
test01		
test02		
test03		
Employee072		
Employee073		
Employee074		
Employee075		
🕅 4   Page 1 /2   🕨 🔰   🍣	Display item: 1-10, Total: 12	
	Apply Cancel	

Then click "Apply" to save the settings.

myQNAPcloud Access Code	
Set the myQNAPcloud Access Code: 111111	
Note: The code must be 6-16 characters (a-z, A-2	ζ, Q-9 only).
	vho are allowed to view the private NVR services published on myQNAPcloud website. These users may ime for remote access. Maximum 9 users can be specified. d an email with instruction to access the services.
Delete Add Users Send Invitation	]
🖸 Username	myQNAPcloud Website
V test01	<b>V</b>
Apply	

To send the instructions of the myQNAPcloud service to users via email, select the user(s) and click the "Send Invitation" button.

**Note:** To use this function, the mail server settings must be properly configured in "Control Panel" > "System Settings" > "Notification" > "SMTP Server".

Enter the email address. Click "Send".

Invite users with email notification to access service			
Username	E-mail	Status	
test01	test01@qnap.com		

Send	Close

#### **10.1.2** Cloud Services

#### Amazon S3

Amazon S3 (Simple Storage Service) is an online storage web service provided by Amazon Web Services. QNAP VioStor NVR supports Amazon S3 to allow the users to back up the data from the NVR to Amazon S3, or download it from Amazon S3 to the NVR at anytime. Besides, the users can also create scheduled replication job for daily, weekly, or monthly backup.

#### Create your own Amazon S3 account

To use the Amazon S3 feature on VioStor NVR, follow the steps below:

#### Step 1: Sign up/ Login Amazon Web Services Account

You need to sign up for Amazon S3 account (http://aws.amazon.com/s3/). For the price information, please refer

to the Amazon web services website.



<ul> <li>I am a new user.</li> <li>I am a returning user and my password is:</li> </ul>
Sign in using our secure server
Forgot your password?
Has your e-mail address changed?
Learn more about <u>AWS Identity and Access</u> <u>Management</u> and <u>AWS Multi-Factor Authentication</u> , features that provide additional security for your AWS Account.
n from your Amazon.com account to identify you and allow access to Amazon Web Services. Your t Use and Privacy Policy linked below.

of

# An **amazon**.com. company

#### Step 2: Get Your Access Key ID and Secret Access Key

Once you have successfully signed up an account, you will receive your Access Key ID and Secret Access Key. Please keep your ID and key safe.

If you have missed the Access Key ID and Secret Access Key notification, click "Your Account" and choose "Security Credentials" to retrieve them.

web services	Sign U	My Account / Console 🔻	l,
AWS Products & Solutions -	AWS Product Information 👻	AWS Management Console My Account	u
Account		Billing & Cost Management Security Credentials	

Check your Access Keys(Access Key ID and Secret Access Key). Click "Create New Access Key" if you don't have Access keys.

### **Your Security Credentials**

Use this page to manage the credentials for your AWS account. To manage credentials for AWS Identity and Access Mangement (IAM) users, use the IAM Console.					
To learn more about the type	To learn more about the types of AWS credentials and how they're used, see AWS Security Credentials in AWS General Reference.				
Password					
Multi-Factor Author	entication (MFA)				
Access Keys (Acc	cess Key ID and	Secret Access Key)			
· · · ·					
Note: You can have a maxin	num of two access key	ys (active or inactive) at a time.			
Created	Deleted	Access Key ID	Status	Actions	
Feb 16th 2014			Active	Make Inactive   Delete	
Create New Access Key					

Create Remote Replication Job on Amazon S3

For using Remote Replication Job on Amazon S3, you must have one Amazon S3 account first. You can refer to section "Create your own Amazon S3 account" for detailed information.

You can back up the NVR data to or retrieve the data from the Amazon S3. Amazon's services will generally accept requests that are received within 15 minutes after you login Amazon S3. Before getting started, make sure your system clock is set correctly according to your time zone. It is suggested to configure your NVR to automatically synchronize with the system clock using the Network Time Protocol (NTP).

Follow the steps below to create a remote replication job on Amazon S3.

Step 1: Login your VioStor NVR and go to "myQNAPcloud" > "Cloud Service" > "Amazon S3". Click "Create New Replicating Job".

	Compression x
•	mgQNAPcloud
myQNAPcload     myQNAPcload     Monocomposition     Auto Router Configuration     My DDRS/Cload Portal     Cload Services	This function allows you to upload the data from the NVR to Amazon 53, or vice versa. Note: Please synchronize the system time with an Internet time server before using this function. To configure the system date and time, please click <u>hate</u> Create a Replication 30b Job Nome USage Type Schedule Status
Anazon 53	

Step2: Enter the job name.

	Create a Replication Job
Remote Replication Wi	zard
This wizard helps you create remote replication job and c	e a remote replication job.Enter the name of the :lick <b>Next</b> .
Remote Replication Job Nam	
Step 1/5	Next Cancel
Select usage Type (Upload o	r download) from the dropdown menu. Then

Step3: Select usage Type (Upload or download) from the dropdown menu. Then input the access key, private key and remote path. A bucket is the root directory on Amazon S3. You can do remote host testing by clicking "TEST". Other settings are optional.

**Note:** To use this function, you must create at least one Bucket on Amazon S3. Please go to Amazon S3 on website and select "Create Bucket" to create one Bucket on your Amazon S3 account.

#### Amazon S3

Usage Type:	Upload 🗸	
Access Key:	AKIAJ4TC2PUP34CC63FC	
Secret Key:	•••••	
Remote Path (Bucket/Directory):	qnapqvrtest / test	
Remote Host Testing:	Test	
Maximum number of retries (0-99):	10	
Maximum upload rate (KB/s):		
Perform incremental replication	ation	
Delete extra files on remot	e destination	
<ul> <li>Enable Server Side Encryp</li> </ul>	tion 😡	
Enable Reduced Redunden	cy Storage 🔞	
Step 2/5	Back Next Cancel	

Step4: Specify the local path as Network Share/ Directory. Select the network share from dropdown menu and input the directory.

	Create a Replication Job	
Local Path		
Please specif	y: Local Path (Network Share/Directory):	
mp4	✓ / 20140214	
Step 3/5	Back Next Cancel	

Step5: Specify your replication schedule.

Step6: Click "Finish" to complete the setup.

#### Setup complete

The remote replication settings have been completed. Click  $\ensuremath{\textit{Finish}}$  to exit the Wizard.

Step 5/5

Upon successful job creation you will see the status of the replication job(s). You can edit or delete them if necessary.

Finish

	mp?4A4(mp	000
		2
mytematical		
121 Reveale Access Revices	This furnition afferes post in upland the shife for the MiR to Jonason E3, or vice mesa.	
Auto Reuter Configuration	Note: Please synchronize the nystem time with an alternet time server before using this function. To carifying the system date and time, please click base Create a Replication 3.6	
My DBHE/Cleari Portial	Sid-Name Ulage Type Stredule 35538	Action
A Cloud Services	ny-hanhup Liyhaad 08:01 - Nivelity-Humilay Rearly	28
Amazon 63	cardownicad] Downicad 00:00 - Nuelschonter Rady	2.00

# **10.2File Station**

The File Station allows the users to access the NVR on the Internet and manage the files by a web browser.

