CITY CAR DRIVING
HOME EDITION

USER MANUAL
DRIVING SIMULATOR

The training car simulator **"City Car Driving. Home Edition"** is intended for independent practical training in car driving under real city model conditions.

System requirements

Minimum System Configuration

Operating system: Windows 7 SP1 / 8 / 8.1 / 10 (64 Bit)

Processor: Intel Pentium Dual Core 3.2 GHz / AMD Athlon II X4 3.1 GHz

Random access memory: 4 Gb

Video card: AMD Radeon R7 240 / nVidia GeForce GT 740

DirectX: version 11

Hard disc free space: 10 Gb

Sound card: any sound card compatible with DirectX 9.0

Remote terminal units: mouse, keyboard

Additional: **CAUTION!!! Program work in notebooks and computers with integrated video cards is not guaranteed! Recommended system requirements for Oculus Rift and HTC Vive are established by the equipment manufacturer.**

Recommended System Configuration

Operating system: Windows 7 SP1 / 8 / 8.1 / 10 (64 Bit)

Processor: Intel Core i3 3.2 GHz / AMD FX 4xxx 3.6 GHz

Random access memory: 8 Gb

Video card: AMD Radeon R7 250X / nVidia GeForce GTX 750

DirectX: version 11

Hard disc free space: 10 Gb

Sound card: any sound card compatible with DirectX 9.0

Remote terminal unit: mouse, keyboard, steering wheel

Additional: **CAUTION!!! Program work in notebooks and computers with integrated video cards is not guaranteed! Recommended system requirements for Oculus Rift and HTC Vive are established by the equipment manufacturer.**

Program Starting

The program can be started by means of a shortcut at the desktop in **"Start"** menu via Steam program.
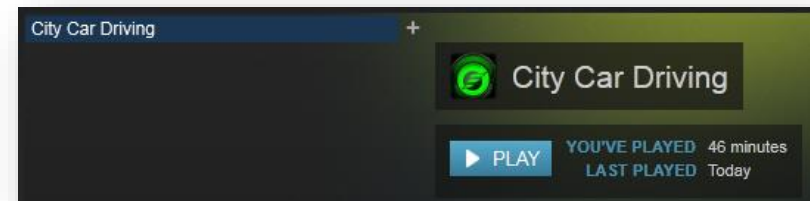
The program is provided with a capability of program starting in different languages. If you want to change the language, enter Steam, right-click the program name, and then depress **"Properties"** and **"Language"**.

Program Usage

Building Profile

In case of building profile, you can select the country for driving.

As a result of this selection the traffic direction and traffic rules adopted in this country will be automatically assigned for you.

You can copy the program settings, which have been established for the other profile. In order to do so, it is sufficient to select a required profile in the corresponding field.

Modes

"Career" Mode

The simulator is provided with five career levels. Every level consists in its turn of a definite number of tasks, after which fulfilling you can move to the next level. Some cars and locations in **"Free driving"** mode are locked. In order to remove locking, it is necessary to pass through the corresponding stages of **"Career"** mode. For this purpose, pass into **"Career"** window by depressing the cognominal button in the main menu.

