

# Synology Surveillance Solution

April 2011



High Storage & Surveillance Network Scalability  
Easy-to-use UI for Web Browsers, Mobile and VGA Devices  
Rich Features with Periodic Complimentary OS Updates



## Synology Inc.

3F-3, No. 106, Chang An W. Rd.,  
Taipei,  
Taiwan  
Tel: +886 2 2552 1814

## Synology America Corp.

2899 152nd Ave NE,  
Redmond, WA 98052,  
USA  
Tel: +1 425 818 1587

## Synology UK Ltd.

Bluepoint House  
Davy Avenue, Knowlhill  
Milton Keynes, Bucks  
MK5 8PB, UK  
Tel: +44 01908 673 709

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

Synology may make changes to specification and product descriptions at anytime, without notice. Copyright © 2011 Synology Inc. All rights reserved. © Synology and other names of Synology Products are proprietary marks or registered trademarks of Synology Inc. Other products and company names mentioned herein are trademarks of their respective holders. Printed in Taiwan. 11-Surveillance Solution-E001

## Synology at a Glance

Founded in 2000, Synology is a young and energetic company that provides professional IP-based video surveillance, combining the functionality of advanced network storage and NVR. Our goal is to deliver scalable, future proof, user-friendly NVR solutions and solid customer service to satisfy the needs of businesses, home offices, individual users and our partners.

## Synology Surveillance Solution

Synology DiskStations are multifunctional network attached servers. Available on all Synology DiskStations, Surveillance Station is an integrated NVR management software which makes the DiskStations a complete NVR solution. Surveillance Station ties multiple cameras, and even aggregates multiple Surveillance Stations, into a single intuitive interface. It is easy to view live feeds of up to 36 channels at once or recorded events remotely. Synology DiskStations can scale quickly, both in storage and in the size of the surveillance network. Periodic complimentary OS updates are also provided to enhance functionality and improve manageability.

In addition, Synology VS80, a VGA output device, is offered as an optional accessory. VS80 enables PC-less monitoring in the field with up to 9 channels concurrent live view, plus event playback all with the click of a mouse.



