

# **Free Track Tutorial**

## **What's Free Track**

Free Track is a Programm to get your head motion into your pc game. It's free and you can download it here: <http://www.free-track.net/english/>  
Anyway on this site are reports about working games and compatible Webcams.

## **What you need**

1. Computer running Freetrack
2. Plugin to get free track running with the game (depents on the game)
3. Compatible webcam (compatibility list: <http://www.free-track.net/english/hardware/camera.php> )
4. Point Model

I don't do into detail how about installing Free Track

## **Building the Model**

There are many ways to do this here i show you mine. It's a low budget project just out of things laying around in the corner. I dissasambled 3 remotecontroles and desolder the infrared leds. One control i divided in the middle with a saw for the batterie holder.



Now i prepared the leds. I cut the top of the leds with sanding paper so that they are flat. After the sanded area with a litte bit of hairspray and solder 2 wires to the + and – point.

To find out which one is + and which one is – here you'll find a picture:

<http://kritze.de/gfx/Anleitungen/pol.jpg>

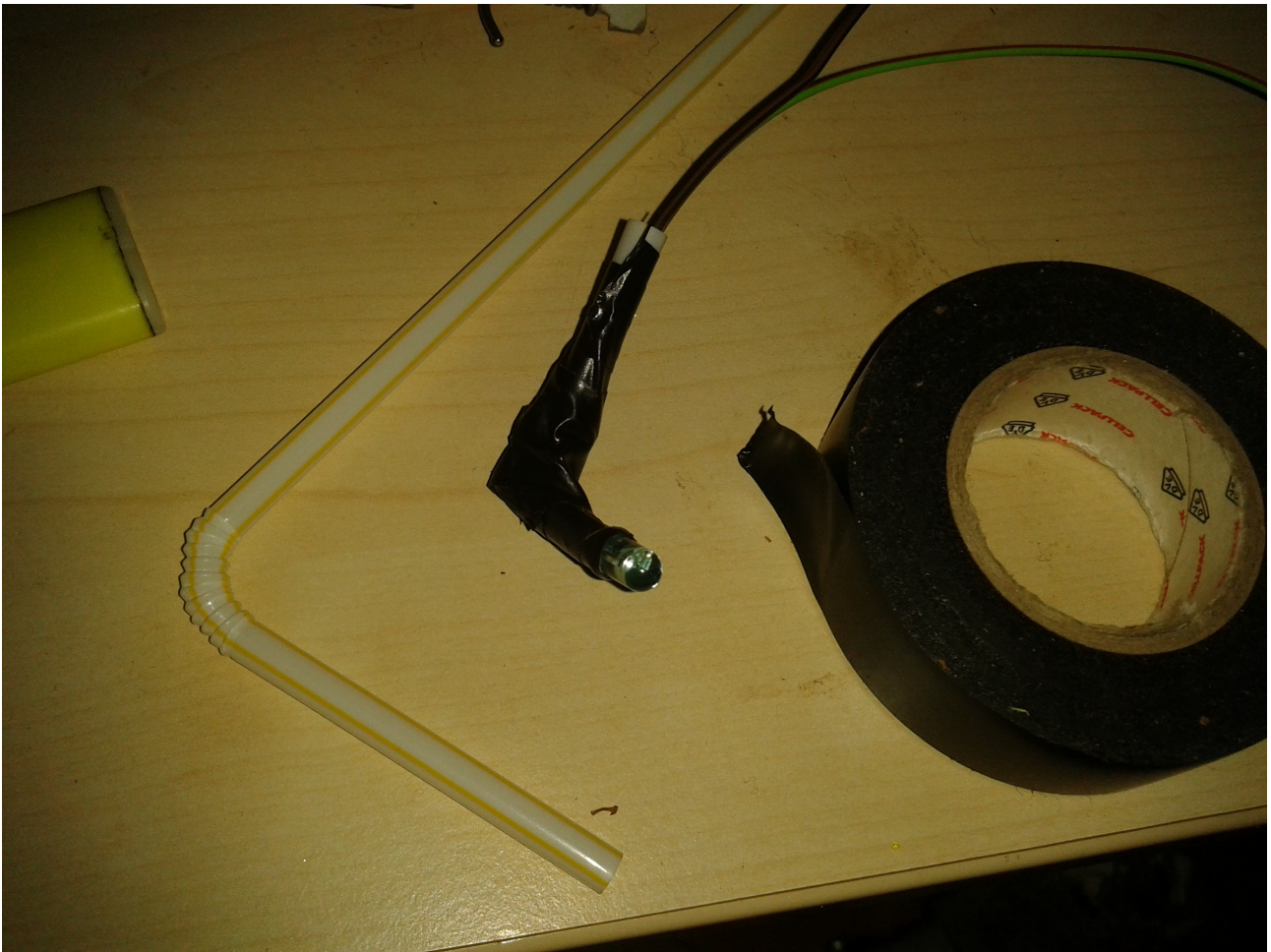
I recommend to use shrink tube or isolating tape to isolate your solder areas.