		File Station O O		
Seath	Q-)	O Create folder Copy ∓ Upload Share A More Action • O O 2 B		
	1 2	3 4 5 6 7 8 9		
Number	Item	Description		
1	Search	Search by name, type(music, movie, photo) or select advanced search		
2	View mode			
3	Create folder	Create a folder in shared folders		
4	Сору	Copy/ Paste files and folders		
5	Upload	Select the folder to upload the file to		
6	Share	Share a file or folder with other users using various methods		
7	More Action	Add the shared folders to bookmark		
8	Refresh	Refresh this page		
9	Settings	Show files and folders of my PC		
		Show hidden files		

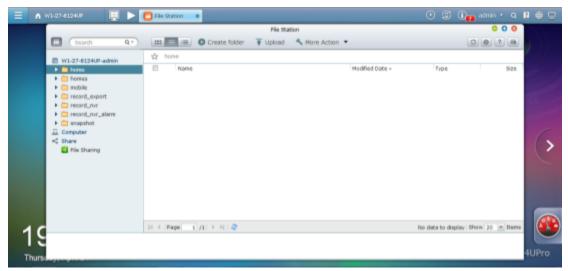
### Before getting started

Enable the service in "Control Panel" > "Applications" > "Station Manager". Click the link on the page to access the File Station.

The File Station can be launched from the Main Menu or the File Station icon on the Desktop.



You can upload, download, rename, move, copy, or delete the files and folder on the NVR.



#### **Uploading files**

To use this feature, install Adobe Flash plug-in for your web browser.

- 1. Select a folder and click .
- 2. Click "Browse" to select the file(s).
- 3. Select to skip or overwrite the existing file(s) in the folder.
- 4. Click **I** to upload a file or "Upload All" to upload all the selected files.

Tasi	k Upload						(here)
	Mode	File Path	Name	Size	56	Transfer Rate	Clear Time Remaining
X	Overwri	/home	20140311_QVR_5.0	21.30 MB	98%	789.55 KB/S	

**Note:** The maximum size of a file that can be uploaded to the NVR by the File Station is 2GB without JAVA plug-in.

#### **Downloading files**

1. Select a file or folder to download.

2. Right click the mouse and select "Download" to download the file. Please note that if all files within a folder are selected, they will be compressed and downloaded as a zip file.

	2014-04-23 21-58-01~22-00-01.avi	2014/04/23 22:00:04	AVI File	3.84 MB
	2014-04-23 21-56-05-21 57 50 mi	2014/04/23 21:58:02	AVI File	3.65 MB
	2014-04-23 21-54-04~ ↓2 Sort By →	2014/04/23 21:56:07	AVI File	3.83 MB
	2014-04-23 21-52-04-	2014/04/23 21:54:06	AVI File	3.83 MB
	2014-04-23 21-50-03-	2014/04/23 21:52:05	AVI File	3.83 MB
	2014-04-23 21-48-02-	2014/04/23 21:50:04	AVI File	3.84 MB
	2014-04-23 21-46-00-	2014/04/23 21:48:03	AVI File	3.83 MB
	2014-04-23 21-44-06~	2014/04/23 21:46:02	AVI File	3.64 MB
	2014-04-23 21-42-04~21-44-04.avi	2014/04/23 21:44:07	AVI File	3.83 MB
	2014-04-23 21-40-01~21-42-02.avi	2014/04/23 21:42:05	AVI File	3.81 MB
	2014-04-23 21-38-00~21-40-00.avi	2014/04/23 21:40:03	AVI File	8.37 MB
- E	2014-04-23 21-28-00~21-30-00.avi	2014/04/23 21:30:01	AVI File	11.98 MB
	2014-04-23 21-26-00~21-28-00.avi	2014/04/23 21:28:01	AVI File	11.98 MB 🖕
14 4   P	age 1 /2 🕨 🕅 🖓	Display item:	1-21, Total: 26 Show 2	0 v Items

#### **Creating folders**

- 1. Select a shared folder or folder in which you want to create a new folder.
- 2. Click Ocreate folder.
- 3. Enter the name of the new folder and click "OK".

#### **Renaming files or folders:**

- 1. Select a file or folder to rename.
- 2. Right click the mouse and select "Rename" to rename the file.
- 3. Enter the new file or folder name and click "OK".

#### **Copying files or folders**

- 1. Select the files or folders to copy.
- 2. Click Copy
- 3. Click the destination folder.
- 4. Click and confirm to copy the files or folders.

#### Moving files or folders

- 1. Select the files or folders to move.
- 2. Right click the mouse and select "Move".
- 3. Select the destination folder. Click "OK".

#### **Deleting files or folders**

- 1. Select a file or folder to delete.
- 2. Right click the mouse and select "Delete".
- 3. Confirm to delete the file or folder.

#### File/Folder search

The File Station supports smart search of files, sub-folders, and folders on the NVR. You can search a file or folder by all or part of the file or folder name, or by the file extension.

	Q v			:=
📾 W1-27-8124UP-admin	<b>^</b>	☆	hom	es >
home				Name
🔺 🚞 homes				

# **10.3App Center**

The App Center is a digital platform for distribution of NVR apps. Users can search for, install, remove and update apps developed by QNAP or third party apps through the App Center to expand the services and add new features on the NVR.



### **Starting App Center**

The App Center can be launched from the App Center shortcut on the Main Menu or the QVR Desktop.

#### Familiarizing yourself with App Center

Menu Bar



No	Name	Description
1	Search Bar	Search apps that are available to install on the
	Sedicii Bal	NVR.
2		Update all apps that are currently installed on the
Z	Update all	NVR.
3	Refresh	Refresh the current page

4	Install Manually	Browse to upload and install a QPKG add-on	
		manually.	
5	Sort	Sort apps by category, name or release date.	

Left Panel

- My Apps: List apps that are currently installed on the NVR.
- All Apps: List all apps that can be installed on the NVR.

#### Using App Center

Searching apps

To search for an app, enter the keyword in the search bar.

Installing, updating and removing apps

To install an app, click the "Add to QVR+" button and the installation process will begin. After the installation process is complete, the "Add to QVR+" button will turn to the "Open" button and you can directly click this button to launch this newly installed app. This newly installed app will then show up in "My Apps".

Note:

- Make sure the NVR is connected to the Internet.
- QNAP is not responsible for troubleshooting any issues caused by the open source software/add-ons.

• When installing an add-on which requires a prerequisite app, the prerequisite add-on will be added to the installation queue automatically prior to the dependent add-on.

• If the app update process is canceled before it is finished, please install the app from the App Center again.

To update an app, click "Update" and click "OK" to confirm. Alternatively, you may click "Update All" on the menu bar to install all updates and "Refresh" to check for the latest updates. The button will turn to "Open" to signify that the update is complete for an app. To remove an app, first click an installed app to open its introduction page. Click "Remove" on the page to uninstall it from the NVR and click "OK" to confirm.

Note:

• Click the on/off button in an app icon to enable or disable an app.

Offline Installation

To install apps when the NVR is offline or beta apps that are not officially available on the QNAP App server, users can download the app application (\*.qpkg) from the QNAP security website (<u>http://www.qnapsecurity.com/</u>) or forum (<u>http://forum.qnapsecurity.com/index.php</u>), unzip the files, and click "Install Manually" on the menu bar to install the apps manually.

# Chapter 11. QNAP Surveillance Central Management

# (QSCM Lite)

# **11.1Introduction**

QNAP Surveillance Central Management Lite (referred to as "QSCM Lite" in the following context) is a pioneering, powerful and free App supported by QNAP VioStor NVR (with firmware QVR 5.0 and above), that turns your NVR into a CMS server to manage up to 16 QNAP NVRs and 256 cameras.

No extra investment in hardware or software is required to add CMS server function to a NVR – all you have to do is install the QSCM Lite App.

QSCM Lite can manage NVRs that are in the same private LAN with QSCM Lite.

# 11.2Install QSCM Lite to NVR Server

# 11.2.1 App Center

To install QSCM Lite, please download it from the QVR 5.0 App Center. For more information about the App Center, please refer to Section 10.3 App Center.

# 11.2.2 How to Install QSCM Lite to NVR Server

Online installation

To install QSCM Lite, please download it from the QVR 5.0 App Center. Your NVR must be connected to the Internet to use the App Center. Step 1: Go to the App Center on the desktop of QVR 5.0.



