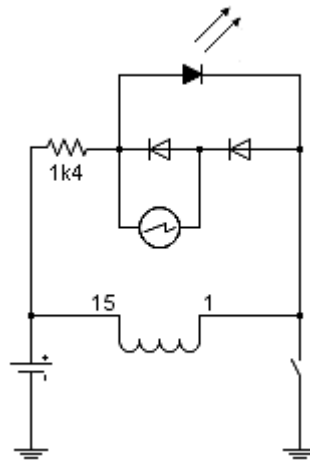




Wellcome to AnaDyn world, world where you can measure power of your car at home for free...

### **Building sensor**

First of all, you will need input data. You can build simple sensor, which will be conected to ignition coil, as you can see bellow. Use common silicon diode, Led diode for monitoring, and some recording equipment, parallel to one diode.



When you connect this simple sensor to running engine, you will see LED diode flickering very fast (move LED faster to see light track to make sure its flickering)

### **Making road test**

Now, you have to find very straight and flat testing road. Then connect the sensor to engine, run on first gear as slow as possible (1000 RMP is good), press record on your recording equipment connected to sensor (can be MP3 player, or whatever), and fully accelerate to red line, as fast as possible. Then stop recording and try the same in opposite direction.

When your wheels will spin, try the test on second gear.

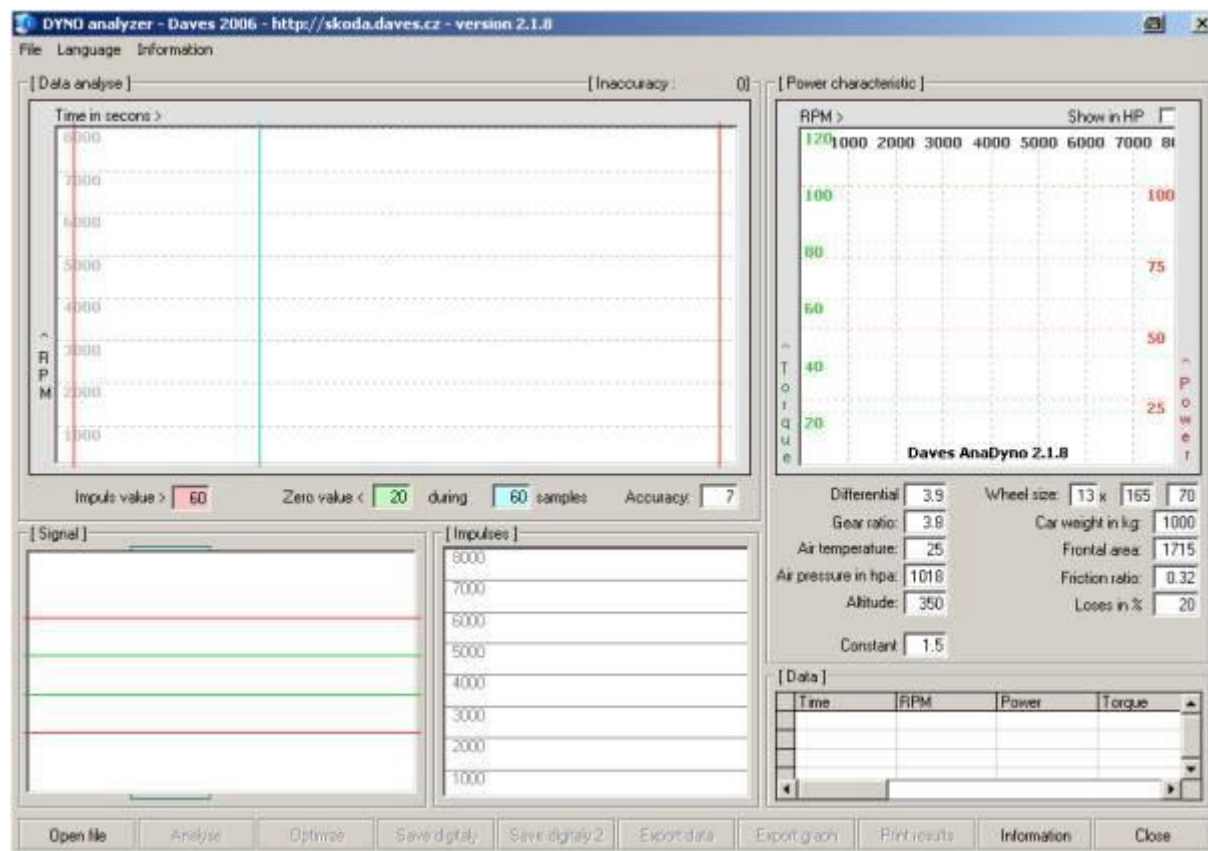
### **Preparing sample data**

Now you will have WAV or MP3 audio sample. Anyway, convert it to WAV 44100Hz, 8bit MONO.

*In future versions no convert will be necessary*

## Data Analyse

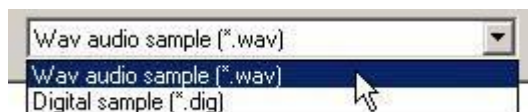
Open ANADYN application



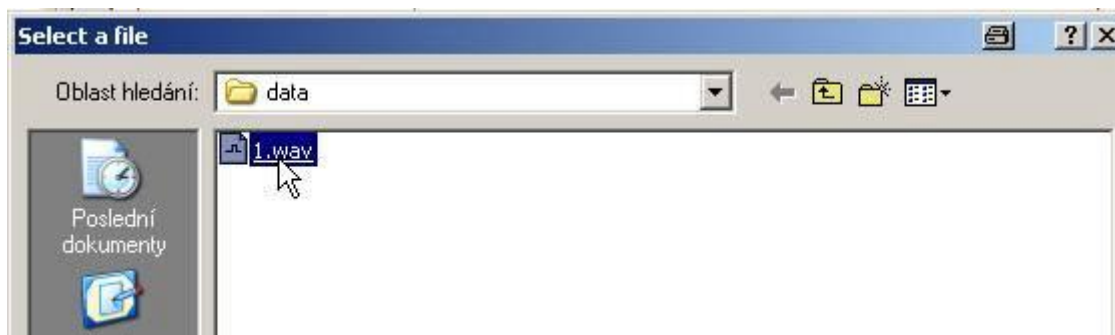
Press OPEN FILE button



Choose right type of input file, in our case will be WAV



Find audio sample we created before and open it



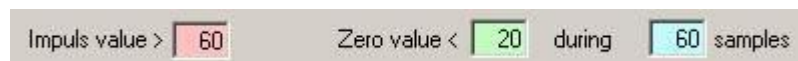
You will see basic screen with data draft.



Make sure DataAnalyse is smooth. If it will look like this :

