Sierra® On-Line and Papyrus™ Present

SODA® Off-Road Racing

Developed by
Software Allies™

Officially Licensed by the
Short Course Off-Road Drivers Association

Table of Contents

Installation Guide

System Requirements

System:	P-90 (reduced graphics detail suggested) (P-133 Recommended) Windows 95 compatible video graphics adapter
Operating System:	Windows 95
RAM:	16MB (24MB Recommended)
Sound Card:	16-bit sound card (Windows 95 and DirectX3 Compatible)
CD-ROM Drive:	Double speed (MPC 2 Compliant)
Hard Disk Space:	60MB plus space for DirectX Drivers

Installing SODA Off-Road Racing

Insert the SODA Off-Road Racing CD into your computer's CD-ROM drive. After a few seconds, Windows 95 should detect that the CD is present, and the installation program should automatically start (if a previous installation is not detected). If the installation program does not automatically start, you can start it manually:

1. Click the "Start" button on the Windows 95 task bar.

2. Choose “Run...” from the menu.

3. Type the letter of your CD-ROM drive, followed by “:\setup”. For example, if your CD-ROM is drive D on your system, type “D:\setup”.

4. Click the “OK” button to start the installation program.

Follow the instructions provided by the installation program. During the installation, you must select whether to perform a Minimal Installation or a Full Installation.

Minimal Installation

We recommend that you perform a full installation of SODA Off-Road Racing. However, a minimal installation is provided to allow SODA to operate on a system with only 4MB of free hard disk space. Use of the minimal installation is discouraged for the following reasons:

- You need to locate and use the SODA Off-Road Racing compact disk (CD) every time you wish to race.

- The delay when switching screens and when starting races is greatly increased compared to when using a full installation.

- Music is disabled because the CD is busy supplying the data files to the game instead of playing the music located on the CD.

Full Installation

The full installation copies all of the game's data files to your hard-disk, speeding up load times and freeing up the CD to play the game's music. The full installation requires approximately 60MB of free hard disk space.

3D Accelerator Board Support

SODA Off-Road Racing has direct support for several Rendition 3D accelerator boards. Note that SODA requires the 2.0 series of display drivers. A set of drivers is included on the SODA CD, but you may need to get your vendor's 2.0 display drivers. The following boards are supported:

- Screamin' 3D from Sierra On-Line
- Intense 3D 100 from Intergraph®
- Total 3D from Canopus®
- 3D Blaster PCI from Creative Labs®
- Royal Flush from Miro®

SODA will auto-detect the accelerator board once the correct drivers are installed. When one of the above boards is detected, a "Rendition Ready" logo appears on the title screen to let you know the game is running using 3D acceleration. To disable 3D accelerator support in SODA, run offroad.exe with the /S command line option. One way to run the game with /S is to create a new shortcut:

1. Right click on your desktop. Choose "New", then "Shortcut"

from the pop-up menu.

2. The Create Shortcut dialog appears. Click on "Browse..." and select offroad.exe from the folder where you installed SODA Off-ROAD Racing. Click on the "Next >" button.

3. The Select a Title for the Program dialog appears. Type in a name, such as "SODA Off-Road without Rendition Support." Click on the "Finish" button. The new shortcut appears on your desktop.

4. Right click on the new shortcut and select "Properties." Select the "Shortcut" tab.

5. At the end of the "Target:" executable offroad.exe, add a space followed by "/S". Click on the "OK" button.

6. Double-click the new shortcut icon to launch SODA Off-Road Racing with the /S command line option.

If the "Rendition Ready" logo does not appear on the title screen, SODA is not using any 3D acceleration support.

Installing Rendition Display Drivers

Included on the SODA CD are a set of Rendition display drivers. You should only use these drivers if you cannot acquire drivers from your vendor that work with SODA Off-Road Racing. The drivers on the SODA CD may be outdated and may not include all of the features of your vendor's drivers.

To install the Rendition display drivers from the SODA CD:

1. Click the “Start” button on the task bar. Choose “Settings” and then open the Control Panel.

2. From the Control Panel select “Display”.

3. From the Settings tab click on the “Change Display Type” button.

4. Under Adapter Type click on “Change”.

5. Click on the “Have Disk” button.

6. Enter the drive letter of the CD-ROM, followed by "\rendition", or "\rendition2" (depending on the type of video accelerator board you have, either a Verite 1000 PCI or a Verite 2200 PCI) then click on the “OK” button.

7. Select the Rendition Verite 1000 PCI RRedline drivers or the Verite 2200 PCI RRedline drivers (depending on the type of video accelerator board you have) and click on the “OK” button.

8. From the Change Display Type dialog click on the “Close” button. From the Display Properties dialog click on the “Close” button. Click on the “Yes” button when asked to restart the computer.

Joystick Installation

Before your joystick (or steering wheel) will work correctly with SODA Off-Road Racing, it must first be properly set up as a device in Windows 95. This configuration step is done in the Windows 95 Control Panel after installing the game but before playing the game. If Windows 95, DirectX, or SODA Off-Road Racing are ever installed again on your system these steps may need to be repeated.

Typically, the instructions for properly setting up your joystick in Windows 95 come with your joystick. However, if you cannot locate these instructions, the steps listed in this section may help as a general guide.

1. Click the "Start" button on the Windows 95 task bar.

2. Choose "Settings", then "Control Panel". The Control Panel window should appear.

3. Locate the "Joystick" icon and open it by either double-clicking on it or choosing "Open" from the pop-up menu that appears when you right click on the "Joystick" icon.

   If the "Joystick" icon is not present in the Control Panel, then you may first need to configure your joystick port. A joystick port is usually located on the computer's sound card, but they are sometimes provided by a dedicated game card or even built directly into the mother board. Follow the instructions that came with your joystick port to properly configure it. After the joystick port is properly configured, the "Joystick" icon will appear in the Windows 95 Control Panel.

4. Under "Current Joystick:", select "Joystick 1". SODA Off-Road Racing may not operate correctly with any other setting.

5. Under "Joystick Selection:", choose your joystick from the list. If your joystick is not listed you may first need to install drivers that came with your joystick. Refer to your joystick's documentation.

6. Click on the "Calibrate..." button and follow the instructions. After calibrating, click on the "Test..." button to verify that your joystick is working correctly. NOTE: Even though the joystick may now be calibrated for Windows 95, you still need to calibrate it in SODA Off-Road Racing as described in the Joystick, Steering Wheel, and Pedal Setup Section (page 17).

If you cannot locate your joystick in the "Joystick Selection" list of the Joystick Properties sheet (in step 5, above) , even after installing any drivers that came with your joystick, the following instructions may help.

CH Products® FORCE-FX (Force-Feedback) Joystick

From the "Joystick Selection:" list, select "CH FORCE FX Joystick (analog mode)."

Thrustmaster® Formula T2

From the "Joystick Selection:" list, select "Custom...". A dialog box appears. Select "2 axes" and "4 buttons". Check the "Special Features" check box, and choose "is a race car controller." Do not check "has a Point of View hat." Some models of the T2 require a special adapter available from Thrustmaster to work correctly with Windows 95. The accelerator and brake appears as up/down, and the steering

appears as left/right.

CH Products FORCE-FX Joystick (or most other joysticks) in combination with CH Products Pedals

From the "Joystick Selection:" list, select "CH FlightStick Pro." Check the "Rudder" list box. This enables the brake pedal. The accelerator pedal will now operate through the throttle input, and the brake pedal will now operate through the rudder input.

CH Products FlightStick

Choose "CH Flightstick" from the "Joystick Selection:" list.

CH Products FlightStick Pro

Choose "CH Flightstick Pro" from the "Joystick Selection:" list.

CH Products Combatstick

Choose "CH Flightstick Pro" from the "Joystick Selection:" list.

Other Analog Joysticks

From the "Joystick Selection:" list, select "Custom...". A dialog box appears. Select "2 axes" and "2 buttons". Do not check the "Special features" check box. Do not check "has a Point of View hat." This should enable almost any joystick to work, although if the joystick has any special features they may be disabled when configured in this manner.

2x4 Truck

The 2-wheel drive vehicle requires a gentle touch. A key to mastering this vehicle is learning how to break the backend loose around corners.

2x4 Buggy

The buggy is more of a "driver's" vehicle in that you can't make up for mistakes with horsepower. To win races you have to maintain momentum through turns.

4x4 Truck

The 4-wheel drive vehicle has better traction all-around, giving you faster acceleration. It is easier to handle turns and maintain speed going up inclines.

Driver's Guide

Starting the Game

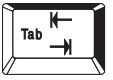
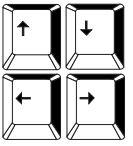
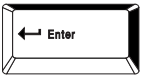
First, close all other applications running on your system. Windows 95 is a multi-tasking environment, and running other applications while playing SODA Off-Road Racing will definitely reduce performance.

Two icons are installed for launching SODA Off-Road Racing, one for Full-Screen Mode and the other for Windowed Mode. Full-Screen Mode is recommended because it supports 3D acceleration, exhibits a better frame-rate on many systems and is more immersive. The Windowed Mode (/W on the command line) is mainly provided to allow the game to run on some systems where Full-Screen Mode cannot work due to incompatibilities with the video card.

If a compatible 3D accelerator board is detected, SODA will display the Rendition Ready logo while starting to let you know it will use the accelerator board. If a compatible board is not detected, the logo will not be displayed. If problems are encountered when using a certain 3D accelerator board, the use of the acceleration features can be disabled as described in the Installation Guide on page 8.

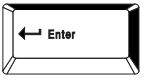
Screen Navigation

Most menu, options, and record screens can be controlled by keyboard, mouse, joystick, or even steering wheel/pedals. Only a few name entry controls require the use of a keyboard. The following table describes the control options:

Action	Keyboard	Joystick	Mouse
Advance to Next Control		Button #2	Point and Click
Advance to Next Item		Up/Down and Left/Right	Point and Click
Selecting Items		Button #1	Point and Click
Pushing Buttons	 Spacebar	Button #1	Point and Click

The mouse is recommended. Also, on many screens, two shortcuts are available:

Go to the previous screen (cancel changes)



Advance to the next screen (apply changes)

Joystick, Steering Wheel, and Pedals Setup

Control Calibration

Note: The joystick calibration available from within the Windows 95 Control Panel is not recognized by SODA Off-Road Racing. You need to use the calibration procedure described below.

Before proceeding, you need to calibrate your controls. All analog input devices such as joysticks, steering wheels, and pedals need to be calibrated in order to work correctly with computer games. An incorrectly calibrated joystick may make it difficult or impossible to control your vehicle. This calibration procedure should be repeated regularly (at least once a week), especially if any control difficulties arise.

