Specifications:

QVR-12R5A64-EU-ASEAN	
CPU	AMD Ryzen™ 5 7000 series 6-core/12-thread processor, burst up to 5.1 GHz
Hardware Encryption Engine	Yes, AES-NI
System Memory	32 GB UDIMM DDR5 (2x 16 GB)
Maximum Memory	192 GB (4 x 32 GB)
Memory Slot	4 x UDIMM DDR5; Support optional ECC memory
Flash Memory	5GB (Dual boot OS protection)
Drive Bay	12 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs
M.2 Slot	2 x M.2 2280 PCIe Gen 5 x2 slots
2.5 Gigabit Ethernet Port	2 (2.5G/1G/100M/10M)
10 Gigabit Ethernet Port	2 x 10GBASE-T (10G/5G/2.5G/1G/100M)
PCIe Slot	3 | Slot 1: Gen 4 x 4; Slot 2: Gen 4 x 8 or Gen 4 x 4; Slot 3: Gen 4 x 4
USB Port	2 x Type-A USB 3.2 Gen 2 10Gbps
Button	Power, Reset
Form Factor	2U Rackmount
Dimension (H x W X D)	88,6 x 432 x 511.2 mm

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Net Weight	13 kg
Operating temperature & Relative Humidity	0 ~ 40°C (32°F ~ 104°), 5 ~ 95% RH non-condensing, wet bulb: 27°C
Power Supply	550W (x2), 100-240V AC, 50/60 Hz
Fan	3 x 60mm, 12V DC
Base IP Camera	64CH QVR Pro + QVR AI
Max. Supported IP Camera # (license required)	128CH (need to buy more channels)
QVR AI	Motion search, Missing objects, Foreign objects, Camera occlusion, Human search, Vehicle search

Part Numbers are name of bundling packages containing items shown in descriptions provided by QNAP. QNAP is entitled to adjust Content Items to ensure performance and fluent as seem fit

Recording	
Supported Media Sources	IP cameras (https://www.qnap.com/go/compatibility-qvr-pro) Generic RTSP url Onvif ProfileS camera Webcam camera (Need QUSBCam2 qpkg installed)
Video Compression (Codec)	H.264 / H.265 / MPEG-4 / M-JPEG / MxPEG (depending on the camera)
Recording Mode	Continuous/ scheduled/ event recording Alarm recording by multiple events Pre-alarm (up to 300 sec) and post-alarm (up to 300 sec) recording Round-the-clock recording and smart recording when user-defined stream is supported on the camera model Edge recording (Support Onvif Profile G client)
Auto Snapshot / Capture picture	Yes (Per 1, 2, 3, 4, 5, 6, 10, 12, 15, 30, 60 minutes) Support to save to the remote destination.
Megapixel Recording	Supports megapixel cameras (up to 6K Resolution)
Bitrate Type	CBR / VBR (depending on the camera models)
Max stream number	3 (depending on the camera models)
Transport Protocol	TCP / UDP / HTTP
Audio Support	Audio in/out Format: G711muLaw / G711aLaw / G726 / AAC / PCM
Video System	NTSC / PAL
Download & Export	Download recordings via the File Station, FTP, SMB/CIFS Recordings export on local playback and remote playback

Multiple Volumes Support	Support using multiple volumes as a recording space
Retention Rule	Support to specify the number of days that normal and event recording streams are recorded, or the maximum file size for the saved files, and whether or not to overwrite files older files to make space for new recordings.
File Format	Standard MP4, AVI and QNAP QVI (QVI format needs Qdecoder Pro)
Maximum Channel	x86 64bit NAS, up to 128 channels ARM 64bit NAS, up to 16 channels The channel limitation related to recording performance of the NAS model, network configuration, and camera settings.
Minimum Requirement	Physical memory: 4GB
Recording Performance	The maximum allowed number of camera channels varies, depending on the NAS model, network configuration, and camera settings. For more information, see https://www.qnap.com/go/qvr-nas-selector
Recording Storage	
Storage Allocation / Dedicated Storage	Independent recording space from QTS, ensuring dedicated storage space, high-quality recordings, and no performance interference. Assign separate streaming resources and allocate dedicated storage spaces for general recordings and event recordings.
Expansion Unit	Support expansion enclosure
Camera Integration and function	
Transport Protocol	HTTP, RTSP RTP over TCP / UDP
Onvif ProfileS Support	Yes
Onvif Profile T Support	Yes
Camera Brand Support	Over 170 brands
Camera Model Support	Support more than 5000 compatible IP camera models, including fisheye, 360-degree camera and PTZ.
IVA Support	Yes (Compatible List: https://www.qnap.com/en/compatibility-qvr-pro/?audio_detection=true&tampering_detection=true&cross_line=true&intrusion_detection=true)
Two Way Audio Support	Yes (Compatible List: https://www.qnap.com/go/compatibility-qvr-pro?audio_inout=In%2FOut)
Share channel via HTTP/RTSP	1. Share channel via HTTP, user can watch the live stream from browser. 2. Share channel via RTSP, user will get the RTSP stream url.
Get recording via RTSP URL	Yes
Monitoring Live & Playback (QVR Pro Client Desktop Platform)	
Platform Support	Windows 7 SP1 or later version Mac OS El Capitan 10.11.5 or later version Ubuntu 16.10 or later version Hybrid Desk Station V3.1.2 for AMD CPU NAS model Hybrid Desk Station V3.1.5 for Intel CPU NAS model

