DEMO VERSION EDITION

X-Motor Racing v1.21
User Manual

INTRODUCTION

Welcome to X-Motor Racing and thank you for choosing the game.
Our goal is to develop innovation and advanced racing simulator with tools for understanding/tuning vehicle physics.
Now X-Motor Racing is a racing simulator and the tools to create cars and tracks. VehiclePhysics utility that allows tune almost every aspect of the vehicle dynamics.

We hope you enjoy it!
To have the maximum enjoyment from X-Motor Racing, we would suggest read this manual more carefully.

For the latest version, please visit web site: www.XMotorRacing.com

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GETTING STARTED

Quick Start

1. Download X-Motor Racing demo/full version.

2. Unzip and then launch the setup file.

3. After install, launch X-Motor Racing Launcher or X-Motor Racing shortcut in the Windows menu.

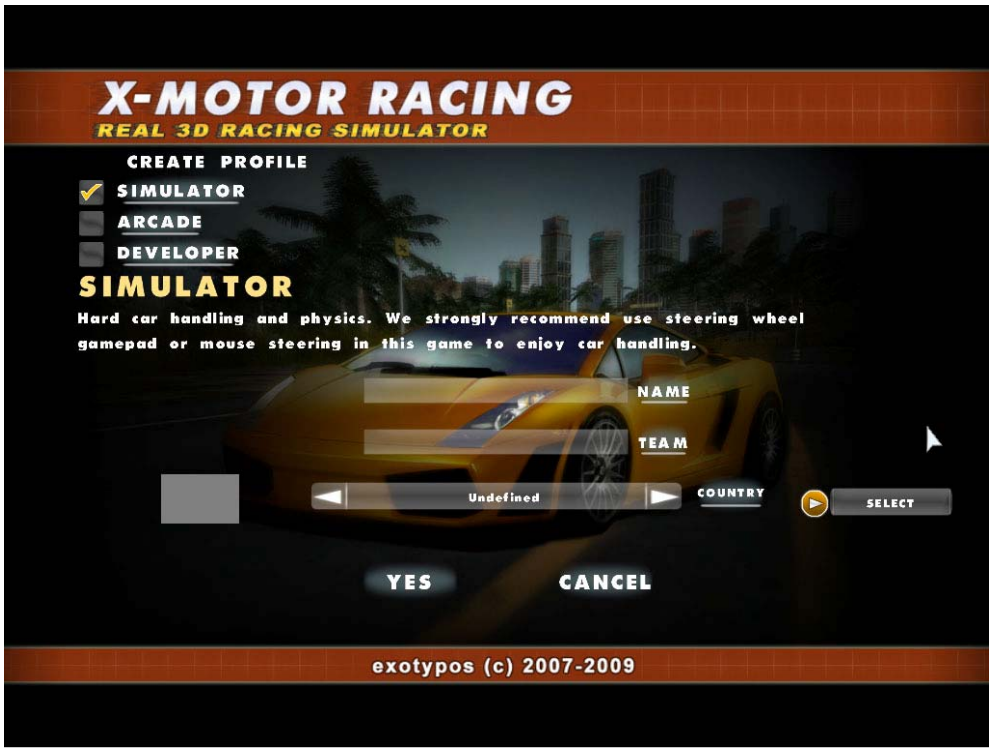
4. Once X-Motor Racing Launcher is running, please configure you default options.

LANGUAGE combo box allows select the language you like.
PERFORMANCE/QUALITY allows setup preliminary graphics options.
CHECK FOR UPDATE is an online checking for the updates.

5. Configure Audio and Physics options and just press the PLAY to start the game.

6. If X-Motor Racing is running, press the ADD button to create a new game profile.

7. Select the game type SIMULATOR, ARCADE or DEVELOPER, enter the name and press the YES. Although game type could be changing later, be careful at selecting it.



8. X-Motor Racing has a typical menu structure for easy navigation. There are four game types:

- **HIGHWAY RACE**
  Select this game if you like highway race against computer racers. This game is like a career with two car classes: FWD, RWD.
- **OFF-ROAD**
  Select this game if you prefer Off-road race against computer racer (ghost).
- **HOT LAP**
  Hot lap is very easy. If you want get better lap time, select this game. You could select any highway track or car here.
- **MULTIPLAYER**
  Multiplayer up to 8 players. Version 1.07 supports LAN. If you want play via Internet you have to use special utilities like Hamachi.
- **TRAINING**
  Select this game if you need tune your vehicle dynamics at testing area.

DEFAULT KEYS

KEY/BUTTON	ACTION
LEFT	Left
RIGHT	Right
UP	Throttle
DOWN	Brake
SPACE	Hand brake
C	Clutch
PGUP	Shift up
PGDOWN	Shift down
NUM9	Reverse
NUM0	Neutral
NUM1	First
NUM2	Second
NUM3	Third
NUM4	Fourth
NUM5	Fifth
NUM6	Sixth
NUM7	Seventh
X	Block differential
Z	Block central differential
U	Toggle on/off low gear
D	Change driving wheels
A	Toggle on/off ABS
Y	Toggle on/off Traction Control
S	Toggle on/off Stability Control
M	Start the engine
V	Change camera
INSERT	Recovery
F2	Toggle on/off the race time
F3	Toggle on/off the rear-view mirror
F7	Toggle on/off the map
F5	Toggle on/off the speedometer
F6	Toggle on/off HUD
3	Tune HDR parameters
4	Tune reflection parameters
T	Change transmission
F1	Toggle on/off hints
1	Tune the camera
2	Toggle on/off camera effects
I	Toggle on/off physics information
G	Toggle on/off ghost view
O	Launch VehiclePhysics with the current game profile
W	Turn the camera to the left
E	Turn the camera to the right
R	Turn the camera to the back
N	Next car
P	Pause

MAIN MENU

MAIN MENU is a hub for the entire game. To navigate in the menu use mouse or TAB and ENTER keys.

- **TRACK**

Select the race track from the list you want to drive.

- **CAR**

Select the car from the list.

- **RACE WAY**

If the track has some racing ways, you could select them here.

- **RING NUM**

Select the number of the rings.

- **GARAGE**

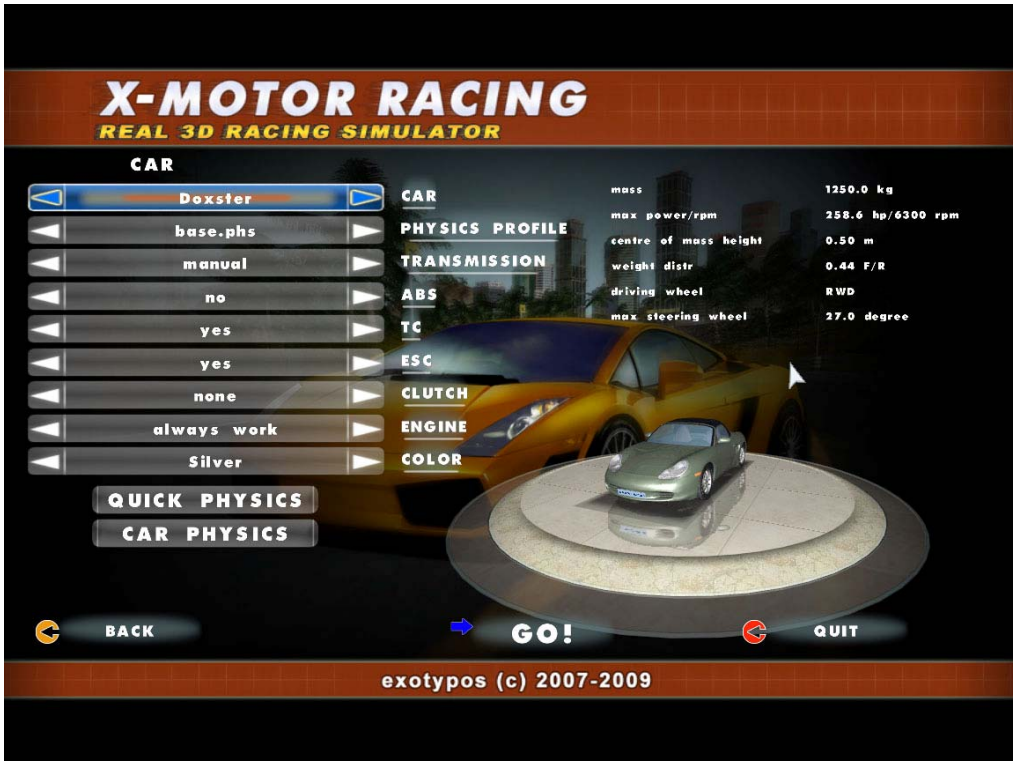
Press this button to go to the GARAGE.

- **GO!**

Press this button to start the race at once.

Garage

GARAGE MENU is designed for tune your car before the race.



- **CAR**

Select the car from the list you want to drive.

- **SETUPS**

Select setups for the race or tuning with the VehiclePhysics utility.

- **TRANSMISSION**

Select the type of transmission you want to use. There are three types of transmissions - Manual, Auto, Auto Reverse.

- **ABS**

If you want to use ABS with your car, select this option. In addition, you can toggle on/off ABS in game.

- **TC**

If you want to use Traction Control with your car, select this option.

- **ESC**

If you want to use Electronic Stability Control with your car, select this option.

- **CLUTCH**

Select the clutch type you want to use.

- **ENGINE**

Select the FIRING if you want to start engine yourself.

- **COLOR**

Select any color you like for the car.

- **QUICK PHYSICS**

Press this button to run the Quick Physics tool to tweak the physics of the car.

- **CAR PHYSICS**

Press this button to run the VehiclePhysics utility to tune the physics of the car. It is more convenient when the game is in window mode.

- **GO!**

Press this button to start the race at once.

Quick Physics

QUICK PHYICS is a tool to tweak steering system, camber/toe angles, brake system, suspension, transmission and tires properties.

Info

INFO menu allows you to manage setups and shows some common information.

- **COPY**

Create copy of the current setups.

- **DELETE**

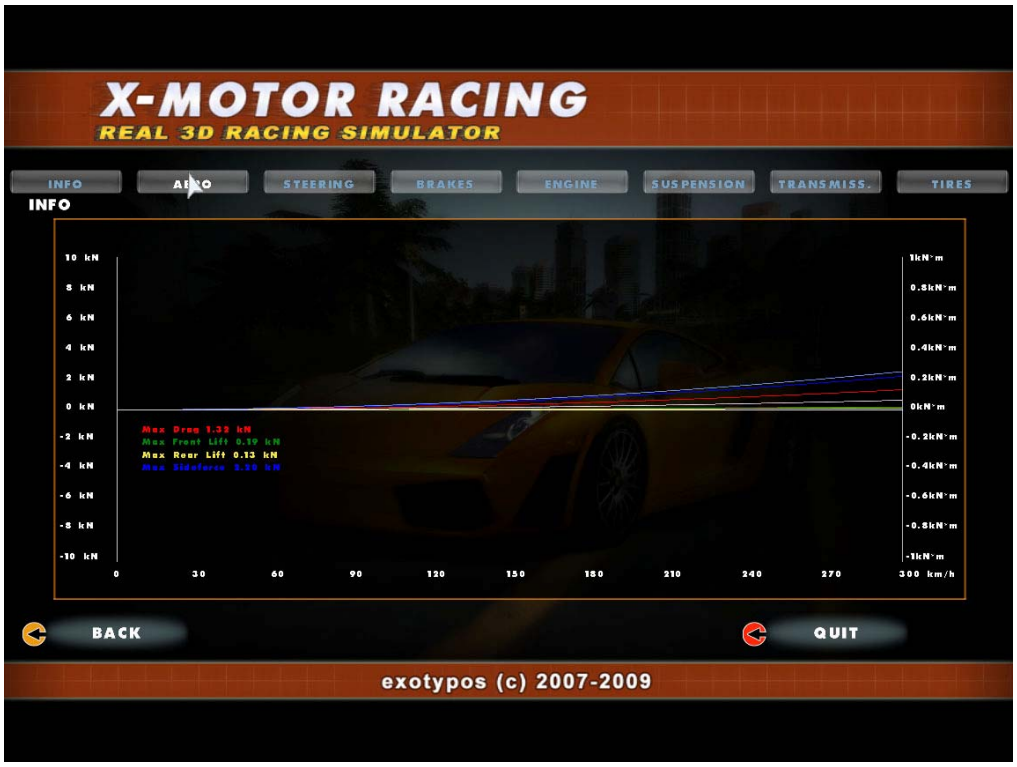
Delete the current setups.

- **RESTORE**

Restore the original setups after tweaking.