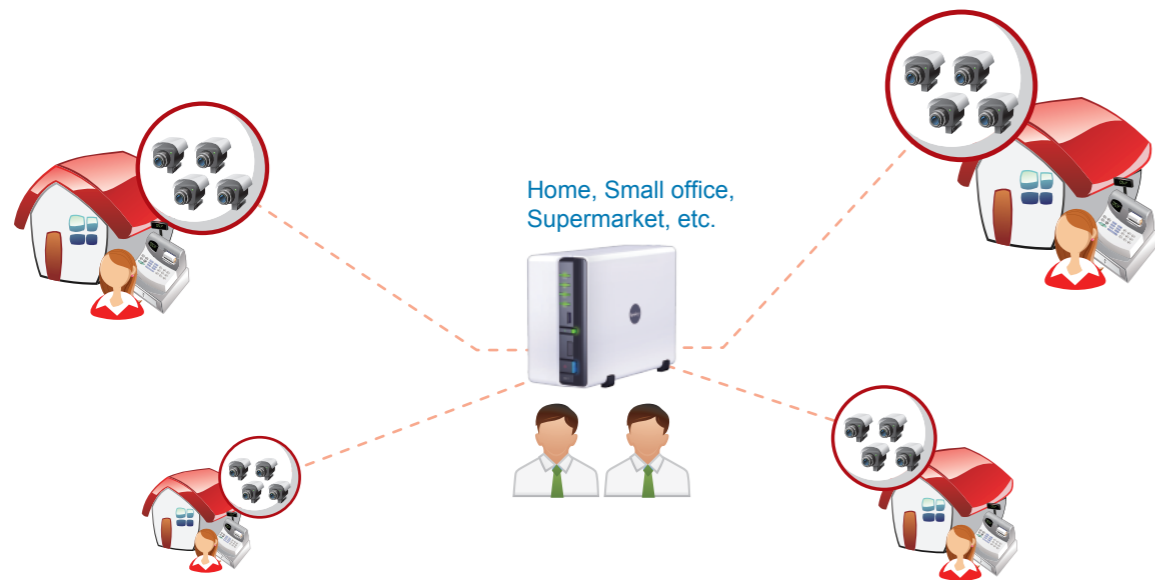
# Small to Medium Scale Deployment

Users are constantly looking for small to medium scale surveillance deployment in environments such as home, small office, supermarket, drug store, and clinic. They do not wish to invest much money and time into a more elaborated security system. Synology provides easy-to-use and economical surveillance solutions aligned with their needs. Although users do not have professional training of how a security system works, they can effortlessly learn and manage Surveillance Station.

It merely takes a few simple steps to install connected IP cameras on Surveillance Station. With an intuitive user interface, Surveillance Station offers a variety of intelligent functions to help users map out a 24/7 surveillance plan. Users can also access their cameras on their mobile devices, live viewing and reviewing recorded events wherever they are.

## + IP camera deployment made easy with comprehensive camera support

Synology Surveillance Station supports more than 760 IP cameras from over 38 leading IP camera manufacturers. On Surveillance Station, users such as retailers can easily locate and install their IP cameras deployed locally at their stores.



When users want to expand their surveillance horizon, Synology Surveillance Station can be scaled up resiliently. Synology provides two kinds of camera license packs, 1 and 4 camera licenses, for users to attach new cameras to their existing surveillance system. Users can choose the license pack according to the number of camera to be added.



Compatible with IP cameras from over 38 leading brands.

## + Intuitive user interface and e-map make the surveillance management efficient

Surveillance Station provides a web-based user interface that transcends geographical and software boundaries. As long as users connect to the Internet, they can access their cameras 24/7 remotely via a browser even when they are miles away. It does not require any software to be installed on users' PC to manage Surveillance Station. What's more, with Synology's award-winning multitasking interface, users can drag and drop videos and switch between different Surveillance applications all under one browser tab.

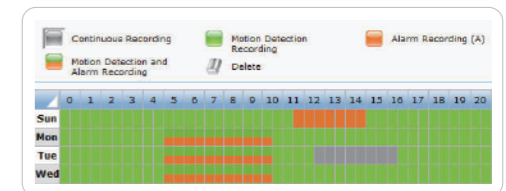
E-map locates camera positions with visual geographical assistance. By pinpointing cameras' locations on the e-map, users can find their corresponding channels. For instance, home users can easily find out the cameras monitoring different corners at their houses. Store owners can also use the e-map to instantly identify the shelves which need restocking.



Locate cameras on the e-map.

## + A wide selection of recording modes on a 24/7 recording schedule

Surveillance Station provides 6 video recording modes, including Continuous, Motion Detection, Alarm, Audio, Motion Detection and Alarm, and Software Trigger Recording modes. Surveillance Station allows users to easily create a recording schedule. On the schedule grid, they can reserve time slots for different recording modes. By recording events only when triggered, the recording modes not only capture important occurrences but optimize storage efficiency.

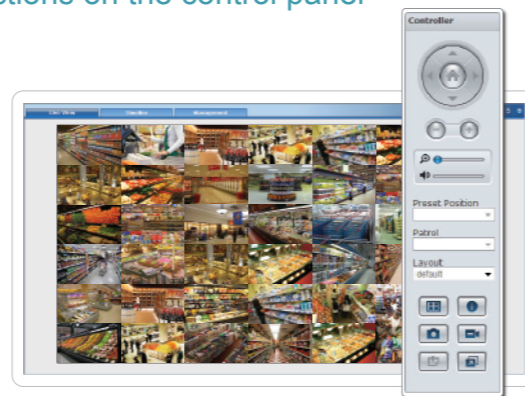


Map out a surveillance plan with recording modes on a schedule.

### + 36 channel concurrent live view and versatile functions on the control panel

Surveillance Station lets users watch all deployed cameras on one single layout simultaneously. Users can flexibly live view 1, 4, 6, 9, 10, 16, 25, 36 channels concurrently, switching between different layouts for their needs.

