

RC
CARS



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manual



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R.C. Cars



Welcome to R.C. Cars!

This manual will give you full information on the game.

Before running the program for the first time we recommend that you familiarize yourself with the following sections: Start Program, Main Menu, Standard Race. Before entering the championship we recommend that you read the "Championship Principles" section. The game supports both single computer (for 2 players) and network multiplayer modes. If you have any questions on program functioning check the Troubleshooting and Contact Information sections.

In the manual you may find paragraphs that will be marked with the following special signs:



Pay special attention to the information preceded with this sign.

Paragraphs with that sign are critical.



Incompliance with the requirements, which are marked with this sign may lead to both unstable operation of the game, as well as the whole system.



Paragraphs marked with this sign are dealing with additional game options (see section "Extended Capabilities").

If you read the document for the first time you may skip this paragraph.

We did our best to make this game joyful and thrilling, and we are sure that it will become a pleasant experience for you in competing against the computer players, chasing the "ghost" cars, and competing with your friends in the network games. Embrace the world of small radio-controlled cars, a bright world of beautiful landscapes and large objects, which we are used to seeing as small and insignificant items.

Thank you for choosing our game.

*Truly yours,
Developer team.*



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Support by the "Pelikan" RC Club

System requirements

To successfully run the program your computer must have the following configuration:

Minimal system requirements:

Processor: 600 MHz Intel Pentium III

RAM: 64MB

Required disk space: minimum 800 MB for game storage, minimum 200 MB for Windows virtual memory

Screen resolution: minimum 800*600, 256 colors

OS: Microsoft Windows 98, ME, 2000, XP

Additional applications: Microsoft DirectX 8.1

Videocard: NVidia GeForce2 GTS or ATI Radeon 8500 chipset-based with minimum 16 MB of installed texture memory

CD-ROM

Update of Microsoft DirectX libraries requires a minimum HD space of 80 MB.

Recommended configuration:

Processor: AMD Athlon 1200 MHz, or Intel Pentium IV, 1300 MHz

RAM: 128 MB or more.

Videocard: GeForce2 GTS or ATI Radeon 8500 chipset-based with minimum 32 MB of installed texture memory



Soundcard: Creative Labs Live!

Modem (for network games)

List of supported videocards

Nvidia Riva TNT2	http://www.nvidia.com
ATI Radeon	http://www.atitech.com
Matrox G400	http://www.matrox.com
GeForce	http://www.nvidia.com
GeForce2	http://www.nvidia.com
GeForce2MX	http://www.nvidia.com
GeForce 3	http://www.nvidia.com
GeForce 4	http://www.nvidia.com
GeForce 4MX	http://www.nvidia.com

You can run "R.C. Cars" using stereo-glasses or other means of 3D visualization. Check your videocard support documentation for additional instructions on tuning your videocard to enable stereo mode.



If your videocard is not in the list and the image quality is not what you expected to see, check the "Extended Program Settings" and "Problems with Video" sections for more detailed information.



The updated version of DirectX 8.1 is provided on the game CD and is installed automatically. Additional data on Microsoft DirectX 8.1 is to be found on Page 73.

Installation



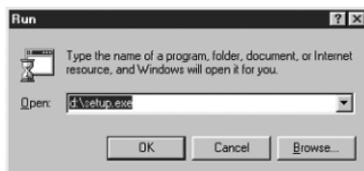
We recommend that you close all other applications before starting the installation process.

Follow these instruction to install R.C. Cars on your computer:

1. Make sure your computer corresponds to the system requirement of the game.
2. Insert the R.C. Cars CD into the CD-ROM drive.



3. If the computer runs the program from the CD automatically, you will see the installation welcome window on the screen.
4. If the computer does not run the program from the CD automatically, you can run the setup.exe installation file manually. To do that click "Start" – "Run" and type in "d:\setup.exe" in the dialogue box – where "d" is the path to the CD-ROM drive on your computer.



Installation startup



If you run the installation program in the 256-color mode, some of the picture may appear incorrectly.



Start of installation



5. Press "Next >".



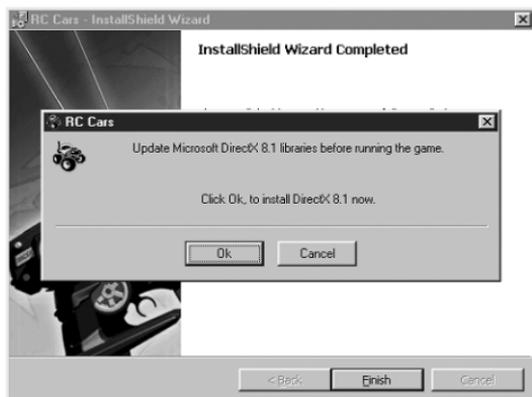
Choose directory to install the program

6. Choose directory to install the game in the installation window. You may also use the directory proposed by the Installation program.

7. Press "Next >" to begin the installation.

8. Wait until the installation is complete and press "Finish".

After the installation is complete, the program will check for installed DirectX 8.1 drivers. To successfully run the game check and update the drivers.



Installation is complete – Request to check for installed DirectX 8.1 drivers.

Press "Ok". Follow the instructions of the DirectX installation program. After the update of DirectX libraries is complete you may be required to reboot the computer.



More information on DirectX drivers and videocard properties is to be found in the "Videocards and DirectX Drivers" section.

R.C. Cars will be installed on your computer.

If during the installation you receive error messages, check that there is enough disk space on your HD and that your system configuration corresponds to the game requirements.

Start Program

After you have successfully installed the program you may run it in one of the following ways:

- Select "Start" – "Programs" – "R.C. Cars" – "R.C. Cars" from the Windows main menu.
- Double click the "R.C. Cars" shortcut icon on the Windows desktop.
- Insert the game CD into your CD-Rom drive and (if the computer runs the CD automatically) click the "Run" button in the dialogue menu that opens.



Make sure that the CD with the game is in your CD-Rom drive when you run the program.



Do not start the game if your computer is running a lot of other applications (such as word-processors, etc.) – this may lead to low system performance.

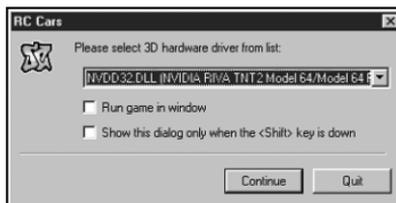


Do not start the program if you are already running another game which uses graphics controls.

If the installed version of the game support several language, the language select dialogue box may appear on the screen. Choose your language and press "Ok".

If you do not want to see this dialogue again, check the "Show this dialogue only when <Shift> is pressed" box.

When you run R.C. Cars for the first time the program will analyze the system configuration and select video- and audio- support drivers. Video-/soundcart select dialogue will appear on the screen



"Video-/Audio-Device Select" dialogue

As a rule the program will automatically select the most suitable sound- and video-cards. Correction maybe needed only in case your computer has several different hardware items of one type, and you want it to run in special mode.

To run the program in window mode check the "Run in window" box. Otherwise the game will run in full-screen mode. To continue the work click "Next".

If you do not want to see this dialogue again, check the "Show this dialogue only when <Shift> is pressed" box.

If you have any problems starting the game, check the Problems with Sound section for more information.

After playing the video (to skip the video – press "Esc.") and loading, the game will proceed to Main Menu.

 **When the program starts it switches to a different video mode. If your monitor shows the window incorrectly (the picture goes over the edge of the screen or is embossed), correct the display settings. Most monitors will remember these settings when you run the program in the future.**

Uninstallation

 To uninstall the game, you should first quit R.C. Cars (if it was running).

Uninstallation may be performed in one of the following ways:

1. Select "Star" – "Programs" – "R.C. Cars" – "Uninstall".

Confirm that you want to uninstall the program by clicking "Yes" and wait for the uninstallation to complete.

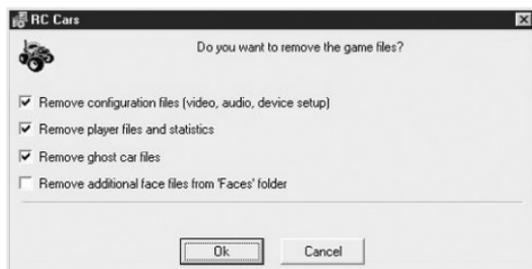
2. Run the installation program again (see "Installation"), and select "Delete" (see. figure).
3. Open the Control Panel ("Start" – "Control Panel"). Select "Add/Remove Programs", select "R.C. Cars" and click the "Add/Remove" button. Confirm that you want to uninstall the

program by clicking "Yes" and wait for the uninstallation to complete.



Uninstalling the game by running the Installation program

During uninstallation the program will prompt an additional request for deleting configuration files attributed to the players that you have created from disk. If you plan to reinstall the game later and use the saved data, click "Cancel". If you want to erase the game completely click Ok.



Request for deletion of additional data files

If you have created additional files in the Faces dialogue, you may also delete them using this dialogue. To delete the image files that you have created (See "Creating Your Own Images"), check the "delete additional images..." in the dialogue box.

If you choose to leave the additional data files, it is recommended that during the second installation you specify the same installation path that you used for the first time. In this case all of the saved files will be used for further games.



Main Menu

When you run the program for the first time you will enter the "Player Options" menu – You must select the player name. When you run the program for the next time your current player will load automatically, and the game will proceed straight to the Main Menu. Championship configuration and your top-scores are saved in the currently selected player data file.

Use the following keys to navigate through the menu:

- Use "Tab" and "up" and "down" arrow-keys to move between menu items, buttons, and settings.
- You may also use joystick to move through the menu.
- Or move the mouse cursor over the required item – selection will change automatically.

To perform an action (e.g. press "Championship"), do one of the following:

- Move the mouse cursor to the required button and left click on the button, or
- Use "Tab" and "up" and "down" arrow-keys to select "Championship" and press "Enter", or
- Use Joystick to select "Championship" and press the "A"-button (This button may be different in some of the joystick models)

To quickly select the "Back" button (in some of the dialogues it may also read "Main Menu") press "Backspace" or "Esc".

To perform a default action in most of the cases you may use double mouse click.

To change the default settings use "left" and "right" arrow-keys, or left-click on the arrows on the left and right sides of the window.



Control element example – Select Screen Resolution

Player Options

When you run the program for the first time you will enter the "Player Options" menu. You may use the suggested name ("Player"), or create a new player with a different name. Later in the game you will be able to add a new player, delete an existing player, or select another player from the Main Menu ("Player Options" command).



"Player Options" screen

The table in the center of the screen contains the list of current players. Additional information on the currently selected player is shown in the top part of the screen. To create a new player press the "New Player" button (left mouse click or use "up" and "down" arrow-keys, "Tab", and "Enter").

A dialogue with new player name request will appear on the screen:



"Create Player" screen

All dialogues have active roll-over function, so that moving the mouse cursor automatically changes the current selection. If you do not manage to type in the player name move the cursor to the "Name: ____" box and wait for a blinking cursor to appear. After entering the name click the "Ok" button or press "Enter". To switch between English and other language



keyboard layouts use the standard Windows key combination.

Image changing buttons are available for a new created player (on the left and right sides of the photo). If you want to change the associated photo, move the mouse cursor to either of the arrows (they must be red) and click until you find the desired photo. To remove a player select the required slot in the list and press the "Delete player" button. Note that you cannot delete the last remaining player.

The list of players in the table may be sorted by any of the column-tags. To sort players by the number of points, click the "points" column header. Similarly you can sort player by "Money" or "Time Records".

To change the player photo, select the name from the list and press the "Image" button. The gray arrows on the left and right sides of the photo will turn red. Choose the required image.

To start the game with a particular player, select the required name from the list and press "Next" or "Start". The program will proceed to the Main Menu. You may also simply double-click the name of the required player in the table. The maximum number of players is limited to 20.

 You may also use your own player images (for instance a scanned photo of yourself). See section Adding Your Own Images for details.

Main Menu



Main Menu of the game



In the main game menu you will see the following options:

- "Championship" – opens the Championship menu.
- "Single Race" – regular race against computer-opponent. You may compete against them at different difficulty levels on the selected number of laps. However, you will only be able to access those tracks, which you have completed in the Championship.
- "Ghost Race" – the best way to perfect your driving skills and compare various types of cars. In the "Ghost Race" menu you may choose one of the two race-types: compete against the record of your own best lap or compete against the "best of the best" – all three cars and their best lap records.
- "Multiplayer" – with two alternative modes: 2-player race (on one screen) or network game.
- "Player Options" menu-item allows you to add, delete, or change players.

The menu of this item is described in the "Player Options" section.

- "Settings" – allows you to change controls, background audio-stream, and graphics. See details for this menu on page 20.
- "View Demo" – launches a demonstration ride on three tracks. The demo will also run automatically after 3 minutes of waiting in the Main Menu. To stop the demo – press "Esc", to skip the demo to another track press "Enter".
- "About the Authors" – shows the information about the authors and developers of the game.
- "Quit" – ends the program.
- "Start" – same as "Race" (standard race mode).



For user convenience all of the menu navigation and all of the racing types have been put into a table. Later you will be able to use it for reference.



Main Game Menu

Championship >

Championship Menu

Championship
Map and Description
Statistics
Garage
Start Game

"Garage" Menu

Car Select
Accelerator
Engine
Tires
Color

Race >

Single Race Menu

General
Map and Description
Statistics
Garage
Start Game

"Ghost" Race >

"Ghost" Race Menu

General
Map and Description
Statistics
Garage
Start Game

Multiplayer >

Multiplayer Menu

Create Game >

"Create Game" Menu

Network Options
Player Data
"Waiting for Other Players" Menu

Connect to Game >

**"Connect to Game" Menu**

Network Options
Player Data
Server Data
"Waiting for Other Participants" Menu

Two Players >

"Two Player" Menu

General Information
Controls
Layout
Car Select
Start Game

"Waiting for Other Participants" Menu

General
Map and Description
Garage
Chat
Limits
Settings
Start Game

Player Options >

Player Options Menu

Create Player
Delete Player

Settings >

Setting Menu

Video
Control Panel
Sound
Controls
Layout
More
Phrase Anchoring

View Demo
About the Authors
Quit Game



Program Settings

You can enter the Program Settings Menu from the Main Menu, by selecting "Settings". In the menu that opens you will see the following setting categories:

Video

Control Panel

Sound

Controls

Layout

More

Phrase Anchoring

To apply changes and go back to main menu, press the "Main Menu" button (or "Esc" or "Backspace" keys). If the changes that you applied require re-initialization of the game data, loading the Main Menu may take several seconds.

