# Aurora A9 - Helicopter Set Up

# Finless Bob's Helifreak Tech Room - Review Tips and how-To Videos

Refer to link as Video will be continuously added to. http://www.helifreak.com/showthread.php?t=223607

- 1. What's in the box and radio overview (81 Megs)
- 2. Stick Adjustments (44 Megs)
- 3. Touch Screen and Menu System Overview (67 Megs)
- 4. RX Overview and Power connections (81 Megs)
- 4b. Hover Pitch and Throttle Trim and Pitch High/Low in the pitch and throttle curves menus (79 megs)
- 5. Binding the RX Normal and Scan Mode (87 Megs)
- 6. Pro's and Con's of Scan mode vs Normal mode and some anomalies of the LEDs??? (57 Megs)
- 7. Setting Failsafe and why it is important! (47 Megs)
- 8. Upgrading the Aurora 9, module, and RX's (80 Megs) = DIY Software Update:
- 9. What's new in the 1.07 / 2.0 Software update! (63 Megs)
- 10. WARNING! Don't short your SPC port with 2 packs in series! (63 Megs)

# **System Menus:**

- 12. System Menus Part 1 (48 Megs)
- . MDL. Sel Copy Model & Rename
- . MDL Type Set up basic parameters
- 13. System Menus Part 2 (48 Megs)
- . Timer Set various timers
- . Channel (Assignment)
- . Swap channel as recognised by receiver e.g. Throttle/Pitch.
- . Dual Ailerons
- 14. System Menus Part 3 (87 Megs)
- . TrimStep Adjust trim speed/steps.
- . Trainer Turn on and assign switch
- . Sensor (Telemetry) Separate video to follow
- . SYS.MGMT (System Management)
  - Backlight, Touch light, Touch Lock, Touch Sound on/off,
  - Screen Calibration, Hibernation, Warning at Start up,
  - TX Battery type/voltage alarm, Mode,
  - Info (includes Password)

# **Model Menus:**

- 15. Model Menus Part 1 (27 Megs)
- . Model Menu functions
- . Sub Trims
- . Change Pitch/Throttle ch output
- 16. Model Menus Part 2 (92 Megs)
- . Exponential
- . Conditon C & S
- . Dual Rates
- . OST.

# 17. Model Menus Part 3 (98 Megs)

- . EPA End Point Adjustment
- . Flight Conditions Switch setup: Idle up & Hold.
- . Throttle Link
- . Trim Link Inh (Inhibit is default)
- . ACT Activate all conditions.
- . Servo Speed in transition.
- 18. Model Menus Part 4 (146 Megs)
- . Pitch and Throttle Curves
- 19. Model Menus Part 4b
- . Pitch, Throttle Hover Trim & Pitch High/Low (78 Megs)
- 20. Model Menus Part 5a (120 Megs)
- . Gyro Menu basics The gyro menu took 2 videos to cover. It can be as SIMPLE as you want or super complicated... I say KISS (Keep it simple stupid) but I spent the time to cover every aspect of understanding HOW the gyro menu works and what it means to TRUE gain to your gyro. Again if something was not clear.... Let me know
- 21. Model Menus Part 5b (99 Megs)
- . Gyro Menu advanced and tips!
- 22. Model Menus Part 6 (75 Megs)
- . Throttle Cut menu
- 23. Model Menus Part 7 (71 Megs)
- . Throttle Hold menu
- 24. Model Menus Part 7B (27 Megs)
- . Throttle cut alternative to using the throttle hold menu.
- This makes it so throttle cut does not work unless you are in throttle hold.
- 25. Model Menus Part 8A Swash Menu Basics (32 Megs)
- . Covering the basic swash menu
- 26. Model Menus Part 8B Swash Calibration Menu (150 Megs)
- . Covering the Swash Calibration menu
- 27. Model Menus Part 9 Revo Mix, Servo speed, Swash>Throttle,

and Rudder>Throttle (61 Megs)

- 28. Governors 101
- . "OK for the governor menu I thought as part of this I would do a new 101 learning video. This would help understand the gov menu for just about any radio as well as how governors work."
- 29. Model Menus Part 10 Governor Menu (66 Megs)
- 30. Model Menus Part 11 P. Mixes (33 Megs)
- . 8 P-Mixes of which 1<5 are Linear Mixes and 6<8 are Non Linear Mixes. Differences and set up.
- 31. Model Menus Part 12 Needle and Mixture Menus (76 Megs)
- 32. Model Menus Part 13 Throttle Lock (26 Megs)
- . Includes revision of Custom Menu and Adjust Menu (which appears only when sliders and knobs enabled).

WAIT! Got a request for a video. But whats this? Switched Inverted? What the heck is "switched inverted"? It's an OLD SCHOOL way of flying inverted! It's how it was done 20 some odd years ago. I tell you, you just can't teach some old dogs new tricks

But I wanted to see if it could be done so..... I figured it out. Here we go! Hope you enjoy them Ed (Ed is the guy that asked).