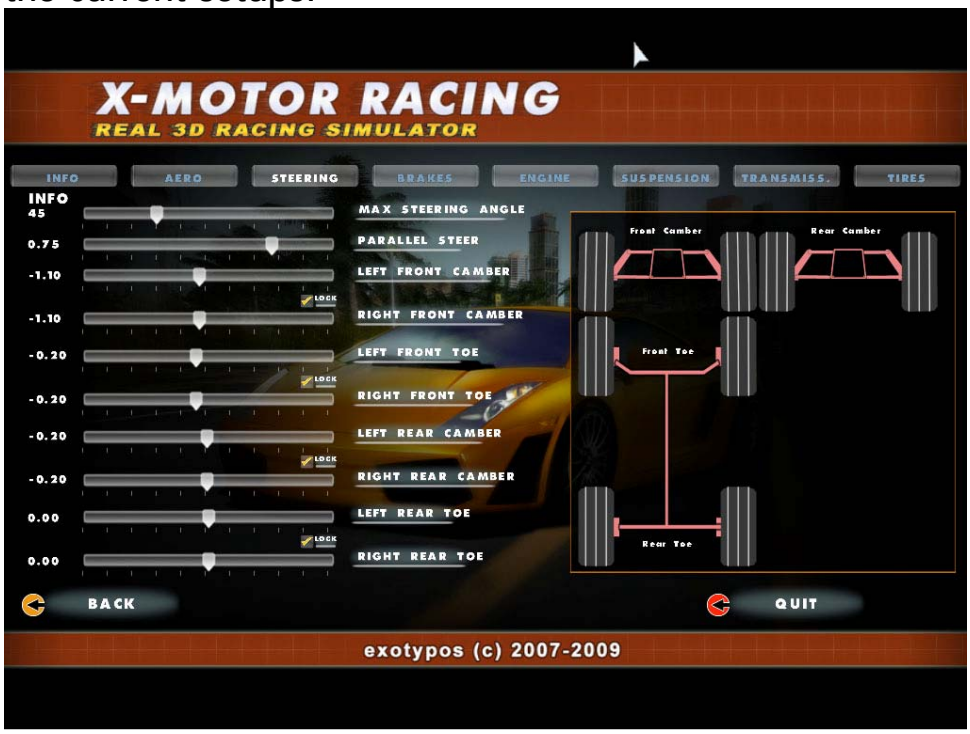
Aero

AERO menu displays aerodynamics properties of the car.



Steering

STEERING menu allows tweak steering system and camber/toe angles of the current setups.

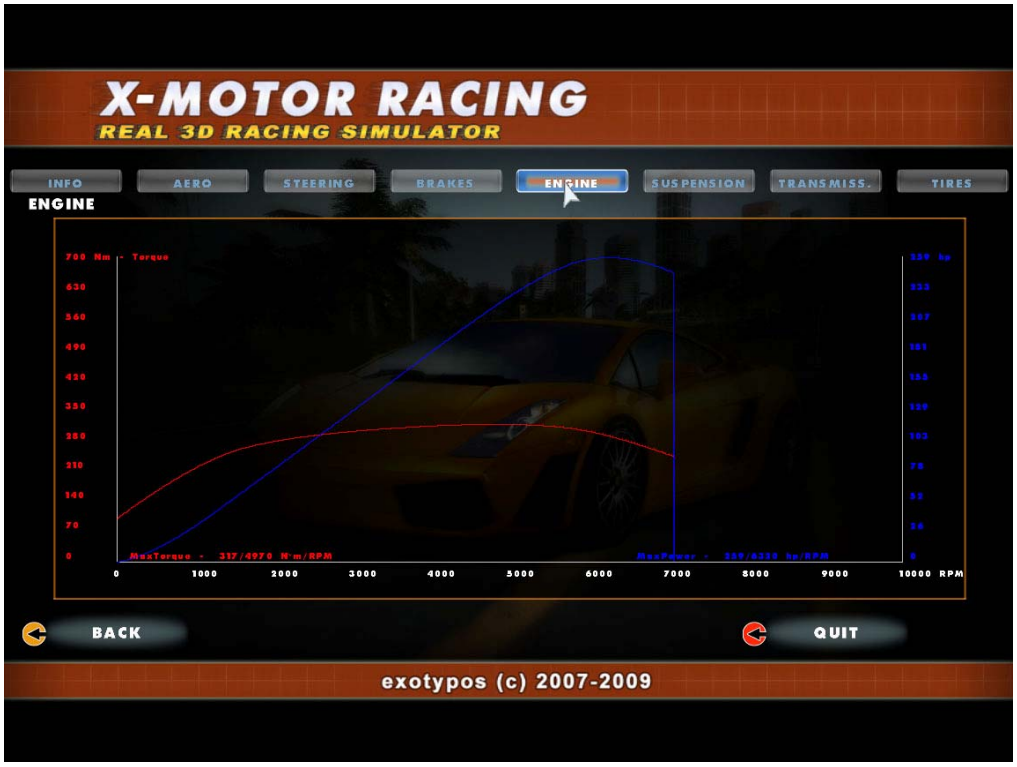


Brakes

BRAKES menu allows tweak brake system of the current setups.

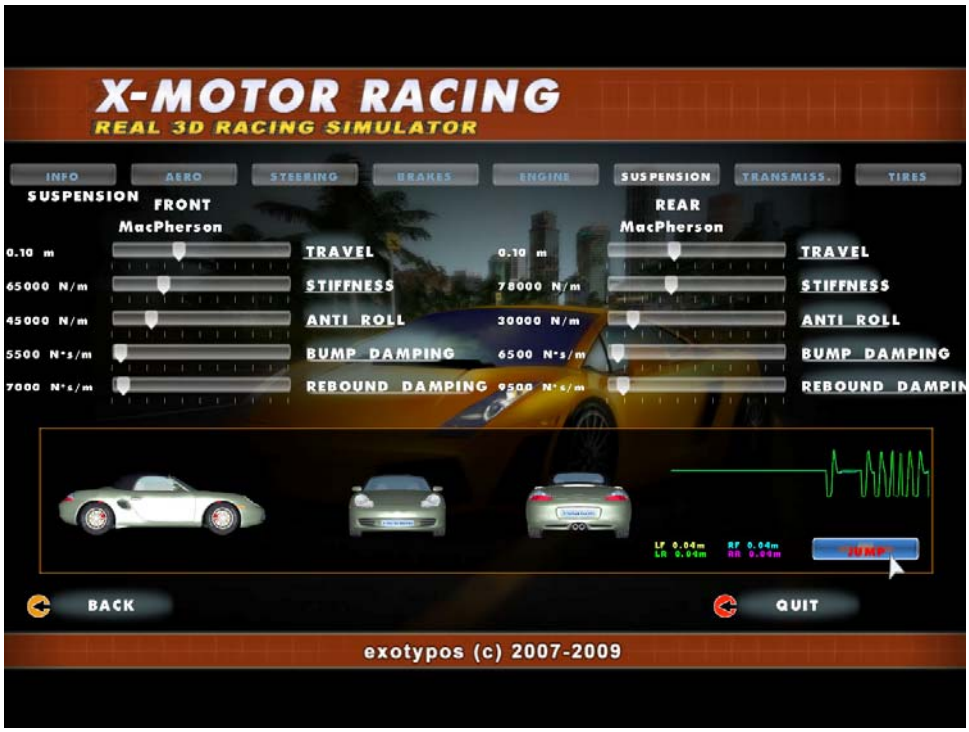
Engine

ENGINE menu displays torque and power curve.



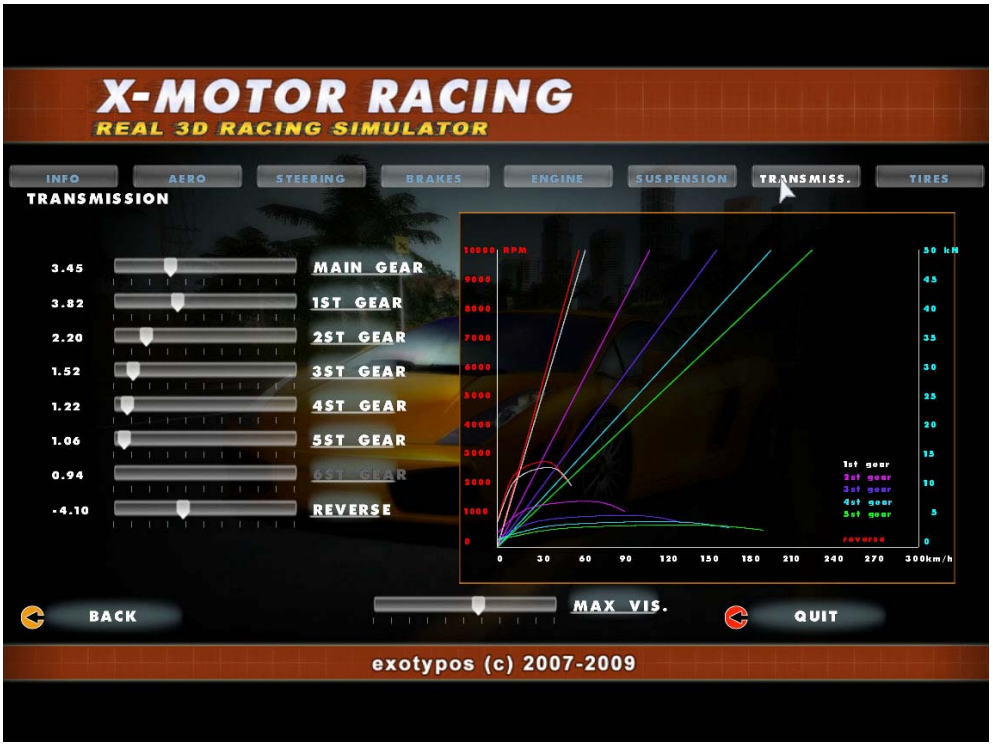
Suspension

SUPSENSION menu allows tweak suspension for the current setups.



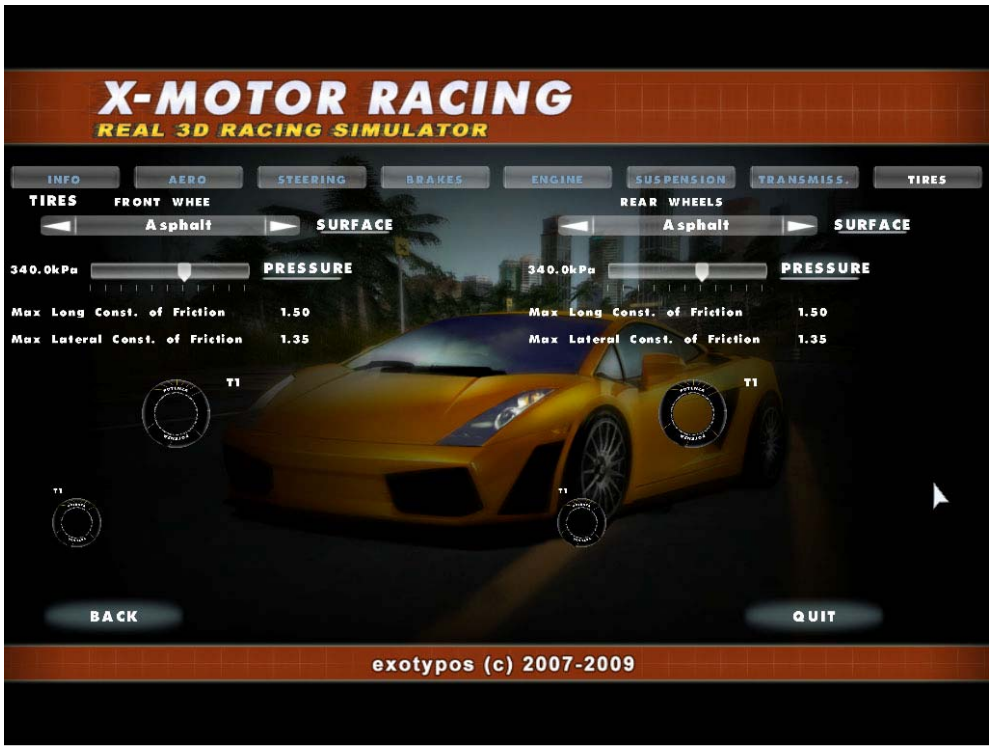
Transmission

TRANSMISSION menu allows tweak transmission for the current setups.



Tires

TRANSMISSION menu allows tweak tires properties for the current setups.



Multiplayer

MULTIPLAYER menu allows you to join game. The game uses client-server architecture. If you want to use multiplayer you must create server (using XMR Dedi Server) and then create some clients (JOIN GAME). The game supports up to 32 clients.[1]

- **LIST OF HOSTS**

Press this button if you want to get list of hosts.

- **JOIN GAME**

Press this button if you want to be a client.

Join game

JOIN GAME menu allows you to join multiplayer game.

- **TYPE**

Select multiplayer game type.

- **ADDRESS**

Enter IP address of the server.

- **PORT**

Enter port number.

- **PASSWORD**

Enter password for the game. Leave this field empty if the game has no password.

[1] Demo version supports up to one client only.

- **CONNECTIONS**

Select connections type.

- **UPLOAD SPEED**

Define maximum upload speed (Kbps) to prevent upload congestion.

- **DOWNLOAD SPEED**

Define maximum download speed (Kbps) to prevent download congestion.

- **UPDATE DELAY**

Define update delay (millisecond) to define how often send the data to the server.

- **DRAW LATENCY**

If there are no incoming data because of lag more than draw latency then the cars will be hidden.

Screen

SCREEN MENU is designed for configure video options.

- **ADAPTER**

Select the video adapter you want to use.