Minimum Hardware Requirement (CPU / GPU / Memory / Resolution)	CPU (with standalone GPU Card): Intel 4th Core i5 or above CPU (without standalone GPU Card): Intel 6th Core i5 or above GPU: Nvidia 1050 Memory: 4 GB or above. Ethernet: 100/1000Mbps. Display Resolution: 1366 x 760 pixels or above.
Support Server Product	1.QVR Pro 2.QVR Center 3.QVR Guard
Multiple Monitor Support (Video Wall)	Up to 8 monitors
Multiple Graphics Card Support	Up to 2 graphic card (Windows platform)
Monitoring Live view at the same time	Windows: 64 Channels (720p@H.264@30fps) @ i7-3770, 16GB Memory, GTX 1050 Mac: 40 Channels (720p@H.264@30fps) @ i7-3770 + 16GB GTX 1050 (MacBook Pro 2017, 2.3Ghz Intel i5, 8GB Memory) Hybrid Desktop Station: 36 Channels (720p@H.264@30fps) @TVS-682-i5 Ubuntu: 64 Channels (720p@H.264@30fps) @ i7-3770, 16GB Memory, GTX 1050
Recording Playback at the same time	Max 20Channel at single QVR Pro Client desktop (This spec will be limited by live view channel support while using lower hardware level)
The time between start to playback and see recording picture	Within 1 second. (It still needs enough network bandwidth)
The method & function of connecting server	1. Support secure login 2. Support remember password 3. Support auto login 4. Support myqnapcloud / domain login 5. Support login history list
Intuitive Live & Playback Control	Yes, easily for using. Support just clicking the timeline for play reording / export recording / live.
View Layout	1. Saved at server, using different computer could get same view layout by same user account. 2. Dynamic layout editor 3. One screen one view 4.The view could contain below information a. Camera, the cross column of camera and the cross row of camera. b. The position of ROI (Region of Interest) c. The position of dewarping fisheye camera d. The position of digital zoom by a camera e. The position of a emap 5. Could display the blink red camera unit frame while receiving event

Sequential Mode	Provide 2 sequential mode:
	1. Sequential display view by configured view list and view list order.
	2. Sequential display camera by specific view layout
Playback method / Retrieve Recording	Provide below method:
	1. Click the timeline of the camera to play recording, even the camera is under live could be switched to recording immediately.
	2. Choose a day on the calendar then click the specific time of the timeline to play recording.
	3. Drag the camera snapshot in notification list into a view to play recording.
	4. Search keyword of metadata then drag the time period to the view.
User Interface Time Control	Previous 5 minutes / Previous frame / Pause / Play / Next frame / Next 5 minutes
	Speed: 0.1x / 0.5x / 1x / 2x / 4x / 8x / 16x
	Next Event / Previous Event
	Sync mode: ensuring all camera at the view display same time recording.
	Support to control playback by keyboard
Keyboard Time Control	Space: Play / Pause
	Right: Next frame
	Left: Previous frame
Setting a Region of Interest (ROI)	Yes
Auto Cruising / Setting the movement path of mutiple preset points	Yes, setting path at client
Preset Point Number	256
Move camera by Preset Point setting	Yes
Auto stop auto cruising while user manual move ptz camera	Yes
Recording export	1.Quickly export, export 1hour length recording for 5 minutes.
	2. Attach timestamp, channel name on the recording screen.
	3. Transcoding to specific codec.
	4. Could remove the audio stream.
	5. File format: AVI, MP4
Snapshot picture	Yes
	Support format: BMP/PNG/JPG
	Support for the overlay text (Channel Name, Date Time)
Qdewarp for Fisheye Camera	Dewarping function for fisheye cameras and Panomorph lens Play, pause, rewind, fast forward, slow motion, frame by frame search, audio, digital zoom
E-map	Picture format: PNG / JPG / SVG
	E-map at server: Support to put cameras / emap at an emap.
	Rotation & Status: Show the camera position, camera event icon and