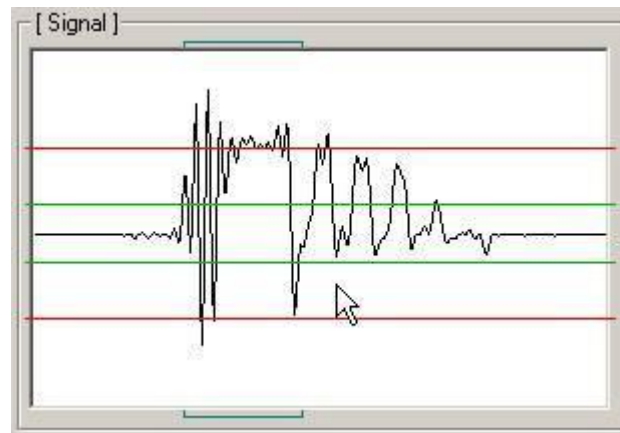


you will need to adjust triggers

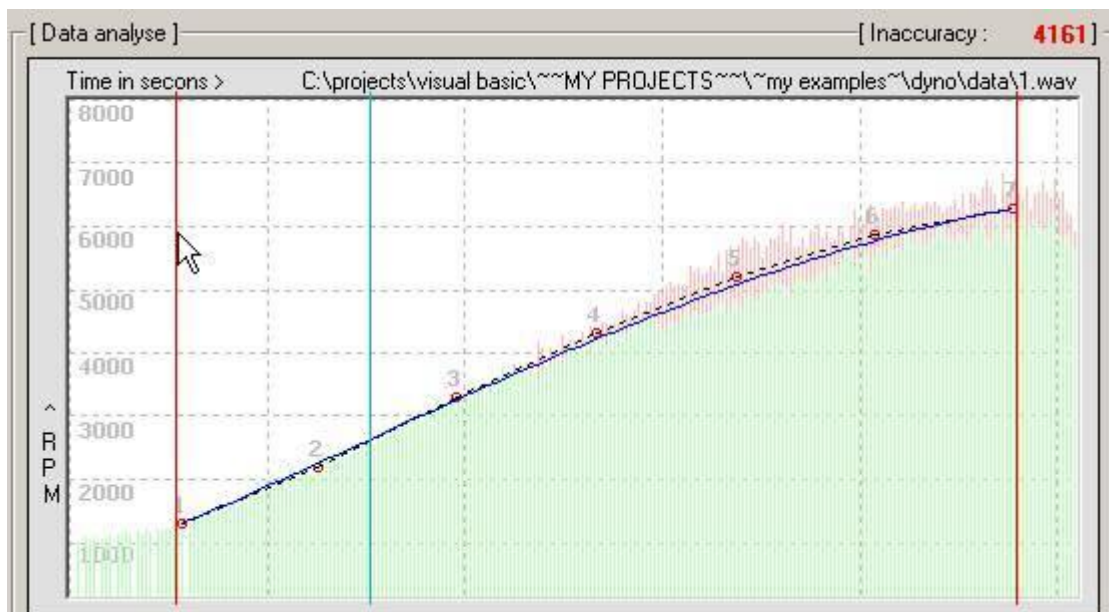


- Red field** - when signal reaches higher value, impuls will be detected. This number should be high enough to eliminate any noise in signal. You will see the level as red line in signal Window (see below)
- Green field** – when signal is under this value during number of samples in **blue field**, impuls will fall down a system will be ready to wait for another one.

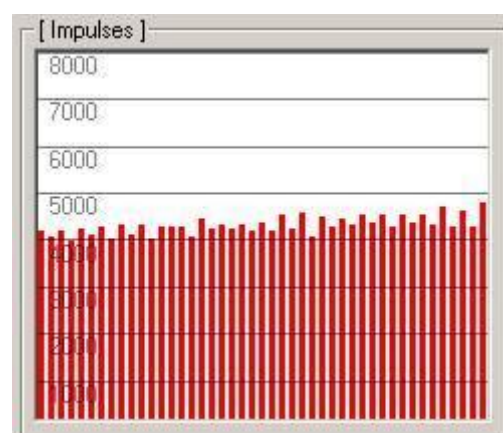
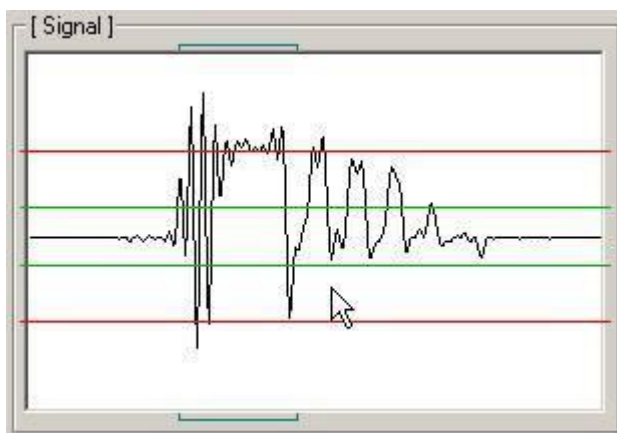
Take a look at the picture below – green field value is represented by green line, red field value as red line. If you press left button on mouse and move, you will move your position in sample. Position is marked by blue line in DataAnalyse window.



