



# **VS60 User's Guide**

Firmware version 1.2-0132

VS6010202010

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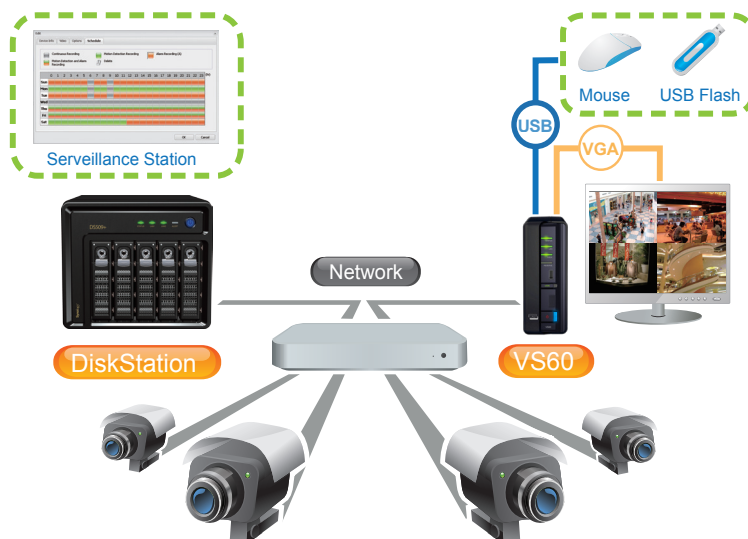
# Getting Started with VS60

Congratulations on your purchase of Synology VS60. It is designed to expand the flexibility of your Surveillance Station.

By connecting an LCD monitor or TV with VS60, users can directly live-view the IP cameras set up on their Synology DiskStation without a PC. Installing multiple VS60s brings you the convenience of live-viewing the cameras as a screen wall.

This user's guide will assist you with the installation and usage of your VS60.

Before reading further, ensure that you have at least one IP camera managed by your Synology DiskStation. For information on how to set up an IP camera on your Synology DiskStation, please check the user's guide of your Synology DiskStation.



## Package Contents

Before installation, please check the package contents to verify that you have received the items below.

### Main Unit



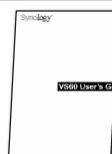
### AC power adapter



### 2M RJ-45 LAN cable



### User's Guide



## Hardware Specifications

<b>USB</b>	1 port in front, 1 port in rear (For USB disk and mouse)
<b>Video Output</b>	VGA x 1
<b>Audio Output</b>	3.5mm Stereo Audio Jack x 1
<b>Size (HxWxD) (mm)</b>	160x63x218 mm
<b>Weight</b>	0.78Kg
<b>LAN</b>	10/100BaseT
<b>AC Input Power Voltage</b>	100V to 240V AC
<b>Power Frequency</b>	50 / 60Hz, Single Phase
<b>Operating Temperature</b>	5°C ~ 35°C (40°F ~ 95°F)
<b>Storage Temperature</b>	-10°C ~ 70°C (15°F ~ 155°F)
<b>Relative Humidity</b>	5% to 95% RH
<b>Maximum Operating Altitude</b>	10,000 feet
<b>Certification</b>	FCC Class B, CE Class B



## Software Specifications

<b>Channel #</b>	4, 6 or 9
<b>Display Mode</b>	2x2, 3x2 or 3x3 panels
<b>Compression Formats</b>	MJPEG, MPEG-4, H.264
<b>Decoding Throughput [MJPEG]</b>	MJPEG: 4,6 channel: 60FPS, D1 9 channel: 60 FPS, CIF
<b>Decoding Throughput [MPEG4]</b>	MPEG4: 4,6 channel: 60FPS, D1 9 channel: 60 FPS, CIF
<b>Decoding Throughput [H.264]</b>	H.264: 4,6 channel: 45FPS, D1 9 channel: 60 FPS, CIF
<b>Maximum Camera Resolution</b>	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)
<b>Snapshot</b>	Yes (save to USB disk)
<b>PTZ</b>	Yes (for PTZ cameras only)
<b>Playback</b>	Event Timeline
<b>Firmware Upgrade</b>	Yes (via USB disk)
<b>Resolution</b>	1280x768, 1024x768, 800x600

