

### **Read Instruction Manual**

Read instruction manual carefully and follow rules for safe operation. Failure to do so could result in serious or fatal injury.



### **Different Versions of Revolt Flight Controller**



**Revolt Version 1** 



**Revolt Version 2** 



Skitzo same as Revolt Version 2, but with a different silk screen

**QuickStart (After Revolt has been soldered)** Click on the button to navigate to the page



# Milivolt - General Top





# Flashing from BBxxx(bb427) to RaceFlight One





Click "add to chrome"



### Click "Add App"



### Now that the old Raceflight Configurator has been installed go ahead and launch Raceflight



# **Downloading Files**

Click on this link to download everything you need



RF1 Taranis Information Page

To find out if your computer is running a 32-bit or 64-bit version of Windows in Windows 7 or Windows Vista, do the following: Open System by clicking the Start button, right-clicking Computer, and then clicking Properties. Under System, you can view the system type.

Windows 10

To do so, open the Settings app from your Start menu, select System, and select About. Look to the right of "System type." If you see "32-bit operating system or 64-bit operating system"

### **To Launch RF1 Configurator in Linux**

### On ubuntu do the following. For Fedora change plugdev to dialout

### add a file /etc/udev/rules.d/46-revolt-permissions.rules containing

# raceflight revolt hid bb

SUBSYSTEM=="usb", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5741", MODE="0666", GROUP="plugdev" KERNEL=="hidraw\*", SUBSYSTEM=="hidraw", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5741", MODE="0664", GROUP="plugdev"

# raceflight revolt hid rf1 SUBSYSTEM=="usb", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5742", MODE="0666", GROUP="plugdev" KERNEL=="hidraw\*", SUBSYSTEM=="hidraw", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5742", MODE="0664", GROUP="plugdev"

# DFU (Internal bootloader for STM32 MCUs) SUBSYSTEM=="usb", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="df11", MODE="0664", GROUP="plugdev"

Then: sudo udevadm control --reload sudo adduser yourusername plugdev



While shorting the boot pins, plug in the Revolt. Once plugged, in the tweezers can

be removed. You should see a solid green light.



Next go to RFC and check the top right to make sure it says the board is in DFU mode. If it doesn't say DFU. Download the ImpulseRC Driver Fixer — Link

Once you can confirm this, click the Firmware Flasher tab on the left.



Click the Load Firmware [Local] on the bottom right.



Navigate to the Bin file. (once you downloaded and extracted the files from the Pinned Section)

Make sure all three check marks are DESELECTED. (No Reboot Sequence, Manual Baud Rate, Show Stable Releases)

### Click Flash Firmware button on bottom which is now red.



It will erase and then flash your Revolt. Once finished it will say Programming: SUCCESSFUL.

Unplug your Revolt then plug back in.

**Congratulations! RaceFlight One is now installed on your Revolt!** 

### Launching Raceflight One Configurator

Once you have the files you downloaded unzipped, go to the extracted folder.

Name Date modified Size Type locales 2/18/2017 11:19 PM File folder 2/18/2017 11:19 PM Chrome HTML Do... 1,793 KB 💿 credits.html 2/18/2017 11:19 PM Application extens... 4,367 KB d3dcompiler\_47.dll ffmpeg.dll 2/18/2017 11:19 PM Application extens... 982 KB 9,892 KB icudtl.dat 2/18/2017 11:19 PM DAT File libEGL.dll 2/18/2017 11:19 PM Application extens... 93 KB libGLESv2.dll 2/18/2017 11:19 PM Application extens... 2,425 KB 🛗 natives\_blob.bin 2/18/2017 11:19 PM BIN\_File 332 KB 2/18/2017 11:19 PM Application extens... 5,716 KB node.dll Nw.dll 2/18/2017 11:19 PM Application extens... 87,986 KB nw\_100\_percent.pak 2/18/2017 11:19 PM PAK File 488 KB 2/18/2017 11:19 PM PAK File 745 KB 🖄 nw\_elf.dll 📄 resources.pak Nw\_elf.dll 2/18/2017 11:19 PM Application extens... 526 KB 7,109 KB 2/18/2017 11:19 PM PAK File rf\_configurator.exe 2/18/2017 11:19 PM Application 64,890 KB Launch rf\_configurator.exe -2/18/2017 11:19 PM BIN\_File 813 KB

(Make a desktop shortcut if you want to)

If RF1 FC is not being detected in new configurator

Check zadig, if it doesn't show HidUsb as the driver for rf1 revolt in normal or rfbl modes go to the

device manager, right click on the revolt's entry, select update driver software, Browse my computer,

let me pick from a list, and pick USB input device. Click next and then close on the final screen.