You may also change the program settings while you wait for other race participants in the multiplayer (Network Game).

Video



In the "Video Settings" screen you will be able to change the following parameters:



- Screen Resolution** Set the necessary screen resolution.
- The recommended screen resolution for R.C. Cars is 800*600. If your videocard does not support the game in this resolution, try to reduce the resolution to 640*480. Note that this parameter only affects the game-play, the main program menu is always in 800*600.
- To change the screen resolution use the "left" and "right" arrow keys or select the required video mode with mouse.
- Color Depth** Sets the color depth: 32 bit per pixel or 16 bit per pixel.
- Run in Window Mode** Check "Yes" on this setting if you want to run the Game in window mode. If you want to run the game in full-screen mode check "No". In case the set color depth is different from that of Windows setting, this parameter will be blocked.
- Texture Quality** Allows to select one of three available texture quality levels – "high", "mid", or "low". It is recommended to select this setting in accordance with the texture memory volume on your videocard: "low", if your video memory is 16MB or lower.
- "Mid" if your video memory is 32MB.
 - "High" if your video memory is 64MB or higher.
- You may also change this setting during the race (see In-Race Menu).
- Rendering Quality** This parameter allows to turn on or off additional rendering effects (visualization system), such as water visual effects, dirt on car, shadows, etc., depending on the speed of your computer and videocard. If you notice that the graphics in the race are slow, try reducing the value of this parameter.
- Effects Quality** This parameter allows to switch additional visual effects on or off depending on the speed of your computer and videocard. In case you notice that the graphic output in the process of the race is slow (this especially concerns productivity drops on dry sand, near waterfalls, and other locations with a large number of special effects) try reducing the value of this parameter.
- Color Intensity** Allows to change image brightness on the screen. Adjust brightness with mouse or "left and "right" arrow-keys.
- You may also change this parameter during the race (see. In-Race Menu).
- 3D Driver** This line item shows the information on the currently used video-driver. You may find the list of videocards supported by the game in the "System Requirements" section.



If you run the program in window-mode, it is not recommended to select the screen resolution higher than that of Windows settings.



With screen resolution lower than 800*600 you may lose part of the race text messages and finish notices.

Control Panel



The Control Panel settings allow you to configure the elements that will appear on the screen during the race. When you switch a setting it be indicated in the "Control Panel Appearance" window. Some of these parameters may be changed during the race (see. In-Race Menu).

- Player List** Shows the player list with the information on the distance between them (table in the left part of the screen).
- Track Map** Shows map of track with the current locations of the nearest players and checkpoints (table in the right part of the screen).
- Direction Arrow** Shows the recommended direction, distance to next checkpoint, and information on the closing players on the left and right sides. (pointer in the lower part of the screen).
- Messages** Sets the track event message appearance on the screen parameter. This setting has two modes:
- Min. show only key race messages (used primarily in the network version).
 - All show all messages.

Sound



In the "Sound" setting menu you will be able to change the following parameters:

- Sounds On** Turns all sounds in the game on or off (switching that mode may take several seconds)
- Sound Quality** Allows to select one of three available sound quality levels – "high", "mid", or "low". If in the process of the race you notice that the program slows down when you enter a tunnel try reducing this parameter.
- Sound Volume** Sets the volume of main sounds. When you change this parameter the sound volume will change immediately. You may also change the sound volume in the process of the race. (see. In-Race Menu).
- Music** Turns background music on or off.
- Music Volume** Sets the volume of background music. When you change this parameter the volume will change immediately. You may also change the music volume in the process of the race. (see. In-Race Menu).
- Music Style** Has three modes:
- All
 - Rock
 - Techno
- Allows to set a certain music style, or lets the program choose between tracks at random.
- Volume** Sets the overall sound volume applied to all Windows sound sources. For instance if during the game you are playing a CD or listen to music through the CD-player you may set the volume of the speakers

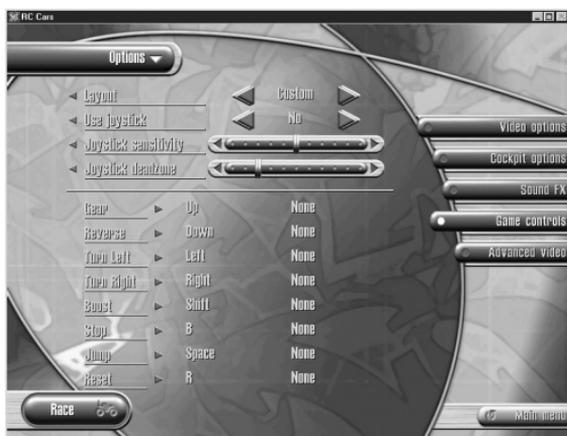


using this parameter.



Due to technical reasons the sound volume in the menu and during the race is somewhat different. It is recommended that you set the sound volume during already during the race. (See In-Race Menu).

Controls



The "Controls" menu is intended for setting the inputs used by the player (single race) or two players (two-player race).

The game supports the following inputs:

- Keyboard
- Standard game joystick
- Wheel
- Gamepad-joystick, with a cross-shaped button. Hereinafter the two joystick types will be referred to as analogue joystick/wheel or digital joystick/gamepad.

Player 1 Shows the parameters for the first (main) player

Controllers Selects one of the three available controllers:

- Keyboard only
- Keyboard + analogue joystick (in the menu this controller is referred to as "joystick/wheel")
- Keyboard + digital joystick (in the menu this controller is referred to as "gamepad")



The difference between the analogue and digital joysticks, is that proportional change of the digital joystick will result in a respective change of wheel turning angle. The digital joystick operates similarly to keyboard (i.e. the longer you press the key – the more the wheel angle). More details on the differences between game devices are to be found on page 75.

Joystick

If you choose the "keyboard + joystick" controller type, select one of the joysticks installed on the computer. Checking "No" means that only keyboard will be used.

Sensitivity

If you choose one of the installed joysticks, this parameter will set joystick sensitivity. This parameter may be changed during the race. (See In-Race Menu.)

The "Sensitivity" parameter may only be set for an analogue joystick.

Dead Zone

This parameter sets the size of the area within which moving the joystick will not affect car behavior. Setting this parameter depends on the joystick type, and may be defined by the user. This parameter may also be changed during the race (see. In-Race Menu).

The "Dead Zone" parameter may only be set for an analogue joystick.

Player 2

Shows the parameters for the second player. The group of settings is only used for Multiplayer Game – 2 Player Game. All of the settings for the second player (controllers, etc.) mirror those of the first player.

Layout



The Layout menu sets the player-defined keys for car controls during the race.



- Player Select** Shows keyboard or joystick layouts for the first or second player.
- Layouts** Allows to choose from one of the default layouts (default keyboard layout #1, default keyboard layout #2, standard joystick layout, standard gamepad layout, standard, wheel layout) or set a personal controls layout.
- Forward**
- Backward**
- Left**
- Right**
- Boost**
- Jump**
- Brakes**
- Back to Track** These parameters define the user personal settings for car controls. Each of the commands may have two separate key-combinations assigned to it. To change the setting do the following:
- Select the necessary car control command using the cursor-key and press "Enter" or
 - Left-click on the selected control command with mouse.
- If the program is waiting for input of the new combination, a message in red types will appear on the screen. Press the required key-combination, or press "Esc" if you want to cancel the input.
- To delete a key-combination select it and press "Backspace".
- In the bottom line of the screen you will see the text informing about keys conflicting with other player. For instance if both of the players have selected "A" for one of the actions, the bottom line will indicate that key conflict. If you do not use the 2 Player mode you can ignore this line.
- In case the controller is set as "Keyboard Only", the layouts for joystick, gamepad, and wheel will be unavailable. In case you select the controller as "Joystick/Wheel" or "Gamepad", but do not specify the device itself, the default control settings may read "???" instead of preset keys.
- The description of keyboard combinations is dependant upon the current Windows settings. Depending on the installed regional standards and the currently selected language, the descriptions of key-combinations may change.



More

The additional settings screen is described in the Extended Program Settings section.

As a rule these parameters do not require changes save for special cases.

Phrase Anchoring



The "Phrase Anchoring" function is only used in the network game. It allows to set the messages that would be sent over to all of the players by pressing keys "1" through "7" respectively. To change the phrase assigned to one of the numerical keys, use "Tab" or mouse. Enter the new message text (switching between English and other national keyboard layouts is done with the standard Windows combination).

Single Race

Single Race ("Race" in the Main Menu) – is the race against the computer opponents. You can choose the track, number of laps, and your opponents' proficiency level. Selecting a track is connected with certain limitations.

Track Select – you may only choose from those tracks, the access to which you have gotten in the championship. If you haven't run in the championship yet you will only have four tracks available:

- Beach
- Village



- Fort
- Air Defense Base Number of Laps – single race may have 3, 5, or 7 laps

Opponent Skills – You may select from the four available difficulty levels:

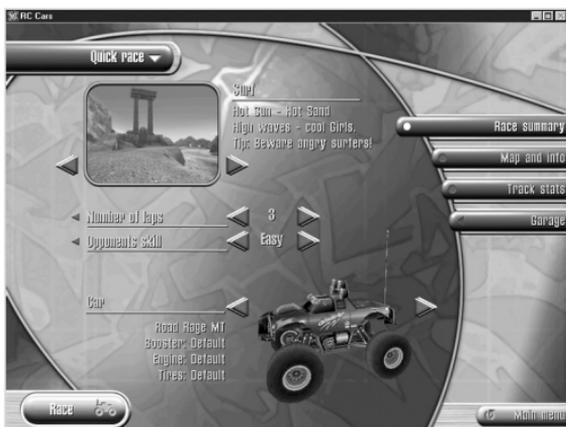
- Rookies
- Amateurs
- Hot-rodders
- Professionals

See Single Race Menu for more details.

Single Race Menu

You can access the Single Race Menu from the Main Menu, by clicking "Single Race" or "Start". The Single Race Menu is comprised of three screens: "General", "Map and Description", and "Statistics". You will also have access to the "Garage" button, in which you will be able to select or upgrade a car. See Championship for more details on the Garage.

General



Single Race Menu – General

In this menu you will be able to set the following parameters:

Track

Race track. To select a different track, press the arrow-button on the left and right sides of the track-picture.



Number of Laps

Number of laps in the race. You may choose 3, 5, or 7 laps.

Opponent Skills

Number of opponents and their qualification. You may choose from the following options:

- Rookies – 3 weak opponents.
- Amateurs – 4 mid-qualified opponents.
- Hot-rodders – 5 high-qualification opponents.
- Professionals – same five opponents, but now they mean it.

Car

Select car for racing.

Single race has certain limitations. For instance you cannot choose the track that you have not opened in the championship or select a car that you haven't bought. More on accessing tracks in the "Championship" section.

If you have not competed in the championship yet you will only get access to one car (Interceptor) and 4 tracks:

- Beach
- Village
- Fort
- Air Defense Base

To begin race press "Start". If you have selected a track you do not have access to, or a car you have not bought, the "Start" button will be blocked.

Map and Description



Single Race Menu – "Map and Description"



The second bookmark allows you to see the Track in detail. You may also change the current track (switches in the top of the screen) or browse through the zoomed screenshots (switches in the bottom of the screen).

In the left side of the screen you will see the track route trajectory. Start is marked with a white circle, checkpoints – with yellow circles. Arrows show traffic direction along the track.

Statistics



Single Race Menu – Statistics

The third bookmark allows you to see the top scores set by you and your friends on this track.

The table in the center of the screen shows the player list. Selecting different parameters in the "Sort by" line allows you to see the scores you are interested in. Data may be sorted by:

- Best lap time
- Best 3-lap race time
- Best 5-lap race time
- Best 7-lap race time

The Statistics cover all players that have been created on your computer in the "Player Options" Menu. You may also add the statistics for other players from other computers. See "Player Data Files" for more details.

The "Garage" opens the Garage Menu. See Championship for more details on the Garage.

Racing

This section describes the control panel view during the race, car controls operation, and proceeding through the track.

After you press "Start" in the Single Race Menu the game will load the currently selected level and proceed to the actual race. See figure for screen appearance during the race (in case you have changed the control panel settings in the Program Settings the screen may look differently):



Track before the start of the race.

In the top-left corner you will see the current player position in the race. Further (left to right) – overall race time and number of laps (current lap/total number of laps). On the left – under the current player position – you will see a table with player list. The position of the current Player is marked with a red arrow. On the side of the names of other players you will see the approximate time between them and yourself. If a player is close to your position on the track his name in the table will start blinking. On the right side of the screen – under the number of laps – you will see the track map, where the green arrow is your car, and blue arrows are your opponents. The "active" checkpoint closest to your position is blinking. Checkpoints are marked with yellow circles (same as in the track map of the Single Race Menu). Right under the player table you will see the message box. There you will read the information on the current events taking place on the track. See Network Game for more details on the message box.

In the left bottom corner of the screen you will see the turbo-units indicator. This is a special charge, which you save up as the race proceeds, and start spending if you press Boost (see below). In the center of the screen you will see the direction arrow and opponents overtake indicators. The arrow shows the direction to the next checkpoint and its color indicates the distance left to it. As you approach the checkpoint the arrow will slowly turn from green to bright red. If you go past the checkpoint the arrow will start blinking. The red stripes on the



left and right sides of the arrow (in this example you see the stripe up and left) indicate the position of the closest opponents.

In the bottom right corner of the screen you will see the speed-meter.

Some of the control panel elements may be switched on and off in the Program Settings or In-Race Menu.

