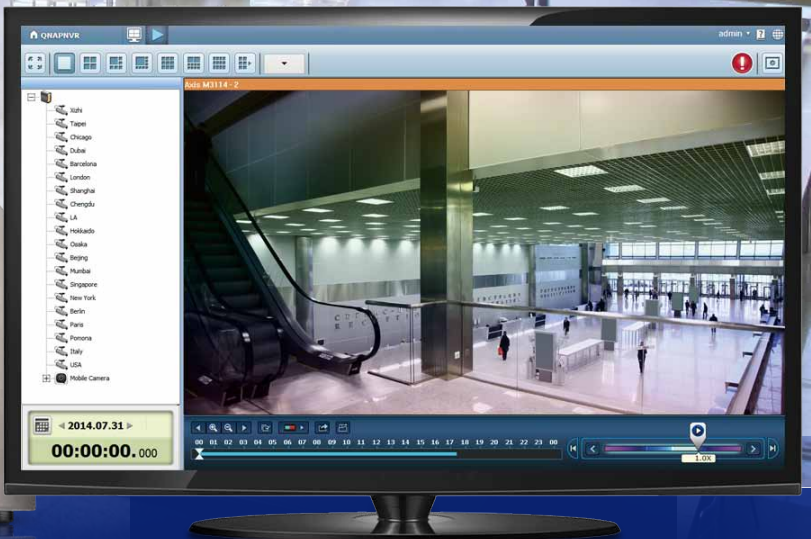


# QVR

## Professional Video Management System





QNAP Security, headquartered in Taiwan, is the world's first Linux-embedded NVR developer that has leveraged its award-winning storage and RAID technologies to offer the reliable and high performance NVR (VioStor NVR). QNAP Security's spirit of continuous innovation makes it provide professional surveillance solutions with various market-fresh applications, such as HD local display, browser-based multi-server remote monitoring and playback IVA.

To fulfill the market's growing surveillance needs, QNAP Security launched its easy turnkey Central Management System solution (VioStor CMS) that is designed for centralized event & device management and flexible central monitoring with large-scale VioStor NVR deployment.

QNAP surveillance solutions are widely applied in various industries such as retail, home offices, banking, hotels, industrial, government and educational institutions. To provide better services globally, QNAP Security has sales representatives, regional offices, support centers and warehouses in more than 10 countries.

## What is QVR ?

With its next-generation interface, QVR redefines the GUI concept of Video Management Software (VMS). QNAP Security is a leading Network Video Recorder (NVR) manufacturer that provides you with a professional video management system preloaded with intuitive, easy-to-use, and versatile QVR software that allows real-time monitoring, recording, playback, alarm notifications, and other management tools to safeguard assets and property when used with supported IP cameras.

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# Live View

Maintaining accessible and reliable live surveillance feeds is essential for properties such as retail stores, hotels, construction sites, offices, and at home. With the QVR, you can easily manage & monitor multiple IP cameras on a real-time basis through web browsers, and attain the first-hand status of monitored corners, such as building gates, office entrances, or emergency exits, safeguarding your staff and property.



## Visual aid by E-map

The E-map function helps visualize the layout of the deployment of IP cameras enabling you to quickly identify the location of each IP camera, especially when an alarm occurs. Just upload the pictures of the monitoring locations and drag and drop the IP camera icons to the right place on the E-map. Once an alarm event happens, the camera icons will flash to indicate the event type for you to be alerted immediately and take necessary actions.

## Cross-platform support

QVR works with all major web browsers such as Google Chrome, Mozilla Firefox and Internet Explorer. With QNAP QVR Client for Mac, users can also enjoy a similar experience on their Macs.



## Instant notifications

When the alarm recording is enabled and an event occurs, an alarm icon will be shown instantly on the monitoring page. The alert details can be viewed by clicking the icon.

## Various remote monitoring modes

QVR supports various monitoring modes to display 4, 6, 8, 9, 10, 12, 16, 20, 25, 36, 42, 64 channels on a single screen and 128 channels on dual monitors. Users can also choose to sequentially display each channel or use dual displays to have a wider view.

## PTZ (Pan/Tilt/Zoom) control

On QVR web interface, you can directly adjust the PTZ (Pan/Tilt/Zoom) functions of supported cameras, greatly enhancing the convenience in remote monitoring of desired corners.