Click on this link to dowload Zadig Zadig Download

## To Flash the latest firmware

- 1. This applies to updating to newer versions of RF1 once you have RF1 Flashed ex. going from RF1 200 to 214
- 2. Download newest Raceflight Configurator
- 3. Download newest Firmware:
- 4. Open RaceFlightOne Configurator

### Launch rf\_configurator.exe

Name	Date modified	Туре	Size
locales	2/18/2017 11:19 PM	File folder	
Credits.html	2/18/2017 11:19 PM	Chrome HTML Do	1,793 KB
d3dcompiler_47.dll	2/18/2017 11:19 PM	Application extens	4,367 KB
iffmpeg.dll	2/18/2017 11:19 PM	Application extens	982 KB
icudtl.dat	2/18/2017 11:19 PM	DAT File	9,892 KB
libEGL.dll	2/18/2017 11:19 PM	Application extens	93 KB
ibGLESv2.dll	2/18/2017 11:19 PM	Application extens	2,425 KB
natives_blob.bin	2/18/2017 11:19 PM	BIN_File	332 KB
node.dll	2/18/2017 11:19 PM	Application extens	5,716 KB
nw.dll	2/18/2017 11:19 PM	Application extens	87,986 KB
nw_100_percent.pak	2/18/2017 11:19 PM	PAK File	488 KB
nw_200_percent.pak	2/18/2017 11:19 PM	PAK File	745 KB
nw_elf.dll	2/18/2017 11:19 PM	Application extens	526 KB
resources.pak	2/18/2017 11:19 PM	PAK File	7,109 KB
rf_configurator.exe	2/18/2017 11:19 PM	Application	64,890 KB
🗂 snapshot_blob.bin	2/18/2017 11:19 PM	BIN_File	813 KB

				R					Version: 0.193.0 FC version: 0.193.057 B Revision history
TUP	CONFIGURATION	PID TUNING	ESC	LOGGING	CONSOLE	UPDATE FIR	MWARE HELP	ł.	
. SETUP I	FLIGHT CONTROLLER				2. DETECT RECI	EIVER			3. SETUP RADIO
. UPDATE	ESC			•	5. Calibrate MC	DTORS		6. FIX MOTOR	DIRECTION & IDLE
ARMED cha	nnel	-100					0.00		100
ATTITUDE O	hannel	-100					0.00		100
AILSAFE C	hannel						0.00		
U		-160					0.00		100
.ogging c D	bannel	-160					0.00		100
BUZZER ch	annel						0.00		
0		100					0.00		100

### Click on Update Firmware tab

### Choose the Firmware

→ ~ ↑	neDrive > Quadcopters > F	Raceflight > Firmware	/		~ Q	Search Firm	nware	٩
rganize 👻 New fold	er		/					?
Ouick access	Name	Date 1/5/2017 5:24 PM	Type BIN File	Size	Tags			
Deskton 🖈	0.137.040 ALPHA R	1/9/2017 8:42 PM	BIN File	1,024 KB				
Deumlands at	0.139.039 alpha rev	1/10/2017 8:57 AM	BIN File	1.024 KB				
Downloads y	0.144.042 ALPHA R	1/11/2017 7:11 PM	BIN File	1,024 KB				
Pictures #	0.145.042 ALPHA R	1/11/2017 7:15 PM	BIN File	1,024 KB				
🔮 Documents 🖈	0.147.043_ALPHA_R	1/14/2017 6:14 PM	BIN_File	1,024 KB				
iCloud Drive *	0.148.044_ALPHA_R	1/16/2017 :57 PM	BIN_File	1,024 KB				
🝐 Google Drive 🖈	0.149.044_ALPHA_R	1/17/2017 6:13 PM	BIN_File	1,024 KB				
Captures	0.153.047_ALPHA_R	1/19/2017 7:16 PM	BIN_File	1,024 KB				
Captures	0.156.047_ALPHA_R	1/20/2017 4:32 PM	BIN_File	1,024 KB				
HOW TO	0.157.047_ALPHA_R	1/29/2017 4:46 PM	BIN_File	1,024 KB				
HOW TO	0.164.048_EXPO4_A	2/2/2017 9:19 PM	BIN_File	1,024 KB				
	167b.048_ALPHA	/28/2017 5:08 PM	BIN_File	1,024 KB				
Creative Cloud Fil	10.171.051_ALPHA_R	2/6/2017 4:48 PM	BIN_File	1,024 KB				
ConcDrives	177.054_ALPHA_R	2/10/2017 9:03 AM	BIN_File	1,024 KB				
Cheblive	1.178.054_ALPHA_R	2/13/2017 8:07 AM	BIN_File	1,024 KB				
💻 This PC	1.186.057_BETA_REV	2/16/2017 11:16 PM	BIN_File	1,024 KB				
Saved (H-)	🛗 revolt192.bin	2/20/2017 5:43 PM	BIN_File	1,024 KB				
- Savea (11.)	revolt193.bin	2/21/2017 8:18 PM	BIN_File	1,024 KB				
File n	ame: revolt193 hin				~	Raw Binar	v (.bin)	~

# Contractinger Configuration Contractinger Contracting Contracting Mode REDOOT FC INTO DFU MODE REDOOT FC INTO FLIGHT CONTROLLER MODE REDOOT FC INTO DFU MODE REDOOT FC INTO FLIGHT CONTROLLER MODE