## Operating Requirements

<b>Synology DiskStation</b>	Recommend DSM 3.0-1337 and onwards to support full features of VS60.
<b>Supported IP cameras</b>	For the complete list of supported IP cameras, please visit <a href="http://www.synology.com">http://www.synology.com</a>



Article Name	Location	Description
<b>POWER button</b>	Front	The POWER button is used to turn the Synology VS60 on or off.
<b>LOCK button</b>	Front	The LOCK button is used to prevent VS60 from paring with other Synology DiskStations.
<b>LED Indicator</b>	Front	The LED Indicators are used to display the status of the system, network connection, and Lock function. For complete details, please refer to the <b>LED Behavior</b> table below.
<b>USB port</b>	Front & Rear	The Synology VS60 offers 2 USB ports for both mouse plug-in and USB flash drive connection*. One of the ports is located on the front and the other on the rear.
<b>VGA port</b>	Rear	To connect the monitor's VGA adapter to VS60.
<b>AUDIO jack</b>	Rear	The AUDIO jack is used to connect external speakers or earphone to VS60 (for audio supported cameras).
<b>LAN port</b>	Rear	The LAN port is used to connect the LAN cable to VS60.
<b>RESET button</b>	Rear	The RESET button is used to restore the settings to the factory default.
<b>DC IN 5V port</b>	Rear	The DC IN 5V port is used to connect the AC Power Adapter to provide power to your Synology VS60.

## LED Behavior

LED	Behavior	Description
POWER	<b>Solid Blue</b>	System is ready
	<b>Flashing Blue</b>	System is starting up
	<b>Off</b>	The power is off
STATUS	<b>Solid Green</b>	Server is connected
	<b>Off</b>	Server is not connected
LAN	<b>Solid Green</b>	LAN is connected
	<b>Flashing Green</b>	LAN is active
LOCK	<b>Solid Green</b>	Locked (Pairing is not allowed with Synology DiskStation)
	<b>Flashing Green</b>	Unlocked (Pairing is allowed with Synology DiskStation)
RESERVE	<b>Off</b>	No functionality (Reserved for future use)

## Safety Instructions

To use your Synology product safely, please follow these instructions and warnings at all time.



Keep away from direct sunlight and away from chemicals. Make sure the environment does not experience abrupt changes in temperature or humidity.



Keep Synology product upright. Do not lay it down horizontally.



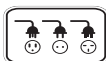
Do not place the Synology product close to any liquid.



Before cleaning, unplug the power cord first. Wipe Synology product with damp paper towels. Do not use chemical or aerosol cleaners to clean it.



Do not place the Synology product on a cart, table, or desk, which is not stable to avoid the product from falling over.



The power cord must plug in to the right supply voltage. Make sure that the supplied AC voltage is correct and stable.

