

The Red Orchestra

Game Manual

Release 2.0



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PLEASE NOTE:

The notes and console commands have been extensively tested on UT2003 – but they have NOT been tested so much on UT2004. It is strongly advised that you make backups of anything you plan to change using the details listed in these sections. As UT2004 becomes better known and understood, we will be able to verify these sections.

IN THE MEANTIME, THE Red Orchestra Team WILL NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGE DONE IN TRYING OUT WHAT IS DOCUMENTED IN THESE SECTIONS.

Quickstart

Introduction

Online multiplayer gaming has grown in leaps and bounds over the past decade. Graphics have improved to the point of eerie realism, accompanied by aptly realistic explosions and ambient sounds. The end result is an experience that simply must be played to be believed.

Newcomers to this form of interactive entertainment will often find it difficult to jump into the fray without a laundry list of questions in hand. The purpose of this guide is to ramp up the beginner on multiplayer shooters, and more importantly, make their first experience of Red Orchestra a pleasant and enjoyable one.

Red Orchestra is a modification to the popular first person shooter Unreal Tournament 2004. What this means is, in order to play Red Orchestra, you must have a licensed retail copy of Unreal Tournament 2004 installed and updated to the most recent version in order to run RO properly.

Installation

If you've made it this far, we'll assume you've installed your copy of UT2004. Now it's time to download and install Red Orchestra. Depending on your Internet connection and geographical location, download speeds will vary. A full list of mirrored hosting sites can be found here at the Red Orchestra Downloads section on the website at www.redorchestramod.com.

Once this file has been fully downloaded, begin the install process by clicking on the RO install icon that was saved to your computer during the download process. This will launch the installer, which will load the game onto your hard drive and allow you to play.

If you installed your copy of UT2004 to the default location (c:\UT2004) then just click "next" when the installer prompts you to choose a directory; make sure you install it UNDER your UT2004 directory. When the installer is finished, you are now ready to start Red Orchestra for the first time.

Playing the game

Since this is your first time playing Red Orchestra, we suggest that you play in Practice Mode to get accustomed to the controls and game objectives first. Launch Red Orchestra from the desktop icon by double-clicking it with your left mouse button, or by loading UT2004, going through the "Community" option off the main menu, to "mods" and "activating" Red Orchestra.

After the brief intro movie, the main menu will appear:

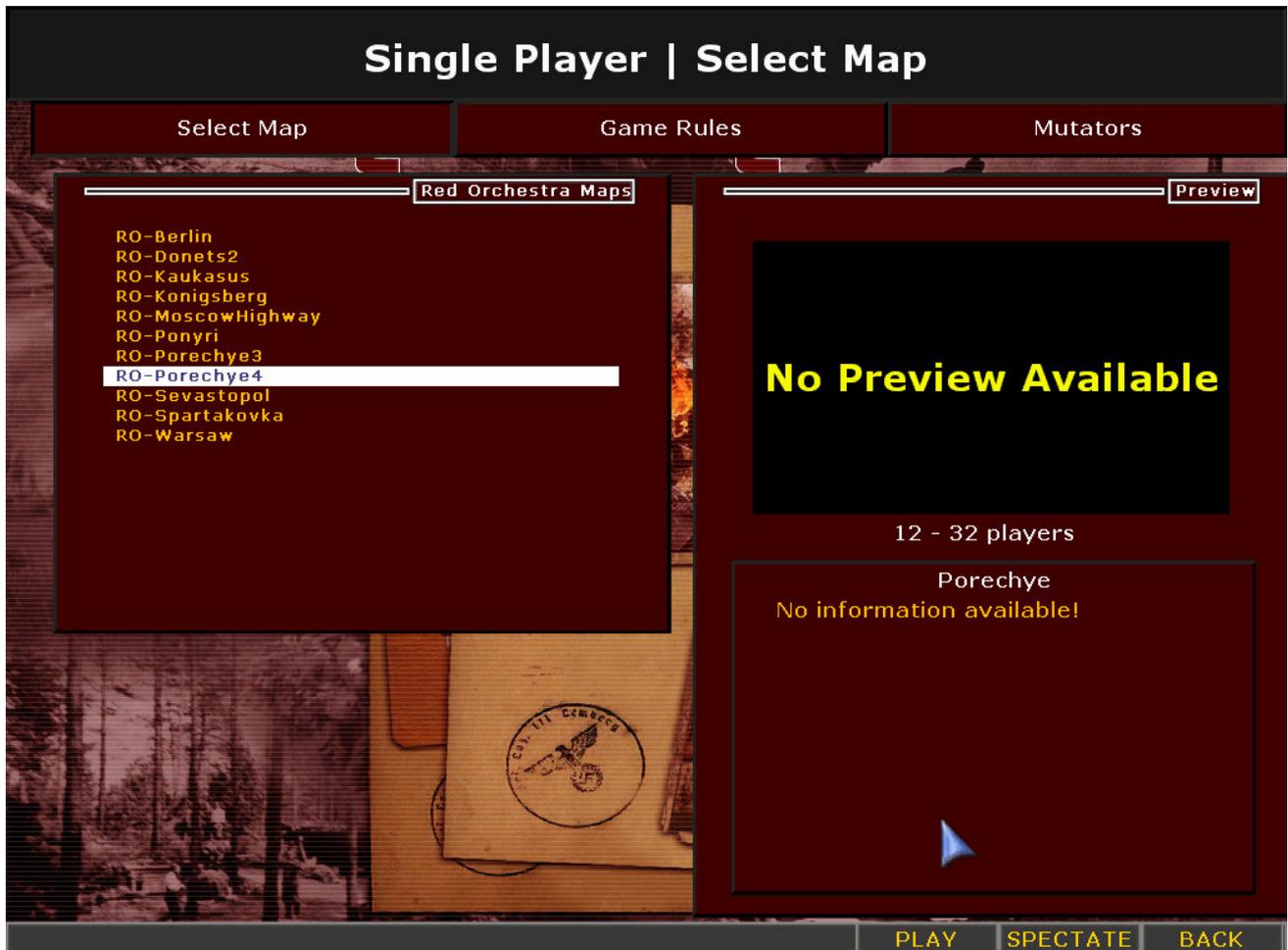


If you are like most PC gamers, you will be using your keyboard and mouse to play the game. Before jumping onto the battlefield, check your control configuration. Keep in mind this is fully customizable and it's likely your ideal setup might be different than the default (or your friend's).

Whether or not you use every function at your disposal, you should immediately familiarize yourself with the following controls (check these in the Configuration Options – Controls – to set them to suit yourself):

Action	Control Key
Forward:	W
Strafe Left:	A
Back:	S
Strafe Right:	D
Reload:	R
Primary Fire:	Left Mouse
Iron Sights:	I
Melee Attack:	B
Change Weapon:	Choose 1, 2, 3 or 4
Jump:	Space bar
Crouch:	Ctrl key
Walk:	Shift key
Prone:	Alt key

It looks like a lot to remember, but that’s what practice is for. When you have identified all these key locations, it’s time to fire up a practice map to test your newfound skills. So – click on “Practice”. This brings up the map selection and options. So you have something to shoot, click on “Game Rules” and check that the Bots are set to map-dependant. Then click on the “Select Map” tab and pick one. Any one will do! After selecting your chosen map by clicking on it, click on “Play” to load the map.



Once the map has loaded, you will be presented with the Unit selection. Check the box for "Axis" or "Allies" for German or Soviet respectively. Then "Select" and on to the Role selection.



Each map comes with a variable number of roles you can choose from, representing the different soldier types in use on that map. The quick run-down:

Schutze/Strelak – a rifleman, usually armed with a bolt-action rifle or semi-automatic rifle, plus some grenades. Your basic WWII "grunt".

Stosstruppe/Avtomatchik – basically, a soldier armed with a sub-machine gun and some grenades; also found with the German "assault rifle" – the Stg44.