- **RESOLUTION**

From this combo box, select the resolution and color depth you want to use. Color depth is for the FULLSCREEN MODE. For the window mode the Windows color depth is used.

- **REFRESH RATE**

Select the refresh rate you want to use in FULLSCREEN MODE.

- **FSAA**

Select the FSAA level you want to use[2].

- **ASPECT RATIO**

Select the ASPECT RATIO of the game camera, say for Widescreen modes if you don't want to use AUTO mode. AUTO mode can automatically tune your camera in any resolution (Standard or Widescreen).

- **VERTICAL SYNC**

This setting turns on/off the vertical sync.

- **ALL RESOLUTIONS**

This setting turns on/off all system resolutions.

- **APPLY**

[2] Demo version has limitation up to NonMaskable level.

Press this button if you want to save and apply all the changes you made in the SCREEN MENU.

Graphics

GRAPHICS MENU is designed for configure graphics options. You are able to change any graphics options when you are in the MENU (before the race). On the race time all the graphics options are unavailable.

- **RENDERING QUALITY**

It will quick pre-set the graphics options. Of course, you can manually configure the graphics options if you prefer.

- **VISION DISTANCE**

This option controls how far your camera will see. The shorter camera distance, the faster graphics works.

- **MAX FILTERING**

This option controls the max texture filter. Select any you want to use. There are more choices on the modern video-cards.

- **DETAILED**

This setting controls how detailed your world will be. The less detailed, the faster graphics works.

- **TEXTURE QUALITY**

This setting controls the texture quality.

- **SHADERS**

Use this option to set the max shader model you want to use in the game.

- **WATER QUALITY**

This setting will control the quality of the water rendering. The better quality, the slower graphics will be.

- **SCENE RENDERING**

Use this setting to improve the quality of the scene rendering or to deteriorate it.

- **CAR RENDERING**

This option controls the car quality rendering in the game. The better the quality, the slower the graphics will be.

- **HDR**

This setting turns on/off HDR rendering.[3]

- **HDR FILTERS**

Use this setting to select any HDR filters you want to use.

- **MOTION BLUR[4]**

Select any MOTION BLUR parameters you want to use.

- **DITHERING**

Switch on this option if you want to use the DITHERING.

- **MIPMAP BIAS**

This setting controls the bias of the MipMap filter. You can see the effect on the far objects in the game.

Sound

SOUND MENU is designed for configure audio system.

- **API**

Use this combo to select sound API - DirectSound or OpenAL.

- **ENGINE SOUND**

Use this setting to turn on/off engine sound in the game.

- **ENGINE SOUND VOLUME**

This slider controls the volume of engine sound in the game.

- **EFFECT SOUND**

Use this setting to turn on/off effects in the game and menu.

- **EFFECT SOUND VOLUME**

Use this setting to turn on/off effects in the game and menu.

- **EFFECT SOUND VOLUME**

This slider controls the volume of the effect sounds.

- **MUSIC**

This control turns on/off music in the game, replay and menu.

- **MUSIC VOLUME**

This slider controls music volume.

- **MENU EFFECTS**

[3] HDR Rendering is unavailable in Demo.
[4] Motion Blur is unavailable in Demo.

This control turns on/off sound effects in menu.

- **MENU EFFECTS VOLUME**

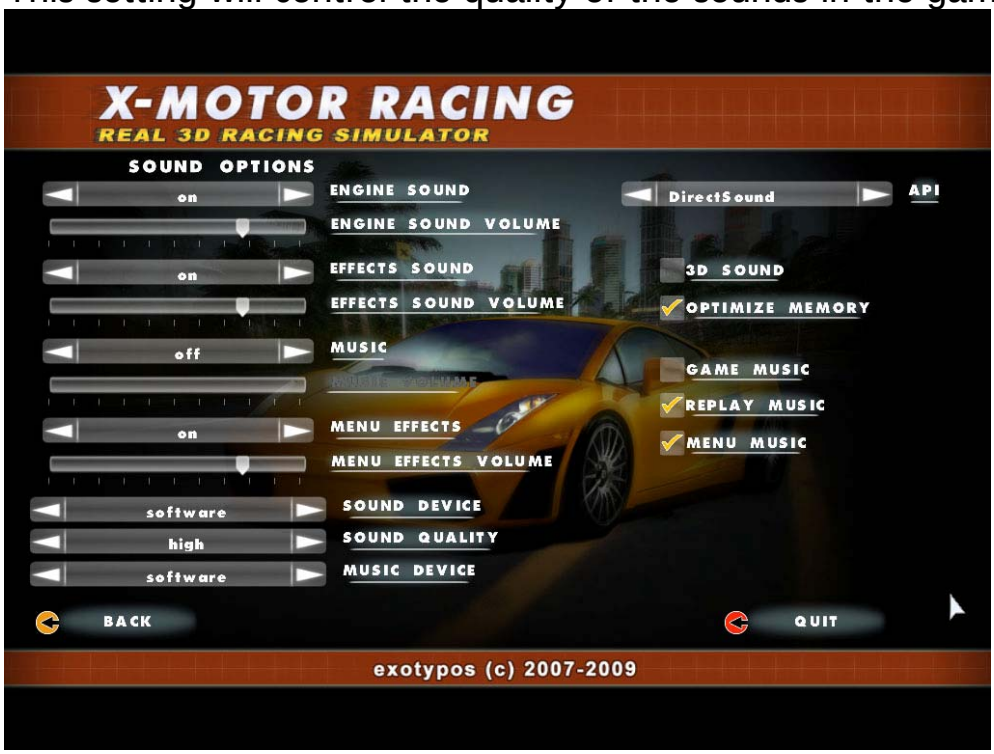
This slider controls menu effects volume.

- **SOUND DEVICE**

Use this combo to select the audio device type you want to use in sound playing. Be remember, that on some systems (under DirectSound API) there will be some conflicts between SOUND DEVICE and MUSIC DEVICE.

- **SOUND QUALITY**

This setting will control the quality of the sounds in the game.



- **MUSIC DEVICE**

Use this combo to select the audio device type you want to use in music playing.

- **3D SOUND**

Turns on/off 3D SOUND in the game. If you want use 3D SOUND, make sure that your system has the latest audio drivers.

- **OTIMIZE MEMORY**

You can optimize RAM using by switching on this setting. It means that not all the WAV samples will be loaded before they needed.

- **GAME MUSIC**

Turns on/off music in game.

- **RELAY MUSIC**

Turns on/off music in replay.

- **RELAY MENU**

Turns on/off music in menu.

Physics

Use PHYSICS MENU to configure physics simulation.

- **SIMULATION ACCURACY**

If you want to improve simulation accuracy, use this control. The more accuracy, the slower simulator works.[5]

- **AI/NET ACCURACY**

If you want to improve AI/NET competitor simulation accuracy, use this control. The more accuracy, the slower simulator works.[6]

- **DAMAGE MODEL**

This setting controls the level of DAMAGE MODEL in the game. Version 1.05 has up to tire model only.[7]

- **MEASUREMENT**

Select any Metric/SI or US/Imperial you prefer.

- **TELEMETRY TO FILE**[8]

Select this setting to save telemetry data in telemetry.txt file and replay. By default, replay files don't save telemetry data. Of course, you can use real-time telemetry if you want to.

[5] This setting is limited up to MEDIUM in Demo.
[6] This setting is limited up to MEDIUM in Demo.
[7] Damage Model is unavailable in Demo.
[8] Telemetry is limited in Demo.

Display

Use DISPLAY MENU to configure display options.

- **SHOW FPS**

Show FPS in game.

- **REAR-VIEW MIRROR**

Customize REAR-VIEW MIRROR.

- **PHYSICS VECTORS**

Shows Physics Vectors of the car.

- **DEVELOPER INFO**

Display additional information for DEVELOPER game profiles.

- **PHYSICS CONTOURS**

Displays physics contours of physics objects for DEVELOPER game profiles.

- **COCKPIT HUD**

Customize cockpit HUD.

- **NAMES IN MULTIPLAYER**

Show names in multiplayer for each car.

Playlist

This menu is designed for manage music playlist. Left part contains the table with music tracks.

- **TEST**

Use this button or mouse to test playing selected music track.

- **STOP**

Use this button to stop playing.

- **CLEAR**

This button clears the playlist.

- **ADD FROM Ogg**

Adds OGG files from ‹‹OGG\›› directory. ‹‹OGG\›› dir is for the user music tracks.

- **ADD FROM Music**

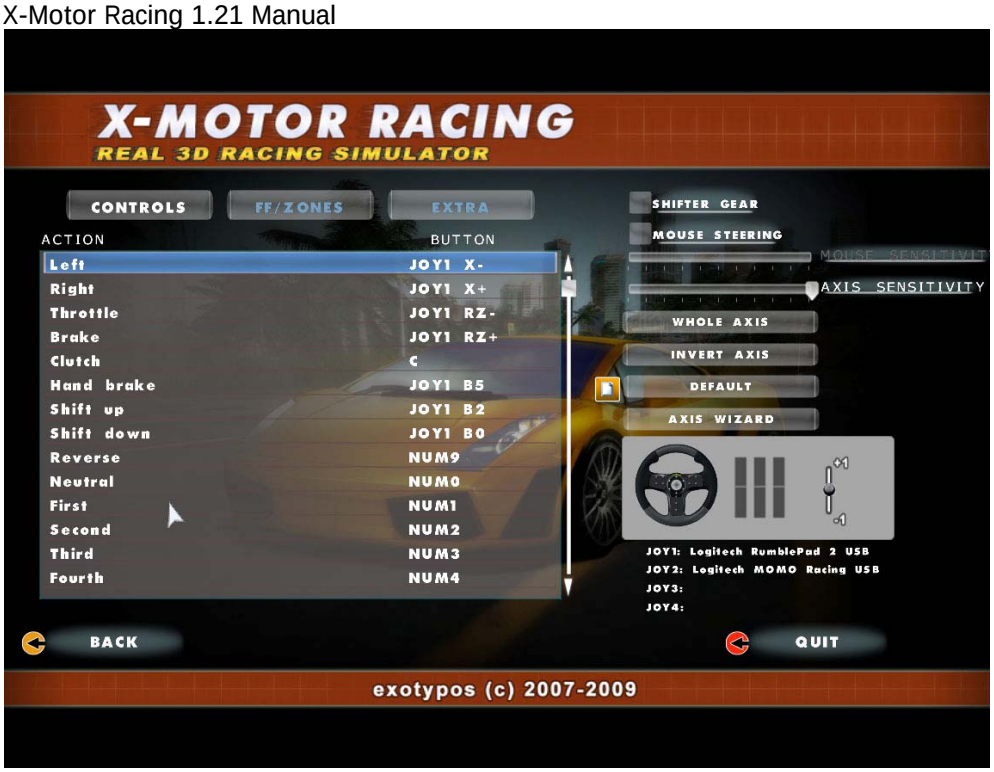
Adds OGG files from ‹‹DATA\MUSIC\›› directory. This directory contains the music files from XMR Sound Track.

- **PLAYBACK**

This setting will control the order of playing music files.

Controls

CONTROLS MENU allows you to set axis, buttons or keys you want to use in the game. Left table contains the list of actions that could be redefined. Each action has a button or axis to control it. To start redefining just select the ACTION and press the ENTER or mouse click. When the message window appears press the button/key/pedal/wheel or move mouse (if MOUSE STEERING is checked) you want to. When the action is redefined, the message window will close. Repeat this procedure for each ACTION you want to redefine. The list on the right shows the found devices. The game supports up to six devices.



- **CONTROLS**

Use this button to go to the CONTROLS menu.

- **WHEEL/JOY**

This shows the WHEEL/JOY menu for the additional tuning.

- **EXTRA**

This shows the EXTRA menu for the additional CAMERA settings.

- **MOUSE STEERING**

Use this setting if you want to use mouse as a steering control.

- **WHOLE AXIS**

If you want to use whole axis for the ACTION, press this button.

- **INVERT AXIS**

Use this button to invert axis for the ACTION.

