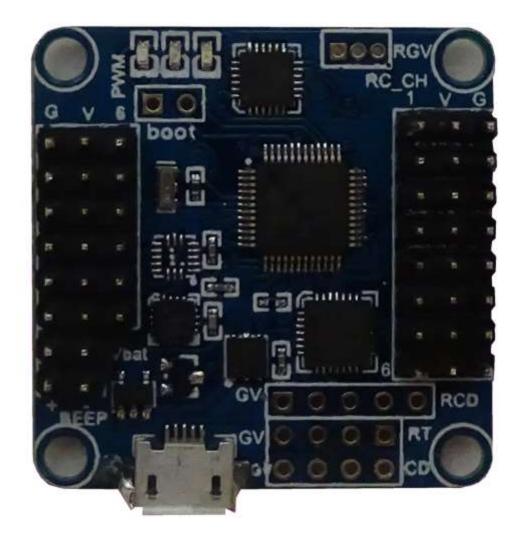
QUEEN HOBBY FLIP32+ MANUAL



PURPOSE:

This user manual covers topics needed to setup your Flip 32+ flight controller from ReadyToFlyQuads.com. All the pictures contained in this user manual, except for company logos or trademarks, were created by me and therefore may not be used elsewhere without prior permission.

This manual may not be posted on any other website, blog or forum, etc. except for ReadyToFlyQuads.COM and the thread I created for it on RCGroups.COM.

The following topics will not be covered in this user manual:

- Connecting a GPS
- Connecting a Mavlink enabled OSD
- Using a CPPM enabled receiver
- Firmware(s) other than BaseFlight
- GUIs other than Google Chrome BaseFlight Configurator
- Motor layouts other than Quadcopter X
- Tuning

FEATURES:

As of this writing the version of the Flip32+ is V2.3 Revision 6 and the firmware loaded is BaseFlight V2.3. The Flip 32+ features the following:

- Version 2.3 hardware
- STM32F103CB 32-bit processor running at 3.3V/72MHz
- MPU6050 3-axis MEMS gyro + accelerometer
- HMC5883L 3-axis magnetometer
- MS5611 Pressure sensor
- 16Mbit onboard SPI flash
- Six motor headers with support for various multirotor types **
- Eight receiver headers with support for PWM, PPM and Spektrum satellite receivers. **
- One battery voltage monitor header **
- One Piezo buzzer header **
- Pin headers mounting holes for telemetry, GPS and I2C support ***
- Onboard micro USB port for setup and configuration
- Three status LEDs
- 36mm (1.41732") x 36mm (1.41732") in size with 3.175 (0.125") mounting holes
- 7.3 grams (0.2575 ounces) with headers soldered on
- Can be used as a stand-alone camera gimbal controller
- MultiWii-based configuration software for easy setup

** Pin headers can be either straight or right angled and can be soldered on for you by RTFQ for a small fee.

*** Pin headers are not supplied by RTFQ and will need to be purchased separately.

MY OPINION ON ESC/RECEIVER WIRES:

When connecting ESC and receiver wires to the Flip32+, you will either use all three (ground, voltage, signal) wires or just one (signal) wire. ESC and receiver cables use servo type connectors with removable pins.

It is best practice to remove the pin that will not be utilized from the connector, instead of cutting its wire. If you ever want to use that ESC or receiver cable again and the wire has been cut, you will have to re-solder it. The resulting connection may not be as reliable as it was before when it was intact.

The pins with the wire intact can be removed by:

- Using a small flat blade screwdriver or knife to gently pry up the tab that holds the pin in place
- Sliding out the pin from the servo connector
- Wrap the pulled pin(s) using electric tape or shrink tubing so that there is no chance of a shortage
- Attach the pins to the existing wire with electric tape or shrink tubing

MOTOR/ESC CONNECTIONS:

Motors/ESCs are connected to the six sets of 3 pin headers that are located on the left hand side of the board. Motor/ESC #6 is at the top while motor/ESC #1 is at the bottom.

Connect the ground (G), voltage (V) and signal (S) wires from only one of the ESCs (usually ESC #1) to the Flip32+ and for the remaining ESCs only connect the signal (S) wire. In the following picture:

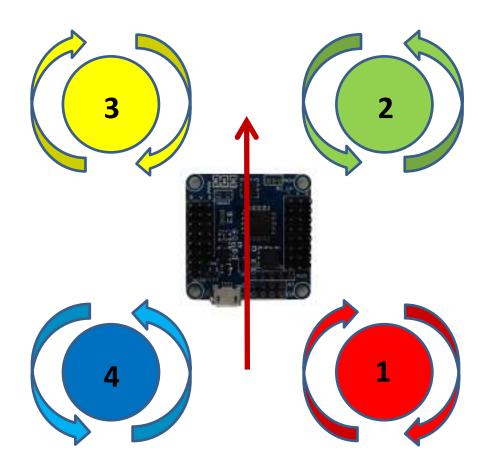
- The outer most pin on the left is the ground pin (G)
- The middle pin is the power/voltage pin (V)
- The inner most pin on the right is the signal pin (S)

Motor/ESC #6 Motor/ESC #5 Motor/ESC #4 Motor/ESC #3 Motor/ESC #2 Motor/ESC #1 RCD

QUADCOPTER X MOTOR LAYOUT:

This is the motor layout for a Quadcopter in an X configuration. Please note that the direction that the motor is spinning is the direction of the motor when looking at it from above. The red arrow indicates the forward direction of the multirotor. You can verify the motor layout by using the Motor Test function in the Google Chrome BaseFlight Configurator.

For other motor layouts, please see the Flip32+ product page on ReadyToFlyQuads.COM.



PROPELLER TYPES AND SPIN DIRECTION:

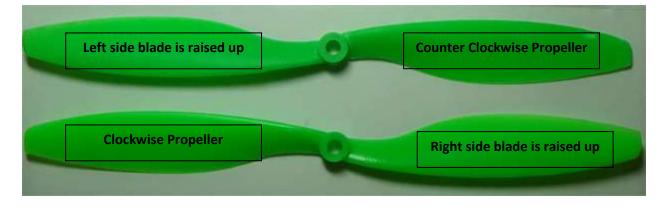
Multirotors use two types of propellers:

- Tractor, which rotates in a counter clockwise direction
- Pusher, which rotates in a clockwise direction

One way to tell which propeller is which type is to look at the lettering on the propeller. Some manufacturers will label their propellers with an L for left or CCW and an R for right or CW. But if the manufacturer omits the letter, then the other method is to look at propeller blades:

- Place the propeller flat on a table
- If the left side blade is raised up from the table, then it's a left or counter clockwise propeller
- If the right side blade is raised up from the table, then it's a right or clockwise propeller

When connecting the propellers to the motors, just match the propeller direction to the motor direction.

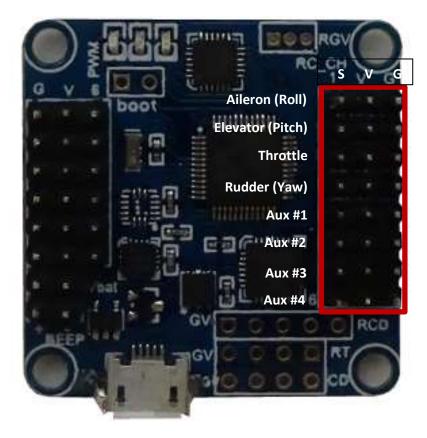


RECEIVER CONNECTIONS:

A receiver is connected to the eight sets of 3 pin headers that are located on the right hand side of the board. In a basic setup, only the first four sets of 3 pin headers are used, which are roll, pitch, throttle and yaw. The remaining four are auxiliary connections.

Connect the signal (S), voltage (V) and ground (G) wires from only one receiver channel (usually Throttle) to the Flip32+ and for the remaining channels only connect the signal (S) wire. In the following picture:

- The inner most pin on the left is the signal pin (S)
- The middle pin is the voltage pin (V)
- The outer most pin on the right is the ground pin (G)



MICRO USB:

The micro USB port is located at the bottom (rear) of the Flip32+ and is used to connect the Flip32+ to your pc or laptop via a USB to micro USB cable. Once connected, the Flip 32+ firmware can be flashed or updated or its configuration changed. Please note that when using BaseFlight firmware, the micro USB port is configured to share the same UART as the OSD and Blue Tooth so the OSD and Blue Tooth must be disconnected when using the micro USB port.



BLUE TOOTH CONNECTION:

A Blue Tooth module is connected to the single 4 pin header that is located to the right of the micro USB port. You will need to solder the header pins on yourself as they are not included.

Once connected, the Blue Tooth module lets you connect to your Flip32+ via a wireless connection from your pc, laptop or Android device. Please note that you cannot have a USB cable plugged into the micro USB port when utilizing the Blue Tooth connection. In the following picture:

- The first pin is the ground pin (G)
- The second pin is the voltage pin (V)
- The third pin is the receive pin (RX)
- The fourth pin is the transmit pin (TX)



The Blue Tooth module is connected to the Flip32+ in the following manner:

- The receive pin (RX) on the Flip 32+is connected to the transmit (TX) pin on the Blue Tooth module
- The transmit pin (TX) on the Flip 32+ is connected to the receive (RX) pin on the Blue Tooth module
- The voltage (V) pin is connected to the voltage (VCC) pin on the Blue Tooth module
- The ground (G) pin is connected to the ground (G) pin on the Blue Tooth module

VOLTAGE BATTERY (VBAT) CONNECTION:

The VBAT connector is a single 2 pin header that is located on the left hand side of the board just below the motor/ESC pin headers. This connector lets the Flip32+ monitor the multirotor main battery voltage and works in conjunction with the BEEP connector in order to produce a beeping sound when the battery voltage is too low. Connect a two wire cable between your power distribution board and the VBAT or your multirotor main battery balance lead and the VBAT. In the following picture:

- The outer most pin on the left is the voltage (+) pin
- The inner most pin on the right is the ground (-) pin



BEEP CONNECTION:

The BEEP connector is a single 2 pin header that is located on the left hand side of the board just below the VBAT connector and is used to connect a Piezo style buzzer to the Flip32+. In the following picture:

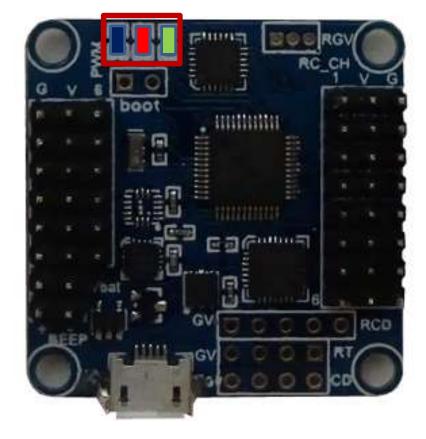
- The outer most pin on the left is the voltage (+) pin
- The inner most pin on the right is the ground (-) pin



STATUS LEDs:

The three status LEDs are located at the top (front) of the Flip32+. In the following picture:

- The outer most led on the left is the power led and is Blue in color
- The middle led is a status led and is Red in color
- The inner most led on the right is a status led and is Green in color



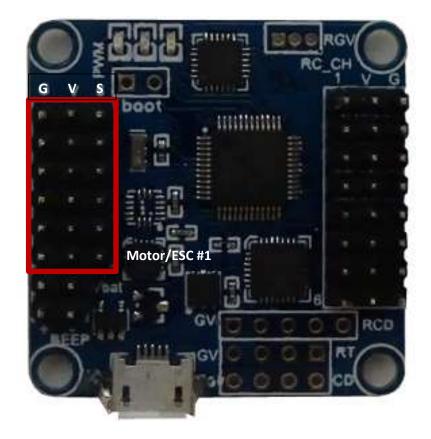
LED STATES:

EVENT	LEFT BLUE LED	MIDDLE RED LED	RIGHT GREEN LED
Connect to pc/laptop	Solid	Blinks then turns off	Blinks then turns off
Powered on	Solid	Blinks then turns off	Blinks then turns off
Flashing Firmware	Solid	Solid then blinks then turns off	Solid then blinks then turns off
Armed	Solid	Off	Solid
Accelerometer Calibration	Solid	Off	Solid then turns off
Magnetometer Calibration	Solid	Off	Blinks rapidly then turns off
Accelerometer Trimming	Solid	Off	Blinks with each stick movement

POWERING THE FLIP32+

There are several ways to power the Flip32+ but the easiest method is to use the 5V BEC wire from ESC #1. Once powered, the Flip32+ can then be used to power additional devices, such as the receiver and Blue Tooth module.

- Connect ESC #1 to the motor/ESC connection #1 on the Flip32+ with all three wires (G, V and S) intact
- Connect the remaining ESCs utilizing only the signal (S) wire



THE FLIP32+ DRIVER:

In order to be able to communicate to the Flip 32+, your pc/laptop requires a CP210x USB to UART Bridge VCP driver. Depending on your operating system and hardware, your pc or laptop may recognize the UART Bridge once it is plugged in. If not, you can download the driver from:

lo Ports	• 11520	10 • •	onnect 🕜 Auto-Conr	ect	_	_	Gyro Accel	Mag	Baro GPS Sona	
3:22:11 - Ru	nning+OS. Wir	idows, Chrom	e: 36.0.1985.125. Configu	rator: 0.48						1
nitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	CU	Logging	
your flight co Application s afromini).	ntroller upports compl		ity designed to simplify up aseflight hardware (acro n			oro and	Conh 7.27.2014 - 0.48 Configurator reached 6 Added motor order diag	000+ user		1
AbuseMari Multirotor Latest CP21	The Go		me BaseFlight Con	figurator	also c	1	ik to the latest dr	no center	ase improvements while waiting for data	
		ce and is avai	ource / Donation Notice lable free of charge to all t der supporting its develop Donate				Runfixes		Firmware Flas	ber
and the second	D:0% LF:0%	Packet error:	0 I2C error: 0 Cycle	Time: 0						_

http://www.silabs.com/products/mcu/pages/usbtouartbridgevcpdrivers.aspx

BASEFLIGHT FIRMWARE:

The best and easiest way to obtain the latest BaseFlight firmware is to use the Google Chrome BaseFlight Configurator. However, this requires an internet connection which may not always be available. For those moments, you can download the firmware to your pc or laptop and then access it from the Google Chrome BaseFlight Configurator.

Latest production release of BaseFlight Firmware: https://code.google.com/p/afrodevices/downloads/list

Latest development release of BaseFlight Firmware: <u>https://github.com/multiwii/BaseFlight/blob/master/obj/BaseFlight.hex</u>

GOOGLE CHROME BASEFLIGHT CONFIGURATOR:

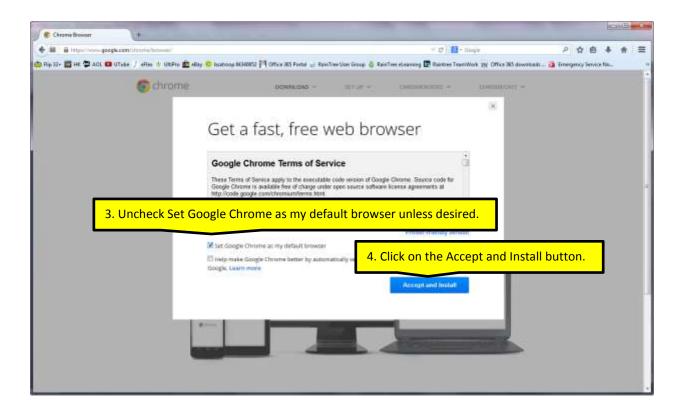
The Google Chrome BaseFlight Configurator is available from the Google Chrome store for free but requires a Google account and the Google Chrome web browser to access, download and use.

- Download and install the Google Chrome web browser from: <u>https://www.google.com/chrome/browser/</u>
- Download and install the Google Chrome BaseFlight Configurator from the Google Chrome store: <u>https://chrome.google.com/webstore/category/apps</u>

INSTALLING GOOGLE CHROME:

Please note that Google may change the installation screens and/or the installation process for Google Chrome at any time so let the installer beware.

🕈 🗰 🖷 intpat/www.google.zon/ctooria/too-we/		- (7) 🖬 - maga	2 ☆ 色 本
📩 Ray 32+ 🧱 HK 🗢 AOL 🗰 UTube 🥇 eRas 🜵 UBPro 💼 eRay 😊 Isologie	N340010 🕅 Office 305 Fortal 🛫 RainTree User Group 👌 RainTre	e eleanning 📴 Saintree TeacriMork 🙀 Office 365 down	talt - 🧿 Emergency Service Na
Chrome	DOWINLOAD - SET UP -	CHROMEBOOKE - CHROMECATE -	
G	iet (
· · · · · · · · · · · · · · · · · · ·	2. Click on the Downlo	ad Chrome button.	
	Download Chrume		
	For Windows #724masco		
	You say also described Christie for DEX or Lin	1.8	
	jiles.		
	Chrame	1. · · · · ·	
	The second se		
	- Norma	😨 dvome	
	School -	🧭 chrome	
		Chrome	



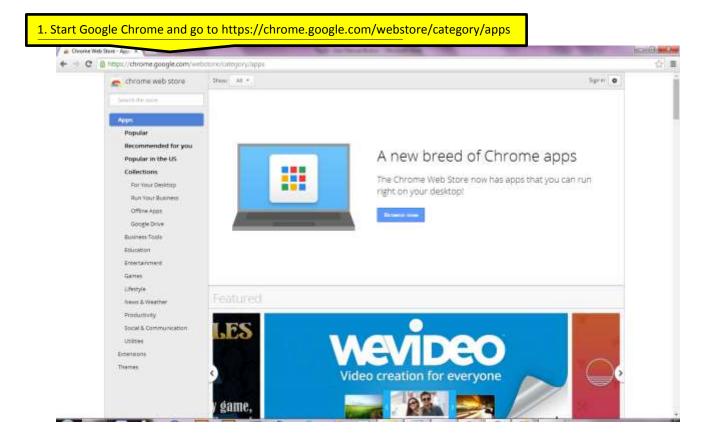
(ou have chosen to open:	
ChromeSetup.exe	
which is: Binary File (874 KB)	
from: https://dl.google.com	5. Click on the Save File button.
Nould you like to save this file?	6. Locate the executable file and run it.