# Step 2: Go to All Apps.

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	_	Au Cetter			
	C (man R)			(basi mendir) (B	an a
	ad Ages		Revolution Statement 1.4.2		
					>
10:33	-				
Friday, June 20				QVR	VS-4116UPro+

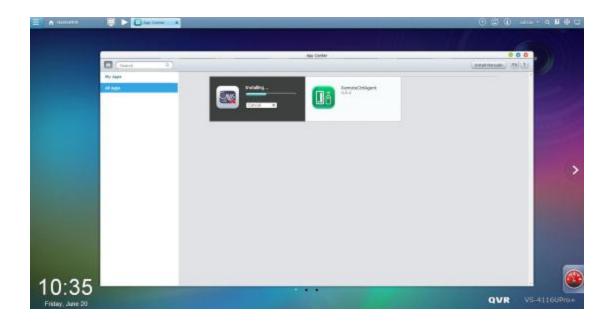
Step 3: Click "Add QSCM Lite to QVR"

E A VALUE	E Daniste a	0 3	))
	The sector of th	All Center	
	C (march D)	- post rev	eu (Blitt)
	al Apro	CONTRACTOR	
			>
			-
10:33			. 🛞
Friday, June 20			VR VS-4116UPro+

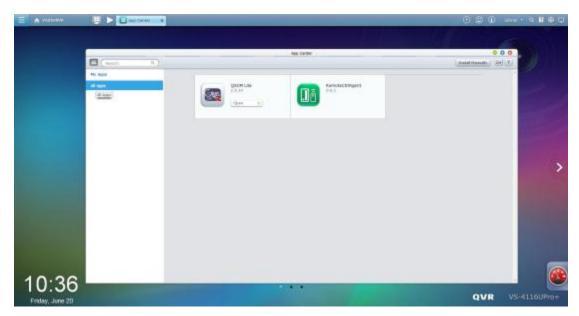
Step 4: Start downloading QSCM Lite

A remain		and the second se	○ ② ③ store = 0 Ⅱ ⊕ ②
			ALC: Second
	(mm 9)	AD Cetter	e o o o
	Ing Ages Al Anno	Development Statement	
			,
10.24			
10:34 Friday, June 20			QVR VS-4116UPro+

Step 5: After QSCM Lite has been downloaded, the system will automatically install QSCM Lite.



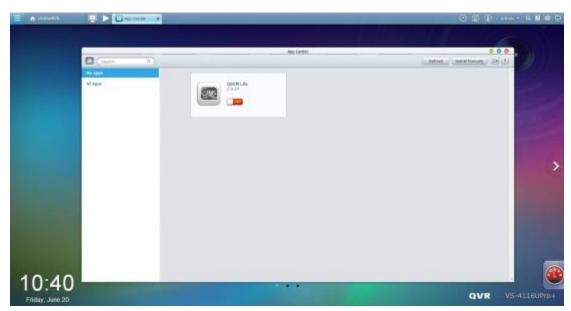
Step 6: When the option to "Open" appears, QSCM Lite has been successfully installed.



Step 7: QSCM Lite will now be listed in My Apps, with the default Open status. QVR 5.0 is now a CMS server.

E A Vamaera.			
	-	Au Cetter	000
	(100 B)		(Little) (Little)
	Mb Appa		
			(>)
10:54 Friday, June 20			QVR V5-4116UPTG+

QSCM Lite can be turned off to disable the CMS server function if needed.



### Offline installation

If the NVR is not connected to the Internet, an offline installation is available.

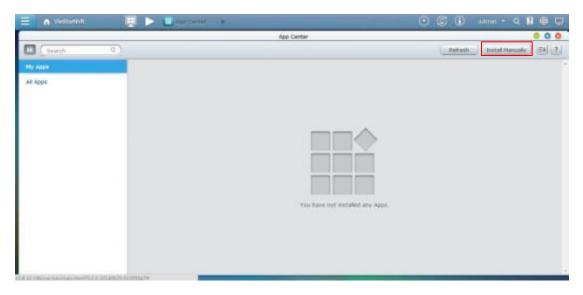
Step 1: Download QSCM Lite from the QNAP Security website (<u>http://www.qnapsecurity.com/download.asp</u>).

Step 2: Unzip the files

Step 3: Return to the NVR and enter the App Center



Step 4: Click "Install Manually"



Step 5: Find the unzipped QSCM Lite, and click [Install]

	A Viscours	Att Center	🕑 🕲 🕕 9 🛚 🖶 🖵
		App Centur	000
	(hard (i)		Refresh Bestel Manualty (24) (2)
- 14	Appr		
AE.	1004		
		Instal a new app of	nyrually O
		Browse to the location where the unupped file	r a, and then clok (Instal). BrownDrinkl
	E ****		
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# Step 6: Click OK

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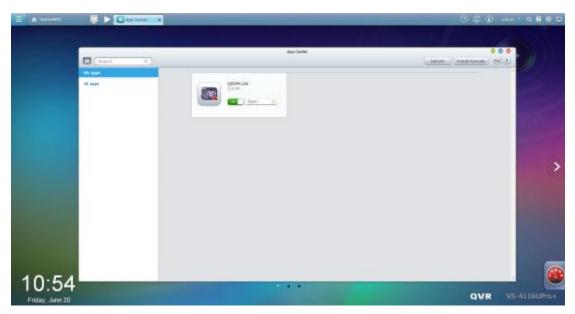
# Step 7: The NVR will then install QSCM Lite

E A Victoria	E > Dataset (	
	App Cantan-	000
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	<u>a</u>	

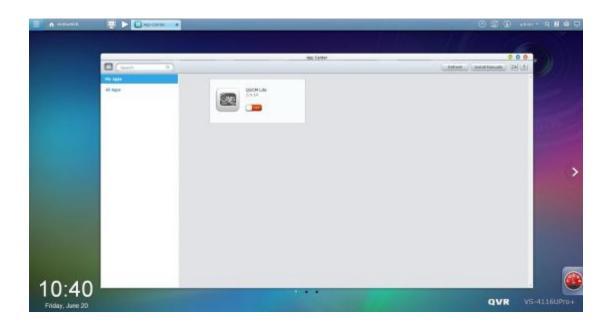
### Step 8: Click OK

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		App Caribar		-		000	
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		Installation complete	950				
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			rene and manually				
				_		_	

Step 9: QSCM Lite will now be listed in My Apps, with the default Open status. QVR 5.0 is now a CMS server.



If needed, QSCM Lite can be turned off to disable the CMS server function.



### 11.2.3 Installation Reminders and Suggestions

- QSCM Lite can only be installed to QNAP NVR with firmware version 5.0 or above.
- When enabling QSCM Lite on QVR 5.0, you have 2 options:
- 1. Do not record camera footage to this server, and have it act as a pure CMS server.
- 2. Keep recording camera footage to this server, and have it act as both a CMS and NVR server simultaneously.

In the second case (the server will act as both a CMS and NVR server simultaneously), the server's hardware resources will be shared by the NVR server service & the CMS server service. If the CPU usage rate is more than 80%, or when the throughput is busy, the performance of both the NVR server and CMS server will be impacted.

 It is strongly recommended to enable just one QVR 5.0 as QSCM Lite to centrally manage the NVRs in a LAN. Otherwise, the QSCM Lite event management (including the live view event notification and event log) will be scattered to multiple QSCM Lites.

# **11.3Use QSCM Lite on NVR Client PC**

### 11.3.1 How to use QSCM Lite on NVR client PC

Step 1: Connect to a QVR 5.0 with QSCM Lite. For instructions on how to install QSCM Lite, please refer to 1.2.2.



Step 2: Go to the App Center on the QVR 5.0 desktop.