"Free Driving" Mode

Pass to **"Free driving"** mode by depressing the cognominal button in the main menu, the settings for this mode will get open in front of you.
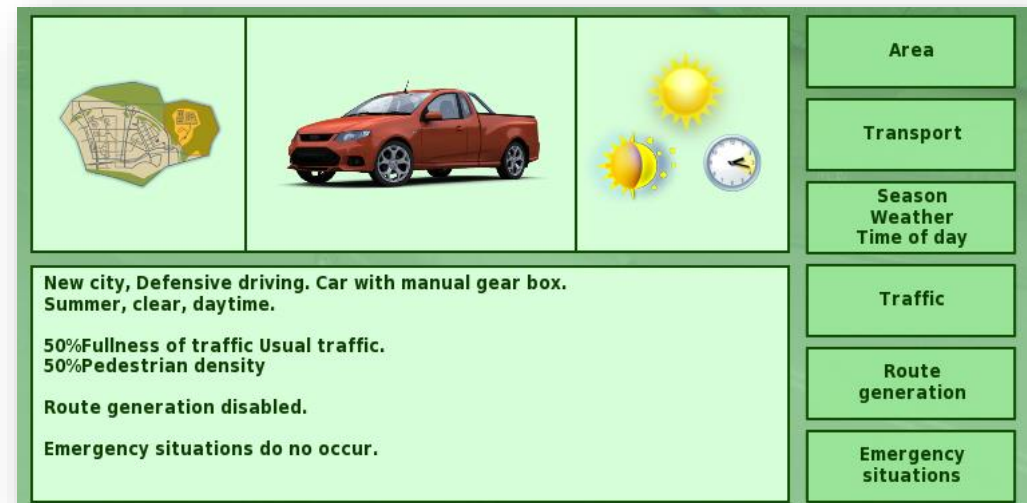
In this window, you can:

- select a location for driving;
- select a vehicle and change its parameters;
- choose a trailer for your vehicle;
- set the season, weather and time of day;
- set the density and traffic behavior;
- set the route and emergency situations.

Transportations

In the free driving mode, you can complete passenger and small goods transportation missions. To activate these missions, open your phone for the "Monitor" or the special tablet for the "VR headset", and choose "Ruber" for passenger or "CarGo" for small goods transportation by choosing the

corresponding icon. You can open the phone or tablet via the corresponding key on the keyboard and only in the **"Free driving"** mode.

To start completing transportation missions in "Ruber" or "CarGo" on your phone or tablet, choose the virtual city districts you want from the available ones and press **"Start operation"**.

You will receive rating points for your transportation services. Each transportation type has its own rating system that is not connected to others in any way. The more points you have, the higher your transportation level. Your level will grow each time you get a certain amount of points. Your level determines your route range (passenger transportation only) and opens new missions. The number of points you get depends on how well you complete the route and its length. The quality of your drive is determined by "the passenger satisfaction scale" that appears as soon as the passenger gets into your vehicle, or by the "goods status scale" for small goods transportation. Your rating and level may either increase or
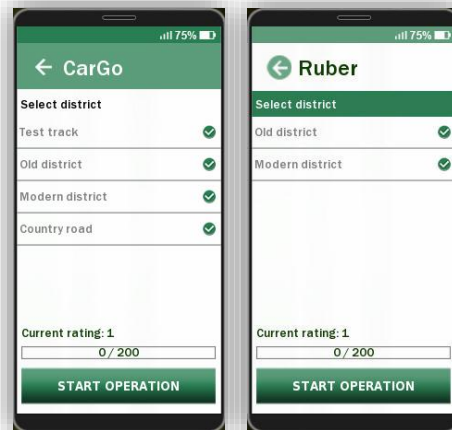
decrease. You can see your current rating and level in "Ruber" for passenger transportation and in "CarGo" for small goods transportation, and the stats for both these transportation types are available in the **"Statistics"** section in the main menu or in the mini statistics window in your **"Profile"**.

Commencement of Driving

Prior to commencing driving, go to program settings window – **"Controls"** – advanced settings – section **"Clutch"**. Here you can enable the **"Automatic clutch"** function. Pay attention to the fact that enabling/disabling **"Automatic clutch"** function is used only with the following loading of a Virtual City, i.e., when you called the menu of settings being in the location and changed this setting, then after returning to the location you will not see this change.

Indicators

A user can get information on the car state by means of the following indicators in the training simulator **"City Car Driving. Home Edition"**:

1. Indicator of car main functions (speed indicator, tachometer indicator, etc.)

2. Steering wheel, accelerator pedal, clutch pedal and brake pedal position indicator.

3. Indicators of "AGB", manual transmission and distribution gearbox.

Academic Activity

Navigate to the **"Area"** window and select the starting location in the dropdown list. If the location is unavailable to you at a given moment, then its name is highlighted grey.

