

VS-5020/ 5012 VioStor NVR

Network Surveillance System for SMB and Enterprise
 QNAP Network Video Recorder for IP Cameras

Live Monitoring, Recording, and Video Playback over the Internet Anytime, Anywhere

Secure Life, Secure Property



- Motion Detection
- Foreign Object
- Missing Object
- Out of Focus
- Camera Occlusion



- Quiet
- Power-saving

Powerful All-in-one Recording Functions

- Continuous/ manual/ schedule recording
- Alarm recording (by motion detection or sensor triggered)
- Multiple alarm recording schedules
- High performance megapixel recording
- High quality Motion-JPEG, MPEG-4, MxPEG and H.264 recording
- Audio recording (vary by camera models)

Powerful Surveillance Features

- Diversified modes for live monitoring
- Smart control of PTZ cameras and auto cruising
- Event notification on monitoring
- Real-time SMS and email alert
- Multi-channel playback at different speed
- Easy data search by date & time, timeline, event, and intelligent video analytics (motion detection, foreign object, missing object, out of focus, and camera occlusion)
- Enhanced file security by digital watermark

Easy to Use

- Trouble-free 6-step installation
- Intuitive web-based user interface
- Smart search of IP cameras for quick settings
- Drag and drop function on monitoring
- Touch-N-Go PC-less RAID setup via the LCD panel

High Reliability and Smart Features

- Intel 1.6GHz CPU and 1GB DDRII memory for superior system performance
- Advanced RAID (RAID 0/ 1/ 5/ 5+Hot spare/ 6/ 6+Hot spare/ JBOD) with hot-swap design
- Ultra large storage capacity (up to 10TB) for long-term recording
- Intelligent auto power on when power resumes after power outage
- Supports UPS for 24x7 service
- Two Gigabit LAN ports for failover, load-balancing, or multi-IP setting
- Green NVR solution: Linux-embedded system with low power consumption



**Real-time monitoring
 over the Internet anytime, anywhere !**

VS-5020/5012

Secure Life, Secure Property



High Performance Network Surveillance System for SMB and Enterprise

The VS-5012 and VS-5020 are the professional standalone network video surveillance systems designed to meet the high security demand of the SMB and enterprises. The VioStor NVR is a Linux-embedded system which supports M-JPEG/ MxPGP/ MPEG4 recording, megapixel recording and up to 10TB for long-term recording from **AXIS, ACTi, Arecont Vision, Canon, D-Link, EDIMAX, ELMO, EtroVision, GANZ, iPUX, IQeye, LevelOne, Messoa, MOBOTIX, Panasonic BB/ BL/ i-Pro, SANYO, SONY, TOSHIBA, TRENDnet, VIVOTEK**, and **Y-CAM** IP-based security cameras.

The VioStor NVR addresses many of the shortcomings of traditional analog surveillance system and PC-based monitoring solutions which are expensive to install and maintain, and lack of remote management mechanism. As a standalone system, the VioStor NVR is highly stable, easy to use, less vulnerable to virus attack, and power-saving. Also, no extra software utility is ever required. The VioStor NVR can be easily set up in an Ethernet-ready environment without any complicated wiring.

The VioStor NVR features versatile recording functions, e.g. schedule recording,

alarm recording, alarm recording schedule. In live monitoring, unique multi-server monitoring, variety display modes, easy drag and drop function, smart control of PTZ cameras, digital zoom, real-time snapshot, and E-map are supported. The NVR also offers **video search by intelligent video analytics (IVA), including motion detection, foreign object, missing object, out of focus, and camera occlusion**. Other powerful functions include multi-channel playback at different speed, easy data search by date & time and alarm event, etc. All these functions can be performed through the web-based GUI by the IE browser.

The VioStor NVR enables secure recording data protection with advanced RAID, Online RAID Capacity Expansion, and Online RAID Level Migration. Moreover, dual Gigabit LAN ports are provided for network failover, load-balancing, and standalone configurations for efficient data transfer over the network. You can set up the surveillance system in a few minutes by the LCD panel or 6-step web-based installation. The VioStor NVR is a perfect video surveillance application for community, parking lot, retail stores, malls, banks, hospitals, offices, and factories, etc.

Powerful Surveillance Features



• Diversified Monitoring Modes

- 1/ 4/ 6/ 8/ 9/ 10/ 12/ 16/ 20/ 25/ 36/ 42-channel display mode
- Sequential display mode
- Exclusive Picture-in-Picture mode
- Dual display mode



• Easy Drag and Drop Function on Monitoring

The VioStor NVR supports drag and drop function to change the display order of the monitoring channels.