Analyse of RMP in time should be smooth as shown bellow. Choose start position by left mouse click and ending position by right mouse click.



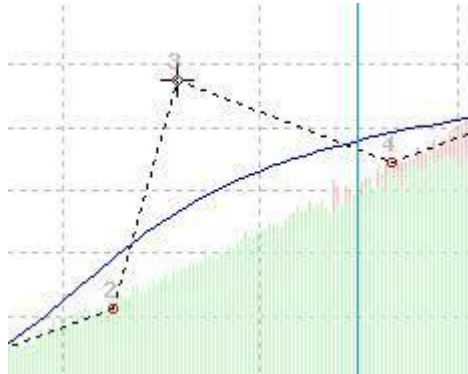
If you press middle button and move mouse, you will see corresponding signal and Impulses.



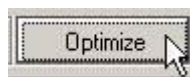
You can change number of control points

Accuracy:

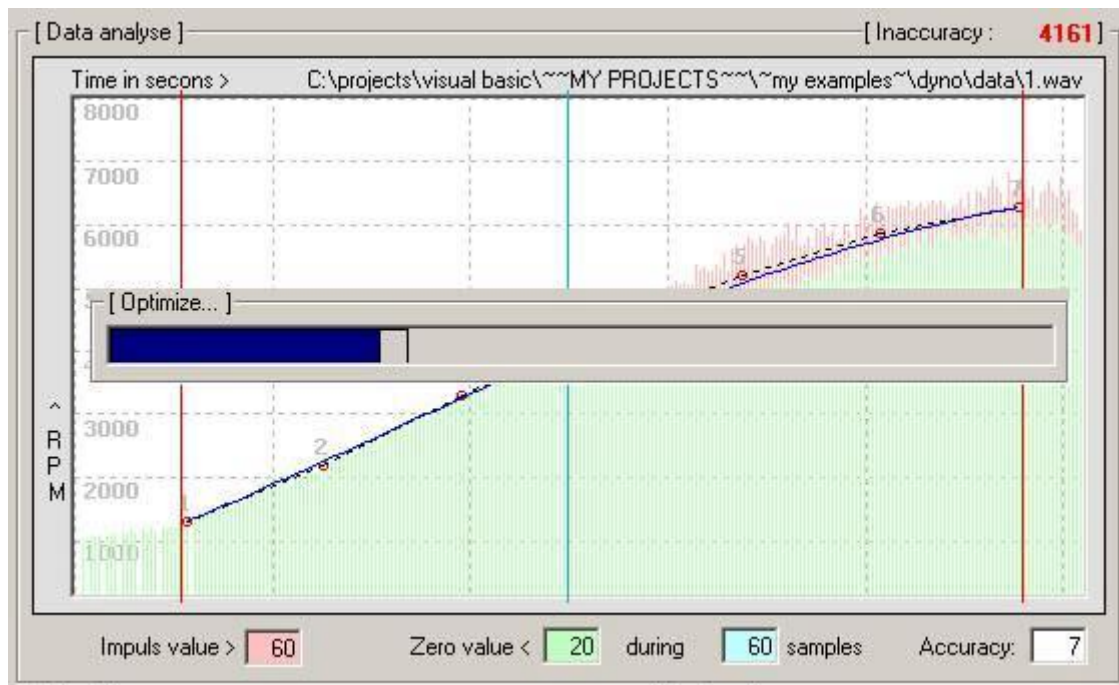
You can also move each point, if needed – hold left button on the point and move mouse



To get better position of control points, press Optimize button.  
You can press it more times to get even better results.