- **DEFAULT**

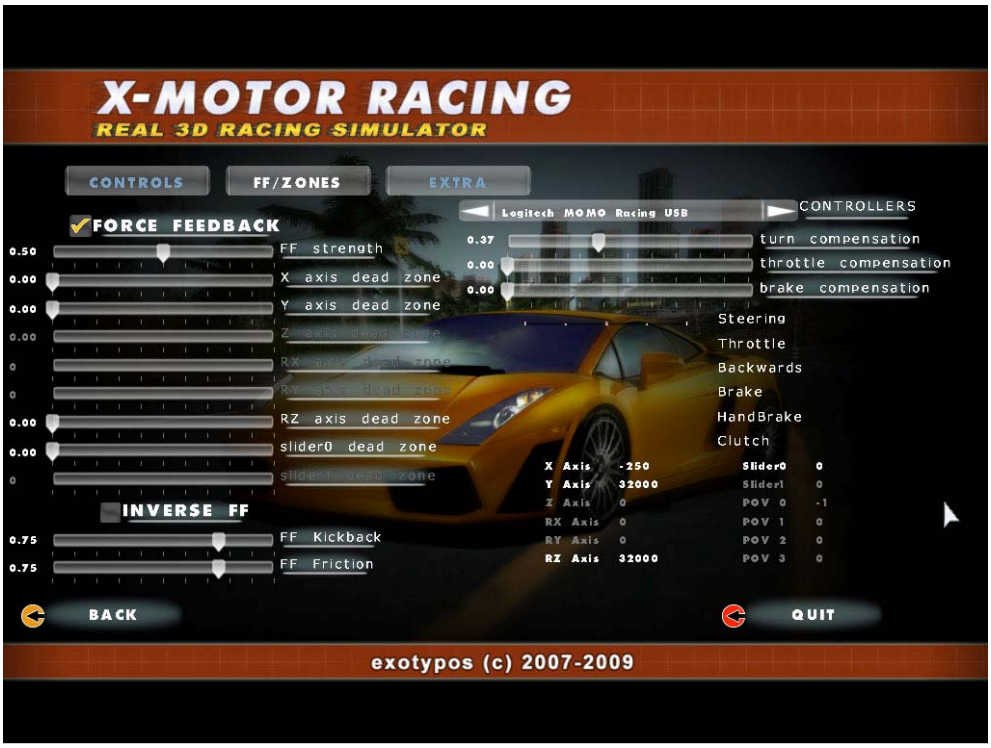
Reset all the ACTION to default.

- **AXIS WIZARD**

Use this to run AXIS WIZARD that helps you to tweak your axis.

FF/Zones

FF/ZONES MENU allows you to set additional settings like FORCE FEEDBACK, DEAD ZONE and TURN/THROTTLE/BRAKE COMPENSATION. Combo box CONTROLLERS contains the list of the found devices. You must select one of them to tune it.[9]



- **FORCE FEEDBACK**

Switch on this setting if you want to use force feedback (FF) for the device.

- **FF STRENGTH**

This slider controls the strength of the FF device.

- **X AXIS DEAD ZONE**

This slider controls the dead zone for the X AXIS.

- **TURN COMPENSATION**

This slider defines the linear (leftmost) or exponential (rightmost) behavior of the steering wheel.

- **THROTTLE COMPENSATION**

This slider defines the linear or exponential behavior of the throttle pedal.

- **BRAKE COMPENSATION**

This slider defines the linear or exponential behavior of the brake pedal.

- **INVERSE FF**

This allows invert FF forces.

- **FF KICKBACK**

This slider controls the steering FF kickback.

- **FF FRICTION**

[9] Wheel/Joy settings are limited in Demo.

This slider controls the steering FF friction.

Extra

EXTRA MENU is designed for the additional camera and TrackIR device control.[10]

- **DEFAULT**

Press this button to reset all the setting to default.

- **CAMERA FOV**

This slider controls the Field of View (FOV) of the game camera in degree.

- **REAR-VIEW MIRROR FOV**

This slider controls the FOV of the rear-view mirror.

- **LEFT/RIGHT VIEW ANGLE**

Defines the max turning angle of the camera by the buttons/keys.

- **HEAD MAX ANGLE**

The slider defines the max turning angle of the camera by the TrackIR rotation.

- **HEAD MAX OFFSET**

This slider defines the max travel of the camera by the TrackIR displacements.

- **HEAD DIRECT ROTATION**

This setting sets HEAD DIRECT ROTATION mode for the TrackIR.

- **USE D-BOX**

[10] Extra settings are unavailable in Demo.

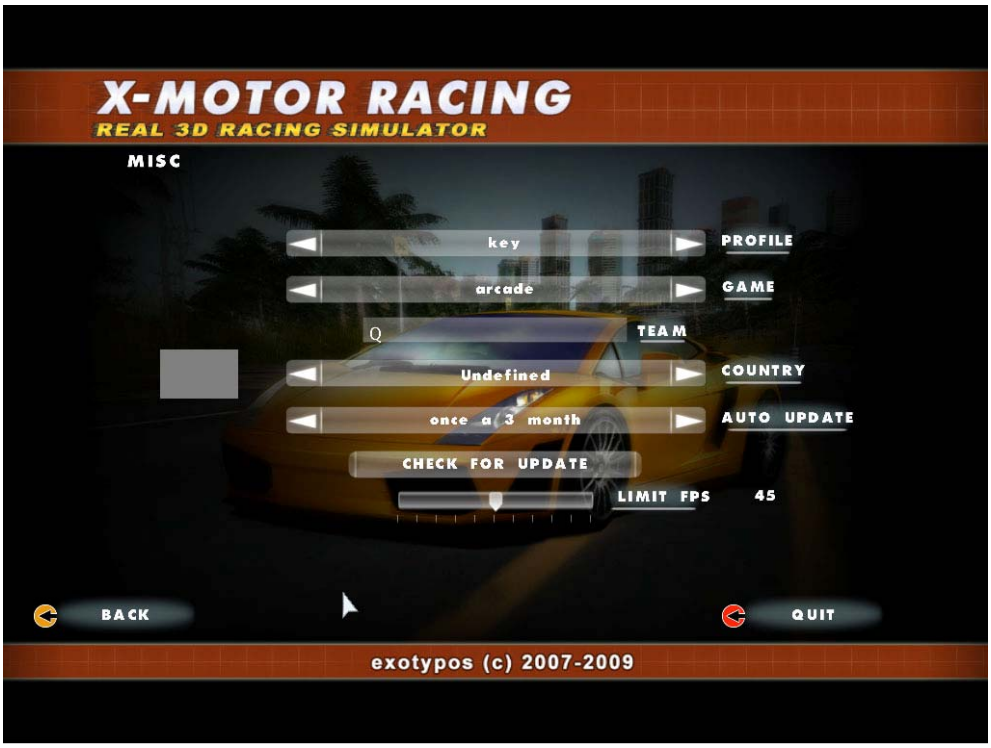
Select this check box if you want to use D-BOX capabilities.

Language

LANGUAGE MENU is just to select language you prefer. Select any language and press the APPLY.

Misc

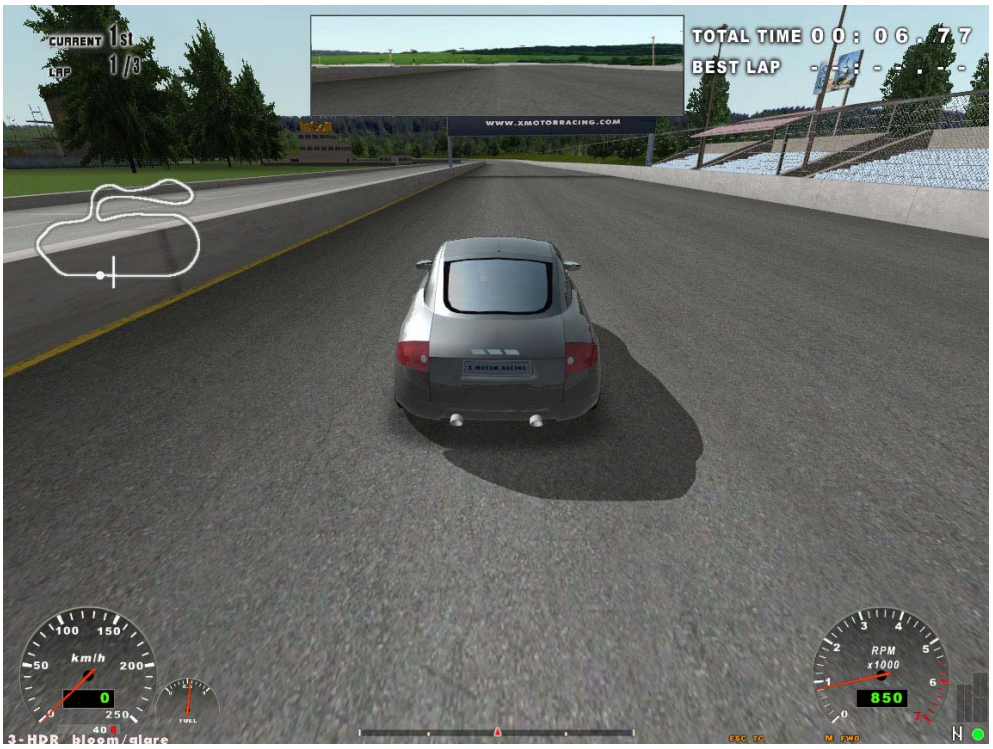
MISC MENU allows change the game profile or game type (ARCADE/SIMULATOR). In addition, you can check for the updates here.



GAME MENU

HUD

In game view is shown below. The left top part of the HUD displays the position and current ring. The central top part is the rear-view mirror. The right top part displays the time and the time of the best lap. The lower part of the screen displays the map, hints, steering level and some vehicle information. Default keys to switch on/off these elements are F1-F7.



In game menu

In game menu is designed for control in the game.

- **CONTINUE**

Just to continue the game.

- **RESTART**

If you want to restart the game, press this button.

- **TELEMETRY**

If you want to study the telemetry of the race, press this button. The game will come to the replay mode that gives you more tools for detailed study. If you want to use real-time telemetry, just press the button I (default).[11]

[11] Telemetry in reply mode is unavailable in Demo.

- **MENU**

Press this button to go to the main menu.

- **QUIT TO WINDOWS**

Quit to the Windows.

- **OPTIONS**

Use this button to change any options. Most options are available from the game except for the SCREEN and GRAPHICS.

Physics info

This special mode collects and displays simulation information for you.[12] All the plots are real-time. You can use PAUSE to stop the simulation and study them more carefully. In the picture below all values are displayed in metric system.

- **RPM**

This plot displays the RPM changes of the engine.

- **SPEED**

This plot displays the speed of the vehicle. Max value is 350 km/h.

- **ENGINE TORQUE**

Displays the output torque of the engine.

- **SUSPENSION OFFSET**

Displays the suspension changes for the each wheel.

- **FORCES**

Displays the tractive, drag (aero, hydro) and rolling resistance forces.

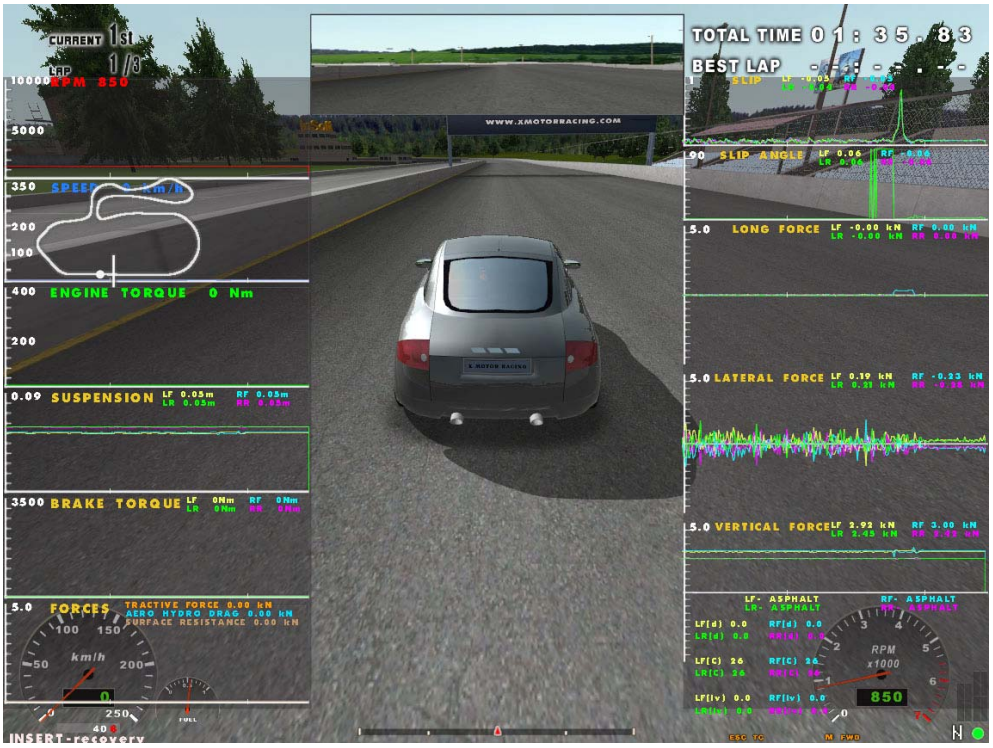
[12] Demo collects the physics info for the first 20 seconds.

- **SLIP**

Displays the longitudinal slips for the each tire. This plot shows only absolute values.

- **SLIP ANGLE**

This plot displays the slip angles for the each tire in degree.



- **LONG FORCE**

This displays the longitudinal force for the each tire in wheel's coordinates.

- **LATERAL FORCE**

This displays the lateral force for the each tire in wheel's coordinates.

- **VERTICAL FORCE**

This displays the vertical force for the each tire in wheel's coordinates. There is some additional info you can see on this plot like a surface type for the each tire.

Replay menu

Replay menu offers additional control when the replay is on. You can use the global slider to view replay like a movie, change the speed reproduction or camera. In addition, you can turn on/off telemetry in the replay. Use mouse control to operate it.

CAMERA Tuning

Press the key 1 (by default) to display CAMERA Tuning menu. This menu allows tune CAMERA parameters.