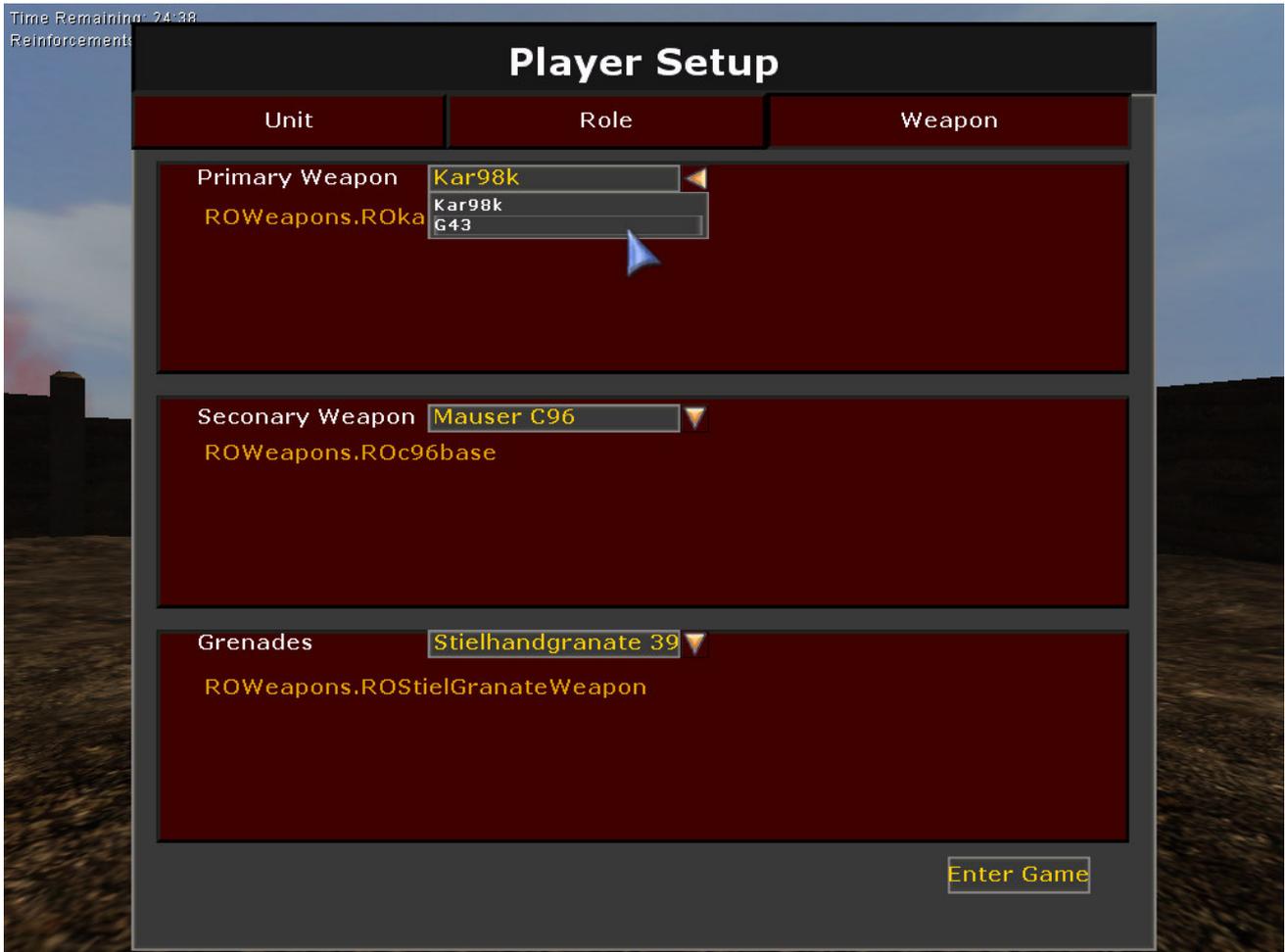
Scharfschutze/Sniper – the sniper role; gets a rifle with a scope, a pistol and grenades.