(this picture is without the top of the led sanded)



Now i startet building the model with the messurements in the model tab out of trinking tubes and fixed this with isolation tape. Then put the leds on to it and put the wires into the tubes.



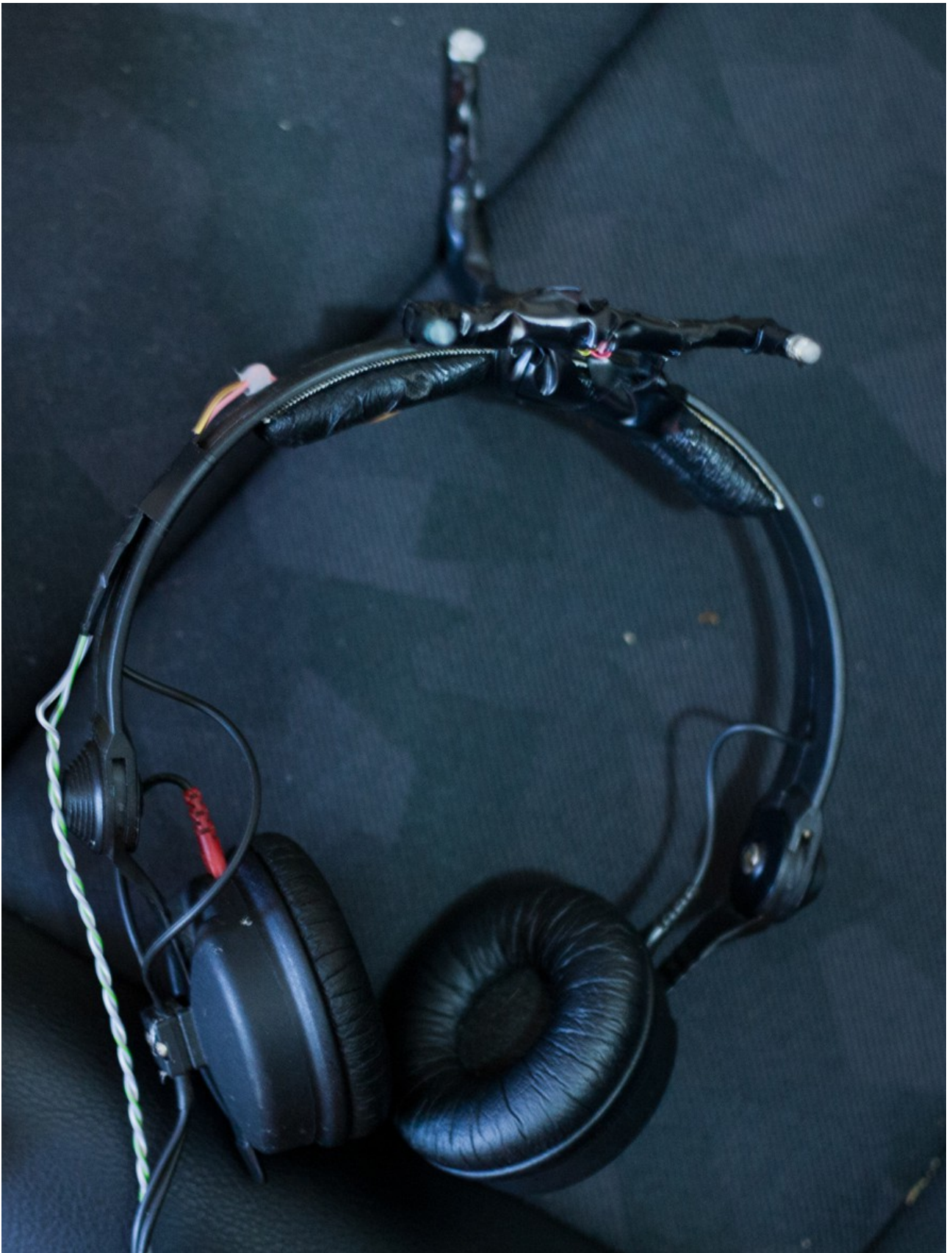
When you let the soldering ends of the Leds very long later it is easier to adjust them.



