# IS-453S

## 4-bay Industrial NAS/NVR for Tough or Mobile Environments

- Rugged design with high resistance to vibration and impact
- Dust-resistant and fanless design
- Wide operating temperature range: -40°C ~ 50°C (-40°F ~ 120°F)
- AES-NI hardware encryption acceleration
- Up to 221MB/s read and 214MB/s write speed with 2 Gigabit LAN ports
- Complete solutions for file sharing, backup, disaster recovery, and data security management

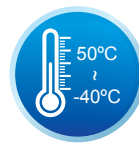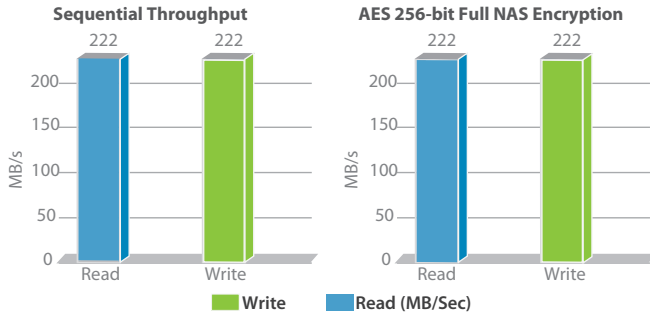| Quad-Core 1.91GHz | 2GB/8GB DDR3L | 4 x 2.5" SSD & HDD | Hot Swappable | Dual Gigabit Ethernet | On-the-fly Transcoding | Extended Temperature Range | IP Surveillance |
|---|---|---|---|---|---|---|---|

# Power. Reliability. Expandability.

## ⬂ Quad-core compact NAS with AES-NI

The 4-bay compact IS-453S is powered by an industrial-grade qaud-core Intel® 1.91 GHz processor with AES-NI hardware encryption engine, 2/8GB DDR3L RAM configurations and 2 Gigabit LAN ports to deliver remarkable speeds.

**Sequential Throughput**

| | 222 | 222 |
|---|---|---|
| | Read | Write |

**AES 256-bit Full NAS Encryption**

| | 222 | 222 |
|---|---|---|
| | Read | Write |

🟩 **Write**  🟦 **Read (MB/Sec)**

## ⬂ Fanless and rugged design for harsh environment

Engineered with a rugged steel body and no moving parts, this small form factor IS-453S NAS is capable of operating under wide temperatures from -40°C to +50°C (-40°F ~ 122°F) in fanless operation. Compliant with the military-grade MIL-STD-810G-514.6E-1 simulation test for anti-vibration, the NAS is designed to withstand dust, rust, vibration and impact for reliable and energy-saving operations in harsh environments.

**50°C / 122°F**    **-40°C / -40°F**
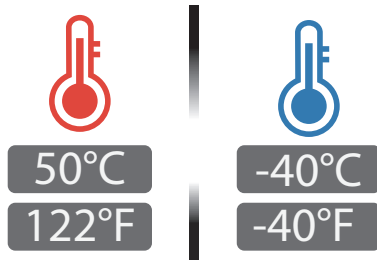
## ⬂ Redundant power protection, 9~36 VDC wide power input with vehicle power support

The IS-453S features dual power inputs that can ensure continual operation in various locations with 9 ~ 36 volts DC support. The ACC on mode is designed for vehicle applications and the use of the ACC signal can control power on/off.
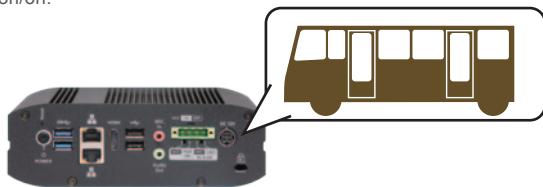
## ⬂ Flexible system installation & easy setup

Sometimes space may be an issue in installing new hardware. The IS-453S's optional VESA 75/100 wall mount and DIN-rail mount kits offer flexible installations in various locations. You can flexibly choose different ways to set up the IS-453S, including using the Qfinder utility, cloud installation via setup portal (start.qnap.com) with a unique Cloud Key, a QR code scanner with a mobile device, and even setting up your NAS locally without a network connection: just connect a keyboard, mouse and HDMI monitor to the NAS, and the installation process can be completed effortlessly.