Click on Load Firmware Locally

# **Binding Spektrum Receivers**

	RaceFlight - Configurator		* – 🗆 ×
		RACEFLIGHT	Version: 0.193.0 FC version: 0.193.057 BETA 4 <u>Revision history</u>
	SETUP CONFIGURATION PID TUNIN	IG ESC LOGGING CONSOLE UPDATE FIRMWARE H	HELP
	Radio Settings		
Click on the Bind Spektrum ————————————————————————————————————	BIND SPEKTRUM		
-	Receiver Protocol	Receiver Port	
	Spektrum TX Pin	✓ UART 1 ✓	
	Telemetry		
	Spektrum telemetry	Taranis telemetry (RX3 Pin)	
	and the second se		
	Mixer		
	Reverse Prop Direction		
	LED		
	LED Count *	LED mode	
	16		
		R	• 10
		G	0 0
			SAVE

### Follow the prompts until your receiver is binded

RaceFight - Configurator	** – 🗆 ×	RaceFight - Configurator	* – 🗆 ×
	Version: 0.193.0 FC version: 0.193.057 BETA 4 Revision history		Version: 0.193.0 FC version: 0.193.057 BETA 4 Revision history
SETUP CONFIGURATION PID TUNING ESC LOGGING CONSOLE UPDATE FIRMWARE HELP		SETUP CONFIGURATION PID TUNING ESC LOGGING CONSOLE UPDATE FIRMWARE HELP	
Select method to bind your Spektrum controller:           Bind for Spektrum DSMX(accommended)           Bind for Spektrum DSMX 11ms           Bind for Spektrum DSMX 22ms		Follow the next steps: • Unover the Fight control and repower it within 3 seconds. • Turn on your spektrum controller in bind mode.	DONE
	CANCEL NEXT		

# **STEP 1: Setup Flight Controller**

	RaceFlight - Configurator				** – 🗆 ×
				LIGHT	Version: 0.193.0 FC version: 0.193.057 BETA - <u>Revision history</u>
Click on Setup Flight Controller	SETUP CONFIGURATION	PID TUNING ESC	LOGGING CONSOLE	UPDATE FIRMWARE HELP	
	1. SETUP FLIGHT CONTROLLE	R	2. DETECT RE	CEIVER	3. SETUP RADIO
	4. UPDATE ESC		5. CALIBRATE N	MOTORS	6. FIX MOTOR DIRECTION & IDLE
	ARMED channel 0	-160		0.00	100
	ATTITUDE channel	100		0.00	
	FAILSAFE channel	-100		0.00	
	LOGGING channel	-100		0.00	100
	0	-160		0.00	100
	BUZZER channel 0	-th0		0.00	RESET SAVE

### Follow the steps and orientation of the Quadcopter



# **STEP 2: Detect Receiver**

	Click on De	etect Receiver	
ceFlight - Configurator			** - D > Version: 0.193.0
	RACE		FC version: 0.193.057 BET Revision history
ETUP CONFIGURATION	PID TUNING ESC LOGGING CONS	LE UPDATE FIRMWARE HELP	
. SETUP FLIGHT CONTROLLEF	2. DETECT	RECEIVER	3. SETUP RADIO
UPDATE ESC	5. CALIBRA	TE MOTORS	6. FIX MOTOR DIRECTION & IDLE
		0.00	
ARMED channel			
0	-100	0.00	100
		0.00	
ATTITUDE channel			
0	-100	0.00	100
		0.00	
FAILSAFE channel			
0	-100	0.00	100
		0.00	
LOGGING channel			
0	-100	0.00	100
		0.00	
BUZZER channel		0.00	

### Turn your Radio on



### Successful Detection

RaceFlight - C	onfigurator			24				↔ – □ × Version: 0.193.0 FC version: 0.193.057 BETA Revision history
SETUP	CONFIGURATION	PID TUNING	ESC	LOGGING	CONSOLE	UPDATE FIRMWARE	HELP	
Automo	tio radio datasi	tion outpool ad	ad					
Automa	tion Mizard Stop 2	uon succeed	eu.					
Please run	the Setun Radio Wiza	ird next						
r louse run	ino cotap rtadio viiza	id noxe						
								DONE

# **STEP 3: Setup Radio**

Follow the prompts until your done Click on Setup Radio Turn on your radio Turn on your radio Wizard Step 1 Press Next and then NEXT 0.00 Follow next step ttle at idle and keep yaw, pitch, Please move the sticks in complete and roll centered. Then click OK. Version: 0.193.0 Versian: 0.193.0 PC version: 0.19 RACEFLIGHT Move your sticks Setup Radio Witzard Step 2 Move your sticks Move your sticks Push Yaw Stick To Right Push Pitch Stick To Top Set Throttle To Top iHi iHi, iHi



RaceFlight - Configurator							** – 🗆 ×
			<u>R4</u>				Version: 0.193.0 FC version: 0.193.057 BETA 4 Revision history
SETUP CONFIGURATION	PID TUNING	ESC	LOGGING	CONSOLE	UPDATE FIRMWARE	HELP	
Step 4							
Setup Radio Wizard Step 4							
Complete							
							DONE