Select a starting point paying attention to its position with respect to the other points and boundaries of the neighbouring locations. For instance, if you want to practice entrance to a highway, you can select a point nearest to the corresponding location. In order to select the starting point, it is sufficient to click on the relevant flag at the location diagram. Depress **"Back"** button to confirm your choice and return to the **"Free driving"** menu.

Check to see that all the required settings have been provided in the applicable boxes, depress **"Start"** button and wait until the location is loaded.

Proceed as follows to commence the road trip:

- at the car with manual transmission:

  1. Fasten your belt.
  2. Start the engine.
  3. Release the car parking brake.
  4. Depress the clutch.
  5. Put in the first or the reverse gear.
  6. Releasing the clutch, depress the accelerator pedal.

- at the cars with AGB:

  1. Fasten your belt.
  2. Start the engine.
  3. Release the car parking brake.
  4. Depress the brake pedal.
  5. Put in gear (D or R).
  6. Release the brake pedal.
  7. Depress the accelerator pedal.

- at the cars with manual transmission + distribution gearbox:

  1. Fasten your belt.
  2. Start the engine.
  3. Release the car parking brake.
  4. Depress the clutch.

5. Change over the distribution gearbox to the gear different from the neutral one.

6. Put in the first or the reverse gear.

7. Releasing the clutch, depress the accelerator pedal.

Move along the selected route paying attention to the readings of indicators and attempting to violate the traffic rules as few as practicable. Pay attention to the appearing hints and messages on violations.

In order to return from the locations to the main menu at any moment, depress **ESC** key and depress **"Exit"** button in the appearing menu.

Upon finishing the driving session you can learn the statistics of committed violations. In order to view this information, depress **"Profile"** button in the main menu, select a relevant profile and depress **"Statistics"**.

If you want to save the image of a certain situation in the simulator, you can make the screenshots. The screenshots will be created by default upon depressing **F12** key and saved into the screenshots folder, which is located in the folder: **My documents\Forward Development\City Car Driving Steam**. The key may be changed in the control settings menu.

Records

Every driving session will be recorded and can be viewed by the user. In order to do so, it is necessary to navigate to **"Records"** in the main menu, select the corresponding session for viewing and depress **"Launch"** button. You can change the name or provide a feedback to any record by depressing **"Edit"** button as well as delete the record by depressing **"Delete"** button. All the records will be saved by default into the "Records" folder, which is located at the address: **My documents\Forward Development\City Car Driving Steam**. You can change this path and assign your own. The records saved from the previous program versions may be played back incorrectly.

Controls

Please select an appropriate control device, connect it and set it up before training.
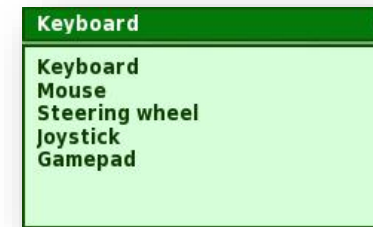
Connecting and Adjusting Steering Wheel

Connect the control device of **"Steering wheel"** type that you are going to use together with the program following instructions attached to the steering wheel. Differentiate the axes of accelerator and brake, if the model of your steering wheel allows this. In order to do so, open the window of steering wheel driver adjustment **("Start"->"Control panel")** and point out a corresponding item. If it is difficult for you to define what particular item is responsible for differentiation of axes, refer to the instruction or to the technical support department of the steering wheel manufacturer.

Connecting and setting up Oculus Rift and HTC Vive augmented reality glasses

Please note! The software does not support version DK1 Oculus Rift augmented reality glasses; only the DK2 version is supported.

To set up the image displayed in the augmented reality glasses you need to go to the tab "Graphics", section **"Settings"** and select the mode **"VR goggles"** or **"Monitor + VR goggles"** in the item **"Output Device"**. In the mode **"VR goggles"** the image is displayed in the augmented reality glasses only. In the mode **"Monitor + VR goggles"** the image is displayed on both the display and the augmented reality glasses. Note that power consumption is greater in the mode **"Monitor + VR goggles"** than in the mode **"VR goggles"**.