• Smart Control of PTZ & Speed Dome Cameras

You can adjust the PTZ cameras directly by the web user interface.

• Preset Position Control and Auto Cruising

You can view different preset positions of the IP cameras by clicking the number buttons on the monitoring page. You can also configure auto cruising settings on the VioStor NVR for periodic monitoring of the preset positions of the PTZ cameras.

• Digital Zoom for Monitoring and Playback

The VioStor NVR supports digital zoom for more flexible monitoring and playback.

• Event Notification

When alarm recording is enabled and an event occurs, you can click the alarm icon on monitoring page to view the alert details.

• Video Snapshot

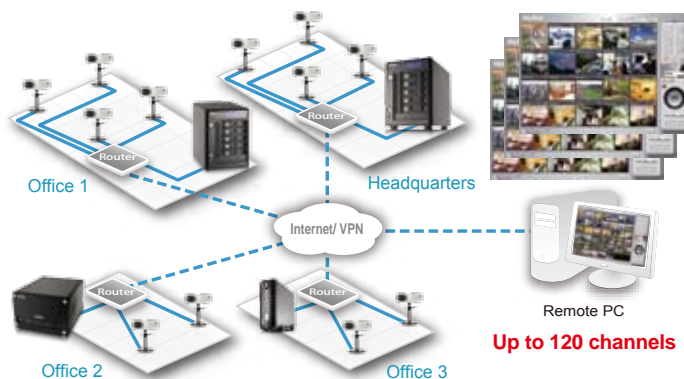
The snapshot function is supported on monitoring and playback page.

• E-map for Easy Preview of the Camera Location

You can upload the pictures of the monitoring location.

• Multi-server Monitoring

You can connect to the VioStor NVR and add other QNAP NVR servers to monitor up to 120 channels over LAN or WAN.



• All-in-one Recording Functions

- Continuous/ schedule/ manual recording
- Alarm recording/ multiple alarm recording schedules
- High quality Motion-JPEG, MPEG-4, MxPEG and H.264 recording
- Up to 30 fps at D1 or VGA for each camera
- High performance megapixel recording
- Audio recording (depends on the cameras)
- * Up to 15 schedules are supported for each camera

• Real-time SMS and Email Alert

The NVR sends SMS and e-mail alert to the administrator immediately in case of system error or emergent events.



• Authority Management

You can configure the monitoring and playback authority of specified cameras for up to 32 users.

• On-line User List and Host Access Control

You can specify the connections to be allowed and denied to access the VioStor NVR. You can also view the record of users currently logged on and previously logged on to the VioStor NVR.

• Flexible Adjustment of the Length of Recording Files

You can flexibly adjust the length of the recording files.

• Schedule Remote Replication

The VioStor NVR supports schedule remote replication for secure data backup to a remote NAS.

• Advanced Event Logs

The VioStor NVR provides detailed event logs of system warning, hard disk error, network disconnection, UPS status, users' networking services, and recordings access record.



• Multi-channel Playback at Different Speed

The VioStor NVR provides Express Quad View Playback that you can either divide the selected time equally into four playback views or play the video of four cameras at the same time.

• Enhanced File Security by Digital Watermark

The digital watermark technology allows you to check if the recording files on VioStor NVR are modified to enhance the file security.



• Data Search by Date & Time, Timeline, Event and Intelligent Video Analytics (IVA)

The VioStor NVR supports quick search of recording data by date and time, timeline, and events, and intelligent video analytics, including **motion detection**, **foreign object**, **missing object**, **out of focus**, and **camera occlusion**.

Motion Detection:

The moving objects of the searching area are highlighted in red brackets.



Foreign Object:

The foreign objects of the searching area are highlighted in yellow brackets.



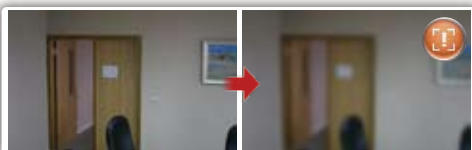
Missing Object:

The missing objects of the searching area are highlighted in yellow brackets.



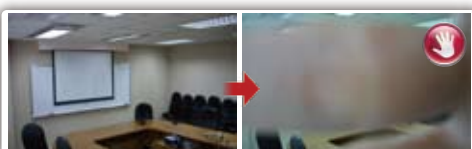
Out of Focus:

Detects if the IP camera is out of focus.