The pan/tilt/zoom (PTZ) cameras can be operated with a built-in camera controller. On the control panel, users can digitally zoom in and out or move the cameras in different directions to track suspicious individuals. As soon as an image of interest is identified, snapshots can be taken for the current camera view and videos can be manually recorded.

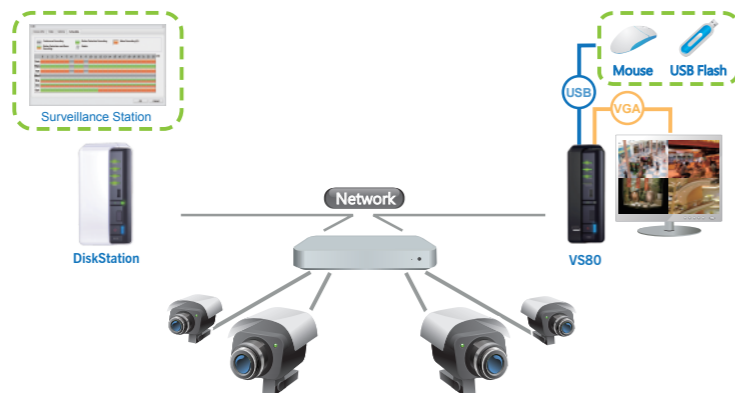


Live-view up to 36 channels with various functionalities on the control panel.

### + Monitor with the energy-saving Synology VisualStation VS80

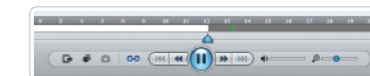
For users who need a cost-effective yet power-saving live viewing appliance, Synology VisualStation VS80 is their right choice. Connected to a LCD monitor or TV, the VS80 allows users to view live feeds of up to 9 channels simultaneously and control PTZ cameras to track suspicious images. In addition to live viewing, users can use the VS80 to view archived videos on Timeline event player and save snapshots to connected USB storage devices.

The VS80 is energy-efficient with nearly 5.2 watts in operation, which is far less than an average power consumption of 300 watts of a PC.



### + Feature-rich Event Timeline facilitates viewing

Event Timeline is a smart tool for users to conveniently playback video recordings to track down and identify evidence. By sliding the arrow cursor, or switch between Day and Hour mode of different time scale, users can instantly capture the critical moment. Events recorded during motion detection and alarm recording modes can be quickly identified because they will be marked in different colors on the Timeline. More advanced functions such as fast forward, slow down, zoom in or out, pause, and even multi-channel synchronized video playback are also available on Event Timeline.



Event Timeline helps you find the suspects efficiently.

### + Image Enhancement fine tunes images to identify more details

Image Enhancement brings out the best monitoring effects for users. Users can modify image quality by adjusting saturation, sharpness, brightness and contrast to achieve a clearer view when reviewing the videos recorded in less ideal situations.



Modify the image with Image Enhancement to achieve the best effects.

### + Notifications and access to videos on mobile devices

Users can stay alert by setting up email account and SMS authentications. Surveillance Station will send them e-mails and SMS notifications when an event is triggered. Once notified by the messages about an emergent event, users can utilize Synology's mobile application "DS cam" to evaluate situation remotely on their mobile devices such as iPhone, iPad and Android smart phones.

On their mobile devices, they can live view the IP cameras, perform PTZ, take video snapshots, zoom selected cameras digitally, view recorded events, and drag along the timeline to jump to different points of time.



Access any IP cameras on-the-go.

# Large Scale Deployment

Synology also provides surveillance solutions to satisfy demanding users for large scale applications in government, enterprise, hospital, banking, etc. These users' requirements for the number of video stream, video quality and storage capacity are critical. They want to monitor different buildings, offices, and outdoor areas of interest located diversely. Surveillance Station is highly scalable both in its storage and deployment, allowing users to monitor numerous IP cameras and providing large storage for archived videos.