## 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. The interactive control buttons will disappear when not in use, helping you watch the IP camera feeds without any distractions.

## 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.

## Preset positions and auto-cruising

You can set up preset positions and auto-cruising for PTZ cameras to automatically adjust the camera angle to preset positions by the time interval you define. To gain more flexibility, you can click the corresponding number buttons of an IP camera's preset positions to have an instant view at that position.

## Same-screen IP camera configurations

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



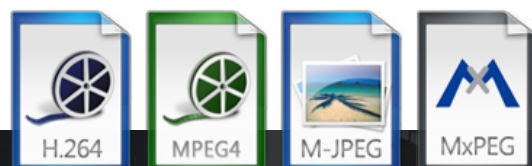
# Recording

QVR provides flexible options to set up IP camera recording, including video format, frame rates, schedules, smart recording, and more.



## High quality codec recording

QVR supports H.264, MPEG-4, M-JPEG, and MxPEG recording, ensuring high-quality recording videos for future playback and reference.



## Manual recording

On the Live-view panel, you can click the record button to start recording the live camera feeds and click the stop button whenever you want to finish recording. Manual recording helps you to capture critical moments on a real-time basis.

## Scheduled recording

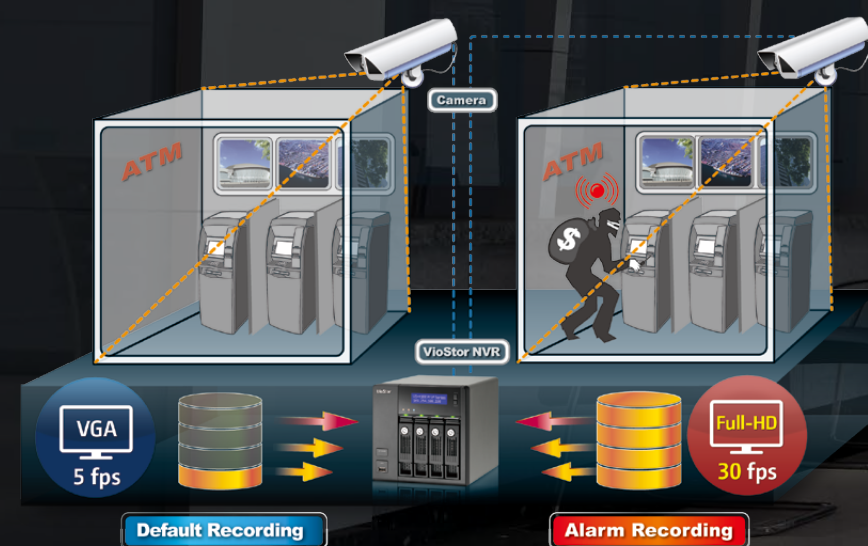
With the intuitive drag-n-drop scheduled recording panel, you are able to define the time to record feeds for each IP camera, allowing you to flexibility set up a suitable recording plan with your existing VioStor NVR storage capacity.

## Event Management

With event management, the recording will only be triggered when motion detections and camera input events occur. Event management ensures the critical events are properly saved for future use and saves storage capacity usage.

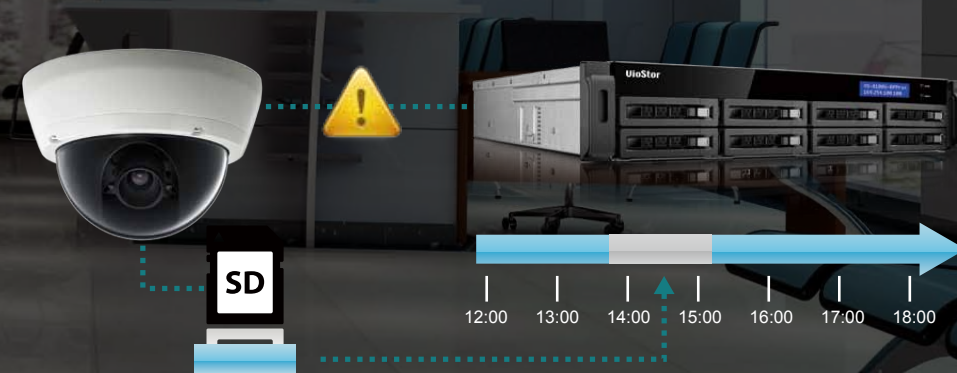
## Smart recording

Smart recording intelligently records standard resolution videos in regular recording, and switches to high resolution automatically when alarms are triggered. This greatly saves your cost spent on hard drives and provides you with high resolution video evidence when needed.