HDR Tuning

Press the key 3 (by default) to display HDR Tuning menu.[13] This menu allows tune HDR parameters you want. Just compare pictures below to see the difference between the default and tuned HDR options.

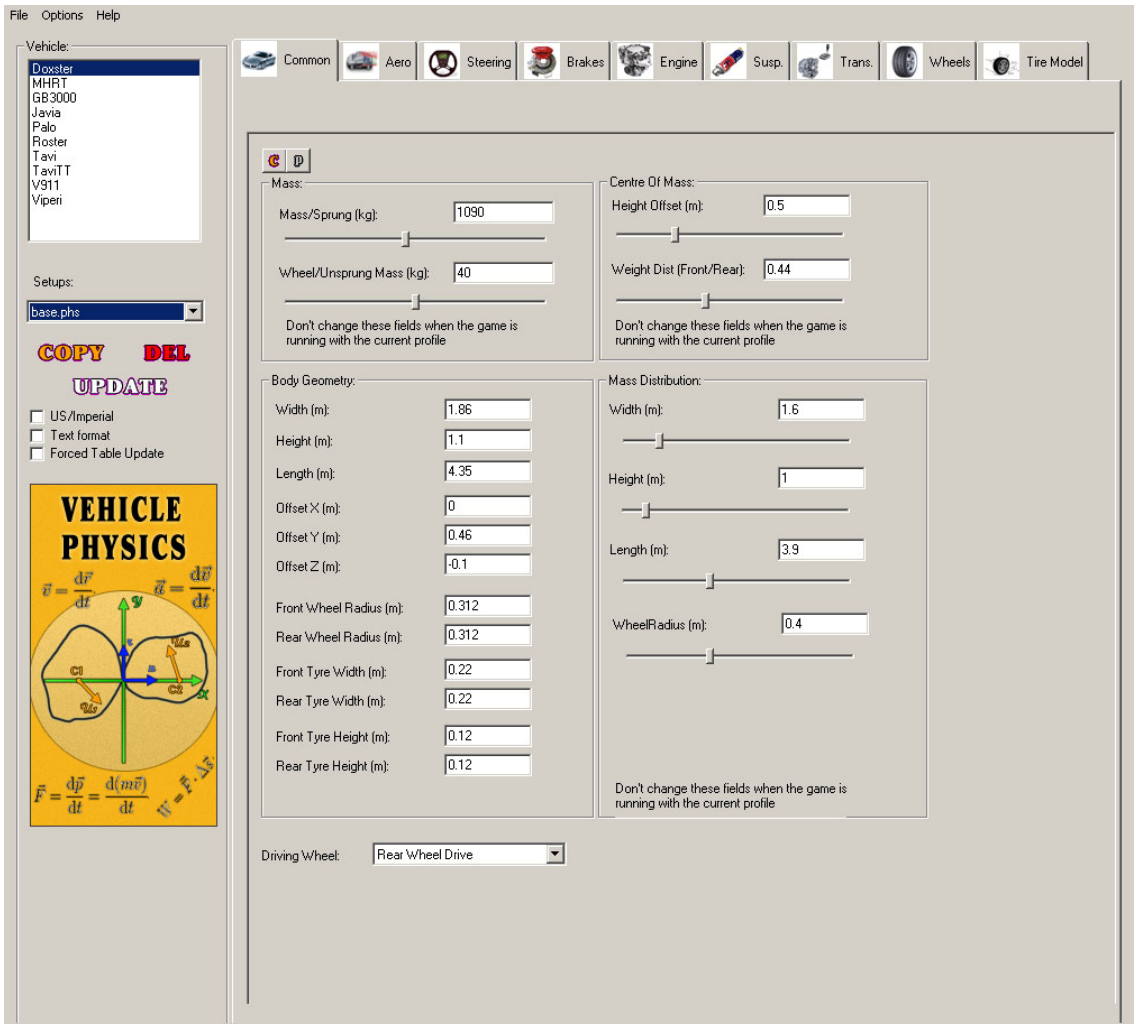
[13] High dynamic range (HDR) imaging is unavailable in Demo.

PHYSICS TUNING & VEHICLEPHYSICS

VehiclePhysics is one of the most significant innovate of the game. This is a powerful tool to tune vehicle physics. You can tune the most of the parameters real-time, just launch the VehiclePhysics from the game. It will open setups. To tune physics, it's more convenient to launch the game in the window mode. Physics tuning is a challenge. You must understand the physics of the vehicle and know a lot to make it successfully. Each car is a compromise between wishes and abilities.

Introduction

VehiclePhysics is divided into two parts. The left part contains the list of the cars, setups and some options. The right part contains some dialogs/tab for the physics options. Select the car you like to tune then select setups from the SETUPS. Make any changes and then press the UPDATE to save them. If the game is running with setups then all the changes will be applied at once. You just need to test them.



- **COPY**[14]

Creates the copy of the profile.

- **DEL**

Deletes the profile.

- **UPDATE**

Save and update setups.

- **US/IMPERIAL**

Check it on if you want to use US/Imperial measurement.

- **TEXT FORMAT**

Check it on if you want to save setups in text format. The text format is slower than the binary one.

Common

- **MASS**

Contains the sprung mass of the car and the unsprung mass.
Each car has four unsprung masses.

- **CENTRE OF MASS**

This defines the height of the centre of mass and the weight distribution. If you changed these options press the UPDATE, then press the RESTART (In game menu).

- **MASS DISTRIBUTION**

This defines the mass distribution of the car. Sprung body is defined as a solid cuboid of width w, height h, depth d and the sprung mass m. Then the moment of inertia tensor will be

$$I = \begin{bmatrix} \frac{1}{12}m(h^2+d^2) & 0 & 0 \\ 0 & \frac{1}{12}m(w^2+d^2) & 0 \\ 0 & 0 & \frac{1}{12}m(w^2+h^2) \end{bmatrix}$$

Unsprung body defined like a solid sphere of radius r and unsprung mass m. Then the moment of inertia tensor will be

$$I = \begin{bmatrix} \frac{2}{5}mr^2 & 0 & 0 \\ 0 & \frac{2}{5}mr^2 & 0 \\ 0 & 0 & \frac{2}{5}mr^2 \end{bmatrix}$$

- **DRIVING WHEEL**

This defines the driving wheel. Also driving wheel could be changed in the game.

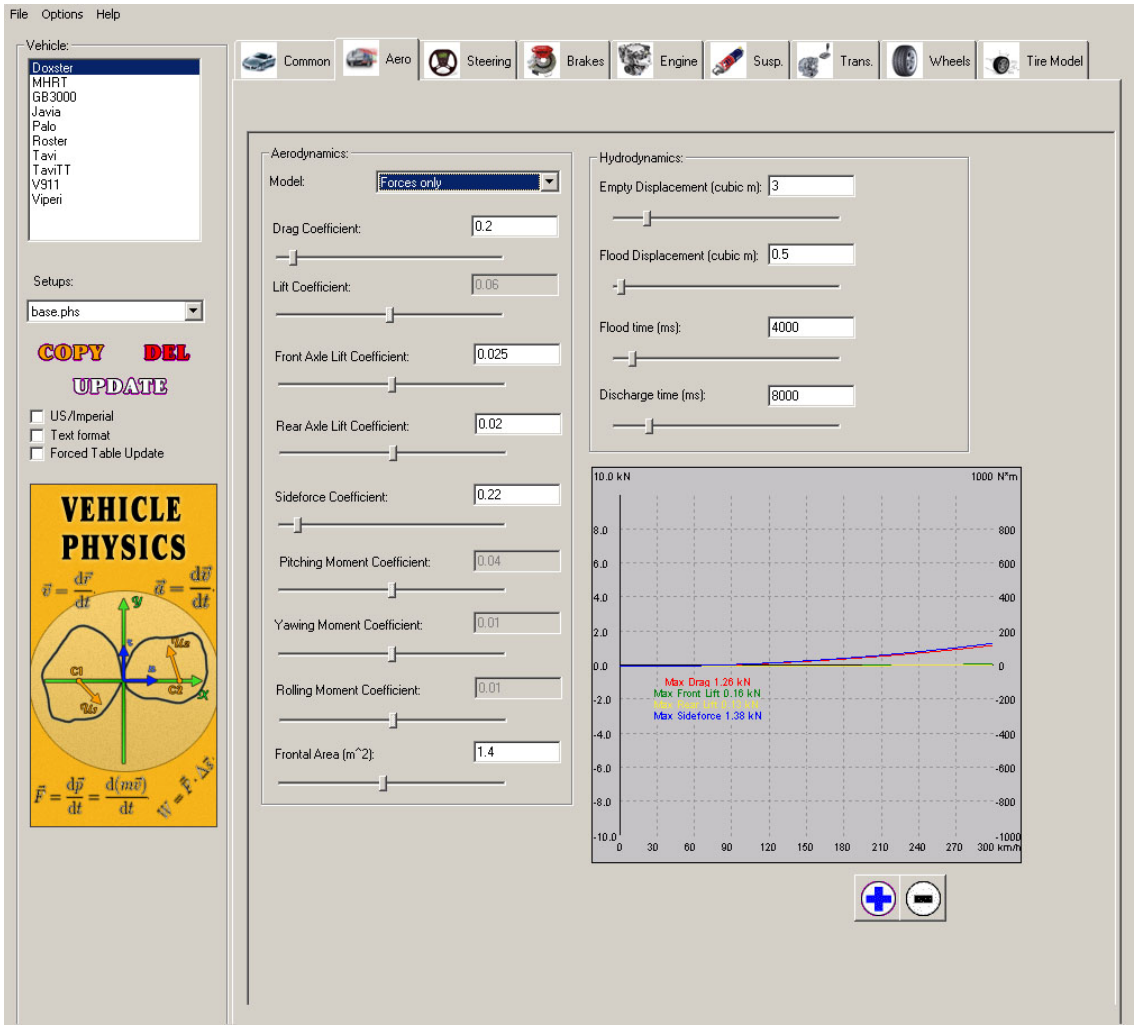
- **BODY GEOMETRY**

This defines the physics body geometry. You can see it by selecting PHYSICS CONTOUR in DISPLAY MENU.

[14] You won't be able to create, save or update setups in Demo.

AeroHydro

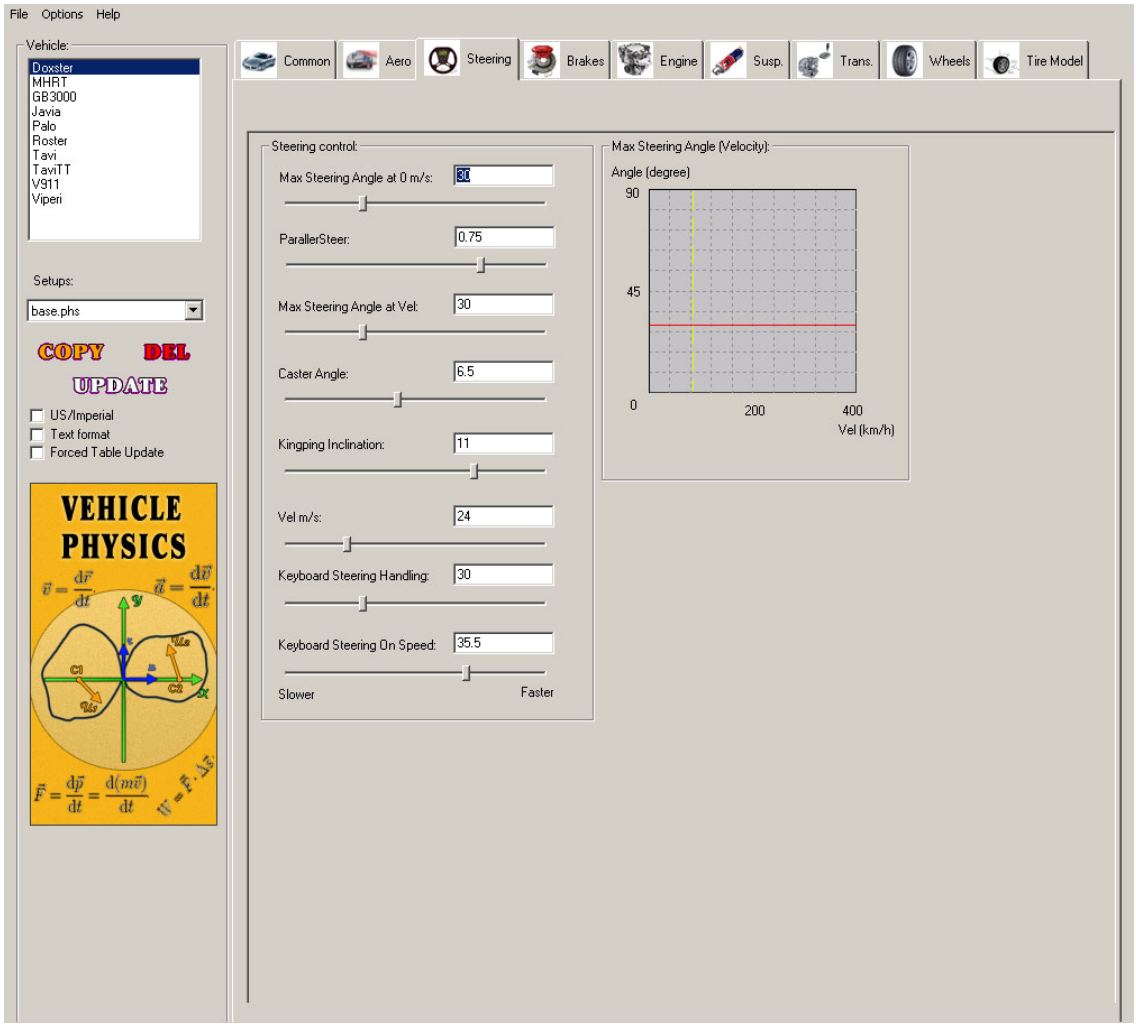
Aerodynamics influences strongly on high speed. There are two aerodynamics models implemented – FORCES ONLY or FORCES&MOMENT. FORCES ONLY includes the drag force, lift/down force for the front and rear axle and side force.
FORCES&MOMENT includes the drag force, lift force, side force and the three moments Pitching, Yawing and Rolling (SAE definition). You could use any model you like. At the right part you can see the plot that displays forces and moments versus speed. Forces depend on the appropriate coefficient, frontal area and speed.