Efficient management is also an essential element in large scale surveillance deployment. In addition to an array of functions described, Surveillance Station also offers a variety of powerful features to shorten users' viewing time, maximizing the efficiency in managing their security system and reviewing recorded videos.

## + High scalability and storage capacity

Synology surveillance solutions provide high scalability to meet users' demand for future growth. When users' existing surveillance system falls short of what it needs, they can purchase additional IP camera license packs or Synology NAS servers to deploy more cameras or expand the storage capacity. Synology Centralized Management System (CMS) has the powerful ability of aggregating all IP cameras and Surveillance Stations to one single intuitive user interface.

For example, users can deploy 40 IP cameras with one unit of Synology DiskStation DS3611xs. The DS3611xs supports up to 108TB with 2 expansion units of DX1211, providing them with a large capacity for archived video recordings. Users can record high-quality 720X480 resolution video streams coming from 40 IP cameras and buffer for up to 110 days in the available storage.<sup>1</sup>

Video quality is also important for users to obtain sufficient image details. Synology Surveillance Station supports up to 5 megapixel IP cameras and High Definition H.264 compression format to deliver clear images while significantly reducing the amount of storage capacity required for recording videos.

## + Extensive browser support and simple camera setup process



Surveillance Station provides cross browser support for Internet Explorer®, Firefox®, and Chrome™. Users can easily use the auto-search function to locate cameras in the same domain or just type in the IP address or host name of the camera to finish setup.

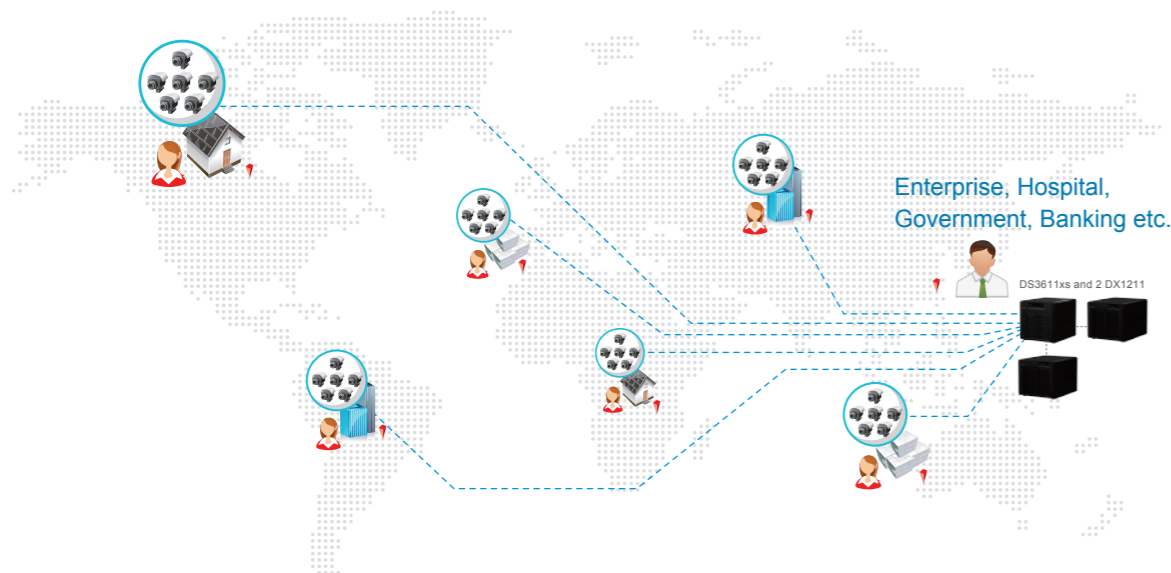
Camera search result			
	Brand	Model	IP address
1	Panasonic	BB-HCM311	192.168.31.252
2	AXIS	M1011	192.168.31.39
3	AXIS	M1011	192.168.31.38

The auto-search function and comprehensive browser support.