- 33. Switched Inverted Part 1 Intro, What is it? (43 Megs)
- 34. Switched Inverted Part 2 Old School curves and Reversing Pitch (72 Megs)
- 35. Switched Inverted Part 3 How to reverse Elevator and Rudder (88 Megs)

Thats it folks! I hope you enjoyed the series. Let me know if there is something you want me to cover in more detail and also expect a build video using this radio to come!

Enjoy, Bob

# Heli Skills and Setup 101 - LOOK here first!

http://helifreak.com/showthread.php?t=41692

This is a place to gather together the best-of-breed How-To videos, Guides and reference material. Much of the material is universal and can be applied widely regardless of which heli(s) you fly. In addition there are model-specific items for individual helis, radios, gyros etc. If your particular brand/model isn't covered, look at one of the ones that are since the majority of concepts and techniques are fairly universal and can be applied widely.

Most of the videos are from Finless (familiar to many) but some are by other talented contributors.

#### **Basics**

Ball Links 101 (20 MB)
BEC 101
Blade Balancing 101 (30 MB)
Blade Tracking 101 (35 MB)
Brushless motor and ESC 101
Canopy Trimming 101 (28 MB)

CCPM Setup Part 1 (58 MB)

CCPM Setup Part 2 (58 MB)

**Dual Rates 101 (71 MB)** 

Exponential 101 (45 MB)

**Gyro 101** 

Gyro 102 - Usage, tips, hints and kind of a new gyro 101 information sharing! (89 Megs)

Gyro Delay 101 - Information about using delay on a gyro

Gyro Gain 101

Nitro Setup and Operation 101

Pitch and Throttle Curves 101 (58 MB)

Servo Repair 101 (30 MB)

Servo Wires 101 (41MB)

Soldering Bullet (Motor) Connectors 101 (50 MB)

**Soldering Deans Connectors 101 (30 MB)** 

Thread Lock 101 (15 MB)

#### **BECs**

**Understanding BECs and regulators (47 MB)** 

Comprehensive BEC database

## Chargers

Bantam BC6-10 Charger and Balancer videos

Thunder Power 1010 and 210 videos

Balance charger comparisons.

Comprehensive charger database

# **ESCs**

Align ESC setup (30 MB)

**Castle Creations ESC setup instructions** 

Castle Pheonix 85HV setup videos

Kontronik Jazz 80-6-18

Comprehensive ESC database

### **Gyros and Flybarless Systems**

Align/Telebee and similar Piezo HH Gyro setup (46 MB)

Align GP750 setup videos

Align GP780 setup videos

Futaba 401 gyro setup (48 MB)

Futaba 401 gyro setup with DX7 (42 MB)

Futaba 611 gyro setup (35 MB)

Futaba 701 gyro/gov review

Hitech HG-5000 (Logictech 2100T) Gyro setup videos

JR G770 Gyro Overview and Setup videos

Logictech 6100T setup videos

Mikado V-Stabi videos

**Skookum Robotics SK360 Electronic Flybar** 

SpartanRC DS760 setup videos

SpartanRC Quark setup videos

#### Comprehensive gyro database

#### Governors

Aerospire MultiGov Pro setup videos

<u>Curtis ATG Governor setup videos</u> (in T600Npro group)

**GV-1 Governor setup videos** (in T600Npro group)

Spektrum DX7 + AR7100R + Switchglow (not a video)

#### Other

**CSM Carbsmart setup** 

**RCATS Smart Lithium Glow Driver** 

#### **Radios**

**Airtronics SD-10G** 

Spektrum DX6 setup guide for a Trex450SE (not a video)

Spektrum DX7 Setup video

**Spektrum DX7 Throttle cut switch** 

Spektrum DX7 + AR7100R + Switchglow

Spektrum DX7 Dual Rates and Expo (65 MB)

Spektrum AR7100R Overview and Setup

Futaba 9Z - Programming for a heli (78 MB)

Futaba 10C

Futaba 14MZ - Hacking the MDL files

Hitec Aurora 9

JR X9303 - Configuring Dual Rates and Expo (50 MB)

