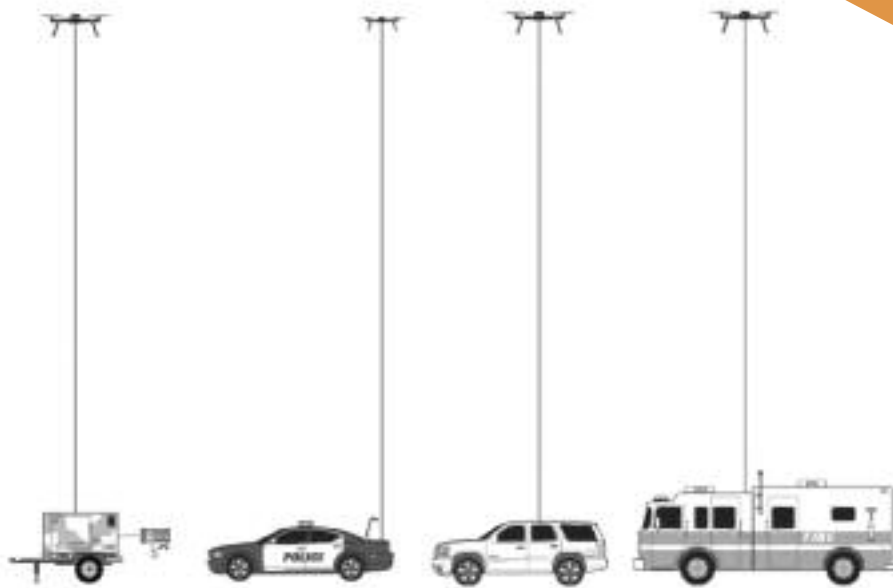




# FALCON

## COMMUNICATION AND OPTICS PLATFORM



### PRODUCT OVERVIEW

Offering persistent, safe, cost-effective, aerial support, the Falcon is designed for Law Enforcement, Public Safety, and Search & Rescue communications and situational awareness. Capable of flying heavy loads for more than eight hours on a tether at 150 m, the Falcon simultaneously supports a wide range of optical sensors and communications systems. The Falcon hosts visual, thermal, UV, and hyperspectral cameras alongside communications via commercial cellular, PTT, TMR, WiFi, First Net, mesh radios, and bonded cellular.

### CAPABILITIES

The Falcon's unique combination of communications systems and optics make it the perfect tool for first responders. Measuring 31 in x 38 in x 21.7 in, weighs 10.3 pounds, is able to carry max payload of 33 pounds, the Falcon can hover at 150m on its tether above a stationary or moving vehicle for more than 8 hours without landing. Compact and efficient, the system can easily be operated with a 12A 240 VAC generator in the field.

### ADDITIONAL FEATURES

The Falcon is ideal for enabling areal situational awareness and improving the range of communications of Public Safety and Search & Rescue workers. Compatible as a radio, cellular, or WiFi node, its modular architecture can be outfitted to work with an communications system for expanded communications range on the ground while enabling extended range connectivity to Firstnet, commercial cellular, or other standard Public Safety communications systems.



**EQUINOX INNOVATIVE SYSTEMS**

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# SPECIFICATIONS FOR FALCON

## DRONE

Ready to Fly for Equinox Innovative Systems

**Dimensions** 31 in x 38 in x 21.7 in

**Weight** 10.3 lbs

### Flight control and networking:

- DJI Option:** DJI A3 Flight controller  
DJI Light Bridge 2  
RTK-G for precision timing and location
- Pixhawk-2 Option:** Pixhawk 2 flight controller  
Non-DJI FPV video link  
Optional combined drone and payload control and/or sensor data storage and video link display on a laptop (free flight and tethered)  
RTK GNSS or Precision GPS

### Optional 2nd payload controller

**Configured for both free flight (30 minutes) and tethered flight (8+ hours)**

Optional configuration for operation above a moving vehicle

## GROUND UNIT

**Line or Generator Supply**

12A @ 240 VAC

**Tether with power supply and auto-tensioned reel with tether up to 150m**

Optional HD video display  
Optional data-over-power (Ethernet) sensor data storage on a laptop

## PAYLOAD: COMMUNICATIONS

**Optional auto-tracking gimbal/servo supporting communications backhaul**

Yagi antenna ~12 dBi

Optional camera verifying antenna alignment

**Variable omni-directional antenna arrays supporting users on the ground**

**Optional Software Defined Radio (SDR) configured as radio repeater**

**Optional WiFi access point**

Support more than 400 simultaneous connections

**Optional bonded cellular modem**

Supports up to three simultaneous carriers

## PAYLOAD

### Cameras:

**HD Video Camera** 12x Optical Zoom  
4k HD Resolution

**Digital Still Camera** 30x optical zoom  
1080p/60 Video  
20.4MP Exmor R CMOS sensor

**Thermal Imager** 640 x 512 radiometric imager  
Operating on less than 1 watt of power, via a USB 2.0 connection  
Real-time radiometric recording

**Solar-Blind Ultraviolet Camera 200-300nm**

Detects firearms muzzle flash and electrical shorts at 10,000m in full daylight

### Sensor controller and data storage module

**Gremsy H3 Gimbal** Optional H11 or H16

**Optional LIDAR** 16 channels  
300,000 pps  
100m range  
360x20 degree FoV

*“Equinox offers the first fully functional drone-based inspection platforms, mobile communications towers and test systems with variable elevation control, ultra-high bandwidth, operation on the move & unlimited flight time.”*



## COMPANY OVERVIEW

Headquartered in the Washington D.C. area, Equinox Innovative Systems is a products and services company focused on drone-based communications and inspection systems with an emphasis on RF engineering. Equinox is changing the face of Defense and Public Safety C4ISR and Broadband Communications. Our drones replace towers when they fail, or are not there when needed. We provide more power to sensors and bandwidth to communications than ever before through the optimization of ultra-efficient aerial platforms and our patent-pending technology in an ultra-high bandwidth tether system.

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