At start-up, if the game detects that the joystick is too far from center, it will automatically bring you to the calibration screen so you can perform the necessary recalibration.

If the game gets stuck scrolling across the menus because the joystick is off-center, press Alt-F4 to exit. When you restart, the game automatically takes you to the calibration screen.

To calibrate your joystick, steering wheel, and/or pedals from the Main Menu screen:

1. Select “Options” from the Main Menu screen.

2. The Options screen has a list of 4 pages along the bottom. Select the “Control Options” page.

3. On the Control Options screen, click on the "Calibrate" button.

4. Slowly move all of the connected joysticks, steering wheels, and pedals to their maximum extents, then center them (for pedals this means release the brake and accelerator). If you move the controls too quickly while calibrating it may result in a bad calibration, requiring the entire process to be repeated, so be gentle.

5. If you are sure the calibration worked, click on the Checkmark button. However, we recommend that you click on the "Test" button and manually inspect the calibration. On the Test screen you can actually see if your joystick is working and calibrated correctly. If you are satisfied with the calibration you can click on the Checkmark button. If you wish to repeat the calibration, simply choose to restart the calibration procedure. The Test screen will also reveal any joystick malfunctions, such as the inability to return to center reliably or jumpy performance caused by wear. Both of these conditions can make it harder to drive. We recommend using high quality joysticks such as those listed in the installation instructions.

Control Setup

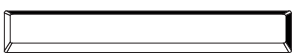
From the Control Options screen you can configure which controls you want to use to drive and to change the camera view. Simply click on the button for the desired action, and then provide an example input. For example, to use the joystick as the accelerator pedal, click on the "Accelerate" button, and then push forward on the joystick. The words "Joystick #1 Up" should appear next to the Accelerate button, confirm-

ing your selection. If a control is already selected for another action, it cannot be reselected. Also, some keys cannot be used for driving actions because they are already assigned for other (non-driving) commands, or because they are not standard keys available on all keyboards.

DRIVING CONTROLS

The controls for driving the vehicle are configured in the Control Options screen.

If a joystick is not detected at startup, keyboard defaults replace the joystick controls. The defaults are as follows:

Up Shift	Joytick Button #1	
Down Shift	Joystick Button #2	
Accelerate	Joystick forward	
Brake	Joystick backward	
Turn Left	Joystick Left	
Turn Right	Joystick Right	
Change View	Spacebar	

Quick Start

Before your first race, make sure you have calibrated your joystick, steering wheel, and/or pedals, as described in the previous sections. Then, proceed as follows:

1. Select the "Single Races" command from the Main Menu. This mode is for racing one race at a time and is good for practicing racing before trying to win a Championship Series.

2. Selecting "Single Races" brings up the Select Vehicle screen. The Select Vehicle screen is where you choose which type of vehicle you want to race. For your first races, try the buggy.

3. After clicking on the buggy, click the Right Arrow button on the lower left of the screen. This takes you to the Select Track screen and is where you select the racing environment and the race track. Along the bottom of the screen, select the "Country" environment. Then, along the top left of the screen, select the track "Cliffs of Fear."

4. After selecting the track, enter the garage to make sure your vehicle is set up for the race. To do this, click on the Wrench button on the bottom left of the Select Track screen. Once in the garage, set the tires to "Deep Tread" because Cliffs of Fear has a lot of mud. Then set the transmission (Automatic or Manual). We suggest using an automatic transmission because it is easier to control. Don't bother adjusting the suspension or gearing for now. You might want to experiment with these settings after you master driving.

5. Click on the Checkmark button to return to the Select Track screen. Then click on the Checkered Flag button to actually start the race.

Racing

As the race begins the camera will move towards your vehicle and settle on its hood in Bumper-Cam view. Your vehicle will be in neutral gear. While waiting for the green flag, you can up-shift into first gear to get ready for the start. Shifting out of neutral is required even if you have selected an automatic transmission in the garage. As in a real vehicle, shifting between reverse, neutral, and first gear must always be done manually.

When the race official waves the green flag, your vehicle will be allowed to accelerate. Slowly apply throttle and your vehicle will begin to move. Be gentle, try not to apply too much throttle, or your rear wheels may develop too much wheel spin causing your vehicle to slide out of control.

For now, don't worry if the opponent vehicles quickly lose you in their dust. Just try to drive slowly around the track until you get the feel for the handling and gain mastery over the controls. If you can make it around the track just going 30 or 40 MPH without spinning out or crashing, you are doing well. If driving with a manual transmission you will need to up-shift and down-shift to keep the engine RPM in the desired range.

If you get stuck and need to back up, you can manually down-shift past neutral into reverse gear. If using an automatic, slow down until the

transmission goes into first gear. Then down-shift once into neutral and another time to get into reverse. Press the accelerator normally (i.e., joystick forward) to drive in reverse. When ready to go forward again, apply the brake and up-shift past neutral back into first gear. Apply the throttle to start moving forward again. The automatic transmission will automatically up-shift as required once you manually get the vehicle back into a drive gear.

To complete a valid lap you must go through each checkpoint (or at least get close enough to it that it satisfies the officials, sometimes just crashing into the post will work). If you miss a checkpoint your crew chief will soon alert you over the radio. Usually, when you successfully pass a checkpoint, one or more intervals will appear on the screen showing your times relative to the best lap time and the next position. If no intervals are appearing when you pass through checkpoints then you may still need to hit a checkpoint that you missed earlier; your lap is invalid (The only time no interval will appear when you hit the desired checkpoint is if you are in first place on the first lap and no best lap time has ever been recorded yet). Also, if you need to go back to a missed checkpoint, the missed checkpoint indicator will appear on the screen with the number of the checkpoint you need to pass.

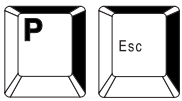
The race ends when you pass the final checkpoint of the final lap. Whenever the race leader starts the final lap, the race official will switch from the green flag to the white flag. When the race leader comes around for the win, the official will be waving the checkered flag. If your vehicle cannot continue due to damage or because it is resting on its roof, or if you just want to start over again, you can exit or restart the race by bringing up the Race Menu. Hit either the "Esc" key or the "P" key, which will (P)ause the simulation and display the Race Menu.

It is recommmended that you read the Driving Tips section of this manual (page 41).

Cockpit Controls

Pausing - The Race Menu

Press either the "P" KEY or the "Esc" KEY to pause the game while racing. This will bring up the Race Menu. From the Race Menu you can do the following:

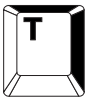


Continue Race	Continue the current race.
Garage	Enter the garage to change vehicle setup. (Available in Practice Mode)
Replay System	Enter replay system to view current race. (Must be turned on in General Options)
Restart Race	Restart the current race.
Retire from Race	End race and return to Select Track .

Riding with other vehicles

During a race you can ride with other vehicles to check out their driving.

Ride with another vehicle. Continue pressing the "R" key to switch to other vehicles.



Return to your vehicle.

Changing Views

While racing, you can switch the current view by pressing the Spacebar key (the default). When you press the Spacebar key (or whatever key you have assigned as Change Camera in the options), the list of views is briefly displayed and the view is switched to the next view in the list. Press the Spacebar key until you find the view you prefer. The current view is marked by a dot to the left of the Camera View selection.

Bumper Cam	Front of the Bumper
Cockpit Cam	Driver's Seat
Arcade Cam	Behind the Vehicle
Heli-Cam	Above and Behind the Vehicle
TV-Cam	Television Cameras Around Track

Adjusting Graphics Detail

Other commands that are available while racing are as follows:

Change the ground graphics detail.

Change the road graphics detail.

Change the vehicle graphics detail.

Change the trackside object graphics detail.

Change the sky graphics detail.

Turn on/off all telemetry.

Turn on/off the map.

Change the shadow graphics detail.

Toggle rear-view mirror on/off and through varying degrees of graphics detail.

Camera Controls

In most views you can move and rotate the camera. The camera can move in all views except TV-Cam. The camera can rotate in all views except Arcade Cam, Heli-Cam, and TV-Cam.

Move the camera forward

Move the camera backward

Move the camera upward

Move the camera downward

Move the camera left

Move the camera right

Roll the camera

Roll the camera

Yaw the camera

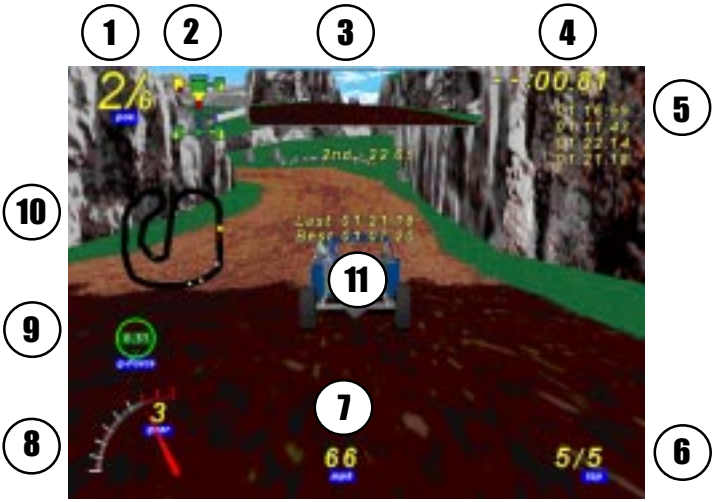
Yaw the camera

Pitch the camera

Pitch the camera

Restore camera attitude to straight and level

Cockpit Telemetry



1 Position Indicator
2 Damage Report Display
3 Rear View Mirror
4 Current Lap Time
5 Previous Lap Times
6 Lap Indicator
7 Speedometer
8 Tachometer/Gear Indicator
9 g-Force Analyzer
10 Track Map Overlay
11 Interval Timers

Best Lap Intervals

Once a lap has been completed for a track, a best lap interval will be displayed whenever your vehicle crosses a valid checkpoint. The displayed interval compares your current lap's time to the all time best lap record at that checkpoint. If the interval is positive then you are beating the best lap record as of that checkpoint by the amount shown. If the interval is negative then you are behind the best lap record at that

checkpoint. At the final checkpoint (the finish line), the best lap time and the total time of your last lap are both displayed instead of an interval.