	camera status icon (Desktop) Support viewing live / recording / e-map at single view layout in the same time. (Desktop)"
Bookmark	1.Place a vertical thin bar and text details on video footage for easier event investigation 2.Support to search bookmark for playback.
Supported Codec format of GPU accelerator	H.264 / H.265
Decode Unit	CPU / GPU
Hardware Accelerator / GPU Accelerator	Yes
Notification List	Yes, support to display latest notification User could hide the specific event type or hide event of specific channels.
Notify Buzzer	Yes
E-map Notify	Yes
Hybrid Desk Station Platform Feature	1. The user interface as same as windows platform 2. Virtual Keyboard for input 3. Non-PC required, installed at NAS directly. 4. Support to login to other NAS.
Resolution support	1. At least: 1377 x 768 2. Max: Unlimited (Including 4K / Very Wide Screen)
Click & Go (PTZ control)	Yes
Event Management & Logging	
Rule	Support user to create multiple rules, set the schedule, set the event to action binding.
Event	Support the "OR" or "AND" logical in the event setting Support event type (From Camera): Motion detection, Alarm Input, Audio Detection, Cross Line, Digital Auto tracking, Intrusion Detection, Tampering Detection, Connection Error, Reconnection, Recording Space Error, Recording Space Warning, Recording Space Full, Recording Space Restored, Disc Warning, Disc Error, Disc Hours Warning, Event URL (Some event need specific camera model)
Action	Support action type: Event Recording, Alarm Output, Camera Control (Based on preset point), App Push Notification, Email, SMS Support attaches the camera snapshot in the notification email. Support Gmail, Yahoo SMTP (including 2-step validation)
QVR Pro Client (Desktop) Notification	Support notification list, beeper sound, emap change icon, camera frame change color
Push Notification	Support push notification to mobile devices through MyQNAPCloud.

Motion detection at QVR Pro server	Up to 2 cameras With QVR Pro motion detection, even the camera does not support motion detection you can still use the feature.
Log System	System event logs, system connection logs, online users, surveillance event logs, surveillance setting logs
Backup & Expansion	
Remote Backup	Support to backup to the remote NAS, also could be executed by schedule. Support to overwrite the oldest recording of remote NAS.
External Backup	Copy recordings of "QVRProRecording" shared folder from the local disk volume to an external storage device
Remote Replication	Schedule video data backup to a NAS by using HybridBackupSync.
Expansion Unit	Support expansion enclosure
Cloud Backup	Easily upload/download the data from the NVR to Amazon S3 or Google Drive by using HybridBackupSync.
Easy Configuration and Management	
QVR Pro - Desktop Web	Multi-window, multi-tasking Intelligent desktop with main menu, smart dashboard, drag-and-drop icons. Supports Google Chrome, Internet Explorer, Mozilla Firefox on Windows
Easily Camera Management	1. Auto search camera 2. Batch Add/Mdy camera 3. Export/Import CSV format file for camera connection setting.
File Station	Access standard MP4 files using web browsers at "QVRProRecording" shared folder. Securely share files by URL.
myQNAPcloud	Unique hostname for the machine. Automatic port forwarding on a UPnP router.
App Center	Download numerous free on-demand apps
License Upgrade	Flexibly expand the number of channels to meet your demands by purchasing additional licenses https://license.qnap.com/#/license_product?pid=14
Privilege Management	
Permission Level	Allow, Deny, Not Determined.
Permission Unit	User, user group, role
Privilege Report	Yes, see the permission result combine from user, user group and role
Permission Setting	Set System, Surveillance Setting and View, Camera, E-map
Security Protection	
Secure Connection	Security connection with HTTPS、SSH
2-step Verification	Add an extra layer of protection to your account by requiring an additional one-time security code.
Malware Remover	The Malware Remover is designed to protect your Turbo NAS against harmful software. QNAP strongly recommends that you install this app to

