# Open Source HeadTracker by SmartFPV

for Dennis Frie open source project

RCG thread:<a href="http://www.rcgroups.com/forums/showthread.php?t=1677559">http://www.rcgroups.com/forums/showthread.php?t=1677559</a>FPVLAB:<a href="http://fpvlab.com/forums/showthread.php?7706-DIY-headtracker">http://fpvlab.com/forums/showthread.php?t=1677559</a>

This is Headtracker hardware for Dennis Frie open source DIY headtracker project. You will need some technical skills when connecting Headtracker to your RC transmitter radio.

Please visit project thread on RCGroup or FPVLAB forums if you need more information on how to connect Headtracker to your particular radio or other information.

### Hardware

Dimensions:28 x 40mmInput voltage:7 ÷ 13VDC



- 1 Mini USB connector (to PC)
- 2 Center/Pause button
- 3 Headtracker connector (to radio)
- 4 Arduino Status LED

# Configuration

- Install USB drivers if not done already: <u>http://www.silabs.com/products/mcu/pages/usbtouartbridgevcpdrivers.aspx</u>
- 2. Download DIY Headtracker Source and GUI software: <u>https://code.google.com/p/open-headtracker/downloads/list</u>
- **3.** Connect Headtracker to PC using mini USB cable. And wait while drivers are installed.
- **4.** Start Headtracker GUI software on PC and connect to Headtracker using correct COM port:

DIY Headtracker GUI v1.04 - (Dennis Frie & Friends - 2012-2013)	
File Tools Help	
COM27  Firmware Version 1.04 Settings Retrieved!	Advanced Parameters Manual Command
Disconnect Calibrate	LP filter beta on tilt/roll [1/2] 75 Gyro weight on tilt/roll [1/2] 98 LP filter beta on pan [1/2] 75
Store Settings	Gyro weight on pan [%] 98

5. Change parameters you need:

Servo			Servo			
<u>Pan</u>	<u>Tilt</u>	Roll		Pan	Tilt	Roll
Center	Center	Center	Channel	8 👻	7 👻	6 👻
E-4 x	C-4 x	E-d s	Travel Min	1150	1150	1150
		End ->	Travel Max	1150	1150	1150
<- End	<- End	<- End	Center	2100	2100	2100
·			Gain	170	170	-29
Gain	Gain	Gain	Reverse	📄 Pan	🔲 Tilt	🔲 Roll
	0					

6. Save changes:



7. Connect Headtracker to RC Transmitter:



## Calibration

**1.** Start Headtracker GUI software on PC and connect to Headtracker using correct COM port. Then press Calibrate:



#### Load firmware

- 1. Download DIY Headtracker Source and GUI software: <u>https://code.google.com/p/open-headtracker/downloads/list</u>
- 2. Connect Headtracker to PC with mini USB cable.
- **3.** Open Headtracker Arduino sketch, select board "Arduino Nano w/ATmega328" and correct COM port:



4. Change settings in Config.h file if needed and upload to Headtracker board.