Now i solderd a cable with an 3,5 mm audio plug to the Model. Connection + wires to the top and – at the bottom. And mountet this on my headset.







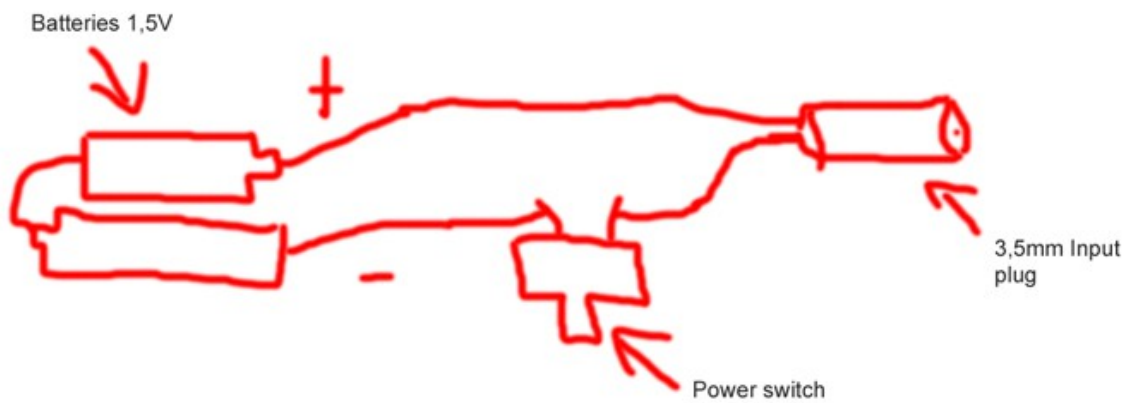
Now i take the battery holder, a switch, a 3,5mm input plug and solderd this together in a box. Although i put an audio cable to my soundcard in it.







Here is the wiring diagram from the box.



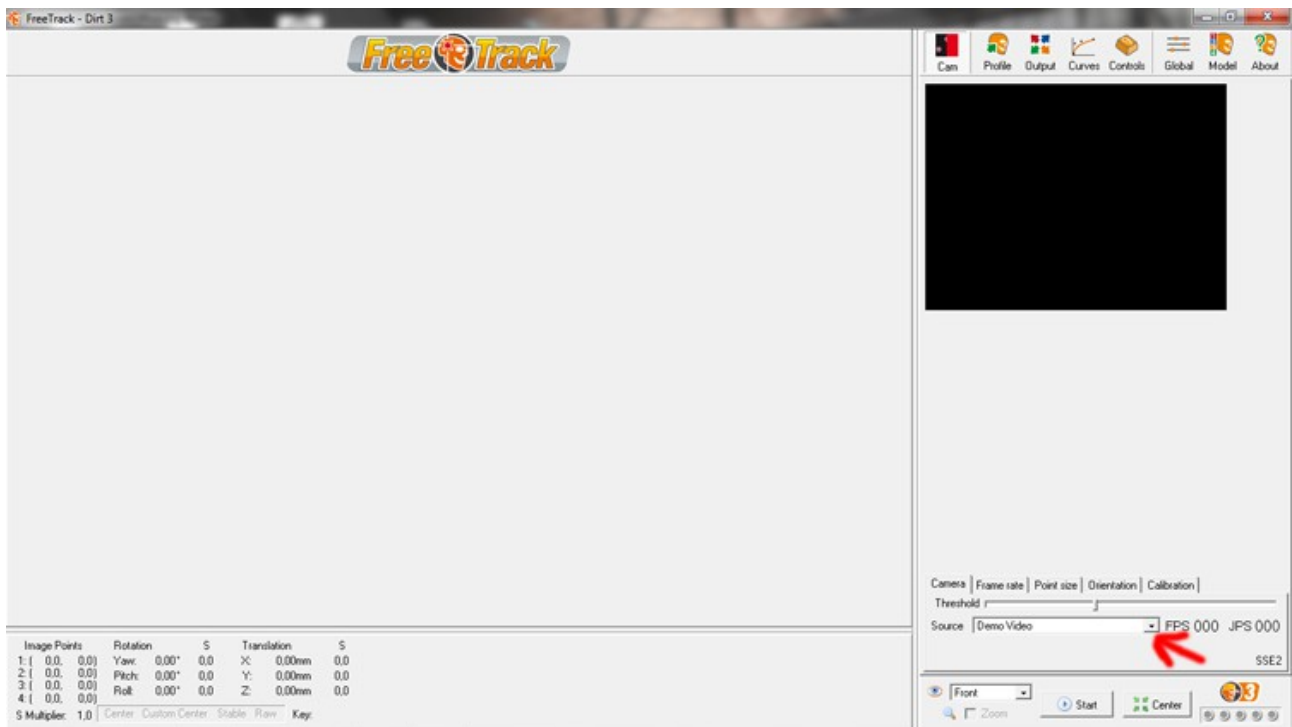
When you have everything settet up correctly turn the switch to on and check with your smartphone or handy camera if the leds are working. Because you can not see infrared light but when you look through your camera they are shining purple.