# **Once Flashed follow each of the following steps**



### **REMOVE PROPS** Step 4. Update ESC **REMOVE PROPS**

For this step you will need your battery handy DANGER RaceFlight - Configurator

ion: 0.193.0 ersion: 0.193.057 BETA 4 RACEFLIGHT CONFIGURATION PID TUNING Click on Update ESC ETUP FLIGHT CONTROLLER 2. DETECT RECEIVER 4. UPDATE ESC 0.00 0.00 0.00 0 -100 0.00 0.00 100 0.00 0.00 100 0.00 0.00

Plug your battery in at this Point and Click Update ESC

and Click Opuate ESC			Once Com	plete , you should get 1wire s	success
E Receifight - Configurator		Version: 0.193.0 FC version: 0.193.057 BETA 4 Revision history	RaceFlight - Configurator		←      ←      ×     Version: 0.193.0     FC version: 0.193.057 BETA -     Revision history
SETUP CONFIGURATION PID TUNING ESC LOGGING	CONSOLE UPDATE FIRMWARE HELP		SETUP CONFIGURATION PID TUNING	ESC LOGGING CONSOLE UPDATE FIRMWARE HELP	
Remove your props III		CANCEL UPDATE ESS	full         Else           Moor         1:065, ML + Qer ARL+ELISEFM8021***16.0           Moor         0:084001           Moor         0:094001           Statabang ESC:         0:0940	i Tones ∃ Tones ≥ Tones ≥ Tones	



**DANGER** For this step you will need a battery. Plug in the battery when the prompt tells you too



If esc calibration fails: Change in Gui Configuration TAB or Go to console and type the following "esc\_frequency = 8000" without quotes. Once they Calibrate change back to "esc\_frequency = 32000"

### Motor Test Commands

idle 0 idle 1 idle 2 idle 3 idlestop = Stops all motors

# **Hover Test**

Now that you have flashed RF1 and gone through all the steps, it's now time to Hover Test

- 1. Make sure that your Armed is setup. It gets setup during Setup Radio
- 2. The 1st time you arm. It will be a double arm, after that it's a single arm
- 3. Arm the Quad in a safe area. Hover(30sec hover) then land. Feel the motors and make sure they are not hot.
- 4. If they are not hot you are good to go.
- 5. If motors are hot, then you will need to change some settings. Seek help in the raceflightone channel in slack

		Veniani 0.182.0 F0. venice: 6.191.657.047 Bioconstature:
CONFIGURATION PID TUNING	LOGGING CONSOLE UPDATE FIRMWARE HELP	
1. SETUP FLIGHT CONTROLLER	2. OFTED BLOWER	3 SETUPRADIO
4. UPDATE ESC	5. CALIGRATE MOTORS	6. HIX MOTOR DIRECTION & IDLE
AMMED channel 5		75.00
attilief connel	0.00	
0	-100	160
MLSAPE channel 0	000 400	
		70.00
LOGGING channel 6	-100	100.00
ELIZZER channel	0.00	
0	-100	160
		RESET SAVE

Added Double-Double arm method and made it default is: set arm\_method=1 Double-Single arm method is: set arm\_method=0

# Now go FLY!!!

### **Telemetry and LEDS**





### Installing Taranis OpenTX 2.2 and Adding RF.LUA

Before Proceeding make a backup of the models and settings Under Read/Write choose Backup Radio to a file

All the the Files Needed are in the link below

Click Here to download

Lua download page and Video how to update by @rs2k https://raceflight.net/taranis/

Once installed, launch Opentx 2.2



Click on Settings and Settings again



Check Mark the option "Use OpenTX firmware nightly builds"

Radio Profile       Application Settings         Soogle Earth Executable       Select Executable         Files to keep       10         Show splash screen when Companion starts       Vise model wizard when creating a new model         Use OpenTX firmware nightly builds       Automatic check for OpenTX firmware updates         Use Companion nightly builds       Automatic check for Companion updates         Automatic Backup Folder       Select Folder         Enable automatic backup before writing firmware       Select Folder         Splash Screen Library       Only show user splash images	Edit Settings		?
Google Earth Executable       Select Executable         Files to keep       10         Show splash screen when Companion starts         Use model wizard when creating a new model         Use OpenTX firmware nightly builds         Automatic check for OpenTX firmware updates         Use Companion nightly builds         Automatic check for Companion updates         Select Folder         Enable automatic backup before writing firmware         Splash Screen Library	Radio Profile Applicat	on Settings Simulator Settings	
ID       ID         Is show splash screen when Companion starts         Is show splash screen when Companion starts         Is show splash screen when Companion starts         Is show splash screen when creating a new model         Is show splash screen when creating a new model         Is show splash screen when creating a new model         Is show splash screen when creating a new model         Is show splash screen when creating a new model         Is show splash screen library         Splash Screen Library         Only show user splash images	Google Earth Executable		Select Executable
Show splash screen when Companion starts Stee model wizard when creating a new model Use OpenTX firmware nightly builds Automatic check for OpenTX firmware updates Use Companion nightly builds Automatic check for Companion updates Splash Screen Library Only show user splash images	Files to keep	10 🜩	
Automatic Backup Folder Enable automatic backup before writing firmware Splash Screen Library Only show user splash images		Show splash screen when Companion starts	
Use OpenTX firmware nightly builds Automatic check for OpenTX firmware updates Use Companion nightly builds Automatic check for Companion updates  Automatic Backup Folder Enable automatic backup before writing firmware Splash Screen Library Only show user splash images		wizer model wizard when creating a new model	
Automatic check for OpenTX firmware updates Use Companion nightly builds Automatic check for Companion updates  Automatic Backup Folder Enable automatic backup before writing firmware  Splash Screen Library Only show user splash images		Use OpenTX firmware nightly builds	
Use Companion nightly builds Automatic check for Companion updates Splash Screen Library Only show user splash images		Automatic check for OpenTX firmware updates	
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Automatic Backup Folder Select Folder Enable automatic backup before writing firmware Only show user splash images		Automatic check for Companion updates	
Enable automatic backup before writing firmware Only show user splash images	Automatic Backup Folder		Select Folder
Splash Screen Library Only show user splash images 💌		Enable automatic backup before writing firmware	
	Splash Screen Library	Only show user splash images	•
Jser Splash Screens Select Folder	User Splash Screens		Select Folder
			W Connel