Basic control settings

In the **"Control"** tab you can change the basic control settings. You can select a control device to be used, select the settings for the control device, assign keys or buttons to control the vehicle and lighting devices, and set up the keys for camera view.

You can select a control device to be used in the left side of the window. There are five types of control devices:

- keyboard;
- mouse;
- steering wheel;
- joystick;
- gamepad.

Below there is a drop-down list **"Set of settings"** where you can select the set of settings for the selected control device.

In the right side of the window there is a list of functions to control the vehicle, various devices and the simulator view, as well as the button or key to which the function is tied depending on the selected control device. You can change the button or key to which the function is tied by double clicking it with the left mouse button and pressing the button or key to assign the function to. Please note that if a function is assigned to a control device other than the selected one, the processing of this function will be performed according to the selected control device. For example, if you are using the steering wheel, and assign the functions to the gamepad, problems can arise.

In the right side of the window there is also a button **"Advanced Settings"** to open the advanced setting window for the selected device and the set of settings.

Advanced control settings

The left side of the window in this section shows the selected control device and the set of settings, which cannot be changed.

The right side of the window shows the drop-down list **"Group of Settings"** to select a group of settings for editing. There are three groups of settings:

- vehicle control;
- view;
- feedback.

Please note that the group **"Feedback"** is unavailable for the control devices of the type "keyboard" and "mouse".

Below are the settings available for editing in accordance with the selected group of settings.

Advanced keyboard control settings

Advanced settings can:

- change the speed of pressing and release of gas, brake and clutch pedals;
- change the speed of turn and return of the steering wheel;
- change the gas level in the unboosted mode;
- switch on the automatic clutch and turn light switch-off function;
- switch gear hold with the pressed button.
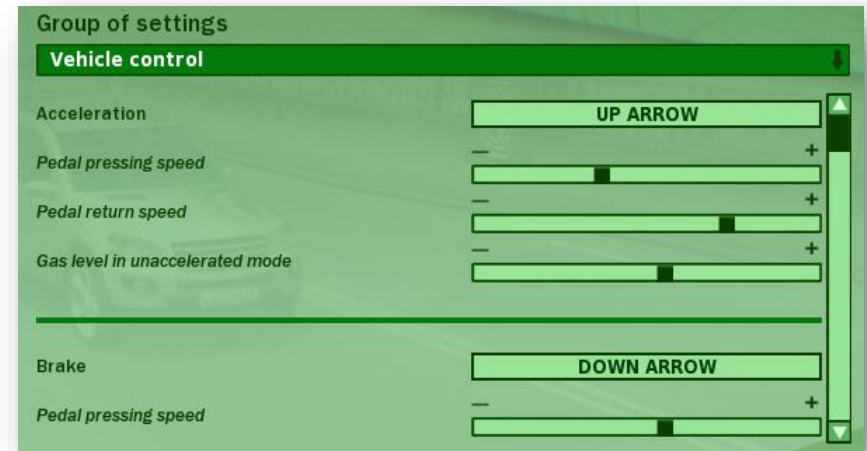
In view settings you can switch the function of interior cornering view, make camera rotation permanently active, switch on inversion, set the sensitivity and the camera dead zone.

Available parameters can be changed by moving the slides right or left and pressing corresponding checkboxes.