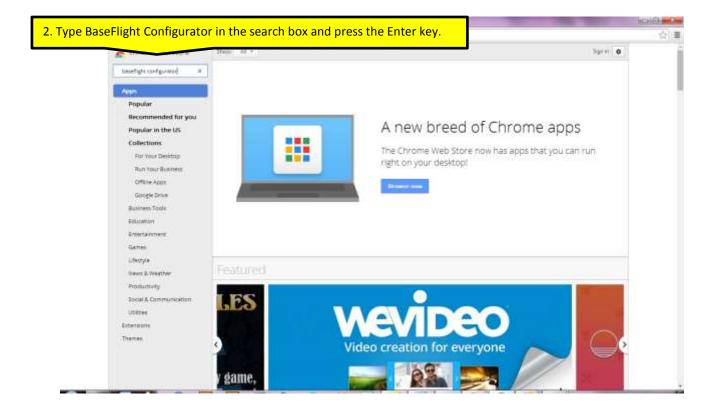
7. The install will place the Google Chrome icon on your desktop.



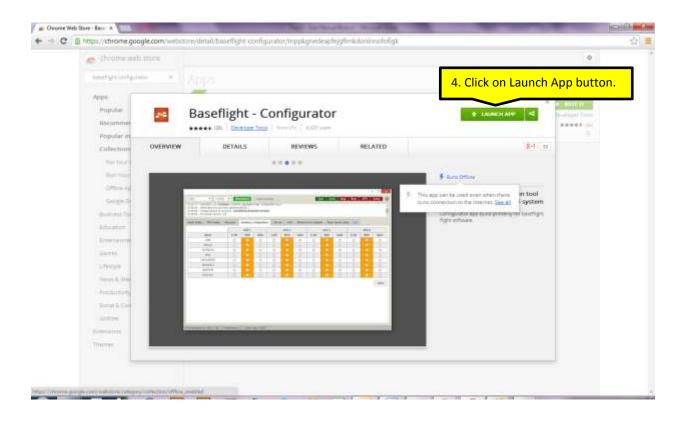
INSTALLING THE GOOGLE CHROME BASEFLIGHT CONFIGURATOR:

Please note that Google may change the installation screens and/or the installation process for Google Chrome BaseFlight Configurator at any time so let the installer beware. ©

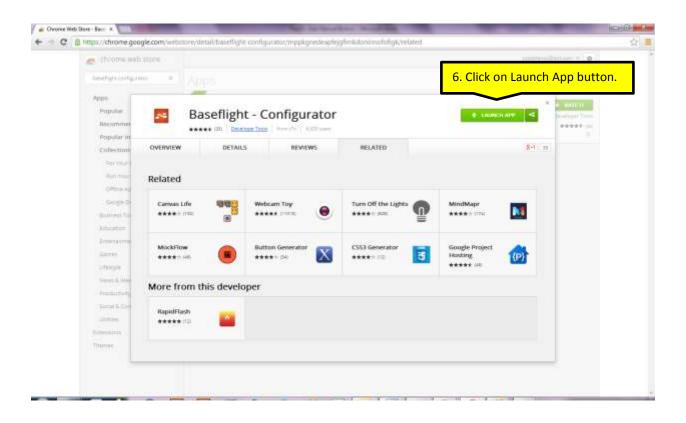




chrome web store	Click on th	e application icon.	Spritt O
besetigte configuration			I at Cost friends
		Baseflight - Configurator	+ 100
Types	25	afte Completions carily control for Basefugte Tight strengt system	Geneloper Toda
**		an and another an even difference on the same dist office other states at	*****
© Appr			
() Exercises			
() Theres			
Feetures			
E Ranz Office			
🔝 By Google			
-D free			
Available for Archold			



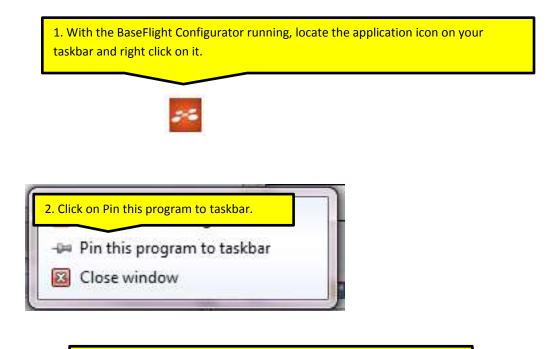
Canala
Google
Set up Chrome
Sign in to get your bookmarks, history, and settings on all your devices. Learn more
5. Sign onto Google or create an account.
Email
Parameter
- Slage Int Third Tright
Cholase what to sync-
Cine Google Azzouri for everything Google



2:34:39 - Running - OS: Windows, Chrome: 36.0.1985.125, Configurator: 0.48 HiBal Setup PID Tuning Receiver Auxiliary Configuration Servois GPS Motor Testing Raw Sensor Data: CLI Logging Welcome to Baseflight - Configurator, utility designed to simplify updating, configuring and tuning of your flight controller. Raw Sensor Data: CLI Logging Application supports complete family of Baseflight hardware (acro naze, naze32, naze32pro and afromini). Configurator reached 6000+ users on 07.26.2014 Official Resellers & Backers - AbuseMark - International (Japan) - Flashing timeout bugfues Multerotor Superstore - International (United States) Digitues related to Chrome 36+ release - Values ophinizations and behavior improvements Uppen Source / Doestion Notice Open Source / Doestion Notice - Automation will display a spinner while waiting for data	2:34:39 - Running - OS: Windows, Chrome: 36:8.1985.125. Configurator: 6:48 Heal Setup PID Tuning Receiver Auxiliary Configuration Servois GPS Motor Testing Raw Sensor Data CEI Logging Welcome to Baseflight - Configurator, utility designed to simplify updating, configuring and tuning of your flight controller. Raw Sensor Data CEI Logging Application supports complete family of Baseflight hardware (acro naze, naze32, naze32pro and afromini). Configurator reached 6000+ users on 07.26.2014 Added motor order diagrams (creyc, Curtisbeel) Added motor order diagrams (creyc, Curtisbeel) -Rashing timeout bugfues Official Resellers & Backers AbuseMark - International (Japan) 9000 (United States) 9000 (United States) 9000 (United States) Latest CP210x Drivers can be downloaded from here 0000 (United States) 9000 (United States) 9000 (United States) 9000 (United States) This utility is fully open source and is available free of charge to all baseflight users. If you found the utility useful, please consider supporting the development by donating. Firmware Reseer			_			_						
Notest Setup PID Tuning Receiver Auxiliary Configuration Servois GPS Motor Testing Raw Sensor Data CLI Logging Welcome to Baseflight - Configurator, utility designed to simplify updating, configuring and tuning of your flight controller. Configurator - Changelog 07.27.2014 - 0.48 Configurator reached 6000+ users on 07.26.2014 Application supports complete family of Baseflight hardware (acro naze, naze32, naze32pro and atromini). -Configurator reached 6000+ users on 07.26.2014 Official Resellers & Backers -Auxiliary Controller. -Added motor ordic diagrams (creyc, Cuttisbeef) -NauseMark - International (Japan) -Bugfixes related to Chrome 36+ release - Upen Source / Donation Notice -Uarious optimizations and behavior improvements. - This utility is fully open source and is available free of charge to all baseflight users. -Application will display a spinner while waiting for data - Buufixes - Buufixes - Buufixes	NBal Setup PID Tuning Receiver Auxiliary Configuration Servois GPS Motor Testing Raw Sensor Data CLI Logging Welcome to Baseflight - Configurator, utility designed to simplify updating, configuring and tuning of your flight controller. Configurator - Changelog Application supports complete family of Baseflight hardware (acro naze, naze32, naze32prs and atromini). Configurator reached 6000+ users on 07.25.2014 Official Resellers & Backers -AbuseMark - International (Japan) -Added motor order diagrams (creyc, Curlisbeef) • AbuseMark - International (Japan) - Budtwoor Superstore - International (United States) 07.17.2014 - 0.47 • Latest CP210x Drivers can be downloaded from here - Various optimizations and behavior improvements - Various optimizations and behavior improvements • Digits fully open source and is available free of charge to all baseflight users from fourtee flaster - Application will display a spinner while waiting for data - Buntwee	o Ports	• 11520	0 • 6	Connect M Auto-Conne	ict			Gyro Accel	Mag	Baro	GPS Son:	ur -
Welcome to Baseflight - Configurator, utility designed to simplify updating, configuring and tuning of your flight controller. Application supports complete family of Baseflight hardware (acro naze, naze32, naze32pro and afromini). Official Resellers & Backers - AbusefMark - International (Japan) - Mutbrotor Superstore - International (United States) Latest CP210x Drivers can be downloaded from here Open Source / Donation Notice This utility is fully open source and is available free of charge to all baseflight users if you found the utility useful, please consider supporting its development by donating.	Welcome to Baseflight - Configurator, utility designed to simplify updating, configuring and huning of your flight controller. Application supports complete family of Baseflight hardware (acroinaze, naze32, naze32pro and afromini). Official Resellers & Backers - AbusefMark - International (Japan) - Mutbrotor Superstore - International (United States) Latest CP210x Drivers can be downloaded from here Open Source / Donation Notice This utility is fully open source and is available free of charge to all baseflight users. If you found the utility useful, please consider supporting its development by donating.	2:34:39 - Rur	nning - OS. Win	idows, Chron	te: 36.8.1985.125, Configura	stor: 0.48							
your flight controller. Application supports complete family of Baseflight hardware (acroinaze, naze32, naze32proiand atromini). Official Resellers & Backers • AbuseMark - International (Japan) • Multirotor Superstore - International (United States) Latest CP210x Drivers can be downloaded from here Open Source / Donation Notice This utility is fully open source and is available free of charge to all baseflight users. It you found the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating. Part of the utility useful, please consider supporting its development by donating.	your flight controller. Application supports complete family of Baseflight hardware (acro naze, naze32, naze32pro and atromini). Official Resellers & Backers • AbuseMark - International (Japan) • Multirotor Superstore - International (United States) Latest CP210x Drivers can be downloaded from here Open Source / Donation Notice This utility is fully open source and is available free of charge to all baseflight users. It you found the utility useful, please consider supporting its development by donating. Planting the support of th	itial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	СШ	Logging	11	
		Application s afromini). Official Rese AbuseMark Multirotor S atest CP210 This utility is	upports comple ellers & Backer - International Superstore - Int Dx Drivers can fully open sour	rs (Japan) ternational (Uk be downloade Open S ce and is ava	nited States) ad from bere Source / Donation Notice lable free of charge to all be der supporting its developm	iseflight us	ers.	ro and	Configurator reached 60 Added motor order diag Flashing timeout bugtix 7.17.2014 - 0.47 Bugtixes related to Chro Various optimizations al 7.11.2014 - 0.46 Application will display a	rams (d 99 ime 364 nd beha	reyc, Curtis • release avior improv	beef) ements ting for data	sber

The BaseFlight Configurator is enabled to run on your pc/laptop without the need for an internet connection. I was able to set this up my pc at home but the same process failed on two separate laptops running the same version of Windows. In addition, Google installed a Quick Launch Application icon on my taskbar so that I could launch the Google Chrome applications easily but that also failed on the laptops.

Without having to go through that process, I figured out another way.



3. You can now run the configurator just by clicking twice on the icon.



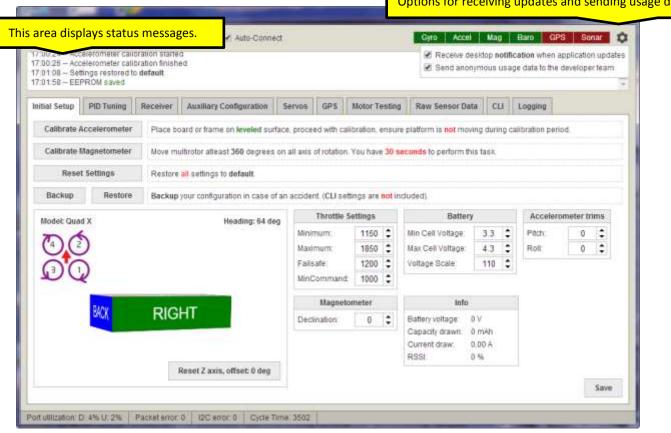
BASEFLIGHT CONFIGURATOR FEATURES AND BUTTONS:

		2.3											
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Te	esting	Raw Sensor Da	ta C	U I	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled surfa	ice, proceed	d with call	bration, e	insun	e platform is not mov	ing duri	ng ci	alibration per	iod.	
Calibrate	Magnetometer	Move mi	litirotor atleast 360 degrees o	in all axis of	rotation.	You have	30 si	econds to perform th	is task.				
Rese	t Settings	Restore	all settings to default.										
Backup	Restore	Backup	your configuration in case of	an accident	(CLI set	ings are	not in	duded).					
Model: Qua	d X		Heading: 66 deg	1	Throttle S	ettings		Battery			Acceler	ometer t	rims
	5			Minim	um;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	:
OC)			Maxim		1850	•	Max Cell Voltage:	4.3	\$	Roll	0	:
\mathbf{O})			Fallsa	0.7.1	1200	\$	Voltage Scale.	110	\$			
	K			MinCo	mmand	1000	÷						
	BACK	BIO	177		Magneto	meter		Info			1		
	2001	RIG	HI	Declin	ation	0	\$	Battery voltage:	0 V				
	1							1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	A 00.0				

_

OM11	• 11520	MARCHINE MARKED	connect 🖉 Auto-Connec					Gyro Accel	Ma		Baro GP		nar
	nning - US: Will dal port success		ie: 36.0.1985.125. Computer with ID: 1	ST. U.48									
	ique device ID n mware Version		72#485649785087103143										
109/42/- Fill	siware veraion.	2.0			-								
itial Setup	PID Tuning	Receiver	Auxillary Configuration	Servos	GPS	Motor Te	esting	Raw Sensor Dat	ii: C	ы	Logging		
Calibrate	Accelerometer	Place bo	and or frame on leveled surfa	ce proces	ed with ical	ibration a	ine in	e platform is not movi	net churi	nn ci	alibration paris	od.	
Portectiventer		en inn								ing ca	ingenerati Paris	era:	
Calibrate	Magnetometer	Move mu	iltirotor atleast 360 degrees o	n all axis	of rotation.	You have	30 s	econds to perform th	s task				
Rese	t Settings	Restore	all settings to default.										
Backup	Restore	Backup	your configuration in case of a	in accider	t (CLI set	tines are	not in	duded)					
		and and a									Accelero		-
Model: Qua	X b		Heading: 66 deg		Throttle 5			Battery			NOR COLONY		ims
70	5				nsim;	1150	\$	Min Cell Voltage:	3.3 4.3	:	Pitch: Roll:	0	-
				Fails	mum; ofe:	1850		Max Cell Voltage: Voltage Scale:	4.3	÷	POR	.0	3.43
	2				ommand.	- and an oral of	1.0	vulage ocare.	110	•	÷		
	-			1		1000							
	BACK	RIG	IT		Magneto	ometer		Info					
		NIG	11	Deci	ination	0	\$	and the second s	٧				
								1233.33	mAh .00 A				
									-16 16				
			Reset Z axis, offset: 0 deg										