Gruppenführer/KO – squad leader, armed with an SMG, pistol and grenades. Gets a few extra voice commands J

MG-Schutze/Pulemetchik – the machine-gunner; gets a light machine gun, pistol and grenades.

Stosstruppspioniere/Saper – combat engineer with SMG, grenades and map-dependant engineer "goodies"!

Now, notice that not all roles are available on every map: it is up to the creator of the map which roles are included. So – pick one, "Select" and on to the Weapons choice.



This is dependant on the role you selected – pick between the weapons and you’re done. Again, the choice of exactly which weapons are available has been set up by the mapper for you. Wait for the reinforcement counter to tick down and you’re in-game.

You get a first-person view. You, holding your weapon – now all you have to do is learn to use it. Try it out, iron sights, from the hip. Switch to grenades and toss a couple. You’ll soon get the idea! Now go find some enemy to shoot !

In Game

Objectives: RO is based on the capture of objectives, as well as mowing down the enemy. Hit “O” and you’ll see a little map, with the objectives marked (and described). They show a white flag if no-one holds them, black cross for Germans and red star for Soviets. Then hit “O” again to clear the map and find (and fight) your way to the objectives. They are usually captured by enough soldiers spending enough time sitting on the objective, fighting off the enemy.

Scoreboard: hit “F1” and you’ll see the scoreboard. You get 1 point for each kill and 10 points for capturing an objective. This also tells you what percentage of their reinforcements each side has left. When this hits zero, that side is in Big Trouble!

Voice commands: hit “V” and you’ll get to the voice command menu. Play around with it. “Escape” gets you back out if you’re stuck.

Changing sides/role: hit or “F8” and you’re back to the selections you started with.

Chatting to other players online: "T" and "Y" bring up the chat and team-chat lines. You can type in here and it'll display onscreen. Trouble is, you're standing still while you're doing it.

Initial configuration

Like everything else, RO comes with a default configuration. Once you've got used to the basics, you may want to explore the configuration options and control key settings to suit yourself and your computer set-up.

From the main menu, click on "Configuration" and work through the following tabs, ideally BEFORE you try and leap into a game:

Video

Set the video controls to suit your system - see the section later in the manual ("Video Tab" on page 18) for details of possible settings.

Details

Set the detail settings to suit your system - see the section later in the manual ("Details Tab" on page 19) for details of possible settings.

Audio

Set the audio settings to suit your system - see the section later in the manual ("Sound Tab" on page 20) for details of possible settings.

Player

Under the Player tab, you can choose your default side – German or Soviet. It is also important to change the Name to the one you will use in-game at this point.

Network

The network connection will be set to a default setting – check it and choose one appropriate for your own internet connection.

Controls

If there are specific control combinations you wish to set – now is the time !

Action	Default Key	Purpose
Sprint	Shift	Hold the key down to sprint, for a limited time
Reload	R	Reload current weapon with the next available magazine
Iron Sights	Right Mouse/I	Toggle between aimed and un-aimed fire
Change Role	F8	Select from the Roles available for your Side
Show / Hide Hud	F11	
Prone	Alt	Go prone/stand
Bayonet attach / MG Deploy	E	Attaches/removes the bayonet, if the current weapon can use one
LMG Barrel change	B	Allows you to change the MG barrel on an MG34, if it is overheating
Show Objectives	O	Shows the Objectives and Map screen
Change Scope Detail	F12	Toggles the various detail sniper scope detail modes, allowing the player to set this for the best combination of resolution and performance.
Change Side	F7	Select Side
Use	U	When stationary over a weapon or an ammo clip/magazine, "Use" allows you to pick up the weapon or clip; it also allows you to open doors, etc.
Selective Fire	Q	Where applicable, changes from semi-automatic to full-automatic fire
MG Ammo Resupply	G	When you are close enough to someone armed with an LMG, you may see numbers in square brackets over them- such as "[4/6]". This means that they are carrying 4 magazines out of a maximum of 6. Hit "G" to give them any spare LMG ammo you have been issued with.