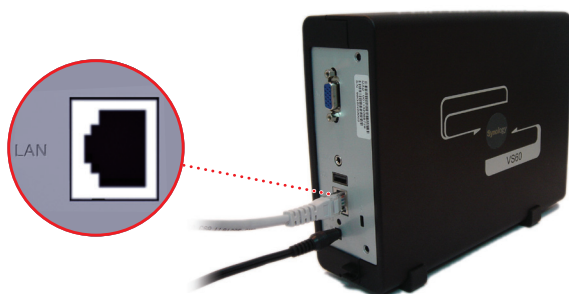
# Using VS60

## Hardware Setup

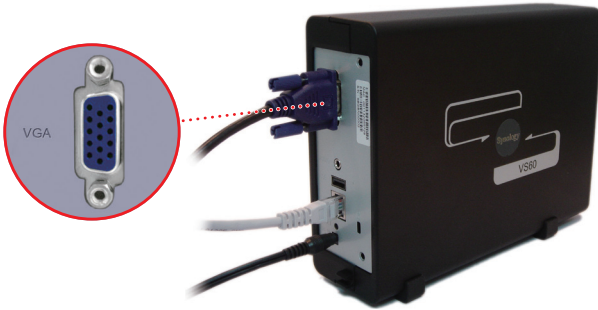
- 1 Connect the AC power adapter to VS60, and the other end to the power outlet.



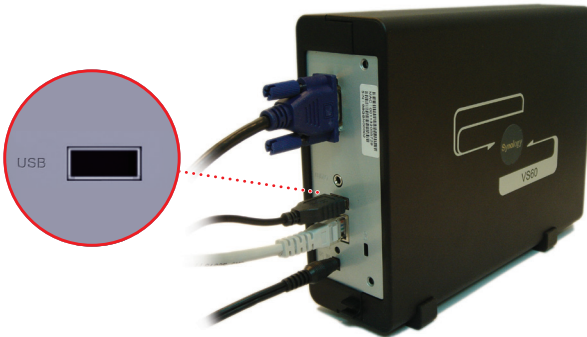
- 2 Use the LAN cable to connect VS60 to your switch/router/hub.



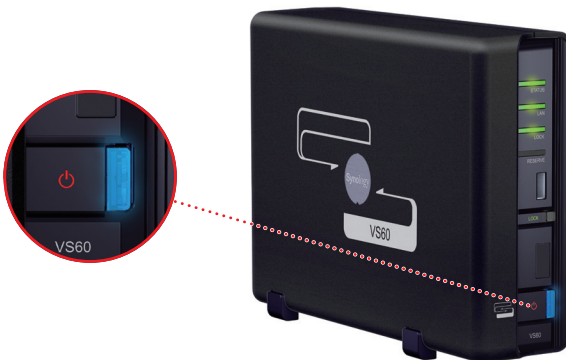
- 3** Connect your monitor's VGA cable to the VGA port on the back of VS60.



- 4** Connect the mouse to the USB port on the back of VS60.

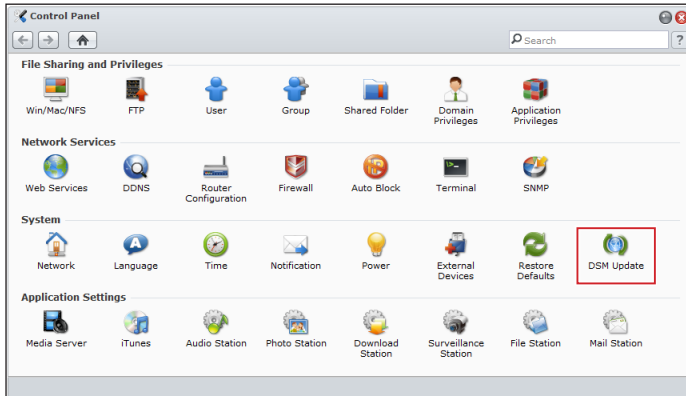


- 5** Push the Power button on the front of your VS60. Your VS60 is now online and ready to work with your DiskStation.



## Enabling VS60 on your Synology DiskStation

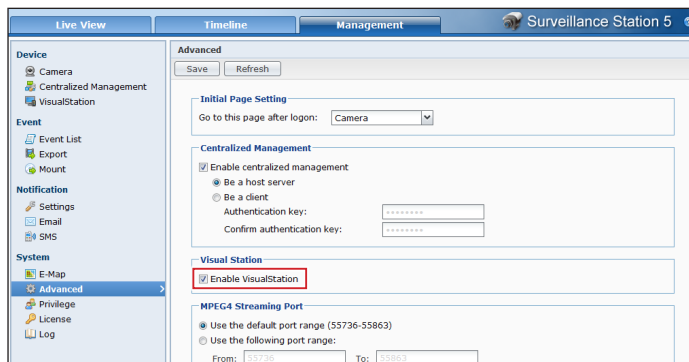
Before you start, make sure the DSM version of your DiskStation is **3.0-1337 or later** to support the full features of VS60. You can view your current DSM version by going to **Control Panel > DSM Update**.