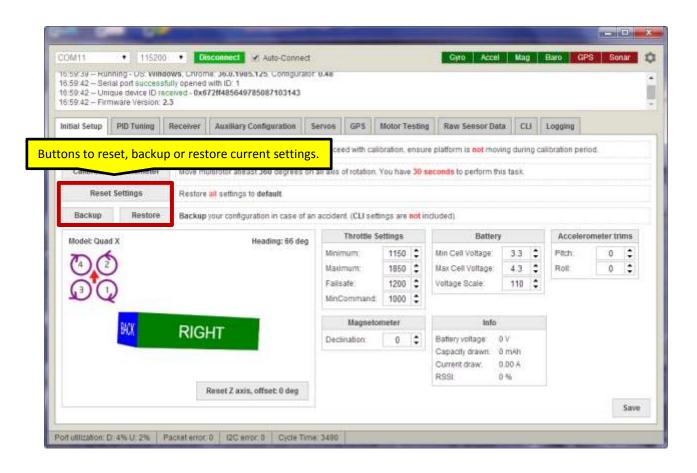
95/30 - Kunning - OS: Windows, Chrome, Jscu. Yayle, Y.2s. Conngurator 10.48 95/32 - Setaility opend with ID: 1 95/32 - Setaility opend with ID: 1 95/32 - Karling in the cast open of the c		nning aus win	anus L HOT	AND IN THE TAP LOOD IN	SP II AH				1 march and a second					- 00
S9:42 - Firmware Version: 2.3 PID Tuning Receiver Auxiliary Configuration Serves GPS Motor Testing Raw Sensor Data CLI Logging Calibrate Accelerometer Place board or frame on leveled surface, proceed with calibration, ensure platform is not moving during calibration period. Calibrate Magnetometer Move multirotor atleast 360 degrees on all axis of rotation. You have 30 seconds to perform this task. Reset Settings Restore all settings to default. Backup your configuration in case of an accident (CLI settings are not included). Accelerometer trims Modet Quad X Heading: 66 deg Minimum: 1150 ° Minimum: 1150 ° Minicel Voltage: 3.3 ° Nin Cell Voltage: 3.3 ° Nin Cell Voltage: 4.3 ° ° ° ° ?	59:42 Se	rial port success	sfully opened	with ID: 1	01.0040									
Calibrate Accelerometer Place board or frame on leveled surface, proceed with calibration, ensure platform is not moving during calibration period. Calibrate Magnetometer Move multirotor atleast 360 degrees on all axis of rotation. You have 30 seconds to perform this task. Reset Settings Restore all settings to default. Backup Restore Backup your configuration in case of an accident (CLI settings are not included). Modet: Quad X Heading: 66 deg Minimum: 1150 C Magnetometer Minic Cell Voltage: 3.3 C Pictx: 0 C Magnetometer Minic Cell Voltage: 110 C Minic Cell Voltage: 110 C Pictx: 0 C Minic Cell Voltage: 0 C Minic Cell Voltage: 0 C Pictx: Pictx: Pictx: Pictx: Pictx: P				/20485649785087103143										
Calibrate Magnetometer Move multirotor atleast 360 degrees on all axis of rotation. You have 30 seconds to perform this task. Reset Settings Restore all settings to default. Backup Restore Backup your configuration in case of an accident (CL) settings are not included). Modet Quad X Heading: 66 deg Inrimum: 1150 C Maimum: 1850 C Maimum: 1850 C MinCommand: 1000 C Magnetometer MinCommand: 0 C Magnetometer Init Magnetometer Init Battery Accelerometer trims MinCommand: 1000 C Magnetometer Init O C O C Magnetometer 0 C Magnetometer 0 C Battery Main Eating C C O C MinCommand: 1000 C Magnetometer D Eating O C <th< th=""><th>tial Setup</th><th>PID Tuning</th><th>Receiver</th><th>Auxiliary Configuration</th><th>Servos</th><th>GP5</th><th>Motor Te</th><th>sting</th><th>Raw Sensor Dat</th><th>a C</th><th>в</th><th>Logging</th><th></th><th></th></th<>	tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GP5	Motor Te	sting	Raw Sensor Dat	a C	в	Logging		
Reset Settings Restore all settings to default. Backup Restore all settings to default. Modet Quad X Heading: 66 deg Mode: Quad X Heading: 66 deg Minimum: 1150 °; Maximum: Min Cell Voltage: 3.3 °; Max Cell Voltage: Accelerometer trims. Minimum: 1150 °; Maximum: Minimum: 1150 °; Maximum: Min Cell Voltage: 3.3 °; Min Cell Voltage: Accelerometer trims. Minimum: 1150 °; Maximum: Minimum: 1150 °; Min Command: Min Cell Voltage: 3.3 °; Min Cell Voltage: Accelerometer trims. Minimum: 1150 °; Maximum: Min Command: 1000 °; Min Command: O °; </td <td>Calibrate</td> <td>Accelerometer</td> <td>Place bo</td> <td>ard or frame on leveled surfa</td> <td>ice, proces</td> <td>ed with cal</td> <td>ibration, e</td> <td>insure</td> <td>e platform is not mov</td> <td>ing duri</td> <td>ng ci</td> <td>alibration per</td> <td>od.</td> <td></td>	Calibrate	Accelerometer	Place bo	ard or frame on leveled surfa	ice, proces	ed with cal	ibration, e	insure	e platform is not mov	ing duri	ng ci	alibration per	od.	
Backup Restore Backup your configuration in case of an accident. (CLB settings are not included). Modet: Quad X Heading: 66 deg Inrottle Settings Min Cell Voltage: 3.3 ° Image: Command: Maximum: 150 ° Min Cell Voltage: 3.3 ° Rolt: 0 ° Image: Command: 1000 ° Magnetometer Min Cell voltage: 3.3 ° Rolt: 0 ° Image: Command: 1000 ° Magnetometer Image: Command: 0 ° Nin Cell voltage: 0 ° Image: Command: 1000 ° Magnetometer Image: Command: 0 ° Nin Cell voltage: 0 ° Image: Command: 1000 ° Magnetometer Image: Command: 0 ° Nin Cell voltage: 0 ° Image: Command: 0 ° Magnetometer Image: Command: 0 ° Nin Command: 0 ° Image: Command: 0 ° Image: Command: 0 ° Image: Command: 0 ° Nin Command: 0 ° Image: Command: 0 ° Image: Command: 0 ° Image: Command: 0 ° Nin Command: 0 ° Nin Command: 0 ° Image: Command:	Calibrate	Magnetometer	Move mi	litirotor atleast 360 degrees o	n all axis	of rotation.	You have	30 si	econds to perform th	is task				
Mode: Quad X Heading: 66 deg Throttle Settings Battery Accelerometer trims Image: Solution Command: 1000 + Min Cell Voltage: 3.3 + Accelerometer trims Image: Solution Command: 1000 + Min Cell Voltage: 110 + Accelerometer trims Image: Mode: Command: 1000 + Min Cell Voltage: 110 + Accelerometer trims Image: Command: 1000 + Min Cell Voltage: 0 + Accelerometer trims Image: Command: 0 + Min Cell Voltage: 0 + Accelerometer Declination: 0 + Eattery voltage: 0 V Accelerometer Solution: 0 + Fails of the voltage: 0 + Accelerometer Declination: 0 + Fails of the voltage: 0 + Accelerometer Solution: 0 + Fails of the voltage: 0 + Accelerometer Declination: 0 + Fails of the voltage: 0 + Accelerometer Solution: 0 + Fails of the voltage: 0 + Accelerometer Solution: 0 + Fails of the voltage: 0 + Accelerometer <td>Rese</td> <td>t Settings</td> <td>Restore</td> <td>all settings to default</td> <td></td>	Rese	t Settings	Restore	all settings to default										
Minimum 1150 Image: State of a seg Image: State of a seg <td>Backup</td> <td>Restore</td> <td>Backup</td> <td>your configuration in case of</td> <td>an accider</td> <td>nt. (CLI set</td> <td>tings are</td> <td>not in</td> <td>duded).</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Backup	Restore	Backup	your configuration in case of	an accider	nt. (CLI set	tings are	not in	duded).					
Minimum: 1150 ° Maximum: 1850 ° Failsafe 1200 ° MiniCommand: 1000 ° Magnetometer 110 ° Declination 0 ° SSI: 0 %	Model: Qua	d X		Heading: 66 deg		Throttle 5	Settings		Battery			Acceler	ometer ti	ims
Imagination resolution resolution </td <td>7</td> <td>6</td> <td></td> <td></td> <td></td> <td>num;</td> <td>1150</td> <td>\$</td> <td>Min Cell Voltage:</td> <td>3.3</td> <td>\$</td> <td>Pitch:</td> <td>0</td> <td></td>	7	6				num;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	
MinCommand: 1000 Magnetometer Info Declination: 0 Capacity drawn: 0 mAh Current draw: 0.00 Å RSSI: 0 %	0				Maxi	mum;	1850	\$	Max Cell Voltage:	4.3	\$	Roll:	0	:
Magnetometer Info Declination 0 Capacity drawn: 0 Ourrent draw: 0.00 A RSSI: 0	06	2			Fails	afe	1200	\$	Voltage Scale:	110	\$	1		
Product Image: Technology Declination: Image: Technology DV Capacity drawn: 0 mAh Current draw: 0 %		K			MinC	ommand	1000	\$						
Declination: 0 C Battery voltage 0 V Capacity drawn: 0 mAh Current draw: 0.00 A RSSI: 0 %		RUCK	DIO	17		Magneto	meter		Info			1		
Ourrent draw: 0.00 A RSSI: 0 %		1000	RIG	HI I	Deci	ination	0	\$	Battery voltage:	N.V.				
RSSI 0 %		1000												
Reset Z axis, offset: 0 deg										1.				
				Reset Z axis, offset: 0 deg										



Options for receiving updates and sending usage data.

- 11 °			ures and functions									
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GPS	Motor T	esting	g Raw Sensor Da	a: C	в	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled surfa	ice, proceed with	calibration.	insur	re platform is not mov	ing duri	ng c	alibration perio	d,	
Calibrate	Magnetometer	Move mu	ultirotor atleast 360 degrees o	on all axis of rotation	n. You have	30 1	seconds to perform th	is task.				
Rese	et Settings	Restore	all settings to default.									
Backup	Restore	Backup	your configuration in case of	an accident. (CLI :	ettings are	not in	nduded).					
Modet Qua	vd X		Heading: 66 deg	Thrott	e Settings		Battery			Accelero	meter ti	ims.
TO	6		noonig. ov org	Minimum;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	:
0	9			Maximum;	1850	\$	Max Cell Voltage:	4.3	\$	Roll	0	\$
00	0			Failsafe	1200	\$	Voltage Scale:	110	\$			
	K			MinComman	d 1000	\$						
		RIG	177	Magn	etometer		Info			1		
	8478 1	RIG	HI	Declination	0	\$	Battery voltage:	0 V				
	BACK	The second					Conversion of the strength of the	nAm 0				
	BACK	- NICI					Current draw.	0.00 A				

ometer and	d Magneto	meter (Compass) calibratio	n buttons.							
miliar sense	anna 15	Receiver Auxiliary Configuration 5	ervos GPS	MOIOT T	estin	Raw Sensor D	ata:	ш	Logging	
Calibrate Ad	celerometer	Place board or frame on leveled surface	, proceed with calif	bration,	ensu	e platform is not mo	wing du	ring ca	libration per	iod.
Calibrate M	agnetometer	Move multirotor atleast 360 degrees on	all axis of rotation. 1	You have	e 30 s	econds to perform t	his task			
Reset	Settings	Restore all settings to default.								
Backup	Restore	Backup your configuration in case of an	accident. (CLI setti	ngs are	not in	duded).				
Model: Quad	x	Heading: 66 deg	Throttle Se	ettings		Batte	ry		Acceler	ometer ti
DA			Minimum;	1150	\$	Min Cell Voltage:	3.3		Pitch:	0
00)		Maximum;	1850		Max Cell Voltage:	and the second		Roll:	0
)		Failsafé	1200	4464	Voltage Scale:	110	\$		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-		MinCommand	1000	÷					
	BACK	RIGHT	Magnetor	meter		Info			(	
		RIGHT	Declination	0	\$	Battery voltage:	0 V			
						Capacity drawn: Current draw;	0 mAh 0.00 A			
						RSSL	0.%			



:59.42 - Firmware Ven		2#485649785087103143									
itial Setup PID Tuni	ing Receiver	Auxillary Configuration	Servos GPS	Motor Te	esting	Raw Sensor Da	ta Ci	B	Logging		
Calibrate Accelerom	neter Place bol	ard or frame on leveled surfa	ce, proceed with calil	bration, e	insur	e platform is not mov	ing duri	ng ca	alibration per	riod.	
Calibrate Magnetom	seter Move mut	throtor atleast 360 degrees or	n all axis of rotation.	You have	30 9	econds to perform th	is task.				
	Property in the second s	-						٦			
ea displays the	e multirotor f	<mark>type, magnetomet</mark>	<mark>er heading ar</mark>	nd ori	ent	ation of Flip32	2+				
васкир кез	nore ny s	our consiguration in case of a	n accident. (CLI setti	ings are	not in	iduded)		-			
васкир нев	1000		n accident. (CL) setti Throttle Se		not in	iduded) Batlery	ŧ		Acceler	rometer ti	rims
васкир нев	inite and the	Heading: 66 deg					3.3	•	Acceler Pitch	rometer ti	rims
васкир нев	100		Throttle Se	ettings		Battery		•	I I AND ADD ADD	in the second se	•
			Throttle Se Minimum;	ettings 1150 1850 1200	000	Battery Min Cell Voltage:	3.3	-	Pitch:	0	:
Васкир нез			Throttle Se Minimum, Maximum;	ettings 1150 1850	000	Battery Min Cell Voltage: Max Cell Voltage:	3.3 4.3	\$	Pitch:	0	:
Model: Quad X		Heading: 66 deg	Throttle Se Minimum; Maximum; Failsate;	ettings 1150 1850 1200 1000	000	Battery Min Cell Voltage: Max Cell Voltage:	3.3 4.3	\$	Pitch:	0	:
васкир нев	RIGH	Heading: 66 deg	Throttle Si Minimum; Maximum; Failsafe; MinCommand;	ettings 1150 1850 1200 1000 meter	000	Battery Min Cell Voltage: Max Cell Voltage: Voltage Scale: Info	3.3 4.3	\$	Pitch:	0	:
Model: Quad X		Heading: 66 deg	Throttle So Minimum; Maximum; Failsafe MinCommand; Magnetor	ettings 1150 1850 1200 1000 meter	0000	Battery Min Cell Voltage: Max Cell Voltage: Voltage Scale: Info Battery voltage Capacity drawn.	3.3 4.3 110	\$	Pitch:	0	:

59:42 - Un	rial port success ique device ID m mware Version	sceived - 0x67	vitr 12. 1 72#485649785087103143									
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GPS	Motor T	estin	g Raw Sensor Dat	a C	H	Logging		
Calibrate	Accelerometer	Place bo	ard or frame on leveled surfa	ce, proceed with ca	ibration,	ensu	re platform is not mov	ng duri	ng ca	ilbration per	iod.	
Calibrate	Magnetometer	Move mu	ibrotor atleast 360 degrees o	n all axis of rotation	You hav	30 1	seconds to perform th	s task				
Rese	t Settings	Restore	al settings to default.									
Backup	Restore	Backup	your configuration in case of a	in accident. (CLI se	tings are	not in	ndudød).					
Model: Quad X		Heading: 66 deg		Throttle Settings			Battery			Accelerometer trims		
TO	6			Minimum;	1150	\$	Min Cell Voltage:	3.3	\$	Plitch:	0	\$
0	9			Maximum;	1850	\$	Max Cell Voltage:	4.3	\$	Roll:	0	:
00				Failsafe		\$	Voltage Scale:	110	\$			
	K			MinCommand	1000	\$						
	DICK	Die		Magnet	meter		info			6		
	BACK		tton to reset the Z	axis and offs	et.	]	Capacity drawn: 0 Current draw: 0	1 V 1 mAh 1.00 A				

	mware Version:		728485649785087103143									
itial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GPS	Motor Te	estin	g Raw Sensor Da	ta C	н	Logging		
Calibrate	Accelerometer	Place bo	and or frame on leveled surfa	ce, proceed with ca	libration,	insu	re platform is not mor	ing duri	ng ca	libration per	iod.	
Calibrate	Magnetometer	Move mu	litirotor atleast 360 degrees o	n all axis of rotation	You have	30 1	seconds to perform th	nis task.				
Rese	t Settings	Restore	all settings to default.	Dropdow	ו boxe	s to	o change vario	ous va	alue	s.		
Backup	Restore	Backup	your configuration in case of a	in accident. (CLI se	unge are	not ir	ndudød).					
Modet Qua	d X		Heading: 66 deg	Throttle :	Settings		Batter	y		Acceler	ometer tr	ims
TO	6		0.000 11.000 01.000	Minimum;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	\$
0	)			Maximum;	1850	\$	Max Cell Voltage:	4.3	\$	Roll:	0	:
00	0			Failsafe	1200	\$	Voltage Scale:	110	\$			
	K			MinCommand	1000	\$						
	BACK	Dia		Magnet	ometer		Info					
	PUA	RIGI	HT	Declination	0	\$	Capacity drawn. Current draw.	0 V 0 mAh 0.00 A 0 %				

159:42 - Un	rial port succes: ique device ID r mware Version:	sceived - 0x6	72#485649785087103143								
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testi	ng Raw Sensor D	ata CLI	Logging		
Calibrate	Accelerometer	Place bo	and or frame on leveled suff	ace, proce	ed with c	alibration, ens	ure platform is not m	oving during	calibration pe	riod.	
Calibrate	Magnetometer	Move mu	ultirotor atleast 360 degrees	on all axis	of rotation	n. You have 30	seconds to perform	this task.			
Rese	t Settings	Restore	all settings to default.								
Backup	Restore	Backup	your configuration in case of	an accider	nt. (CLI se	ittings are not	induded).				
Model: Qua	d X		Heading: 66 de	,	Throttle	Settings	Batte	ну	Accele	rometer trin	15
HOUSE GUS											
	5	_		Minir	mum; (	1150 \$	Min Cell Voltage	3.3	Pitch:	0	:
	5	ſ	Displays battery vo	Made	0011001	4050	New Collision	40	• Bolt		
				Made	<mark>currer</mark>	4050	New Collision	ors are	• Bolt		
	NK I	RIGI		<mark>oltage/c</mark>	<mark>currer</mark>	it and RS	SI data if sens	ors are	• Bolt		

59:42 Serial port successfi	ceived - 0x672ff485649785087103143	r 0.48						
Dial Setup PID Tuning	Receiver Auxiliary Configuration	Servos GPS	Motor Testing	Raw Sensor Data	СЫ	Logging		
Calibrate Accelerometer	Place board or frame on leveled surface	ce, proceed with ca	libration, ensur	e platform is not movin	g during c	alibration per	riod.	
Calibrate Magnetometer	Move multirotor atleast 360 degrees or	n all axis of rotation	You have 30 s	econds to perform this	task			
Reset Settings	Restore all settings to default.							
Backup Restore	Backup your configuration in case of a	n accident. (CLI set	ttings are not in	iduded).				
Model: Quad X	Heading: 66 deg	Throttle 5	Settings	Battery		Acceler	rometer trims	
76		Minimum;	1150 🗘	Min Cell Voltage:	3.3 💲	Pāch:	0 💲	
		Maximum;	1850 💲	Max Cell Voltage:	4.3 🗘	Roll:	0 🗘	
$\bigcirc$		Failsafe	1200 🗘	Voltage Scale:	110 🗘			
		MinCommand	1000 💲					- 11
BACK	DIOLET	Magnete	ometer	Info		1		- 11
PUA.	RIGHT	Declination	0 2	Battery voltage: 0	V			

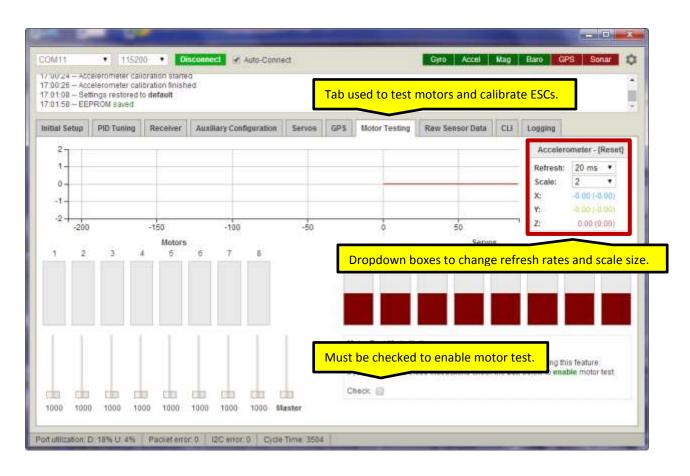
il Setup	PID Tuning	Receiver	Auxiliary C	onfiguration	Servos	GPS	Motor Testing	Raw Sensor Data	CH	Logging	
N	ame	Ргоро	rtional	Integral	8	Deriv	ative	ROLL & PITCH rate	1	AW rate	TPA
R	OLL.		4.0 \$	0.	030 \$		23 💲	0.00 🗘		0.00 \$	0.00
PI	тон		40\$	0	030 🗘		23 🛟				
· *	(AW		8.5 🗘	0	045 \$		0 \$				
,	ALT.		50\$	0	000 \$		0 \$				
	EL:		12.0 🗘	0.	045 \$		1 🗘				
F	P09		0 11 🗘	(	0.00						
P	02R		20\$	(	\$ 80.0		0.045 💲				
14	lavR		1.4 🗘	0	20 \$		0.080 ‡				
LE	EVEL.		9.0 🗘	0.	010 🗘		100 💲				
: 5	IAG .		4.0 🗘								
Pr	ofile	1									
	1\$	-									