Other UT2004 control key assignments work as normal:

- "Primary fire" fires your weapon, or pulls the pin/cord on a grenade.
- "Secondary fire" is used to "bash" or "bayonet" someone if you are in range and have a suitable weapon in hand (bayonet fixed, if you have one); it is also used to "cook" those grenades that can be "cooked".
- To "cook" a grenade, pressing "fire" will pull the pin and pull your arm back to throw; press "secondary fire" to release the spoon and start the fuse running – press "fire" again to throw the grenade.
- To throw a grenade underhand, simply switch the fire and secondary fire button usage around!

Additional control settings

In addition to the control settings visible via the Configuration menu, it is also possible to edit them directly in the file ROUser.ini, in the UT2004/RedOrchestra/System folder. As always, take a cop of it before editing, for safe-keeping.

One common example is the request to change the "Crouch" button to a toggle, so that it does not have to be held down in order to crouch. Open the ROUser.ini file and look for "x"=Duck in the [Engine.Input] section, where "x" is the key you have bound to "Crouch" in the standard Configuration menu.

Simply edit this to read "x"=Toggle bDuck. Save the file again and you are done.

HUD and other displays

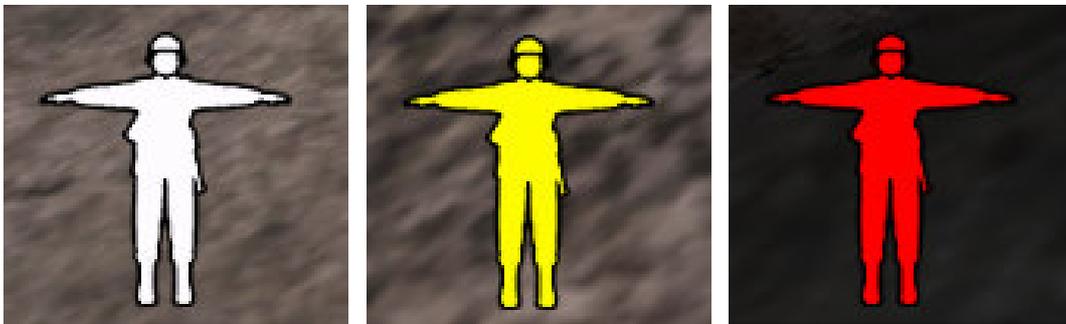
HUD

The RO HUD contains basic "key" information, reflecting those things that a soldier would naturally know or be able to check quickly. These include a "damage" indicator, a check on ammunition remaining in magazines, detail on the magazine being used to reload with and a "timer", in the form of a watch.

Damage

The damage icon can be seen in the bottom left of the screen and is used to convey any damage that you have taken; normally you would be able to "feel" damage – but obviously not in a computer game – hence the presence of the icon.

RO uses a "locational" damage system, meaning that hits from bullets, shrapnel, explosions or falling are all located properly on the body. However, you are only shown the overall effect of multiple wounds as follows:



From left to right – the "undamaged" soldier, carrying some injury and finally, near-fatally wounded.

The effects of wounds are handled appropriately – a leg wound is likely to have you limping for a short while!

Magazines

The second icon visible at the bottom left of the HUD shows the number of "reloads" available for the weapon currently in hand. Each weapon shows an appropriate icon:

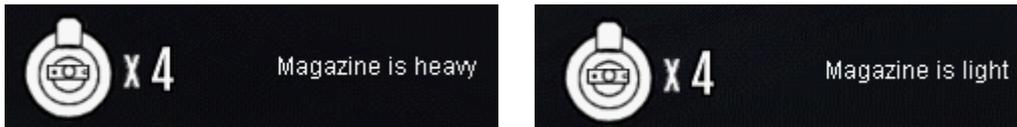


From left to right again – 9 rifle clips, 4 PPSH magazines, 5 Stg44 magazines, 4 Stielhandgranate and lastly 3 F-1 grenades.