Camera Occlusion:

Detects if the IP camera is obstructed.



High Reliability and Smart Features

• Advanced RAID (0/ 1/ 5/ 6/ JBOD) with Hot-swap Design

• Online RAID Capacity Expansion and Online RAID Level Migration

• Online RAID Capacity Expansion

The storage capacity of a RAID configuration can be expanded by replacing the hard drives with larger ones.

• Online RAID Level Migration

You can upgrade the disk configuration to higher RAID level with the data retained. There is no need to turn off the server during the process.

• Auto Logoff

The administrator can set the timeout period to log off the users when the idling time has reached in order to enhance secure management of the NVR.

• S.M.A.R.T. & Advanced HDD Health Scanning (HHS)

• Intelligent Automatic System Startup when Power Resumes after Power Outage

• Support UPS for 24x7 Service

• Convenient Video Backup to External USB Storage by One Touch Auto Video Backup Button

• DOM Architecture with Embedded Fail-safe Dual OS for Enhanced Reliability

Excellent Hardware Design

• Intel® 1.6GHz CPU and 1GB DDRII Memory for Superior System Performance

• Green NVR Solution: Linux-embedded System with Low Power Consumption

Low Power Consumption

Power Consumption

QNAP VS-5012/5020 VioStor NVR Write/Read (Single) 57.69 ~ 60.01W

QNAP VS-5012/5020 VioStor NVR Write/Read (RAID5) 71.54 ~ 76.39W

PC-based NVR solution Write/Read 350W

• Touch-N-Go PC-less Installation by LCD Display

The handy LCD display on the VioStor NVR provides a speedy and easy approach to initialize the NVR and set up the RAID configuration without using any computer. You can use the handy LCD to finish the first time installation in 3 simple steps.

• Up to 10TB Storage Capacity for Long-term Recording

• Lockable HDD Tray

• Two Gigabit LAN Ports for Failover, Load-balancing, or Multi-IP Setting

• Failover

Failover allows the VioStor NVR to sustain the failure of one network port to provide continuous services.

• Load-balancing

Bandwidth aggregation is supported to boost the file transfer speed (works with managed Ethernet switch with 802.3ad configured).

• Multi-IP Setting

The VioStor NVR can be deployed with two different IP settings for sharing among different workgroups in two different subnets.



Powerful Network Services

• DDNS Support & Built-in NTP Server

• Convenient Data Access by Network Neighborhood (SMB/ CIFS) / Web File Management (HTTP) / FTP server

Application: Live Monitoring, Recording, and Video Playback over the Internet Anytime, Anywhere

• Business Service

- Live production line monitoring for quality and security control
- Department store/ mall monitoring
- Shipping process recording
- Crime prevention, e.g. shoplifting
- Parking lot monitoring
- Construction site monitoring
- Convenience store security
- Campus security

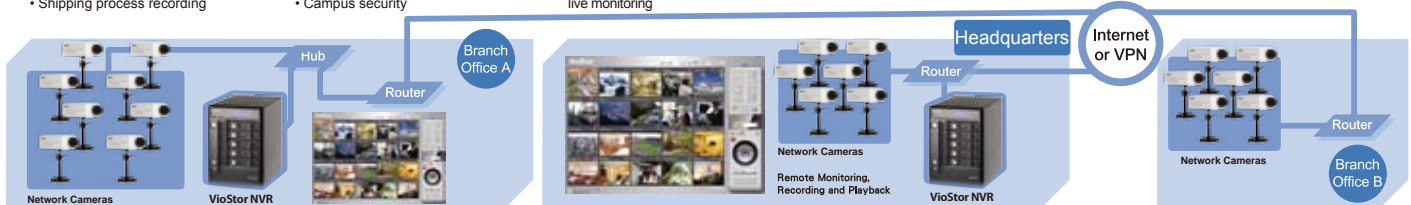
- Server room security
- Gas station security
- Hotel security
- Multiple remote offices/ factory sites live monitoring

• Office Management

- Real-time office monitoring from remote locations
- In-house office monitoring
- Office security fortification
- False alarm identification

• Home Care

- Home surveillance to secure life and property
- Enhanced protection for kids, elders, and pets
- Crime prevention
- Evidence or aid to police investigations



Hardware Specifications

Processor

- Intel® Celeron® Processor 1.6GHz

Memory

- 1GB DDRII RAM, 128MB flash (DOM)

HDD Capacity

- 5 x 3.5" SATA I/II HDD or 5 x 2.5" SATA HDD (the standard system is shipped without HDD)

