


Introduction & Description				
<p>Hi! I'm Jonas, the designer of the OMPHOBBY M4. Below you will find my BRAIN2 setup I have successfully been flying on my OMPHOBBY M4. This setup is tailored to the OMPHOBBY components and RotorTech 385 Ultimate included with the PNP version of the M4, and is to be understood as a suggestion and a starting point for your own setup. Your values may vary greatly if using other components, especially servos and rotor blades. Always exercise the greatest caution and double-check your setup when using someone else's values. I assume no responsibility or liability for damage to your helicopter or damage caused by your helicopter when using my setup values. With that out of the way, enjoy the most capable 380 size helicopter ever made on MSH BRAIN2!</p>				
Revision				
2				
Common Item	Parameter			Notes
Swashplate Type	Heli CCPM R-120°			-
Cyclic Ring	60			Make sure swashplate doesn't bind
Pitch Out Max	37			Set for 16° collective for low RPM, reduce in transmitter for higher RPM
Cyclic Servo Settings	1500us	333Hz	Range ±700Hz	
Tail Servo Settings	760us	560Hz	Range ±180Hz	
Servo Reverse	Reverse	Reverse	Reverse	Verify correct servo travel direction
Tail Throw Limits	~180	-	~180	Tail throws should be maximized to either side
Governor Setup	Pulses 21	Gearing 1.0	Tail ratio 4.500	Teach ESC throttle limits as described in the manual
Flight Parameter	Bank1	Bank2	Bank3	Notes
Main Rotor Aileron				
Proportional	60	55	52	P gain, correction for rotation rate error
Integral	40	42	40	I gain, correction for rotation angle error
Derivative	4	3	2	D gain, correction for rotation acceleration error
Feedforward	25	23	20	F gain, scales stick to swash feedforward factor
Rotational Speed	300	300	300	Adjust to your personal preference
Main Rotor Elevator				
Proportional	22	20	17	P gain, correction for rotation rate error
Integral	40	40	40	I gain, correction for rotation angle error
Derivative	25	24	23	D gain, correction for rotation acceleration error
Feedforward	25	23	20	F gain, scales stick to swash feedforward factor
Rotational Speed	300	300	300	Adjust to your personal preference
Main Rotor Common				
Agility	15	15	15	Lower values fly better, higher values are weird and slippery like on ice
Tail Drag Comp	0	0	0	-
Tail				
Prop. Tail Gain by SW	32	23	20	I chose to fix my tail P gain, not a fan of having it variable
Integral	25	27	30	I gain, correction for rotation angle error
Derivative	10	30	30	D gain, correction for rotation acceleration error
Pitch Precomp	65	40	35	Set so that the tail does not twitch on hard collective inputs
Cyclic Precomp	0	0	0	Cyclic precomp is not needed due to aeroelastic effects of the blades
Tail Asymmetry	0	5	10	-
Tail Rotational Speed	540	540	540	Adjust to your personal preference
Input				
Cyclic stick deadband	1	1	1	Set higher for radios with less precise centering
Tail stick deadband	1	1	1	Set higher for radios with less precise centering
Aileron Exponential	-10	-10	-10	Set as per personal preference, or 0 when using radio expo
Elevator Exponential	-10	-10	-10	Set as per personal preference, or 0 when using radio expo
Tail Exponential	-50	-50	-50	Set as per personal preference, or 0 when using radio expo
Tail Dynamic	6	6	6	-
Pitch Pump	0	0	0	-
ESC				
ESC Output	45	63	72	Refer to the M4's manual to set your desired rotor speed
Headspeed	1800	2500	2850	If using different headspeeds, adjust other parameters accordingly