## Edge Recording

This technology provides convenient usage of local on-board storage redundancy and flexibility of adjustable retrieval time. With this feature you can always get valuable recordings and evidence back to your recording server even if you have an unstable network environment. QVR significantly reduces the risk of losing important videos and ensures a seamless and well-protected surveillance environment.





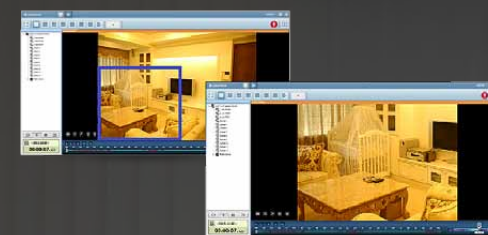
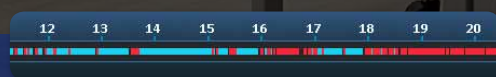
# Playback

QVR provides various ways for you to search and analyze recordings so you can efficiently look up the desired events.



## Identify events easily

On the intuitive playback interface, you can easily distinguish regular recording and alarm recording in the timeline bar.



## Zoom in to see details

Mega pixels camera had become mainstream with larger recording zone and higher resolution. By right-clicking the mouse and dragging an area on the screen, that area will be enlarged with a more clear view.



Internet Low bandwidth <VGA

LAN >HD

## Transcoding

In order to solve the problem of low-bandwidth playback, transcoding allows users a practical option of watching videos stored in centralized locations via the internet.

This feature adapts to bandwidth limits and/or devices that lack the hardware or codecs to play video files by converting a video file to a lower resolution before transferring it across the internet. The original high definition live video is still retained without any changes being made, balancing the whole surveillance system with local recordings and remote playback.



## Preview recordings by thumbnails

You can move the mouse cursor over the timeline to preview the video thumbnails to quickly identify and search the event. No need to play the video from the start and wait long just to find a short video clip.



## Playback and speed control by shuttle bar

With the speed control shuttle bar, you are able to fast-forward the video playback by dragging the button to the right and rewind to the left at the speed you like, helping you quickly find the desired screenshots.

## Intelligent Video Analytics (IVA)

IVA is an advanced way to quickly search videos corresponding to particular modes, greatly saving the time & effort of manually screening out matching videos. For example, in search of a missing car in a parking lot, the "missing object" mode can help quickly locate the section in which the car disappears in the video.

## Real-time watermarking

In need of exporting videos or snapshots, the concern of authenticity might occur. The support of digital watermarking helps prove that the exported videos and snapshots are genuine without any falsification. The Watermark Proof utility developed by QNAP can verify the credibility of the exported videos and snapshots by showing the exact recording date and time, camera name and the VioStor NVR model name. This is rather useful when the videos could be raised as evidence in a relative investigation or in court.



# Management

QVR provides flexible options for you to set up a surveillance system that is fully customized for you.



## Expandable license management

QVR comes with different kinds of free IP camera licenses for each VioStor NVR, and based on your needs, you can expand the number of channels by purchasing additional licenses. This provides a flexible and cost-effective way of scaling your surveillance operations.

## Flexible camera access control

You can create up to 32 user accounts on the QVR and flexibly assign them to different rights for monitoring, playback, PTZ and audio monitoring.

## Advanced Event Management

The QVR allows you to configure 5 types of events, including motion detection, alarm input of camera or NVR1, connection failure, recording failure and user-defined events. Every event can be assigned to 8 types of event actions, including recording, PTZ Control, alarm output of camera or NVR2, email notification, SMS notification, buzzer notification, and user-defined actions, helping you to be alerted immediately.



\* Alarm input of NVR is only supported by VS-4100U-RP Pro+ series NVR.  
Alarm output of NVR is only supported by VS-4100U-RP Pro+ series NVR.