Or, the Main Menu of QVR 5.0



Step 3: Click on the QSCM Lite icon to go to the QSCM Lite login page

E A WESTONIX	📮 🕨 🖬 Aco Cartar 🔹	🕑 🗊 🚱 admin + 9 🗋 🖶 🖵
APPLICATIONS	Abs Center	000
Gurvellance Settings		Refresh Anstal Menady E+ 2
C File Station		
SYSTEMS	CSCM L/Js Hon_	
Control Panal		
😭 Rackup & Expansion		
C myQNAPcloud		
App Center		
Quick Start		
CSCM Life		

Step 4: The system will automatically redirect to the QSCM Lite login page, and you can log in by using the default username/password (admin/admin).



Step 5: The first page you will see after logging into QSCM Lite is the live view page. Before you have configured QSCM Lite, no camera feedback will be displayed.

Control + C (3 1065 12.112/cgi-ban/qphg/QiCM-Uku/qpcm_enter	rap.	이 문 무
		ENGE
e terres bare bolt a		
All management		
Gambar Control		
00000		
000		
C/HU P4 2014-05.30		
Memory 13:40:39		

Step 6: To configure QSCM Lite, go to the configuration page.

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C Nor Construction Construct	Alare Asian ingel Nation Asian		
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Step 7: For how to configure QSCM Lite, please refer to Section 3.5 Configure CMS Client of the <u>VioStor CMS user manual</u>.

Note:

 VioStor CMS is a high-performance turnkey CMS solution. The CMS Server supports up to a maximum of 128 multi-server monitoring and management. Users can monitor up to a maximum of 1,024 IP cameras with up to 64 channels per screen. Concurrent independent playback and display controls in four screens are also supported. The CMS Server has the highest compatibility with the QNAP VioStor NVR series and also supports a variety of brand-name IP cameras.

For detailed VioStor CMS information, please refer to: http://www.qnapsecurity.com/pro\_detail\_featurecms.asp?p\_id=273

# 11.3.2 Usability Reminder and Suggestions

- If you have the server performing as both a CMS and NVR server simultaneously, it is strongly recommended to open just one live view page (either QVR 5.0 live view or QSCM Lite live view) at the same time. Otherwise, the CPU and throughput usage of the client PC will double.
- For client PC requirements, please refer the Section 2.1 Personal Computer Requirements of this user manual.

# **11.3.3 QSCM Lite Client Specification**

- The QSCM Lite client specification is mostly synchronized with the VioStor CMS client specification.
- The specification difference between the QSCM Lite client & VioStor CMS client is subject to change without prior notification.

Comparing Items	QSCM Lite (App/QPKG)	VioStor CMS				
Working Type	CMS solution on QNAP VioStor NVR (with firmware QVR 5.0 and above)	Standalone CMS server				
Manageable NVR	NVR 4.1 (and above)	NVR4.1 (and above)				
Number of NVRs supported	16	128				
Maximum number of channel supported	256	1,024				

# 11.4Comparison between VioStor CMS & QSCM Lite

Number of monitors supported	4	8
Maximum number of client registration	32	Unlimited
Key Feature	Multi-Server Enhancement	Centralized Monitoring and Management

- The QSCM Lite client specification is mostly synchronized with the VioStor CMS client specification
- The specification difference between the QSCM Lite client & VioStor CMS client is subject to change without prior notification.

# Chapter 12. Qstart

# **12.1 Introduction**

Qstart brings two leading-edge innovative features: system initialization and network switch control. It simplifies system initialization through automatically assigning default settings with just a single click. By integrating supported switches, Qstart provides comprehensive network topology and a device list for users to fully manage network health and device status. Qstart integrates the major functions of PoE switches so users can easily setup camera IPs, manage PoE status and monitor traffic flow from the VioStor software (QVR). The intuitive GUI also allows for precise failure detection and efficient troubleshooting. Qstart provides users with a refreshing experience when installing and remotely maintaining NVRs.

# 12.2 Before Using Qstart

- 1. All devices including IP cameras, Client PCs, a QNAP VioStor should be connected to the same PoE switch. (VioStor now only supports the scenario of one PoE switch, please avoid cascade PoE cases.)
- 2. Do not set your device to a static IP, including the client PC and the VioStor NVR, DHCP settings only.
- 3. All IP cameras must be set to default for Qstart initialization.

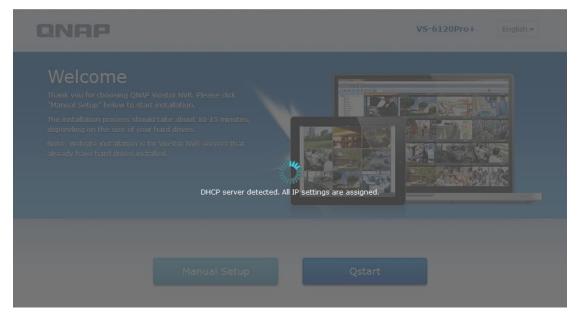
# 12.3 System Initialization

Please note: To use Qstart, please ensure your inserted hard drives are unallocated.

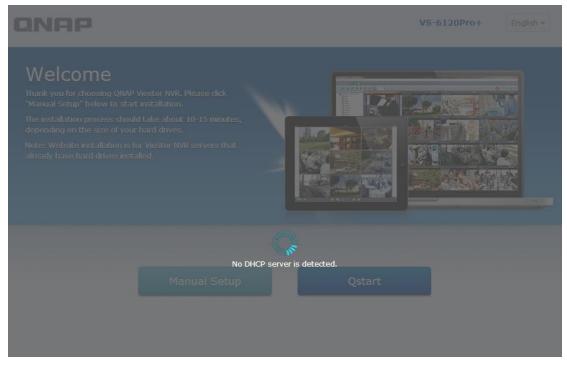
- 1. Find the VioStor' IP address via QNAP finder.
- 2. Connect to the QVR web-based administration page and select Qstart. Please ensure that you use a supported switch and a VioStor model (please check the compatibility list for more information).



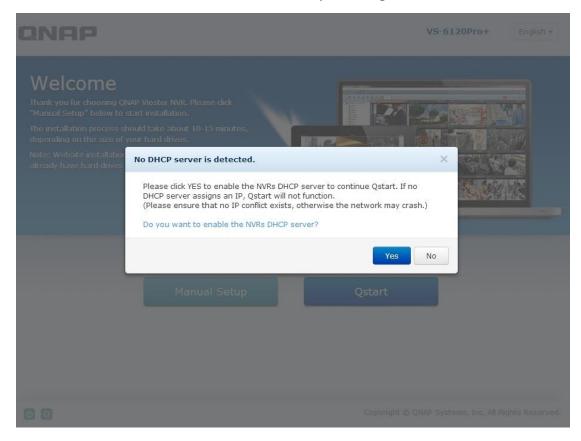
- 3. VioStor will detect if there is a DHCP server on the same LAN.
  - i. If a DHCP server is detected, it will proceed to the Quick Setup page.

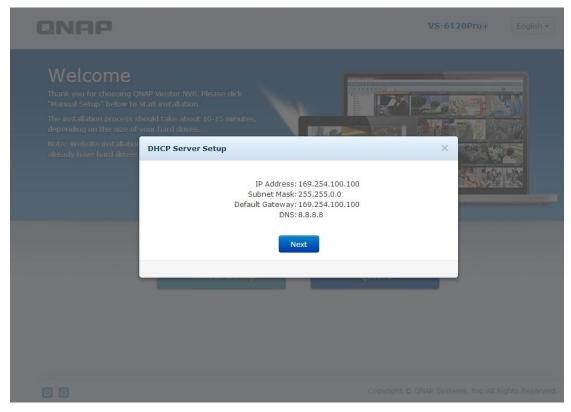


ii. If a DHCP server is not detected, users will be asked to enable the NVR's DHCP server.



A. Users can enable the DHCP server by selecting Yes.





B. Selecting No will return to the initial page.



4. The Quick Setup page includes basic information for both the NVR and devices connected to the switch (including the time zone, name, IP, Disk configuration, and more.) Confirm that this information is correct and proceed to complete the initialization.

Please note:

i. Users cannot modify network settings (DHCP/Static) in <u>Qstart mode</u>.