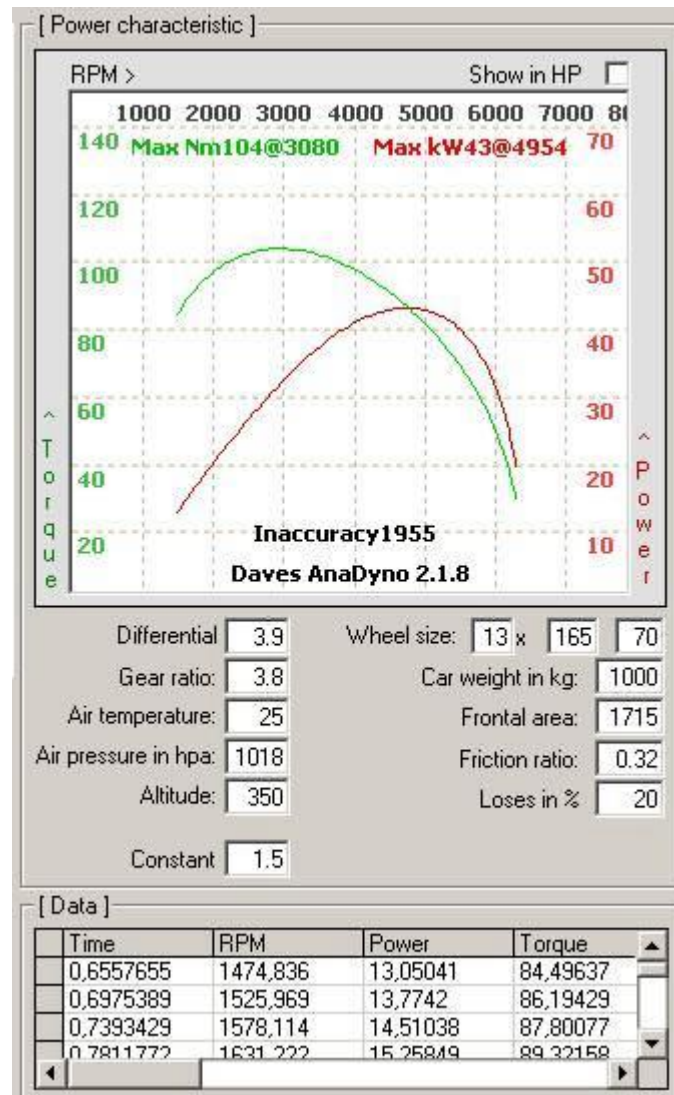
Progress bar will inform you about status



Time needed to optimize sample depends on number of control points



In right window you will see power and torque graph.  
Please, pay attention to fill in right all values below the graph !



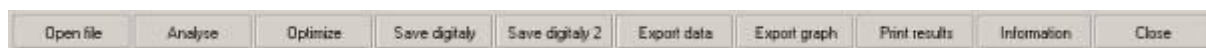
- **Differential** – differential ration of your gearbox \*\*
- **Gear ratio** – ratio of gear which was using for testing \*\*
- **Ait temperature** – air temperature during the test
- **Air pressure in hpa** - air pressure during the test
- **Altitude** – altitude of place where test was done
- **Wheel size** – size of wheel used during the test \*\*
- **Car weight in kg** – weight of car during the test, invluding fuel, persons... \*
- **Frontal area** – frontal area of car
- **Friction ratio** – friction ratio
- **Loses in %** - loses

\*\* - very important to know this to get accuracy results, put exact numbers !