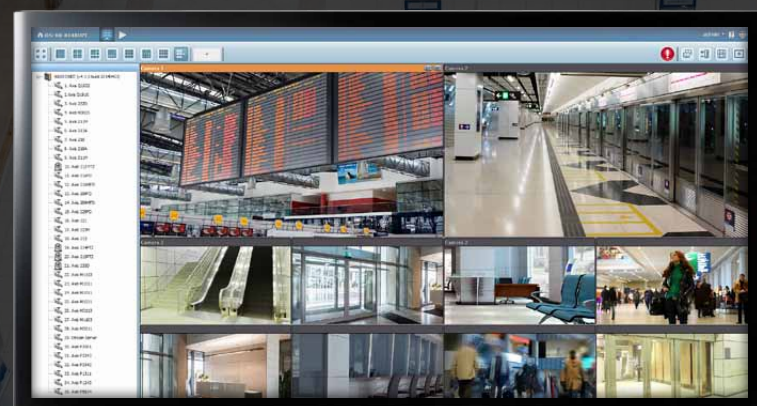
## Choose from over 2,700 IP cameras

The QVR is compatible with over 2,700 IP camera models of over 100 brands and ONVIF specifications, including those that support advanced features such as multi-streaming and fisheye-dewarping. The wide range of supported IP cameras provides great flexibility in IP camera selection.



## Web-based user interface

QVR offers an innovative desktop design to complement smooth working efficiency. The multi-window design allows concurrent multi-tasking, and enables administrators to easily switch between tasks to increase productivity.





# Central Management

QSCM Lite is a free app provided by QVR that allows you to easily manage up to 16 QNAP NVRs and 256 cameras. This pioneering, powerful and free App, which can be directly downloaded from QNAP NVR UI - App Center, is supported by firmware QVR 5.0 (and above version).

## Revolutionary NVR App Center

QNAP introduced an App Center to their NVRs. The App Center is a digital platform for distributing apps that extend the functionality and add new features to the NVR. Users can, install, remove and update new apps developed by QNAP and third parties apps quickly & easily through the App Center. QNAP App Center is as intuitive and easy to use as the iOS App Store and Google Play.

## Free 256-channel central management

Economic – embed free 256 channels  
Powerful – support up to 16 NVR evolutionary multi-server central monitoring, playback, and management.



## Easily turn your QNAP NVR into a CMS server

- Easy – Download QSCM Lite from the QNAP NVR App Center, install it, and your QNAP NVR is now a ready CMS server.
- Economic – No extra server hardware required for a CMS solution
- Convenient – Keep using the existing IP network structure, no re-design needed, and a CMS solution can be online
- Flexible – Choose to have both the NVR & CMS service running at the same time, or have just one service running at one time

\* [Note] The NVR's throughput may be influenced when receiving multitude of events at the same time.

## Centralized Device Management for quicker configuration

Synchronize settings across NVRs & cameras of the same model by "Apply All" settings.

## Flexible View Management for fast focusing

Logically group related E-maps and cameras into a View, and manage Views via an intuitive tree structure.



## Centralized Event Management for overall security control

Alarm mode provides instant event handling on each event's snapshot & log with Live View, Event Playback, View, and E-map.



\* QSCM Lite's client specification is designed based on and mostly like VioStor CMS, a standalone CMS server solution. For more information about VioStor CMS, please refer to VioStor CMS.

\* QSCM Lite is not supported by L series.





# Full HD Local Display

Easily build up a local monitoring solution

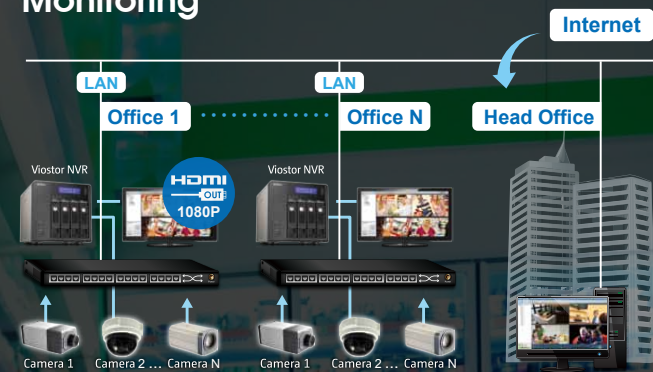
# Storage Expansion

VioStor NVR + Turbo NAS Surveillance Storage Expansion Solution  
Easily scale up your video storage capacity