Car Controls

If you did not change the car controls in the Program Settings, the following keys will be assigned by default:

- | | |
|--|---|
| Move Forward | Press and hold the up-cursor key. |
| Slowing Down and Moving Backwards | Press and hold the down-cursor key. |
| Turning Left/Right | Press left- or right-arrow key respectively . |
| Jump | Press Spacebar. |
| Boost | Press and hold Shift. As the car is using the boost, it runs out of "turbo" units. |
| Block Wheels | Use this option to go into controlled skidding. Press and hold "B". |
| Back to Track | <p>In case you are stuck or lost on the track, you may stop running and instantly go back to the last checkpoint you have passed. Press "R".</p> <p>You may also return back to the track, by pressing the "Back to Track" button from the In-Race Menu.</p> <p>You will be returned back to track automatically in case you have drowned in the sea, fallen into a gap, or blown off the track by a submachine-gunner.</p> |

Aside from car controls you will be able to use the following commands:

- | | |
|--------------------------|---|
| Pause | Press "Pause". To go back to race press "Pause" again or Press "Esc" or "Spacebar". |
| Exit to Race Menu | Press Esc. |

Additional keys (numbers "1" through "7") are also available in the network race.

Proceeding Through the Track

You main aim in the single race is driving the specified number of laps through all of the



checkpoints set on the track in their direct running order. The spot you started at is also the spot for intermediary finishes (in the end of each lap) and the race finish spot.

See figure for active checkpoint.



Running down the track – Checkpoint ahead.

Here we approach the next checkpoint on the track. It is marked with blinking arrows on the track and a white circle in the center of the track map (top right corner of the screen). The direction arrow (bottom center) is lighted with red, indicating, that checkpoint is near. In case you have "missed" the checkpoint you will here an alarm signal and the following message will pop up on the screen:

Wrong Direction

In order to successfully proceed through the track remember the following rules:

- Try developing maximum speed on the straight and even sections of the track. To do that initiate the (turbo) boost – hold Shift down.
- Avoid running at high speed on uneven parts of the track – the car is rather light and even a very small stone may cause a big crash.
- Use jumps (Spacebar), to bounce over the small obstacles, springs, etc.
- Avoid falling into the water, gaps and other places from which you will be automatically taken to the last passed checkpoint. Also watch out for submachine-gunners (present on some of the levels), who may shoot you off the track.
- Look for "shortcuts" from the main track. In many of the locations you will find additional runways that are shorter than the normal track route. Although much harder to pass. Some of the shortcuts are impassable for standard cars (that did go through engine and/or tire upgrades).



In-race Menu

Pressing "Esc" during the race will take you to the In-race Menu. It contains a series of the most important settings, as well as game process control buttons. All of the setting changed here may also be found in the main "Settings" menu. The In-race Menu is practically identical for all of the race types – single race, ghost race, championship, and all types of network races. The differences for each particular race type are described in respective sections.



In race Menu

The following commands and buttons are available in this menu:

- Color Intensity** This parameter allows you to adjust image brightness. It is exactly similar to that of the Program Settings (Video).
- Texture Quality** This parameter allows you to change texture quality (low, mid, high). In case you notice that the graphics speed is unsatisfactory try reducing texture quality.
- List of Opponents**
- Track**
- Direction Arrow** These parameters change the appearance of the control panel in the race.
- Sound Volume** This parameter sets the volume of car engine and other sounds.
If the sound has been completely turned off in the Main Menu this parameter will be unavailable.
- Background Sound** This parameter sets the volume of background music. If background music has been completely turned off in the Main Menu this parameter will be unavailable.



- Sensitivity** This parameter sets joystick sensitivity. (unavailable if you are playing with keyboard only or gamepad). See page 24 for more details.
- Dead Zone** This parameter sets the dead zone for the joystick (unavailable if you are playing with keyboard only or gamepad) See page 24 for details.
- Quit** Pressing this button will end the race and forward you back to Main Menu.
- Back to track** Pressing this button will return you back to the last checkpoint that you have passed. You may also do that during the race ("Back to track" command – default key: "R").
- Apply** Applies the changes that you have made and returns you back to the race. If you have been changing the texture qualities a several seconds delay is possible, after which the game will automatically be paused. Press "Esc", "Pause" or "Spacebar" to continue the race.
- Restart** Pressing this button will end the current race and restart countdown – 3, 2, 1, Go.



If you run the game with 640*480 screen resolution, some of the texts on the screen may appear incorrectly.



If you have made any changes and then pressed "Back to track" your changes will be lost. To apply the changes always use the "Apply" button.

End Single Race

After you have gone through all of the laps and passed all checkpoints, the race ends and the "End Race Menu" will appear on the screen.



End Single Race Screen

On this screen you will see the finish table with the list of race participants sorted by finish time order. If some of the race participants have not finished yet, the information on their race will continue updating. If you do not want to wait until the last participant of the race finishes you can press quit.

In this list you will see the following information:

- Player name (and image). Computer player images are fixed, however you can choose your own image for yourself. See page 15 for more details.
- Player position.
- Overall race time.
- Time difference from your results. For those computer players who have finished ahead of you this value is shown with the "-" sign, while those who have finished behind will have this value with the "+" sign.
- Best Player Time.
- Average Race Speed.

By pressing "Quit" you will go back to the single race menu (loading the menu will take several seconds). Pressing "Restart" will start the race anew (all of the race parameters, such as number of laps, opponent skills, etc. – remain unchanged).



Ghost Race

This game mode is intended for you to perfection your driving skills, by racing against your own records. In this mode you will compete against a very special opponent – your own self that is – or rather the trajectory of your previous race. Since the existing race trajectory cannot be affected by any external factor (such as collision with a truck or a passer-by kicking the car off the track), the ghost-car moves along the track exactly following the set trajectory and ignoring all of the dynamic obstacles on the way. At the same time it will accurately mimic all of the obstacles that were in its way during the initial run. The ghost race has an unlimited number of laps, the trajectory of the ghost-car is always one lap. You may run as many laps as you need to beat your own record.

There're tow ghost-race modes: standard race and traffic.

Standard race

The first lap in the race you run in solitude. Then, starting from the second lap, a ghost car will appear on the track and run together with you following the trajectory of your first lap. If your second lap turns out worse than you first one the ghost car will wait for you on the start-line, and then continue competing against you during the third lap. If your second lap turns out better than the first one, then on the third lap the ghost car will follow the trajectory of your second lap. Similarly after each complete lap, the ghost-car will select the trajectory of the best of the previously finished laps. However when you quit the race all of the data will be lost.

Traffic

This is a special ghost race mode, where the best lap trajectories are not lost, and you compete not only against yourself. There can be up to three ghost-cars on the track going along your best trajectories. When you run the traffic race for the first time the first lap is no different from that of the standard race and you finish it in proud solitude. After that you start competing against the ghost car. The key difference of the traffic mode from the standard mode is that, in the former the ghost record data file is stored on disk and you can repeat the competition again and again.

When you run "traffic-race" for the next time the ghost-cars will start competing against you already starting from the first lap. Moreover in the "Traffic" mode you will not only compete against your own "ghost-car". In this mode you will be able to compare different types of cars and their modifications. If you start the race again, choosing a different car (for instance you completed the first race on the "Interceptor" and have now chosen "Hummer"), you will be competing the "ghosts" of both "Interceptor" and "Hummer". Having upgraded the "Interceptor" you will be able to run the traffic-race again and see how the modifications applied improve your speed-gain or car-controls on sharp turns.

Specially for testing purposes in the ghost-race mode you will get access to all of the cars



(even those that you have not purchased in the championship yet!)



You may also compete with your friends, using the capabilities of the "ghost"-race in the traffic mode. The "Ghost Cars Records Data Files" section will give you a detailed instruction on how you can move the record data file from one computer to another. Send your best records to you friends and let them try to beat you!

When you outrun the ghost-car in the standard race and traffic modes a respective message with new "best lap time" will appear on the screen.

Ghost Race Menu

You may enter the shadow race menu from the Main Menu by selecting "Shadow Race".

The Shadow Race Menu is comprised of three screens: "General", "Map and Description", and "Statistics". You will also have access to the "Garage" button.



Ghost Race Menu – General

Here you will be able to access the following commands:

Track Select

Select track by clicking the arrows on the left and right sides of the track image. You will be able to race only on those tracks that you have gained access to in the Championship.

Race Type

Select either of the two race types:

- Standard
- Traffic



Car Allows you to choose the car for the race. If you have already purchased the car it will be shown with all of the installed modifications and upgrades. If you have not bought the car yet, you may test-run it in basic complete set.

The second and third screens of the menu are exactly similar to those of the single race menu.

Click the "Garage" button to enter the Garage Menu. See Championship for more information on the Garage.

Press "Start" to start race. To go back to main menu, press the Main Menu button.

Racing Against Ghost

Standard Race

Racing against the ghost is a lot like racing against normal computer opponents: after loading and countdown 3-2-1-Go you can start running down the track. During the first lap only your car is on the track. Then when you cross the starting checkpoint, a second car starts out right behind you ghosting the trajectory of your first lap. For you to be able to tell your own car from the "ghost" its coating will be a bit different from that of your vehicle. If your second lap is better than the first, when you cross the starting checkpoint, the ghost car will stop, and immediately start again this time following the trajectory of your second lap. However if your second lap was worse than the first one, the ghost car will stop at the starting checkpoint and wait for you to complete the lap. When you cross the checkpoint to go for your third lap, the ghost will start together with you following the trajectory of your first lap.

The ghost-race is not lap-limited so you can compete against your own race an unlimited number of times.



If you press the Back to Track button (or initiate the command by an assigned hot-key: "R" by default) during a ghost race, instead of going back to the nearest checkpoint, you will be taken to the Start-line. The ghost car will stop, go back to Start and wait for you to go through the starting checkpoint again.



As soon as you exit the standard ghost race all of the ghost car records will be lost.



Traffic Race

When competing against the ghost in traffic mode you will have to face all of the cars that you have driven on this track. When you run the traffic race for the first time it looks no different from the standard ghost race mode: you finish the first lap alone and the a ghost car joins you. The second and other laps are also similar to standard ghost race.

When you run the traffic ghost race for the second time, the ghost car will be competing against you starting from the very first lap. Then when you start the traffic ghost race on a different car the competition will complicate, that is you will be running not only against yourself on the current vehicle, but also against your previous runs on this track on other cars.

The traffic ghost race has the same "return to track" function as that of the standard ghost race (see above.)



The ghost race recording time is limited to 20 minutes, so if you do not finish the lap in 20 minutes the record will stop.

Championship

Championship Principles

The Championship is the main competition in the game. It is a series of standard races under standard rules. The key difference is when you enter the championship you get a possibility to gain qualification points and earn prize money. To win the championship you have to come first on all of the 10 tracks. Qualification points will serve you as a pass to new, normally more difficult tracks, as well as an indicator of your driving skills.

Ranking index:

Ranks	Points
Rookie	Less than 50 points, less than 50 dollars, minimum of two races
Amateur	Up to 100
Junior	100 to 250
Driver	250 to 500
Racer	500 to 1000
Hot-rodder	1000 to 2000
Pro	2000 to 4000



Contender	4000 to 7000
Champ	7000 to 10000
Superstar	Over 10000

Aside from qualification points to race on new tracks you will also need to make money contributions. The size of the contribution fees and prize funds is growing as you proceed in the championship. Please note that the fee is paid each time you run this or that track. If, for any reason, you quit the race you lose the fee. It is also noteworthy that having received access to a new track in the championship, you also open it for all the other race-types, such as "single race", "ghost race", etc.

The only exception from the general track access rules is the final championship track: "War". To get access to this track you have to come first on all of the other championship tracks. Use the money to buy new or upgrade your old cars. It is also worth pointing out that the computer opponents will be the same perfecting their skills from one race to another and constantly upgrading their vehicles.

Championship Start

When you create a player you get \$100 on your account and 0 points. With this sum in your pocket you will be able to start the championship in the easiest of tracks, which is the "Beach". Proceeding to the next Championship track "Village" requires 15 qualification points and \$50 entrance fee. Therefore to take part in the next race in the "Village" the player has to take at least the 3rd place in the "Beach" race and have a sum of \$50 available. Please note that the points and money is only distributed among the top places (first, second, and third). The sum of the added points is equal to that of the earned money.

Prize Fund

The prize fund for each game is calculated in accordance with the following scheme:

Money prize (1st, 2nd, and 3rd places) + additional or bonus points.

Earning the bonus points, you earn additional money, since the sum of the points you earn is always equal to the sum of the earned money.

The money prize is a fixed sum for taking one of the top three places on each of the tracks. The exact sums for each of the tracks are listed below.

The additional points/money are charged for performing certain actions on the track:



- o Knocking down objects on the beach (cans, balls, etc.) – 5 points per hit.
- o Successful hitting of opponents – 5 points per hit.
- o The difference in race times between you and the opponent that follows (five points per each second in the final race time)...

The total sum of bonus points on a track never exceed the amount payable for the third place on this track.

Tracks – Access Requirements and Prize Funds

Beach

Track access – 0 points (track always available)

Entrance fee – \$0

Prize fund:

1st place – \$50

2nd place – \$30

3rd place – \$15

Maximum available bonus points – 15 points

Max prize for track: \$50 for the first place + 15 bonus points

- 65 dollars/points.

Village

Track access – 15 points

Entrance fee – \$50

Prize fund:

1st place – \$150

2nd place – \$100

3rd place – \$50

Max additional points: 50

Max prize for track: $150 + 50 = 200$ dollars/points.

Fort

Track access – 65 points



Entrance fee – \$100

Prize fund:

1st place – \$250

2nd place – \$150

3rd place – \$75

Max additional points: 75

Max prize for track: $250 + 75 = 325$ dollars/points.

Air Defense Base

Track access – 250 points

Entrance fee – \$150

Prize fund:

1st place – \$400

2nd place – \$250

3rd place – \$125

Max additional points: 125

Max prize for track: $400 + 125 = 525$ dollars/points.

Mine

Track access – 500 points

Entrance fee – \$200

Prize fund:

1st place – \$500

2nd place – \$300

3rd place – \$150

Max additional points: 150

Max prize for track: $500 + 150 = 650$ dollars/points.

Camping

Track access – 1000 points

Entrance fee – \$250

Prize fund:



1st place – \$600

2nd place – \$400

3rd place – \$200

Max additional points: 200

Max prize for track: $600 + 200 = 800$ dollars/points.

