MicroPilot is the world leader in miniature autopilots for unmanned aerial vehicles (UAV) and micro aerial vehicles (MAV). The MP1028™ is the lowest cost member of the MicroPilot MP2028 Series of autopilots. With the same small size and weight as the MP2028™, the MP1028™ offers all the reliability and the most important features of the MP2028™. This autopilot is suitable for entry level UAV applications where cost is the overriding consideration.

- World’s smallest UAV autopilot; 28 grams, 4cm by 10cm
- GPS waypoint navigation with altitude and airspeed hold
- Powerful script language command set allows tremendous flexibility when describing your mission
- Fully integrated with 3-axis gyro/2-axis accelerometers, GPS, pressure altimeter, pressure airspeed sensors, all on a single circuit board
- Autonomous launch methods include runway takeoff, hand launch, bungee launch and catapult launch
- Supports manually directed and autonomous flight modes as well as an integrated RC override
- Extensive user programmable feedback gains and flight parameters tailor the MP1028™ to your airframe and mission
Specifications

Servos and Mixing
- elevon
- flaperons
- 4 servo flap/aileron
- split aileron
- 8 servos
- 50Hz servo update rate
- separate servo and main battery power supply
- separate voltage monitor for main and servo battery power supplies
- integrated RC override
- 11 bit servo resolution

Navigation
- 1Hz GPS update rate
- move servo at waypoint
- change altitude at waypoint
- change airspeed at waypoint
- RPV and UAV modes
- 1000 waypoints

Telemetry, Datalog and Video
- 5Hz telemetry update rate
- 5Hz datalog update rate
- 16 video overlay user definable fields
- video overlay uses low cost industry standard video overlay boards
- pressure altitude and pressure airspeed available on video overlay

Ground Control Station
- HORIZON® Ground Control Software optional with the system
- MP2028® autopilot simulator for training
- payload servos controlled from ground station
- optional point and click waypoint editor

Control System
- 30Hz inner loop update rate
- gain scheduling for optimum performance
- rudder aileron feed forward for improved turn performance
- aileron elevator feed forward for improved altitude hold during turns

Sensors
- 150kph airspeed sensor range
- 2500 altimeter range (feet above launch point)
- pitch, roll and yaw gyro
- y-accelerometer to coordinate turns

Physical Characteristics
- weight (including GPS receiver, gyros and all sensors) 28 grams
- 140mA @ 6.5V power (including GPS receiver, gyros, all sensors and GPS antenna)
- 5.5 to 26V supply voltage
- 10cm in length, 4cm in width, 1.5 cm in height
- software upgradable in the field