Advanced mouse control settings

In this section you can set up the parameters for mouse control. To control the vehicle you can edit the speed of pressing and release of gas, brake and clutch pedals, sensitivity in right or left turns, gas level in the unboosted mode, as well as switch such functions as automatic clutch, automatic turn light switch-off and gear hold with the pressed button.
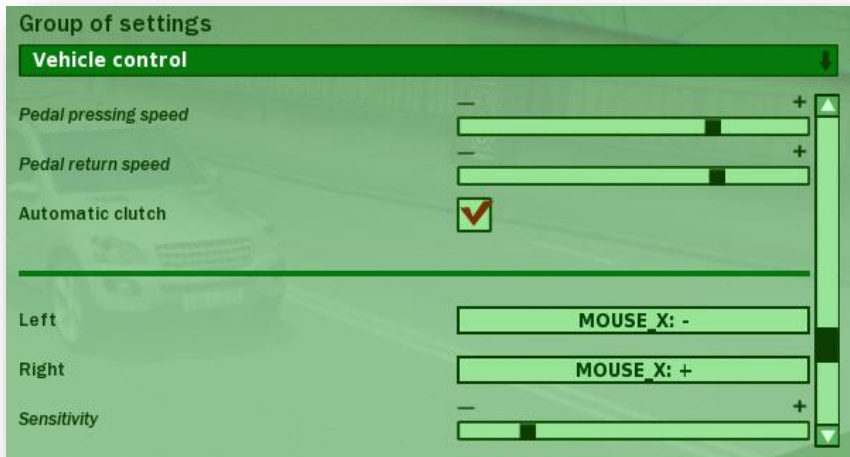
In view settings you can switch the function of interior cornering view and make camera rotation permanently active.

Advanced control settings for the steering wheel, joystick and gamepad

In vehicle control settings you can switch such functions as automatic clutch, automatic turn light switch-off and gear hold with the pressed button, using corresponding checkboxes. Move corresponding slides to set the speed of pressing and release of gas, brake and clutch pedals, as well as linearity and the dead zone.

You can change the axis mode of the selected control device using the corresponding drop-down list. One-way and two-way modes are available to select from.

You can switch the functions of interior cornering view and permanent camera rotation by ticking appropriate checkboxes in the view settings.

When selecting **"Feedback"**, you can switch on a feedback device and adjust repulsive force by moving an appropriate slide. If there are several feedback devices, please first select the required device.

Please note that advanced settings for the steering wheel, joystick and gamepad depend on where an action is assigned to — the device axis or the device button.

Control Actions Available by Default for Keyboard Control

Car Controls

Acceleration	↑	Brake	↓
Clutch	T	Left	←
Right	→	4th gear	4
Next gear	W	5th gear (P)	5
Previous gear	S	6th gear (D)	6
Parking brake	space	Neutral gear	0
Engine on/off	E	Reverse	9
1st gear	1	All-wheel drive	Q

2nd gear	**2**	Reduction gear	**X**
3rd gear	**3**	Boost mode	**Lshift**

Lights

Parking lights/headlights	**L**	Left turn signal	**<**
High beam	**K**	Right turn signal	**>**
Hazard lights	**G**		

Other devices

Horn	**H**	Seat belt	**B**
Windscreen wipers switching	**Tab**	Adjustment of mirrors	**'**
Switch on/off the radio	****	Previous radio station	**[**
Next radio station	**]**		

View

Next camera	**C**	Move camera upwards	**Num7**
Previous camera	**V**	Move camera downwards	**Num9**
Look left	**Lctrl**	Reset camera position	**Num5**
Look right	**Rctrl**	Camera rotation mode switch-on	
Look backwards	**Z**	Zoom in	
Move camera forward	**Num8**	Zoom out	
Move camera backwards	**Num2**	Camera rotation to the left	
Move camera to the left	**Num4**	Camera rotation to the right	
Move camera to the right	**Num6**	Camera rotation upwards	

Virtual mirrors on/off

| J | Camera rotation downwards |

Mini GPS navigator on/off

| O | Center the camera |

GPS navigator on/off

| M | GPS navigator zoom out | Page Down |

GPS navigator zoom in

| Page Up |

Virtual reality

Center the VR goggles

| Num* | Down | Num+ |

Up

| Num- |

Other

Vehicle reboot

| R | Screenshot | F12 |

Pause/Resume

| P | Show/hide player | U |

Transportations

| F | Accept | Enter |

Program Settings

In order to navigate to the program settings, depress **"Settings"** button in the menu. You can change graphics, sounds, control elements or settings of the training process proper in **"Settings"** section in the program menu.