The X Facility

Track access – 1500 points

Entrance fee – \$300

Prize fund:

1st place – \$700

2nd place – \$400

3rd place – \$200

Max additional points: 200

Max prize for track: $700 + 200 = 900$ dollars/points.

Rancho

Track access – 2100 points

Entrance fee – \$400

Prize fund:

1st place – \$850

2nd place – \$500

3rd place – \$250

Max additional points: 250

Max prize for track: $850 + 250 = 1100$ dollars/points

SS30

Track access – 3000 points

Entrance fee – \$500

Prize fund:

1st place – \$1000



2nd place – \$600

3rd place – \$250

Max additional points: 250

Max prize for track: $1000 + 250 = 1250$ dollars/points.

War

Track access – 5000 points + first position in all of the

Entrance fee – \$1000

Prize fund:

1st place – \$2000

2nd place – \$750

3rd place – \$350

Max additional points: 350

Max prize for track: $2000 + 350 = 2350$ points/dollars.

End the Championship

The Player who takes the first place on the "War" track is considered winner of the R.C. Cars championship.

All of the information on the track access, fee and prize fund is in the Championship Menu.

Championship Menu

To enter the Championship menu from the Main Menu select "Championship". The Championship Menu is comprised of three main screens ("Championship", "Map and Description", "Statistics") and additional control buttons.



Main Championship Screen

Championship Menu, main screen.

The main part of the screen is occupied with the table of championship tracks. Items in the table (left to right):

- Track name.
- Minimal number of points required to gain access to the track.
- Entrance fee per each race, you run on this track.
- Best result you have shown on this track. If the track is unavailable (not enough points), this column will read "---". If the track is available but you haven't run there yet, the line item reads "none".
- Track prize fund (places from 1 through 3).

The top part of the screen shows the player information (rank, total playing time, number of points, and amount of money on the account).

The bottom part of the screen shows additional information on the selected track.

Aside from the "Championship", "Map and Description", and the "Statistics" buttons, the following options are available:

Garage

Opens garage menu (see page 45 for more details).

New Championship

Pressing this button deletes all of the current championship information and starts new championship. This is similar to, say, deleting a player and then creating him/her again. After the completion of this operation, the player account will reduce to \$100 with "0" points, and the only available "Interceptor" car in its basic configuration.

Race statistics and records are not deleted.



Test-drive

Pressing this button allows you to train and learn the track before entering the main championship. You may only train on those tracks that are available to you in accordance with the number of points that you earned. Training is done in three laps against three weak opponents.

To start the race press "Start" or double-click the selected track. Start confirmation and track and participant data dialogue will appear on the screen:



Championship Menu – Race Start Confirmation Window

This window contains the following information:

- Track** Track name (in our example: "Beach").
- First prize** Track prize fund for first place (\$50).
- Player table** List of race participants, information on the used cars and installed upgrades. In our example the Player (us) participates in the race on an "Interceptor" with basic (minimal) configuration, the player "Doc" runs an "Interceptor" with 1st category engine upgrade etc. See page 45 for details on available upgrades.
- Payable** Entrance fee due to start race. This fee is payable each time you run the race (even in the case you interrupt the race and return to the main championship menu). Since the first track requires no entrance fee, the screen shows the value of \$0.
- Balance** The sum remaining on your account after paying the entrance fee.
- Start** Confirm race start.
- Cancel** Back to championship menu.

The second and third screens ("Map and Description" and "Statistics") are completely similar to the respective screens of the single race menu.



Racing in the championship is similar to running in a single race – 5 laps against strong opponents. In the finish dialogue that will appear on the screen after the completion of the championship you will see the information on the results of the race: number of total bonus points and money received. The restart button is toggled off in this mode. To run a race in the championship mode go to main championship menu and start again. At that, a respective racing participation fee is withdrawn from your account to facilitate you part in the game.



If the player following you has not finished yet, it is recommended that you wait for him in the finish dialogue, so that the program defines his final gap. This affects the amount of money/points you get.

Garage

Use the garage menu to buy and sell cars, modifications, change car coating. As a rule the garage is accessed from the Championship. However you may also enter the garage from the single race or ghost race.

In the garage you can buy/sell 3 types of cars:

- Interceptor
- Tornado Buggy
- Hummer

The following upgrades are available for each of the cars:

- Tires (3 upgrade categories)
- Boost (3 upgrade categories)
- Engine (3 upgrade categories)
- 4 body coating types

When you have created a new player you get one car – Interceptor in basic configuration.

Use the money you earn in the championship to buy cars and additional engine, boost, and tire upgrades. Body coating may be changed at any moment of time. Each upgrade somewhat increases the capabilities of your car (individual information on each of the upgrades is available in the Garage Menu).

- | | |
|-----------------------|---|
| Tire Upgrade | Each tire upgrade increases the grip of the wheels, which allows for better maneuvering and turning. |
| Boost Upgrade | Each boost upgrade increases the starting and maximum amounts of turbo units that your car may acquire. |
| Engine Upgrade | Each upgrade increases the speed gaining and maximum speed characteristics of your car. |



Buying/selling of cars and upgrades is regulated by the following rules:

- At any given moment of time you may sell or buy (provided you have sufficient money on your account) any car.
- Upgrades have to be purchased in their running order. For instance if you want to purchase third-category tire upgrade, you will have to subsequently purchase first-category upgrade, second-category upgrade, and third-category upgrade. Selling of upgrades is carried out in reverse.
- You can only sell cars and upgrades at 90% of their initial cost.
- When you sell a car, all of the upgrades installed on it will be sold automatically.
- Selling a car is prohibited if after selling it you will have less than \$1000 on your account which is the buying price of the cheapest car – Interceptor.

More on buying and selling upgrades in the Garage menu:

Garage Menu

You may enter the garage menu from the championship, single race, or ghost race menus.

The garage menu consists of four screens. In the first screen ("Car Select") you may select one of the three available cars, sell or buy them, or change coating. In the second, third, and fourth screens ("Boost", "Engine", and "Tires") you may install or remove upgrades for the currently selected car.

To go back to the menu from which you have enter the Garage press "Back" or "Start". In case the currently selected car in the Garage has not been purchased by you, these buttons may be blocked. See "Car Select" for more information.



Car Select



Garage – "Car Select" screen.

The "Car Select" window contains the following information:

Money	The current amount on your account.
Car	This switch allows you to select one of the three available cars. The following text may appear over the car image: <ul style="list-style-type: none">• "Access Denied", if the car has not been purchased and you do not have enough money to purchase it.• "Car for Sale", if the car has not been purchased, but you do have enough funds to purchase it.
Coating	Pressing this button allows you to select one of the four available coating variants.
Purchase Car	Pressing this button allows you to buy the car.
Sell Car	Pressing this button allows you to sell this car. See page 49 for more details on buying and selling cars.

On the right side of the car you can see its brief characteristics. In the bottom part of the screen you will also see the list of currently installed upgrades. If you have not bought this car yet, the "Boost", "Engine", "Tires", "Coating" and "Back" buttons will be blocked. To unblock the "Back" button you must select a car that you have purchased. This car becomes the current in the race from which you have entered the Garage. Please note, that when you buy a new car, your old car remains at your full disposal. If your current car (the one that I selected on this screen) is not, in your opinion, the most suitable choice for completing this or that track, you can change it to any other car, that you have in possession. To do that select the require car in the "Car Select" screen.

Boost



Garage – Boost Screen

In case you have bought the car, you may select the "Boost" screen. This will change the game window in the following way:

- Car select switches will be blocked (upgrading is only possible for the currently selected car).
- In the bottom part of the screen you will see the list of modifications available, their costs, and short characteristics.
- The "Buy car" and "Sell car" buttons will be replaced with the "Install" and "Uninstall" buttons.

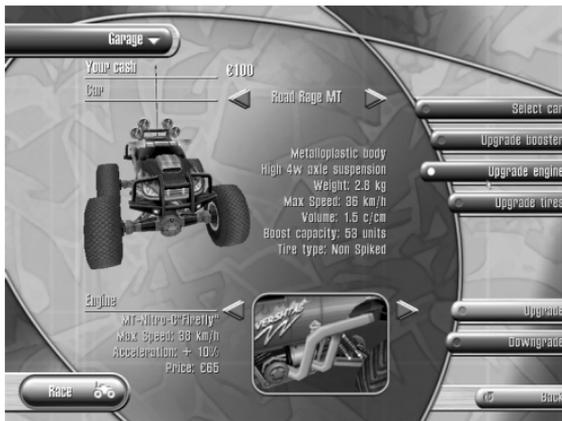
You may choose the upgrades using the "Boost" switch. If an upgrade can be installed on your car you will be able to press the "Install" button. If an upgrade can be sold the "Sell" button will become available.

See page 50 for more details on buying and selling upgrades.



To return back to the Car Select menu from the "Boost" screen do not press 'Back' or you will be taken to the menu of the race from which you have entered the Garage from. Instead press "Car Select" in the top right corner of the screen.

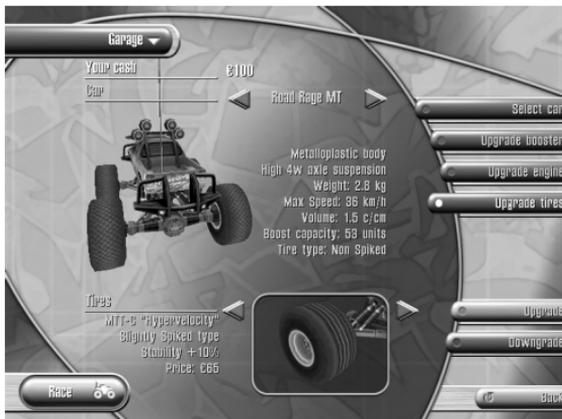
Engine



Garage – Engine Screen

The "Engine" screen is completely similar to the "Boost" screen, For more information turn to "Boost" screen description or "Buying and Selling Upgrades".

Tires



Garage – Tires Screen

The "Tires" screen is completely similar to the "Boost" screen, For more information turn to "Boost" screen description or "Buying and Selling Upgrades".



Buying and Selling Cars

R.C. Cars has three cars available for you to choose from:

- Interceptor (RR).
- Hummer (WH).
- Tornado Buggy (TB).

From the start of the game you will only have one car: Interceptor. You may buy or sell cars at the following prices:

Car	Purchase Price (basic configuration)	Sell Price (basic configuration)
Interceptor	\$1000	\$900
Hummer	\$1250	\$1125
Tornado Buggy	\$2000	\$1800

In all of the cases the sell price of a car is 10% less than the purchase price. If the car has some additional upgrades installed the price will be higher, but still less than the price of a new car with upgrades.



Selling a car is prohibited if after selling it you will have less than \$1000 on your account which is the buying price of the cheapest car – Interceptor (\$1000).



You may purchase all three cars, but you cannot have two cars of the same type.

Buying and Selling Upgrades

Each of the cars supports upgrades that will improve the technical characteristics of your vehicle. Each of the vehicle types may have three categories of upgrade three modification classes in each:

- Boost upgrade
- Engine upgrade
- Tire upgrade

When you purchase a new car it is sold to you in its basic configuration without any additional upgrades (see above). The installation of all additional upgrades is regulated by the following rules (see also page 45):

- For you to be able to install the next class upgrade, the car must have the upgrade of the



previous class installed on it. That is, a car in basic configuration can only have the first class of boost upgrade installed onto it. After you have purchased the first class upgrade, second class upgrade becomes available for this category. Second class boost may be then upgraded to third class boost.

- Selling upgrades is carried out in reverse order. If you have third-class tires installed on your car, to leave the car in basic configuration you have to first consequently sell tires of the third, second, and first classes.
- Upgrade sell price is 10% lower than the purchase price.

Car: Interceptor, available upgrades:

	Boost	Engine	Tires
Upgrade class 1	\$ 50	\$ 65	\$ 45
Upgrade class 2	\$ 190	\$ 290	\$ 210
Upgrade class 3	\$ 520	\$ 730	\$ 450

Thus the purchasing of the third-class boost will cost you $\$50+\$190+\$520 = \760 .

This pattern is similar for all the other upgrade categories.

Car: Hummer, available upgrades:

	Boost	Engine	Tires
Upgrade class 1	\$ 170	\$ 210	\$ 280
Upgrade class 2	\$ 430	\$ 775	\$ 510
Upgrade class 3	\$ 710	\$ 1290	\$ 950

Car: Buggy, available upgrades:

	Boost	Engine	Tires
Upgrade class 1	\$ 220	\$ 175	\$ 210
Upgrade class 2	\$ 520	\$ 790	\$ 380
Upgrade class 3	\$ 890	\$ 1325	\$ 690



Multiplayer

In the Multiplayer menu you will be able to choose from the following two game types:

- Two-player race – two player on one computer in split-screen mode, with each player controlling the car using keyboard or joystick.
- Network game – playing with your friends on the local network or via remote network connection.

In this mode you will be able to choose between two commands – "Create Game" and "Connect to Game". See details in the respective section.



Two-Player Race

The Two-Player Race runs in split screen mode. Each of the players controls his own car with keyboard or joystick.

There're two types of two-player race:

- Standard race for a certain number of laps. Whoever finishes first – wins.
- Breakaway. In this race mode the player must breakaway from the opponent at a certain distance. Whoever breaks away from the opponent at a certain distance and keeps that distance for 5 seconds – wins.

In the Two-Player Race you will get access to all of the tracks and cars with all upgrades. Players participating in a two-player race are always tagged Player 1 and Player 2.

No references to currently selected player data are made, the best lap records of both players are not saved, player images are not used. Check the "Two-Player Race Menu" for more information.



If the configuration of your computer is lower than recommended the system may slow in two-player mode. See "Program Settings" and "Troubles with Video" for more information.

Two-Player Race Menu

You may access the two-player race menu by selecting "Two players" from the Network Race menu. The race menu consists of two screens that consequently replace each other:



Two-Player Menu – Race type and track setting screen

The following commands are available to the player on this screen:

Select Track All of the tracks are available for two-player race. Select the required track using the arrow buttons on the left and right sides of the level-image.

Race Types Race type selection. 2 race types are available:

- Standard race (finish a set number of laps)
- Breakaway (unlimited number of laps, until one of the players breaks away from another for a certain distance)

Depending on the race type the second parameter will change: "No. of Laps" or "Distance".