59.42 - Firmware version 00.24 - Accel 00.25 - Accel 01.08 - Settin	ised to configure r	eceiver channels.			
ibal Setup PID Tuning	Receiver Auxiliary C	onfiguration Servos GPS	Motor Testing Raw S	iensor Data CLI Loggin	a' l
oli		[1500]	_	Throttle MID	Throttle EXPO
itch	_	[ 1500 ]		0.50 🗘	0.00 \$
aw .	_	[ 1500 ]			
hrottle		[ 1500 ]		RC Rate	RC Expo
UX 1		(1500)		0.90 🗘	0.65
UX 2		[1500]		here and the second sec	
10.5					
UX 3 UX 4		[1500]	oves to change th	rottle points, rates a	and expo
UX 3 UX 4		Dropdown be		rottle points, rates a ansmitter or leave a	
UX 3 UX 4 200 000		Dropdown be			
UX 3 200 000 800		Dropdown be			
UX 3 200 000 800 600		Dropdown be			
UX 3 200 0000 800 600 400		Dropdown be			
их з		Dropdown be			
UX 3 200 9000 800 600 400 200 000 800		Dropdown be Best to chang	ge these on the tr	ansmitter or leave a	as is.
UX 3 200 3000 800 400 200 200 000	-150	Dropdown be			

ial Setup	PID Tuning	Receiver	Auxiliary	Configuration	Servos	GPS	Motor 1	esting	Raw Sensor	Data	Logging	i).	
			AUX 1		9	AUX 2			AUX 3			AUX 4	
1	Name	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
	ARM			10	U.		8	0		Ð	- 13		- 13
A	NGLE	目		目	63		-	티		圓	(B		(3
HO	DRIZON	0		0	-82		0	- 61		- 61	0		10
ţ	BARO	- 8		8	8		8	每		<b>B</b>	- 8		8
	MAG	8		- E	8		10	8		0	8		8
HE	ADFREE	- 12		10 ·	10		-	- 13		12	- 12		0
1.1300	EADADJ	10		- 52	8		-53			13	- G		0
	EEPER	8		6	8		6	E.		8	8		13
0	SD SW	8		0	8		0	8		0	8		0

	- 0 ×
COM11 • 115200 • Disconnect & Auto-Connect Gyto Accel Mag Baro GPS	Sonar 🗯
17 00/24 - Accelerometer calibration started 17 00/26 - Accelerometer calibration finished 17 01/08 - Settings restored to default 17:01/58 - EEPROM saved	
Initial Setup PID Tuning Receiver Auxiliary Configuration Servos GPS Motor Testing Raw Sensor Data CLI Logging	
Model: This model doesn't support servos	
Port utilization: D1:0% U. 0% Packet error: 0 I2C error: 0 Cycle Time: 3509	

	tings restored to PROM saved	ration finishe default			Tab us	ed to	monitor GF	PS activity.			
tial Setup	PID Tuning	Receiver	Auxili	lary Configuration	Servos	GPS	Motor Testing	Raw Sensor Dat	CEI	Logging	
	GPS		GP5	Signal Strength							
3D Fix	False	Sat	ID Qty	Signal Strength							
Stitude:	0 m	0	0								
.atitude:	0.0000 deg	0	0								
ongitude:	0.0000 deg	0	0								
Speed: Bats:	0 cm/s	0	0								
olets. Dist to Home		0	0								
Proci lo Provine	2. 978	0	0								
		0	0								
		0	0								
		0	0								
		0	0								
		0	0								
		0	0								
		0	0								
		0	0								
					_						



	rómeter calib ps restored to OM saved	tration finishe			<b>_</b>				- 4
						Tab to display ray	w sensor d	<mark>ata.</mark>	1
	PID Tuning	Receiver	Auxiliary Configuration	Servos	GP5 Motor Testin	Raw Sensor Data	CLI Logging	1	
			ds and rendering multiple g sensors you are interested		Dropdown boy	es to change refr	esh rates a	ind scale si	ize.
Gyroscope	Z Acceleror	meter 🕑 N	lagnetometer 😿 Barom	neter 🗐 D	-			$\leq$	
000 -							Gyros	scope - degis	
- 000							Refresh:	50 ms 💌	
0-							Scale:	2000 •	
000 - 000							X:	-0.24	
							Y:	-0.24	Ш
-150	-10	0	-50	0	50	100	7 Z:	0.00	
2	50.00	90		e so	- CONS	interna E	Accel	lerometer - g	
1-							Refresh:	50 ms •	Ш
0-							Scale:	2 *	
							X:	0.03	
-1-							Y:		н
-2	-10	0	-50	6	50	100	٦ Z	1.02	
1-	03	52	177.4	S.)	100	W05	Hann	etometer - Ga	
0.5							a second s		
0.5							Refresh: Scale:	50 ms •	

	-	£						x
COM11	• 1152	10 • Dist	tonnect 🖌 🖉 Auto-Conne	ct		Gyro Accel Mag Baro	PS Sonar	۵
	elerometer cal fings restored	ioration started ibration finished to default	1		Tab u	used to start a CLI session.		
Initial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GP	5 Motor Testing	Raw Sensor Data CLI Logging		
Entering (		pe 'exit' to	return, or 'help'		no, write, we ddaw	the controller save all the changes and resta		-
Port utilization: E	D-0% LF 0%	Packet error: 0	I2C entor: 0 Cycle T	ime: 3494				

Initial Setup       PD Turning       Receiver       Auxiliary Configuration       Serves       GP5       Motor Testing       Raw Sensor Data       CLI       Logging         Data will be logg       Logging options.       will cancel logging and application will return to its normal "configurator" state.	
You are free to stress and the second period cash will be written into the log file every 1 second for performance reasons.          MSP_RAW_IMU       9 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       3 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       3 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       5 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       5 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       5 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       5 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_ALTITUDE       5 columns taccella, y, d, profix, y, d, magix, y, d)         MSP_RAW_GPS       7 columns         MSP_RC       6 columns to default         MSP_NOTOR       6 columns         MSP_DEBUG       4 columns	
MSP_ATTITUDE       3 columns (x, y, z)         MSP_ALTITUDE       shir column         MSP_RAW_GPS       7 columns         MSP_ANALOG       4 columns         MSP_RC       8 columns by dotaut         MSP_NOTOR       8 columns         MSP_DEBUG       4 columns	
loo na lo	
Samples Saved: 0 Log Size: 0 Bytes	
Buttons to select log file and start logg	

## CONNECTING THE FLIP32+ TO YOUR PC OR LAPTOP VIA A USB TO MICRO USB CABLE:

This is the method I prefer so that I do not short out the USB connector on the Flip32+:

- 1. Connect the USB to micro USB cable to the Flip32+
- 2. Connect the USB to micro USB cable to the pc or laptop

#### DISCONNECTING THE FLIP32+ FROM YOUR PC OR LAPTOP:

This is the method I prefer so that I do not short out the USB connector on the Flip32+:

- 1. Disconnect the USB to micro USB cable from the pc or laptop
- 2. Disconnect the USB to micro USB cable from the Flip32+

#### CHECKING THE FIRMWARE VERSION:

- 1. Connect the Flip32+ to your pc or laptop.
- 2. Start the BaseFlight Configurator.

OM3	• 11520		n the red Connect b		11	PA DO	Gyro Accel	Mag	Baro	GPS Sonar	
9:46:39 Unic 9:46:39 Firm	ai port succes que device ID i mware Version ial port succes	eceived - 0x6 2.3	WITH IU: 2 72#485649785087103143								
nitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	CLI	Logging	0	
your flight con Application su afromini). Official Resel • AbuseMark • Multirotor S Latest CP210 This utility is f	ntroller upports compl dens & Backer - International luperstore - In Dx Drivers can	ete family of B (Japan) Ismational (Ui be downloade Open 1 ce and Is ava		ote, nace32, aseflight us	naze32¢ ers.	ro and 0:	Font 7.17.2014 - 0.47 Dugfues related to Chr Various optimizations a 7.11.2014 - 0.46 Application will display Bugfues 7.04.2014 - 0.45 Configurator reached 5 Updated various text no 30 notism	ome 36+ and beha a spinni 000+ us	er while wa	rements fing for data 13.2014	* III

itial Setup												
indi o'triap	PID Tuning	Receiver	Auxillary Configuration	Servos G	P5 Moto	or Testi	ng Raw Sensor D	ata C	н	Logging		
Calibrate Ad	ccelerometer	Place bo	oard or frame on leveled surfa	ice, proceed w	with calibratio	on, ens	ure platform is not mo	ving duri	ng ca	ilbration per	iod.	
Calibrate M	agnetometer	Move mi	ultirotor atleast 360 degrees o	en all axis of ro	tation. You t	have 30	seconds to perform t	his task				
Reset	Settings	Restore	all settings to default.									
Backup	Restore	Backup	your configuration in case of	an accident (0	LI settings	are not	induded).					
Model: Quad	x		Heading: 77 deg	Thr	ottle Setting	<b>]</b> 8	Batte	Accelerometer trims				
		Minimum	11	50 🗘	Min Cell Voltage:	3.3	\$	Pitch:	0	\$		
				Maximun	n; 18	50 🗘	Max Cell Voltage:	4.3	\$	Roll:	0	\$
				Failsafe	1000	:00	Voltage Scale:	110	\$			
				MinCom	mand: 10	00 \$						
		DIO	IT	M	agnetomete	e .	info			6		
	<b>X</b>	RIGH	11	Declinati	ion I	0 🗘		0 V				
	1						Capacity drawn. Current draw. RSSI	0 mAh 0.00 A 0 %				
		105	Reset Z axis, offset: 0 deg				HSSI.	0.46				

## UPDATING THE FIRMWARE:

- 1. Connect the Flip32+ to your pc or laptop.
- 2. Start the BaseFlight Configurator.

0:25:58 Uni 0:25:58 Firm	tal port succes ique device ID i mware Version tal port succes	eceived - 0x8 2.3	rann ID: 1 7211485649785087103143							
initial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	CLI Loggie	a la	
afromini) Official Rese • AbuseMark • Multirotor S Latest CP210	upports compl ellers & Backet ( - International Superstore - In 0x Drivers can	rs (Japan) Ismational (U be download Open	ed from bero Source / Donation Notice			rs and	7.17.2014 - 0.47 Bugfixes related to Chrc Various optimizations a 7.11.2014 - 0.46 Application will display a Bugfixes 7.04.2014 - 0.45 Cr 4. Click on th	nd behavlor impr a spinner while w	ovements rating for data Flasher butto	
			ilable free of charge to all be ider supporting its developm						Firmware Flash	er

OM3	• 1152	00 🔹 🔳	Connect 🗌 🗌 Auto-Conr	iect			Gyro Accel	Mag	Baro GPS	Sonar
):37:45 — Rui	nning+OS: Wi	ndows, Chron	ne: 36.0.1985.125. Configu	rator: 0.47.1						
ildial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	СШ	Logging	
athr amnty										
Read the	boot load	er warnin	g.							
			pins shorted/connected, d	heck No rebo	ot seque	ence				
	onfiguration da et sequence	ta to be wiped	, check Full Chip Erase		11000					
Full Chip	Erasu									
	6. R	ead the fi	rmware warning.		Warning					
			hardware with this firmware	a flasher (it w	and the second second	).				
Do not disco	innect the boar	rd or turn off y	our computer while flashin	G.						
			<ol> <li>If cannot be bricked, while you are inside firmway</li> </ol>	e flasher						
	_									
		7. Clock	on the Load Firmwa	are (Onlin	ne) but	ton.				
	L									
		1.0000000	mware [Online] Ra	sh Firmware	15				Leave Firm	and second
Load Firm	ware [Local]	Load Hr	unware (connet rea	an Firmware	100				Leave Firm	ware Flasher

OM3 • 115200 •	Connect 🗌 Auto	-Connect			Gyro Accel	Mag	Baro	GPS Sonar
0:37:45 - Running - OS: Windows, 0 0:38:20 - Remote Firmware loaded,		onfigurator: 0.47.1						
Firmware file size is displ	aved here.	ation Servos	GPS	Motor Testing	Raw Sensor Data	СШ	Logging	
Path: Using remote Firmware Rze: 61280 bytes Progress: Internet								
	ader pins shorted/connec	ted, check No reb	oot sequend	ce.				
If you want configuration data to be v								
If you want configuration data to be v	wiped, check Full Chip Era							
If you want configuration data to be v	wiped, check Full Chip Era	ie	Firmware					
If you want configuration data to be v No reboot sequence Firmware info is displaye Committer: dongie	wiped, check Full Chip Era	ie	) Firmware I			_		
If you want configuration data to be v No reboot sequence Firmware info is displaye Committer: dongie Date: 07.16.2014 @ 18:45	viped, check Full Chip Era d here.	ie	Firmware I			_		
If you want configuration data to be v No reboot sequence Firmware info is displaye Committer: dongie Date: 07.16.2014 @ 18:45	viped, check Full Chip Era d here.	Githet						
If you want configuration data to be v No reboot sequence Firmware info is displaye Committer: dongie Date: 07.16.2014 @ 16:45 Message: i-term zeroing fixed (thi Li Please do not by to flash non-basefi	wiped, check Full Chip Era d here. ux) Bight hardware with this fir	e Githet nware flasher (if w	Warning					
If you want configuration data to be v	wiped, check Full Chip Era d here. ux) Bight hardware with this fir	e Githet nware flasher (if w	Warning					
No reboot sequence Firmware info is displayer Committer: dongie Date: 07.16.2014 @ 18.45 Message: i-term zeroing fixed (thx Li Please do not try to flash non-basef Da not disconnect the board or tarr Note: STIM32 bootloader is stored in	wiped, check Full Chip Era d here. ux) light hardware with this fir i off your computer while fi i off your computer while fi	Githeit Githeit tware flasher (if w ashing.	Warning					
If you want configuration data to be v No reboot sequence Firmware info is displaye Committer: dongie Date: 07.16.2014 @ 18:45 Message: i-term zeroing fixed (thic Li Please do not try to flash non-basef Do not disconnect the board or turn	wiped, check Full Chip Era d here. ux) light hardware with this fir i off your computer while fi i off your computer while fi	Githeit Githeit tware flasher (if w ashing.	Warning					
If you want configuration data to be v No reboot sequence Firmware info is displayer Committer: dongie Date: 07.16.2014 @ 18:45 Message: i-term zeroing fixed (thick Li Please do not by to flash non-baseft Do not disconnect the board or turn Note: STIM32 bootloader is stored in	wiped, check Full Chip Era d here. ux) Bight hardware with this fir off your computer while f r ROM, it cannot be bricked led while you are inside fi	Githeit Githeit tware flasher (if w ashing.	Warning ront work)	info	on.			
If you want configuration data to be v No reboot sequence Firmware info is displaye Committer: dongie Dato: 07.16.2014 @ 18:45 Message: Herm zeroing fixed (thick) Please do not by to flash non-basef Do not disconnect the board or turn Note: STM32 bootloader is stored in Note: Auto-Connect is always disat	wiped, check Full Chip Era d here. ux) Bight hardware with this fir off your computer while f r ROM, it cannot be bricked led while you are inside fi	Githet Githet tware flasher (if w ashing, , mware flasher	Warning ront work) Flash Firr	info	on.			

OM3 • 11520	0 • Connect Aut	s-Connect		Giro Accel	Mag	Baro GPS	Sonar
38-20 - Remote Firmware 38-37 - Contacting bootica 38-37 - Erasing 38-39 - Flashing	loaded, ready for sashing			Rectored Theorem			
itial Setup afte: Using ren ize: 61280 bytes rogress:	e flash progress is displa	ived.	GP5 Motor Testing	Raw Sensor Data	СШ	Logging	
	i bootfoader pins shorted/conne a to be wiped, check Full Chip Era		t sequence.				
		Gitteb F	immere Info				
Date: 07.16.2014 @ 18:45	d (thx Lux)	Githeb F	irmware Info				
Committer: dongie Date: 07.16.2014 @ 18.45 Message: i-term zerölng fixe	d (thx Lux)		irmware Info Naming				
Date: 07 16 2014 @ 18:45 Message: i-term zeroing fixe Please do not try to flash nor Do not disconnect the boars Note: STIM32 bootloader is s	d (thx Lux) n-baseflight hardware with this fir d or turn off your computer while t stored in ROM, it cannot be bricke ys disabled while you are inside f	w mware flasher (if wo flashing d.	terning				
Date: 07 16 2014 @ 18:45 Message: Herm Zeroing five Please do not by to flash nor Do not disconnect the board Note: STIM32 bootloader is s Note: Auto-Connect is alway	n-baseflight hardware with this fir d or turn off your computer while t stored in ROM, it cannot be bricke ys disabled while you are inside f	w mware flasher (if wo flashing d.	terning			Leave Firm	ware Flasher
Date: 07.16.2014 @ 18.45 Message: i-term zeroing fixe Please do not by to flash nor Do not disconnect the boars Note: STIM32 bootloader is s	n-baseflight hardware with this fir d or turn off your computer while t stored in ROM, it cannot be bricke	W mware flasher (if wo flashing d. frimware flasher	terning			Leave Firm	ware Flasher