\* - important to fill this as accuracy, as you can – try to keep accuracy below 100kgs

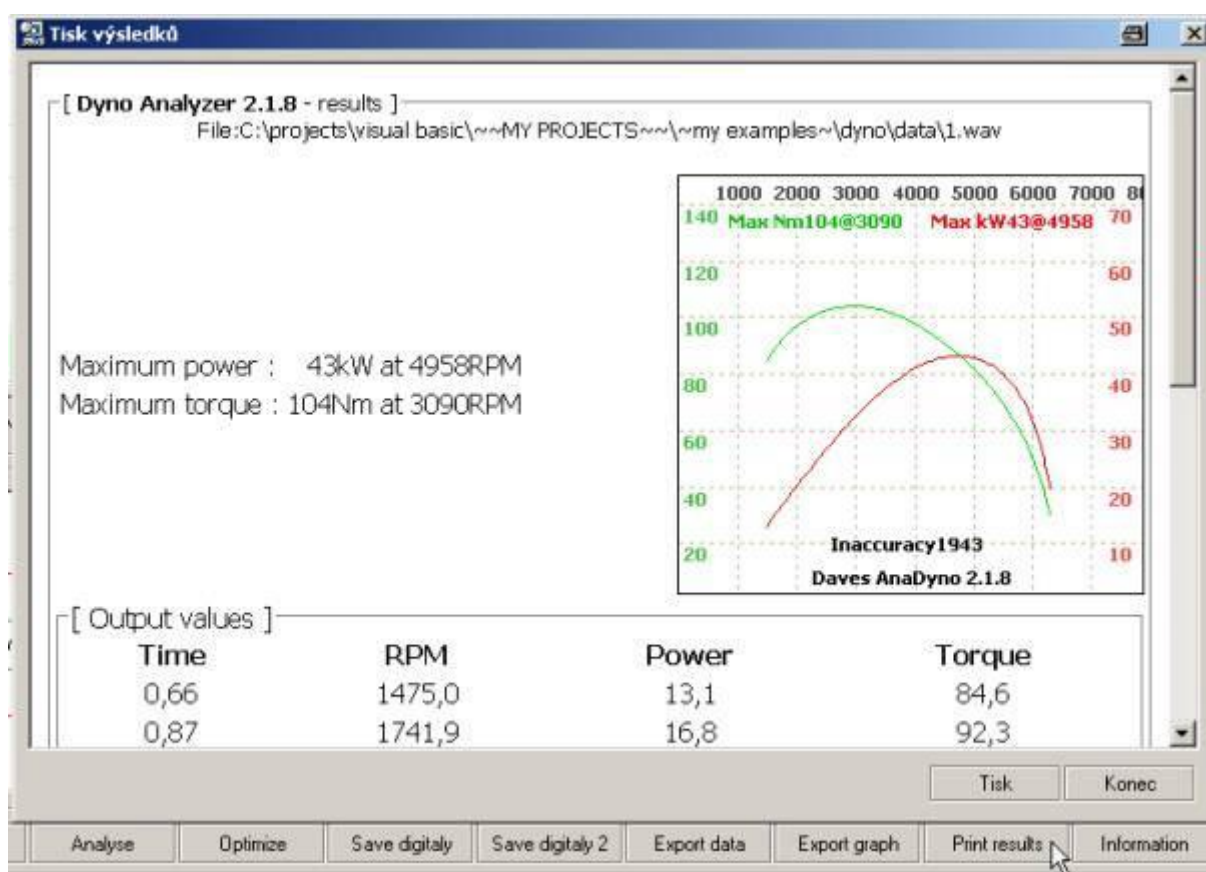
other values are not so important, leave them, if you are not sure, or try to set them as close as possible

If you look down, you can see row of buttons



- **Open file** – open sample in Wav or Dig
- **Analyse** – make analyse of sample, when you need it run manually
- **Optimize** – find better position of control points to get more accurate result
- **Save digitaly** – Save sample as digital Wav (will contain just digital impulses)
- **Save digitaly 2** – Save sample as digital Dig (will be 300 times smaller than Wav, good for sharing)
- **Export data** – export data about RPM, power and torque into TXT file
- **Export Graph** - will save graph as BMP image
- **Print results** – will print report

### Printing results



*This feature is in development right now, it do not represents final version !*

**ANADYN application is still under development, all parts may change, check often for new version !**

Application, sensor and this manual designed by Daves, <http://skoda.daves.cz>