MicroPilot Inc.
Autopilot Specifications Chart

Servos

	number of servos	servo update rate	separate servo and main battery power supply	separate voltage monitor for main and servo battery power supplies	integrated RC override	servo resolution	extra ADC channels and 3-axis magnetometer
MP2028^{g}	8, 16 or 24	50Hz	yes	yes	yes	11 bit	optional
MP2128^{g}	8, 16 or 24	*50-120Hz	yes	yes	yes	11 bit	optional
MP1028^{g}	8, 16 or 24	50Hz	yes	yes	yes	11 bit	no
MP2028^{xp}	8, 16 or 24	50Hz	yes	yes	yes	11 bit	optional
MP2028^{telemetry}	8, 16 or 24	50Hz	yes	yes	yes	4 bit	optional
MP2128^{HELI}	8, 16 or 24	*50-120Hz	yes	yes	yes	11 bit	optional

Mixing

	elevon	flaperons	4 servo flap/aileron	separate flaps	v-tail	x-tail	split aileron	rudder throttle	split rudders
MP2028^{g}	yes	yes	yes	yes	yes	yes	yes	yes	yes
MP2128^{g}	yes	yes	yes	yes	yes	yes	yes	yes	yes
MP1028^{g}	yes	yes	yes	yes	yes	no	yes	no	no
MP2028^{xp}	yes	yes	yes	yes	yes	yes	yes	yes	yes
MP2028^{telemetry}	yes	yes	yes	yes	yes	yes	yes	yes	yes

	3 servo mechanical	3 servo 90° CCPM	4 servo 90° CCPM	3 servo 120° CCPM	4 servo 4 corner CCPM
MP2028^{HELI}	yes	yes	yes	yes	yes

Servos are 50Hz with higher rates for MP2128^{g} and MP2128^{heli} of 30/60/120/150/180Hz, but these rates are untested.

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Autopilot Specifications Chart

Control System

	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	autonomous takeoff and landing	user definable PID feedback loops (for camera stabilization etc.)	user definable table lookup functions	MP plugin compatible
MP2028^{g}	30Hz	yes	yes	yes	yes	16	8	no
MP2128^{g}	*(selectable) 30/60/120Hz	yes	yes	yes	yes	8	8	yes
MP1028^{g}	30Hz	yes	yes	yes	no	none	none	no
MP2028^{xp}	30Hz	yes	yes	yes	yes	16	8	yes
MP2028^{telemetry}	n/a	n/a	n/a	n/a	n/a	none	none	yes
MP2128^{HELI}	*(selectable) 30/60/120Hz	yes	yes	yes	yes	8	8	yes

Sensors

	airspeed sensor range (kph)	altimeter range (meters above launch point)	pitch, roll and yaw gyros	y-accelerometer to coordinate turns
MP2028^{g}	500	12000	yes	yes
MP2128^{g}	500	12000	yes	yes
MP1028^{g}	150	2500	yes	yes
MP2028^{xp}	500	12000	yes	yes
MP2028^{telemetry}	n/a	n/a	n/a	n/a

	altimeter maximum altitude	2g, 3-axis accelerometers	maximum angular rate	attitude update rate	12 state Kalman filter
MP2128^{HELI}	12000	yes	150° per second	200Hz	yes

MP2128^{g} and MP2128^{heli} both support 30, 60, 90, 120, 150 and 180Hz, but mode is untested.

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Navigation

	GPS update rate	move servo at waypoint	change altitude at waypoint	change airspeed at waypoint	user definable holding patterns	user definable error handlers (loss of GPS, low battery etc.)	RPV and UAV modes	supports DGPS accuracy	waypoints
MP2028^{g}	1Hz	yes	yes	yes	yes	yes	yes	yes	1000
MP2128^{g}	1Hz	yes	yes	yes	yes	yes	yes	yes	1000
MP1028^{g}	1Hz	yes	yes	yes	yes	yes	yes	no	50
MP2028^{xp}	1Hz	yes	yes	yes	yes	yes	yes	yes	1000
MP2028^{telemetry}	1Hz	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MP2128^{HELI}	4Hz available as an option	yes	yes	yes	yes	yes	yes	yes	1000

Telemetry, Datalog and Video

	telemetry (user defined fields transmitted each second)	telemetry update rate	size of onboard datalog	datalog update rate	video overlay (number of user definable fields)	video overlay uses low cost industry standard video overlay boards	pressure altitude and pressure airspeed available on video overlay
MP2028^{g}	100	1-30Hz	1.5MB	5Hz(+24 user definable datalog fields)	16	yes	yes
MP2128^{g}	100	1-30Hz	1.5MB	1-30Hz(+24 user definable datalog fields)	16	yes	yes
MP1028^{g}	none	1-30Hz	0.5MB	5Hz(+24 user definable datalog fields)	16	yes	yes
MP2028^{xp}	100	1-30Hz	1.5MB	5Hz(+24 user definable datalog fields)	16	yes	yes
MP2028^{telemetry}	100	1-30Hz	1.5MB	5Hz(+24 user definable datalog fields)	16	yes	yes

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Ground Control Station

	HORIZON^{mp} Ground Control Software included	MP2028^{g} autopilot simulator for training	ground control station developer's kit	gains can be adjusted in-flight	change waypoints in-flight	payload servos controlled from ground station	fly in RC mode via datalink (both stabilized and normal)	point and click waypoint editor
MP2028^{g}	yes	yes	yes	yes	yes	yes	yes	yes
MP2128^{g}	yes	yes	yes	yes	yes	yes	yes	yes
MP1028^{g}	optional	yes	no	no	no	yes	no	optional
MP2028^{xp}	yes	yes	yes	yes	yes	yes	yes	yes
MP2028^{telemetry}	yes	n/a	n/a	n/a	n/a	yes	n/a	n/a
MP2128^{HELI}	yes	yes	yes	yes	yes	yes	yes	yes

Physical Characteristics

	weight (including GPS receiver, gyros and sensors)	power (including GPS receiver, gyros, all sensors and GPS antenna)	supply Voltage (volts)	size - length (cm)	size - width (cm)	size - height (cm)	software upgradable in the field
MP2028^{g}	28 grams	140mA @ 6.5V	4.2 - 26V	10.0	4.0	1.5	yes
MP2128^{g}	28 grams	140mA @ 6.5V	4.2 - 26V	10.0	4.0	1.5	yes
MP1028^{g}	28 grams	140mA @ 6.5V	4.2 - 26V	10.0	4.0	1.5	yes
MP2028^{xp}	28 grams	140mA @ 6.5V	4.2 - 26V	10.0	4.0	1.5	yes
MP2028^{telemetry}	28 grams	140mA @ 6.5V	4.2 - 26V	10.0	4.0	1.5	yes
MP2128^{HELI}	28 grams	140mA @ 6.5V	4.2 - 26V	10.0	4.0	1.5	yes

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