Number of Laps If you have selected standard race you may specify the number of laps to go (1 through 5).

Distance In case you have selected Breakaway, you may set the distance for the breakaway. Following distances are available:

- 200m (about 1/3rd of the majority of tracks)



- 400m (about two thirds of the majority of tracks)
- 600m (about one lap)

Additional screens: "Controls" and "Layout" are intended for checking the settings and controls for the first and second cars. They are fully mimicking the "Controls" and "Layout" screens in the "Program Settings".

To continue setting the race for two players, press "Next". To return back to the Network Game Menu press "Back".

When you press "Next" you will be forwarded to the two-player race set-up screen.



Two Player Menu – Car Set-up Screen

In the player set-up menu you will be able to select the cars for the first (upper) and second (lower) players, updates for them, and change the coatings. You will have access to all of the cars and upgrades to them.

To begin race press "Start". To go Back to the previous screen press "Back".

Two-Player Race

After the track loads images of the first and second players will appear on the screen. The screen appearance for both race types is largely the same, with several minor differences.

If you load the standard two-player race:



Two-Player Race – Standard Race Mode

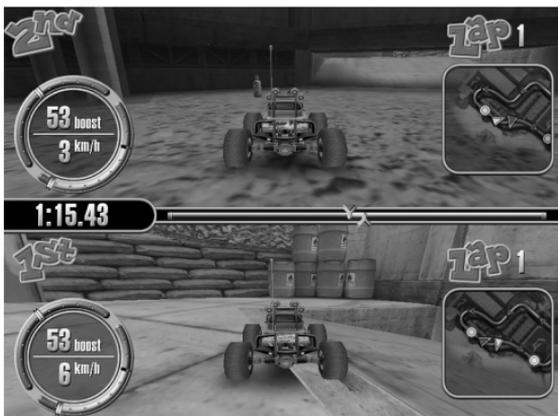
In the center of the screen you will see a graphic indicator of player positions on track. The left position indicates start, right position indicates finish. Each lap is marked with additional marks. The position of the first (upper) player is marked up with upper red marker, the position of the second (lower) player is marked up with lower red marker (see figure below):



Player position indicator

The race ends after both players finish the required number of laps.

If you have started the "Breakaway" race:



Two-Player Race – Breakaway Mode.



When both of the cars are next to each other, both of the player position indicators (in the central part of the screen) are located in the center. When one of the players start outrunning the opponent this player's indicator will shift to the right (while the other player's indicator will shift to the left). The full width of the indicator zone represents the breakaway distance that you have set (200, 400, or 600m.) As you can see in the figure the second player leads and that the distance between him and the other player is approximately half the required breakaway distance. In order to win the game you must outrun the other player so that both of the indicators each the opposite sides of the bar and stay like that for 5 seconds. After that the race is stopped.



If a player skids away from the track or goes through a shortcut slight fluctuations of the position indicators are possible.

Press "Esc" to enter the options menu. This menu is similar to that of other race types, with a series of slight differences:

- Controls (joystick sensitivity and dead zone) are blocked.
- The "back to track" button is blocked. To go back to the last checkpoint both players may use the "back to track" keyboard-control combination (Default key for Keyboard Layout 1 is "R").

After the race is completed the finish menu will appear on the screen. 2 buttons are available in this menu:

- "Quit" – end race and go back to main game menu.
- "Restart" – restart race on this track again.

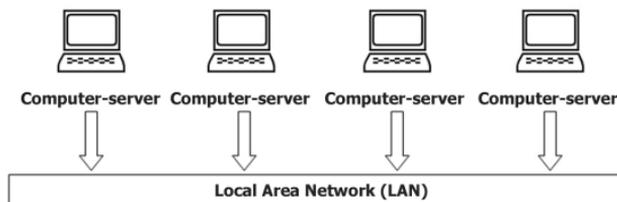
Network Game

To play against your friends on the network, your computer must have a network-card installed (for LAN-connection) or a modem connection to the Internet Provider. In both cases the network game is regulated by the following rules:

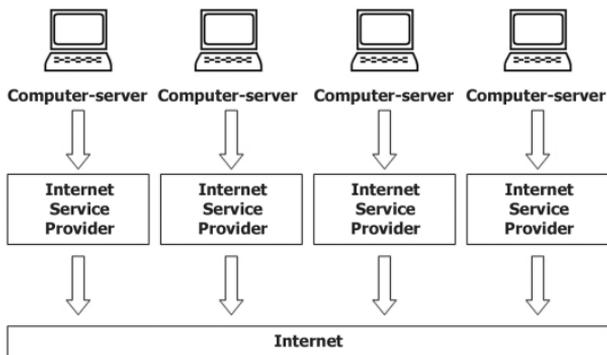
One of the participating computers is determined as the game-server. Any of the players may become a server-host. All of the other players will connect to this computer as clients.



For best results we recommend assigning the server task to the most powerful computer that has the best Internet connection.



Network Game Configuration 1- computers connected in a LAN



Network Game Configuration 2 – players connected to Internet through an ISP and connect to each other via the net.

The player operating the server-workstation participates in the race along with other players (clients). Moreover the server-player has more capabilities than other players. He selects the tracks, starts the race, has the right to delete any of the players, or even restart the game. See "Additional requirements for the player who creates a new game".

To create a game-server, select "Create Game" from the "Multiplayer Menu".

All of the other players (clients) will select "Connect to Game" from the "Multiplayer Menu".

! The game does not establish a connection with the Internet. To start a network game or connect to an existing network game, you should connect to the net via your ISP.

Creating a Network Game

When you select "Create Game" from the Multiplayer menu the next menu opens.



Creating a Network Game (main menu)



The following parameters are available in this menu:

Server Name	Server description. This name will be indicated in the server table on the workstations of the players who will be connecting to the game.
Port Number	The number of port that will be used for data exchange. As a rule you should leave this field blank. In the case when the use of the port is blocked with special applications or by your ISP you will have to choose the special port number. See "Network and Modem Connection Problems" for more information.
Protocol	Selection of protocol. Currently supports TCP/IP only.
Maximum Lag	This parameter is used to limit the maximum list of players connected to the server. Those players whose response time to server queries exceeds the set limit will not be able to connect to the game.
Maximum Players	This parameter limits the maximum number of players.
IP Address	A data field used to create a network game through an ISP. The field shows the address of the game server specified by the ISP for the current connection. This number should be used by the players connecting to the remote game server. See Connecting To Network Game for more details. In case the workstation supports multiple connections (for example through several different ISPs) the IP address field will show several addresses (a maximum of 3). The players connecting to your computer will have to manually select from the proposed IP-addresses to connect to the game-server.
Connection Quality	Sets the connection quality. This field has 5 available positions: <ul style="list-style-type: none">• Bad – server connected to network via an analogue modem with a maximum speed of 30000 bps (30 KBps).• Poor – server connected to network via an analogue modem with a minimum speed of 30000 bps (30 KBps).• Middle – server connected to network via cable modem (ADSL, SDSL etc.)• Good – server connected to network via ISDN.• Excellent – server and game workstation are connected in a LAN.

Depending on the connection quality the maximum number of player will be limited to:

- Maximum of 2 players – for bad connection type.
- Maximum of 3 players – for poor connection type.
- Maximum of 6 players -for other connection types.



In case of bad and poor connection quality the server is severely limiting the amount of transmitted data. As a result the cars of the players may drive through each other or "drop" through the floor and walls, while balls, cans, and other objects may be located in different places on different workstations. This is not a program error but rather a consequence of poor quality connection.



In the case when the computers are connected in a LAN you may be required to change the connection quality from "excellent" to "good". This should be done when the server workstation configuration is lower than the recommended.

Second screen – "Player Data" – allows to set additional information on the player. Later on you will be able to change your own data in the "Waiting for Other Players" window.



Create Network Game – Player Data Screen

The following parameters are available in this screen:

- Network Name** The name of the player that will be displayed to other participants of The network race. By default it will be the same as the main player name.
- Message Color** The color of messages that will be used for chat (while waiting for other players, during the race, and after the finish).

To create a server press "Create". After that you will enter the "Waiting for other Participants" dialogue.



If the remote network connection setting on your computer indicates that the IP address is set automatically, then in case the connection breaks, you may have a new IP address after reconnecting.



Connecting to Network Game

To connect to a network game use the "Connect to Game" menu: This dialogue contains three screens: "Network Options", "Player Data", and "Server Data".

Network Options



Connect to Game – Network Options

The following fields are available in the "Network Options" screen:

Server Name

The data input in this field depends on the connection type.

- If you play through LAN only leave this field blank, so that it finds all the network servers created within the LAN. You may also enter the first few letters of the server name to reduce the search field.
- If you connect to an Internet game, type in the IP address of the game server in this field. This address is shown in the "Network Options" screen on the game-server workstation. The format is number-dot-number-dot-number-dot-number. For instance 192.168.0.10. This address (if it is not known beforehand) must be transferred to the computer, connecting to the server. For instance via ICQ, email or other service.

Protocol

The protocol used. Currently only supports TCP/IP.

Port Number

This field must input the same data as the game-server. As a rule this field is left blank ("by default"), except for special cases. See more details in the "Problems with Network and Modem" and "TCP/IP Connection Security".



After the "Server Address" and Port Number" parameters have been set, press "Refresh". The program will search for available servers and list them on the screen.

The table shows the following server parameters:

- Server Name
- Name of Currently Selected Track
- Number of Laps
- Number of Players (current/maximum)
- Maximum Allowed Response Time for Connecting Players

Additional server parameters are shown in screen 3: "Server Data".

Use the "Player" button to sort the list of servers by the selected column. Pressing this button will sort the servers by the following columns:

- Players
- Laps
- Track Name
- Maximum Lag
- Server Name

In case the list of servers is empty see "Problems with Network and Modem".

To connect to a selected server:

- Double-click on the server name in the table

or

- Select the line with the server name from the list and press the "Connect" button.

To connect to a server press the "Connection" button. If there are too many players connected to the server or the data exchange lag is not compliant with the server-set limits, you will not be able to connect to the game. If you successfully connect to the server you will enter the "Waiting for Other Participants" screen.

Player Data

The second bookmark contains player parameters. This screen is entirely similar to that of the "Create Network Game" dialogue.

Server Data



Connect to Game Dialogue – Server Data

The third bookmark contains additional server information. It is only available if one of the servers from the list has been selected. This bookmark shows the following parameters:

- Server Name
- Number of Players (overall / max.)
- Track Name and Number of Laps
- Data Exchange Lag between Server- and Client-workstations
- Current limitations for Race Participants' Cars

Waiting for Other Participants

You will enter the "Waiting for Other Participants" window after creating a network game, or connecting to an existing game server. This is the main menu before the race starts. Before starting the race all of the players must perform the following actions:

- o Agree upon the track for the race and the number of laps with the server through chat.
- o Set-up their cars.
- o Inform the server of their readiness to start the race.

The network game envisages the possibility to use any car with any installed upgrades. However the server may set additional limitations on the types of cars and upgrades that can be used. If these limitations are set (for instance the sever prohibits to drive a Hummer or use 3rd-class upgrades) the server will not be able to start the game until all of the players set the



correct parameters for their cars.

The "Waiting for Other Participants" dialogue contains five screens.

General



Waiting for Other Participant – General

The main screen of the "Waiting for Other Participants" menu is "General". Here you find the following information:

- In the central part of the screen you will see the list of connected players (including the server-player). The table shows (left to right): car color icon, player name (with his chat message color), name of player car, boost, engine, and tire upgrade parameters, current player status (see below).
- Name of currently selected track and number of laps. ?These parameters may only be changed on the game-server workstation.
- Chat window, and message input field. Players can exchange messages. Any message input by the player, will be shown on all of the computers connected to the game server.

Message exchange (Chat) – this is one of the key features of the Network game. You may chat in the "Waiting for other Participants" dialogue, during the race, and after the race. Aside from the messages that you send yourself, there is a series of messages that are generated automatically. In order to be able to tell them from the player-generated messages, remember the following differences:

- The player-generated messages appear as "Player Name > Message", at that the name of the player and the ">" sign are typed in the color the player has set for his/her messages (when the game was created, connected to the game, or in the Chat window). The text of



the message itself will be typed in white.

Player> Okay what track we'll be racing at?

- the server generated messages appear in whit types. They do not have the ">" sign or player name. A more detailed list of automatic messages is given below.

Server changed track. New track: Beach.

In the bottom left corner of the screen client-players will see the "Ready" button. By pressing this button you will inform the server that you have finished setting your parameters and is waiting for the server to start racing. Until the player presses this button his status in the last column of the player table is indicated as "Unready". As soon as the player presses the button his/her status is changed to "Ready" and all of the other players will receive an automatic server message:

"Player name" ready to race.

In the bottom left corner of the server screen the player will see the "Start" button. By pressing this button the server starts the race on all of the workstations connected to the game.



The server will not be able to start the race before all of the players confirm their readiness (by pressing "Ready").



After you have pressed the "Ready" button, be ready that the game may start any moment now. Changing the car or program settings after pressing the "Ready" button is not recommended.

Map and Description

The second screen of the "Waiting for Other Players" screen is similar to that of the standard race, however instead of the screenshot list you will find the chat field and the message input field (same as in the first screen). Only the server-player may change the current track. If the server changes the current track (in the "Map and Description" or "Race Settings" menus), all of the players will receive a server chat message:

Server changed track. New track: 00000000.

If the server changes the number of laps, all of the players will receive a server chat message:

Server changed number of laps. New number of laps: 00.

Garage



Waiting for Other Players Menu – Garage Dialogue

The third "Waiting for Other Participants" dialogues allows the players to set-up their own cars. You may select any car and any set of upgrades for it however the server may set certain limitations on the use of cars and upgrades (See "Limitations screen"), so before tuning your car, we recommend that you look at the "Limitations" screen to check what cars and upgrades may be used in the network race. If your car does not correspond to the requirements, and you try to press the "Ready" button the following message will appear on the screen:

Car does not comply with requirements.

You will not get the "Ready" status. You must change the settings of your car or address the server through chat to change the limitations.