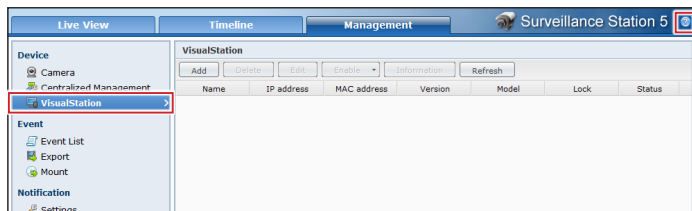
To update DSM, please visit: <http://www.synology.com/support>

### To Enable VS60 on your Surveillance Station:

- 1 Enter Surveillance Station.
- 2 Click on the **"Management"** tab at the top.
- 3 Select **"Advanced"** option under **System** category.
- 4 Enable VS60 by checking **"Enable VisualStation"** checkbox.
- 5 Click on "Save" to save the changes. After configuration, "VisualStation" will appear under the **"Management"** tab.



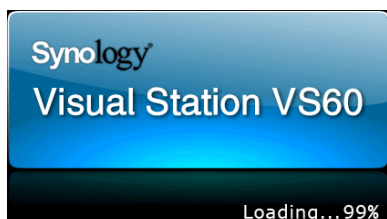
- Click on the “**VisualStation**” tab to enter the setup page. Follow the steps in “**Help**” (the icon with question mark) to finish setup.



## Live-view

### To turn on your VS60 to start live-view:

- Turn on your VS60 by pressing the Power button. The loading image should appear on screen.



- When the loading is completed, the live-view will appear on the screen according to the settings on Surveillance Station.
- To see any one of the channels in full screen, double-click on it in the live-view. Double-click anywhere on the screen to return to the multiple-channel view.

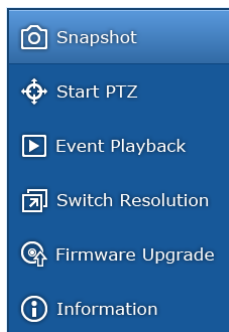


## More Functions

Right-clicking anywhere on the screen will bring up the functions menu, which offers the following functions: **Snapshot**, **Start PTZ**, **Event Playback**, **Switch Resolution**, **Firmware Upgrade** and **Information**.

## Snapshot

By right-clicking on the live-view and selecting “**Snapshot**”, you can save the current image as a snapshot. The image will be stored onto the connected USB storage device. VS60 will create an individual folder for each live-view channel.



Alternatively, you can also take snapshots by clicking on the Snapshot button on the PTZ control Panel.





**Note:** You can connect a USB flash drive to Synology VS60 via the USB port. Synology VS60 also supports external USB HDD, provided that it comes with its own power supply.

**Important:** VS60 only recognizes USB storage devices in FAT32 format.

## Start PTZ

If your camera supports PTZ (pan/tilt/zoom) function, you can select a camera and use the PTZ control panel to adjust the camera's direction and to zoom in and out on specific areas. The supported functions on the control panel will appear in blue, while the unsupported functions will be grayed out.