HDMI    NAS

Wall Mount    Din Mount
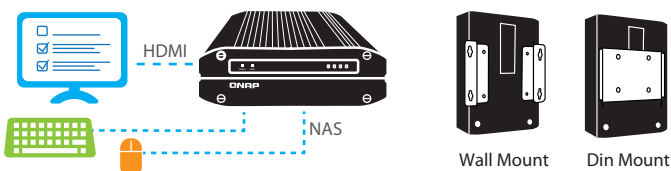
## ⬂ QTS - Intuitive and innovative operating system

QTS 4.2 is simply designed to meet all your needs for storage, management, backup and multimedia. The QTS Storage Manager provides tools and options for managing system storage with an intuitive graphical interface. File Station lets you easily carry out common tasks operations. Moreover, you can move files from a local PC/Mac to File Station by drag-and-drop to upload the files to the NAS easily. QTS 4.2 simplifies your NAS experience.
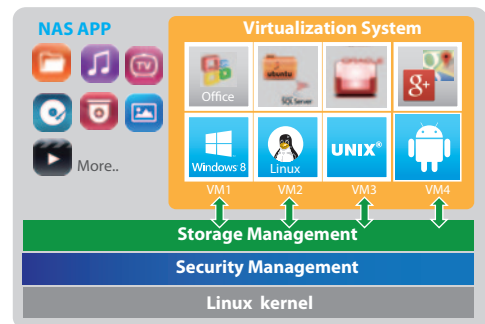
## ⬂ Use it as a PC with the QvPC Technology

With the exclusive QvPC Technology, the IS-453S is transformed into a cost-effective device with PC functionalities for users to operate the system via "HybridDesk Station (HD Station)" on the screen to directly access stored data, run multiple applications using Windows/Linux/UNIX/Android-based VMs, surf the Web or watch Full HD videos with up to 7.1 channel audio with Kodi, and much more. Just simply plug in a keyboard, mouse, and an HDMI® monitor to an IS-453S and you can start the installation process and access data without connecting to a PC, tablet, or smartphone.

## ⬂ Extend the functionality with virtualization

The Virtualization Station transforms the IS-453S into a 2-in-a-box NAS that can function as an all-in-one NAS and a virtualization platform that supports multiple operating systems, fast virtual machine creation, virtual machine import/export, snapshot, and enables operating different OS platforms on browsers.

**NAS APP** | **Virtualization System**
Office | SQL Server |
Windows 8 (VM1) | Linux (VM2) | UNIX® (VM3) | Android (VM4)
More..
**Storage Management**
**Security Management**
**Linux kernel**

## ⬂ Cross-platform file sharing & centralized data storage

The IS-453S supports SMB/CIFS, NFS, and AFP protocols for file sharing across Windows, Mac, and Linux/UNIX networks. Data, logs and CD/DVD ISO images can be centrally stored on the NAS and protected by an integrated antivirus solution. The Windows AD and LDAP services enable system administrators to configure user permissions by using existing Windows AD server, LDAP server or NAS build-in LDAP services. The NAS supports SAMBA v4 and can act as a Windows domain controller to manage privilege settings.

## ⬎ Comprehensive Backup / Synchronization

The RTRR (Real-Time Remote Replication) and Rsync functions can support real time or scheduled data backup to a remote NAS, FTP, or Rsync server. Data can also be backed up to and restored from a range of cloud storage services, including Microsoft Azure, Amazon S3/Glacier, Google Cloud Storage, Google Drive, Rackspace, IBM SoftLayer, and Helion Cloud. Windows users can also install the free QNAP NetBak Replicator utility and Mac users can also use Time Machine®.

## ⬎ Access your IS-453S from anywhere

The IS-453S can be your personal cloud so you are always connected to your data. Take advantage of the myQNAPcloud service, which allows you to remotely access your IS-453S wherever you are. By installing and setting up myQNAPcloud Connect, you will be able to connect to the QNAP NAS and easily manage files with drag-and drop actions.

## ⬎ File synchronization across multiple devices

The Qsync utility turns your NAS into a safe data center for file synchronization with a large storage capacity. Any file uploaded to the NAS will be made available for all linked devices, such as computers, laptops or mobile devices.