Now you have finished the building part and continue to the software part.

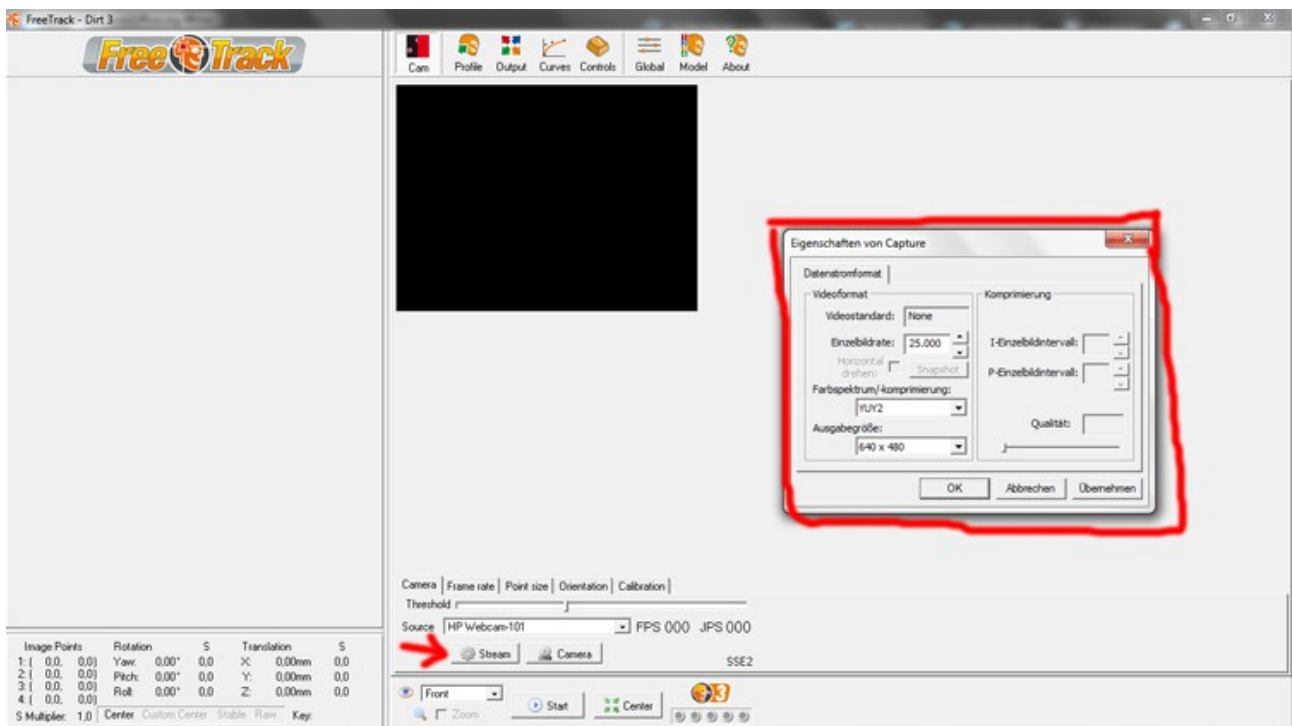


## Free Track Camera Settings

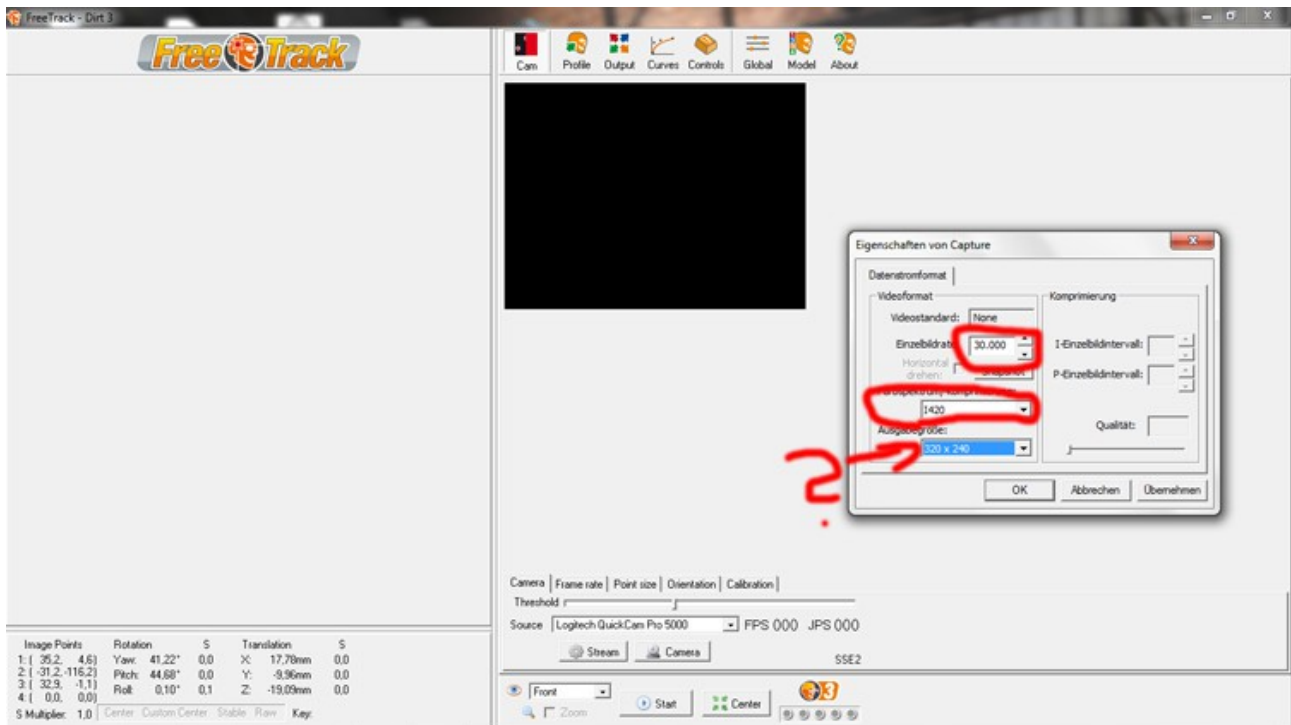
First time starting Free Track it looks like in the picture below. There you choose your webcam.