Steering

This dialog is to configuring steering system. Because of the game has the arcade mode and the keyboard control you can see here some special settings for it. If you are using steering wheel or gamepad just miss VEL M/S, KEYBOARD STEERING HANDLING and KEYBOARD STEERING ON SPEED.

The general setting here are the MAX STEERING ANGLE AT 0 M/S, PARALLERSTEER, MAX STEERING ANGLE AT VEL, CASTER ANGLE and KINGPING INCLINATION. The CASTER ANGLE and KINGPING INCLINATION influence on the Force feedback strength. On the right you can see the plot that displays max steering angle versus vehicle speed.



Brakes

Brakes tab allows define general brakes, ABS, Traction Control and Stability Control parameters.

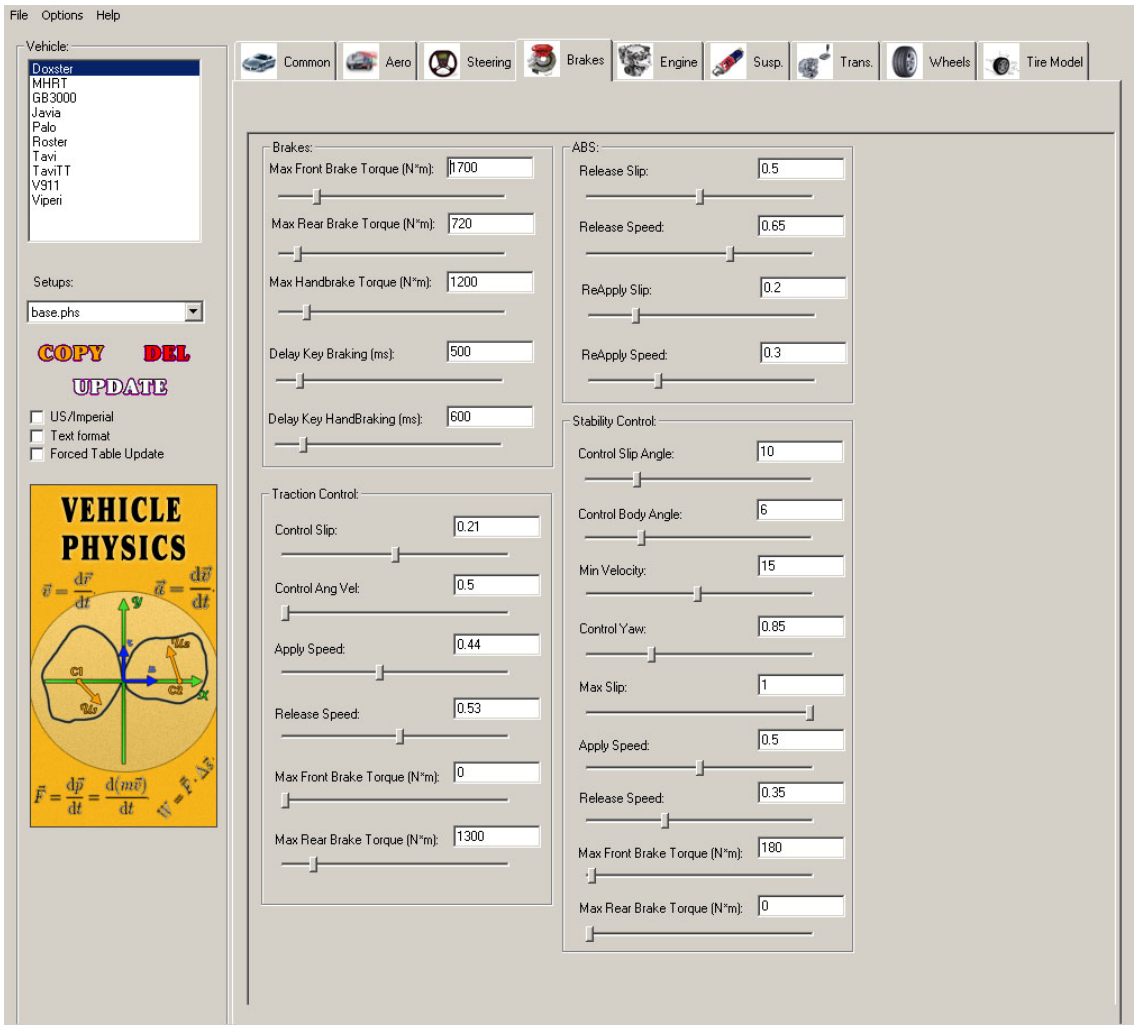
In the left part you can define the max brakes torques for the front/rear axle and for the handbrake. If you are using key or button to brake/handbrake you can set delay in ms that controls the rise of torque. ABS group defines ABS parameters.

- **MAX FRONT BRAKES**

Defines the front brake torque.

- **DELAY KEY BRAKING (ms)**

Defines the delay after that brake torque reaches its maximum if key/button is used to brake.



- **RELEASE SLIP**

Defines the longitudinal slip when release brakes to prevent wheel locking.

- **RELEASE SPEED**

Defines how fast release the brakes.

- **REAPPLY SLIP**

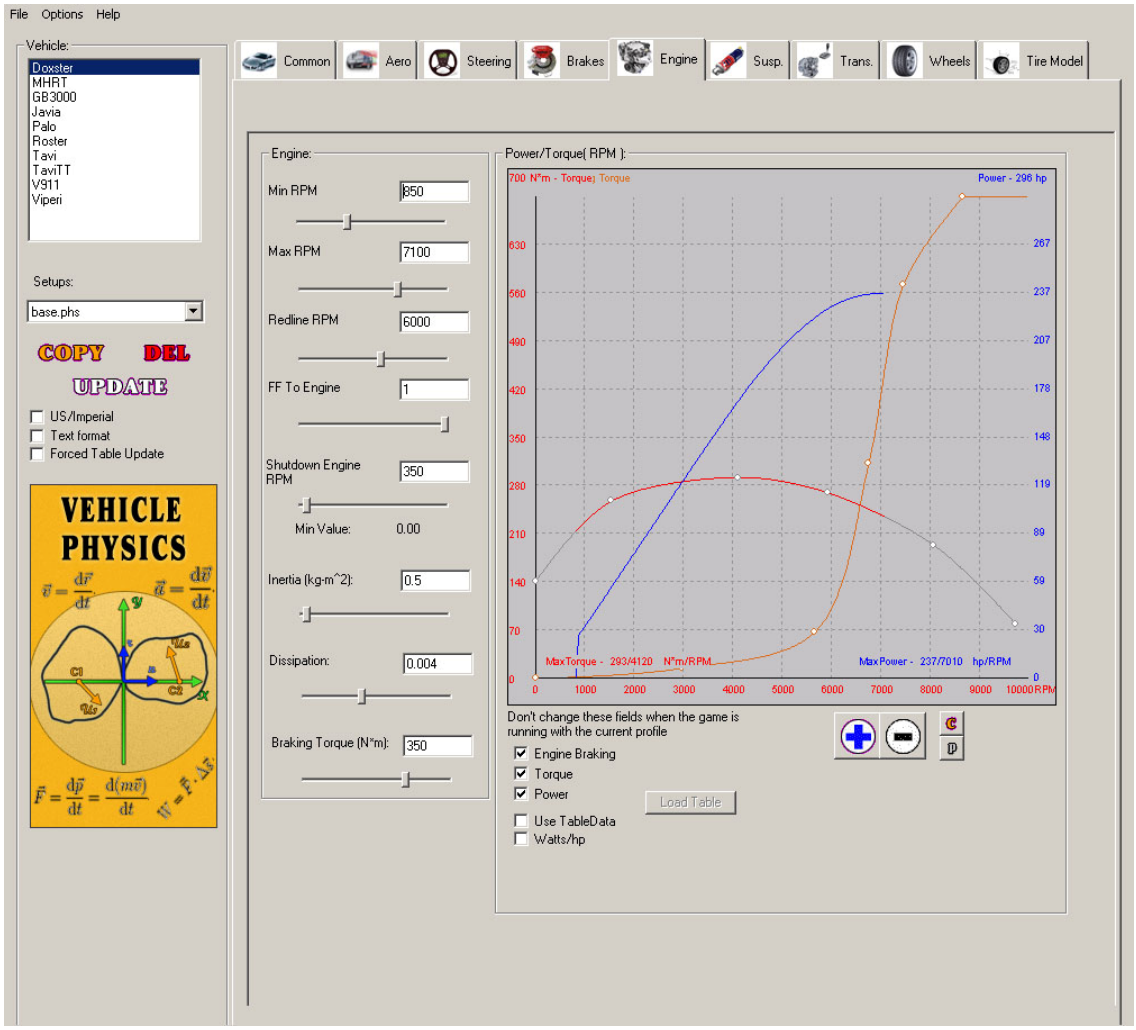
After brakes are released, it needs to apply them again.
Brakes apply again when the longitudinal slip less or equal REAPPLY SLIP.

- **REAPPLY SPEED**

Defines how fast reapply the brakes.

Engine

Engine tab is designed for define engine parameters. On the left part you can set the RPM parameters and inertia options. The right plot is a torque/power curve. Red plot is the torque curve versus RPM. Blue plot is the power curve versus RPM. You can edit only torque curve. Direct cursor over the knot point click and move it.



- **MIN RPM**

Defines the min RPM of the engine.

- **MAX RPM**

Defines the max RPM of the engine.

- **FF TO ENGINE**

Defines the force feedback part that passes from the driving wheels to the engine.

- **SHUTDOWN ENGINE RPM**

Defines the min RPM when the engine shutdowns.

- **INERTIA**

Defines the engine moment of inertia.

- **DISSIPATION**

Defines the engine shaft dissipation.

- **VAPOR DISSIPATION**

Defines the engine braking stiffness.

- **USE TABLE DATA**

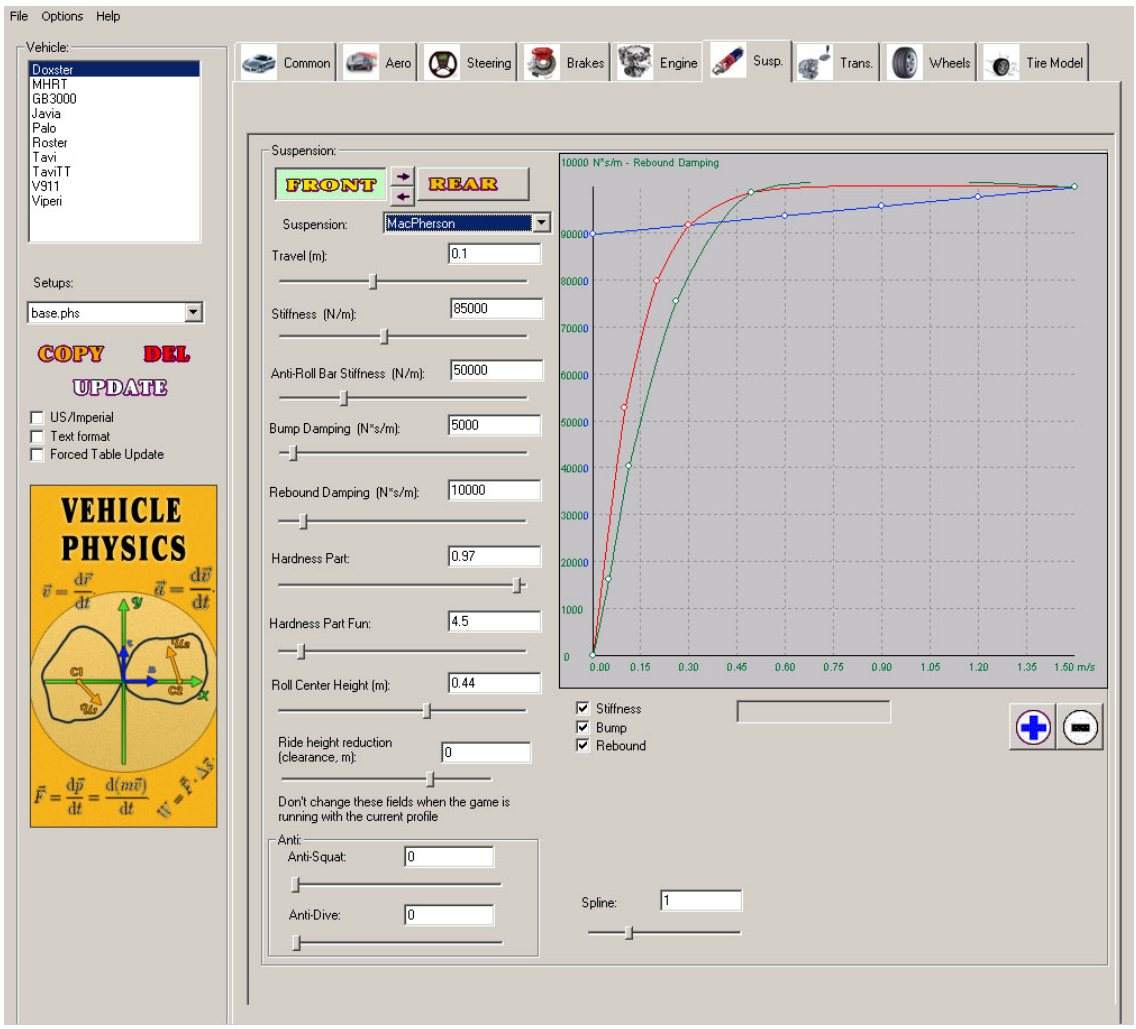
If you want more accurate curve you can load it from table. Table is a text file like this:

0.00 13.50
46.11 126.29
120.53 140.09

First column is a RPM. Second column is a torque.