## + 6 recording modes for different environments

Surveillance Station provides 6 recording modes for users to monitor diverse environments. For example, users can use the alarm recording mode which is triggered by an external device (e.g., a door) connected to the camera, to monitor exit and entrance. The audio recording mode can be used to monitor a dark environment to collect acoustic evidence and extend the surveillance system beyond the field of view.

<sup>1</sup> The days for which Synology NAS servers can sustain video recordings vary depending on the video quality as well as the models. The configuration used here includes high movement scenario, continuous 24/7 recording, and 15 frames per second.



**+ Guard patrol covers every corner**

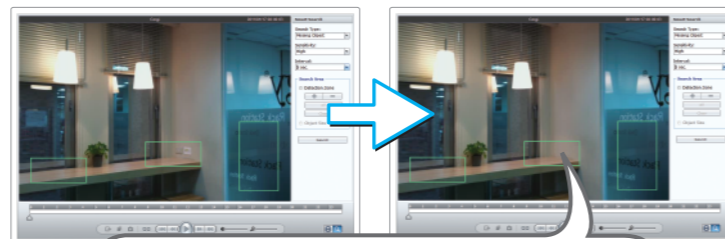
For PTZ cameras, Surveillance Station allows users to create a guard program to patrol the designated trails and corners. When an event is triggered, an automatic patrol will be initiated on the PTZ camera to cover the territory and record the event as complete as possible.



Set up a guard to patrol the environment when an event is triggered.

**+ Smart Search, Event Filter, and time slicing mode shorten viewing time**

Smart Search analyzes videos with sophisticated detection. A specific area can be selected to find any missing items, motions or foreign objects. Even if the camera has been blocked, or focus has been adjusted due to malicious intentions, the video analysis can capture the critical moments.



Smart Search finds out the moment when the item was stolen.

Event Filter on Surveillance Station help users sort out events easily by setting different criterion, such as camera and recording mode.

The time slicing mode on the Event Player cuts down total video viewing time down to a quarter of the normal time. When users wants to investigate the missing items, the time slicing mode divides the original video clip into 4 parts.



The video clip is divided into four parts with the time slicing mode.

**+ Sync and non-sync playback analyze the event comprehensively**

Users can watch multiple video feeds simultaneously with sync playback. When a reference time in one of the video feeds is selected, all other chosen cameras jump to the same specific time to play their respective recordings taken at the same time period.

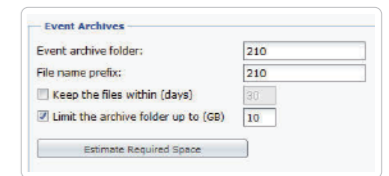


Play back 4 video feeds aggregated from the same point of time.

The non-sync mode provides another option to quickly review events from multiple cameras in a back-to-back manner. Users can view up to 4 recorded video feeds recorded consecutively.

**+ Maximize total recording time and export events to allow future review**

Controlling the available storage space video storage is not an issue for a large scale surveillance system. With smart recycling, users can optimize the storage for archived videos by preserving events for a limited period of time. The recycling mechanism can automatically remove oldest video recordings to ensure enough space.



Optimize the storage space and increase total recording time.

Surveillance Station helps users store and share important events. When they discover significant events, they can export the events to any shared folder or an external USB/eSATA storage.

**+ Privilege setup and HTTPS support secure the system**

On Surveillance Station, users can assign cameras and event viewing privileges to other users. The safety of users' surveillance system can be further enhanced by enabling the HTTPS option. When they are live-viewing cameras over the Internet, their connection to Surveillance Station is encrypted with SSL/TLS.

**+ RAID and UPS support strengthen the reliability**

Synology NAS servers support RAID1/5/6+ Spare/6/10 data protection, offering redundancy for stored video footage. The HDD S.M.A.R.T. feature provided in Synology DiskStations also allows the system to self-inspect the disk health information. The UPS support in Synology NAS servers ensures access to all live and archived data at all times. When the system experiences any changes or errors such as RAID crash, users will also receive email or SMS notifications.