HDD Tray

- 5 x hot-swappable and lockable tray

LAN Port

- 2 x Gigabit RJ-45 Ethernet port

LED Indicators

- Status, HDD 1, HDD 2, HDD 3, HDD 4, HDD 5, LAN, USB

USB

- 5 x USB 2.0
- Front: for USB storage device (One Touch Auto Video Backup)
- Back: for UPS device

eSATA

- 1 x eSATA port (back); reserved for local backup

Buttons

- Power, one touch auto video backup, reset

LCD Panel

- Mono-LCD display with backlight, Enter button, and Select button for configuration

Alarm Buzzer

- System warning

Form Factor

- Tower

Hardware Dimensions

- 261.1(H) x 188.5(W) x 261.1(D) mm
- 10.28(H) x 7.42(W) x 10.28(D) inch

Color Box Shipping Weight

- 8Kg/ 17.64 lb

Operation Environment

- Temperature: 0~40°C
- Humidity: 0~95% R.H.

Power Supply

- Output: 250W, Input: 110-240V AC, 50/60 Hz, 5A

Power Consumption

- 71.54~76.39W; Write/Read (RAID5)
- 57.69~60.01W; Write/Read (Single)

Secure Design

- K-Lock security slot for theft prevention

VGA

- Reserved

RS-232

- RS-232 x1

Fan

- 12cm quiet cooling fan (12V DC)

Certification

- CE, FCC, VCCI, BSMI

Software Specifications

Video

Display Mode: 1/4/6/8/9/10/12/16/20/25/36/42-channel display, Picture-in-Picture mode, sequential mode

Multi-server Monitoring:

- Up to 120 channels monitoring from multiple QNAP NVRs

Recording Connection:

- VS-5012: Up to 12 channels
- VS-5020: Up to 20 channels

Compression Format:

- M-JPEG, MPEG-4, MxPEG, and H.264 (vary by camera models)

Video Setting: Resolution, quality, frame rate

E-map: Upload E-map (JPEG)

Recording

Recording Mode:

- Continuous/ manual/ schedule* recording
- Alarm recording/ multiple alarm recording schedules*
* Up to 15 schedules are supported for each camera

Buffer Storage for Alarm Images (before & after events):

- Pre-recording: up to 300 sec; post-recording: up to 300 sec (total 600 sec/ 10 min)

Recording Performance:

Up to 30 fps at D1 or VGA for each camera

- * Real performance may vary in different environment

Megapixel Recording: High performance megapixel recording

File format: AVI (QNAP codec is needed for playback)

Utility Software

QNAP Finder: Discovery and quick setup for NVR

VioStor Player: Play the recording files on your Windows computer easily

Playback

Playback Channel: Max 4-channel playback at the same time

Playback Mode: Play, pause, stop, reverse play, next/ previous frame, next/ previous video file, different speed control

Search Mode: By date & time, timeline, event, and intelligent video analytics

Playback Enhancement: Full screen display, video snapshot, digital zoom

Download: Download recordings via the web

Storage

Disk Management:

- Single disk, RAID 0, RAID 1, RAID 5, RAID 5+ Hot spare, RAID 6, RAID 6+ Hot spare, and JBOD/ Linear
 - Online RAID Capacity Expansion/ Online RAID Level Migration
 - HDD S.M.A.R.T. / Bad blocks scan
- Services:** Web File Manager, FTP, SMB/ CIFS

LCD Panel

- PC-less RAID configuration for the first time setup
- Checks or configures the IP settings, physical disk info, system info, shut down or reboot the NVR etc.

Network

Support: HTTP, TCP/IP, SMTP, DHCP, Static IP, DNS, DDNS, FTP, NTP, UPnP, failover, load-balancing, multi-IP setting

Dual Gigabit LAN: Failover/ load-balancing/ multi-LAN

Security

Operation System: Linux-embedded system

On-line Users List: Record of the users currently logged on and previously logged on to the NVR

Host Access Control: Specify the connections to be allowed and denied to access NVR

Authority management: The right to monitor and playback each camera can be separately defined for each user (max 32)

Alert Notification: Buzzer, event notification, SMS, e-mail alert

Auto logoff: The administrator can set the timeout period to log off the users when the idling time has reached

Digital Watermark: Enhanced file security by digital watermark

UPS: APC / MGE (USB type UPS)

Event Logs: Detailed record of event logs

Client PC Requirement

(Suggested system requirement for better video performance)

CPU: ♦ Motion JPEG format (up to 20 channels):

Pentium 4 CPU 2.8 GHz or above

♦ MPEG-4/ MxPEG/ H.264 format (up to 20 channels): Dual core CPU 2.8 GHz or above

* For higher surveillance performance, please select more advanced PC models.