The button functions are shown as follows:

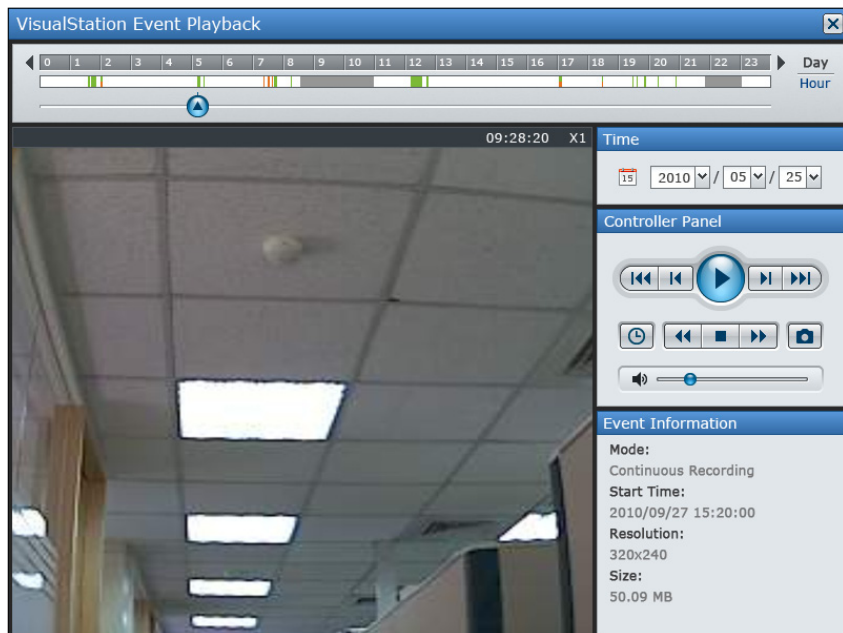
	Adjust the camera's direction
	Restore the camera back to its home position
	Take a Snapshot
	Zoom in/out function











## Event Playback

By right-clicking on one channel live view and selecting "**Event Playback**", you can switch to the event player for playback of video recordings stored on your DiskStation with specified date and time.

The Timeline displayed on top of the event player indicates the time frame there are events recorded. **Continuous Recording** mode will be marked in gray in the Timeline. **Motion Detection Recording** mode will be marked in green. **Alarm Recording** mode will be marked in orange.



The button functions are shown as follows:

	Play / Pause	Play / Pause the event
	Previous frame and Next frame	Go to the previous frame or the next frame
	Previous and Next	Go to the previous or the next event
	Stop	Stop playing events
	Slow Motion / Fast Forward	Adjust the video playback tempo
	Snapshot	Take a Snapshot
	Duration / Timestamp	Switch between displaying the video length or its recorded time
	Audio volume	Adjust the volume

### To playback events of a different date:

When you enter the event player, by default the player will automatically search and start playing the earliest recorded event for your current day. To select a different date, click on "**Stop**" button on the controller panel, then use the drop down tool box under "**Time**" module to narrow down the date of interest. When it is done, click on "Play" to start playback.

### To playback events of a certain time:

Move the **Cursor** icon on the timeline to where you want to start watching the events. You can click **Day** or **Hour** to display the timeline within 24 hours or within 1 hour.

### To play an event:

- 1 Click the **Play** button on the **Controller** panel to start or pause playing the events.
- 2 Click the **Previous** button or **Next** button on the **Controller** panel to go to the previous or the next event.
- 3 Click the **Fast Forward** or **Slow Motion** button to adjust the video playback tempo.
- 4 Click the **Duration / Timestamp** button to switch between displaying the length of the video or the time when the video is recorded.
- 5 Adjust the volume by dragging the slider bar on the **Controller** panel if the selected event has audio support.
- 6 Click the **Stop** button to stop playing the event.

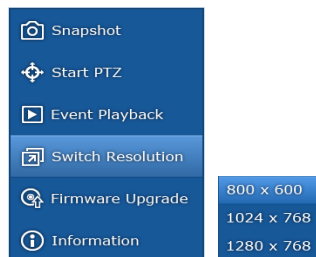
### To take a snapshot:

To take a snapshot, you can **Pause** the current event, click the **Previous frame** or **Next frame** button on the **Controller** panel, then click the **Snapshot** button to save the image.