The best lap time is initialized from the records file at the start of the race to be the best lap set by a human player on that PC (not a remote player). During the race, any vehicle is capable of setting the best lap record, including computer controlled vehicles and multi-player opponents. But, only *your* best lap time is capable of being recorded into the permanent records file. This allows you to determine how much you need to improve to be competitive in the current race, without cluttering up your records file with records set by the computer controlled vehicles.

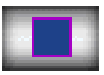
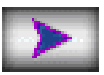
Opponent Intervals

If you are trailing any opponents during a race, the time interval to the next position ahead of you will be displayed whenever you cross a valid checkpoint. The interval will be negative, indicating that you are behind the opponent. You can use these intervals to determine if you are gaining on the opponent or getting further behind. If the interval is getting shorter, then you are gaining; if it is growing larger, then you are getting further behind.

If you are leading the race, the interval to the position directly behind you will be displayed whenever that opponent crosses a valid checkpoint. The interval will be positive, indicating that you are ahead of the opponent. If the interval is growing larger, then your lead is growing. If the interval is getting smaller, then the opponent behind you is catching up to you.

Replay System

Replay Controls

	Exit Replay Mode		Switch Camera View
	Rewind		Ride with Another Vehicle
	Step Back by Frame		Open Replay File
	Stop		Save Replay File
	Play		Mark
	Step Forward by Frame		
	Fast Forward		

Turn on/off replay controls in the replay system.

Sending A Replay

Replays that are created in SODA Off-Road Racing (and that are saved to disk) may be sent to other people. All replays are saved to the "replays" folder where you installed SODA Off-Road Racing. The replay may be sent to someone else using any file transfer mechanism. For instance, copy it to a floppy disk (using Windows Explorer), attach it to an E-mail message, or transfer it over the Internet using FTP. Replay files are binary files (not ASCII files), so if your file transfer program has the option, make sure you set the file type to binary.

If you transfer a replay of a race on a custom designed track (any track other than the original 12 tracks that come with the game) you will also need to send the track that the replay was recorded on. To send a track, it must be exported into a transferable file using the Export Track feature of the Track Designer. This process is described in the Track Designer section of this manual (page 96).

Receiving A Replay

It is easy to install a replay that you received or downloaded into the game. Replay files are binary files (not ASCII files), so if your file transfer program has the option, make sure you set the file type to binary before downloading. Copy the new replay file (using Windows Explorer) into the "replays" folder located in the folder where you installed SODA Off-Road Racing. Once copied to the "replays" folder it will be available in the Load Replay dialog of the game. If you try to view the replay but its track is not yet installed in your game, an error message will be displayed indicating which track you need to import before you can view the replay. The process of importing a track is described later in the Track Designer Section of this manual (page 97).

Garage - Tuning Your Race Vehicle

Power Options

g-Force Analyzer

The g-Force Analyzer shows you how much traction your vehicle is getting. A late model Corvette on pavement can corner at 0.84 g's, a very respectable figure. A Trans-Am race car reportedly produced 1.15 g's in skid-pad testing. The vehicles in SODA are cornering at or above these values, and they are racing on dirt and mud, not pavement.

If the corners seem too slippery, you are probably driving too fast around the turns and applying too much horsepower, causing the backend to lose all lateral traction. When turning, let off the brake and gas to allow all four tires to attain their maximum lateral traction.

The g-Force Analyzer is a tool for evaluating setup changes to your vehicle. The analyzer shows the overall instananeous acceleration affecting the vehicle's body in the forward/backward and left/right directions. The number in the middle is how many g's (or Earth gravities) that the vehicle is experiencing. One goal of setting up your vehicle is to maximize that value when accelerating, braking, and turning.

To use the g-Force Analyzer, turn it on in the garage. Then race a few laps normally without really paying any attention to it at all. After racing a few laps, enter the replay system and note the average values obtained while going around various turns and while driving on various surfaces (you may want to write these values down). For choosing

tires, it may be enough just to lock up the brakes on a straight-away and note the value. Be aware, however, that different road surfaces on the same track will produce different tractions and drags for different tires.

Next, enter the garage and tweak a setting, such as your tire type. For best results try adjusting one setting at a time. Repeat the above procedure of racing a few laps and entering the replay system to check the g-Force Analyzer results.

By comparing the results of the various trials it should be possible for you to determine if the setup changes improved, degraded, or had no impact on the vehicle's traction. Also, you should record your lap times for each trial, as the lap time is actually more important to you than how many g's you can get in the corners.

Also, be aware that the best setup in terms of g-force may not be best for damage control. When setting up your vehicle you need to compromise between handling and preventing damage. For instance, setting your springs soft may lower the vehicle's center-of-gravity and provide better traction, but it may also cause the suspension to bottom out on bumps and jumps, bending or breaking suspension components.

The g-Force Analyzer can also help you analyze your driving technique. The value in the circle should stay as large as possible all of the time. To get best lap times your vehicle should always be under large accelerations, either accelerating towards the next turn, braking before turning, or cornering during a turn. To win races the vehicle should never just be coasting near zero g's except when flying through the air.

The primary way to tell if setup changes are helping or hurting is to race several laps until your lap times stabilize at your best ability. Then change one setup item and repeat the procedure. Changing multiple items at once is not recommended because they may cancel each other out or make it impossible to determine what really made the difference to the handling.

In the garage you can save your setups to disk and load them later. This is handy for creating optimal setups for each track which can then be loaded during series racing or multi-player races. If you want to share your vehicle setups with others, go to the directory where you installed SODA Off-Road Racing. The Setups folder contains three folders: "buggy", "truck2x4" and "truck4x4". These folders contain the vehicles' setup files with the ".opt" file extension.

Horsepower

The horsepower setting allows you to adjust your vehicle's power. It would seem that setting this value to the maximum would be the best thing to do, but this is definitely not the case. In some of the actual SODA racing classes there are rules about how much the vehicle must weigh per cubic inch of engine (such as 10 lbs/cubic inch). Many racers use less horsepower than the maximum because they feel that the reduced vehicle weight gives them more of an advantage than some extra horsepower.

In SODA Off-Road Racing, increasing the horsepower also increases the weight of the vehicle. The extra weight may mean that you cannot take some corners as quickly, and it may also slightly reduce the acceleration and braking of the vehicle - you will not be able to get as many g's of traction.

Weight reduction is not the only reason to reduce the horsepower. If you set your power too high it may be excessively difficult to keep control of the vehicle. When you have more power than traction, the effect is that the drive wheels easily "break loose" and spin, actually providing less acceleration then if they were gripping the road. This wheel spin can be used to help slide the backend around turns (called throttle steer), but can also cause lots of spin-outs. On twisty tracks, it is almost certainly better to reduce the horsepower from the maximum in order to achieve the best control and cornering power. On the other hand, for tracks with long straight-aways, the extra power can really help the vehicle reach top speed quickly, greatly improving lap times.

When first learning to drive, especially with the trucks, it is a good idea to drastically reduce the horsepower. This will help you keep control of the vehicle while learning the controls and the tracks.

Transmission

SODA Off-Road Racing allows you to select between an automatic or manual transmission. The automatic transmission is easier to use because you only have to manually shift between reverse, neutral, and first gears. Once you get into first gear, the transmission will automatically shift between all of the drive gears to keep the engine's RPM within the desired range. When using a manual transmission you must manually shift between first, second, third, and fourth gears.

The manual transmission has an advantage over the automatic transmission because it allows you to choose when to shift gears. The automatic transmission, while easier to drive, does not have the intelligence required to always shift at the optimum shift points, reducing the vehicle's acceleration from the maximum that might otherwise be obtained.

Tire Selection

The following information may help you choose tires for each track and racing environment. The following numbers are relative and are not in any specific units. The road surfaces in the country are dirt and mud. In the desert, they are gravel and packed dirt, and in the tropics they are mud and packed dirt. Typically, in each environment there is a trade-off between two tread types depending on the amount of each of the two road surfaces on the track. As a general rule, in the country "normal" is good unless there is a lot of mud. In the desert, "shallow" is good unless the track is nearly all gravel. In the tropics, "shallow" is good unless there is a lot of mud. Also the wear on the surfaces off the road (not shown) are a lot higher than the road itself. Spinning your tires on grass will quickly slice open your tires on an invisible sharp rock and cause a flat. Also, the drags off the road (not shown) are quite high to help prevent racers from taking too many "shortcuts".

To reduce tire wear:

- Avoid spinning your wheels too much.
- Don't run with excessive wheel camber.
- Don't push it too hard in the corners.
- Don't hit bumps and jumps at top speed.

Tire Data for Dirt			
Tread	**Traction**	**Drag**	**Wear**
Shallow	77	2	9
Normal	82	6	11
Deep	73	8	13

Tire Data for Mud			
Tread	**Traction**	**Drag**	**Wear**
Shallow	70	65	5
Normal	74	50	7
Deep	80	25	11

Tire Data for Gravel			
Tread	**Traction**	**Drag**	**Wear**
Shallow	73	10	19
Normal	79	15	7
Deep	75	20	11

Tire Data for Packed Dirt			
Tread	**Traction**	**Drag**	**Wear**
Shallow	80	2	11
Normal	73	4	7
Deep	72	8	15

Suspension Options

Camber

A wheel's camber is the angle that the wheel is tilted. Negative camber is when the wheel is tilted in at the top. Positive camber is when the wheel is titled out at the top. A wheel's camber has two main effects, tire wear and camber thrust. If a tire is not perpendicular to the ground it will not wear evenly, so large camber angles will cause a tire to wear out more quickly. Camber thrust is the lateral force produced when a tire is run with a non-zero camber and is in the direction of the tilt. A negative camber can therefore help a vehicle corner at higher speed because the camber thrust will be larger in the direction that the vehicle is turning due to weight transfer while cornering. For wide street radials, the camber forces tend to fall off at about 5 degrees. For rounded motorcycle tires, the force can be useful up to 50 degrees. For off-road racing trucks, the best angle is probably somewhere between these two, but closer to the street radials. A vehicle's camber should be set to maximize cornering force as reported by the g-Force Analyzer, but should be reduced if necessary to lessen wheel and tire damage caused by jumps, bumps, and normal tread wear. Note that the camber angle on the outside tires increases slightly in the positive direction when cornering because the vehicle's body and wheels roll to the outside of the turn while cornering.

Springs

The springs are used to keep the tires in contact with a bumpy road as much as possible. If the springs are set too soft the suspension will "bottom out" when landing from jumps and when hitting bumps, causing damage to the suspension and wheels. If the springs are set too stiff, the vehicle's traction will suffer, and in SODA Off-Road Racing the

vehicle's center of gravity will be raised. This results in less traction in turns, making the vehicle easier to roll. Generally, the springs should be set as soft as possible for the best handling and traction.

