



TP-Link Community Knowledge Base &gt; Integrate Your Tapo Cameras into an Existing NVR or NAS with ONVIF and RTSP

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# Integrate Your Tapo Cameras into an Existing NVR or NAS with ONVIF and RTSP

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How Tapo Cameras Work As An IP Camera

## What is ONVIF and RTSP?

*Integrate Your Tapo Cameras into Existing NVR or NAS*

NAS



NVR



Cameras



## Getting Started with ONVIF and RTSP

Most cameras from Tapo that are designed to use a hardwired power connection, whether through Micro-USB, USB-C, or an AC Adapter, are compatible with RTSP and ONVIF – allowing you to use them to monitor your home from outside of the Tapo ecosystem.

### What is RTSP?

RTSP, or **Real Time Streaming Protocol**, is used to manage and distribute media streams within a network environment. This protocol is not exclusively reserved for cameras, and is often used for streaming media and videos throughout your network. RTSP also provides a baseline functionality for controlling a media stream (play, pause, resume).

### What is ONVIF?

ONVIF (Open Network Video Interface Forum) is an organization working to provide seamless and interoperable video streams on your network. RTSP is one of the underlying technologies and standards used to provide ONVIF, which allows for increased control and monitoring of your cameras, rather than simply providing a video stream on your network. (**RTSP is the Video Stream on Your Local Network; ONVIF is the Protocol Used for Managing and Interacting with IP Cameras**)

We recommend checking out the Homepage for ONVIF at [www.onvif.org](http://www.onvif.org) for details on the features and goals of ONVIF – as they encompass more than simple Smart Home cameras and NVRs.

**Learn How to Configure the RTSP Streams for your Tapo Cameras in our FAQ**

(including Ports and both HQ and LQ streams):

[How to View a Tapo Camera on a PC through RTSP\\_\(VLC Media Player\)](#)



Looking to Purchase a Camera with RTSP or





For more information about device and feature compatibility (such as Event Handling, Audio Passthrough, and Pan-Tilt Control), please see the official documentation on the official list of [conformant products](#) on the ONVIF site. In general, your camera will be able to provide the video stream, along with a few basic controls, such as Pan-Tilt Control.

*Note: Some devices may not be listed on the official site despite working with the features, as devices may follow the ONVIF specification but are still awaiting official certification from the organization.*

[See Our List of Tapo Cameras Here](#)  
[Knowledge Base](#)

## General Questions:

### Why do not all TP-Link Cameras Support RTSP or ONVIF?

As a rule of thumb, if the camera is battery-powered the device will not be using ONVIF/RTSP to help save power and extend its battery life.

If these features were added to battery cameras, you could expect to see a dramatically short battery life – potentially bringing the Expected year-long battery life, down to a few days or weeks.

Please Note: Only Tapo Cameras currently support ONVIF/RTSP are kept secure by limiting API and network access to your devices and cameras.

### What type/profile of ONVIF compatibility do Tapo Cameras support?

This information is available on the list of conformant products on the ONVIF page or on your product's datasheet. Most Tapo cameras will take advantage of [ONVIF Profile S](#).

The features that come with each Tapo camera through this profile will vary, so it is important to check the ONVIF specification page for a list of supported features, such as Pan-Tilt Control or Audio Recording.

### Where can I find the RTSP or ONVIF login credentials for my Tapo Camera?

The login used for RTSP and ONVIF is Different from the Login used for the Tapo App. You will need to configure the camera account feature in the Tapo App with a new Username and Password.

See the following FAQ for more information on where to find the setting:

[How can I connect my Tapo camera to a NAS or NVR?](#)

### Should I Consider using RTSP or ONVIF?

ONVIF will take advantage of RTSP Network Streams to provide additional controls for your devices. If possible, you will want to look for ONVIF compatibility, otherwise, many NVR Systems can take advantage of the RTSP video stream.

### What Network Ports are Need to use RTSP and ONVIF?

ONVIF Service Port: 2020

RTSP Service Port: 554

### What is the Address of the RTSP Streams?

High-Quality Stream 1: `rtsp://IP Address/stream1`



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Tapo cameras support the RTSP protocol in order to work with third-party devices such as NVRs and NAS. You will need to create a separate account for this function.

Tapo cameras' dynamic video transmission is encrypted. However, when operating with third-party devices such as NVRs and NAS, the RTSP protocol is used for data transmission and local storage, which is common for such devices. The security level of the RTSP protocol is low. If used in an insecure network, there may be some risk of information being stolen.

To reduce risk:

1. Only enable this feature when needed.
2. Set a highly secure and complex username and password. The password should be different from your Tapo account password.
3. It is not recommended to use this function on public networks. Only use it on trusted local networks and make sure the Wi-Fi is encrypted.





This year at CES, we also showcased our Tapo H500 Smart Hub, which takes advantage of the ONVIF and RTSP streams to create both an NVR and control hub for your Tapo devices and cameras.

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[Learn More about the Tapo H500 on our Early Spotlight Page from CES](#)

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**Note on Compatibility with Wired and Kasa Cameras:**

ONVIF will use the camera's 24/7 Video Recording, Event Detection, and Network Connections. Due to these increased requirements and power usage, ONVIF and RTSP are only compatible with non-battery powered cameras from Tapo – meaning the cameras will always have a consistent source of power, whether through Micro-USB, USB-C, AC Adapter, or PoE. Please Note: Only Tapo Cameras currently support ONVIF/RTSP are kept secure by limiting API and network access to your devices and cameras.

Please see your Device's Specifications or Data Sheet for Detailed Information on Model, Feature and Version Compatibility.

**Related:**

[How can I connect my Tapo camera to a NAS or NVR?](#)

[ONVIF Conformant Products](#)

[How to View a Tapo Camera on a PC through RTSP \(VLC Media Player\)](#)

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