



Airelectronics offers U-Camera as a gyro stabilized solution for users that need video stabilization on airborne surveillance platforms.

Due to its light weight and reduced size, U-Camera is suitable for small and medium sized UAVs, both rotary and fixed wing. Stabilization is done using brushless motors, obtaining a fast and smooth response to the vehicle perturbations.

U-Camera provides various modes for stabilization, including commanded angles, commanded rates, safe mode and pilot mode. The safe mode protects the lens against impacts that may occur during take-off and landing with small UAVs.

The video module used in U-Camera provides a standard definition video output suitable for standard video transmitter. The camera provides 10x optical zoom along with several image tunning options.

As Airelectronics U-Pilot, U-Camera is powered by FPGA technology, allowing a performance and capabilities above the competitors. Using a Serial RS-232 standard interface, U-Camera can be easily integrated with several Flight Control Systems. U-Camera provides pan-tilt stabilization, so flight disturbances are no longer an issue for video surveillance and recording. Using optical zoom, stabilization becomes an essential feature that allows to capture small details even at longer ranges.

It also provides live video streaming, so while the user, with a standard computer, is planning, flying or modifying the UAV mission, he can watch the video stream in real time as well. The user can also modify parameters of the video in real time using the same computer he is employing to supervise the flight plan.

# **Possible Applications**



Emergency and Disaster Rescue





Police Usage

Demonstration control, anti-drug operations



Traffic Control

Surveillance and road traffic monitoring



Fire Fighting

Monitor Active fires, avoid reactivation of controlled fires



Military

Forward observer, over the hill recon missions, border control

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# Highlights



# Real-Time Video Feed

Using a video transmitter you can receive real-time video feed



Compatible Attachable to rotary and fixed wings





Affordable Unlike other solutions, the prices are reasonable



Pan and Tilt Stabilization Uniform and sharp images



**10x Optical Zoom** Able to capture high resolution details



**360° Pan Continuous** 360° Field Of View, allowing full reconnaisance of the environment







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# Specifications

### **Pointing control**

. Fully 3D pointing control
trol 1000Hz rate
Yes
Yes
s) Yes
Yes
Fixed Wing / Rotary Wing

## **Mechanical (Gimbal)**

Dimensions (DxH)	90x148 mm
Weight	498 g
Main connector	High Density DB-26
Motors	Brushless

#### **Mechanical (Electronic Board)**

Dimensions (WxHxL)	50x21x106 mm
Weight	80 g
Main connector	High Density DB-26
GPS Connector	UFL female

#### Electrical

Supply Voltage	9V – 28V
Power Consumption	8 W
Maximum Temperature Range30°C	to +85°C
Recommended Temperature Rating +10°C	C to +60°C

#### **Command Interface**

Interface Type	RS-232
RS-232 Speed	115200 bps

### Sensor Suite

3 axis accelerometer	±10 g
3-axis gyroscope	± 300°/s
Temperature Sensor	On-Board -55 to +125°C
Encoders	Yes
GPS Sensor	Avoids interference
ADC 4 Char	nels for Voltage Monitoring

### Video Module

Sensor	1/4-type EXview HAD CCD
Zoom Ratio	
Angle of View	46.0° (Wide) to 4.6° (Tele)
Video Output	PAL
Available Output for Vide	o Tx Supply 12V
Horizontal Resolution	530 TV Lines

### **GPS Positioning**

Channels			12
Satellite Based	l Augmer	ntation System	Global
coverage	-	-	
Positioning from	n Comm	and Interface0	Configurable

#### **Hardware Architecture**

Technology Based in Altera® FPGA technology	chnology
Access to peripherals Dedicated h	ardware.
CPUsTwo NIOS II soft-cores a	at 50MHz
Bus accessNon blocking sensor	rs access
CPU1 Flight computer, State Estimator & C loops	Control
CPU2Mission control, Payload	& Comm



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