SODA Off-Road Racing, like many off-road racing teams, relies on variable rate springs, which means that the spring rate increases as the spring is compressed. This allows the vehicle to ride near the middle of the suspension travel at normal loads while still being able to handle very large loads without bottoming out under extreme conditions.

Setting the rear shocks/springs stiffer or softer than the front shocks/springs can adjust the vehicle's handling to a limited extent, but it cannot overcome spin-outs caused by too much accelerator pedal. If spinning out frequently, try reducing the vehicle's horsepower before trying to fix it by adjusting the springs.

Shocks

The shocks are used to dampen the springs. Without shocks, off-road vehicles would bounce around on their springs like crazy and be nearly impossible to drive. In off-road races, shocks also help absorb the force from landing from large jumps or from hitting large bumps. If the shocks are set too soft, the springs will bottom-out too easily, causing suspension and wheel damage. If the shocks are set too stiff, the shocks themselves will absorb too much impact and take damage. Try to balance the settings of the shocks and springs so that the shocks and suspension take about equal damage when landing from large jumps. Set both the shocks and springs only as stiff as absolutely necessary to make it through the race with acceptable damage to the suspension.

Weight Distribution

The Weight Distribution setting allows you to slightly move the vehicle's Center of Gravity (C.G.) forward (positive values) or backward (negative values). Moving the C.G. can slightly affect the vehicle's handling.

Moving the C.G. towards the rear of the vehicle may improve acceleration because the rear wheels will have more traction due to the increased load, helping deliver the power to the road. At the same time, it will reduce the load on the front wheels, reducing their traction, which may lessen the cornering forces at the front of the vehicle. Moving the C.G. can also slightly affect how the vehicle takes jumps, but probably not as much as adjusting the shocks and springs.

Configuring for an equal load (or as close as allowed by the vehicle's design) between the front and rear of the vehicle will provide optimal cornering power, but not necessarily optimal handling. If the front or the rear has a higher share of the load, the cornering forces will be reduced due to an effect called "tire load sensitivity". The tires of a vehicle produce the most total traction when they all share an equal portion of the total load. Whenever the load is transferred disproportionately to the various tires, the maximum traction of the vehicle is reduced.

Gearing Options

Gearing

The gearing can make a huge impact on lap times. When gears are set for too large of a top speed, the acceleration suffers. Conversely, if set for too much acceleration, the wheels will break loose too easily, and the engine will redline in fourth gear. Generally, set the fourth gear over the top speed you expect to use on the track. For twisty tracks you probably want more acceleration and less top speed, so you would set fourth gear lower. For tracks with lots of long straight-aways, you probably want a higher top speed. If you are redlining the engine in fourth gear without wheel spin, you should probably set fourth gear higher.

After setting fourth gear, run some laps and determine how third gear should be set to maximize lap times. First and second gears are much less important than third and fourth gears, and are rarely used while racing. Finally, after setting third gear, it can help to go back and fine-tune fourth gear.

When adjusting gears you must insure enough overlap in the speed ranges of each gear so that the automatic transmission can shift. For instance, if the automatic transmission is not shifting from second to third gear (even when redlined), then third gear is probably too large. Overlapping the gears is important for the manual transmission, but will not prevent shifting even if setup incorrectly.

Steering Lock

The steering lock setting allows you to adjust how many degrees your front wheels turn when you turn the steering wheel as far as it will go to the right or the left. Reducing the steering lock will give you more precise steering control but will also reduce how far you can turn the wheels.

In off-road racing, a large steering lock is necessary to help you recover from slides and spins. However, on some tracks (or with some joy-sticks) it may be desirable to slightly reduce the steering lock for better control on the straight-aways. For most types of tires, the maximum cornering forces are achieved with less than twelve degrees of steering angle.

Also, because tires produce cornering forces at right angles to the direction the wheel is pointing, turning the wheels very sharply will cause a large rearward drag force, drastically slowing the vehicle. Turning the wheels past the optimum steering angle actually gives you less cornering force and increases drag - a double whammy. Remember, turning the vehicle with the minimum required steering angle will help you maintain momentum through turns and will also help you keep better control of your vehicle.

DRIVING TIPS

As in the real thing, many of the vehicles in SODA Off-Road Racing are over-powered. If you experience difficulty driving, try the following:

- Reduce your vehicle's horsepower in the garage to the minimum.
- Turn into the slide. If your backend slides to the right, turn right.
- Be very gentle with the accelerator. You only need to push the accelerator very lightly to match the power from a "floored" accelerator of a normal car.
- Test your calibration from the calibration screen and make sure your input device is calibrated and working. A bad calibration can make it impossible to control the amount of torque delivered to the rear wheels.
- At first just try to drive 30 or 40 MPH until you master the track and vehicle. Driving with 800 HP is much more challenging than driving a normal passenger vehicle.
- Always down-shift to first gear when starting from a stop. If you try to get going in third or fourth gear it is difficult not to spin out again.
- Try not to accelerate or brake much while turning. Acceleration and braking reduce the available traction for cornering.

- Make sure you have the appropriate tires for the track. Using mud tires on gravel or gravel tires on mud will cause the vehicle to have less cornering ability and may make the road seem excessively slippery. Also, choosing the wrong tire in mud can dramatically increase drag.

- Try not to lock the brakes up when slowing down. Be gentle with the joystick. When the wheels are locked up, all ability to steer the vehicle is lost. Sometimes, if you brake too hard, quickly tapping the accelerator can get the tires back up to speed and help you to regain control.

- If the vehicle starts to get too sideways, immediately stop accelerating and try down-shifting or lightly tapping the brakes. This sometimes helps get the vehicle back under control. Accelerating when starting to slide will usually cause the backend to "break loose" even more, insuring that you completely spin-out!

- Reduce graphics detail to get the best frame-rate that your system can provide. When the graphics performance is slow or "jumpy" it makes it harder to drive. You want the animation to be as smooth as possible.

Single Races

Learn the tracks. Perfect vehicle setups. Test new tracks that you built before putting objects on them. Try to set records for the World Wide Ranking System.

Single Races Buttons	
	**Go to Previous Screen**
	**Go to Garage to Set Up Vehicle**
	**Advance to Next Screen**
	**Practice**
	**Race**

Series Races

Compete in the 12-race off-road Championship Series. In Series Races you start out in Class 1, racing against novice drivers. When you finish the season in first place, you have earned the right to upgrade your vehicle and advance to the next racing class. The vehicle upgrades include: frame, tires, suspension, engine, and wheels. There are six racing classes to master -- and you will be an off-road racing master when you are the season champion in Class 6.

Series Race Buttons	
	**Go to Previous Screen**
	**Accept Selection**
	**Create a Series Career**
	**Delete a Series Career**
	**Fine-Tune Vehicle Setup in Garage**
	**Practice**
	**Race**

Series Tracks

After selecting the career from Active Careers on the Championship Series screen, the next track in the series is displayed. In series racing the order of the tracks is already determined. Perfect your setup in Practice before each race.

No Turning Back After the Checkered Flag

As in real off-road racing, once the checkered flag is waving there is no turning back! Be sure to take a few warm-up laps in Practice Mode. There is no restart feature in Series Races. When you cancel a series race it is considered to be a DNF (Did Not Finish) condition, and the results of that race are generated in accelerated time.

Multi-Player Racing

SODA Off-Road Racing provides multi-player support for several different communication methods, including LAN, modem, and direct serial connections.

In all modes, one player first *creates* a new multi-player session. Other players can then *join* the existing session. The player that creates the session is called the "host" and has special privileges for controlling the session, such as choosing tracks and starting races.

Multi-Player Requirements

- **Network**: IPX or TCP/IP compatible network for 2-6 players.
- **Modem**: Windows 95 compatible modem, 14,400 bps or faster, for 2 players.
- **Serial**: Serial cable with a null modem, for 2 players.

Creating a Session

One player creates a session (the host), other players may then join. Typically, the player with the best performing PC should be the host because the host system has special responsibilities and performs extra tasks during the session. Using a poorly performing PC as the host can degrade game play for all of the players in the session.

To create a new multi-player session, click on "Multi-Player" from the

Main Menu. The Select Medium screen appears. Usually, only communication mediums that are actually available on your PC will appear. For instance, if you do not have IPX installed, the IPX LAN mode may not appear as a selection. Choose the desired communication medium, then click on the "Create Session" button. The Create Session screen appears.

On the Create Session screen, select the desired vehicle type for the session, provide a name for the session (that the other players see when joining), and provide a player name. After completing these entries, click on the Checkmark button to finish the creation process. For the LAN based modes the session is now created, and the host is placed into the Multi-Player Chat screen.

For modem and serial connections, a connection must first be accepted before proceeding to the Multi-Player Chat screen.

Accepting a Modem Connection

1. The Select Modem dialog box appears. Select the desired modem (14,400 bps or faster required).

2. Click on the "Config" button, which brings up the Windows 95 properties sheet for your selected modem.

3. The properties sheet may vary for different modems, but the options you should set relate to error control and flow control. For some modems these check boxes can be accessed by switching to the "Connection" tab of the Properties sheet, and then clicking on the "Advanced…" button. Turn off error control and flow control.

4. Keep clicking on the "OK" buttons until the modem's Property sheet goes away, and you return to the Select Modem dialog box.

5. Click on the Checkmark button and a message box appears with the message "waiting for call…". When the remote player calls your modem, it should automatically answer and take you to the Multi-Player Chat screen.

Accepting a Serial Connection

1. The Select Port dialog box appears. Select the desired communication port that is connected to the remote system (requires a serial cable with a null modem).

2. Click on the Checkmark button. This should immediately take you to the Multi-Player Chat screen, where you can wait for the other player to join.

Joining a Session

After a session has been created by the host of the session, other players may join the session. To join an existing multi-player session, click on "Multi-Player" from the Main Menu. The Select Medium screen appears. Usually, only communication mediums that are actually available on your PC will appear. For instance, if you do not have IPX installed, the IPX LAN mode may not appear as a selection. Choose the desired communication medium, then click on the "Join Session" button.

Joining a TCP/IP Session

After pressing the "Join Session" button, a Windows 95 dialog box appears asking you to supply the computer name or IP address of the host that created the session. Over a LAN, the game will sometimes be able to find the host even if you leave the name blank. But if this does not work, or if playing over a Wide Area Network (WAN) with sub-nets and routers, it will be necessary to enter the computer's hostname or IP address.