## Switch Resolution

If your monitor supports more than one resolution, you can specify the viewing preference. VS60 supports the following three resolutions:

800 x 600, 1024 x 768, 1280 x 768

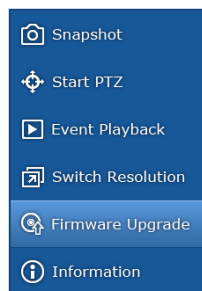


**Note:** If you select a resolution your monitor does not support, the monitor will black-out for seconds and then return to its selected resolution.

## Firmware Upgrade

To upgrade VS60 firmware, follow the steps below:

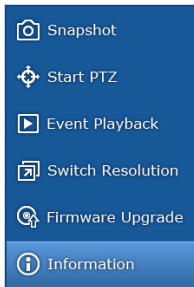
- 1 Download the latest firmware from: <http://www.synology.com>
- 2 Unzip the firmware and save the file onto your USB storage device.
- 3 Connect your USB storage device to VS60 .
- 4 Click on **Firmware Upgrade** to start upgrading.



## Information

By right-clicking anywhere on the screen and selecting “Information”, you can see the facts about your VS60:

- **Model Name:** The model of your VisualStation
- **Firmware Version:** The firmware version of your VisualStation
- **Pairing with:** The current DiskStation paired with your VS60



# Troubleshooting

## Q1: Why can't I pair my DiskStation with VS60?

You can only pair the VS60 with Synology DiskStation when VS60 is unlocked. To see if your VS60 is locked, check the LED indicator light on the front panel. The LED indicator will glow solid green when VS60 is locked and flash green when unlocked. To lock or unlock your VS60, press and hold the LOCK button on the VS60 for 3 seconds. The status of the LED indicator should change accordingly.

## Q2: Why can't Surveillance Station detect any VS60 within the network?

Check if your VS60 is connected to the local network. Also, make sure it is turned on.

## Q3: Why do I see the warning "File cannot be saved!" when I use Snapshot function?

The snapshot must be saved on a USB storage device which is formatted in FAT32. You can connect a USB storage device to Synology VS60 via the USB port. Synology VS60 also supports external HDD, provided that it comes with its own power supply.

Note that after plugging in your USB storage device, please wait for 15 seconds before attempting to access.

## Q4: Why do I see these icons after VS60 starts up?



Disabled



Not Configured



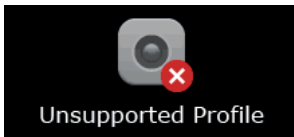
Disconnected

- **Disabled:** VS60 is configured but disabled in your Synology DiskStation.
- **Not configured:** VS60 is not paired with any Synology DiskStation.
- **Disconnected:** VS60 is configured but cannot connect to your Synology DiskStation. Please check the network setting and the DiskStation is started up.

**Q5: What may be the cause for lower FPS (frame per second) performance on my VS60?**

VS60 can achieve its proper 60 fps speed with Mpeg4 codec. You may experience performance in the 45 fps range if the camera is using H.264 codec because H.264 uses more decoding resources. Therefore, your actual performance may vary if you use a combination of MPEG4 and H.264 cameras.

**Q6: Why does VS60 display “Unsupported Profile” on the camera screen?**



When H.264 camera uses profile other than Baseline profile, or when MPEG4 camera uses profile other than Simple profile, VS60 won't be able to process the different profile levels for each video codec and causes this warning message. The solution is to enter the IP camera's portal page and adjust the codec profile with the recommended profile settings above.

**Q7: When facing long video delays, how do I reduce the latency?**

If video latency is too long, try decreasing the image quality or frame rate from Surveillance Station or Camera portal to reduce the system workload.

**Q8: Why do Live View and Event Playback aspect ratio look different?**

This is caused by the LCD monitor or TV which you are using. To resolve this issue, go to the Main menu for your LCD/TV, use the “Auto Adjust” function and your screen aspect ratio will return to normal.

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