# Specifications

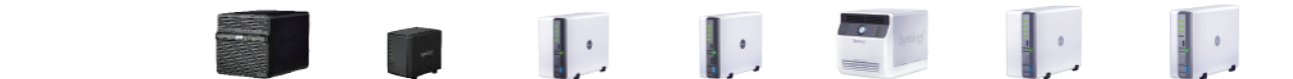
## Surveillance Station 5

<b>Live View</b>	Live View Modes	1,4,6,9,10,13,16,25,36-channel display, sequential mode, full-screen display
	Compression Formats	MJPEG, MPEG-4, H.264 (depends on IP camera)
	Remote Live view Control	PTZ preset, Patrol mode, Snapshot, E-Map, Manual recording
	Audio Support	AAC, AMR, G.711, G.726 (1 way)
<b>Recording</b>	Video Settings	Image Quality, Resolution, Frame Rate
	Recording Modes	Continuous, Motion, Alarm, Motion and Alarm, Audio, Software Trigger
	Recording Settings	<ul style="list-style-type: none"> <li>Motion detection while in alarm recording mode</li> <li>Motion detection by the camera</li> <li>Motion detection by Surveillance Station (MJPEG only)</li> </ul>
	Scheduling	Online GUI recording schedule
	File Formats	AVI, MP4
<b>Playback</b>	Event Playback	Play, Pause, Previous, Next, Stop, Previous Frame, Next Frame, Snapshot, Fast Forward, Slow Motion, Digital Zoom
	Multi-event Playback	4- channels
	Event Timeline	By day, By hour
	Event Management	Event Filter (Camera, Recording mode, Recording time, Locked), Play, Delete, Lock, Archive, Mount Archives
	Sync Playback	Play up to 4 camera events simultaneously
	Smart Search	General Motion, Foreign Object, Missing Object, Camera Occlusion, Focus Lost
<b>Deploy</b>	Image Enhancement	Bright, Contrast, Saturation, Sharpness
	Centralized Management	Control camera live view and watch recorded events from multiple DiskStations
<b>Management</b>	User Interface	Web browser based management interface
	Privacy Protection	HTTPS (Internet Explorer only)
	Disk Space Management	Rotate recorded videos by days or by video size
	Instant Alert Message	Email Notification, SMS Notification, Event Log
	User Privileges	Manager, Spectator
	Language	English, German, French, Italian, Spanish, Danish, Norwegian, Swedish, Dutch, Russian, Japanese, Korean, Czech, Polish, Traditional Chinese, Simplified Chinese, Portuguese (Brazil), Portuguese (European), Turkish, Hungarian.
	Retrieve recorded videos via	FTP, SMB/CIFS, AFP, NFS, File Station
	Auto Backup	Local Backup, Network Backup
	Supported IP Camera Brands	ACTi, AirLive, Arecont, AVIPC, Axis, Brickcom, Cisco, Compro, D-Link, EDIMAX, Etrovision, FOSCAM, Grandtec, HikVision, iPUX, IQinVision, JVC, LevelOne, Linksys, Messo, MOBOTIX, Panasonic, PIXORD, SANYO, Siemens, Sony, SparkLan, Toshiba, TP-Link, TRENDnet, VIVOTEK, Y-cam, Zavio
	<b>Accessory</b>	License Pack
VisualStation		VS80
<b>Client PC Minimum Requirments</b>	CPU	Pentium 4 CPU 2 GHz
	Memory	512MB
	Operation System	Windows XP, Windows Vista (32bit), Windows 7
	Browser Support	Internet Explorer 7.0 and onward, Firefox and Chrome
Network Interface	100Mbps	