Qsync provides multiple ways of file synchronization and group file sharing, greatly enhancing the flexibility of collaboration.

## ⬎ Secure your data with multi protection mechanisms

The IS-453S provides several mechanisms to secure your data. Connection management (black/white list) allows or denies specific IP addresses or subnets to connect to the NAS. QTS offers volume encryption to protect the data stored on the NAS. The system will ask for the encryption key when mounting the encrypted volume, and the data is inaccessible without it. Advanced AES encryption ensures the security of shared folders. A VPN offers a convenient solution for NAS users to build end-to-end encrypted tunnels to your QNAP NAS.
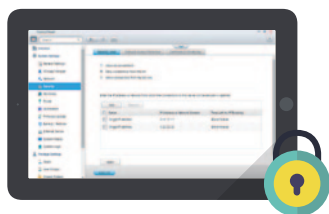
## ⬎ Cloud-enabled surveillance solution providing 24/7 security

Surveillance Station offers a professional surveillance solution with a user-friendly management interface, over 3,000 compatible IP camera models, and expandable IP camera channel licenses. It supports real-time monitoring, video and audio recording and playback with a wide range of customizable settings. You can also install the Vmobile app on your iOS® or Android™ devices to manage the monitored channels anytime and anywhere to safeguard your office environment, or install the Vcam mobile app to turn your device into a network camera to instantly record to your IS-453S. The IS-453S offers 4 free IP camera channels and you can expand up to 40 channels by purchasing additional licenses.

Camera Channels
Default: 4 / Max: 40

## ⬎ Real-time & off-line HD video transcoding

The IS-453S delivers superior real-time Full HD (1080p) video transcoding to convert videos in common formats to universal formats that can be smoothly played on PCs, mobile devices and Smart TVs. With offline transcoding, you can enjoy smooth videos by selecting a pre-rendered lower resolution to play the videos via File Station, Video Station, or the Qfile mobile app.

## ⬎ Signage Station creates outdoor ads promoting your business

With Signage Station, it's easy to create content for a wide range of materials such as menu boards, adverts, posters, and business profiles. As the IS-453S is designed for reliable operations in extreme environments (including a wide range of temperatures, dust, rust, and vibration) it is incredibly convenient to use Signage Station in outdoor environments to promote your business and services.

## ⬎ Install-on-demand apps to extend NAS functionality

The IS-453S has a built-in App Center that provides over 100 install-on-demand apps developed by QNAP and third-party developers. In addition, QNAP's development platform embraces the open-source spirit to enable developers to create their own apps, adding limitless potential for the NAS.

# Hardware & Software Specifications

## ◢ Hardware Specifications

| | |
|---|---|
| **CPU** | 22nm Intel® Atom™ quad-core 1.91GHz |
| **Floating Point Unit** | ✓ |
| **Hardware Encryption** | ✓ (AES-NI) |
| **GPU** | 7th generation Intel® HD Graphics |
| **System Memory** | IS-453S-8G: 8GB (2 x 4GB) |
| **Memory Expandable Up To** | 8GB |
| **Total Memory Slots** | Two 1333/1600 MHz DDR3L SO-DIMM slots (for dual-DIMM configurations, you must use a pair of identical DDR3L modules.) |
| **Flash Memory** | 512MB |
| **Hard Disk Drive** | 4 x 2.5" SATA SSD/HDD, hot-swappable |
| **LAN Port** | 2 x Gigabit RJ-45 Ethernet port |
| **USB Port** | 2 x USB 3.0 port, 2 x USB 2.0 port |
| **Video Output** | 1 x HDMI, up to 1080p support |
| **LED Indicators** | Status, USB, HDD 1-4 |
| **Buttons** | System: power button, reset button |
| **Other Interface** | Kensington security slot |
| **Alarm Buzzer** | System warning |
| **Form Factor** | Desktop; Wall-mount and DIN-rail mount support with optional accessories |
| **Dimensions** | 59 (H) x 180 (W) x 247 (D) mm<br>2.32 (H) x 7.09 (W) x 9.72 (D) inch |
| **Weight** | Net weight: 1.11 kg (2.45 lbs)<br>Gross weight: 3.2 kg (7.05 lbs) |
| **Power Consumption** | HDD sleep mode: 9.01 W<br>In operation: 10.04 W<br>S3 sleep: 0.82 W |
| **Operating Temperature** | -40°C ~ 50°C (Please note: Industrial SSDs are required to meet this condition) |
| **Humidity** | 5~95% RH non-condensing, wet bulb: 27°C |
| **Power** | Power 1: DC power jack, external power adaptor, 12V, 90W, Input: 100-240V<br>Power 2: 4-pin terminal block, 9-36V DC |
| **Fan** | Fanless design |