- ii. The channel number is based on the port number of the switch.
  (For example, if a VS-2112 Pro+ connects to a 24-port switch, the table will show channel 1 to channel 24 regardless of the NVR's supported channels.)
- iii. Default settings:
  - Selects all supported cameras that are connected to the switch.
  - Auto configure

QNAP	VS-6120Pro+	English
Quick Setup		
Please review the following NVR administration page.	g settings and click "Proceed" to continue. Don't worry! You can modify these settings later on the	^
NVR Name:	NVRDFDDB8	- 11
Username:	admin	- 1
Password:	******** ( Default password : admin)	
IP Address:	(DHCP)	
Time Zone:	(GMT+08:00) Taipei	
Date / Time:	2014/08/13 15:3:26	
Disk Configuration:	Single (Found 1 Disks, Total Storage Capacity: 465.76 GB)	
Bad Block Scan:	No	
CAMERA:	Auto configure	
		~
	Proceed Cancel	

	-	tup				
_						
					Θ	
	Channel	Brand	Model	IP Address	MAC Address	
	1	Panasonic iPro	Panasonic iPro SF334	169.254.101.191	08:00:23:90:b5:86	
	2	Vivotek	VivoTek FD7160	169.254.101.200	00:02:d1:0a:44:c3	
	3	Sony	Sony SNC-DS10	169.254.101.183	00:1d:ba:4f:5e:8d	
	4	Vivotek	VivoTek IP8362	169.254.101.196	00:02:d1:11:28:43	
	5	Sony	Sony SNC-VB600B	169.254.241.77	3c:07:71:1e:36:98	
	6	Sony	Sony SNC-VB630	169.254.85.251	54:53:ed:f9:19:1e	
	7	Vivotek	VivoTek FD8136	169.254.101.198	00:02:d1:18:2d:8d	
	8	Sony	Sony SNC-EM630	169.254.206.87	d8:d4:3c:13:97:19	
	9	Panasonic iPro	Panasonic iPro SF135	169.254.101.184	08:00:23:96:33:5d	
	10	Sony	Sony SNC-EB600B	169.254.49.192	d8:d4:3c:38:63:6e	
	11	ACTI	ACTI D61	169.254.101.197	00:0f:7c:0a:95:57	
	12	Sony	Sony SNC-CS20	169.254.101.185	00:1d:ba:3f:e3:ed	
	13	Panasonic iPro	Panasonic iPro SW152	169.254.101.186	08:00:23:95:a4:8e	
	14	Vivotek	VivoTek PD8136	169.254.101.199	00:02:d1:1c:07:0a	
	15	ACTI	ACTI D11	169.254.101.192	00:0f:7c:09:21:20	
	16	ACTI	ACTI E31	169.254.101.190	00:0f:7c:09:78:19	
	17	Panasonic iPro	Panasonic iPro SP102	169.254.101.194	08:00:23:95:a6:a7	
	18	ACTI	ACTI E41	169.254.101.193	00:0f:7c:09:ae:bf	
	19	Axis	Axis P1357	169.254.101.188	ac:cc:8e:03:05:d9	
	20	Axis	Axis P1355	169.254.101.187	00:40:8c:f4:cd:d8	
	21					
					Proceed	Ca



5. Enter the QVR desktop. The camera overview page and QVR introduction page will appear simultaneously. (The camera overview in front, and the QVR introduction behind it.)



Please note: The system will enable Qstart once users finish the Qstart initialization.

# 12.4 Qstart Mode

- 1. Main features:
  - 1. Intuitive channel mapping:

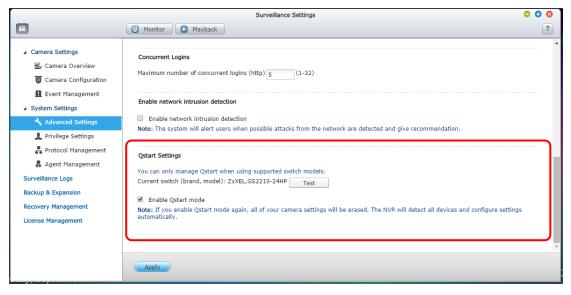
The video shown on channel 1 represents the recording view of port 1 to the switch.

2. Auto port detection and configuration:

If devices are connected to other ports, the system will automatically detect the change and move all settings (excluding advanced settings) to the new ports. Users do not have to set it up all over again.

- i. Add a supported camera to the port:
  - If it is a new camera, the NVR will automatically add it using default settings.
  - If it is a camera that has been used before, the NVR will use its previous settings.
- ii. Removing the camera from the port will clear the camera settings.
- iii. Any port changes will be saved in the system logs.
- Where and how to check Qstart mode.
  - 1. Surveillance Settings ->Advanced Settings-> Qstart Settings:

2. Use supported switches to enable Qstart mode. The brand and model name will be shown and users can test the connection.



- 3. Qstart mode is enabled by default if users select Qstart during initialization. Otherwise it will be disabled.
- 4. If you enable Qstart mode again, all of your camera settings will be erased.
- 5. In Qstart mode, you cannot add cameras to specific channels. To get around this limitation, you will need to disable Qstart in Advanced Settings.

				Surveillance Settings				
	Monitor (	Playback						
Camera Settings		9 N						
📕 Camera Overview	Channel	In Qstart mode, it's not allowed to add cameras to whatever chan els you want to keep the relationship between switch port numbe	in Jera Brand	IP Address	Resolution	Frame Rate	Action	Quick Link
Camera Configuration	1	nd NVR channel number. However, you can click S to advanced		169.254.101.191	VGA	5 fps	<b>2</b> X	
Event Management	2	tings page to disable Qstart mode. Camera 2	- vivotek	169.254.101.200	800x600	8 fps	(R)X	8
System Settings	3	Camera 3	Sony	169.254.101.183	640x480(VGA)	10 fps	28	8
Advanced Settings	4	Camera 4	Vivotek	169.254.101.196	640x360	15 fps		
	5	Camera 5	Sony	169.254.241.77	1280x720	8 fps		
Privilege Settings	6	Camera 6	Sony	169.254.85.251	1920×1080	8 fps	28	
Rev Protocol Management	7	Camera 7	Vivotek	169.254.101.198	640x400	15 fps	<b>X</b>	
Surveillance Logs	8	Camera 8	Sony	169.254.206.87	1920×1080	8 fps		8
Backup & Expansion	9	Camera 9	Panasonic iPro	169.254.101.184	VGA	5 fps	28	B
Recovery Management	10	Camera 10	Sony	169.254,49.192	1280×720	8 fps	28	B
	11	Camera 11	ACTI	169.254.101.197	N1280x720/P1280x720	15 fps	<b>2</b> X	8
License Management	12	Camera 12	Sony	169.254.101.185	640x480(VGA)	10 fps		B
	13	Camera 13	Panasonic iPro	169.254.101.186	VGA	5 fps	21	
	14	Camera 14	Vivotek	169.254.101.199	640x400	15 fps		
	15	Camera 15	ACTI	169.254.101.192	N1280x720/P1280x720	10 fps	28	8
	16	Camera 16	ACTI	169.254.101.190	N1280x720/P1280x720	15 fps	2X	8
	17	Camera 17	Panasonic iPro	169.254.101.194	VGA	5 fps	21	8
	18	Camera 18	ACTI	169.254.101.193	N1280x720/P1280x720	15 fps	<b>2</b> X	
	19	Camera 19	Axis	169.254.101.188	1280×720	3 fps	28	
	20	Camera 20	Axis	169.254.101.187	1920×1080	3 fps		

# 12.5Network Switch Control (Embedded)



12.5.1 Topology:

- 1. Show the switch's complete connection relationship
- 2. The diagram will display supported switches, cameras, VioStor NVR, and other devices (including PCs, laptops, unsupported switches, and other unknown devices.)