! You may see the current car limitations even before you connect to a network game. Select bookmark 3 ("Server Parameters") to check for the set car limitations.

When you change the car settings, all of the players will receive an automatic message:

"Player name" has changed the car settings



Chat



Waiting for other Players – Chat

The fourth screen of the "Waiting for Other Players" dialogue will allow you to see the whole chat history. The most part of the screen is occupied by messages from server and other players. The screen has scrollbars so that you can scroll through the chat history. To browse through chat history move the scrollbars with mouse. Also in this dialogues you will be able to reset the color for your messages and your network name (initially you have set them in the "Create Game" or "Connect to Game" dialogue). When you change your message color the rest of the player will automatically receive a server-message:

"Player name" has changed message color

If a player changes his/her name, the rest of the game participants will receive an automatic server message:

"New player name" changed name



You can only browse through those message sin the chat that were input after you connected to the game.

Limitations



Waiting for Other Participants Dialogue – Limitation Screen

The fifth screen informs you of the server-defined limitations for the race. The server player may browse through and change the car access limitations. The client-players may only browse through the limitations. If the server changes the limitations the players will automatically receive a server message:

Car limitations changed on server

! If some of the player cars do not correspond to the server-defined limitations the race will not start, even if all of the players are ready to race.

Settings

After all of the bookmark-buttons you will see the "Settings" button. You can view and change the program settings, without exiting to main menu (and thus without breaking the connection with the server).

! While you are in the settings menu the chat messages will be unavailable.

! We recommend that you check you game settings before pressing the "Ready" button. Otherwise the server may interrupt your settings at any moment by starting the race.

When checking the settings we recommend that you pay special attention to the "Phrase Anchoring" bookmark. You will be able to send these messages to all of the game participants using keys "1" through "7".



Network Race

Starting a standard network race is only different from starting all other race types in the way that before countdown starts a server synchronization message will appear on the screen. This is due to the fact that loading speed on different computers may vary, while all players must start at the same moment.

 **In the first several seconds after the start of a network race (if there're more than 4 cars participating in the Race) sharp drops in program performance and connection quality are possible. This is caused with the necessity to process a large amount of data concerning the collision of several cars at once.**

During the network race additional limitations are enabled:

- The pause "Button" is blocked for all players.
- Entering the In-Race Menu (by pressing Esc.) is possible, however entering the menu does not pause the race. Your car will continue to move as if you have let go of all of the controls. Players on other workstations continue to control their cars as before.
- The "Restart" button is only available on the server workstation. Pressing this button will move all players back to the start position and the race starts anew. We recommend that the server player reads the "Additional Recommendations" section.
- All of the players have access to numerical keys "1" through "7". You may assign certain messages to these keys in the program settings, which will then be transmitted to all of the race participants.

The network race takes place on the server-defined track and for the -server-defined number of laps. After a player completes the race he is forwarded to the End Network Race Menu.

End Network Race

After completing the network race the player is moved to the finish window. Here the client-player can only press one button: "Disconnect". Pressing that button breaks the connection with the server and the player enters the main game menu. The server-player has access to three buttons::

- Restart – run the network race again with the same players and on the same track with the same number of laps. If by the time the "Restart" button is pressed some of the players have not finished their race yet, they will still be moved to the start position automatically and start anew.
- Disconnect – disconnect from the game. The connection between all of the other race participants will automatically break as well.
- Race menu – all of the race participants (including those who have not finished yet) will be



moved to the "Waiting for Other Players".

In addition to the above, the finish menu also contains the chat window which the players may use to send messages to each other. Those players who have finished already will see these messages in the Chat field. Those players who are still racing will see the messages in the left part of the screen (under the list of race participants)

In the network race you may also watch other cars. To do that click on the player list. The dark background of the screen will turn transparent and you will be able to see how the other participants of the race proceed.

To turn the dark background back on simply click on another control element (Chat field or buttons).

Additional Recommendations

The player who creates a new network game has a series of advantages compared to the client-players. It is he who sets the race settings, sets car limitations, he may delete any player, start and end race. In order for the game to be interesting for all of you, try to follow our recommendations:

- Never change the game settings (track, number of laps, limitations) without consulting other player through chat.
- Do not change the game settings after all of the other players (or part of the players) have confirmed they were ready to race.
- Run the game only after all of the players have switched their status to "Ready". Wait for some time to give everyone the last chance to check their settings and car parameters. Before starting the race send a chat message "Race starts in 10 seconds..."
- Try not to overuse the "Delete Player" function. It is better to explain to the player that he should disconnect himself using chat.
- Do not press "Disconnect" or "Restart" buttons in the process of the race, even if you have made a serious mistake and fallen behind all of the other players. By pressing the "Disconnect" button you will stop the game on all of the client-computers, and by pressing the "Restart" button you will restart the race for all of the players.
- After you have finished the race do not rush to press all of the buttons in the finish menu. Wait for other players to complete the race. Otherwise you will end their game before they get to the finish-line they're craving for.
- Select "Restart" or "Race Menu" only after concurring with the other race participants. To do that you can use chat in the finish menu.
- Press "Disconnect" only after all of the other game participants have disconnected from server.



- Input anchored messages in advance (in the game settings). You will be able to use them in the process of the race to coordinate the actions of other players or even chat with them, if you have not finished the race yet, while the rest of them have.

Good luck to you and your friends!

Additional User Capabilities

This section is devoted to the additional functions implemented in "R.C. Cars". It will help you expand the standard capabilities and personalize the game elements.

The section describes the following game features:

- Adding you own images for you player. You may insert your own photo into the player data file.
- Processing player data files. You may store you player data file and use it on any computer on which you run the game. The race statistics are stored together with the player data file. Compare your top-scores to the top-scores of your friends!
- Ghost race records. Let your friends compete against your best laps. These data files are saved automatically in the process of the ghost race. (Traffic mode).
- Extended program settings will help you setup the game for best performance and graphics.

Adding Your Own Images

When creating a player you will be able to use one of the standard images. You may also use your own image (for instance, your photo). The list of images is stored in the Faces directory. All of the images are is TARGA Truevision (.tga) format. The size of each image is 128 x 256 pixels, the file must contain four channels (3 color channel and one alpha channel). To get access to this press "Start" – "Programs" – "R.C. Cars" – "Directories" – "Image Directory".



Example of Player Image (MCJocker.tga)



In order to create your own image use the special image (located under the path Example\Example.tga). You may open this image using any graphic editor that supports tga-format, put your own image (for instance a scan of your photo) over it, and save the file into the Faces directory. After that restart the game. The newly created image will be available in the "Player Options".



Player Image Example (Faces\Example\Example.tga)

For a more detailed instruction on creating and editing images consult your graphic editor manual. The images provided with the game were created in Adobe Photoshop 6.0.

More on player selection and changing the player image in Player Options.

The Faces catalogue may store up to 12 images.

 **After you have created a new player and selected a special photo for the player, the image of that player will be stored in the player data file. After the player is created and you go back to the main menu from the Player Options window, you may delete the additional photo from the Face directory.**

Player Data Files

When you create a new player, all of the information about him/her (image, best race statistics, purchased cars and upgrades, championship results) are stored in the player data file. These files have an .scp extensions and are stored in the Players directory.

If the name of the player is typed in English, the filename will be the same as player name. If the player name is typed using other national layouts or if it has special symbols the file name will be chosen randomly.

If you want to use the player data-file on different computers that have R.C. cars installed on them, do the following:



- From the main Windows menu select "Start" – "Programs" – "R.C. Cars" – "Directories" – "Player Directories".
- Select and copy the necessary player data-file.
- On the second computer from the main Windows menu select "Start" – "Programs" – "R.C. Cars" – "Directories" – "Player Directories".
- Paste the copied player data file.
- Start (or restart, if it was already running) R.C. Cars on the second computer. Your player will appear in the "Player Options" menu.

Copying player data files to other computers may also be used in order to compare the player top-scores in the "Statistics" section. All of the Player data files are loaded into the program memory when you start the game and are shown in the statistics screens of the single race, ghost race, and championship.

The Player data file will contains the following statistics:

- Number of points acquired by the player in the championship.
- Best lap time (on all of the ten tracks); these parameters are gathered for racing in championship, single race, and ghost race modes.
- Best race time for 3, 5, or 7 laps (on all of the 10 tracks); these parameters are gathered for racing in championship and single race modes.



The maximum number of player data files is limited to 20.

Ghost Race Record Files

When you start the Ghost Race (in the traffic mode), on each lap you will be competing against three ghost cars that have the best lap times. These are "RR-ghost" (Interceptor), "TB-ghost" (Tornado Buggy), and "WH-ghost" (Hummer). If your lap time is better than that of the ghost-car your own lap is recorded into the ghost record data file.

The ghost race record data files are stored in the GhostRecords subdirectories under the names track#_car1.scg, track#_car2.scg or track#_car3.scg (for Interceptor, Tornado Buggy or Hummer respectively). These files are stored in the following subdirectories:



Subdirectory Name in GhostRecords	Directory Level	Filenames
Track1	Beach	Track1_Car1.scg Track1_Car2.scg Track1_Car3.scg
Track2	Village	Track2_Car1.scg Track2_Car2.scg Track2_Car3.scg
Track3	Fort	Track3_Car1.scg Track3_Car2.scg Track3_Car3.scg
Track4	Air Defense Base	Track4_Car1.scg Track4_Car2.scg Track4_Car3.scg
Track5	Mine	Track5_Car1.scg Track5_Car2.scg Track5_Car3.scg
Track6	Camping	Track6_Car1.scg Track6_Car2.scg Track6_Car3.scg
Track7	X Facility	Track7_Car1.scg Track7_Car2.scg Track7_Car3.scg
Track8	Rancho	Track8_Car1.scg Track8_Car2.scg Track8_Car3.scg
Track9	ÑÑB30	Track9_Car1.scg Track9_Car2.scg Track9_Car3.scg
Track10	War	Track10_Car1.scg Track10_Car2.scg Track10_Car3.scg



You may exchange ghost car record files with your friends. In order to do that simply copy the required record file to the specified subdirectory on another computer. In more detail:

- From the Main Windows menu select "Start" – "Programs" – "Cars" – "Directories" – "Ghost Record Directory".
- Consult the table to select the directory with the level that you require (track#)
- Select ghost car record file (track#_car1.scg, track#_car2.scg or track#_car3.scg respectively).
- Transmit the record file to another workstation (for instance via email or on a floppy disk).
- Open the required catalogue on another workstation ""Start" – "Programs" – "Cars" – "Directories" – "Ghost Record Directory" and then proceed to the directory of the required level
- Copy the received data file into this directory (if necessary replace the existing data file).

After this operation you will be able to compete against the record file of the ghost-car on this computer.



Copying the ghost car record data file to the other level directory may lead to unexpected results.



The exact time of ghost car lap race may vary by centiseconds from lap to lap. This is not a program error, and is depending on the computer speed and current system performance rate. For instance lap-time may change in case some additional tasks (e.g. printing) are running in the background or if there is a large number of applications running on your computer.

Extended Program Settings

This section is devoted to setting up the following parameters:

Additional controls

Program Settings – Additional Video Settings

Changing System Configuration

Additional control keys.

The Alt+Enter key combination switches between display modes (window – full-screen) in the menu and during the race. If you want to use the "Alt" and "Enter" keys for car controls and do not want to them to conflict with the display toggle you may block this combination of keys (see below). In the process of the race you can save the track image (screenshot). To do that press F7. The screenshot will be saved under the name of shot0001.tga (then shot0002.tga etc.) to the program installation directory.



When you run the program again the new screenshots will be saved in the same order replacing the previously save files.



Program Settings – Additional Video Settings.



Settings Menu – More

In this window you will be able to change the following parameters:

- 3-Linear Buffer** Enables the use of three-linear buffering. With modern videocards that have a large memory volume 30linear buffering will allow for smoother and faster image changing.
- Lightmap Brightness** Controls the brightness of additional shadows on the surface. Enabled only for middle and high rendering quality modes.
- FPS Rate** Controls the maximum FPS (Frame Per Second) rate, that will be achieved in the game. If you select "Max" for this parameter the FPS-rate will reach its maximum capacity (depending on your computer). Selecting a limited number (for instance 60FPS) will allow to reduce the loading of the central processor unit and avoid sharp drops in FPS-rates when moving from one track section to another. Setting the maximum FPS-rate may conflict with "start game in window" and "frame change flyback wait" settings. For instance if you turn on the frame change flyback wait mode and set the FPS-rate at 50, the screen refresh ratio will only be FPS 30.

Changing System Configuration

If encounter problems starting the game or if you want to improve the image quality, you can turn to the game system configuration editor. To start the editor:

- Select "Start"-Run".
- In the command line type in "Installation directory\RCSetup\RCSetup.exe < config", where the "Installation Directory" – is the directory to which you have installed R.C. Cars.



System configuration window will appear on the screen:



Checking incorrect values in the system configuration editor may lead to program failure or incorrect performance. In this case you will have to delete the game from the computer, and reinstall it.

In this window you can change the following parameters:

Use asynchronous data input from keyboard and joysticks.

If this mode is on the system reads the main input devices independently from the main program. Switching this mode off makes the program more reliable, however short key clicks may then be ignored by the system.

Switch on additional filters between mipmaps levels.

This parameter allows smoothing between the mipmaps levels (for MIPVcards). Supported only by latest generation cards.

Waiting for Flyback on Frame Change.

This parameter makes the program wait for Flyback on a frame before image output. When this box is checked visual artifacts (such as the top part of the screen being one frame, and the bottom parts of the screen being the shifted next frame) will disappear, however graphic output rate becomes multiple to image refresh frequency. This may cause sharp performance drops (with the game showing a 80 FPS ratio, and then dropping to 40 FPS). This parameter only affects the full-screen game mode.

Waiting for Video-card readiness for next frame output.

This parameter makes the system wait for the videocard to become available for new data input. This slows the frame output ratio but allows to avoid the situation when the is slow to respond to user commands ("soaped" movement)

Using Alt+Enter to switch between Full-screen and Window modes.

This parameter enables/disables using the above key-combination to switch between display modes.

DirectSound System Initialization.