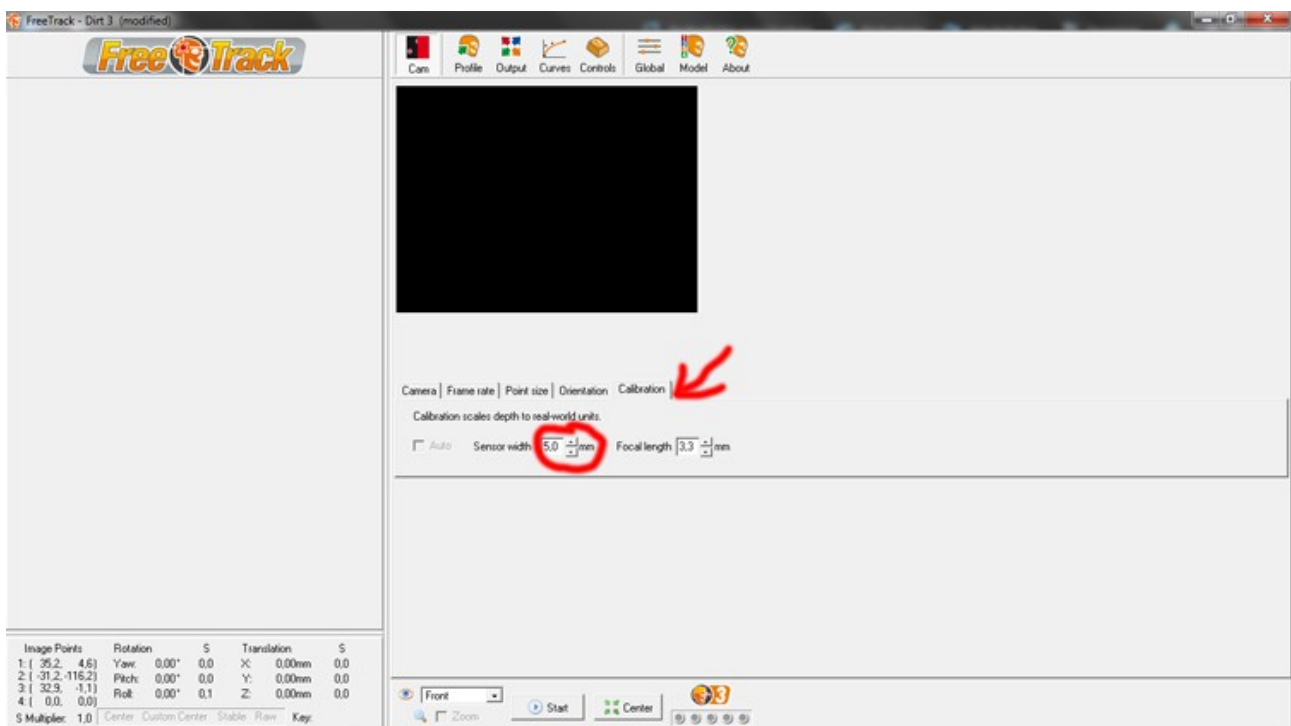
After selectet your webcam you click at stream and a new window will open.



Change the Bitrate to 30.000 if possible and compression to I420. The resolution depends on your pc setup with smaller resolution it works faster but the detection points of the leds are very small so i set it to 320x240 and it works good for me.