### Click on File and Download



### Click Download FW

Downloads		?	×
Firmware	opentx-x9d+-en		
Latest Download	2.2.0N364	Check for upd	ates
		Download F	W
Voice	en 🔻	Download Vo	ice

1. Enable the bootloader, by pressing the 2 trim buttons at the bottom towards the center holding them while powering on the Taranis. Let go once you see the bootloader.

Then Plug in the USB cable and it should say USB Connected



Flashing Firmware Click on Read/Write, Write Firmware to Radio



Flash Firm	nware ? >
	4
2Drive/Quad	copters/Taranis/opentx-x9d+-en-2.2.0N364.bin Load
Version	2.2.0N364 (67ee51b9)
Variant	218
Date & Time	2017-03-13 10:07:29 OFF
O Use prof	île start screen
Use prof	ile start screen ware start screen
<ul> <li>Use prof</li> <li>Use firm</li> <li>Use libra</li> </ul>	ile start screen ware start screen ry start screen
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### Chose the firmware you just downloaded

$\rightarrow$ $\land$ $\checkmark$ $\bigcirc$ $\circ$ $\circ$	neDrive > Quadcopters > Taranis			v Ö	Search Taranis	
ganize 🔻 New fold	ler					
^	Name	Date modified	Туре	Size		
P Quick access	🎬 TaranisMainSave bin	2/28/2017 9:18 PM	BIN_File	32	KB	
Desktop 📌	opentx-x9d+-noneli-massstorage-en-2.2	3/14/2017 6:56 PM	BIN_File	436	KB	
Downloads 🖈	opentx-x9d+-ev 2.2New.bin	3/14/2017 10:32 PM	BIN_File	433	KB	
E Pictures 📌	📅 opentx-x9d+-en-2.2.0N364.bin	3/14/2017 7:26 PM	BIN_File	433	KB	
🔮 Documents 🖈	x9dp_B02firm	2/28/2017 9:19 PM	File folder			
🦲 iCloud Drive 🖈	sdcard-taranis-x9-2.2V0007	3/14/2017 7:06 PM	File folder			
💪 Google Drive 🖈	RF LUA	3/16/2017 11:07 PM	File folder			
Captures						
HOW TO						
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This PC						
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Once Flashed you will have OpenTX 2.2 on your Taranis

You will need to redo your SDCARD on the Taranis.

Download the SDCARD Files

Click here to download

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http://downloads.open-tx.org/2.2/nightly/sdcard/

### Download the latest file

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$\rightarrow$ O $ $ downloads apen-tworg 0.2/mightly/sideard		二 ☆	$\equiv \mathbb{N}$
ndex of /2.2/nightly/so	lcard		
Name Last more	lified Size Description		
Parent Directory			
sdcard-horus-2.2V0004.zip 2016-12-10	5 20:09 .9M		
sdcard-horus-2.2V0005.zip 2017+01-2:	5 19:14 29M		
sdcard-horus-2.2V0006.zip 2017-03-0:	5 08 07 29M		
sdcard-horus-2.2V0007.zip 2017-03-1	3 9:03 29M		
sdcard-taranis-x7-2.2V0004.zip 2016-12-1	18:01 28M		
sdcard-taranis-x7-2.2V0005.zip 2017-01/2:	5 19:14 28M		
sdcard-taranis-x7-2.2V0006.zip 2017-93-0:	5 08:07 28M		
sdcard-taranis-x7-2.2V0007.zip 2017-03-1	3 09:03 28M		
sdcard-taranis-x9-2.2V0004.zip 2016-12-1:	5 18:01 28M		
sdcard-taranis-x9-2.2V0005.aip 1017-01-2:	5 19:14 28M		
sdcard-taranis-x9-2.2V0006.12017-03-0	5 08:07 28M		
-decid marks on a attendar als 2017 of 1	109-03 2834		