This parameter blocks the sound system initialization. All sounds and sound setting parameters will be disabled.

IMediaControl System Initialization (MP3 background music).

This parameter blocks the background music playing initialization.

DirectPlay System Initialization (Network).

This parameter blocks the network game support system initialization

Allowing Gamma-application to Display Settings.

Some of the drivers would incorrectly process the "Gamma" properties (up to "stucking" the



computer). Gamma changes may be blocked using this setting.

Enable Anisotropic Filtration.

This parameter enables the anisotropic filtration feature (supported only by new generation videocards).

HW fog.

Disabling this parameter may correct the problems pertaining to fogging table use.

Allow using compressed textures.

Disabling this parameter will prohibit the use of compressed textures. If a videocard does not support texture compression some of the textures on the tracks may appear incorrectly. When you disable this function it is also recommended to reduce the texture quality in the program settings by one point.

Screen Refresh Frequency.

This parameter allows to set the screen refresh frequency in full-screen mode.

Mouse double-click speed:

In this field you may set the time during which sequential mouse button clicks is understood as a double-click. The default double-click speed equals 300milliseconds (0.3 seconds)

Videocards and DirectX Drivers

In order to run the game your computer must have special equipment installed on it. A videocard that supports hw 3D graphics output. As a rule most modern computers have a videocard, installed directly into the motherboard. Such a videocard cannot be used for the game. It has too little RAM and its graphic output capacity doe not correspond to that required by the game. In order for the game to run successfully on a computer and show a good ratio of graphic output, you computer must have a special videocard installed on it. The list of supported cards is given in the "System Requirements". The videocard must have a minimum of 16MB RAM. Since there is a large number of different types of videocards the game does not support direct operation with videocard, using special Microsoft DirectX driver libraries. In order for the game to run correctly the computer must have DirectX 8.1 or higher version drivers installed on it. The set of DirectX drivers is to be found on the game CD or on the Internet (<http://www.microsoft.com/windows/directx/default.asp>) or <http://www.microsoft.com>. The DirectX drivers are not only used for videocard interface. They also support the operation of the soundcard, modem, and other input devices (keyboard, joystick, etc.

When you install the game the installation program checks for and if necessary updates the DirectX drivers. Additional driver installation may be required if during the instillation of the game you have refused from DirectX updates or if after the game was installed changes have occurred in the system configuration.



To update the DirectX drivers, using the R.C. Cars CD do the following:

- Insert the game CD into your CD-ROM drive.
- If the computer autoruns the program, select "Microsoft DirectX Update".
- If the computer does not run the program automatically, select "Start" – "Run" from the main Windows menu.
- In the dialogue that opens type in "D:\DirectX81\dxsetup.exe", where "D" corresponds to your CD-ROM drive designation.
- Press "Ok".
- Confirm the licensing agreement by pressing "Yes".
- Press "Install".
- If necessary – restart the computer.

TCP/IP Connection Security

Many Internet Service Providers (ISP) and local network administrators install additional security systems on TCP/IP and other connection types used in the Internet and Intranet. These systems (Firewall for instance) are primarily designated for blocking unsanctioned access to your computer. The TCP/IP connection goes through special ports. These ports have their own tag-numbers from 1 through 65536. Such Internet connection types as page browsing you one port, email uses another, file download from the Internet uses a third port, etc. The security program may block all of the other port numbers to prevent unsanctioned computer connection, including blocking the number of port used by R.C. Cars in the case when the port-number field in the network game settings is set to default. If your ISP or LAN administrator have such a system installed the computers may not "see" each other. In order to bypass the security system, you will either have to switch the security off (as a rule most systems allow to provide access per each individual port-number), or select a different port-number. Please note that the port-number must be the same for all of the client-computers connecting to the game and the game-server workstation.

If you do not manage to connect to the game using the default port, check the following.

- Your computer does not have a TCP/IP security system Firewall installed.
- The security system is not installed in the local network you are playing in (you can obtain this information from the network administrator).
- The security system is not installed by your ISP (you can obtain this information from the ISP).

If switching the access blocking system off does not work, try manually changing the port number. We recommend using the following ports:



- 21
- 80
- 8100
- 8101
- 8104
- 8383

Another way of using a special port number is for you and your friends to create a "private" game that will be closed for access by anybody else. To do that you need only to specify a special port number that only you and your friends will know. No one else will be able to see your game server and connect to you.

Gaming Device Setup

To Control the car in the game you may use both keyboard and other game devices:

- Joystick
- Gamepad
- Wheel



Joystick



Gamepad



Wheel

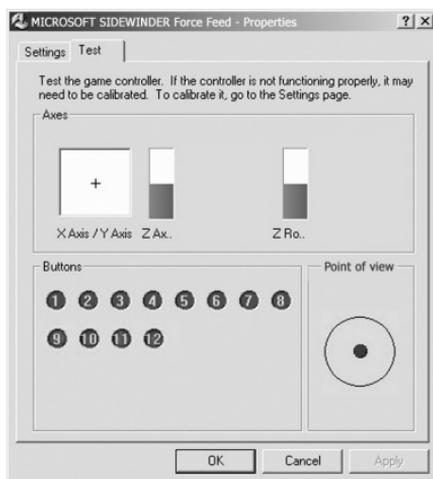
The game device images shown above are taken from the Microsoft DirectX installation set (provided on the game CD). The devices that you have installed on your computer may look differently.

Before using these devices in the game they must be installed and calibrated using the OS applications.

The list of installed gaming devices is provided in the Control Panel – "Gaming Options". When selected it will show a list of installed joysticks and other game devices.



In case a gaming device that you intend to use is not installed onto the system or in case the table does not specify whether it is initialized correctly, turn to your gaming device installation manual. If the gaming device is installed correctly press properties. A dialogue box for calibrating and testing the device will appear on the screen.



Check the settings, such as joystick and wheel axis calibration. In their normal state the indicators must appear in the center of the testing zone.

As you move the joystick (or turn the wheel) the axis indicators must move throughout the testing zone.



In case the joystick is not calibrated properly, select "Calibration" bookmark and follow the system instructions to correct the problem.

The game would react differently to commands sent from joystick, gamepad, and wheel. If you are playing using the joystick or steering wheel, the turning of the car wheels will be directly proportional to the turning of the joystick or steering wheel. For more precise setup of the steering turn to Joystick Sensitivity game setting. If you are playing using the keyboard or gamepad pressing the buttons will turn the wheels smoothly gradually increasing the angle depending on how long you hold the button pressed. Normally the program would automatically determine different device types and buttons, however it is recommended that you correctly specify the type of installed device (joystick/wheel vs gamepad) in the Settings.

Troubleshooting

Before turning your problem to our support hotline, we recommend doing the following:

Make sure that your computer configuration corresponds to the system requirements.

If an error occurs during the game startup (before the main menu loads), see "Problems with Startup".

If you notice that some of the graphic elements (during the race or in the menu) are shown incorrectly or if the graphics output seems low, see "Problems with Video".

If there is no sound or sound is distorted see "Problems with Sound".

If you encounter problems using input devices – mouse, keyboard, joystick, etc. – see input device problem index.

If you encounter with network races, see "Problems with Network and Modem".

If the problem you encounter is none of the above see "Other problems".

Problems with Startup

At startup you may receive the following error messages:

Source not ready. Insert CD into your CD-Rom drive and press "Ok".

Cannot run the program from CD.

Installation error. Please reinstall the game.

Cannot find 3D accelerator.

Cannot find 3D mode.



Your videocard does not support window-mode.

Cannot build video accelerator table. Cannot find any graphic accelerator. Reinstall DirectX and try restarting the program (error code – 529).

Cannot load system texture databases (error code – 563).

Cannot initialize graphic videomode. Please reinstall DirectX (error code – 588).

Cannot load system textures (error code – 591).

Cannot initialize 3D-engine core (system initialization failed) (error code – 592).

Cannot initialize 3D-engine core (application initialization failed) (error code – 593).

Cannot initialize 3D-engine application components (error code – 595).

Cannot create default player. Reinstall the game.

Cannot save default player. Check player save directory properties.

Image files loading failure. Cannot load *.tga files from directory 'Faces'.

Hardware initialization interrupt (error code – 538).

Cannot initialize soundcard driver (error code – 525).

Cannot initialize system sound channels (error code – 535).

Cannot load system sounds (error code – 536 or 599).

Soundcard occupied by other application. Retry sound initialization?

DirectInput system initialization failure. Please, reinstall DirectX (error code – 543 or 545).

If you cannot correct the error, or if an error is not described in this section, try doing the following:

- Check that all of the devices installed on your computer are operating properly. To do that open the computer properties (or HW manager) and make sure that all of the installed hardware is provided with the necessary drivers and that these drivers are operating properly.
- Check and if possible install the latest driver versions for the installed equipment. Additional instruction may be found on the websites of manufacturers.
- Reinstall DirectX. See page 73 for more information.
- Try to delete the game, erase all additional data files created during the game using Windows Explorer (these files are located in the same directory you installed the game to) and reinstall the game.

If the problem persists see Other Problems or Contact Information.

Source not ready. Insert CD into your CD-Rom drive and press "Ok".

**Cannot run the program from CD.****Installation error. Please reinstall the game.**

Program installation error or cannot find game CD:

- Check that the R.C. Cars CD is inserted into the CD-ROM drive and that the CD is read correctly.
- If the problem persists try to delete and reinstall the game.

Cannot find 3D accelerator.**Cannot find 3D mode.****Your videocard does not support window-mode.****Cannot build video accelerator table. Cannot find any graphic accelerator. Reinstall DirectX and try restarting the program (error code – 529).****Cannot load system texture databases.****Cannot initialize graphic videomode. Please reinstall DirectX.****Cannot load system textures.****Cannot initialize 3D-engine core (system initialization failed).****Cannot initialize 3D-engine core (application initialization failed).****Cannot initialize 3D-engine application components.**

Either the program could not find 3D videocard on your computer, or drivers are not installed for this card, or DirectX 8.1 is not installed.

- See if your video card supports hardware 3D output. The list of cards recommended for the program is on page 5; remember that the card should have a least 16MB of memory.
- Check and if possible update the drivers for your videocard. See videocard manufacturer's website for more details.
- Find and install the latest DirectX 8.1 version. See page 73 for more details.
- Restart the game holding the <Shift> key until the video-/soundcard selection dialogue appears. See if the correct videocard was selected.
- Try changing the "Run In Window" setting.
- If the problem persists – delete and reinstall the game.

Cannot create default player. Reinstall the game.**Cannot save default player. Check player save directory properties.**



Game installation is corrupt. Try doing the following:

- Open: "Start" – "Programs" – "R.C. Cars" – "Directories" – "Player Directories" ("Players"). This directory should contain created player data files (file extension – .SCP).
- If the directory exists delete all files from it.
- If the directory does not exist, create it.

Image files loading failure. Cannot load *.tga files from directory 'Faces'.

The files that you saved to this catalogue do not comply with the game requirements. Try doing the following:

- If you have added your own images into the "Faces" directory, save them to a different directory and delete from here.
- If these files are missing, delete and reinstall the game.

See page 67 for more details on processing player images.

Hardware initialization interrupt.

Failure selecting video-/soundcard drivers. Or initialization was interrupted by user.

- Restart the game holding the <Shift> key until the video-/soundcard selection dialogue appears. See if the correct videocard was selected. If the problem persists try repeating the actions above.

Cannot initialize soundcard driver (error code – 525).

Cannot initialize system sound channels (error code – 535).

Cannot load system sounds (error code – 536 or 599).

Soundcard occupied by other application. Retry sound initialization?

Soundcard initialization failure. Possibly, the soundcard is used by other application.

- If you are running other programs using soundcard (players, other games), close them and restart the game.
- Check and if possible update the drivers for your soundcard. Visit the soundcard manufacturer's website for more information.
- Restart the game holding the <Shift> key until the video-/soundcard selection dialogue appears. See if the correct soundcard was selected.
- Restart the game. If the problem persists delete and reinstall the game.

**DirectInput system initialization failure. Please, reinstall DirectX.**

Input device initialization error.

- Check and install the latest DirectX 8.1 driver version. See page 73 for more information.
- If the problem persists and your computer has additional gaming devices connected, disconnect them. Leave only keyboard and mouse. Restart the game.

Problems with Video

If the problems with video occur during program startup (and an error message appears), see Problems with Startup. If the game starts but the video quality is unsatisfactory find the problem from the list below and try solving it with the help of our recommendations.

Image is practically black or too bright.

Menu is working, but when you try starting the race image disappears or you receive an error message.

Graphic output ratio is constantly lower than 20 FPS.

Graphic output ratio is normal when driving through tunnel and other closed spaces, but drops sharply when driving through an open area location.

Graphic output ratio drops when driving through the sand or other locations with a lot of special FX.

Sea or other objects (or car details) appear incorrectly.

No shadow under the car.

Car and human tracks on the sand appear incorrectly.

Image is practically black or too bright.

Gamma parameter distorted in video settings.

- Restart the game holding the <Shift> key until the video-/soundcard selection dialogue appears.
- Check the "Reset Gamma default" box.

Menu is working, but when you try starting the race image disappears or you receive an error message.

Video settings have incorrect screen resolution and color depth.

- Select "Settings" -"Video" from the main menu and correct the following parameters:



"Screen resolution" – 800*600.

"Color depth" – 16 bit.

"Run in window" – no.

Graphic output ratio is constantly lower than 20 FPS.

Graphic output parameters exceed videocard and processor capabilities.

- Try changing the following parameters in the "Settings" – "Video" menu or "In-Race Menu":
- "Texture quality" – "mid" or "low".
- If the graphic output ratio remains unsatisfactory try reducing "Screen Resolution" and "Color Depth" parameters in "Settings" – "Video".
- If the graphic output ratio remains unsatisfactory try reducing "Render quality" parameters in "Settings" – "Video".
- If you run the game in a window try running it in full-screen mode ("Run in window" parameter – no).
- If the graphic output ratio remains unsatisfactory try reducing "Render quality" in the same menu.



Unsatisfactory graphic output may also be due to the large number of applications open on the computer (such as text editors etc.) Try running the game closing all additional applications.

Graphic output ratio is normal when driving through tunnel and other closed spaces, but drops sharply when driving through an open area location.