Click on the "OK" button. Once any sessions are located, the Select Session screen will appear, allowing you to choose the multi-player session you wish to join from a list of the available sessions on your LAN. Select the desired session and enter your player name. Click on the Checkmark button to join the session. This takes you to the Multi-Player Chat screen.

Joining an IPX Session

When you press the "Join Session" button, your computer will search the local network for any sessions. It will not search across routers, so if you are really playing over a Wide Area Network with routers and sub-nets, you will need to use TCP/IP instead of IPX.

If any available sessions are located on your LAN, the Select Sessions screen appears. Select the desired session and enter your player name. Click on the Checkmark button to join the session. This takes you to the Multi-Player Chat screen.

Joining a Modem Session

1. When joining a Modem Session, the Dial Modem Session dialog box appears. Select the desired modem from the list of available modems (14,400 bps or faster is required).

2. Click on the "Config" button, which brings up the Windows 95 properties sheet for your selected modem.

3. The Properties sheet may vary for different modems, but the options you should set relate to error control and flow control. For some modems these check boxes can be accessed by switching to the "Connection" tab of the Properties sheet, and then clicking on the "Advanced…" button. Turn off error control and flow control.

4. Keep clicking on the "OK" buttons until the modem's Property sheet goes away and the Select Modem dialog box appears.

5. Enter the phone number to dial into the "Opponent's Phone Number." If the opponent is already listed in your phone book, or if you wish to add the opponent to the phone book, click on the "Phone book" button at this time. Add the opponent to the available choices or select from one already present. Click on the Checkmark button to select the desired opponent from the Phone Book dialog box.

6. Fill in your player name on the Dial Modem Session dialog box.

7. Click on the Checkmark button to dial the host's system. After the modems successfully connect, both players will be taken to

the Multi-Player Chat screen.

NOTE: When entering phone numbers the following special characters can be used to control how the number is dialed:

- "!" Indicates that a hookflash (one-half second onhook, followed by one-half second offhook before continuing) is to be inserted in the dial string.
- "P" Indicates that pulse dialing is to be used for the digits following it.
- "T" Indicates that tone (DTMF) dialing is to be used for the digits following it.
- "," Indicates that dialing is to be paused. Multiple commas can be used to provide longer pauses.
- "W" Indicates that dialing should proceed only after a dial tone has been detected.
- "@" Indicates that dialing is to "wait for quiet answer" before dialing the remainder of the dialable address. This means to wait for at least one ringback tone followed by several seconds of silence.
- "$" Indicates that dialing the billing information is to wait for a "billing signal" (such as a credit card prompt tone).

Joining a Serial Session

1. When joining a Serial Session, the Connect Over Communication Port dialog box appears. Select the communication port that is connected to the remote system (requires a serial cable with a null modem).

2. Enter your player name.

3. Click on the Checkmark button to join the session. The Multi-Player Chat screen appears.

The Multi-Player Chat Screen

The Multi-Player Chat screen is the first screen you see after creating or joining a multi-player session. Players can send messages to the other joined players by typing a message into the send box and then pressing enter.

At the top of the screen is a list of all players that are currently joined in the session. Once a race has ended, the position column displays the finishing positions for each player that participated in the race. When new players join, this field may sometimes be set to a dash until they have participated in a race.

When the host (or master) of the multi-player session is satisfied with the list of joined players, the host can start the next race by clicking on the Checkmark button. Players that have joined the race must wait until the master decides to start the next race. When the next race is started all players go to the Multi-Player Select Track screen simultaneously. When the race is over for a player, the player returns to the Multi-

Player Chat screen to wait for the next race to begin. If a race is still in progress, a TV Camera view of the current race will appear in the upper-right corner of the screen. Clicking on the Vehicle button makes the TV Camera switch to a different vehicle that is still racing.

Multi-Player Races

When the host decides to start the next race all players switch to the Multi-Player Select Track screen. For all joined players the screen is in a read-only mode, only the host may select the track. As the host switches to various tracks, the track screen also updates on all of the remote player's systems. When the host clicks on the Checkmark button, all player's systems load the selected track and then display the Race Start Menu.

The Race Start Menu gives each player an opportunity to enter the garage and make changes to their vehicle's setup before entering the race. A countdown timer appears showing how much time remains before the race starts. Click on the "Garage" menu pane to enter the garage to make setup changes to your vehicle. One strategy for this screen is to already have your setups ready to go and saved to disk, then you can simply (and quickly) load the desired setup for the current track.

Once your vehicle is correctly set up for the race, exit the garage and click on the "Enter Race" menu pane. This causes your vehicle to be registered and present in the race. Once all players have entered the race, or if the countdown timer reaches zero, the race will begin. Players who have not yet entered the race when the countdown timer reaches zero will be left behind at the starting line, but they can still enter

the race.

When the first player finishes the race, a countdown timer starts. Whenever another player finishes, the timer resets back to 30 seconds. If the timer ever reaches zero before someone new can finish the race, the race ends.

If a player joins a session while a race is already in progress, the new player will remain at the Multi-Player Chat screen until the current race ends and the next race begins.

Solving Modem Problems

To use a modem for a multi-player connection, you need to make sure that error control and flow control are disabled. These settings can usually be found in the modem properties. Go to the Control Panel, then Modems. Select your modem and choose Properties. Select the "Connection" tab and click on the "Advanced" button. Turn off the check-boxes for flow control and error correction.

The game will only work properly with a 14.4 Kbps or better connection, 9600 baud is not supported. If you have problems connecting or playing, you may be able to solve the problem by checking "record a log file" option on the same modem properties dialog where you turn off error correction and flow control. The log file is written into your windows directory into a file named "modemlog.txt". In this log you can see all of the modem initialization strings and any responses from the modem, including the connection speed. One common problem is that some high-speed modems can end up connecting at a low speed due to incompatibilities with each other. For instance, two 28.8 kbps modems

sometimes negotiate a connection of only 9600 bps. This type of problem can be detected by turning on the modem log file option and then looking at the modemlog.txt file. The actual connect speed is usually reported in this file.

Game Option Hints

Frame Rate Tips

Any or all of following suggestions can help improve the game's frame rate on many PCs:

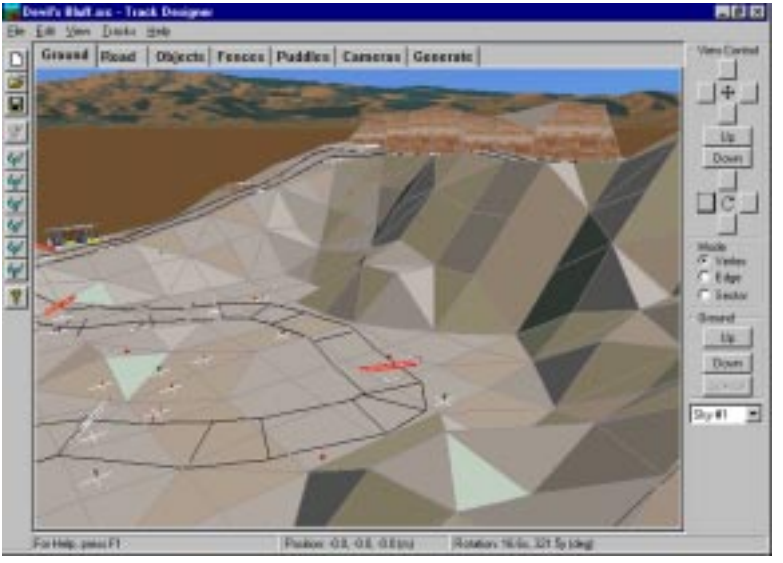
- Turn off the rear-view mirror. The track map overlay may be more useful and has a negligible impact on frame rate.
- Turn off translucency in the graphics detail settings.
- Lower graphics detail settings. Turning off the texture mapped sky can make a large difference on some PCs.
- Race with fewer opponent vehicles. Each vehicle consists of over 500 polygons.
- Choose Bumper-Cam view. It has the best performance because most of your vehicle does not appear in the view, reducing the number of polygons that need to be rendered each frame.
- Race in the lower resolution 320x240 mode instead of the maximum 640x480 mode.

Page Faults

On systems with less than 32MB of RAM, the system may sometimes page fault. The main symptom of this is the disk drive running while racing, or short pauses while racing, where the system locks up for a fraction of a second. This is due to the currently selected options requiring too much memory. The following tips can help solve the problem:

- Make sure no other applications are running.
- Reduce the replay system capacity to 2 minutes, or turn it off in the options. (Saves up to 1MB of RAM).
- Turn off the radio voice (Saves 2MB of RAM) in the options. This especially improves multi-player races on 16MB systems and track load times.
- Turn off damage in the options. This prevents the body panels from being loaded into memory.
- Race with fewer opponents. Fewer vehicle textures and vehicle body objects need to be loaded into memory.
- Reduce the graphics detail. The textures will swap out of system memory and the page faults (if any) will quickly subside.


Tropic Torment.src - Track Designer
File Edit View Tracks Help
Ground Road Objects Fences Puddles Cameras Generate
View Control
Up
Down
Mode
Vertex
Edge
Sector
Ground
Up
Down
For Help, press F1


Ground Road Objects Fences Puddles Cameras Generate

Track Designer

The Track Designer allows you to build custom off-road tracks for use in SODA Off-Road Racing.

You can design the terrain, lay out the track, assign surface types to the road, position cameras, select sky and horizon textures, and load and position objects around the track from a directory of provided objects - including trees, checkpoints, boulders, billboards, tire barriers and fences. Track source files may easily be exchanged with others. Existing track source files may be re-loaded into the tool, modified, and re-generated as a new track.

Creating Ground

Ground Design Overview

Mode

Select the ground in three different ways. Hold down the Shift key while selecting to make multiple selections.

Ground

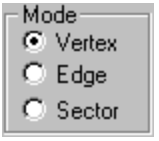
Click on the "Up" and "Down" buttons to move the current selection. When in Vertex Mode, the Special button allows you to attach and detach vertices. When in Sector Mode, the Special button allows you to toggle the diagonal of the sector.

Sky

Two horizon and sky combinations are available in each environment.

Selecting a Vertex

#1



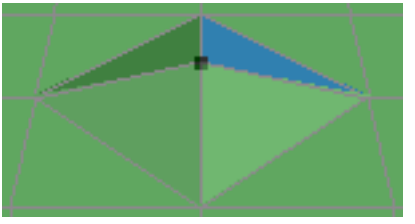
Click on “Vertex” in the Mode box.

#2

Click on the corner of a sector. Hold down the Shift key to select multiple vertices.

