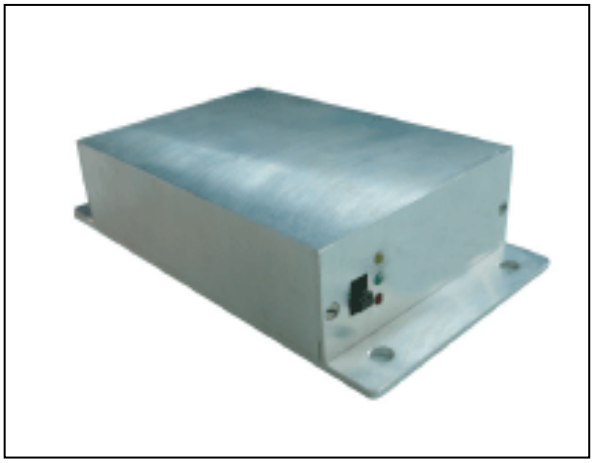
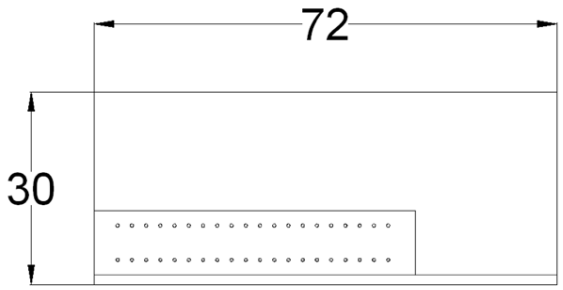
AP-2000 FLIGHT CONTOL SYSTEM

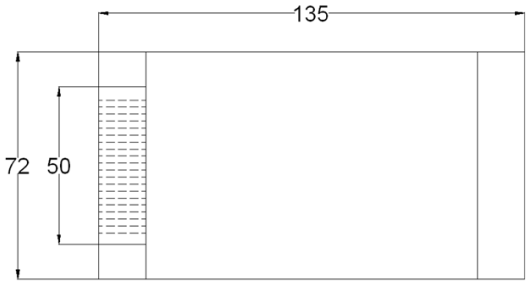
- Low-cost stability augmentation.
- Solid-state MEMS sensors.
- 2-Axis control of Pitch and Roll.
- Low power consumption.
- Lightweight – available in card-only format or housing.
- Features barometric or GPS height-lock option.



The AP-2000 flight control system is a simple, low-cost wing-leveler and height hold unit for startup UAV projects or aerial targets. It has many advanced features that make it stand out in its class. The AP-2000 Flight Control System incorporates two-axis stability control.

- Integrated unit with sensors.
- External handheld GPS receiver connectivity*.
- Low power 0.2 W.
- Controls ailerons/rudder, elevator during flight.
- All sensors electronically trimmed.
- Roll rate gyro and altitude sensor.
- RPV and PIC modes.
- Provides wing leveling and height lock* features.
- In-flight control gain settings and 'on-the-fly' storage.
  (* Optional)





Architecture:

The AP-2000 has a single board layout incorporating both pitch (barometric sensor) and roll (rate gyro) sensors. Control outputs are for elevator and either ailerons or rudder. Servos are updated at the standard 19ms frame rate. The AP-2000 can be toggled to become transparent in PIC mode.

INTEGRATED DYNAMICS

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Sensors:
One rate gyro and an altitude sensor are mounted on the board. A single header accepts servo and on/off inputs from the 'Gear' channel. In-flight gain adjustment is available from two Aux channel inputs attached to the radio receiver.

Mounting

The AP-2000 Flight Control System must be mounted in a specific orientation. It can be mounted directly to the frame of the aircraft.

Power

The Flight Control System can be powered from the voltage range of 8V to 12 V unregulated. The servos are powered from the radio receiver battery of 5 V.

RPV and PIC modes

The Flight Control System has two modes of operation. The first is Pilot In Command (PIC) or RC mode and the other is RPV (Remotely Piloted Vehicle) mode. The PIC mode allows the pilot direct RC control of the Ailerons, Elevator, and Throttle and Rudder servos. This mode is always available by switching off the auto-pilot through the 'Gear' channel. The RPV mode allows the plane to operate under reduced gain settings in a wing-leveler mode using rudders or ailerons and elevator. In the optional 'Height-lock' mode, the aircraft will return to the last toggled altitude, flown in the pilot mode, when placed in RPV mode.

Operator Interface

All parameters and diagnostics are available via Rs-232 connection to the main controllers. Use the Rs-232 serial cable to connect your PC running HyperTerminal (4800 baud rate).

Specifications	
Weight	85 grams
Size	11.3cm L x 5.7cm W x 1.5cm H
Power	9 to 12 Volts DC at 50mA
Temperature	-20 C to 70 C
Acceleration	4 G operational, 100 G damage
Max speed	250 km/hour
Max altitude	5000 meters above ground level