Graphic output parameters exceed videocard and processor capabilities .

- Try changing the following parameters in the "Settings" – "Video" menu or "In-Race Menu":
- "Texture quality" – "mid" or "low".
- If the graphic output ratio remains unsatisfactory try reducing "Render quality" parameters in "Settings" – "Video".

Graphic output ratio drops when driving through the sand or other locations with a lot of special FX.

Graphic output parameters exceed videocard and processor capabilities .

- Try changing the following parameters in the "Settings" – "Video" menu or "In-Race Menu":
- "Effects Quality" – "mid" or "low".



Sea or other objects (or car details) appear incorrectly.

No shadow under the car.

Your videocard drivers have not been updated to the latest version or your videocard is incompatible with the game.

- Some videocards (for instance NVidia Vanta LT, which is not included into the recommended videocard list) do not have enough memory for correct object graphic output. In this case switch off the incorrect functions in the Settings menu.

Videocards of Oxygen GVX1 series and some other cars (oriented primarily for operation with OpenGL drivers) may show joints of different surface incorrectly (such as dry sand / wet sand, etc.).

Try reducing "render quality" and "texture quality" (in the settings menu).

If your videocard is on the list of recommended videocards check if you have the latest version of drivers installed. Check videocard manufacturer's website for more information.

- if you made any changes in the system configuration after the game was installed try reinstalling DirectX.

If the problem persists do the following:

- Start the game.
- Open the level with problematic or incorrect image.
- Press F7. A screenshot file Shot0001.tga. will be save to the program installation directory. Send this picture and the necessary additional information to the user support department.
- If you encounter the incorrect image problem in the game menu, run the game in window mode, open the menu with incorrect image, and press Alt+Print Scrn. After that open a graphic editor and paste the image there. See page 88 for additional instructions.

Car and human tracks on the sand appear incorrectly.

Your videocard drivers have not been updated to the latest version or your videocard is incompatible with the game.

- If the videocard on you computer is of the Matrox Millennium series, set the "Render Quality" in the game settings to "mid". Track image output problems are a result of Matrox Millennium cards incompatibility with the program applications. If you have a different videocard, see the recommendations on the previous problem.



Problems with Sound

If the problems with sound occur during program startup (and an error message appears), see Problems with Startup. If the game starts but the sound quality is unsatisfactory find the problem from the list below and try solving it with the help of our recommendations.

No sound during the game.

No background music during the game and in the menu screen.

Sound during the race is distorted.

No sound during the game.

Sound has been switched off in the operating system or game or soundcard initialization error.

- Check if the sound is played by Windows applications. To do that open the Control Panel, select "Sound" and check that the sound is on and has sufficient volume.
- If during startup a message appears saying that "Sound card is used by other application", close all other applications that may block the access to the soundcard (players, other games).
- Restart the game holding the <Shift> key until the video-/soundcard selection dialogue appears. See if the correct soundcard was selected.
- Open "Settings" – "Sound". Check if the sound is on and if the volume controls are not on zero.

No background music during the game and in the menu screen.

Sound has been switched off in the operating system or game or soundcard initialization error.

- Check if the sound is played by Windows applications. To do that open the Control Panel, select "Sound" and check that the sound is on and has sufficient volume.
- If during startup a message appears saying that "Sound card is used by other application", close all other applications that may block the access to the soundcard (players, other games).
- Restart the game holding the <Shift> key until the video-/soundcard selection dialogue appears. See if the correct soundcard was selected.
- Open "Settings" – "Sound". Check if the sound is on and if the volume controls are not on zero.

Sound during the race is distorted.

Soundcard and process performance capacity is insufficient for playing all sounds.

- Open "Settings" – "Sound" in the menu. Set "Sound Quality" to "Mid" or "Low".



Problems with Input Devices

The majority of the problems pertaining to input devices are joystick controls-related. For more details on joystick setup and calibration for car controls see "Program Settings" – "Controller" – "Layout".

Joystick is not working neither in the menu nor during race.

Joystick is working in the menu, but not during race.

Pressing buttons on joystick does not make the car behave as expected.

Controlling the game with joystick is difficult.

Keyboard does not process several keys pressed at the same time.

The standard "joystick", "gamepad" or "wheel" control layout is not working well with my joystick.

Car controls cannot be set to mouse buttons.

Some joystick buttons are not working.

Joystick is not working neither in the menu nor during race.

Joystick is not connected or operates incorrectly.

- Check that the device is correctly installed and connected to the system. To do that go to Windows Control Panel and select "Gaming Devices". If the joystick is installed and working correctly it must appear in the list of gaming devices. For more information on installing the joystick drivers consult the joystick manual or manufacturer's website.
- If you have installed the joystick after you have installed R.C. Cars, you may be required to reinstall DirectX 8.1. See page 73 for more details.

Joystick is working in the menu, but not during race.

Joystick is not selected as a control device for Player 1, or joystick not calibrated for car controls.

- From the main menu open "Program Settings" – "Controllers". Make sure that the controller set for Player 1 is "Joystick/Wheel" or "Gamepad". Select the required joystick from the list shown under the Joystick line-item. If the list only reads "None" see:
- Open "Program Settings" – "Layouts". Select one of the standard layouts for joystick ("Joystick", "Gamepad" or "Wheel") or create your own layout for the joystick. See next question for more details.

**Pressing buttons on joystick does not make the car behave as expected.**

Joystick has not been calibrated properly.

- From the main menu open "Program Settings" – "Controllers". Make sure that the controller set for Player 1 is "Joystick/Wheel" or "Gamepad". Select the required joystick from the list shown under the Joystick line-item. If the list only reads "None" see the first question in this section.
- Open "Program Settings" – "Layouts". Select one of the standard layouts for joystick ("Joystick", "Gamepad" or "Wheel") or create your own layout for the joystick. See next question for more details.
- To create your own joystick layout, mouse click on the required car control command. The current key-combination will light with red. Press a button or move a joystick handle to associate with this action. A new combination corresponding to the command should appear in the action field. Repeat for all other controls.

Controlling the game with joystick is difficult.

Joystick is not properly calibrated.

- Check the joystick settings in the OS.
- Check "Program Settings" for correct Joystick settings. Joysticks of analogue type belong to the Joystick/Wheel category, while Joysticks with cross-shaped four-button handle are in the Gamepad category.
- Try changing the joystick sensitivity and dead zone characteristics (these settings are available both from the main menu and in-race menu).
- Try selecting a more convenient layout for the joystick in "Program Settings" – "Layouts". (see previous paragraph).

Keyboard does not process several keys pressed at the same time.

This problem may occur in two-player split screen mode when both players press several keys simultaneously. Many keyboards would not respond to pressing other keys when three keys have already been pressed.

- if possible, change the keyboard, or connect another keyboard through an available USB port.
- set different input devices for the players (for instance one plays with keyboard and the other one with joystick).

The standard "joystick", "gamepad" or "wheel" control layout is not working well with my joystick.



Different joysticks have different control layouts. It's possible that the buttons on your joystick are laid out differently from those which the game is tuned for.

- Try selecting a more convenient joystick layout in "Program Settings" – "Layouts". Or set your own layout.

The default controls layouts were setup for the following gaming devices:

"Joystick" Layout: Microsoft SideWinder Force Feedback Pro

"Wheel" Layout: Microsoft SideWinder Force Feedback Wheel (USB)

Car controls cannot be set to mouse buttons.

The car can be controlled only using keyboard or joystick. Mouse is only available for menu navigation.

Some joystick buttons are not working.

Joystick is not calibrated.

- Check the Joystick settings in the OS.

Why is Force Feedback not working?

The game does not support Force Feedback.

Problems with Network and Modem

Before you start solving the network and modem problems, make sure that:

If you are connecting to the server via LAN:

- Your network card is running properly.
- Your computer "sees" other computer in the local network. For more details turn to Network administrator.

If you are connecting via a modem:

- your computer has successfully connected to Internet. This connection must be established prior to creating a network game or connecting to a network game.

Program does not list servers when I try to connect to a network game.

The Server is on the list but I cannot connect to it.

Server connection is instable.



Server connection is stable, but when the server starts the game, the client does not enter the race, does not receive the "Start" message, etc.

Other participants' cars or cans and other objects are moving unrealistically.

Program does not list servers when I try to connect to a network game.

Network game not established yet, race started already, or error in game server access.

- Make sure that the network game has already been created and that the server is in the "Waiting for Other Participants" mode. If the server has already started the race it becomes unavailable.
- Make sure that the "port number" field is set to similar values on the game-server and client-workstation. It should either read default on all of the workstations, or all workstations should specify the same port number (1 through 65535). See "TCP/IP Connection Security" for more details.
- If you play via a LAN, check the "Server name" field. It must read the first letters of the server name or be left blank. To check that erase all signs from this field and press "Refresh". See if the required server is on the list.
- If you play through the Internet, make sure that the "server name" field reads the correct address of the server. The address must contain four numbers (0 through 255), divided with dots (e.g. "192.168.0.10"). In case the game-server specifies several IP-addresses, try connecting to each of them. Previous paragraph.
- Check and increase the "Maximum Lag" parameter on the server. ("Creating a Network Game").
- Possibly access to the game-port is blocked by special programs (Firewall), In this case see "TCP/IP Connection Security".

The Server is on the list but I cannot connect to it

Either the server has already started the game, or timeout parameters do not comply with the corresponding server settings, or error in connection to game-server.

- If while you were looking for the server and trying to connect to it, it has already started the game you will not be able to connect to it. Choose a different server or wait for this server to go back to "Waiting for Other Participants" dialogue.
- Possibly the server settings ("Maximum Lag" parameter) do not let you connect to the server. In this case, either the server must increase the maximum lag, or you should use a faster Internet connection, if the latter is possible.
- Possibly access to the game-port is blocked by special programs (Firewall), In this case see "TCP/IP Connection Security".

**Sever connection is instable.**

Request times out during data-package exchange due to exceeded lag.

- In this case, either the server must increase the maximum lag, or you should use a faster Internet connection, if the latter is possible.
- If the connection to server was interrupted with a message "Player deleted by server" this means that the connection was broken by the server by pressing the "Delete Player" button. Possibly, you could have entered the wrong server or "were not expected there".

Server connection is stable, but when the server starts the game, the client does not enter the race, does not receive the "Start" message, etc.

Part of the transmitted data is not delivered to client or server.

- Create a new game on the server. Before you do that make sure that the "connection quality" parameter that you set corresponds to your actual connection. If the parameter is set correctly but the problem persists try reducing the connection quality by one grade.
- Possibly the problem is in the Internet connection quality or problems down the line. Try waiting or reconnecting to Internet and repeat the attempt.
- Try using a faster Internet connection, if it is possible.

Other participants' cars or cans and other objects are moving unrealistically.

Data exchange speed too slow.

- At low data exchange rate the game simply does not have the time to fully synchronize the objects on track. This may cause short "drops" of the opponent cars into walls and floor, as well as irregular movement of cans and other objects. This is normal.
- Try using a faster Internet connection, if it is possible.



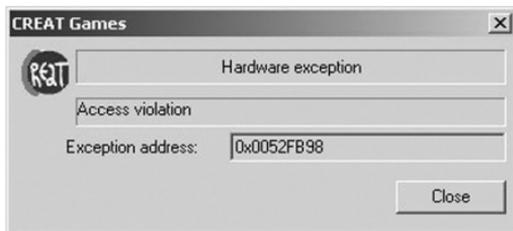
Other Problems

Program runs in the menu but gives an error message when I try to load a level.

```
GMFLOADERCB: 'WAIT_CLOSE', TIME=0.00
MAP BEACH_1 NOT FOUND IN DATABASE. LOADING ABORTED
GMFLOADERCB: 'ANALYZE', TIME=0.00
ERROR LOADING MAP (ERROR CODE 15)
>
```

Level loading error message

Hardware exception error message.



Fatal Program Termination Message

Program runs in the menu but gives an error message when I try to load a level.

Not enough resources to load the level or program installation corrupt.

- If there are other applications open on your computer, close them and try restarting the game.
- Make sure that the "Texture Quality" parameter in the "Settings" – "Video" menu corresponds to the available texture memory on your videocard.
- If the RAM on your computer is less than 128MB check the Windows virtual memory settings. The Windows virtual memory settings must be no less than 200MB.
- If the game installation is corrupt, delete and reinstall the game.

Hardware exception error message.

Not enough resources to load or internal program error .

- If there are other applications open on your computer, close them and try restarting the game.
- If the RAM on your computer is less than 128MB check the Windows virtual memory settings. The Windows virtual memory settings must be no less than 200MB.
- If the error persists with the same code memorize or write down the error code (in our example: 0x0052FB98);
- Contact our support service and tell the error code to them for more detailed instructions.



Contact Information

If the problem you have encountered cannot be resolved by any of the methods specified in the "Troubleshooting" section, you can contact our Support Department by hotline or email.

When you contact us by phone please prepare the following information and tell it to the operator:

- Describe the problem (problem with image, sound, startup, etc.). If the game gives an error message with a certain code write down this code. Additional information may be found in the corresponding subsections of the "Troubleshooting" section.
- Configuration of your computer.
- Information on the circumstance under which the error occurs (at race start, attempting to knock down a can, etc.)

When you contact us by phone, aside from the above data, please, also do the following:

- Attach the **game_dbg.log** file to your letter (or copy-paste its contents into the body of the letter) (the file is located in the same directory you have installed the program into). This is a text file, containing additional information on your computer configuration and the errors that occurred. This file does not contain any personal information.

Additional game information and latest updates are also to be found on our website
<http://games.1c.ru>

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About the Game

"R.C. Cars"

Developed by

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Original car physics by

Produced by

Executive Producer

Project Management by

Lead Programmer

Programming (3D-Engine)

Programming (Physics)

Chief Artist and Designer

3D Department Manager

Lead Integrator

Sound Engineer

Modeling

Programming

CREAT STUDIO

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Thanks to

Natalya Kholyavko
Dmitry Makarov
Olga Serenkova

Special Thanks to

Anna Boikova

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Published by

Produced by
Executive Producers
Marketing & PR

Design and Layout

1C Company

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Notes