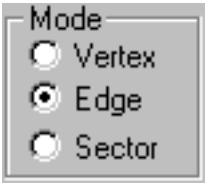
#3

Click on the “Up” and “Down” buttons in the Ground box to change the elevation of the selected vertex or vertices.



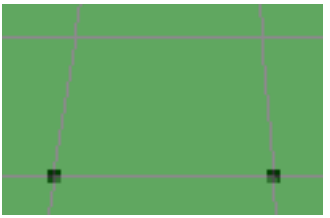
Selecting an Edge

#1



Click on “Edge” in the Mode box.

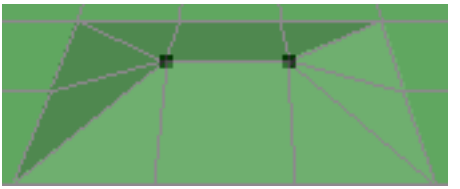
#2



Click on the side of a sector. The selected edge is the line between the two selected vertices. Hold down the Shift key to select multiple edges.

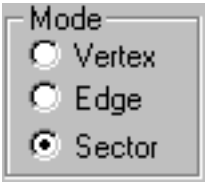
#3

Click on the “Up” and “Down” buttons in the Ground box to change the elevation of the selected edge(s).



Selecting a Sector

#1



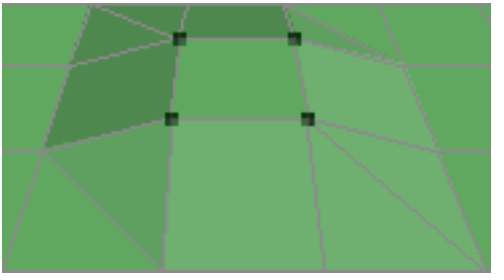
Click on “Sector” in the Mode box.

#2

Click on the sector that you want to select. The selected sector is the square area surrounded by four selected vertices. Hold down the Shift key to select multiple sectors.

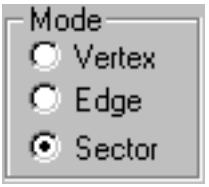
#3

Click on the “Up” and “Down” buttons in the Ground box to change the elevation of the selected sector(s).



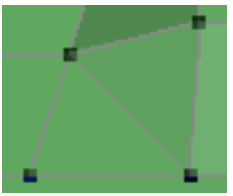
Toggling Diagonals of Sectors

#1



Click on “Sector” in the Mode box.

#2



Click on the sector containing the diagonal to be changed. The Special button in the Ground box becomes a Toggle button.

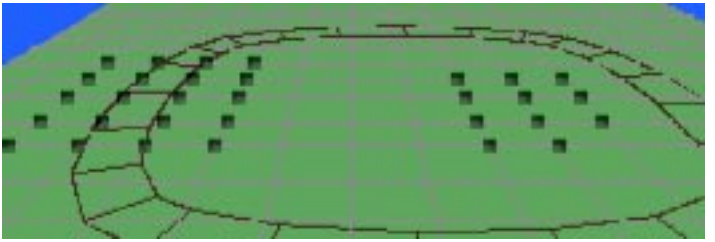
#3

Click on the “Toggle” button.

Changing the Elevation

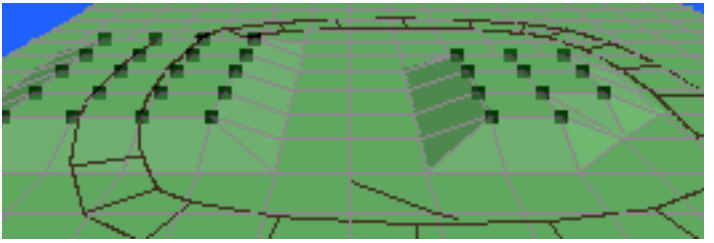
#1

Select the areas of the ground to be changed.



#2

Click on the “Up” and “Down” buttons in the Ground box to change the elevation of the selection.



Detaching a Vertex

#1

Select a vertex.

#2

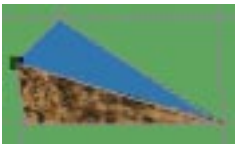
Click on the “Detach” button in the Ground box

Raise Selected Sector

#3

Click on the blue highlighted triangle of the sector.

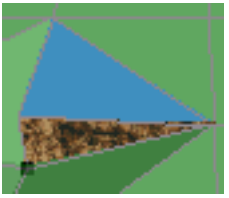
#4



Click on the “Up” button in the Ground box

Lower Surrounding Ground

#3



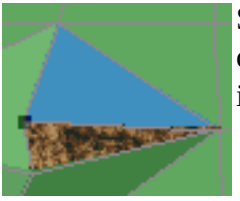
Click on the “Down” button in the Ground box

Attaching a Vertex

Example #1

Select a vertex and
click on the “Attach” button
in the Ground box.

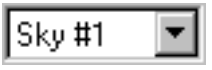
Example #2

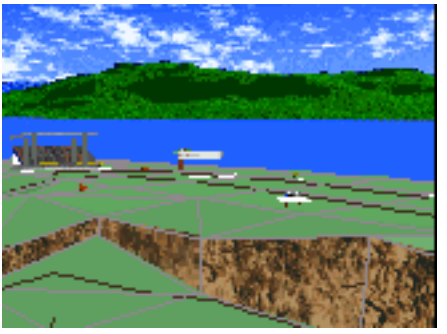


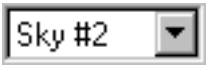
Select a vertex and
click on the “Attach” button
in the Ground box.

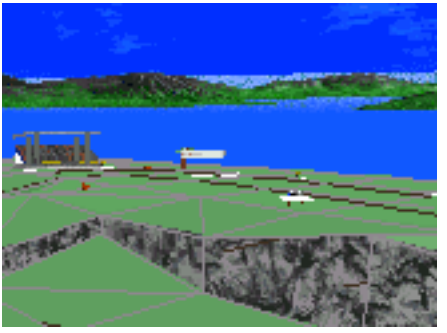
Assigning Sky and Horizon

Each environment comes with two horizons and skies. Choose the horizon and sky by selecting “Sky #1” or “Sky #2” from the drop-down-list.









Note: Bluff surfaces are different depending on the sky that is chosen.

Ground Design Hints

Test the ground and road design before adding objects

Finalize the ground and road before adding objects, puddles, fences and cameras. What looks to be gentle hills in the track designer may be much different than expected when you are driving on them. The time required to generate a track full of objects is lengthy compared to one that has none.

Expect to pop back and forth between the track designer and the game while designing your track.

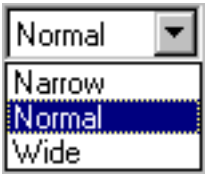
Designing the Road

Road Design Overview

Surface Type

Choose from two different surface types to assign to various sections of the track.

Road Type



Designate selected areas of road as Narrow, Normal or Wide.

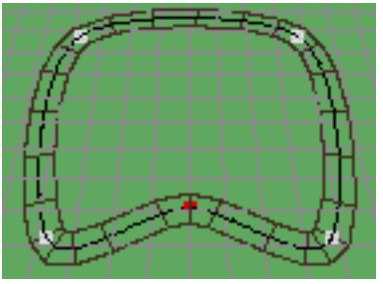
Start Line

Designate the point on the road at which races will begin. The Start Line is the checkpoint following the selected control point.

Points

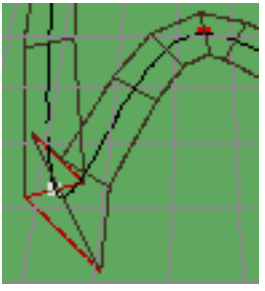
Insert road points by clicking on the “Insert” button or on the road. Delete the selected point by clicking on the “Delete” button or the Trash Bin icon, or double-clicking the control point to be deleted.

Positioning the Road



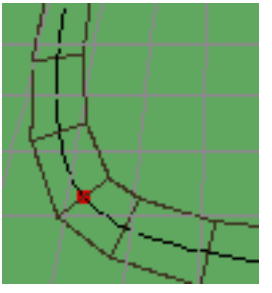
To move the road, click on the track and drag while holding down the mouse button. A road vertex is automatically added to the track when you click on it.

Create Turns of Adequate Turn Radius



If the outline of a turn becomes red, the turn is too sharp. Fix the turn by dragging the segments before and/or after the turn until the red segments become black, indicating that the turn is of adequate turn radius.

If you can't fix the road segment, select a point near the illegal road segment and click the Trash Bin icon, deleting the current point, until the road section clears up and then proceed to create a legal turn.

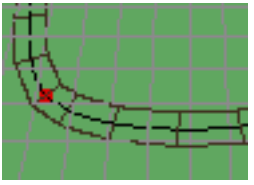


Adding and Deleting Vertices

To Add a Road Vertex

Click on the road with the mouse. Hold the mouse button down while dragging the road into position.

OR



Select an existing vertex.

Click "Insert" in the Points box.

A new point is inserted counter-clockwise from the selected vertex.

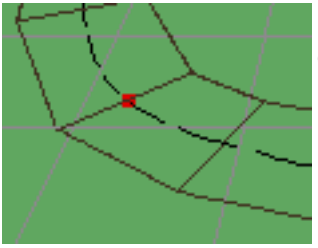
To Delete a Road Vertex

Select the vertex to be deleted and then click "Delete" in the Points box or click on the Trash Bin icon.

Assigning Surface Types

Two different surfaces are available in each environment.

#1



Select the vertex that marks the beginning of the road surface change.

#2

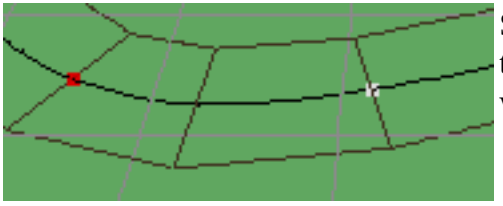
Choose a surface from the list of surfaces in Surface Type.

#3

Result: The selected surface is assigned to the road extending from the selected vertex counter-clockwise to the next vertex. This change is noted by a different outline color of the road.

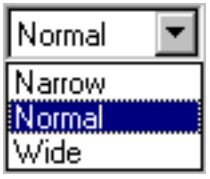
Changing the Road Width

#1



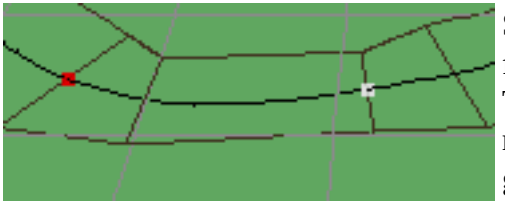
Select the vertex that marks the beginning of the road width change.