Suspension

SUSPENSION tab allows you to configure vehicle suspension. This dialog is divided into two parts. The left part is for the front suspension, the right part is for the rear one. All the other settings are equal. Also this dialog contains such parameters like Clearance, Anti-Squat and Anti-Dive.



- **SUSPENSION**

Defines the suspension type. There are three types in version 1.05.

- **TRAVEL**

This setting defines the max suspension travel.

- **STIFFNESS**

Defines the spring rate.

- **ANTI-ROLL BAR STIFFNESS**

Defines the anti-roll bar stiffness.

- **BUMP DAMPING**

Defines the damping factor on the bump.

- **REBOUND DAMPING**

Defines the damping factor on the rebound.

- **HARDNESS PART**

This is a system parameter. Don't set this value less then 0.95.

- **HARDNESS PART FUN**

This is another system parameter.

- **ROLL CENTER HEIGHT**

Defines the roll-center height.

- **RIDE HEIGHT REDUCTION**

Defines the clearance for the front and rear axle.

- **ANTI-SQUAT**

Defines the anti-squat parameter. When this value is equal 1 then the anti-squat will be 100%.

- **ANTI-DIVE**

Defines the anti-dive parameter. When this value is equal 1 then the anti-dive will be 100%.

EngineTransmission

TRANSMISSION tab allows configure transmission parameters, like differentials, clutch and gears. On the bottom part you can see two plots. The first plot is the RPM versus speed for the each gear and the second one is the tractive force versus speed for the each gear.

- **DIFFERENTIAL**

This group enables to select the differential and configure it.

- **CENTRAL DIFFERENTIAL**

This group enables to select the central differential only and configure it.

- **GEARS**

This group contains the gear-ratios.

- **AUTO CLUTCH DELAY**

This group contains the delays when you are using the auto-clutch.

- **KEY CLUTCH DELAY**

This group contains the delays when you are using the key/button clutch.

- **TRANSMISSION INERTIA**

Defines the transmission moment of inertia.

- **TRANSMISSION DISSIPATION**

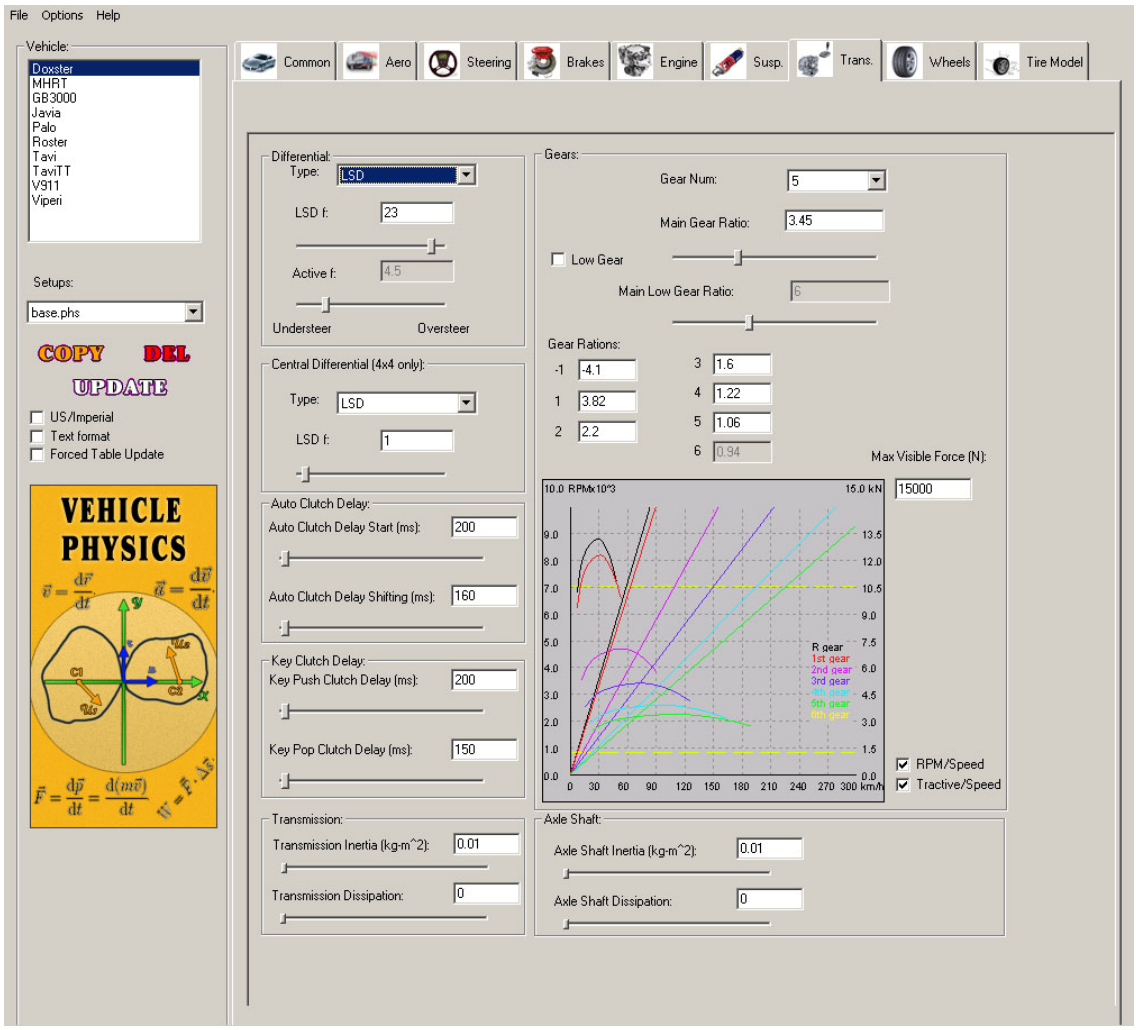
Defines the transmission dissipation.

- **AXLE SHAFT INERTIA**

Defines the axle shaft moment of inertia.

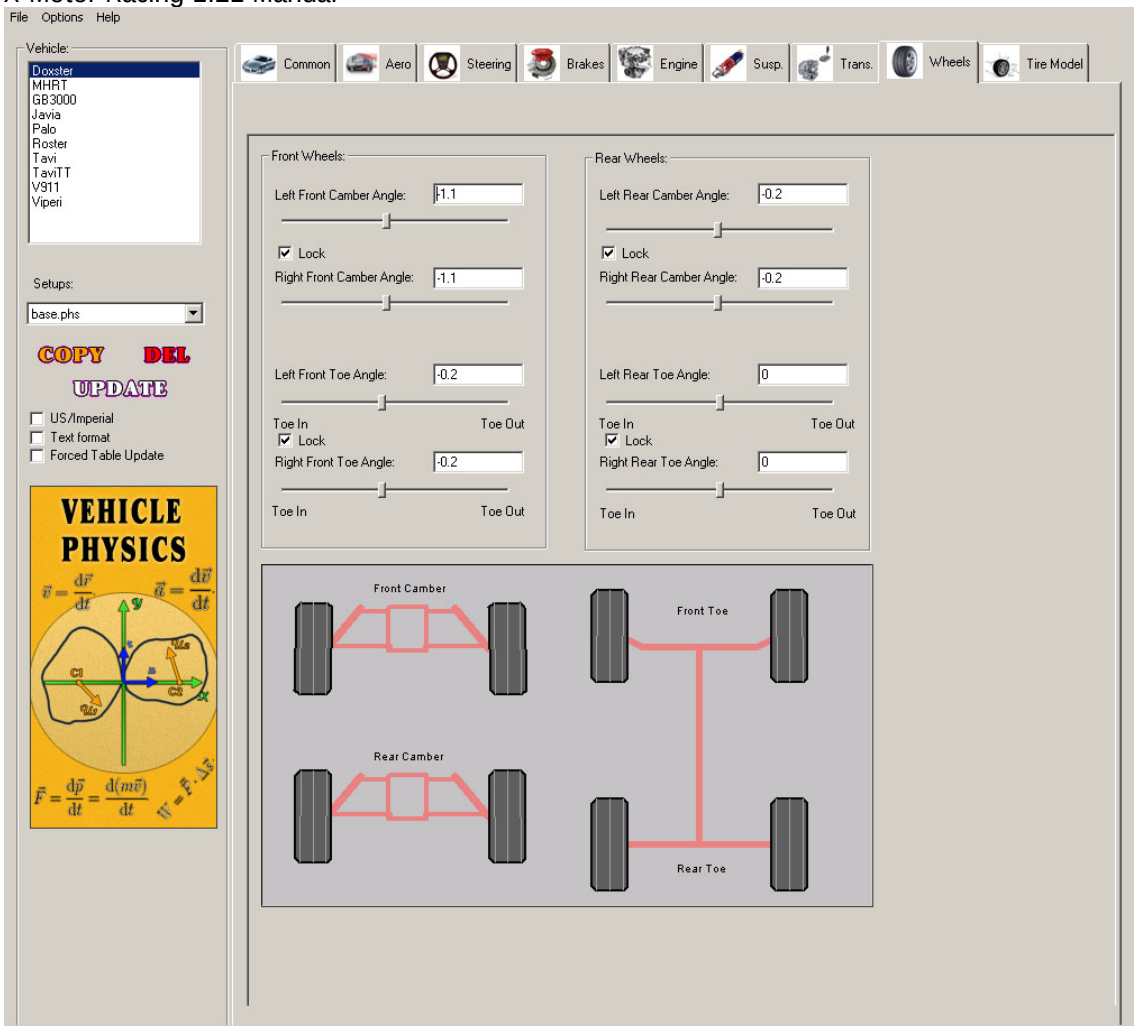
- **AXLE SHAFT DISSIPATION**

Defines the axle shaft dissipation.



Wheels

WHEELS dialog allows configure wheels. The left part is for the front wheels and the right part is for rear ones.



- **CAMBER ANGLE**

Defines the camber angle. Camber angle influences on the camber thrust.

- **TOE ANGLE**

This defines the toe angle. Changing the toe you can get desired straight-line stability.

TireModel

TIREMODEL dialog is for additional tire parameters.[15] You can define here a tire model for the each surface. Tire model must provide longitudinal and lateral forces under different conditions. Please find the Tire Model description in the Full Version.

[15] TireModel dialog is unavailable in Demo

XMR DEDI SERVER

Dedi server allows to set up race server for X-Motor Racing. XMR has a maximum of 32 cars on online. You can set up maximum of cars less than 32. Server must run with external IP address.

- **SERVER NAME**

Defines the name of the server.

- **PASSWORD**

Defines the password of the server.

- **IP ADDRESS**

Defines the IP address of the server.

- **PORT**

Defines the port of the server.

- **UPLAOD**

Defines the maximum upload speed of the server.

- **DOWNLAOD**

Defines the maximum download speed of the server.

- **DOWNLAOD**

Defines the maximum download speed of the server.

Misc

MISC dialog allows configure misc options. You can define here max number of clients.

- **MAX CLIENTS**

This defines maximum number of clients.