### Extract the files and drag and drop them onto the SDCARD on the Taranis

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File Home Sh	are View		~ (	File Home Share	View Manage		^ <b>(</b> )
Pin to Quick Copy Pas	K Cut Copy path te  Paste shortcut ard Cut Move to - Move to - M	New Open	Select all	Pin to Quick Copy Paste access Clipboard	Cut Move to - Delete -	New Open Self	ect all ect none rert selection Select
$\leftarrow \rightarrow \sim \uparrow$	Quadcopters > Taranis > sdcard-taranis-x9-2.2V0	007 v 🖏 Search so	card-taranis-x9-2.2V	$\leftrightarrow \rightarrow \uparrow \uparrow \Rightarrow 0$	-)	Search (F:)	Q
ConeDrive	^ Name	Date modified Type	Size	This PC	Name	Date modifie	d Type
This PC	CROSSFIRE EEPROM FIRMWARE	3/13/2017 9:02 AM         File folder           3/13/2017 9:02 AM         File folder           3/13/2017 9:02 AM         File folder           3/13/2017 9:02 AM         File folder		(F:) BMP CROSSFIRE	BMP CROSSFIRE EEPROM	4/20/2013 3:2 3/13/2017 9:0 3/13/2017 9:0 3/13/2017 9:0	2 PM File fold
	LOGS	3/13/2017 9:02 AM File folder 3/13/2017 9:02 AM File folder		EEPROM		3/13/2017 9:0 3/13/2017 9:0	12 AM File fold
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### Your Taranis should now be updated

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### Go to the the rf.lua file you downloaded

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### Open the SDCARD on the taranis

### Open the Scripts Folder

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### Copy the rf.lua file to the telemetry folder

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### On the Taranis go to page 13 Select screen 1 change none to script

DISPLAY Top bar Volta9e source Altitude Screen 1 Screen 2 Screen 3 Screen 4	None None None None	13/13
01SPLAY Top bar Volta rf Altituee Screen 1 Screen 2 Screen 3	Script P	13/13

None

Screen 4

### Once script is selected go the right and select rf

DISPERING	A 44 44 44	13/13
Top bar Volta9e source Altitude Screen 1 Screen 2 Screen 3 Screen 4	Script None None None None	

### Once Finished, it should look like this

DISPUTIY		13/13
Top bar Volta9e source Altitude Screen 1 Screen 2 Screen 3 Screen 4	Script None None None	

Now you have RF.LUA installed. To enable it from the main screen on Taranis press and hold PAGE for a few seconds until the RF Menu appears

Next discover the sensors

Go to the Telemetry page: Page 12

		12/13
RSSI		
Low alarm Critical alarm	42	
Sensors	Value	ID
1: HCCX	-0.019	28
3: AccZ	0.989	28

Scroll down to "Discover new Sensors"

			12/13
7: UFAS	*	0.01V	28
8: RSSI	*	84dB	25
9: RxBt	*	4.6U	25
10: A2	*	11.10	27
Discover	neu s	ensors	
Add a neu	sens	on	
Delete al	l sens	sons	

After it discovers the new sensors. You should see 10 sensors total. You now have telemetry setup

### PID and VTX Menu Navigation

Spektrum Dx9 / Dx8 g2 PID Tuning. (Telemetry RX required)

1. Use scroll wheel to scroll across to the PID's screen. DX9 states RF1 Tuning - Dx8 g2 states PID Tuning.

2. Yaw right and roll left with the sticks at the lowest value. ie: bottom of pitch and throttle.

3. On Dx9 a > will appear to the left of values. On Dx8 g2 the value will flash.

4. Use your pitch stick to scroll through the values you want to change.

5. Right roll at the value you want to change, On the Dx9 a \* will appear. On Dx8 the value will stop flashing.

6. Use pitch stick to go up and down in value.

7. Roll left will exit the value. On Dx9 a > will appear again and on the Dx8 the value will flash again. You can then scroll through the other values again.

8. Select "save" at the bottom to save any changes.

### Taranis

Press and hold Page Until the Menu Appears Then move the sticks towards the middle and down. Hold for 3 secs.



The Menu will appear Afterwards You can use Roll to move over

Pitch to select select save once you made your changes

once done press and hold exit

### Radio Settings

This section is for when Detect Radio doesn't work







Revolt V2 Skitzo Edition

Revolt V1

Depending what protocol and where you have it soldered you can make changes here. If Detect Radio doesn't work

Revolt V2

ReceFlight - Configurator								* – 🗆 ×
				<b>R</b> /				Version: 0.193.0 FC version: 0.193.057 BETA 4 <u>Revision history</u>
SETUP CONF	IGURATION	PID TUNING	ESC	LOGGING	CONSOLE	UPDATE FIRMWARE	HELP	
Radio Settings								i
BIND SPEKTRUM								
leceiver Protocol Spektrum TX Pin			Receiv	er Port RT 1		•		
Telemetry								
Spektrum teler	netry					Taranis telemetry (RX3	Pin)	
Mixer								
Reverse Prop	Direction							
LED								
ED Count ' 16			LED m	ode		•	LED color	
							R 🖕	
							G <sub>O</sub>	0
								SAVE