#2



Select the road width from the Road Width box. The selected width is assigned to the road extending from the selected vertex counter-clockwise to the next vertex.

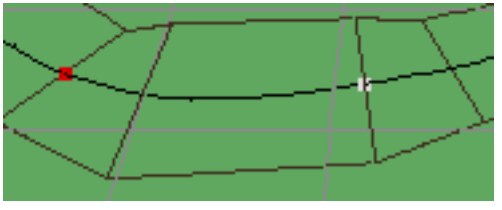
Making the Road Narrow



Select 

from the Road Width box. The road narrows to approximately 24 meters wide in the game.

Making the Road Wide

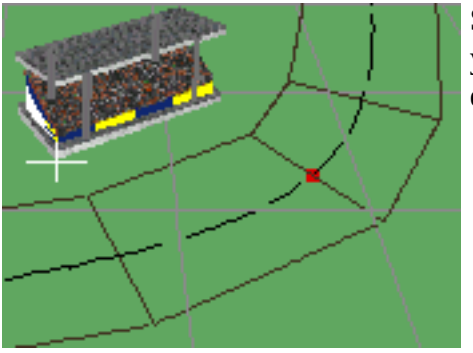


Select 

from the Road Width box. The road widens to approximately 36 meters wide in the game.

Designate the Start line

#1



Select the road vertex where you want the race to begin and end.

#2

Check “Start Line”. The race will start at the checkpoint following the selected road vertex.

Placing Objects

Object Tab Overview

Object Icons

Three sets of objects are available: Common, Billboards, and Environment. Click on the icon of the object to be placed on the track, and then click on the track to place the selected object.

Common objects include: grandstand, pylon, tire barrier, directional signs, construction barricade, hot air balloon, and SODA trailer.

Billboard objects are the commercial signs of the sponsors which are placed around the track.

Environment objects are specific to the chosen environment. For instance, the country offers a barn, the desert offers a trainstation, and the tropics offers a hut.

Object Spin

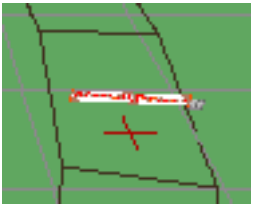
Click on the Spin buttons to rotate the selected object.

Placing Checkpoints

Checkpoints are placed strategically to prevent players from taking shortcuts across the track. The track must have a minimum of three checkpoints. The Track Designer will not generate the track if three checkpoints have not been placed.

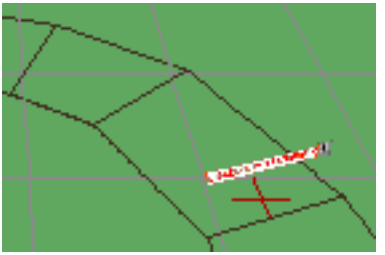
New Checkpoint

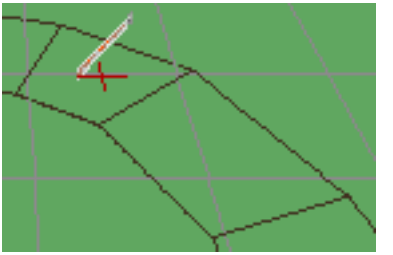
Select the Checkpoint icon and click above the road to place the checkpoint. The checkpoint is automatically positioned precisely over the road.



Move an Existing Checkpoint

Select the checkpoint to be moved. Hold the mouse button down and move the mouse up or down to move the checkpoint. The checkpoint automatically follows the road.



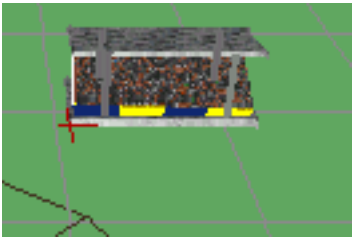


Placing Objects

#1


Select the Object icon of the object to be placed.

#2

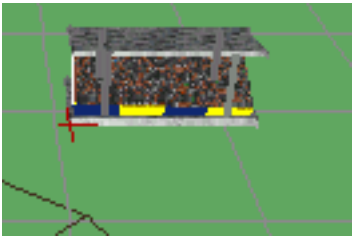

Click on the track. The object appears with a red X indicating that it is selected.

Note: When placing numerous objects of the same type, place the object on a clear portion of the track and drag it to the desired location.

Note: Portions of objects may appear to disappear as they are moved around and positioned. The objects will appear correctly in the game after the track is generated.

Rotating Objects

#1

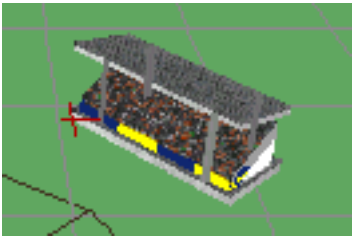


Select the object to be rotated.

#2

Click on the Object Spin buttons until the object is oriented as desired.

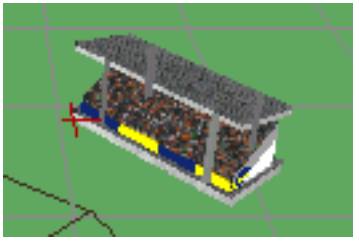
#3



The selected object rotates.

Note: While creating a track, the polygons that make up the objects are not sorted. You may have to generate the track and drive around to check out the orientation of some of the objects.

Deleting Objects



Select the Object icon of the object to be placed and click on the Trash Bin icon or choose “Delete” from the Edit menu.

Object Placement Hints

For Optimum Performance and Frame Rate in SODA Off-Road Racing:

Do not place objects on the road.
Do not place objects on ground sector boundaries.
Keep the number of objects per ground sector to a minimum.

Creating Fences

Fences Tab Overview

Fence Type

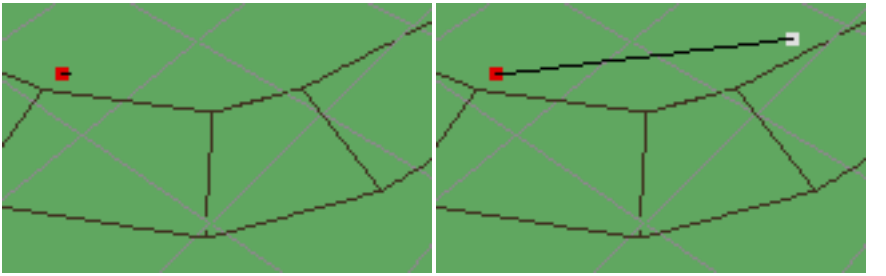
Select from a list of different fences, like stone walls, rope flags, and posts.

Control Points

Insert and delete points from the line defining the fence.

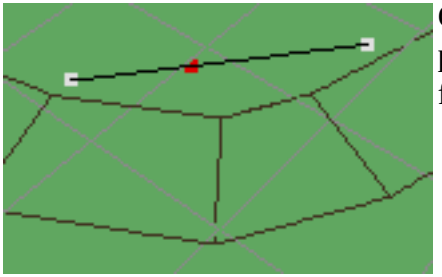
To Create a Fence

Click on the track to define where the fence is to begin. Drag the mouse to where the fence is to end.

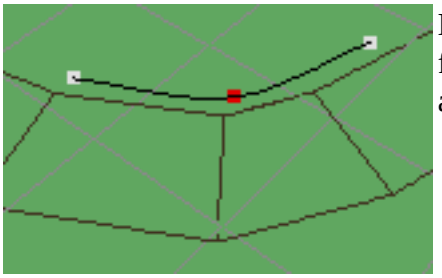


Adding and Removing Vertices

Add a Vertex

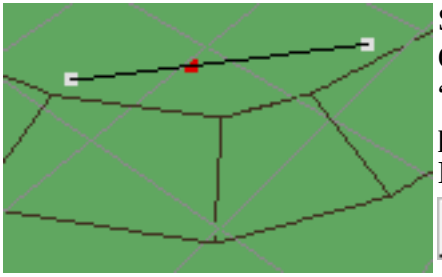


Click on the fence. A new vertex point is automatically added to the fence.



Drag the mouse while selecting a fence vertex to design the fence around corners.

Delete a Vertex

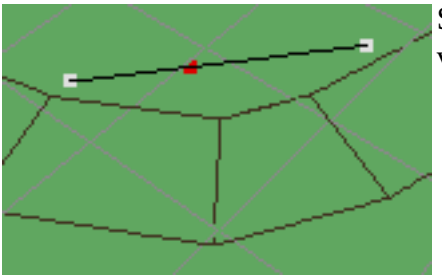


Select the vertex to be deleted. Click the Trash Bin icon, click "Delete" in the Control Points panel, or select "Delete" from the Edit menu.

Assigning Fence Types

Three different fences may be created. The fence is created as the currently selected fence type.

#1



Select the fence. One of the vertices should be red.

#2

Select the type of fence from Fence Type.

Fence Design Hints

For optimum performance do not place numerous flag rope fences near each other.

Creating Puddles

Puddles Tab Overview

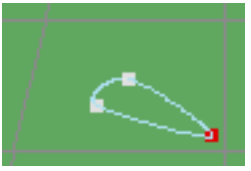
Puddle Type

Select the depth of the puddle from: Shallow, Normal and Deep.

Control Points

Insert and delete points from the line defining the puddle.

Defining Location of Puddles

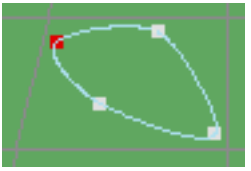


Click on the track to define where the puddle is to begin and drag the mouse to where the puddle is to end.

Select one of the vertices and drag it to further design the shape of the puddle or pond.

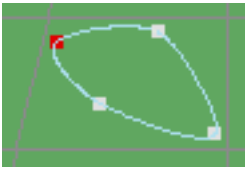
Adding and Removing Vertices

Add a Vertex



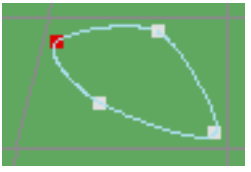
Click on the puddle to insert a new vertex and drag it to the desired location.

Delete a Vertex



Select the vertex to be deleted. Click the Trash Bin icon, click “Delete” in the Control Points panel, select “Delete” from the Edit menu, or double-click the vertex.

Assign a Puddle Type



Select the puddle. One of the vertices should be red.

Select the depth of the puddle from Puddle Type.

Puddle Design Hints

For optimum performance within SODA Off-Road Racing design puddles and ponds within a single ground sector.