## ◢ Packing List

| | |
|---|---|
| 1 x IS-453S | 2 x Ethernet cable |
| 1 x AC adapter | 12 x Flat head screw (for 2.5 HDD) |
| 1 x Power cord | 1 x QIG |

## ◢ Ordering Information

| Part No. | Description |
|---|---|
| **IS-453S-8G-R10** | Industrial grade, rugged NAS with four 2.5" drive bays, Intel® Atom™ E3845 quad-core 1.9GHz, pre-installed 8GB DDR3L RAM |

## ◢ Software Specifications

| | |
|---|---|
| **Operating System** | QTS 4.2 (embedded Linux) |
| **Volume Types** | Single, JBOD, RAID 0, 1, 5, 6, 10, 5 + hot spare |
| **Storage Management** | Volume/LUN with thin provisioning and space reclaim, Online volume expansion, Online RAID capacity expansion, SSD read-only/read-write cache, AES 256-bit volume-based and shared folder data encryption, volume/LUN snapshots, SMART data migration |
| **Storage Expansion** | 1 x QNAP UX-500P / UX-800P expansion unit |
| **Supported Client OS** | 1. Windows 7 (32/64-bit), Windows 8 (32/64-bit), Windows Server 2003/2008 R2/2012/2012R2<br>2. Apple Mac OS X<br>3. Linux & UNIX |
| **Supported Browsers** | Microsoft Internet Explorer 10+<br>Mozilla Firefox 8+<br>Apple Safari 4+, Google Chrome |
| **File System** | Internal Hard Drive: EXT4<br>External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+ |
| **Networking Protocols** | CIFS/SMB, AFP, NFS, FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, VPN (PPTP, OpenVPN, L2TP), WebDAV, Rsync |
| **Surveillance Station** | Includes 4 free camera licenses, up to 40 camera channels via additional license purchase |
| **Backup** | Remote replication, Real-time remote replication (RTRR), Real-time & scheduled backup, Snapshot support for RTRR/Rsync, Desktop backup with QNAP NetBak Replicator for Windows®, Apple Time Machine backup support, Synchronizes with cloud storage: Amazon S3, ElephantDrive, Symform, Dropbox, and Google Drive, Third party backup software support: Acronis True Image, Arcserve backup, emc retrospect, Symantec Backup Exec, etc. |
| **Features** | File Station, Backup Station, FTP server, Web Server, Qsync, Notes Station, Print Server, VPN Server, VPN Client, Antivirus Protection, System Logs, Photo Station, Music Station, Video Station, Download Station (BT/HTTP/FTP), App Center, Hardware Accelarated Transcoding |
| **Mobile Apps** | Qfile, Qmanager, Qmusic, Qphoto, Qvideo, Qnotes, Qget, Qremote, Vmobile |
| **Utilities** | Qfinder, Qsync, NetBak Replicator, QGet, myQNAPcloud Connect, Qsnap |
| **Language** | English, Chinese (Traditional & Simplified), Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Romanian, Russian, Spanish, Swedish, Thai, Turkish |
| **Qsirch** | Supports full-text search, previews for photos, music, videos, Gmail, PDF, etc., Chrome extension search |
| **HD Station** | Playback media on TV with Kodi via HDMI, watch online content such as YouTube, Flickr, Picasa, Shoutcast, etc, Supports QNAP Qremote app and the official Kodi remote app<br>Note:<br>» The playback and quality of some video files may be affected by the system's CPU and GPU decoding abilities.<br>» Up to 7.1 channel audio passthrough is supported |