	avoid potential security risks. During installation, the app will scan your Turbo NAS and quarantine any detected malware. After installation: - If no warning messages appear after installation, your Turbo NAS is not infected. You can verify the scan results by going to "Control Panel" > "System Logs". - If a warning message appears, malware was detected on your Turbo NAS and it has now been quarantined. You must now immediately reboot the system and change the administrator's password.
Security Counselor	Security Counselor is a centralized security management suite for your QNAP NAS. Security Counselor integrates features such as a checkup of your device security, automatic adjustment of suggested settings, and a unified interface for QNAP's powerful anti-virus and anti-malware tools.
User Privilege Management	Different user types and rights can be assigned to different QVR Pro users
Network Access Protection	Specify the connections to be allowed and denied to access the NAS
Auto Logoff	Automatic user logoff from idling on configuration pages
Disk Management	
RAID Type	RAID 0, RAID 1, RAID 5, RAID 5+ Hot spare, RAID 6, RAID 6+ Hot spare, RAID 10, RAID 10+ Hot spare
RAID Features	Online RAID Capacity Expansion, Online RAID Level Migration
HDD Utility	HDD S.M.A.R.T., bad blocks scan
Reliability	
USB UPS device	APC/ CyberPower/ Epson/ MGE/ YEC, more could refer https://www.qnap.com/en/compatibility/?device_category=ups
Network Service	
Protocol	Support HTTP, HTTPS, TCP/IP, UDP, DHCP, Static IP, DNS, DDNS, UPnP, FTP, NTP, and SMTP
Built-in Server	DHCP Server, NTP Server, NTP Client, Virtual Switch
Multiple Gigabit LAN	Failover, load-balancing, multi-IP settings
File Services	Web, FTP, SMB/CIFS
Language Support	
Language	23 Languages: Czech/ Danish/ Dutch/ English/ French/ Finnish/ German/ Hungarian/ Italian/ Japanese/ Korean/ Norwegian/ Polish/ Portuguese/ Russian/ Spanish/ Swedish/ Simplified Chinese/ Traditional Chinese/ Turkish/ Greek/ Romanian/ Thai
QNAP QFinder	
Discovery	All QNAP NASes in the same LAN segment are discovered automatically.
Quick Setup	Quick configuration on the discovered NASes.
Mobile Surveillance (QVR Pro Client)	
Support Platform	Minimum system requirement: iOS 9, Android 4.4
Intuitive Timeline Design	Instant switch between Live and Playback modes for an intuitive user experience.

Camera Control	Various advanced monitoring options, including sequential mode, PTZ control, auto cruising and preset point control
Notification List	Support for receiving instant push notifications with server name and self-defined message. Play back events via event logs, easily switch between previous event and next event.
Capture and Share	1. Screenshot feature helps you catch the important moment and save to device. 2. Share link feature let you share the live stream URL easily with mobile app, and watch the live stream with browser.
Multiple camera viewer	1. Swiping the screen at single channel view to browse channels. 2. Base on the camera channel numbers, there will be multiple slip layout for user, 2 channels, 4 channels, 6 channels, 9 channels, 12 channels and 16 channels. 3. Sequential mode with multiple option, which is 10, 15, 30 and 60 seconds.
Performance	Global streaming priority help facilitate recording viewing without compromising recording quality when users do not have sufficient network bandwidth.
E-map	Support for displaying camera locations on e-maps Displaying event icons at camera locations on E-maps when events occur. Tap icon and jump to single channel view for checking video. Camera icon on e-map shows the camera status, which is Connected, Connecting, Idle, Error.
Dashboard	Server dashboard that displays NAS information, camera recording status, license information, recording space status, and resource usages.
Event log	Querying event logs within a specific time period. Search event log via keyword. Various notification method, which is ring, silent and vibrate. Tap on the event screenshot for playback event recording.
2-step Verification	Add an extra layer of protection to your account by requiring an additional one-time security code.
3rd Party Integration	
API Document	Go to https://www.qnap.com/solution/qvrpro-developer/en/ for applying the API document.
Metadata Vault	1. Support storing text data by http post via specific integration URL. 2. Paired camera and single metadata. 3. QVR Pro Client provide metadata search for retrieving recording.
Plug-in Center	Support 3rd-party developer
Stream Out	1. RTSP 2. HTTP (WebRTC / HLS auto detected)

Stream Out Connection	1. RTSP: 30 connections
	2. HTTP: 10 connections
Central Management System (QVR Center)	
Multiple QVR Pro Server Management	Support up to 128 QVR Pro servers ·
	Managing multiple servers by batch editing, stopping, activating, updating, and deleting QVR Pro servers.
	Displaying each QVR Pro's status and show system status for potential troubleshooting.
	Customizing the events dashboard based on users' needs and displaying the analytics of event frequencies or business peak hours from visualized graphics to easily address potential issues.
User Management & Access Control	Allow to use a single account to access multple QVR Pro servers for monitoring and playback.
	Allow to define the permission of system management and access to a camera, an e-map or a view by roles.
Failover (QVR Guard)	
Failover management	each NAS running QVR Guard can serve as a failover server for one NAS running QVR Pro
	QVR Guard automatically enables or disable takeover tasks when QVR Pro failed or recovers
	Dashboard: QVR Guard, QVR Pro health status, network connection status. takeover transfer log
	Recording location on the QVR Guard when the QVR Pro failed. Use QVR Pro Client for live monitoring and playback recording data.
	Fault takeover time: 1 ~ 3 minutes. (Depending on the number of cameras and network quality)
	QVR Guard protects QVR Pro from taking over recording tasks when the following exception occurs
	1.QVR Pro server failure
	2.QVR Pro network disconnection
	3.QVR Pro recording space failure
Disable failover	QVR Guard automatically stops taking over tasks when QVR Pro returns to normal