

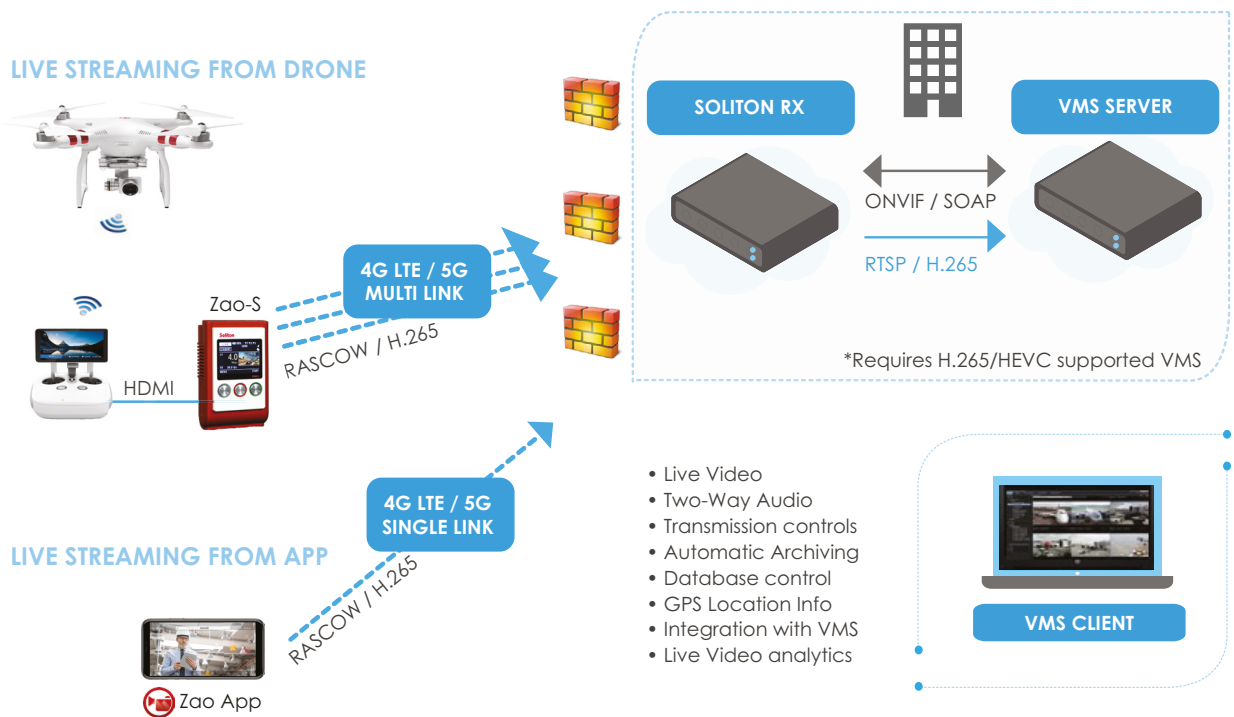
# Live streaming from Drones for Law Enforcement and Public Safety



Drones have become an essential tool for many of the emergency services including the police, law enforcement agencies and civil rescue services. The Zao-S and Zao-SH from Soliton Systems have become a critical part of their drone operations.

With its small size, professional features for encoding and high-level encryption, it has become the live streaming unit of choice for extremely reliable transmission for drone operations. By connecting to the HDMI port of the ground base station, the Zao-S can be used to send an encrypted live stream over multiple 4G connections simultaneously back to a command and control center with ultra-low latency. The Zao-S can fully integrate with existing Video Management Systems (VMS) based within command and control center's.

## USING DRONE WITH SOLITON VMS PLUS



Drones are utilised as replacement for helicopters to provide low-cost but high-quality aerial views often looking for missing persons, viewing hazardous areas, accidents and collecting evidence. In addition, as a public safety tool, they are often utilized for public safety control in crowded areas where network congestion on mobile networks is an issue. The Zao-S product can live



stream full HD high quality video reliably on constantly fluctuating networks back to the headquarters where a commanding officer can view for real time operations as well as automatic archiving and further video analysis. The point-to-point video transmission ensures both security and minimum delay.

If ultra-low latency is required, the enhanced Zao-SH can be used to achieve latencies of under 100ms from drone camera back to a command centre over public or private 4G / 5G networks. In addition, it is possible for a command center to remotely control a gimbal on the drone allowing it to control the camera's rotation and zoom function by a return data feed, again over public or private 4G / 5G networks, back to the Zao-S.

In some more powerful drones, given the light weight nature of the Zao-S, it is possible to carry the Zao-S alongside the camera and live stream from the drone itself directly back to a command centre without the need of the ground base station as a receiving intermediary device. This is more practical where a drone is not being used in a line-of-sight configuration and is following a GPS course set over a large distance.

**The Zao-S and Zao-SH are both available with immediate delivery and more information is available at [www.solitonsystems.com](http://www.solitonsystems.com)**

### ZAO-S - KEY BENEFITS

- Small size and light weight
- Utilizes H.265 video compression (50% more efficient than traditional H.264)
- Uses AES 256 secure encryption over the public 4G/5G networks
- For reliable connectivity, it can bond up to 3x 4G/5G cellular networks
- Can utilize LAN, Wi-Fi or Satellite for connectivity besides all cellular networks
- Low Latency from 240ms from camera to command center
- RASCOW protocol to optimize video transmission based on available bandwidth
- Operates in low bandwidth or congested network environments
- ONVIF compliant making it compatible with VMS systems such as Milestone and Genetec
- Battery powered (internal and external battery)
- Future proofed for 5G connectivity (tested with 5G networks)
- Point-to-point connectivity – no cloud service required making it more secure

### ZAO-SH KEY BENEFITS OVER ZAO-S

- Ultra-Low Latency from 65ms over 4G
- Ability to remotely control a drone with a serial return



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