Positioning Cameras

Cameras Tab Overview

Camera placement is used by the Camera View of SODA Off-Road Racing. When a camera does not cover a sector, the view switches to Helicopter View in the game.

Camera Icons


Create a new camera.


Select or move an existing camera.

Up, Down and View

Position the camera close to the ground or high above the ground. Then click the "View" button to see a 360 degree shot of what the currently selected camera can see.

Defining Camera Location

Place a Camera

Click on the Camera icon and then click on the sector of the track where the camera is to be located.

The sector containing the camera turns red. The camera appears as a floating red diamond.

Move a Camera

Click on the Pointer icon and then click on the camera to be moved and drag the camera to the desired location.

Cameras can be moved within the current sector or to a completely new sector. The default position is the center of the sector.

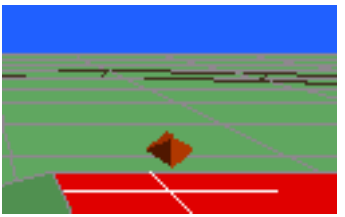
Changing Height of Camera

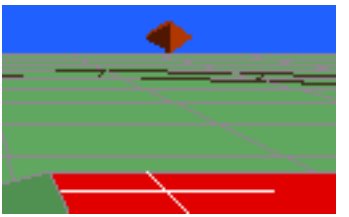
#1

Click on the Pointer icon and click on the camera whose position is to be edited.

#2

Click on the “Up” and “Down” buttons in the Camera box to move the camera up and down.





Defining Camera Coverage

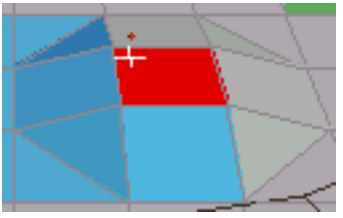
Camera coverage determines which camera will follow the currently selected vehicle in the Camera View of SODA Off-Road Racing.

#1

Click on the Pointer icon and click on the camera whose position is to be edited.

#2

Click on the sectors to be covered by the selected camera. Selected sectors turn to light blue. The sector where the camera is located is automatically covered by the camera in that sector.



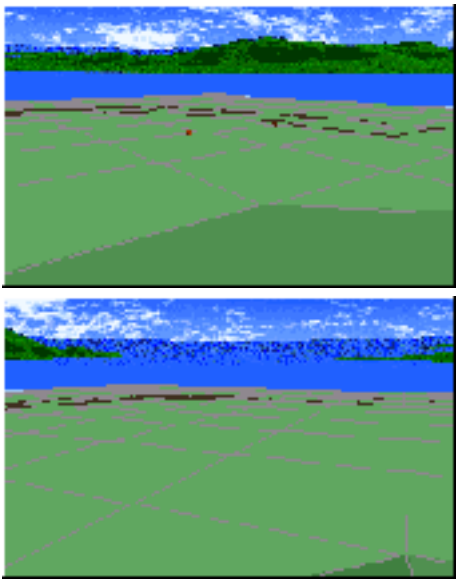
Sectors that are covered by cameras not currently selected are displayed as light grey. Any sectors not covered by a camera will default to Helicopter View in SODA Off-Road Racing.

Checking Camera View

See the 360 Degree View from the Camera's Location

Click on the Pointer Icon and click on the camera whose view is to be checked.

Click on the "View" button in the Camera box. The Track Designer's main view becomes the selected camera's view and rotates 360 degrees.

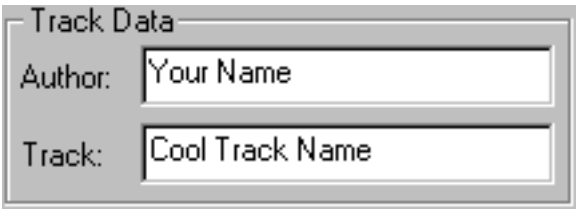


Generating Tracks

Generate Tab Overview

Upon generating a track it is automatically added to SODA Off-Road Racing and ready for racing.

Track Data

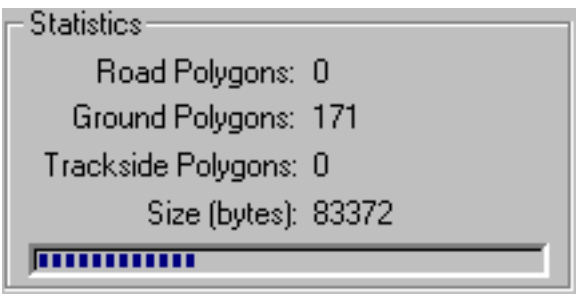


Enter author's name and name the track.

Generate Button

Use the View Control buttons to locate the best view of your track. Click on the "Generate" button to generate the track.

Statistics



View track generation progress.

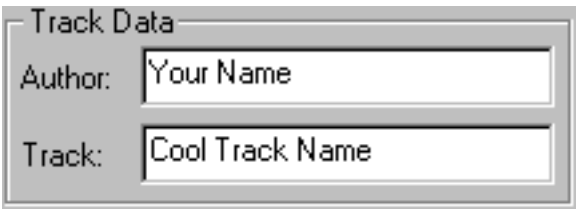
Defining Track View for Game

When you generate your track, the current track view is captured and saved as a part of the track file and displayed on the Select Track screen of SODA Off-Road Racing.

Use the View Control buttons to change the track view.

Customizing Track Information

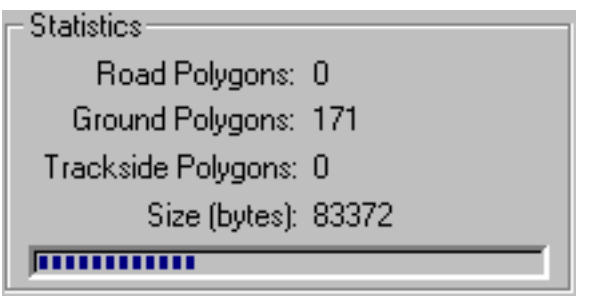
The Author and Track Name in the Track Information section is saved as part of the track. This information is displayed on the Select Track screen of SODA Off-Road Racing.



Enter your name and name your track.

Track Generation

Click on the "Generate" button to begin generating the track.



While the track is generating, view the progress in the Statistics area. You may use the View Controls while the track is generating to view your track without affecting the view that will be used on the Select Track screen.

If you want to stop generating the track, click on the “Stop” button.

When track generation is complete you are informed that the track has been installed in the game and ready for racing.

Track Generation Hints

Save the “Track Select Screen Shot” View as a Preset

Once you have found the perfect view to be used when displaying your track on the Select Track screen, custom set one of the view buttons so you can return to that view. Since custom views are saved with the current track, the next time you want to generate that track you can return to your Select Track screen shot view quickly.

Exchanging Tracks

There are two different ways to exchange tracks. Track source files or fully generated track packs can be traded. Usually, you will want to send and receive tracks as track packs because they are much more useful.

Exchanging a track's source file is of limited use. The main reason to do this is when developing a track using a team of people. The problem is that any tracks generated from the source file on different systems or even on the same system at a later time will have different serial numbers inside of them. These serial numbers are used to insure that the identical track is really installed on all of the systems for multi-player races and for playing back replays. So if you ship a track source file to a friend and then both of you generate the track, you still will not be able to race on the track in multi-player or share replays that need that track because the serial numbers will not match.

The proper way to exchange a finalized track is to make a track pack. The Track Designer has the ability to import and export a track in the form of a track pack (*.tpk) file. When you export a track using the track designer, it does a lot of work. First of all, in the pack, it includes the generated version of the track, any information the artificial intelligence learned about the track, and the track's records. When packing up all of that information, it uses a compression scheme to make the track pack file as small as possible (usually around 300kb). Simply ship the pack file to a friend, and when the pack file is imported into another's copy of the game, the track, along with its learned data and its records will be properly installed. Now you can race each other on the track in multi-player and share replays generated on the track, because

the serial numbers will match.

You can also use the export and import feature to archive a track to floppy disk. For instance, if you already have the maximum number of tracks in your game, or if you are running out of disk space, you can export the track to floppy and then delete it from the game. Later, if you want to restore the track, simply import it back into the game. All of the learning and records will be preserved and restored.

When sending or receiving track source files or track packs, you need to make sure you set your file transfer program to send and receive binary files. All track source files and track packs are binary files (not ASCII files), and their contents must be preserved exactly during the transfer.

Exporting Tracks

1. Select "Remove/Exchange Tracks…" from the Tracks menu in the Track Designer.

2. Select the track to export from the list of installed tracks.

3. Click on the "Export…" button. You may not export or import any Championship Series tracks.

4. The Save Compressed Track File dialog appears. Choose the location and the filename for the track pack. Click on the "Save" button.

Importing Tracks

1. Select “Remove/Exchange Tracks…” from the Tracks menu in the Track Designer.

2. Click on the “Import…” button.

3. The Open Compressed Track File dialog appears. Choose the location and the filename for the track pack to be imported. Click on the “Open” button. The track will be installed.

Deleting Tracks

1. Select “Remove/Exchange Tracks…” from the Tracks menu in the Track Designer.

2. Select the track to delete from the list of installed tracks.

3. Click on the “Delete…” button. You may not delete any Championship Series tracks.

Learning New Tracks

After you generate a new track and it is installed into the game, the computer vehicles will not race on the track until the computer has been allowed to "learn" the track. There is a Learn button and a Percentage Learned readout on the Select Track screen. If this number is not at 100% then the computer has not yet completed learning the selected track with the selected vehicle.

Click on the "Learn" button to launch the learning system. It can take the computer from 15 minutes to a few hours to learn a track, depending on its length and complexity. Because it can take such a long time, it may be a good idea to wait until the computer will be freely available for several hours before learning new tracks.

The computer will first learn the selected track with the selected vehicle. After it completes, it will automatically proceed to the next vehicle type that has not yet learned the track. After all vehicle types have learned the selected track, the computer will automatically advance to the next track and learn it. After all tracks have been learned by all of the vehicle types, the learning system will return to the Select Track screen. This automatic learning mode was added to allow you to create several tracks, and then have the computer learn all of them without any required intervention.

When exchanging tracks, the learned data is added to the track pack, so anyone receiving your track will not have to wait for the computer to learn the track over again.

Technical Support Information

Technical Support

Automated Technical Support Line - USA:
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Sierra On-Line offers a 24-hour Automated Technical Support line with recorded answers to the most frequently asked technical questions. To access this service, call (425) 644-4343 and follow the recorded instructions to find your specific topic and resolve the issue. If this fails to solve your problem, you may still write or fax us with your questions, or contact us via our On-Line services.

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