Reload

When you go to reload your weapon, you will find a little prompt appearing briefly on screen, informing you that the magazine you are just about to use is either "heavy", "medium" or "light". This represents the feeling of the magazine in-hand and is a reminder that you may be about to put a half-full magazine in your weapon. This will be caused by changing magazines earlier in the game, before the magazine in use is actually empty. Only completely empty magazines are actually discarded – all partially-full magazines are put back in the relevant ammo pouch.

When reloading, it looks like this:



Objective Status

Whenever you are on an Objective location, the name and status of that icon will appear on-screen. It will either be a blank bar and remain that way if it has already been captured, or will start blank and fill up with the colour for one side or the other as that side takes control.



Note that each Objective requires a side to get a suitable percentage of its force onto the Objective at the same time and remain there, alive, until the bar reaches the right-hand end, in order to capture the Objective.

Timer

In each game, the time for each round can be set. The time remaining in each round is shown on the timer. This is a stopwatch with a 30-minute countdown and is set to the appropriate time at the start of each round. It counts down from there – at zero, the round ends, if it hasn't ended due to completion of objectives.



German Timer
24 minutes left



Soviet Timer
24 minutes left

Objectives and Map display

Once into a game, it is vital to check on your side's Objectives. Hit "O" to bring up the Objectives screen:



This shows a list of the Objectives on the left hand side. If your side already owns an Objective, you will be required to "Defend" it; if the other side owns it, you will be required to "Capture" it. The sketch map alongside the objectives shows the approximate location of the Objectives themselves (the crosses) and the spawn points for each side (as arrows).

To further clarify ownership of an objective, it will display a Red Star for Soviet ownership, a Black Cross for German and a White Flag if neither side owns it.

Scoreboard

Overleaf is a picture of the standard RO Scoreboard. The scoreboard lists for each team, from left to right:

Team heading line:

Axis or Allies
Remaining reinforcements, expressed as a percentage
Total team score
Average ping

Individual player line:

Name
Current role in-game
Current score
How long on this map
Current ping

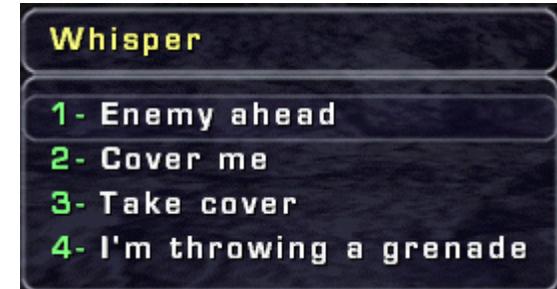
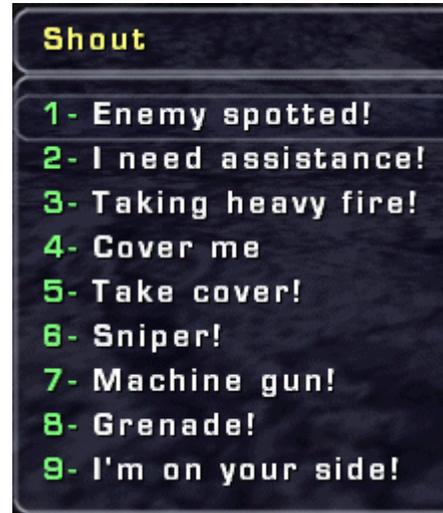
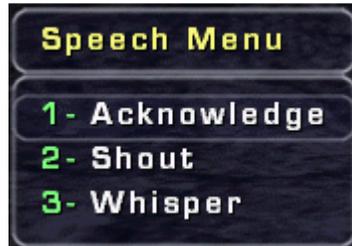
Additionally, the Scoreboard now shows those players that have joined a server, but are not yet on a team as "Unassigned".