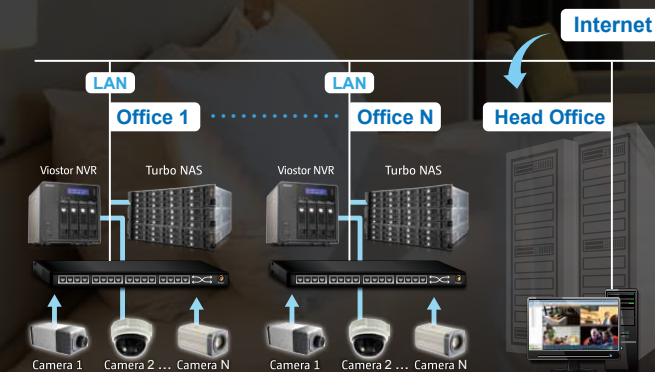
## Benefits

- Easy to use with no learning required**  
 Unlike with traditional NVR software that can be hard to use, with QNAP there is an intuitive interface that is free from complicated options and terminology. Anyone can setup and use the surveillance system, with no need for dedicated administrators or engineers.
- Reduces costs, not functionality**  
 Using local display, users can fully manage their NVR without the need for additional remote PCs or servers.
- Reliable and powerful**  
 Features high-performance Intel-based hardware for smooth, lag-free live videos and an industrial-strength design ensures constant operation.

## Architecture of Local and Remote Monitoring



## Storage Expansion Architecture



## Benefits

- Customized Storage**  
 Customer is able to grow capacity as they want with flexible system structure.
- Reducing Investment**  
 Customer can save by buying what they need for today's storage needs, and grow system later.
- Highly Scalable**  
 Highly flexible system architecture for storage expansion in future.



\* Applied to all pro+ models.



\* Max external storage capacity up to 200TB for all NVR models.



# Mobile Apps



## VMobile - Anytime anywhere surveillance

The VMobile mobile app enables you to monitor QVR anytime and anywhere using iOS and Android devices. It provides camera live-view, PTZ control, instant event notifications, video snapshot, video playback, and video search by date and time.

Available on the App Store

ANDROID APP ON Google play



## Vcam - Turn your mobile device into camera

The Vcam mobile app can turn your mobile device into a network camera. With the Vcam mobile app, you could record any moment around you to your VioStor NVR. The Vcam solution provides a great way to deploy a home surveillance system without purchasing expensive IP cameras.

Available on the App Store

ANDROID APP ON Google play



# Case Study

## QNAP VioStor NVR & CMS secures the wide campus of Chinese Culture University

Organization : Chinese Culture University  
 Location : Taipei, Taiwan  
 Vertical Market : Education  
 Product Solution : VioStor NVR (VS-8140 Pro+)  
 VioStor CMS (VSM-4000U-RP)



### Customer Profile

Founded in 1962, and located close to the Yangmingshan National Park, Chinese Culture University (CCU) has its educational vision to grow and prosper the Chinese culture, particularly the tradition Chinese arts, and physical education. After over forty years, it can well be say that the original disciplines concentrated in the arts that have played a leading role in the academic world remain culturally and professionally relevant and in the forefront among Taiwan universities.

### Background

In order to manage a 115-hectare wide campus, and to keep its students in a safe educational environment, CCU had installed about 650 cameras around the campus to keep an eye on each educational building, the stadium, and the open space, etc. When speaking of the video recording solution, CCU used to use the PC based recording software solution; however, "the PC based solution isn't stable enough. The PC shut down from time to time." said Mr. Chen, the leader of the CCU Surveillance Dept. Therefore, CCU looked for a Linux-based standalone NVR. Also, CCU required a central management system (CMS) to put in the main control center, and to centrally monitor and manage the whole campus. Wergen Technology Co., Ltd., the long-term cooperated SI of CCU, recommended QNAP surveillance solution as the upgraded solution.

### Solution

CCU has several buildings that have mini monitoring room to monitor the nearby cameras. QNAP VioStor NVR, which provides the HDMI local display, is put in each mini monitoring room for easy monitoring. Cameras videos with the resolution of D1, 1.3M, and 2M are recorded for 1 month. They also use QNAP embedded RAID 5 to protect the footage from the risk of HDD crash.