- 3. Users can choose different ways to display the topology (top/right/left/bottom).
- 4. Clicking the device's IP address will open that IP address in your browser.
- 5. Clicking on a camera will open the camera's settings page.

Topology								⊗ ≈	efresh 🚯 Event Notifications
		Switch				Switch Informat D Firmware Version 101140429 D IAddress 102.168.3.1 MAC Address 0:003ccr33.e8:65 C Total Power 400.00 R emaining Power 330.00	en		
Port	IP Address	MAC Address	Transferred	Received	Link Status / Max Link Rate	Consumed Power	Network Switch	POE Switch	Reset Transferred/Received
1	169.254.101.191	08:00:23:90:55:86	50.64 MB	537.87 MB	on / OMbps	2.50 w	(m)	(0+	۲
2	169.254.101.200	00:02:d1:0a:44:c3	42.40 MB	89.02 MB	on / 0Mbps	5.90 w	(in )	(04 )	۲
3	169,254,101,183	00:1d:ba:4f:5e:8d	45.29 MB	301.31 MB	on / CMbps	6.30 w	(01)	(0+	۲
4	169.254.101.195	00:02:d1:11:28:43	43.16 MB	172.46 MB	on / 0Mbps	4.70 w	(Cm )	(0.0	۲
5	169.254.241.77	3c:07:71:1e:36:98	42.52 MB	252.34 MB	on / 0Mbps	4.00 w	(Cm 🔵	(cw 🔵	۲
6	169.254.85.251	54:53:ed:f9:19:1e	40.34 MB	14.45 HB	on / OMbps	4.10 w	(	(0*	۲
7	169.254.101.198	00:02:d1:19:24:84	44.52 MB	651.67 MB	on / OMbps	2.00 w	(cm	(00)	۲
8	169.254.205.87	d8:d4:3c:13:97:19	41.72 MB	307.62 MB	on / OMbps	3.90 w	(cn	(on 💮	۲
9	169.254.101.184	08:00:23:96:33:5d	40.32 MB	173.76 MB	on / OMbps	2.10 w	(01)	(04 )	۲
10	169.254.49.192	d0:d4:3c:30:63:6e	41.75 MB	306.19 MB	on / OMbps	2.90 w	(Cm	(01)	۲
11	169.254.101.197	00:0f:7c:0a:95:57	40.63 MB	76.87 HB	on / OMbps	2.30 w	(cm	(0*	۲
12	169.254.101.185	00:1d:ba:3f:e3:ed	104.94 MB	366.30 MB	on / OMbps	6.30 w	(01)	(0+	۲
13	169.254.101.186	08:00:23:95:a4:8e	1.79 GB	353.75 MB	on / OMbps	2.70 w	(Ca 🔵	(04 )	۲
14	169.254.101.199	00:02:d1:1e:07:0a	1.70 GB	158.04 MB	on / OMbps	1.80 w	(cm	(cn 🛑	۲
15	169.254.101.192	00:0f:7c:09:21:20	1.71 GB	169.76 MB	on / OMbps	2.50 w	(09 🔵	(04 (0	(6)

12.5.2 Switch Control Chart:

- Complete switch information table: Firmware version, IP address, MAC, total power, and remaining power.
- Complete port information: Device IP, MAC, TX/RX, power consumption, PoE ability, Network ability.
- 3. Corresponding switch status types:

(Network, P: PoE, L: Link, Only N is on, then L can be detected as on/off.)

NLP_off	P_on_NL_off	N_on_LP_off	NP_on_L_off	NL_on_P_off	NLP_on
	,		,	<b>.</b>	,

## **12.5.3** Event Notifications:

				Swit	ch Control				000
🔂 та	opology						Θ	Refresh	Event Notifications
	Switch	© Power	Switch Info           D         Firmware Version: 101140429           IP Address: 169.254.101.199           @         Mac Address: 00:03:ee:13:e5:f5           O: Total Power: 400.00           IB         Remaining Power: 375.00						
Port	IP Address	MAC Address	Transferred	Received	Link Status	Consumed Power	Network Switch	POE Switch	Reset Transfer
1	169.254.198.1	3c:07:71:29:37:fc	737.75 Kb	15.54 MB	on / OMbps	4.30 w			8
2	169.254.101.192	08:00:23:96:33:5d	691.27 Kb	11.81 MB	on / OMbps	2.50 w			8
3					off / OMbps	0.00 w	OFF	OFF	۲
4	169.254.101.193	08:00:23:95:a4:8e	2.33 MB	72.19 MB	on / OMbps	2.70 w			۲
5	169.254.101.195	08:00:23:95:a6:a7	665.05 KB	11.13 BB	on / OMbps	1.80 w			8

					System Logs		<b>0</b> 0
							?
S	ystem Event Logs	System Connect	ion Logs Online Us	iers			
All events	▼ Save	)					switch
уре	Date	Time	Users	IP	Computer name	Content	
<b>A</b>	2014-10-31	14:52:07	admin	10.65.12.20		Switch port 20 link status up	
<u>A</u>	2014-10-31	14:52:01	admin	10.65.12.20		Switch port 19 link status up	
<b>A</b>	2014-10-31	14:51:52	admin	10.65.12.20		Switch port 18 link status up	
A	2014-10-31	14:51:44	admin	10.65.12.20		Switch port 17 link status up	
<b>A</b>	2014-10-31	14:51:37	admin	10.65.12.20		Switch port 16 link status up	
<b>A</b>	2014-10-31	14:51:31	admin	10.65.12.20		Switch port 15 link status up	
A	2014-10-31	14:51:21	admin	10.65.12.20		Switch port 14 link status up	
A	2014-10-31	14:51:14	admin	10.65.12.20		Switch port 13 link status up	
<b>A</b>	2014-10-31	14:51:07	admin	10.65.12.20		Switch port 12 link status up	
<b>A</b>	2014-10-31	14:50:59	admin	10.65.12.20		Switch port 11 link status up	
A	2014-10-31	14:50:39	admin	10.65.12.20		Switch port 20 link status down	
1	2014-10-31	14:50:31	admin	10.65.12.20		Switch port 19 link status down	
	Page 1 /19 🕨	S   2					Display item: 1-50, Total: 917 Show 50 ¥ Iter

1. Enter the log list by selecting Event Notifications in Switch Control.

2. This table shows behaviors relevant to the switch only. Users can keep track of the situation between the switch and the devices linked to it.

Brand Model NVR VS-6120 Pro+/ 6116 Pro+/ 6112 Pro+ QNAP VS-4116 Pro+/ 4112 Pro+/ 4108 Pro+ VS-2112 Pro+/ 2108 Pro+/ 2104 Pro+ Switch ZyXEL GS2210-24HP EtherWAN EX76402 EX22402 PSG-6010VM eten PSG-6018VM PSG-7026VM AXIS 、 ACTi 、 SONY 、 Panasonic 、 VIVOTEK **IP Camera** 

12.5.4 Compatibility List:

Please note: The performance of Qstart will vary across different switch brands. If you have any questions, please contact our technical support for more information.

# Chapter 13. LCD Panel

\* This section is applicable to the NVR models with an LCD panel only.

The NVR provides a handy LCD panel for users to perform the disk configuration and view the system information.

When the NVR has started up, the server name and the IP address will be shown:

Ν	V	R	5	F	4	D	Е	3						
1	6	9		2	5	4		1	0	0	1	0	0	

For the first time installation, the LCD panel shows the number of the hard disk drives detected and the IP address. Configure the hard drives accordingly.

Number of hard drives detected	Default disk configuration	Available disk configuration options*
1	Single	Single
2	RAID 1	Single -> JBOD ->RAID 0 -> RAID 1
3	RAID 5	Single -> JBOD -> RAID 0 -> RAID 5
4 or above	RAID 5	Single ->JBOD -> RAID 0 -> RAID 5 -> RAID 6

\*Press the 'Select' button to choose the option, and press the 'Enter' button to confirm.