As 37 - Erasing . 38:34 - Pissing . 38:45 - Programming: SUCCESSFUE. Bal Seter OID Toulon Teacher Author Continuenties From Continuential Contect Continuential Contect Contect Continuential Conte	- Erasing - Frashing - Tourism - Programming: SUCCESSFUL  - Tourism - Data Devices Auxiliary Configuration -	M3 • 115200	Connect			SPORTER DEPOSIT		Baro (	200 L 0	-
38 3 - Fishing 38 4 - Programming: SUCCESSFUL Bal Seture On Davide Develop Auxilianc Confirmation Secure 1997 Motor Testing Raw Sensor Data CLI Logging the Use 12. The process is done when the bar is all Green. 20 20 5785 0 20 20 5785 0 20 20 5785 0 20 20 20 20 20 20 20 20 20 20 20 20 20	e - Fisching - Yenthing - Programming: SUCCESSFUL etc. DD Tunion December: Available: Configuration: Summer Configuration data to be when the bar is all Green. 200 Orles - 200 Orles - 200 Orles - 200 Orles - 200 Orles 	and the second second second second second	0 • Connect Aut	to-Connect		Gyro Accel	Mag	Haro (	ars son	ar
38:45 - Programming: SUCCESSFUL tail Seture Off. Twilliam Reactions Auxiliam Configuration Configuration Read CONF Motor Testing Read Sensor Data CEE Logging the Use 12. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the bar is all Green. The process is done when the process is done when the process is done the process. The process is done when the process is done when the process is done the process. The process is done when the process is done the process is done to proceed. The process is done the process is done the process is done the process. The process is done the process is done the process is done to proceed. The process is done the process is done to proceed. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bricked. The process is done to proceed in ROM, it cannot be bri	i – Programming: SUCCESSFUE.									
Bal Seture DD Tuston December 2000 December 2000 December 2000 Motor Testing Raw Sensor Data: CEI Logging attr Us, 12. The process is done when the bar is all Green. 24. 61200 Onles Togress 2000 Onles Typu are flashing board with bootloader pins shorted connected, check No reboot sequence. You are flashing board with bootloader pins shorted connected, check No reboot sequence. No reboot sequence Full Chip Erase Cettual Firmware Info Committer: dongie Date: 07.16.2014 @ 16.45 Message: Herm Zeroing fixed (thx Lix) Varning Please do not by to flash non-baseflight hardware with this firmware flasher (it wont work). Do not disconnect the board or turn off your computer while flashing.  Motor STM32 bootloader is stored in ROM, it cannot be bincked. Note: STM32 bootloader is always disabled while you are inside firmware flasher.  13. Click on the Leave Firmware Flasher butter	the DB Turling Revolution Structure Conference Confere		and any							
I door resulty Raw Sensor Data: CLI Logong Raw Sensor Dat	12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 12. The process is done when the bar is all Green. 13. Click on the Leave Firmware Flasher button.	36,46 - Programming: SUC	CESSFUL							
Ale Gall bytes rogress:  you are flashing board with bootloader pins shorted connected, check No reboot sequence you want configuration data to be wiped, check Full Chip Erase No reboot sequence Full Chip Erase  Github Firmware Info Committer: dongie Nets: 07.16.2014 @ 18-45 Nessage: Herm zeroing fixed (thr Lux)  Warning  Rease do not by to flash non-baseflight hardware with this firmware flasher (if wont work) Do not disconnect the board or turn off your computer while flashing.  Not: STM32 bootloader is stored in ROM, it cannot be bricked.  Not: STM32 bootloader is stored in ROM, it cannot be bricked.  Not: StM32 bootloader is always disabled while you are inside firmware flasher.  13. Click on the Leave Firmware Flasher butter	In the sequence of the sequenc	Dial Seture OID Trusing	Bacobiot Junillary Config	antes Conten COR	Motor Testing	Raw Sensor Data	CB	Logging		
te: 61240 Bytes togress: Typu are flashing board with bootloader pins shorted connected, check No reboot sequence. you want configuration data to be wiped, check Full Chip Erase No reboot sequence Full Chip Erase Github Firmware Info Committer: dongie Nate: 07.16.2014 @ 18.45 Ressage: i-term zeroing fixed (th Lux) Varning Please do not try to flash non-baseflight hardware with this firmware flasher (if wont work). Do not disconnect the board or turn off your computer while flashing. Idde: STM32 bootloader is stored in ROM, if cannot be bincked. Iddy: Auto-Connect is always disabled while you are inside firmware flasher. I.S. Click on the Leave Firmware Flasher buttor	1280 bytes ss. International sequence is a shorted inconnected, check No reboot sequence. want configuration data to be wiped, check Full Chip Erase reboot sequence if Chip Erase Citheb Firmware Info Citheb Firmware Info Citheb Firmware Info Marrieg 07.16.2014 @ 18:45 age: Herm Zeroing fixed (this Luix) Varieg e do not by to flash non-baseffight hardware with this firmware flasher (if wont work), to flash non-baseffight hardware with this firmware flasher (if wont work), to flash non-baseffight hardware with this firmware flasher (if wont work), to flash non-baseffight hardware with this firmware flasher. STM32 bootleader is stored in ROM, it cannot be bincked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	12. The pro-	cess is done when the	bar is all Green.				-		
you are flashing board with bootfoader pins shorted connected, check No reboot sequence. you want configuration data to be wiped, check Full Chip Erase No reboot sequence Full Chip Erase Cathob Firmware Info Committer: dongie Jate: 07.16.2014 @ 18.45 Message: Herm Zeroing fixed (thx Lux) Varning Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work) bo not disconnect the board or turn off your computer while flashing. Idde: STM32 bootloader is stored in ROM, it cannot be bicked. Inter Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	are flashing board with bootfoader pins shorted/connected, check No reboot sequence, want configuration data to be wiped, check Full Chip Erase reboot sequence I Chip Erase Celtheb Firmware Info Warning e do not try to flash non-baseffight hardware with fhis firmware flasher (if wont work), it disconnect the board or turn off your computer while flashing. STM32 bootfoader is stored in ROM, it cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	SUE US			I					
If you want configuration data to be wiped, check Full Chip Erase No reboot sequence Full Chip Erase Github Firmware Info Committer: dongle Date: 07.16.2014 @ 18:45 Message: i-term zeroing fixed (th Luix) Warning Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work). Do not disconnect the board or turn off your computer while flashing. Ude: STIM32 bootloader is stored in ROM, it cannot be bricked. abte: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	vant configuration data to be wiped, check Full Chip Erase reboot sequence I Chip Erase	ogress: M								
lyou want configuration data to be wiped, check Full Chip Erase No reboot sequence Full Chip Erase  Celthub Firmware Info Committer: dongre Nate: 07.16.2014 @ 18:45 Ressage: i-term zeroing fixed (th Lux)  Warning  Rease do not by to flash non-baseflight hardware with this firmware flasher (if wont work) bo not disconnect the board or turn off your computer while flashing  Note: STM32 bootloader is stored in ROM, it cannot be bicked. Note: STM32 bootloader is stored in ROM, it cannot be bicked. Note: Auto-Connect is always disabled while you are inside firmware flasher.  13. Click on the Leave Firmware Flasher butto	vant configuration data to be wiped, check Full Chip Erase reboot sequence I Chip Erase Clithub Firmware Info itter: dongie 07.16.2014 @ 18.45 age: Herrn zeroing fixed (thx Lux) Varning e do not by to flash non-baseflight hardware with this firmware flasher (it wont work) disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, it cannot be bincked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	you are flashing board with	bootloader pins shorted/conne	cted, check No reboot sea	uence					
Github Firmware Info         Committer: dongle         Jate: 07.16.2014 @ 18:45         Marning         Warning         Warning         Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work).         Do not disconnect the board or turn off your computer while flashing.         Job Stored in ROM, it cannot be bricked.         Job: STM32 bootloader is stored in ROM, it cannot be bricked.         Job: STM32 bootloader is always disabled while you are inside firmware flasher.         13. Click on the Leave Firmware Flasher butter	I Chip Erase Github Firmware Info Itter: dongie 77.16.2014 @ 18.45 hge: i-term zeroing fixed (thi Lux) Vorning e do not try to flash non-baseflight hardware with this firmware flasher (if wont work) i disconnect the board or turn off your computer while flashing. STM32 boolloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.									
Gittub Firmware Info Date: 07 16 2014 @ 18:45 Message: Herm Zeroing Tixed (thx Lux) Please do not by to flash non-baseffight hardware with this firmware flasher (if wont work). Do not disconnect the board or turn off your computer while flashing. Note: STM32 bootloader is stored in ROM. It cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	Github Firmware Info  itter: dongie 07.16.2014 @ 18.45 inge: i-term zeroing fixed (thx Lux)  Warning  e do not by to flash non-baseflight hardware with this firmware flasher (if wont work), t disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher  13. Click on the Leave Firmware Flasher button.									
Committer: dongie bate: 07.16.2014 @ 18:45 Message: Herm Zeroing fixed (thi Lüx) Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work) on of disconnect the board or turn off your computer while flashing dote: STM32 bootloader is stored in ROM, it cannot be bricked. dote: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	inter: dongie 07.16.2014 @ 18.45 age: Flerm zeroing fixed (thx Lux) Warning e do not by to flash non-baseflight hardware with this firmware flasher (if wont work) disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	Full Chip Erase								
Committer: dongie Nate: 07.16.2014 @ 18:45 Ressage: i-term zeroing fixed (thi Lux) Warning Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work) to not disconnect the board or turn off your computer while fisshing Note: STM32 bootloader is stored in ROM, it cannot be bincked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	inter: dongie 07.16.2014 @ 18.45 age: Flerm zeroing fixed (thx Lux) Warning e do not by to flash non-baseflight hardware with this firmware flasher (if wont work) disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.			Githeb Eirme	ana infa					
Date: 07.16.2014 @ 16:45 Message: Herm Zeroing fixed (thi Lux) Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work). Do not disconnect the board or turn off your computer while flashing. Note: STIM32 bootloader is stored in ROM, it cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	V/arriing a do not by to flash non-baseflight hardware with this firmware flasher (if wont work), i disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.									
Warning Please do not by to flash non-baseflight hardware with this firmware flasher (if wont work) Do not disconnect the board or turn off your computer while flashing Note: STM32 bootloader is stored in ROM, it cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	Warning e do not by to flash non-baseflight hardware with this firmware flasher (if wont work), i diaconnect the board or turn off your computer while flashing. STM32 bootloader is stored in ROM, it cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	ommitten dessis		Gianau Pirniw	are into					
Please do not try to flash non-baseflight hardware with this firmware flasher (if wont work) of not disconnect the board of turn off your computer while flashing. Note: STIM32 bootloader is stored in ROM, it cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	e do not by to flash non-baseflight hardware with this firmware flasher (if wont work), i disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.			Giuniu Armiw	are mio					
Please do not try to flash non-baseflight hardware with this firmware flasher (if wont work) of not disconnect the board of turn off your computer while flashing. Note: STIM32 bootloader is stored in ROM, it cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	e do not by to flash non-baseflight hardware with this firmware flasher (if wont work), i disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, if cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	Date: 07.16.2014 @ 18:45	d (thi Lux)	Churner Filling	BLE NIIO					
Do not disconnect the board or turn off your computer while flashing. Note: STM32 bootloader is stored in ROM. It cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butte	I disconnect the board or turn off your computer while flashing. STIM32 bootloader is stored in ROM, it cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	Date: 07.16.2014 @ 18:45	đ (thx Lux)							
lote: STM32 bootloader is stored in ROM, it cannot be bricked. Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butte	STM32 bootloader is stored in ROM, it cannot be bricked. Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	late: 07.16.2014 @ 18.45 fessage: i-term zeroing fixed		Warnie	9					
Note: Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher butto	Auto-Connect is always disabled while you are inside firmware flasher. 13. Click on the Leave Firmware Flasher button.	Date: 07.16.2014 @ 18:45 Message: Herm zeroing fixed Please do not try to fiash nom	s-baseflight hardware with this fi	Warnin	9			_		
13. Click on the Leave Firmware Flasher butto	13. Click on the Leave Firmware Flasher button.	Date: 07.16.2014 @ 18:45 Message: Herm zeroing fixed Please do not by to flash mon Do not disconnect the board	-basefight hardware with this it I or turn off your computer while	Warnin Irroware flasher (if word wo flashing	9		_	_		
		Jate: 07.16.2014 @ 18:45 dessage: i-term zeroing fixed Please do not by to flash non Do not disconnect the board lote: STM32 bootloader is st	a-baseflight hardware with this fi I or turn off your computer while tored in ROM, it cannot be bricks	Warnie Irmware flasher (it wont wo flashing ed.	9		_	_	_	
		Date: 07 16.2014 @ 18:45 Message: Herm Zeroing fixed Please do not by to flash non Do not disconnect the board Note: STM32 bootloader is st	a-baseflight hardware with this fi I or turn off your computer while tored in ROM, it cannot be bricks	Warnie Irmware flasher (it wont wo flashing ed.	9					
Load Firmware (Local) Load Firmware (Online) Flash Firmware Leave Firmware Flas	Firmware [Local] Load Firmware [Online] Flash Firmware Leave Firmware Flasher	Jate: 07.16.2014 @ 18:45 dessage: i-term zeroing fixed Please do not by to flash non Do not disconnect the board lote: STM32 bootloader is st	a-baseflight hardware with this fi I or turn off your computer while tored in ROM, it cannot be bricks	Warnie Irmware flasher (it wont wo flashing ed.	9 16)	lick on the Low	- Firm			
Load Firmware [Local] Load Firmware [Online] Flash Firmware Leave Firmware Flas	Firmware [Local]     Load Firmware [Online]     Flash Firmware     Leave Firmware Flasher	Date: 07 16.2014 @ 18:45 Message: Herm Zeroing fixed Please do not by to flash non Do not disconnect the board Note: STM32 bootloader is st	a-baseflight hardware with this fi I or turn off your computer while tored in ROM, it cannot be bricks	Warnie Irmware flasher (it wont wo flashing ed.	9 16)	lick on the Leav	e Firmv	ware Fla	isher butt	ton.
		Date: 07.16.2014 @ 18:45 Message: Herm Zeroing fixed Please do not try to flash non an of disconnect the board lote: STM32 bootloader is sl lote: Auto-Connect is alway	n-baseflight hardware with this fi or turn off your computer while fored in ROM, it cannot be bricks is disabled while you are inside	Warnin Irmware flasher (if word wo flashing ed firmware flasher	9 16)	lick on the Leav	<mark>e Firmv</mark>			
		Date: 07 16 2014 @ 16:45 Message: Herm zeroing fixed Please do not try to flash non to not disconnect the board Vote: STM32 bootloader is si Note: Auto-Connect is alway	n-baseflight hardware with this fi or turn off your computer while fored in ROM, it cannot be bricks is disabled while you are inside	Warnin Irmware flasher (if word wo flashing ed firmware flasher	9 16)	<mark>lick on the Leav</mark>	<mark>e Firm</mark> y			

#### TRANSMITTER STICK CALIBRATION:

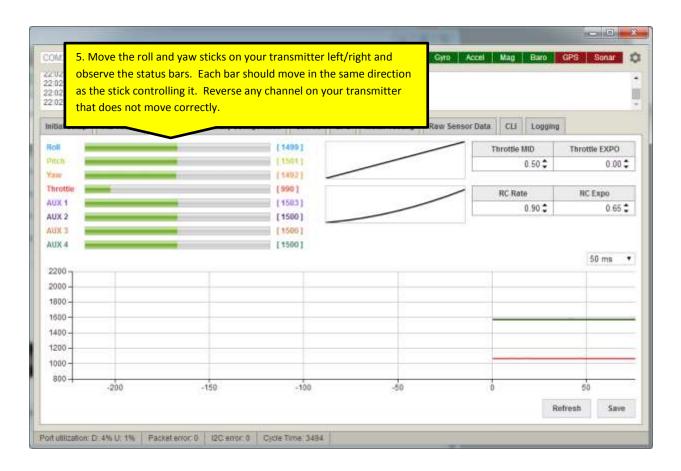
This calibration process performs two very important tasks:

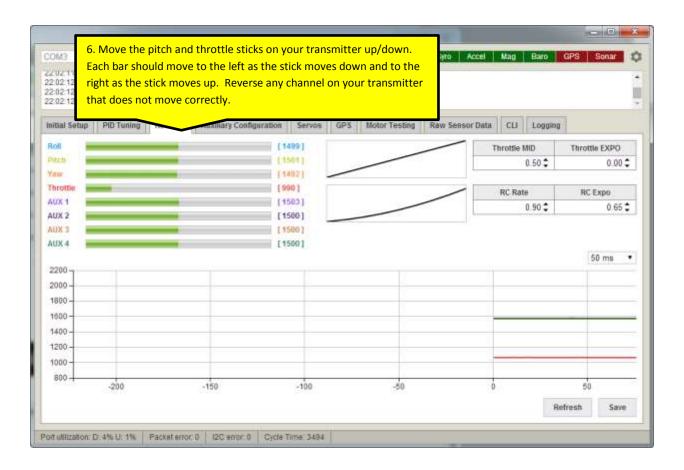
- Provides the Flip32+ the PWM pulse ranges generated by each channel and stick on your transmitter.
- Provides a means to verify the movement of your channels, in case one of them needs to be reversed.
- 1. Connect the Flip32+ to your pc or laptop.
- 2. Start the BaseFlight Configurator.

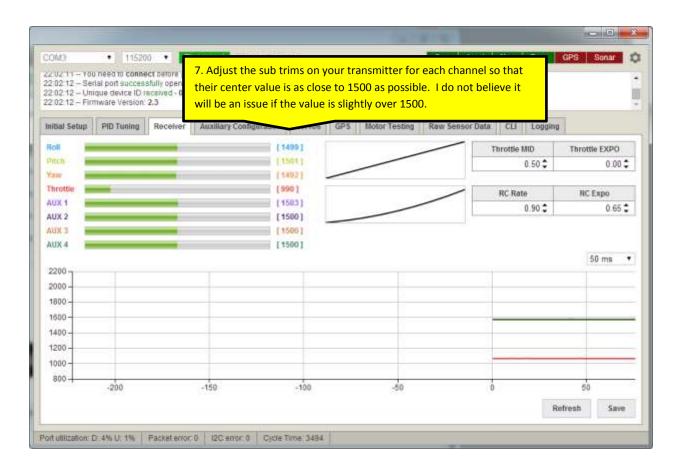
3. Click on the Connect button if not already connected.

	rial port succes			[	Level	[	10		(mar)	Decement		
Initial Setup	PID Tuning	Receiver	Auxillary Configuration	Servos	GPS	Motor Testin	ng Raw Sen	sor Data	CH	Logging		
afromini). Official Res • AbuseMari • Multirotor	ellers & Backe k - International Superstore - In Ox Drivers can	rs (Japan) ternational (Ur be downloade					Configurator     Added motor     Flashing time 07.17.2014 - 0     Bugfixes relat     Various optim 07.11.2014 - 0     Application w     Fluntives	order diagr out bugfixe 47 led to Chro lizations ar 46	rams (cr x9 me 36+ x0 beha	reyc, Curtis release vior improv	ibeef) rements	
			lable free of charge to all be der supporting its developr								Firmware Fla	sber

342.342-13	mware		e Receiver tab.										
itial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos G	PS Mo	tor Tes	sting	Raw Sensor Dat	a: C	ы	Logging		
Calibrate	Accelerometer	Ptace bo	oard or frame on leveled surfa	ce, proceed w	with calibra	tion, er	isure	e platform is not mov	ing duri	ng ca	albration per	iod.	
Calibrate	Magnetometer	Move m	ultirotor atleast 360 degrees o	n all axis of ro	tation. You	have	30 si	econds to perform th	is task				
Rese	et Settings	Restore	all settings to default.										
Backup	Restore	Backup	your configuration in case of a	in accident. (0	LU setting	s are b	otin	duded).					
Model: Que	ad X		Heading: 136 deg	Thr	ottle Setti	ngs		Battery			Acceler	ometer tr	ims
TO	6			Minimum	n;:(	150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	\$
0	2)			Maximun	n;	1850		Max Cell Voltage:	4.3	\$	Roll:	0	\$
00	0			Failsafe			•	Voltage Scale:	110	\$			
-	*			MinCom	mand	1000	•						
	PI/	GHT		M	agnetome	ter		Info			1		
	- MA	2111	FRONT	Declinati	ion	0	•	1.5517600707E7	0.V				
								Current draw: 0	0 mAh 0.00 A 0.%				







#### FAILSAFE CONSIDERATIONS:

The failsafe feature is a function of the receiver and not the Flip32+ so a failsafe enabled receiver is required. When a failsafe is initiated, the Flip32+ receives a PWM throttle value that is lower than the current PWM throttle value and then those values or signals are sent to the ESCs to spin down or stop the motors.