At the main control center, all the camera videos from the NVRs are centralized to be monitored and managed by QNAP VioStor CMS. By having the flexibility of choosing the smaller video stream, the bandwidth consumption between each mini monitoring room and the main control center can be effective.

All the surveillance devices are connected by a dedicated giga LAN environment, ensuring no network interruption from other network services occurs.

### Benefit

"The management of a big wide campus becomes possible and easy. Thus, almost no student violence occurred after the surveillance system was built." said Mr. Chen. "There're other benefits for the structure planning, such as the local display at each mini monitoring room eliminates the need to purchase another PC, saving a great amount of money. Most importantly, QNAP Linux-embedded solution brings us the stable and reliable surveillance environment than ever before."





# Comparison of VioStor NVR Series

# Help me Choose a VioStor NVR

QNAP provides an easy-to-use VioStor NVR Surveillance Selector to help you choose an ideal VioStor NVR that meets your requirement of storage capacity and bandwidth.

To learn more about QNAP VioStor NVR, please feel free to contact us by email.

## NVR Selector



QNAP provides an easy-to-use NVR Selector to help you choose an ideal VioStor that meets your requirement of storage capacity and bandwidth.

## Compatible IP Camera



QVR is compatible with over 2,700 IP camera models of over 100 brands and ONVIF specifications. Please check the compatibility of any IP camera models in our compatibility list.

## Purchase Camera License



You can expand the number of channels by purchasing additional licenses at the QNAP License Store (<http://license.qnap.com/>), or you can contact an authorized reseller for further assistance\*.

## More QNAP Products



To learn more about QNAP VioStor products, please visit [www.qnapsecurity.com](http://www.qnapsecurity.com)

## Helpdesk



If you encounter any problems when using QNAP VioStor products, please contact our helpdesk.

\* If contacting an authorized reseller, please provide the following part numbers for the respective license :  
1 channel license : LIC-CAM-NVR-1CH, 2 channel license : LIC-CAM-NVR-2CH, 4 channel license : LIC-CAM-NVR-4CH



Product Photo	VS-12164U-RP/12156U-RP/12148U-RP/12140U-RP Pro+	VS-8148U-RP/8140U-RP/8132U-RP/8124U-RP Pro+	VS-8148/8140/8132/8124 Pro+	VS-6120/6116/6112 Pro+
Operation System	Linux-embedded	Linux-embedded	Linux-embedded	Linux-embedded
Max. number of supported IP cameras/channels (recording)	64/56/48/40	48/40/32/24	48/40/32/24	20/16/12
Video server support	Yes	Yes	Yes	Yes
High-definition local display	HDMI/ VGA output	HDMI/ VGA output	HDMI/ VGA output	HDMI output
Total Frames Per Second (FPS) (1)	1920@720P	1440@720P	1440@720P	600@720P
Video compression (IP camera)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)
Max. network throughput tested (2)	450 Mbps	400 Mbps	400 Mbps	330 Mbps
Megapixel recording	Yes (up to 10-megapixel)	Yes (up to 10-megapixel)	Yes (up to 10-megapixel)	Yes (up to 10-megapixel)
Multi-view playback	16-view	16-view	16-view	16-view
Intelligent video analytics (IVA)	Motion detection, missing object, foreign object, out of focus, and camera occlusion	Motion detection, missing object, foreign object, out of focus, and camera occlusion	Motion detection, missing object, foreign object, out of focus, and camera occlusion	Motion detection, missing object, foreign object, out of focus, and camera occlusion
Advanced event management	Yes	Yes	Yes	Yes
Max. number of hard drives supported (3)	12 x 3.5-inch SATA	8 x 3.5-inch SATA	8 x 3.5-inch SATA	6 x 3.5-inch SATA
Max. raw capacity	48TB (12 x 4TB hard drives)	32TB (8 x 4TB hard drives)		24TB (6 x 4TB hard drives)
RAID	RAID 0, 1, 5, 5+hot spare, 6, 6+hot spare			
Processor	Quad-core Intel® 3.7GHz CPU	Dual-core Intel® 3.3GHz CPU	Dual-core Intel® 3.3GHz CPU	Dual-core Intel® 2.6GHz CPU
Number of Gigabit LAN ports	4	4	2	2
Number of USB ports	2 x USB 3.0 4 x USB 2.0	2 x USB 3.0 4 x USB 2.0	2 x USB 3.0 4 x USB 2.0	2 x USB 3.0 5 x USB 2.0
Redundant power supply	Yes	Yes	---	---
Hardware dimensions (HxWxD)	88 x 439 x 520 mm/ 3.46 x 17.28 x 20.47 inch	88 x 439 x 520 mm/ 3.46 x 17.28 x 20.47 inch	217.5 x 327 x 321.2 mm/ 8.56 x 12.8 x 12.65 inch	175 x 257 x 235 mm/ 6.89 x 10.12 x 9.25 inch
Gross weight	22.92Kg /50.53lb	20.76Kg /45.78lb	13.98Kg /30.79lb	6.96Kg /15.34lb