For example, when five hard drives have been installed, the LCD panel shows:

С	0	n	f	i	g		D	i	S	k	S	?	
$\rightarrow$	R	А	1	D	5								

Press the 'Select' button to browse more options, e.g. RAID 6.

Press the 'Enter' button and the following message shows. Press the 'Select' button to select 'Yes' to confirm.

С	h	0	0	S	е		R	А	I	D	5	?		
$\rightarrow$	Y	е	S			Ν	0							

When the configuration has finished, the server name and the IP address will be shown. If the NVR fails to create the disk volume, the following message will be shown.

C	r	е	а	t	i.	n	g						
R	A	I.	D	5		F	а	i	1	е	d		

## View the system information by the LCD panel

When the LCD panel shows the server name and the IP address, press the 'Enter' button to enter the Main Menu. The Main Menu consists of the following items:

- 1. TCP/IP
- 2. Physical disk
- 3. Volume
- 4. System
- 5. Shut down
- 6. Reboot
- 7. Password
- 8. Back

## 1. TCP/IP

In TCP/IP, the following options are available:

- 1.1 LAN IP Address
- 1.2 LAN Subnet Mask
- 1.3 LAN Gateway
- 1.4 LAN PRI. DNS
- 1.5 LAN SEC. DNS
- 1.6 Enter Network Settings
  - 1.6.1 Network Settings DHCP
  - 1.6.2 Network Settings Static IP\*
  - 1.6.3 Network Settings BACK
- 1.7 Back to Main Menu

\* In 'Network Settings – Static IP', configure the IP address, subnet mask, gateway, and the DNS of LAN 1 and LAN 2.

## 2. Physical disk

In Physical disk, the following options are available:

- 2.1 Disk Info
- 2.2 Back to Main Menu

The disk info shows the temperature and the capacity of the hard disk drive.

D	i	S	k	:	1		Т	е	m	р	:	5	0	•	С
S	i	z	е	:		2	3	2		G	В				

## 3. Volume

This section shows the disk configuration of the NVR. The first line shows the RAID configuration and storage capacity; the second line shows the member drive number of the configuration.

R	Α	I	D	5					7	5	0	G	В
D	r	i	v	е	1	2	3	4					

If there is more than one volume, press the 'Select' button to view the information. The following table shows the description of the LCD messages for the RAID 5 configuration.

LCD Display	Drive configuration
RAID5+S	RAID5+spare
RAID5 (D)	RAID 5 degraded mode
RAID 5 (B)	RAID 5 rebuilding
RAID 5 (S)	RAID 5 re-synchronizing
RAID 5 (U)	RAID 5 is unmounted
RAID 5 (X)	RAID 5 non-activated

## 4. System

This section shows the system temperature and the rotation speed of the system fan.

С	Ρ	U	Т	е	m	р	:		5	0	•	С	
S	У	S	Т	е	m	р	:		5	5	•	С	
S	У	S	F	а	n	:	8	6	5	R	Ρ	M	

#### 5. Shut down

Use this option to turn off the NVR. Press the 'Select' button to select 'Yes'. Then press the 'Enter' button to confirm.

#### 6. Reboot

Use this option to restart the NVR. Press the 'Select' button to select 'Yes'. Then press the 'Enter' button to confirm.

#### 7. Password

The default password of the LCD panel is blank. Enter this option to change the password of the LCD panel. Select 'Yes' to continue.

С	h	а	n	g	е		Р	а	S	S	W	0	r	d	
					Y	е	S		$\rightarrow$	Ν	0				

Enter a password of maximum 8 numeric characters (0-9). When the cursor moves to 'OK', press the 'Enter' button. Verify the password to confirm the changes.

Ν	е	W	Р	а	S	S	w	0	r	d	:		
												0	K

#### 8. Back

Select this option to return to the main menu.

#### System Messages

When the NVR encounters system error, an error message will be shown on the LCD panel. Press the 'Enter' button to view the message. Press the 'Enter' button again to view the next message.



System Message	Description
Sys. Fan Failed	The system fan fails
Sys. Overheat	The system overheats
HDD Overheat	The hard drive overheats
CPU Overheat	The CPU overheats
Network Lost	Both LAN 1 and LAN 2 are disconnected in failover
	or load-balancing mode
LAN1 Lost	LAN 1 is disconnected
LAN2 Lost	LAN 2 is disconnected
HDD Failure	The hard drive fails
Vol1 Full	The volume is full
HDD Ejected	The hard drive is ejected
Vol1 Degraded	The volume is in degraded mode
Vol1 Unmounted	The volume is unmounted
Vol1 Nonactivate	The volume is not activated

# **Chapter 14.** Troubleshooting

## 1. The monitoring screen did not display.

Please check the following:

- a. Check if the ActiveX add-on has been installed when logging in the monitoring page of the NVR. Set the security level to 'Medium' or lower in Internet Options of the IE browser.
- b. The NVR is turned on and the network is correctly connected.
- c. The IP address of the NVR does not conflict with other devices in the same subnet.
- d. Check the IP address settings of the NVR and the computer. Make sure they are on the same subnet.

## 2. A channel on the monitoring page cannot be displayed.

Please check the following:

- The IP address, the name, and the password entered on the camera configuration page are correct. Use the 'Test' function to verify the connection.
- b. When the PC and the IP camera are on the same subnet, while the NVR is on another subnet, the monitoring screen cannot be viewed from the PC.
   Solve the problems by the following methods.

Method 1: Enter the IP address of the IP camera as the WAN IP on the NVR. Method 2: Configure the router to allow internal access to the public IP address and the mapped ports of the IP cameras.

## 3. The recording is not working properly.

- a. Install the hard drive(s) correctly in the NVR.
- b. Make sure each hard disk tray is correctly locked.
- c. Check if the recording function is enabled on the Camera Configuration page (the function is enabled by default). Make sure the IP address, the login name, and the password of the IP camera are correct.
- d. If the above items are verified to work properly while the status LED flashes green, the hard drive may be damaged or cannot be detected. In this case, turn off the NVR and install a new hard disk. If the problem persists, please contact the technical support.

Note: When the configurations of the NVR are being updated, the recording will

#### 4. I cannot login the administration page of the NVR.

Please check if you have the administrator authority. Only administrators are allowed to login the NVR.

#### 5. The live video is not clear or smooth sometimes.

- a. The image quality may be restricted and interfered by the network traffic.
- b. When there are multiple connections to the IP camera or the NVR, the image quality will be reduced. It is recommended to allow only three simultaneous connections to the monitoring page at maximum. For higher recording performance, do not open too many IE browsers to view the live video.
- c. The same IP camera may be shared by multiple NVR servers for recording at the same time.

## 6. The alarm recording does not function.

- a. Please login the NVR and go to 'Camera Settings' > 'Alarm Settings'. Make sure the alarm recording is enabled for the IP camera.
- b. If the NVR is installed behind a router while the IP camera is not, the alarm recording will not work.
- c. When the alarm recording is enabled, make sure the number of days that the alarm recordings will be retained have been specified in 'Camera Settings' > 'Advanced Settings'. Otherwise, the recordings may be overwritten.
- 7. The estimated storage space for recording displayed on the 'Recording Settings' page is different from the actual value.

This estimated value is a reference value only. The actual disk space may vary according to the image contents, the network environment, and the performance of the IP cameras.

The E-map cannot be displayed correctly.
 Please check the file format. The NVR supports E-map in JPEG only.

## 9. I cannot find the NVR by the QNAP Finder.

- a. Check if the NVR has been turned on.
- b. Connect the local PC and the NVR to the same subnet.

- c. Install the latest version of Finder from <u>www.qnapsecurity.com</u>.
- d. Run Finder again to search for the NVR. Make sure all the firewall software on the computer have been turned off; or add the Finder to the list of allowed programs in the firewall.
- e. If the NVR is not found, click 'Refresh' on the Finder to try again.
- f. If the problem persists, contact the technical support.