RaceFlight - Configurator							* – 🗆 ×
			<b>R/</b>				Version: 0.193.0 FC version: 0.193.057 BETA 4 <u>Revision history</u>
SETUP CONFIGURATION	PID TUNING	ESC	LOGGING	CONSOLE	UPDATE FIRMWARE		
Radio Settings							
BIND SPEKTRUM							
Receiver Protocol		-					
SBUS RX Pin		• UAI	RT 1				
		UAJ	RT 3				
Telemetry		UAI	RT 4				
		UAI	RT 6				
Spektrum telemetry						<sup>2</sup> in)	
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and the second se							_
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							SAVE

RaceFlight - Configurator				↔ – □ × Version: 0.193.0
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SBUS RX Pin				
SBUS TX Pin				
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	<u> </u>	e		
Mixer				
Reverse Prop Direction				
LED				
LED Count '	LED mode			
16	Off	•	LED color	
			R 🔶	10
			G 0	0
				SAVE

Receiver Protocol : Depending on what protocol you use and where it's Soldered

UART 1, 3, and 6 are for Revolt V1

UART 1, 4, and 3 Are for Revolt V2/Skitzo

Example Using Revolt V1. Taranis Receiver soldered to SBUS Which is RX1 On protocol pick SBUS RX Pin On Port pick UART 1

# **BB Log Downloading and Viewing**

		R	ACEF			Version: 0.185.0 FC version: 0.185.05	7 BET
SETUP	CONFIGURATION	PID TUNING	LOGGING	CONSOLE	UPDATE FIRMWAR	e Help	
Flight	log capacity:						
0 MB						16.0	мв
				FORMAT FLASH	ERASE FLASH	Download Flight L	OG

To download BB log. Click on " Download Flight Log" Save the file

Download and install Cleanflight Blackbox Explorer(Chrome Extension) to view your BB log



### Setting Min\_Throttle (which is now Idle\_Percent)

- To adjust your idle speed, navigate to the CLI tab and type, "set idle\_percent=x" (without the quotes. X ranges from 3 to 12. Higher numbers mean higher idle speed.
- 2. Be aware that having an idle percent too low may make the motors stutter or not spin when armed. If you think you are arming (flipping the correct arm switch) and the motors do not start spinning, then try slowly raising throttle to see.
- 3. If the motors then start spinning this means your idle\_percent needs to be higher so they will spin at idle.

# Modes

ARMED = Pick the switch you want to ARM with

LEVEL = like Angle mode, goes back to level mode, the angle of the quad is limited, more for beginners ACROLEVEL = Angle not limited, returns to level when sticks are centered

FAILSAFE = Can be set to a switch

LOGGING = Starts the Blackbox Logger

**BUZZER = Turn Buzzer on or off requires soldering a buzzer to FC** 

**LEDMODE = Change will cycle through the modes** 

LEDCOLOR = Change will cycle through 7 colors

**Direct Mode = Reduced latency from the sticks** 

VTXON = To turn off and on the VTX. Requires SmartAudio

**BRAINDRAIN = Sharper feel and response** 

### **Setting ESC Protocol**

- 1. You can select the loop\_ctrl to change the loop speed. This might come into play while testing new features that could be cpu intensive like Dshot.
- 2. Navigate to the CLI tab and type, "set esc\_protocol=0" (without the quotes) and hit enter.
- 3. Type "save" (without the quotes) and hit enter to save your changes.

### **ESC Protocol**

# "set esc\_protocol=" only

### Example set esc\_protocol=0

ESC\_MULTISHOT=0 ESC\_ONESHOT=1 ESC\_PWM=2 ESC\_ONESHOT42=3 ESC\_DSHOT150=4 ESC\_DSHOT300=5 ESC\_DSHOT600=6 ESC\_SPOOKY\_ACTION\_AT\_A\_DISTANCE=7 ESC\_MULTISHOT25=8 ESC\_MULTISHOT125=9

# **Defaults = Multishot**

### **Default is set to esc\_protocol=0, esc\_frequency = 32000, rf\_loop\_ctrl=16**

For Dshot try rf\_loop\_ctrl=8 or rf\_loop\_ctrl=15 or rf\_loop\_ctrl=14 only for now and set esc\_protocol = 4 or 5 or 6 ESC\_DSHOT150=4 ESC\_DSHOT300=5 ESC\_DSHOT600=6

Difference between h and uh rf\_loop\_ctrl=10 is = to h32 32khz filtered rf\_loop\_ctrl=16 is = to uh32 32khz less filtered

### rf\_Loop\_Ctrl Key Example set rf\_loop\_ctrl=16

LOOP_M1=1	LOOP_H2=6	LOOP_UH1=11
LOOP_M2=2	LOOP_H4=7	LOOP_UH2=12
LOOP_M4=3	LOOP_H8=8	LOOP_UH4=13
LOOP_M8=4	LOOP H16=9	LOOP_UH8=14
LOOP_H1=5	LOOP H32=10	LOOP_UH16=15
		LOOP_UH32=16