BaseFlight has a motor feature called MOTOR_STOP which is either enabled or disabled. By default, this value is disabled so that the motors idle up when the Flip32+ is armed. Ask yourself this:

- Do I want to use the motors idling up as an indicator to let me know the Flip32+ is armed?
- Do I think that I or someone can get hurt by the motors idling up if I accidentally arm the Flip32+?
- Do I think that the motors idling down to arming speed instead of stopping completely will make a difference when failsafe is imitated and the multirotor is falling from the sky?

For me, the answers are Yes, No and No so I am leaving the MOTOR_STOP feature disabled. Just keep in mind that if you leave it as is, you will still see spinning props when failsafe is initiated but they will be spinning slowly.

# ENABLING/DISABLING THE MOTOR_STOP FEATURE:

- 1. Connect the Flip32+ to your pc or laptop.
- 2. Start the BaseFlight Configurator.

1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	• 1152	(Silverset)	Consect 🗌 🗌 Auto-Conn	ect				Gyro Accel	Mag	Baro	GPS Sona	ar 1
2:19:58 Un 2:19:58 Fir	rial port succes ique device ID mware Version rial port succes	received - 0x6	wm10/10 72#485649785087103143									
nitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Test	ing	Raw Sensor Data	СШ	Logging	i)	
afromini). Official Res • AbuseMar • Multirotor Latest CP21	ellers & Backe k - Internationa Superstore - In 0x Drivers can fully open sou	rs I (Japan) Iternational (U be download Open rce and is ava		aseflight us	ers.	re and	- Con - Add - Flas 07.17 - Bug - Vari 07.11	.2014 - 0.48 figurator reached 60 ed motor order diag hing timeout bugfixe .2014 - 0.47 fixee related to Chro ous optimizations ar .2014 - 0.46 ication will display a fixee	ams (cr is me 36+ id beha	eyc, Curti: release vior impro	sbeef) vements	sber

	rial port succes rial port succes ique device ID r mware Version	stully opened aceived - 0x6	with ID: 17 72#485649785087103143					<u> </u>	4. Clic	k on	the CLI t	ab.	
nitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos (	GPS N	llotor Te	esting	Raw Sensor Da	ta C	8	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled surfa	ice, proceed	with callb	ration, e	insur	e platform is not mov	ing duri	ng ca	libration perio	od.	
Calibrate	Magnetometer	Move m	ultirotor atleast 360 degrees o	n all axis of r	otation. Y	ou have	30 s	econds to perform th	is task				
Rese	t Settings	Restore	all settings to default										
Backup	Restore	Backup	your configuration in case of	an accident (	CLI settir	igs are	not in	iduded).					
Modet Qua	d X		Heading: 282 deg	Th	rottle Se	ttings		Batter	Accelerometer trims				
TO	6			Minimu	m; (	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	\$
0				Maximu	im;	1850	\$	Max Cell Voltage:	4.3	\$	Roll	0	\$
00	)			Failsafe	ŧ,	1200	\$	Voltage Scale:	110	\$			
	K		1111	MinCott	nmand:	1000	\$						
		. FET	1	N	lagneton	neter		Info					
		LEFT		Declina	tion	0	\$	Battery voltage	υv				
	-							Current draw:	0 mAh 0.00 A 0 %				

COM3											X
	• 11520	10 • 0	sconnect	ect (			Gyro Accel	Mag	Baro GP	S Sonar	15
23.02.38 - Seri	al port succes que device ID r	stully opened received - 0x6	can view any or me taos with ID: 19 72#485649785087103143								
initial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GP5	Motor Testing	Raw Sensor Data	сы	Logging		
<pre>* help Available c aux feature mix design dofaults re dump print exit feature lis gapsasthro help map mapping pictic ann save save s status show version</pre>	commands: e_name auxf s custom min eset to defi configurabl st or -val ( ough passthi g of rc chai g of rc chai and reboot alue or blai w system sta	lag or blan Mer aults and r le settings or val rough gps t nnel order / / nk or * for stus	eboot in a pastable form o serial				NAL LED_RING GPS	PATLS	NFE SORAR TEL	LENETRY	

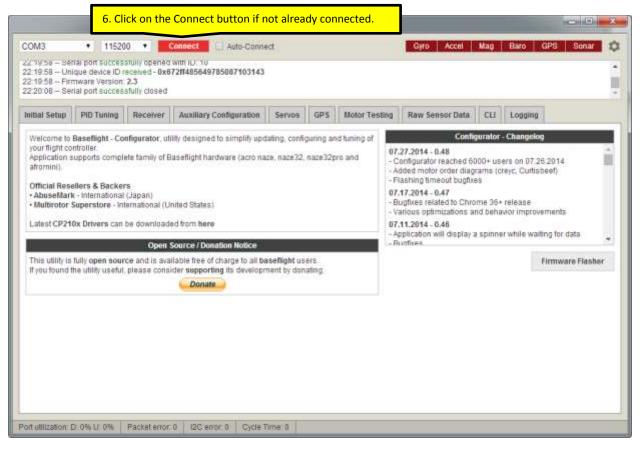
-	-	-	-	Freedowers	[ roy ]	(	(	(Less) (Less	Land Control of Contro
mitial Setup	PID Tuning	Receiver	Auxillary Configuration	Servos	GP5	Motor Testing	Raw Sensor Data	CLI Log	ging
exit feature 1: gpspassth help map mappin mixer mixe motor get.	lst or -val c cough passth ng of rc char rr name or 13 'set motor or idex (0 to 2)	or val rough gps t unel order ist itput value	in a pastable form						

										00	-
CIOM3	• 11520	10 🔹 🖸	acounted	ect.			Gyro Accel	Mag	Baro GP	S Sonar	Ţ
23:02:38 - Se 23:02:38 - Un	tal port succes	stully opened	can view any orme tabs with ID: 19 72ff485649785087103143								
mitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GP5	Motor Testing	Raw Sensor Data	сы	Logging		
<pre>* help Available aux featur cmix desig dofaults it dump print exit feature li gapasath help map mappir picature an save save set name-t status sho version * feature Do disable</pre>	commands: *e_name auxf to custom mul- reset to defa : configurable ist or -val a cough passthe and re out a and reboot alle or blas w system sta list features: P	lag or blan mer aults and s le settings or val rough gps t nmel order / nk or * fos atus	eboot ; in a pastable form o serial		OP SER	VO_TILT SOFTSES	RIAL LED_RING GPS	PAILSP	AFE SORAR TE	LENETRY	

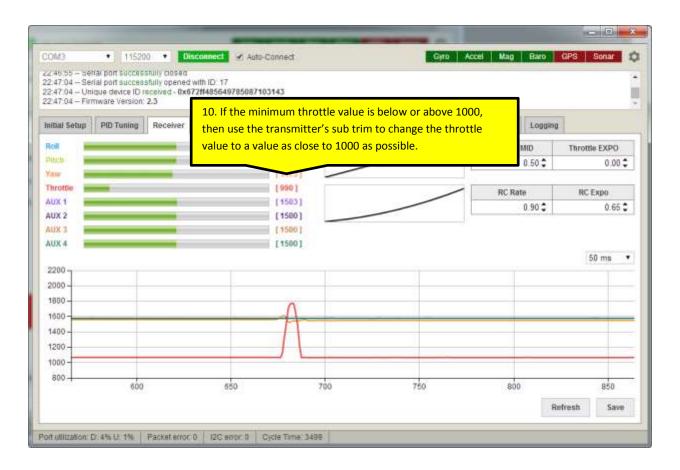
23:02:38 Ser	115200 • Disconnect & Auto-Connect Gyro Accel Mag Baro GPS Sor need to connect perora you can view any orme tabs fait port successfully opened with ID: 19 gue device ID received - 0x672/f485649785087103143	
23.02.38 - Firr Initial Setup	PID Tuning Receiver AuxIlliary Cotifiguration Serves GPS Motor Testing Raw Sensor Data CLI Logging     g CLI tab or pressing Disconnect will automatically send "exit" to the board, which will make the controller save all the changes and restart.	
<pre># help aux Available aux featur cmix desig defaults r dump print exit feature 11 gpapasethr help map mappin mixer mixe motor get/ profile 10</pre>	: feature	
<pre># exit Leaving CL Saving Rebooting. exit</pre>		

#### SETTING THE MINIMUM PWM THROTTLE VALUE FOR FAILSAFE:

- 1. Ensure that your transmitter as no sub trims set for the throttle channel
- 2. Ensure that the minimum and maximum limits are set on your transmitter for throttle channel
- 3. Set failsafe on your receiver
- 4. Connect the Flip32+ to your pc or laptop.
- 5. Start the BaseFlight Configurator.



47:04 - Fit	ique de 9. 0	lick on th	e Receiver tab.							1
tial Setup	PID Tuning	Receiver	Auxillary Configuration	Servos GPS	Motor Testing	Raw Sensor D	ata CLI	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled sur	ace, proceed with	calibration, ensur	re platform is not m	oving during	calibration p	eriod.	
Calibrate	Magnetometer	Move mu	ultirotor atleast 360 degrees	on all axis of rotat	ion. You have 30 s	econds to perform	this task.			
Rese	t Settings	Restore	all settings to default.							
Backup	Restore	Backup	your configuration in case of	f an accident. (CLI	settings are not in	iduded).				
Model: Quad X Heading: 313 deg				Thrott	le Settings	Battery		Accel	Accelerometer trims	
				7. Change the failsafe throttle value to 1000.						
ă c	5			Failsafe:	1000 🗘	Voltage Scale:	110			2
	K			MinComma	nd: 1000 🗘					
		-FT	BACK	Magr	etometer	Inf	0			
	L.	EFT		Declination	0 🗘	Battery voltage: Capacity drawn	0 V 0 mAh			
						Current draw.	0.004		the Save b	



	nal port succes		Notesti de la					
49:25 - Un		aceived - 0x67	vith ID: 18 2#48564978508710314	13				
:49:25 - Fin	mware Version:	2.3						3
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	servos	GP5 Motor Testing	Raw Sensor Data	CH Logging	i l
		_		44051		_	le MID	Throttle EXPO
tch 💼		_	11. In this exa	mple, the c	losest value poss	ible was 1022.	0 50 \$	0.00 \$
iw 💻		_				1.24		
rottie	_			1022]			RC Rate	RC Expo
2X 1 📄		_		1583]			0 90 🗘	0.65 \$
JX 2		_		1500]			1000	
IX 3				1500]				
JX 4 📃		-		1500]				1000 million and
200 -								50 ms 🔹
000								
0004								
100								
500-								
500 - 400 -								
500 - 400 - 200 -				_				
800 - 500 - 400 - 200 - 000 -							12. Click on	the Save button.
500 - 400 - 200 -	2300		2350	2400	2450	2	12. Click on	the Save button.

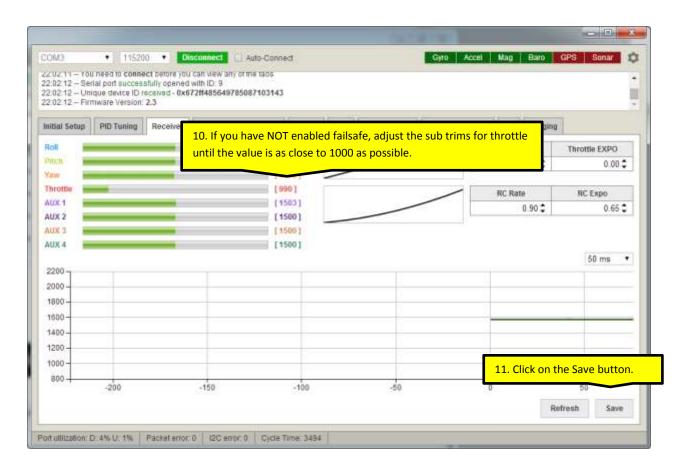
### **STICK CALIBRATION:**

- 1. if you have enabled failsafe and changed the throttle sub trims, skip to step 3
- 2. Ensure that your transmitter does not have sub trims set for the throttle channel
- 3. Ensure that your transmitter does not have sub trims set for the roll, pitch and yaw channels
- 4. Ensure that your transmitter does not have any sub trims set for any switches
- 5. Connect the Flip32+ to your pc or laptop.
- 6. Start the BaseFlight Configurator.

	<b>7.</b> Cl	ick on the	Connect button if n	ot alrea	idy con	nected.				-	X
COM3	• 1152	00 🔹 🔳	Connect 🗌 🗔 Auto-Conne	ict.			Gyro Accel	Mag	Baro	GPS Sonal	•
22:01:52 Set 22:01:52 Uni 22:01:52 Fim 22:01:52 Fim 22:01:57 Set	ique device ID : mware Version	eceived - 0x6 2.3	72#485649785087103143								
Initial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	СШ	Logging		
your flight co Application s afromini). Official Rese AbuseMari Multirotor S Latest CP210 This utility is	ntroller. upports compl silers & Backer < International Superstore - In Ox Drivers can fully open sour	ete family of E I (Japan) ternational (U be download Open rce and is ava		re, naze32, iseflight us	naze32p ers	ro and -( -/ -/ -/ -/ -/ -/ -/ -/	27.2014 - 0.48 Configurator reached 64 didest motor order diag Rashing timeout bugftx 1.17.2014 - 0.47 anicus optimizations a 1.11.2014 - 0.46 application will display a funtives	000+ us rams (d 98 me 36 nd beha	reyc, Curtis • release avior improv er while wait	6.2014 beef) ements	* ber
Port utilization: (	3:0% U 0%	Packeterror	0 I2Ciento: 0 Cycle T	îme û							

Calibrate Accelerometer       Place board or frame on leveled surface, proceed with calibration, ensure platform is not moving during calibration period.         Calibrate Magnetometer       Move multirotor atleast 368 degrees on all axis of rotation. You have 30 seconds to perform this task.         Reset Settings       Restore all settings to default         Backup       Restore       Backup your configuration in case of an accident (CLI settings are not included)         Mode: Quad X       Heading: 136 deg       Minimum:       1150       Accel Voltage:       3.3       Accelerometer trims         Mode: Quad X       Heading: 136 deg       Minimum:       1150       Minimum:       1150       Accel Voltage:       3.3       Clib       O Clib         Mode: Quad X       Heading: 136 deg       Minimum:       1150       Minimum:       1150       Minimum:       1150       Minimum:       1150       Clib       Accelerometer trims         Minimum:       1150       Minimum:       1150       Minimum:       1150       Minimum:	AP-18-130	ique dev 8. mware V		he receiver tab.										
Calibrate Magnetometer       Move multirotor atleast 360 degrees on all axis of rotation. You have 30 seconds to perform this task.         Reset Settings       Restore all settings to default.         Backup       Restore all settings to default.         Modet Quad X       Headling: 136 deg         Modet Quad X       Modet Quad X       Accelerometer trims         Modet Quad X       Headling: 136 deg       Accelerometer trims         Modet Quad X       Modet Quad X       Battery Quad X       Accelerometer trims         Modet Quad X       Info       Battery Quad X       Info         Magnetometer       Quad X       Qu	tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos 0	SPS M	otor Te	sting	Raw Sensor Dat	a Ci	u I	Logging		
Reset Settings       Restore all settings to default.         Backup       Restore all settings to default.         Model: Quad X       Heading: 136 deg         Model: Quad X       Heading: 136 deg         Minimum:       1150 ± Maximum:       Min Cell Voltage:       3.3 ± 3.3 ± Maximum:       Accelerometer trims.         Minimum:       1150 ± Maximum:       Minimum:       Minimu	Calibrate	Accelerometer	Ptace bo	oard or frame on leveled surfa	ice, proceed v	with calibr	ation, e	insure	platform is not mov	ing duri	ng ca	libration pe	riod.	
Backup       Restore       Backup your configuration in case of an accident (CLI settings are not included).         Modet: Quad X       Heading: 136 deg (3)       Throttle Settings       Minimum: 1150       Battlery       Accelerometer trims Masmum: 1850       Pitch:       0       0         (3)       (2)       (3)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10)       (10	Calibrate	Magnetometer	Move m	ultirotor atleast 366 degrees o	n all axis of r	otation. Yo	ou have	30 st	econds to perform th	is task				
Modet: Quad X     Heading: 136 deg     Throttie Settings     Minimum:     1150 ÷       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1	Rese	t Settings	Restore	all settings to default.										
Minimum:     1150 ÷ Maximum:       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1 <t< td=""><td>Backup</td><td>Restore</td><td>Backup</td><td>your configuration in case of</td><td>an accident (</td><td>CLI settin</td><td>çs are i</td><td>not in</td><td>duded).</td><td></td><td></td><td></td><td></td><td></td></t<>	Backup	Restore	Backup	your configuration in case of	an accident (	CLI settin	çs are i	not in	duded).					
Minimum:       1150 °         Maximum:       1850 °         Maximum:       1850 °         Failsafe:       1200 °         MinCommand:       1000 °         Magnetometer       Info         Declination:       0 °         Battery voltage:       0 V         Capacity drawn:       0 °	Modet Qua	d X		Heading: 136 deg	Th	rottle Set	tings		Battery			Accele	rometer t	rims
Failsafe     1200 ÷       MinCommand     1000 ÷       Mignetometer     Info       Declination:     0 ÷       Eattery voltage:     0 V       Capacity drawn:     0 mAh	TO	5				m;: [	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	\$
MinCommand:     1000 \$       MinCommand:     1000 \$       Magnetometer     Info       Declination:     0 \$       Battery voltage:     0 V       Capacity drawn:     0 mAh	0	)			Maximus	m;	1850	\$	Max Cell Voltage:			Roll:	0	:
Magnetometer         Info           Declination         0         Capacity drawn:         0 WAh	00	0						\$	Voltage Scale:	110	\$			
RIGHT FRONT Declination 0 C Capacity drawn: 0 mAh		×			MinCom	nmand.	1000	•						
Gapacity drawn. 0 mAh		DI/	Net		м	lagnetom	eter		Info					
		- MA	2111	FRONT	Declinat	tion	0	\$	Battery voltage	0.V				
RSSI 0%									Current draw:	0.00 A				
Current draw 0.00 A						in the record		\$	Battery voltage					

