

# Selecting Cameras for NoPileups

VERSION 2.0 | REVISED 12/2020

## Camera Requirements

Cameras must meet the following requirements to be used by NoPileups:

- **Wired, IP-based** - Cameras must connect through a wired network and support direct IP connections. Wireless cameras and analog cameras that use coaxial cables are not supported.
- **IP66** – NoPileups highly recommends IP66 cameras because they are built to be resistant to high-pressure spray and have ingress protection for dust-sized particles. IP67 and IP68 rated cameras have even greater levels of protection and will also work.
- **MJPEG, H.264 or H265 video compression** – Any of these options are supported.
- **Real Time Streaming Protocol (RTSP) support** - NoPileups uses RTSP to communicate with the camera directly over the network.
- **Multiple configurable video streams** - NoPileups requires a minimum of two total video streams. It must be possible to adjust the video settings of all streams individually.
- **Secondary stream resolution of approximately 640x360** - A non-primary video stream must provide video that is approximately 640x360 in size.
- **Secondary stream frame rate of 12 frames per second** – Higher framerates can cause bandwidth problems. Framerates below 12 will not provide NoPileups enough information to accurately track vehicles.
- **Wide Dynamic Range (WDR)** - WDR allows the camera to capture more detail when there is bright light or darkness, increasing NoPileups tracking performance.
- **100 Megabits per second (Mbps) or higher network support** – Each camera must support at least 100 Mbps connectivity to ensure minimal video latency. The PoE switch the camera connects to must have at least 1 Gigabit port available for the NoPileups Server to use.
- **Horizontal field of view (FoV) between 90 and 110 degrees** – This allows each individual camera to view approximately 20 feet of the tunnel.

NoPileups cannot use 360-degree cameras.

NoPileups does not need “Pan Tilt Zoom” (PTZ) functionality but can access video from cameras that use PTZ.

## Camera Form Factors

NoPileups recommends “turret” style cameras. These cameras are enclosed in a watertight housing that does not need to be opened to adjust the camera. **Be sure to purchase a model that can be locked down using a security screw to prevent camera view movement.**

“Dome” style cameras work but are more prone to water ingress. The camera view cannot be unintentionally adjusted, but the waterproof housing must be opened to install or work on the camera.

“Bullet” style cameras are compatible but are more likely to be unintentionally adjusted.

## Recommended Camera Manufacturers

Cameras from the following manufacturers work well with NoPileups. Ensure the model selected meets all requirements listed above. Manufacturers with a \* historically have a better price/performance ratio.

### Preferred Camera: Hikvision DS-2CD2343G0-I with 2.8mm lens

<https://us.hikvision.com/en/products/cameras/network-camera/value-series/turret/4-mp-outdoor-ir-network-turret-camera-ds>

- [Amcrest\\*](#)
- [Axis](#)
- [Digital Watchdog](#)
- [ENVIRO Cams / Rugged CCTV\\*](#)
- [Geovision / USAvision](#)
- [Hikvision\\*](#)
- [Lorex](#)
- [LTS / Platinum\\*](#)
- [UNV / Uniview](#)
- [Vivotek](#)

## Unsupported Camera Manufacturers

*Cameras from the following manufacturers are not compatible with NoPileups.* If cameras from these manufacturers are installed, NoPileups might not be able to use them and will not achieve maximum performance:

- 3xLogic
- ACTi
- Avigilon
- IDIS
- Speco
- Qsee

## Recommended PoE Gigabit Switches

NoPileups requires a gigabit connection between the camera switch and the NoPileups Server. This means that all cameras must connect to a PoE switch with at least 1 gigabit speed port. The NoPileups server and Network Video Recorder (if in use) must connect to the switch using ports capable of gigabit speeds. NoPileups recommends the following PoE switches:

- [BV Tech POE-SW811 - 8 port PoE switch with 2 gigabit ports](#)
- [BV Tech POE-SW1602-E - 16 port PoE switch with 2 gigabit ports](#)
- [TRENDnet TPE-TG82G - 8 port PoE switch \(all gigabit ports\)](#)
- [TRENDnet TPE-TG160g - 16 port PoE switch \(all gigabit ports\)](#)

## Contacting NoPileups Support

Questions about camera and POE switch selection? Contact NoPileups support by phone at [\(833\) 667-4538](tel:(833)667-4538) or [\(208\) 789-0405](tel:(208)789-0405); or by email at [support@NoPileups.com](mailto:support@NoPileups.com).

Installation support is available Monday - Friday, 9 AM to 7 PM Eastern Standard Time (EST).

General software support is available Monday - Friday 7 AM to 9 PM Eastern Standard Time (EST), and Saturday and Sunday 9 AM to 6 PM EST.