Product Photo	VS-4116U-RP/4112U-RP/4108U-RP Pro+	VS-4116/4112/4108 Pro+	VS-2112/2108/2104 Pro+	VS-2108L/2104L
Operation System	Linux-embedded	Linux-embedded	Linux-embedded	Linux-embedded
Max. number of supported IP cameras/channels (recording)	16/12/8	16/12/8	12/8/4	8/4
Video server support	Yes	Yes	Yes	Yes
High-definition local display	HDMI output	HDMI output	HDMI output	---
Total Frames Per Second (FPS) (1)	480@720P	480@720P	360@720P	240@720P
Video compression (IP camera)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)	H.264, MPEG-4, M-JPEG & MxPEG (depending on the camera models)	H.264, MPEG-4 & M-JPEG (depending on the camera models)
Max. network throughput tested (2)	250 Mbps	250 Mbps	180 Mbps	40 Mbps
Megapixel recording	Yes (up to 10-megapixel)	Yes (up to 10-megapixel)	Yes (up to 10-megapixel)	Yes
Multi-view playback	16-view	16-view	16-view	16-view
Intelligent video analytics (IVA)	Motion detection, missing object, foreign object, out of focus, and camera occlusion	Motion detection, missing object, foreign object, out of focus, and camera occlusion	Motion detection, missing object, foreign object, out of focus, and camera occlusion	Motion detection, missing object, foreign object, out of focus, and camera occlusion
Advanced event management	Yes	Yes	Yes	Yes
Max. number of hard drives supported (3)	4 x 3.5-inch SATA	4 x 3.5-inch SATA	2 x 3.5-inch SATA	2 x 3.5-inch SATA
Max. raw capacity	16TB (4 x 4TB hard drives)		8TB (2 x 4TB hard drives)	8TB (2 x 4TB hard drives)
RAID	RAID 0, 1, 5, 5+hot spare, 6		RAID 0, 1	
Processor	Dual-core Intel® 2.6GHz CPU	Dual-core Intel® 2.6GHz CPU	Dual-core Intel® 2.6GHz CPU	Marvell 1.6 GHz
Number of Gigabit LAN ports	2	2	2	1
Number of USB ports	2 x USB 3.0 3 x USB 2.0	2 x USB 3.0 5 x USB 2.0	1 x USB 3.0 4 x USB 2.0	1 x USB 2.0 2 x USB 3.0
Redundant power supply	Yes	---	---	---
Hardware dimensions (HxWxD)	44 x 439 x 499 mm/ 1.73 x 16.97 x 19.65 inch	177 x 180 x 235 mm/ 6.97 x 7.09 x 9.25 inch	150 x 102 x 216 mm/ 5.91 x 4.02 x 8.5 inch	165.5 x 85 x 218.4 mm/ 6.52 x 3.35 x 8.60 inch
Gross weight	13.5Kg /29.76lb	5.58Kg /12.30lb	3.68Kg /8.11lb	1.9Kg /4.19 lb

Notes:

(1) The result is based on resolution 1280 x 720.

(2) Based on QNAP's laboratory tests. Actual performance may vary depending on the network environments.

(3) The standard system is shipped without hard disk drives.

[www.qnapsecurity.com](http://www.qnapsecurity.com)



# QVR Professional Video Management System



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