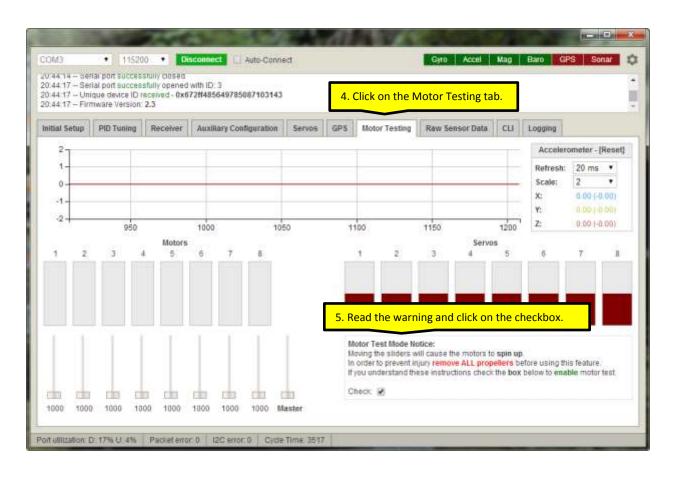
SM3		115200	and the second	isconnect	Auto-Connect			Gyro	Accel	Mag Baro	GPS Sonar
20212-Se	rial port s	uccessful	y opened								
2:02:12 Un 2:02:12 Fir		ersion			85087103143						
	( non m		9. Adju	st the sul	o trims for roll	, pitch and	yaw unti	l the values	are as o	close to 1500 a	as possible.
itial Setup	PID To	ining .								1	
oli 🖷			-		[1499]			/	-	Throttle MID	Throttle EXPO
itch -			-		[ 1501 ]		/			0.50 🗘	0.00
IW .			-		(1402)	/			_		
nrottle _	_				[ 990 ]			/	/	RC Rate	RC Expo
UX 1					(1503)		_			0.90 🗘	0.65
UX 2					[1500]				_	- 011 OAL 111	
UX 4					[ 1500 ]						
0.4					[1504]						50 ms
200 -	_										1.52.110
000				_							
800-				_				1			
600-	_										
400-											
200											
000											
800											
NT 10	-200			-150	-1	00	4	50	j)	ò	50
											efresh Save

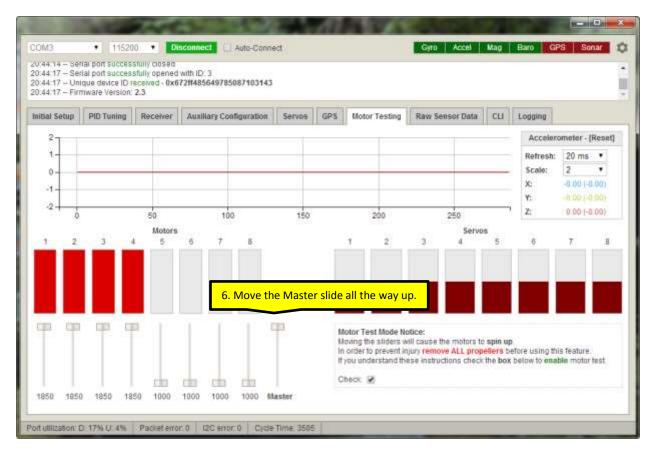


## ESC CALIBRATION:

- 1. Ensure that you have performed the stick calibration prior to performing this calibration
- 2. Connect the Flip32+ to your pc or laptop without the main battery connected to the multirotor

0:44:17 - Unit 0:44:17 - Firm	<ul> <li>1152( a) port succes</li> </ul>	stully opened received - 0x6 2.3	Connect Dutton if	ect		nnected.	1	Giro Accel	Mag	Baro	GPS Sonar	
initial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testi	va	Raw Sensor Data	СШ	Logging	0	
your flight con Application as afromini). Official Rese • AbuseMark • Multirotor S Latest CP210 This utility is 1	ntroller upports compl dens & Backer - International luperstore - In Dx Drivers can	ete family of B I (Japan) ternational (U be download Open rce and is ava		aseflight us	.naze32p		- Con - Add - Flas 07.17 - Bug - Vari 07.11	7.2014 - 0.48 figurator reached 6/ ed motor order diag ihing timeout bugfuo 7.2014 - 0.47 fixes related to Chro ous optimizations a 1.2014 - 0.46 lication will display a	000+ us rams (r es ome 36 nd beh	reyc, Curlis • release avior impro	26.2014 ;beef) rementa	+





- 7. Plug in the multirotor main battery
- 8. The ESCs should sing their calibration song. It sounds a bit different for SimonK flashed ESCs



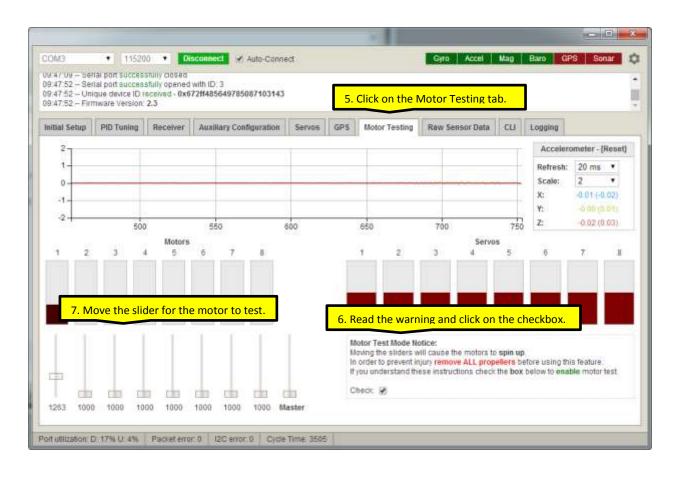
10. The ESC should sing their calibration song and beep the number of battery cells. It sounds a bit different for SimonK flashed ESCs.

#### MOTOR TESTING:

- 1. Connect the Flip32+ to your pc or laptop.
- 2. Start the BaseFlight Configurator.



09:46:39 Un 09:46:39 Fin	mware Version	stully opened received - 0x6 2.3	Connect Auto-Connect with ID: 2 7211485649785087103143				Gyro Accel	Mag	Baro	GPS Sonar	0
09:47:09 - Se Initial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing	Raw Sensor Data	СШ	Logging	1	3
your flight co Application is afromini). Official Res- AbuseMari Mutbrotor : Latest CP21	ntroller. upports compl ellers & Backer < International Superstore - In Ox Drivers can fully open sour	ete family of E (Japan) ternational (U be download Open rce and Is ava		re, naze32,	naze32p ers.	ro and	Cont 7.17.2014 - 0.47 Bugfixes related to Chi Various optimizations 7.11.2014 - 0.46 Application witi display Bugfixes 7.04.2014 - 0.45 Configurator reached 5 Updated various text n U notism	rome 36 and beh a spinn 5000+ us	er while wai er while wai	ements ting for data 3.2014	4
of ullization: 1		Packeterior	0 12C error: 0 Cvcle 1								



### LOST MODEL ALARM:

The picture on the left shows two typical lost model alarms while the picture on the right shows a typical Piezo buzzer. The lost model alarms on the left will not work on the Flip32+ because they require a signal pin in addition to power and ground. The Piezo buzzer on the right will work because it only requires voltage and ground.



Once I got the Piezo buzzer working, I noticed that the sound it emitted was not very loud. I knew that the sound emitted from the lost model alarm was much louder so I decided to hack the Piezo buzzer from that. If you do not have a lost model alarm already, you can just get a large size Piezo buzzer, i.e. 12V that will work just fine and loud.



In this picture the low sounding Piezo buzzer is on the top and the hacked loud sounding Piezo buzzer is on the bottom. They are the same physical size but the hacked one is so much louder.

#### BEEP CONNECTION SETUP FOR A PIEZO BUZZER:

1. Setup the switch and channel on your transmitter that will activate the BEEP

- 2. Attach the channel on your receiver to one of the AUX pin headers on the Flip 32+
- 3. Connect the Flip32+ to your pc or laptop.
- 4. Start the BaseFlight Configurator.

itial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Test	ng Raw Sensor Data	СШ	Logging		
	-		lifty designed to simplify upd	-	K I				Changelog		_
your flight contro Application sup afromini). Official Reselle • AbuseMark - I • Multirotor Sup Latest CP210x	ports comple ins & Backer International perstore - Inte	s (Japan) emational (U be download	ed from here	ce, naze32,	naze32p	rs and	07.27.2014 - 0.48 - Configurator reached - Added motor order dia - Fiashing timeout bugf 07.17.2014 - 0.47 - Bugfixes related to Ch - Various optimizations 07.11.2014 - 0.46 - Application will display	grams (cre xes rome 36+ r and behav	eyc, Curtisbe release ior improven	ief) nents	1
			Source / Donation Notice				- Runfines				
			idable free of charge to all ba ider supporting its developm						FI	rmware Flast	ler
			Donate								

57.28 Un	fal port success ique device ID n mware Version:	sceive 6.	Click on the Auxilia	ry Connectio	n Tab	•						
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GPS	Motor T	estin	g Raw Sensor Da	ta: C	ы	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled surfa	ce, proceed with call	bration,	ensur	re platform is not mov	ing duri	ng ca	ilbration peri	od.	
Calibrate	Magnetometer	Move mi	litirotor atleast 360 degrees o	n all axis of rotation.	You have	9 30 s	seconds to perform th	is task				
Rese	t Settings	Restore	all settings to default.									
Backup	Restore	Backup	your configuration in case of a	in accident. (CLI set	ings are	not in	nduded).					
Model: Qua	d X		Heading: 48 deg	Throttle S	ettings		Batlery	E.		Acceler	ometer tr	ims
ma	5		0.064-0.065-0.099.06	Minimum:	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	:
00	)			Maximum;	1850	di Tel I	Max Cell Voltage:	4.3	\$	Roll:	0	:
00	2			Failsafe;		•	Voltage Scale:	110	\$			
	«	1		MinCommand.	1000	÷						
	BACK	DI		Magneto	meter		Info			F		
	unon	RA	SHT	Declination	0	\$	1000 1000 1000 1000 1000 1000 1000 100	0 V				
							Current draw.	0 mAh 0.00 A 0.%				

	Receiver	Auxiliary	Configuration	Servos	GPS	Motor 1	esting	Raw Sensor	Data CLI	Loggini	0	
		AUX 1		5	AUX 2			AUX 3			AUX 4	
Name	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
ARM			10	- U		8	0		0	- 0		- 63
ANGLE	目		目	69		-0	티		圓	0		(3
HORIZON	0		0	-63		-			(E)	0		10
BARO		المراجع والمراجع								8		8
MAG			e BEEPER	-				channe		8		8
HEADFREE	be use	d. In tl	his examp	ole, I sele	ected	AUX 1.				8		0
HEADADJ	123			53		3.1	. 19		- 10	0		12
BEEPER	8		2	8		6	8		8	8		8
OSD SW	8		0	8		-01	8		0	- El .		8
OSD SW	8	•	0	B	•	0	8	•	0	0		B

ial Setup	PID Tuning	Receiver	Auxiliary	Configuration	Servos	GPS	Motor 1	esting	Raw Sensor	Data C	Li Logging	ii).	
			AUX 1		4	UX 2			AUX 3			AUX 4	
,	lame	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
	ARM			13	13		8	Ū.		0			- 13
A	NGLE	0		E)	63		0	티	12	圓	(B)		(3
	RIZON	0			0		0	. 8			10		10
E	IARO	前		8	8		8	-81		<b>B</b>	-8		8
The B	EEPER fun	ction tur	ns Red.	10 ·	8		洞	8		0	8		8
				10	10		월.	- 13		D	10		61
	ADADJ	- 12		- 52	8		- 10			13	. G		0
	EPER	8		8	8		6	6		8	8		13
D8	SD SW	8		0	8	•	0	8		0	- E		0
		1.							2		h.		

				Configuration	n Servos	GPS	1	esting			CUL	ogging	
			AUX 1		4	UX 2			AUX 3			AU	X 4
	Name	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LO	VV NB	ED H
	ARM		- U		U.		8	0		0			
1	NGLE	目	5	-	63		0	티		圓	6	1	
- 19	ORIZON	0	-61		-63	-	(i)			- 63	100	1	
	BARO	前	前		<b>B</b>		B	19			- 12		
<mark>en activat</mark>	ed, the BE	EPER bar	turns	Green an	<mark>d you wi</mark>	ll hear	a BEE	P		0	10	_	
H	EADADJ	12	8		0		10	12			10		
1163	EEPER	8	6		9		6	5		6	12		
-	SD SW.	0	8		0		0	8		0	10	_	

### FLIGHT MODES:

### ACRO

- Short for Acrobatic mode but sometimes called Manual mode
- Allows for flips and other fancy acrobatic type maneuvers
- Does not require a switch settings as it's the default mode
- Utilizes only the gyros to assist the pilot with handling interference from wind
- The pilot is in full control

## ANGLE:

- Sometimes called Self Leveling mode or Auto Level mode
- Does not allow for lips or other fancy acrobatic type maneuvers
- Requires activation via a switch
- Utilizes gyros and accelerometers to keep the multirotor level as possible
- The pilot is in full control except when sticks are released

#### HORIZON:

- Combination of ACRO mode and ANGLE mode
- Allows for both auto/level flying and fancy acrobatic type maneuvers
- Requires activation via a switch
- When transmitter sticks are at center, ANGLE mode is enabled
- When transmitter sticks are towards their outer edges, ACRO mode is enabled

### BARO:

- Sometimes called Altitude Hold mode
- Allows for level flight within a few meters up/down based on barometric pressure
- Requires activation via a switch when throttle is at 50% and multirotor is in the air

#### MAG:

- Sometimes called Heading Hold mode
- Locks the multirotor in the direction it was going before activating
- Requires activation via a switch when multirotor is flying straight with no yaw movement

## **HEADFREE:**

- Sometimes called Care Free mode or Super Simple mode
- Great for anyone that has issues with multirotor orientation
- Requires activation via a switch
- Uses the magnetometer (compass) and last known position
- Controls the multirotor left/right or forward/back direction regardless of orientation, i.e. the front of the multirotor is facing you instead of away from you
- Left/right stick movement will always move the multirotor left/right
- Forward/back stick movement will always move the multirotor forward/back
- Requires that the magnetometer (compass) be mounted in such a way to reduce magnetic interference from multirotor motors, ESCs or anything that can cause interference.

# HEADADJ:

- Allows you to adjust the locked heading position while flying in MAG mode
- Requires activation via a switch

## TWO POSITION SWITCHES FOR FLIGHT MODES:

- 1. Setup the switch and channel on your transmitter that will activate the mode you want
- 2. Attach the channel on your receiver to one of the AUX pin headers on the Flip 32+
- 3. Connect the Flip32+ to your pc or laptop.
- 4. Start the BaseFlight Configurator.