### DiskStation/ RackStation



Model	RS2211+/RS2211RP+	RS810+/RS810RP+	DS1511+	DS710+	DS411+II	DS211+	RS411
MAX HDD Support <sup>(1)</sup>	3TB X 10	3TB X 4	3TB X 5	3TB X 2	3TB X 4	3TB X 2	3TB X 4
Default Supported IP cam#	1						
MAX Supported IP cam# (licenses required)	20	20	20	16	20	12	8
Volume Type	Basic, JBOD, RAID 0/1/5/6/10, RAID 5+Spare <sup>(2)</sup>					Basic, JBOD, RAID 0, RAID 1	Basic, JBOD, RAID 0/1/5/6/10, RAID 5+Spare
UPS Support	Yes						
Total Frames Per Second (FPS)	200FPS@D1	200FPS@D1	200FPS@D1	160FPS@D1	200FPS@D1	120FPS@D1	80FPS@D1
Power Consumption <sup>(3)</sup>	Access: 115.5W Idle: 101.2W HDD Hibernation: 49.5W	Access: 68W Idle: 60W HDD Hibernation: 28W	Access: 68W Idle: 59W HDD Hibernation: 30W	Access: 31W Idle: 28W HDD Hibernation: 17W	Access: 60W Idle: 52W HDD Hibernation: 20W	Access: 24W Idle: 22W HDD Hibernation: 13W	Access: 53W Idle: 46W HDD Hibernation: 23W



Model	DS410	DS411slim	DS211	DS111	DS411j	DS211j	DS110j
MAX HDD Support <sup>(1)</sup>	3TB X 4	1TB X 4	3TB X 2	3TB X 1	3TB X 4	3TB X 2	3TB X 1
Default Supported IP cam#	1						
MAX Supported IP cam# (licenses required)	12	8	8	8	5	5	5
Volume Type	Basic, JBOD, RAID 0/1/5/6/10, RAID 5+Spare	Basic, JBOD, RAID 0, RAID 1	Basic	Basic	Basic, JBOD, RAID 0/1/5/6/10, RAID 5+Spare	Basic, JBOD, RAID 0, RAID 1	Basic
UPS Support	Yes						
Total Frames Per Second (FPS)	120FPS@D1	80FPS@D1	80FPS@D1	80FPS@D1	50FPS@D1	50FPS@D1	50FPS@D1
Power Consumption <sup>(3)</sup>	Access: 56W Idle: 44W HDD Hibernation: 20W	Access: 16.8W Idle: 13.2W HDD Hibernation: 9.6W	Access: 22W Idle: 19W HDD Hibernation: 10.8W	Access: 18.7W Idle: 15.4W HDD Hibernation: 7.7W	Access: 42.9W Idle: 40.7W HDD Hibernation: 16W	Access: 25W Idle: 23W HDD Hibernation: 10W	Access: 19W Idle: 15W HDD Hibernation: 9W

### VisualStation



Model Name	VS80
External Device Interface	2X USB
LAN	1X 10/100 Mbps
Video Output	1X VGA
Audio Output	1X 3.5mm Stereo Audio Jack
Display Mode	2x2, 3x2 or 3x3 panels
MAX Camera Resolution	4, 6 channel D1: (640x480 in VGA, 720x480 in NTSC, 720x576 in PAL) 9 channel CIF: (320x240 in VGA, 352x240 in NTSC, 352x288 in PAL)
Size (mm) (HxWxD)	160 X 63 X 218

### Expansion Unit



Model Name	RX12II	RX12IIRP	DX510	RX410
Internal HDD	12 X SATA(II)	12 X SATA(II)	5X SATA(II)	4X SATA(II)
MAX HDD Support <sup>(1)</sup>	3TB X 12	3TB X 12	3TB X 5	3TB X 4
Size (mm) (HxWxD)	88X 445 X 570	88 X 445 X 570	157 X 248 X 233	44 X 430.5 X 457.5
Volume Type	Basic, JBOD, RAID 0, RAID1, RAID 5, RAID 5+Spare, RAID 6, RAID 10			

(1) HDD not included. Check www.synology.com for compatible HDD models.

(2) Synology DiskStation DS710+ supports RAID5/6/10/5+Spare only when it is connected with DX510.

(3) The power consumption is for reference only and will vary with hard drive models and capacity.