#### Helis

**Audactity Pantera 50** 

**Avant Aurora** 

Beam E4

**Bergen Intrepid Gasser Build Videos** 

**Bergen Intrepid Turbine Build Videos** 

**Century Swift** 

Compass 3dplus

**Compass 6HV** 

**Compass Atom 500** 

**Compass Knight 3D Nitro** 

Compass 600E

**Compass Odin 90** 

**Dragonus** 

**Dragonus II Plus** 

**Gaui 200** 

**Ghohbee Phazor 600e** 

**HDX 300** 

**HDX 450** 

Henseleit Three Dee Rigid

**Hurricane 550** 

Kasama Srimok 90

**Kasama Srimok Electric** 

<u>Lepton</u>

Logo 14

Logo 400

Logo 500 3D

Logo 500/600 3D & Vstabi

MA Furion 450

MA Fury 55

MA Stratus 'Bobby Watts' Special

Minicopter Joker3

**MSH Protos** 

**Outrage Velocity 50** 

Raptor e620 SE

Rc-Tek Diablo

Trex 250

Trex 450 Pro

Trex 450 SE

Trex 450 SE V2

Trex 450 XL/HDE

**Trex 500** 

**Trex 600** 

Trex 600 build and repair

Trex 600 Nitro Pro

**Trex 600 Rotorworkz HFX** 

Trex 600 Rotorworkz "Helifreak Edition"

**Trex 700** 

**Trex 700 G-Force Clutch Block setup** 

#### References - General heli info

RC Helicopter Fun (excellent reference, buyers guide, and FAQ):

http://www.rchelicopterfun.com/index.html

Electric Helicopters Beginners Guide (EHBG): <a href="http://www.swashplate.co.uk/html/ehbg.html">http://www.swashplate.co.uk/html/ehbg.html</a> RADD's School of Rotary Flight: <a href="http://www.dream-models.com/eco/flying-index.html">http://www.dream-models.com/eco/flying-index.html</a>

Model helicopter theory: Model Helicopter Theory - RC Groups

Manuals - awesome collection

Fantastic online database of batteries, becs, chargers, escs, motors, power supplies, servos etc <a href="http://www.progressiverc.com/Research.html">http://www.progressiverc.com/Research.html</a>

#### **References - Batteries**

LiPo Basics: http://www.bladebusters.com/batteryquide.html

Complete Guide to LiPoBatteries : Complete Guide to Lithium Polymer Batteries and LiPo Failure

Reports - RC Groups

All about A123 cells/packs/charging: <a href="http://www.rcgroups.com/forums/showp...01&postcount=2">http://www.rcgroups.com/forums/showp...01&postcount=2</a> AWG wire guages <a href="http://www.powerstream.com/Wire-Size.htm">http://www.powerstream.com/Wire-Size.htm</a>

AWG to Metric conversion <a href="http://www.engineeringtoolbox.com/aw...uge-d\_731.html">http://www.engineeringtoolbox.com/aw...uge-d\_731.html</a>

Wire Resistance and Voltage Drop Calculator http://www.stealth316.com/2-wire-resistance.htm

# **References - How To guides**

How to: Assorted: <a href="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/for...e=-1&prefixid="http://www.archeli.com.au/forums/f

How to: Build an A123 pack: Is There An A123 Build Tutorial - RC Groups

How to: Change bearings on an OS 50 SX-H engine

How to: Charge LiFe (A123) packs with CCCV power supplies: How to use CCCV power

supplies to charge LiFe (A123) packs - HeliFreak

How to: Convert a Computer ATX Power Supply to a Lab Power Supply:

http://www.wikihow.com/Convert-a-Com...b-Power-Supply

How to: Make your own stepdown regulator for a tail servo: Make your own Stepdown regulator -

<u>HeliFreak</u>

How to: Parallel charge LiXx packs About parallel charging of Lixx / PB packs. - RC Groups

How to: Setup a piezo gyro: http://www.natew.com/rcheli/frame ma...H#why.behavior and

http://www.x400tuning.com/aligngyro.htm

How to: Engine Tuning OS50 Engine Tuning OS50 - arcHELI V EC135

How to: Wire up battery packs: http://scriptasylum.com/rc\_speed/\_lipo.html

## **References - Headspeed Calculators**

MrMel's (excellent generic tool for LiPo and A123/LiFe):

http://www.dacsa.net/heli/Calculator/default.aspx

DarkHorse (very complex modeling): http://www.dhrc.rchomepage.com/calcAdvanced.htm

Ezfly's Hurricane 550 headspeed calculator <a href="http://www.ezfly.se/hscalc.htm">http://www.ezfly.se/hscalc.htm</a>

Head Speed/Battery Calculator for Windows: (a good utility you can run on your PC) Head

Speed/Battery Calculator for Windows - HeliFreak

North Florida BladeBusters (simple and well presented):

http://www.bladebusters.com/calculator.html

ReadyHeli (standard single stage and two-stage for Hurricane550):

http://www.readyheli.com/Online Head...lator s/81.htm

# **References - Free Simulators**

FMS (basic graphics and physics but hundreds of models available and good enough for getting

started): <a href="http://n.ethz.ch/~mmoeller/fms/index\_e.html">http://n.ethz.ch/~mmoeller/fms/index\_e.html</a>

Helisim (basic graphics, like FMS, and limited models (heli only) but much better physics):

Helisim: New free simulator - HeliFreak

Heli-X (fancy graphics more like ClearView and much better physics than FMS. Demo version is free, full version is 39 euro):

http://heli-x.net/index e.shtml