### **1wire Commands**

1WIRE Commands (Must have battery plugged in and Props removed) Always do a **1wire save** after any changes)

The following commands work as follows

Example using beepstrength 1wire m0=beepstrength=93 1wire m1=beepstrength=93 1wire m2=beepstrength=93 1wire m3=beepstrength=93 1wire save 1wire Stop

m0 = Motor 1, m1 = Motor 2, m2 = Motor 3, m3 = Motor 4,

1wire read (reads the esc info) 1wire save (saves 1wire changes)

1wire auto (Automatically updates all esc firmware) 1wire stop (stops the 1wire connection) 1wire m0/1/2/3=beacondelay=2min (Change esc beacon setting) 1wire m0/1/2/3=upgrade (upgrades esc firmware) 1wire m0/1/2/3=timing=medium/high/low (Changes esc timing) 1wire m0/1/2/3=brakeonstop=disable/enable (changes esc stop) 1wire m0=direction=reversed/normal (changes motor direction) 1wire m0/1/2/3=beepstrength=93

### **Manually updating ESC**

ESC List from 1wire list cmd

1wire read 1wire list 1wire mX=forceupgrade=Y (where X is the esc number starting with 0 and Y is the listed firmware number you wish to flash) 1wire stop

example

1wire read 1wire m0=forceupgrade=6 1wire m1=forceupgrade=6 1wire m2=forceupgrade=6 1wire m3=forceupgrade=6 1wire stop

#ss ESC POSITION:0 HEX:#A H 20# #ss ESC POSITION:1 HEX:#A\_H\_15# #ss ESC POSITION:2 HEX:#XRotor40A# #ss ESC POSITION:3 HEX:#XRotor20A# #ss ESC POSITION:4 HEX:#RotorGeeks20AP# #ss ESC POSITION:5 HEX:#RotorGeeks20A# #ss ESC POSITION:6 HEX:#FVTLibee30A# #ss ESC POSITION:7 HEX:#FVTLibee20APro# #ss ESC POSITION:8 HEX:#FVTLibee20A# #ss ESC POSITION:9 HEX:#FC\_Rapt390\_20A# #ss ESC POSITION:10 HEX:#DYS\_XM20A# #ss ESC POSITION:11 HEX:#M\_H\_30# #ss ESC POSITION:12 HEX:#L\_H\_00# #ss ESC POSITION:13 HEX:#J\_H\_90# #ss ESC POSITION:14 HEX:#J\_H\_70# #ss ESC POSITION:15 HEX:#J\_H\_15# #ss ESC POSITION:16 HEX:#G\_L\_30# #ss ESC POSITION:17 HEX:#G\_H\_30# #ss ESC POSITION:18 HEX:#F\_H\_40# #ss ESC POSITION:19 HEX:#F\_H\_00# #ss ESC POSITION:20 HEX:#C\_H\_40# #ss ESC POSITION:21 HEX:#C\_H\_30# #ss ESC POSITION:22 HEX:#C\_H\_25# #ss ESC POSITION:22 HEX:#C\_H\_25# #ss ESC POSITION:23 HEX:#C\_H\_20# #ss ESC POSITION:24 HEX:#C\_H\_15# #ss ESC POSITION:25 HEX:#B\_H\_00# #ss ESC POSITION:26 HEX:#A\_H\_70# #ss ESC POSITION:27 HEX:#A\_H\_50# #ss ESC POSITION:28 HEX:#A\_H\_30# #ss ESC POSITION:29 HEX:#A\_L\_20# #ss ESC POSITION:30 HEX:#A\_L\_15# #ss ESC POSITION:31 HEX:#A\_L\_10# #ss ESC POSITION:32 HEX:#A\_L\_00# #ss ESC POSITION:33 HEX:#A\_H\_90# #ss ESC POSITION:34 HEX:#A\_H\_70# #ss ESC POSITION:35 HEX:#A\_H\_05# #ss ESC POSITION:36 HEX:#A\_H\_50# #ss ESC POSITION:37 HEX:#A\_H\_40# #ss ESC POSITION:38 HEX:#A\_H\_30# #ss ESC POSITION:39 HEX:#A\_H\_25# #ss ESC POSITION:40 HEX:#A\_H\_20# #ss ESC POSITION:41 HEX:#A\_H\_15#

**Deadband** Deadband helps removes the small twitches from the radio. To change Deadband go to the console Change these values until you like the deadband you want

set pitch\_deadband=0.003 set roll\_deadband=0.003 set yaw\_deadband=0.003

### Filters

### **Motor Test Commands**

filter\_mode0 = yaw smoothing filter\_mode1 = ki handling 0 old 1 new filter\_mode2 = press (0-6)

idle 0 idle 1 idle 2 idle 3

idlestop = Stops all motors

**CLI Commands** dump resetconfig (Reset's all settings) resetdfu (Resets in to DFU mode) eraseallflash (Erases Log Flash)