General Settings

The program settings, which cannot be attributed to the other sections are located in the **"General"** tab. Select the required parameters and deselect the unnecessary parameters presented in the screenshot.

If you use **"City Car Driving. Home Edition"** for the training purposes, we recommend to select **"Show violation messages"** item. In this case the messages on violation of the traffic rules will be displayed in the right-hand bottom corner of the screen.

Graphics Settings

You can use this tab for changing the program graphical settings. In order to change the required parameter, move the applicable slider or select the required value in the dropdown list (depending on parameter). If your purpose is to improve the response speed, it is more convenient not to set parameters separately but to use one of the preset value packages. In order to do this, select one of the variants in **"Overall quality of graphics"** dropdown list.

Sound Settings

You can use this tab for setting the volume of sounds in the program. In order to change the volume, move the corresponding sliders.
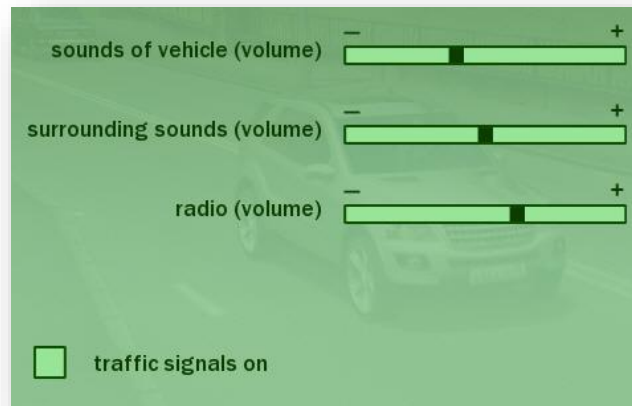
Internet radio

"City Car Driving. Home Edition" has a radio function broadcasting via the Internet during driving. To be able to listen to the radio in the simulator you must first add the direct link to the audio stream of the desired radio station to the configuration file at: **My documents\Forward Development\City Car Driving Steam\config\radio.ini.** On opening this file, you will see the function: **station="URL |Station name 1"**. Insert the direct link to the radio station audio stream by the replacing the word "URL" in the space before the vertical line. Insert the radio station name by replacing "Station name 1" in the space after the vertical line. The station name will be displayed at radio switch-on or switching between stations during driving. You can indicate any name in any available language. The simulator supports audio streams in **mp3**, **ogg** and **flac** formats. An unlimited number of stations can be added.

Press the dedicated key on the keyboard to switch on the radio or between stations. The default keys for switching on/between radio stations are given in the section **"Default actions for control from the keyboard"**. You can change the assigned keys at your option.

Glossary

Virtual City is a 3D city model built specifically for the **"City Car Driving. Home Edition"**.

Car simulator is a program simulating the car control.

Antilock brake system is a system preventing transportation car wheels locking during braking.

Location is a sector of virtual world.

Linearity and sensitivity are the parameters influencing conformity of the virtual device response to the real impact. The higher is the sensitivity, the better is the way a virtual device responds to interaction. The higher is the non-linearity (linearity is lower), the more the relation between the physical and virtual device differs from a directly proportional one.

Dead zone is a sector in the path of steering wheel or pedal movement, during which the virtual control device does not respond to the changes of the real one, i.e., the bigger is the dead zone, e.g., of steering wheel, the bigger will be the sector, where the turning of a real steering wheel will not entail turning of the virtual steering wheel. But after passing through a dead zone the steering wheel will come to a compliance with the real one. The same concerns the pedals.

Screenshot is the screen shot made by the **"City Car Driving. Home Edition"** program or by a special program.

Traffic is the road traffic.

Checkbox is an interface tool to denote a group (for example, to set specific options) and work with it, and to denote the state (on/off).