2013 MultiRotorForums.com Flight Control Assessment

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Please notify us of errors or omissions at bart@multirotorforums.com
**=see manufacturer specific notes below
Scored entries are by (Bartman, RTRyder, Droider), an X indicates not enough experience with FC or feature to make an accurate assessment.

Manufacturer	Model	Complete System Cost	SOD	QOM	Ease of Set-Up	Open Source?	Max # of Motor Outputs	PWM or I2C??	Flight Modes Attitude	A/L	Altitude Hold	IOC or Carefree	Onboard OSD?	Onboard Failsafe?	Wind Tolerance		PH	RTH	iRTH	Waypoints?	Max WP's?	Follow Me
3D Robotics	APM 2.5+		3,	5,		Yes	8	PWM or I2C				X,**				ArduCopter	X,	X,**	X,	X,		
DJI	NAZA		5,	5,	4,	No	6**	PWM		4,**	4,	X,	N/A	Y	3,	DJI NAZA	4,		4,		N/A	N/A
DJI	Wookong-M (WKM)		4,	5,		No	6**	PWM			4,	X,		Y	4,	DJI WKM	X,		X,			
Hoverfly	Sport		5,	5,	4,	No	8	PWM	X,	N/A		N/A	N/A	N/A		HF Sport	N/A	N/A	N/A	N/A	N/A	
Hoverfly	PRO		4,	5,	4,	No	8	PWM	5,	5,	3,	X,	Y	N/A	4,	HF PRO	3,	3,	N/A	N/A	N/A	
Kaptain Keuk	KK2		5,	3,**		Yes	8	PWM					N/A			KK2	N/A	N/A	N/A	N/A	N/A	
Mikrokopter	FC 2.1		5,	3	3,	No	12**	I2C **	**	5,	4,	X,	Y	N	5,	MF FC 2.1	4,	4,	N/A	Yes		Y
OpenPilot	CC3D		2,	4		Yes	8	PWM								OP CC3D	N/A	N/A	N/A	N/A	N/A	
XAircraft	FC-1212s ??		???	???		No		PWM								XA FC-1212	???	???	???	???	???	
Zero UAV	XY-Y6		3,			No		PWM								XY-Y6	X,					

**=see manufacturer specific notes below

Notes:
1 For the purposes of this assessment, Attitude flight mode is defined as flight unassisted by advanced stabilization algorithms,
Auto-Level (A/L) is the mode whereby the flight control will continuously seek to establish level flight unless directed otherwise. Individual
manufacturers may refer to these modes differently although they are fundamentally the same.
2 System cost does not include motor controllers or power distribution .
3 All hardware is available via multiple outlets, visit MultiRotorForums.com for more info or reference online seach tools.
4 Failsafe feature must be specific part of FC system to be considered. Failsafe modes set solely with radio Tx/Rx features are not considered
part of FC package.
5 Ease of set-up reflects effort for 1st time user.

** Notes:
ArduCopter Carefree mode referred to as "Simple Flight" mode, return-to-home function referred to as "Return to Launch" (RTL)
DJI-NAZA 8 motor control available with Futaba SBUS receiver only, A/L combined with GPS PH if GPS enabled
DJI WKM 8 motor control available with Futaba SBUS receiver only
Hoverfly Sport
Hoverfly PRO
KK2 QOM score as sold by HobbyKing.com,
MK FC 2.1 Attitude mode available via firmware tuning, standard PWM ESC's (8 motor maximum) w/ 3rd party converter
OP CC3D
XA FC-1212S
XY-Y6

Acronyms:
N/A Not Available, to the best of our knowledge at the time the current assessment was first published
SOD State of Development (1=Beta, 2=Competent for advanced users, 3=Competent and improving, 4=Mature with ongoing features improvement, 5=Mature with slow to no additional growth)
QOM Quality of Manufacture (Scale 1 to 5, 1 worst, 5 best)
I2C
PWM Pulse Width Modulation (Command format for ESC's)
ESC Electronic Speed Controller
A/L Auto/Level, see Note 1
OSD On-Screen Display, provides flight info, electrical system status, navigation info, etc. on monitor or via video goggles
PH Position Hold, GPS required
RTH Return to Home, GPS required, helicopter automatically returns to position where power was first applied before flight
RTL Return to Launch, ArduCopter term, same as RTH with other FC's
iRTH Intelligent RTH, combines vertical and lateral navigation in RTH feature
IOC Intelligent Orientation Control (DJI specific)
GPS Global Positioning System
WP Waypoint (A point on the ground used by the FC for navigation)
FC Flight Controller