- **REGISTER ON XMR NETWORK**

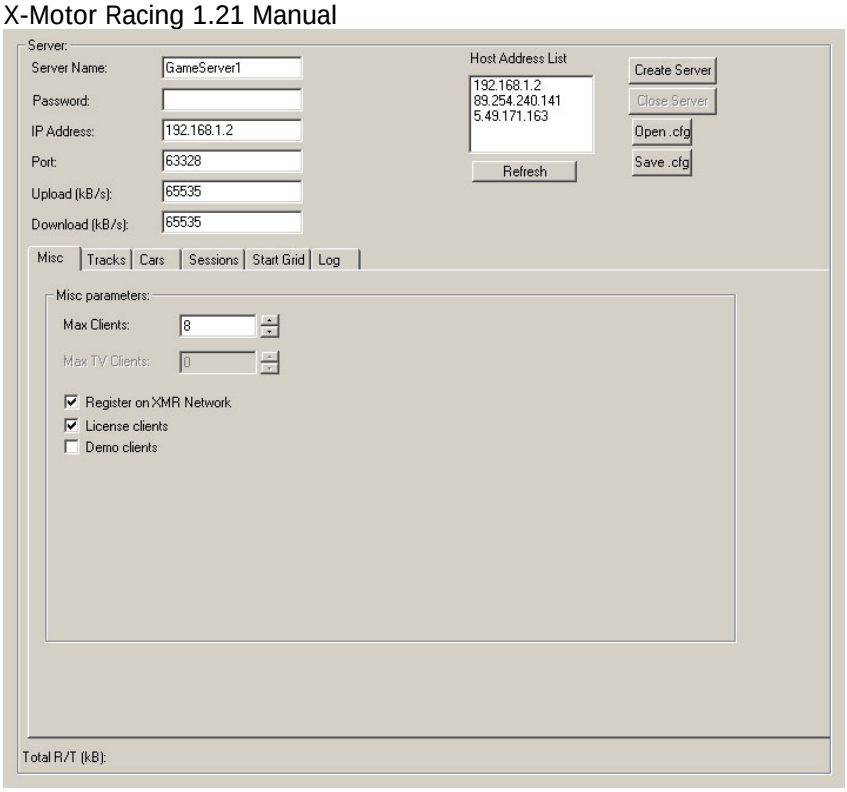
This turns on/off registering server on XMR network.

- **LICENSE CLIENTS**

This allows connect clients with license.

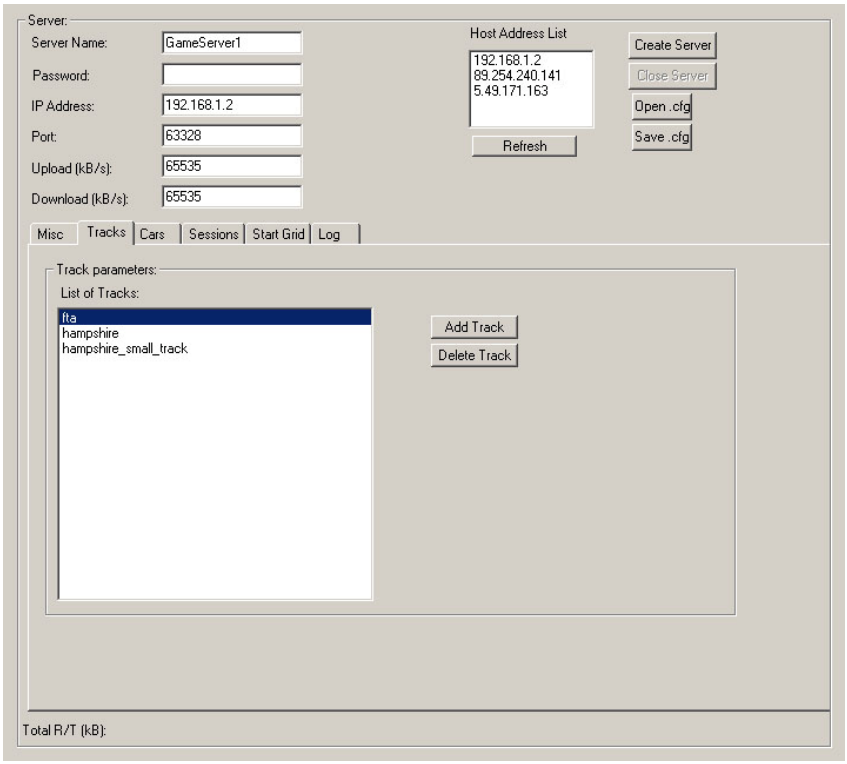
- **DEMO CLIENTS**

This allows connect demo-version clients.



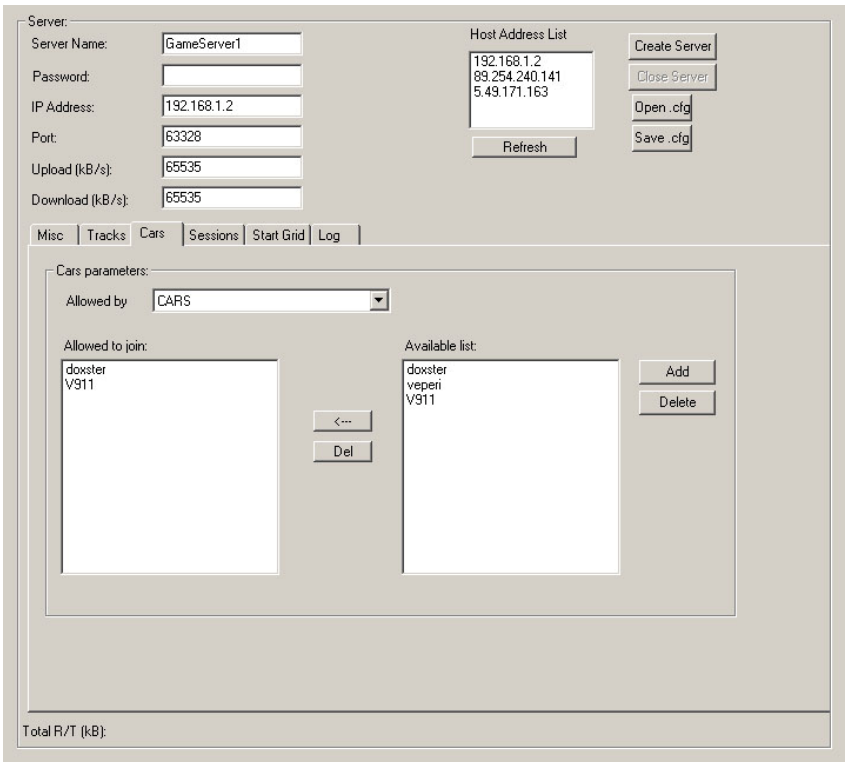
Tracks

TRACKS dialog allows configure list of tracks. You can add or delete tracks for the race.



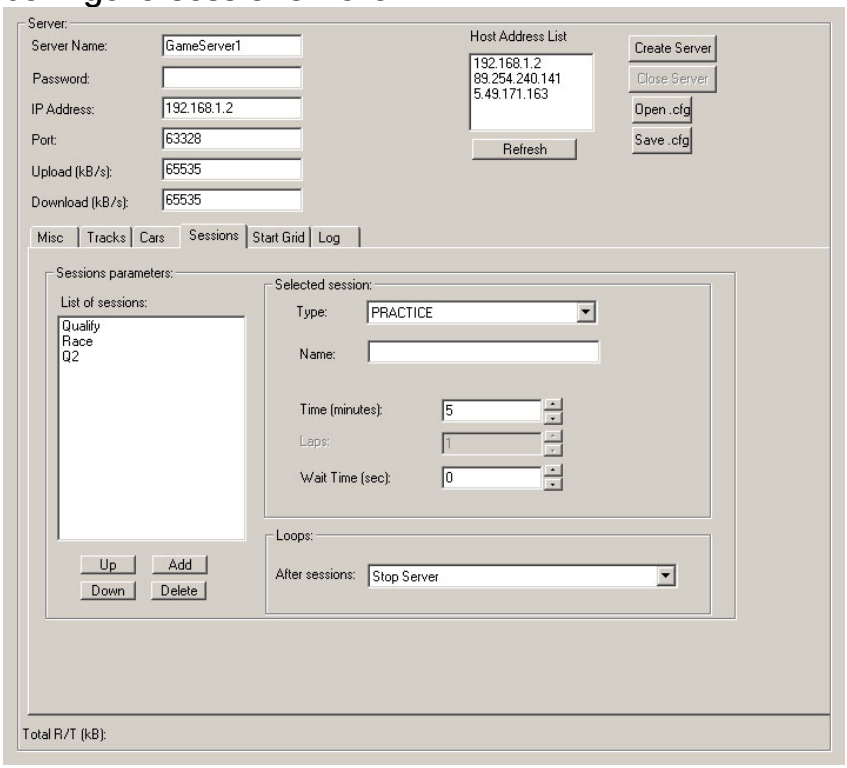
Cars

CARS dialog allows configure list of cars. You can add or delete cars for the race.



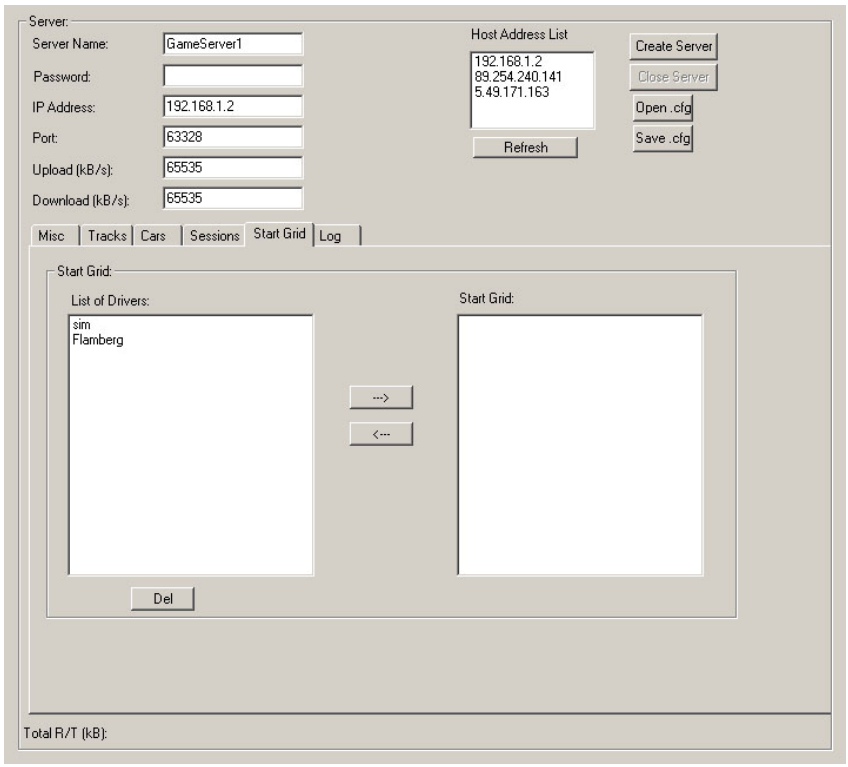
Session

SESSION dialog allows configure list of sessions. You can add, delete and configure sessions here.



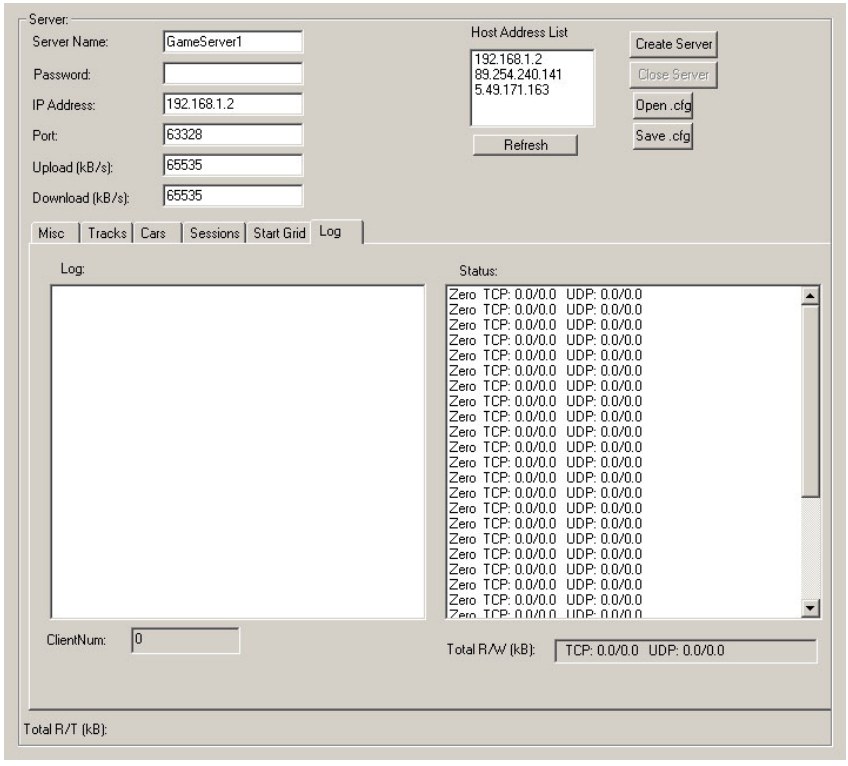
Start Grid

START GRID dialog allows set up predefined start grid.



Log

LOG dialog displays logs.



CREATING TRACKS & CARS

Work in progress...

To be continued...