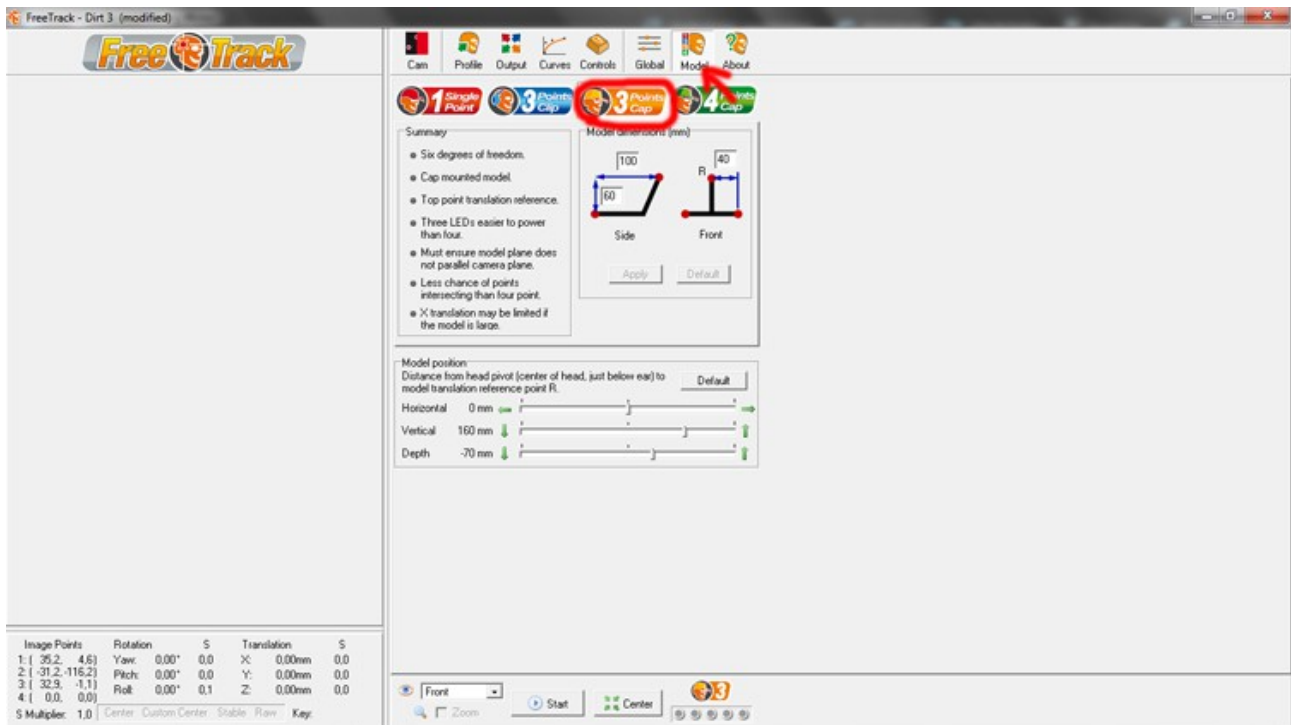


Now go to calibration and enter the details of your Leds mine are 5mm leds so i entered 5. I dont know whats there focal length so i leave this as default.

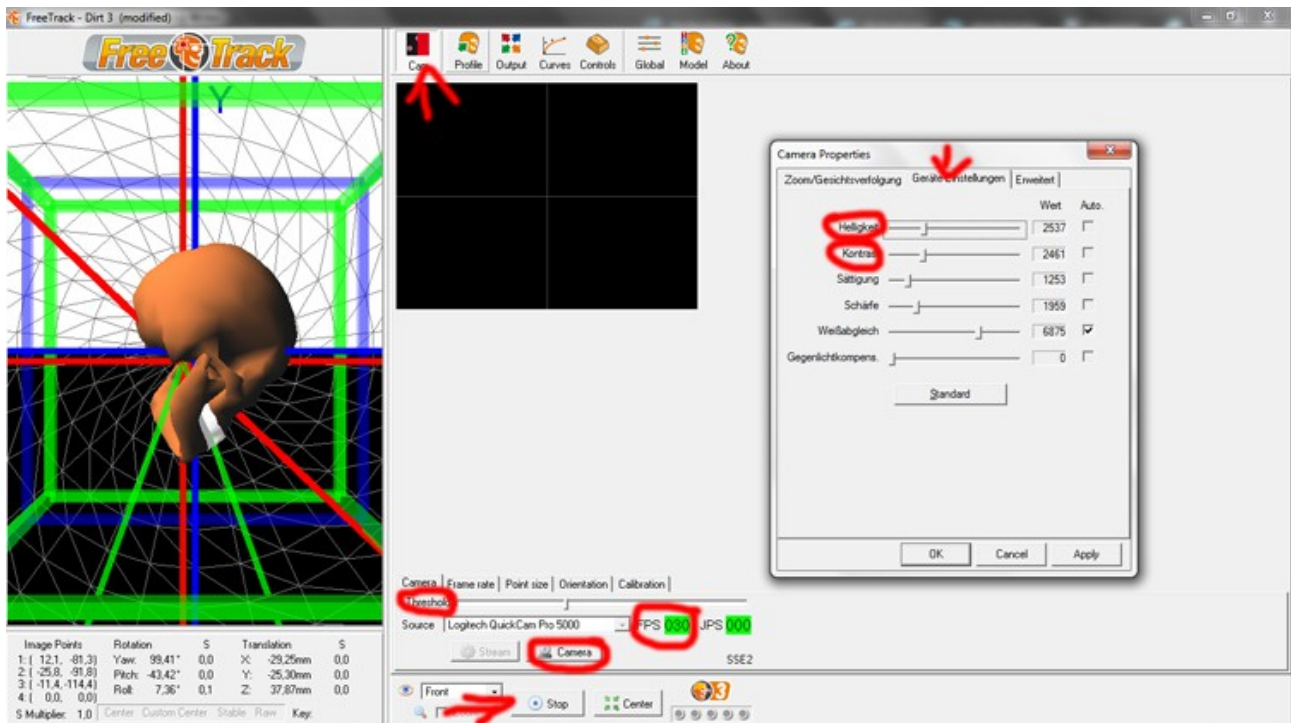




Click at Model and select what model you have or want to build. I choose the 3Led Cap Model. I first tried it with the one led setup which worked not good for me so i made the 3 led one. In this Tab you also get information about the measurements of the model and you can adjust the values for your own model.