Memory: 1GB or above

Operation System: Microsoft Windows XP/ Vista (32-bit)

Web Browser: Internet Explorer 6.0 or later

Network Interface: 10/100 Mbps or above

View Resolution: Suggested 1024 x 768 pixels or above

Language Support

English/ French/ German/ Italian/ Japanese/ Spanish/ Simplified Chinese/ Traditional Chinese/ Danish/ Dutch/ Finnish/ Korean/ Norwegian/ Polish/ Portuguese/ Russian/ Swedish

* Designs and specifications are subject to change without notice.

Package Contents



QNAP Systems, Inc.

TEL: 886-2-8698 2000 FAX: 886-2-8698 2270

Address: 21F, No. 77, Sec. 1, Xintai 5th Rd, Xizhi City, Taipei County, 221, Taiwan

For more detailed information, please visit QNAP website: <http://www.qnapsecurity.com/>

E-mail: nvr@qnap.com

QNAP is a registered trademark of QNAP Systems, Inc. Microsoft and Windows are either registered trademarks of Microsoft® Corporation in the United States and other countries.

Brand	Models	VS-5020	VS-5012
		20 channels	12 channels
AXIS	206M/ 207/ 207N/ 207M/ 207MM/ 209FD/ R/ 209MFD/ RJ/ 210/ 210A/ 211A/ 211/ 211W/ 211M/ 212/ 213/ 214/ 215/ 216FD/ 216MFD/ 221/ 223M/ 225FD/ 231/ 232/ 233D/ P1311/ P3011/ P3301/ P3343/ P3344/ Q1755/ Q7401/ M1011/ M1011-W/ M1031-W/ M3011/ M7001/ 241Q/ 241QA/ 241S/ 241SA/ 243SA/ 247S	●	●
ACTI	ACM-1231/ ACM-1232/ ACM-1311/ ACM-1431/ ACM-1432/ ACM-1511/ ACM-3001/ ACM-3211/ ACM-3311/ ACM-3401/ ACM-3411/ ACM-4000/ ACM-4001/ ACM-4100/ ACM-4200/ ACM-5001/ ACM-5601/ ACM-5611/ ACM-5711/ ACM-7411/ ACM-8211/ ACM-8511/ CAM-5201/ CAM-5221/ CAM-5301/ CAM-5321/ CAM-6500/ CAM-6600/ CAM-6610/ CAM-6620/ CAM-6630/ CAM-7300/ CAM-7321/ CAM-7322/ ACD-2100/ ACD-2200/ ACD-2300/ ACD-2400/ ACD-2000Q/ SED-2140/ SED-2120/ TCM-4301/ TCM-5311	●	●
Arecont Vision	AV 1300/ AV 1305/ AV 1355/ AV 2100/ AV 2105/ AV 2155/ AV 3130/ AV 3100/ AV 3105/ AV 3155/ AV 5100/ AV 5105/ AV 5155/ AV 8180/ AV 8185/ AV 8360/ AV 8365	●	●
Canon	VB-C300/ VB-C300B/ VB-C50R/ VB-C50/ VB-C50FS/ VB-C50FI	●	●
Cisco	CIVS-IPC-2500/ CIVS-IPC-2500W	●	●
D-Link	DCS-2120/ DCS-2121/ DCS-3220/ DCS-3220G/ DCS-3420/ DCS-5220/ DCS-5300/ DCS-5300G/ DCS-6620/ DCS-6620G/ DCS-900(A)/ DCS-900(B)/ DCS-900(B2)/ DCS-920	●	●
EDIMAX	IC-1510/ IC-1510WG/ IC-3010/ IC-3010WG/ IC-7000PT/ IC-7000PTN	●	●
ELMO	PTC-401C-IP/ PTC-402C-IP/ SN2230-IP2/ SN2230-IPW/ SN2232-IP/ TD4112-IP/ TD4114-IP2	●	●
EtroVision	EV3130/ EV3131/ EV3131A/ EV3830/ EV6130/ EV6332/ EV6530	●	●
GANZ	ZN-D2024/ ZN-PT304L/ ZN-PT304WL/ ZN-YH305/ ZV-S306	●	●