CONTRACTOR OF A DESCRIPTION	non marine		CONTRACTOR OF A CONTRACTOR OF	-	[ cov ]		11	-		-		
nitial Setup	PID Tuning	Receiver	Auxillary Configuration	Servos	GPS	Motor Testi	ng	Raw Sensor Data	CEI	Logging	1	
afromini), Official Rese • AbuseMark • Multirotor S Latest CP210	ellers & Backer - International Superstore - Int Ox Drivers can fully open sour	'S (Japan) ernational (Uk be downloade Open S Ce and is avai		iseflight us	ers.	ro and	- Coi - Add - Fia 07.1 - Bui - Var 07.1 - App	(7.2014 - 0.48 infigurator reached 60 ded motor order diagi ashing timeout bugfixe (7.2014 - 0.47 gfixes related to Chro rious optimizations ar 11.2014 - 0.46 plication will display a others	ams (cr s me 36+ id beha	reyc, Curtis release wor improv r while wai	beef) ements	ber
			Donate									

57.28 Un	tal port success ique device ID re triware Version.	sceive 6.	Click on the Auxilia	ry Connectio	n Tab	•						
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GPS	Motor T	estin	g Raw Sensor Da	ta: C	B	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled surfa	ce, proceed with call	ibration,	ensur	re platform is not mov	ing duri	ng ca	libration peri	od.	
Calibrate	Magnetometer	Move mi	litirotor atleast 360 degrees o	n all axis of rotation.	You have	9 30 s	econds to perform th	is task				
Rese	t Settings	Restore	all settings to default.									
Backup	Restore	Backup	your configuration in case of a	in accident. (CLI set	tings are	not in	iduded).					
Modet Qua	d X		Heading: 48 deg	Throttle S	ettings		Battery	E.		Accelero	ometer tr	ims
ma	5			Minimum;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	:
0	)			Maximum;	1850	di Tel I	Max Cell Voltage:	4.3	\$	Roll:	0	:
00	)			Failsafe		•	Voltage Scale:	110	\$			
	e	1		MinCommand	1000	\$						
	BACK	DI		Magneto	meter		Info					
	UNION	RA	SHT	Declination	0	\$	Contraction of the second s	0 V 0				
							Current draw.	0 mAh 0.00 A 0.%				

HIGH	LOW	AUX 3 MED	HIGH	LOW	AUX-4 MED	HIG
	0	100000	200300			
			10	0	-	
-10	E)		自	(g		1
0			E	10		100
8	8		6	8		E
E	8		10	8		E
8	8		D	10		E
10	10		13	0		6
8	8		8	8		6
0	8		0	0		E

			-	Config	node wł	ien the	switch	<mark>is activa</mark>	ited (HI	GH).			
		-	AUX 1			AUX +			AUX 3			AUX 4	
	ime	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
1.57	RM	0		13	0	0		U.		0	0		0
	GLE	- 63		-63	-69			- 63		印	- 63		63
	UZON	- 63		0	0	0	~	- 63		(D)	0		0
	RO									0			
	AG	1		Ð	6	0		.B.		同			8
	FREE			0	8					0	- 17		8
	DADJ	- 12			0	G		0		- D	19		0
	PER		-		0	0		0		0			
OSC	D SW	E .		0	8			8		Θ.	£1		

## THREE POSITION SWITCHES FOR FLIGHT MODES:

- 1. Setup the switch and channel on your transmitter that will activate the mode you want
- 2. Attach the channel on your receiver to one of the AUX pin headers on the Flip 32+
- 3. Connect the Flip32+ to your pc or laptop.
- 4. Start the BaseFlight Configurator.

nitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testi	Raw Sensor Data	сы	Logging	2	
			By designed to simplify upd	1					- Changel		
AbuseMar     Multirotor Latest CP21	ellers & Backer k - International Superstore - Int Ox Drivers can	(Japan) Ismational (Ur be downloade Open 1		at a Flink t	1107		Added motor order diag     Flashing timeout bugbs 07.17.2014 - 0.47     Eugfixes related to Chro     Various optimizations a 07.11.2014 - 0.46     Application will display a     Runtixes	nd beha	release wor impro	vements	
			der supporting its developm							Firmware Ha	ider

57.28 Un	tal port success ique device ID re triware Version.	sceive 6.	Click on the Auxilia	ry Connectio	n Tab	•						
tial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GPS	Motor T	estin	g Raw Sensor Da	ta: C	B	Logging		
Calibrate	Accelerometer	Place bo	oard or frame on leveled surfa	ce, proceed with call	ibration,	ensur	re platform is not mov	ing duri	ng ca	libration peri	od.	
Calibrate	Magnetometer	Move mi	litirotor atleast 360 degrees o	n all axis of rotation.	You have	9 30 s	econds to perform th	is task				
Rese	t Settings	Restore	all settings to default.									
Backup	Restore	Backup	your configuration in case of a	in accident. (CLI set	tings are	not in	iduded).					
Modet Qua	d X		Heading: 48 deg	Throttle S	ettings		Battery	E.		Accelero	ometer tr	ims
ma	5			Minimum;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	:
0	)			Maximum;	1850	di Tel I	Max Cell Voltage:	4.3	\$	Roll:	0	:
00	)			Failsafe		•	Voltage Scale:	110	\$			
	e	1		MinCommand	1000	\$						
	BACK	DI		Magneto	meter		Info					
	UNION	RA	SHT	Declination	0	\$	Contraction of the second s	0 V 0				
							Current draw.	0 mAh 0.00 A 0.%				

Name		AUX 1			TATLES				114		00000000	
Name			1000	111/2/2000	AUX 2	0.00227	1022310	AUX 3	1000		AUX 4	n
	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIG
ARM			13	13		8			0			1
ANGLE	0		- E)	63		-0	티		<u>.</u>	(3		6
HORIZON	0		0	- E		0	0		0	0		E
BARO			.0			0	-		10	- 8		E
MAG	8		12	8		和	8		10	8		8
HEADFREE	- 10		10	- 10			- 13		10	8		6
HEADADJ				8		坦	- D		- 13	. 9		6
BEEPER	8		6	10		8	8		8	8		6
OSD SW	8		-02			-02-						E

											UX 4	
Name	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	H
ARM		0	13	0			10		10			1
ANGLE	*	D	-60	-63		-00	- 10		印	63		- 4
HORIZON		0	0	- 63		0	- 69		- CD	10		1
BARO			- 63			-			8	8		1
MAG		9	Ð	6		Đ	8		E.	10		1
HEADFREE		8	13			- 12	13		0	- 13		- 1
HEADADJ		Ð	- 13	0		10	0		. 10	10		1
BEEPER		8	9	8		-	8		由			1
OSD SW		0	0	8		0	8		0	8		1
HEADADJ BEEPER	+	0	0	0	-	8	0	-	0	8		

Name					AUA 2			HUN 3			190A 4	
1 Million A	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIC
ARM	0		13	0			10		10			0
ANGLE	13		60	-69		-			切	63		6
HORIZON	10	*	0	10		0	102		0	10		10
BARO	8		10			-						- 6
MAG	0		E	6		E .	8		E.	8		18
EADFREE			0	6		10	13		0	13		E
HEADADJ	- 10			0		10	10		12	100		5
BEEPER	- 63			0		田	8		-	0		6
OSD SW	8		0	- EB -		0	8		Θ.	0		E
HEADADJ BEEPER	0	-	0	0		8	0	-	0	0		

Setup Pi	D Tuning	Receiver	Auxillary	Configuration	Servos	GPS	Motor T	esting	Raw Sensor	Data Cl	I Loggin	(g)	
		1-	AUX 1			AUX 2			AUX 3			AUX 4	
Name	9	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH	LOW	MED	HIGH
MAG			0	×	8		10	8			8		8
MAG		(B)	9		6		10	12		142	1.044		
HEADFR	REE	12			8		-			0	- 63		8
HEADFR	DJ	0	Ð		8	-	3	8		0	8		0
HEADFR HEADA BEEPE	REE DJ R	0	0		0	-	13	0	÷		0		0
HEADFR	REE DJ R	0	Ð		8	-	3	8		0	8		0

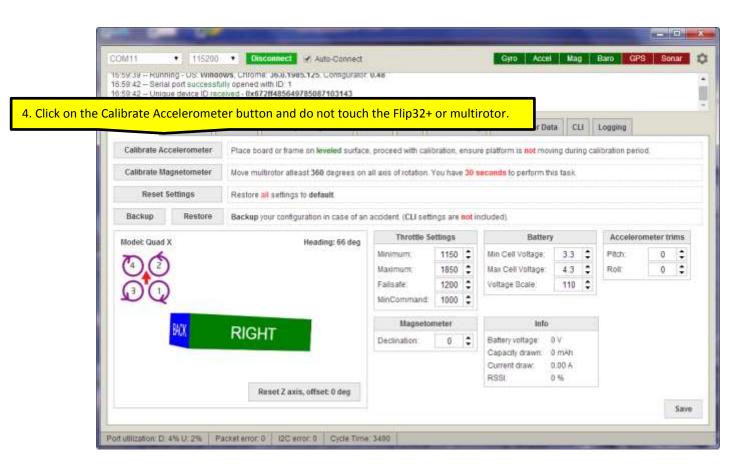
## ACCELEROMETER CALIBRATION USING THE GOOGLE CHROME BASEFLIGHT CONFIGURATOR:

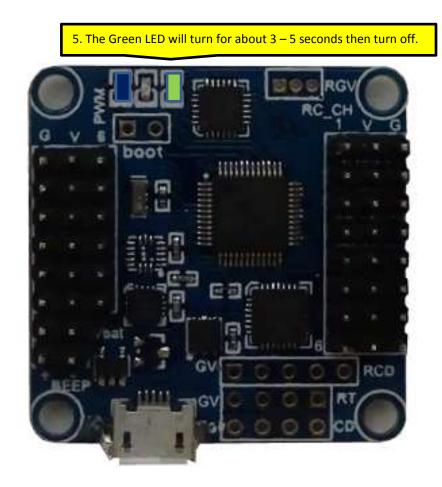
ReadyToFlyQuads.COM will have done the calibration for you but accelerometers are very sensitive to vibrations. In order to avoid any accelerometer issues caused by the vibrations received in transit, it is considered best practice to re-calibrate the accelerometers when you receive the Flip32+.

It is imperative that the multirotor be kept level and motionless while the calibration process is performed.

- 1. Connect the Flip32+ to your pc or laptop
- 2. Start the BaseFlight Configurator.

Welcome to Bas	ND Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testing					
						motor resoluty		СН	Logging		
	nternational erstore - Int Ortvers can I y open source	(Japan) emational (Ur be downloade Open : ce and is avai				0	Configurator reached 60 Added motor order diagr Flashing timeout bugtive 7.17.2014 - 0.47 Bugtives related to Chro Various optimizations an 7.11.2014 - 0.46 Application will display a Buxtives	ams (ci is me 36+ id beha	reyc, Curtis release wor improv	ibeef) vements	her





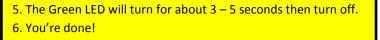
:16:45 - Acc :16:58 - Acc	celerometer cali celerometer cali celerometer cali celerometer cali	bration finish bration starte	ed d							
itial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos GP5	Motor Testing	Raw Sensor Dat	CLI	Logging		
Calibrate /	Accelerometer	Place b	oard or frame on leveled suff	ace, proceed with	calibration, ensur	e platform is not movi	ng during c	alibration p	eriod.	
Parenteen tot	Magnetometer	Move m	ultirotor atleast 360 degrees	on all axis of rotat	ion. You have 30 s	econds to perform thi	s task.			
Calibrate										
	t Settings	Restore	all settings to default.							
Rese Backup nless yo	Restore u use a bu	Backup	your configuration in case of el to setup the Flip	32+ "level"	prior to the	e calibration p			rometer trims	Notes and American
Rese Backup nless yo e is no r	Restore u use a bu eal way to	Backup Ibble lev determ	your configuration in case of	32+ "level"	prior to the ctually is. Ye	e calibration p			Contra society in the	Thereast Protocol 10000
Rese Backup nless yo e is no r	Restore u use a bu eal way to	Backup Ibble lev determ	vour configuration in case of el to setup the Flip ine how "level" th u a rough idea.	032+ "level" e Flip32+ ad	prior to the ctually is. Ye	e calibration p			0 \$	Average Processes 1000.

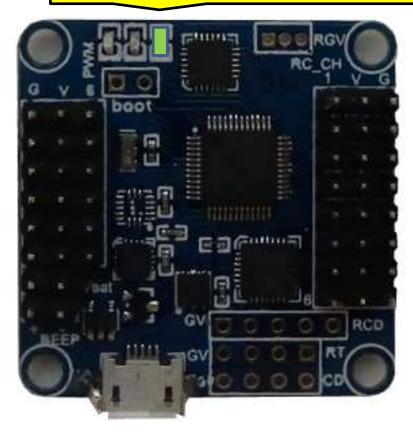
### ACCELEROMETER CALIBRATION USING THE TRANSMITTER STICKS:

- 1. Power on your transmitter
- 2. Power on the Flip32+
- 3. Ensure that the Flip32+/multirotor is level and motionless
- 4. Ensure that the Flip32+ is not armed

5. Slowly move the throttle stick all the way up and to the left.



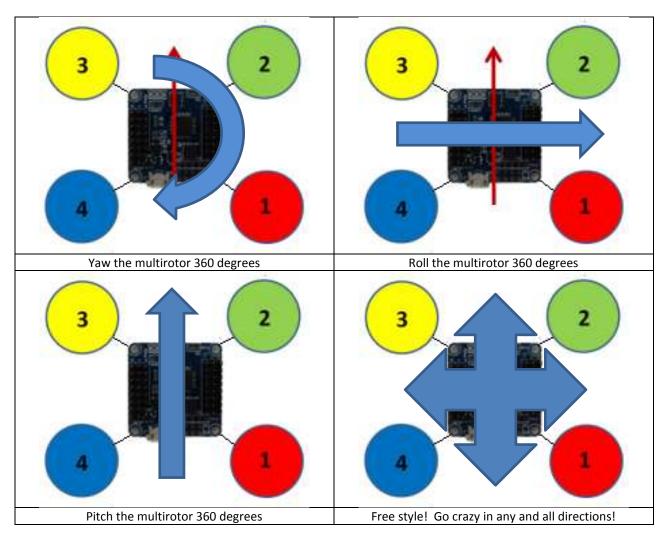




## THE MAGNETOMETER (COMPASS) CALIBRATION DANCE:

The dance is basically a series of movements that moves the Flip32+ along its X, Y and Z axis. This gives the Flip32+ a chance to obtain magnetic reference points so that it can best determine where magnetic north is. During the calibration dance, keep the multirotor flat as if it were hovering in the air.

Once started, you have only 30 seconds to complete all of the dance steps.



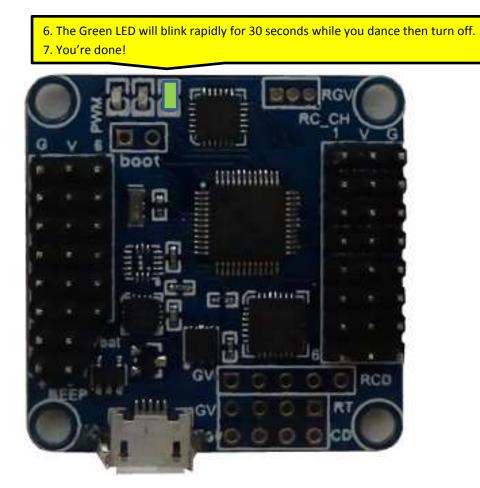
## MAGNETOMETER (COMPASS) CALIBRATION USING THE GOOGLE CHROME BASEFLIGHT CONFIGURATOR:

It is best to use a Blue Tooth connection when using the Google Chrome BaseFlight Configurator because a USB cable will be in the way as you rotate the Flip32+. If a Blue Tooth connection is not available, you can use the transmitter stick method instead.

- 1. Connect the Flip32+ to your pc or laptop via a Blue Tooth connection.
- 2. Start the BaseFlight Configurator.

4:44:22 - Uni 4:44:22 - Firr	tal port succes que device ID r mware Version tal port succes	eceived - 0x8 2.3	with 10: 1 72ff485649785087103143									
nitial Setup	PID Tuning	Receiver	Auxiliary Configuration	Servos	GPS	Motor Testi	Raw Sensor	Data	сы	Logging	Ð.	
afromini). Official Rese • AbuseMark • Multirotor S	upports compl ellers & Backer L - International Superstore - Int Ox Drivers can	rs (Japan) ternational (U be download)		ce, naze32,	naze32p	ro and	07.27.2014 - 0.48 - Configurator rea Added motor ord - Fisshing timeou 07.17.2014 - 0.47 - Bugfixes related - Various optimiza 07.11.2014 - 0.4 - Application will d - Ruotixes	ched 6000 ler diagrar t bugfixes to Chrom- tions and	ms (cre e 36+ r behavi	elease or improv	ibeef) rements	
			ilable free of charge to all ba ider supporting its developm Donate								Firmware Fla	sber

59:42 Unique device ID rec	ully opened with ID: 1 served - 0x672ff485649785087103143									
lick on Calibrate M o the calibration d	lagnetometer button. ance.	iervos GPS	Motor Te	estin	g Raw Sensor Dat	a C	H	Logging		
~	urfac	e, proceed with calif	bration, e	insu	re platform is not movi	ng duri	ng ca	ilibration peri	od.	
Calibrate Magnetometer	Move multirotor atleast 360 degrees on	all axis of rotation.	r'ou have	30 1	seconds to perform th	s task				
Reset Settings	Restore all settings to default.									
Backup Restore	Backup your configuration in case of an	accident. (CLI setti	ngs are	not in	nduded).					
Model: Quad X	Heading: 66 deg	Throttle Settings			Battery			Accelerometer trims		
76		Minimum;	1150	\$	Min Cell Voltage:	3.3	\$	Pitch:	0	\$
		Maximum;	1850	\$	Max Cell Voltage:	4.3	\$	Roll	0	\$
$\Theta \Theta$		Failsafe	1200	\$	Voltage Scale:	110	\$			
		MinCommand	1000	\$						
		Magnetometer			Info			6		
DUN.	RIGHT	Declination	0	\$	Battery voltage: (	١V				
					Current draw. 0	0 mAh 0.00 A				
					Naai. s	1.70				



## MAGNETOMETER (COMPASS) CALIBRATION USING THE TRANSMITTER STICKS:

- 1. Power on your transmitter
- 2. Power on the Flip32+
- 3. Ensure that the Flip32+/multirotor is level and motionless
- 4. Ensure that the Flip32+ is not armed



7. Do the calibration dance.

8. The Green LED will blink rapidly for 30 seconds while you dance then turn off.9. You're done!



### IN FLIGHT ACCELEROMETER TRIMMING:

If the ANGLE mode (Self Leveling mode or Auto Level mode) is not performing the way you want it to, the accelerometers can be tweaked in flight using the transmitter sticks. It is probably best to perform this process on a calm or light windy day.

- 1. Enable ANGLE mode on your transmitter
- 2. Arm the multirotor, lift off and try to maintain a level hover/flight
- 3. Take notice of what sticks (roll, pitch or yaw) you need to move in order to maintain a level hover/flight
- 4. Land and disarm the multirotor



6. For each direction that you wish to tweak quickly move (bang) the stick in that direction and then back to center repeatedly about 10 times.

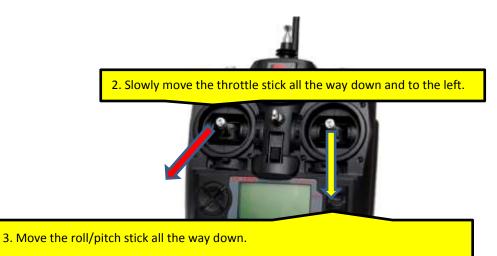
7. Bring the throttle stick all the way back down when done.

Once you have finished making adjustments in steps 6 and 7, repeat the entire process starting with step 1 until you are satisfied. It may take a few tries so patient is a virtue. Please note that if you perform an accelerometer calibration using either the Google Chrome BaseFlight Configurator or the sticks, these tweak adjustments will be lost.

## CALIBRATING THE GYROS PRIOR TO FLIGHT:

It is inevitable that you will move the multirotor around while plugging in the main battery. This causes issues with the gyros because they need to be idle on power up in order for the calibration process to work correctly. The gyro calibration process lets you re-calibrate the gyros after power up.

1. Do not arm the multirotor



### FLIP32+ TIPS:

- Calibrate the gyros before arming
- Always take off in ACRO mode
- Switch to the desired mode only after the multirotor is stable
- Cover the Flip32+ barometer with open cell foam or place the Flip32+ in a protective case
- Never change trims or sub trims in flight
- If the multirotor starts to want to flip on takeoff, check motor/prop directions and channel movements in the configurator.

## **MODE 2 TRANSMITTER STICKS FUNCTIONS:**