#### **10.** The changes to the system configuration did not take effect.

After changing the settings on the administration page, click 'Apply' to apply the changes.

#### **11.** The monitoring page cannot be fully displayed in Internet Explorer.

When using the zooming function of Internet Explorer, the page may not be displayed properly. Please click F5 to refresh the page.

#### 12. I cannot use the SMB, FTP, and Web File Manager services of the NVR.

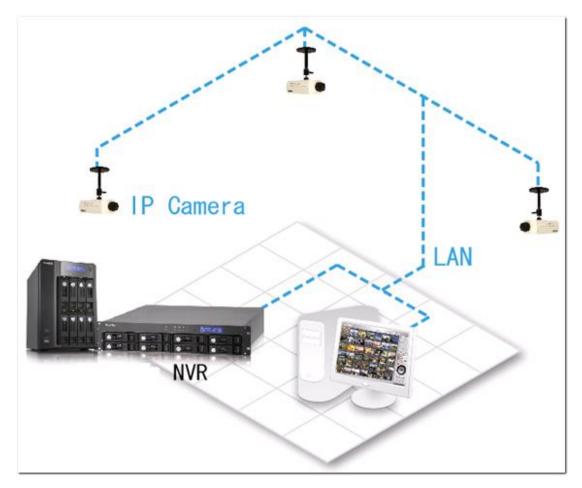
- a. Login the NVR as an administrator. Go to 'Network Settings' > 'File Services' and check if these three functions are enabled.
- b. If the NVR is installed behind a router, the SMB and FTP services can only be accessed from the same subnet. Please refer to <u>Appendix B</u> for details.

## **13.** The NVR takes too long to restart.

When the NVR takes more than 5 minutes to restart, turn off the power and turn on the server again. If the problem persists, please contact the technical support.

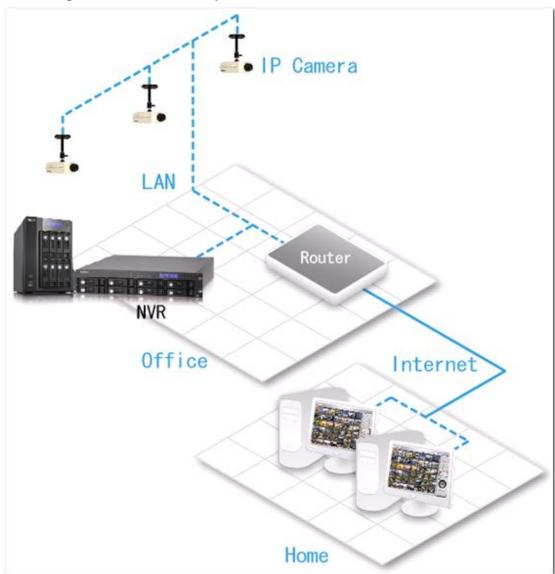
# Appendix A Configuration Examples

Environment 1: The NVR, the IP camera, and the monitoring PC are all on the same network



	IP address
NVR	192.168.1.1
РС	192.168.1.100
Camera 1	192.168.1.101
Camera 2	192.168.1.102
Camera 3	192.168.1.103

In the example, add the IP cameras to the NVR by entering the IP addresses of the IP cameras.



Environment 2: The NVR and the IP camera are installed behind the router, while the monitoring PC is located remotely

	IP address	Mapped port on the router
NVR	192.168.1.1	8000
Camera 1	192.168.1.101	8001
Camera 2	192.168.1.102	8002
Camera 3	192.168.1.103	8003
Router public IP	219.87.144.205	
РС	10.8.10.100	

To allow a remote PC to connect to the NVR and the IP cameras, do the following:

From	Forward to
219.87.144.205:8000	192.168.1.1:80
219.87.144.205:8001	192.168.1.101:80
219.87.144.205:8002	192.168.1.102:80
219.87.144.205:8003	192.168.1.103:80

Step 1. Set up the port mapping (virtual server) on the router.

Step 2. Add the IP camera to the NVR by entering the IP address of the IP camera in the 'IP Address' settings. Enter the public IP address of the router and the mapped ports of the IP camera in the 'WAN IP Address' settings.

**Note:** When configuring the IP camera, the WAN IP and LAN IP must be entered.

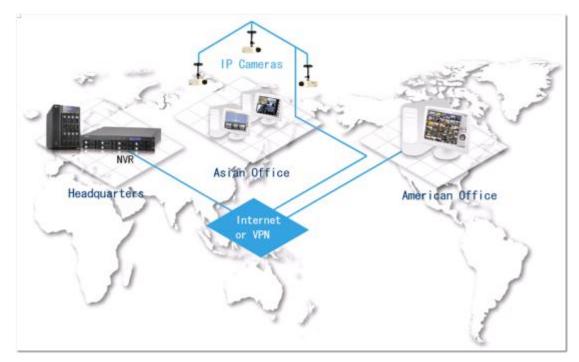
To open FTP (port 21) and SMB (port 445) of the NVR on WAN, configure the following port mapping settings:

From	Forward to
219.87.144.205:21	192.168.1.1:21
219.87.144.205:139	192.168.1.1:139
219.87.144.205:445	192.168.1.1:445

After finishing the above two steps, connect to the NVR on WAN by entering the IP address http://219.87.144.205:8000 in the IE browser. Then login the NVR with the correct user name and password.

If the port specified to the NVR is 80, enter http://219.87.144.205 to connect to the NVR.

**Note:** If the router does not use a fixed IP, configure the DDNS settings on the router. Other configurations are the same as above.



Environment 3: The NVR and the IP camera are all located remotely

	IP address
NVR	219.87.144.205
Camera 1	61.62.100.101
Camera 2	61.62.100.102
Camera 3	61.62.100.103

In this example, add the IP camera to the NVR by adding its IP address to the 'IP Address' settings.

**Note:** If a particular port is assigned to connect to the IP camera, specify the port in the system configuration.

Environment 4: The NVR and the IP camera are installed behind the router

	IP address
NVR 1	192.168.1.101
NVR 2	192.168.1.102
NVR 3	192.168.1.103
Router public IP	219.87.145.205

In the example, to allow a remote PC to connect to each NVR by FTP, do the following:

Step 1	Set up the port mapping (virtual server) on the router
JICP I.	Set up the port mapping (wirtual set ver) on the router

	From	Forward to
NVR 1	219.87.145.205:2001	192.168.1.101:21
NVR 2	219.87.145.205:2002	192.168.1.102:21
NVR 3	219.87.145.205:2003	192.168.1.103:21

Connect to NVR 1 by ftp://219.87.145.205:2001 Connect to NVR 2 by ftp://219.87.145.205:2002

Connect to NVR 3 by ftp://219.87.145.205:2003

Step 2. Enable FTP port mapping on the NVR

To connect to each NVR via FTP by clicking 'FTP' on the playback page of each NVR, enable FTP port mapping in 'Network Settings' > 'File Services' on the system administration page and set the mapped port number.

	Mapped port
NVR 1	2001
NVR 2	2002
NVR 3	2003

After finishing the above two steps, connect to the NVR via FTP by entering the IP address in the IE browser or clicking 'FTP' on the playback page. Then login the NVR by the correct user name and password.

# **Technical Support**

QNAP provides dedicated online support and customer service via instant messenger.

Online Support: <a href="http://www.qnapsecurity.com/onlinesupport.asp">http://www.qnapsecurity.com/onlinesupport.asp</a>

Facebook: <u>https://www.facebook.com/nvr.qnap</u>

Forum: <u>http://forum.qnapsecurity.com</u>

Technical Support in the USA and Canada: Email: <u>q\_supportus@qnap.com</u> TEL: +1-909-595-2782 Address: 168 University Parkway, Pomona CA 91768 Service Hours: 08:00-17:00 (GMT- 08:00 Pacific Time, Monday to Friday)

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