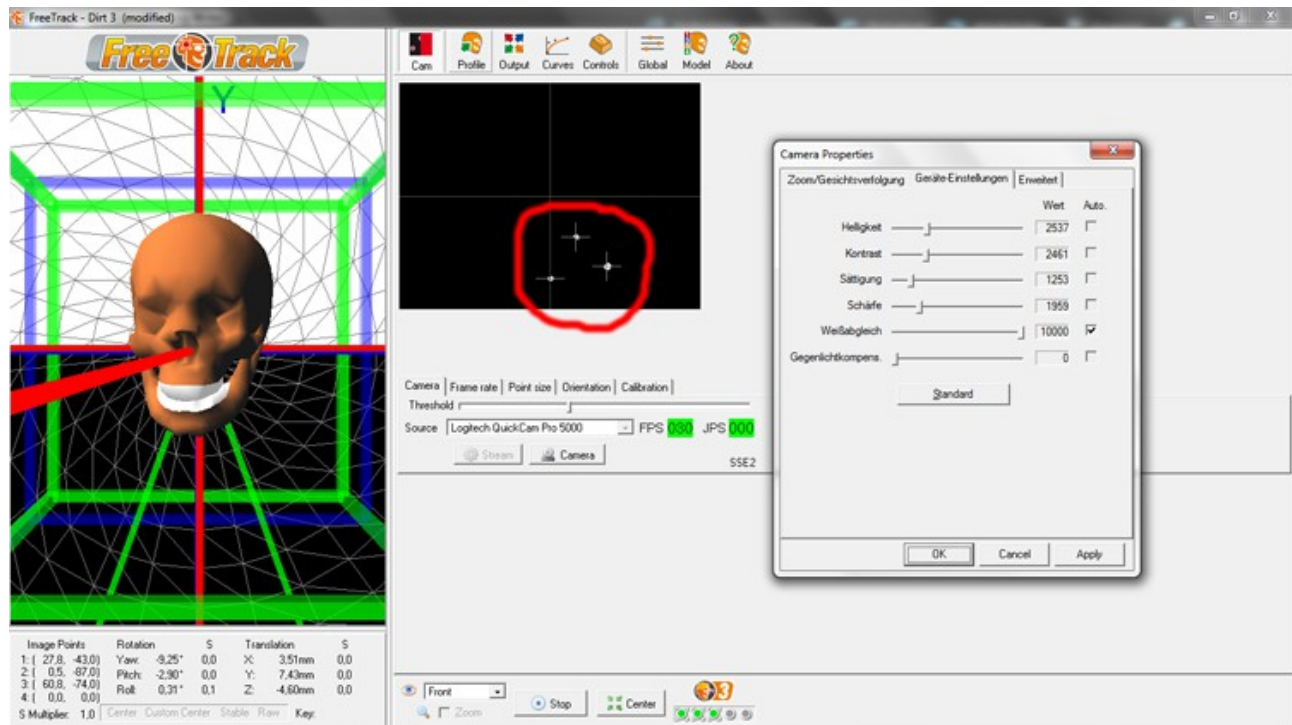


Now you click back to cam and press start. Now you press the camera tab and go to properties.



Check if the fps of the camera are right and you can see a output in the right screen.

Now you can change the values of Brightness, Contrast and Threshold until all other light sources are faded out and only your leds are recognized. I didn't remove the Ir filter from my camera but put a little bit of exposed negative film in front of it. With this settings it just works for me.



Now you are ready. Maybe you have to run a plugin to make it work with your game like said above. There's also a Link.

In the Control settings you can bind the center button to any button on your wheel or keyboard. If you get little movements from the Model until you sit still you can add with a right click on the curves in curves tab a little deathzone to this axis. This helped me a lot.

In Profile you can adjust the sensitivity of each axis fitting to your monitor setup and also save your profile.

I hope this tutorial will help you and sorry for my bad English. If there are any questions feel free to ask in the forum.