iPUX	ICS 1001/ ICS 1011/ ICS 1003/ ICS 1013/ ICS 1300/ ICS 1310/ ICS 130A/ ICS 131A	●	●
IOeye	0405/ 041S/ 042S/ 510/ 511/ 701/ 702/ 703/ 705/ 710D/ 711D/ 712D/ 752/ 753/ 755/ 802/ 803/ 805/ 811/ 852/ 853/ 855	●	●
LevelOne	FCS-0010/ WCS-0010/ FCS-0020/ WCS-0020/ FCS-1010/ WCS-2010/ FCS-1030/ WCS-2030/ FCS-1040/ WCS-2040/ FCS-1060/ WCS-2060/ FCS-1070/ WCS-2070/ FCS-109X/ WCS-109X/ FCS-3000/ FCS-3021/ FCS-5030	●	●
Linksys	PVC-2300/ WVC-200/ WVC54GCA	●	●
MESSOA	NDZ860 H2/ NIC835 HN5/ NIC836	●	●
MOBOTIX	D12D-IT/ D12D-Sec/ D22M-Basic/ D22M-IT/ D22M-Sec/ M10D-Night/ M12D-IT/ M12D-Sec/ M12M-IT/ M12M-Sec/ M12M-Web/ M22M-IT/ M22M-Night/ M22M-Sec/ Q22M-Basic/ Q22M-Sec/ Q24M-Sec	●	●
Panasonic	BB-HCM580/ BB-HCM581/ BB-HCM527/ BB-HCM531/ BB-HCM511/ BB-HCM515/ BB-HCM547/ BL-C1/ BL-C10/ BL-C11/ BL-C13/ BL-C20/ BL-C30/ BL-C30K1/ BB-HCM481/ BB-HCM403/ BB-HCM381/ BB-HCM371/ BB-HCM331/ BB-HCM311/ BB-HCM110/ BB-HCM100/ KX-HCM280/ KX-HCM180/ BL-C11/ BL-C31/ NF282/ NP284/ NP1000/ NP1004/ NP240/ NP244/ NS202(A)/ NS950/ NS954/ NW484/ NW960/ NW964/ WV-NF302/ WV-NP304/ WV-NP304V	●	●
SANYO	VCC-400N/ VCC-P450/ VCC-P470/ VCC-PT490/ VCC-PT500/ VCC-9800/ VCC-9800/ N6955/VCC-HD4000	●	●
SONY	SNC-CS10/ SNC-CS11/ SNC-CS20/ SNC-CS50/ SNC-CM120/ SNC-DF40/ SNC-DF50/ SNC-DF70/ SNC-DF80/ SNC-DF85/ SNC-DS10/ SNC-DS60/ SNC-DM110/ SNC-DM160/ SNC-P1/ SNC-P5/ SNC-RX530/ SNC-RX550/ SNC-RX570/ SNC-RZ55/ SNC-RZ50/ SNC-RZ50/ SNC-RZ50	●	●
TOA	N-CC2561/ N-VT-2010/ N-CC-2360	●	●
TOSHIBA	Ci8110-D/ Ci8210-D/ IK-WB12/ IK-WB21	●	●
TRENdnet	TV-IP212/ TV-IP212W/ TV-IP312/ TV-IP312W/ TV-IP410/ TV-IP410W/ TV-IP422/ TV-IP422W	●	●
VIVOTEK	IP3111/ IP3121/ IP3112/ IP3122/ IP3132/ IP3135/ IP3137/ PT3112/ PT3122/ PT3117/ PT3127/ FD6111/ FD6121/ FD6121W/ FD6122/ IP6112/ IP6122/ IP6127/ P26112/ P26122/ P26124/ SD6112V/ FD7130/ FD7131/ FD7132/ FD7141/ IP7130/ IP7131/ IP7132/ IP7133/ IP7134/ IP7135/ IP7137/ IP7138/ IP7139/ IP7142/ IP7151/ IP7152/ IP7154/ IP7161/ IP7251/ IP7330/ IP7330/ PZ7111/ PZ7111/ PZ7121/ PZ7122/ PZ7131/ PZ7131/ PZ7137/ PZ7151/ PZ7152/ SD6122V/ SD7151/ SD7131/ SD7323/ VS 3102/ VS 3100P/ VS 7100	●	●
Y-CAM	Y-Cam White/ Y-Cam Black	●	●

*For the latest information of the supported cameras, please visit QNAP Security website: http://www.qnapsecurity.com/pro_compatibility_camera.asp

**All the other trademarks mentioned herein are the property of their respective companies.

***Designs and specifications are subject to change without notice.