Name	Role	Score	Time	Ping
Axis (4 Players)		98%	0	0
Wolfsglen	Gruppenführer	0	00:55	0
Shiva	Schütze-SS	0	00:44	0
Reaper	Schütze-SS	0	00:44	0
Loki	Schütze-SS	0	00:44	0
Allies (4 Players)		98%	0	0
Samurai	Avtomatchik	0	00:44	0
Rajah	Strelak	0	00:44	0
G_Heer1	Pulemetchik	0	00:44	0
Ares	Komandir otdeleniya	0	00:44	0

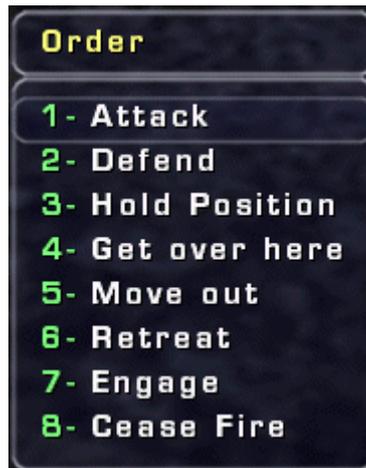
Voice Commands

All RO voice commands are accessed by pressing the key set up for Voice Commands in the UT2004 Controls tab. Pressing it in-game will bring up the list – use them as you see fit ! There is one additional set of voice commands for Squad Leaders (Gruppenfuhrer/KO).

General voice commands



Squad Leader voice commands



Tuning for performance

Options within the game

[Those items highlighted in ***Bold Italics*** are potentially performance-enhancing]

Video Tab	
Item	Impact
<i>Resolution</i>	Selecting a lower resolution can improve performance & maintain a more stable, higher frame rate. The most obvious setting to reduce if the frame-rate is running low.
<i>Color Depth</i>	Set this to 16-bit Color for best performance, but with more apparent color banding, while 32-bit Color will provide best visual quality. This is reckoned to have a big impact on smaller/older graphics cards.
<i>Full screen</i>	Full-screen or in a separate window. Full-screen obviously gives the best "view", but at a potential cost in frame-rate.
Gamma	Adjusts the level of RGB colour intensity, glare and contrast. Play around with each of these to get the view that most suits your eyes!
Brightness	
Contrast	

Details Tab	
Item	Impact
Texture Detail	This option sets the resolution of textures to be used in the game. Apparently, use mid-ranges with a 64Mb card, lower for 32Mb.
World Detail	<p>This setting determines the complexity of terrain & other effects in the game. Setting this to a higher option will use increasingly more detailed landscape & effects.</p> <p>While dropping this will help frame-rates on certain maps, it will also lose detail and, importantly, some objects may not be rendered at all. This includes detail such as bullets kicking up dust, which you just might want to see! Make this one of the last options to adjust down!</p>
Character Detail	<p>This setting determines the level of resolution of textures to be used for characters in the game.</p> <p>Setting this lower will impact what the players look like in-game, but obviously can help frame-rate. Worth bumping down, if you no longer care about the quality of the characters' faces and you need the extra fps!</p>
Physics Detail	This actually controls the complexity of the Karma physics. It is purely CPU-driven, rather than dependant on the graphics card. A decent rule of thumb would probably be under 1Ghz use Low, 1-1.5Ghz use Normal & 1.5Ghz + try High.
Character Shadows	Controls whether or not shadows are generated for the characters. A simple option to drop off, for a small improvement in FPS; see "Projectors" above
Dynamic Lighting	<p>Tick this option to enable the casting of light from non-static (i.e. dynamic) sources</p> <p>If you are on a slow CPU (1Ghz or less) you should consider disabling this to for improved FPS.</p>
Detail Textures	<p>A detail texture is a very small, fine pattern which is faded in as you approach a surface, for example wood grain, or imperfections in stone.</p> <p>Given that this only affects fine detail, it is worth considering knocking this off for better FPS.</p>
Projectors	Allows effects such as bullet/grenade hits and player shadows to be seen. Not expected to be a big hit on frame-rates.
Trilinear filtering	This is a fine-tuning option for rendering, that can be a major hit on frame-rates, but see notes on the RedOrchestra.ini file below.
Decals	<p>Decals are used primarily to show hits on items.</p> <p>Can be worth disabling for slower CPUs or very old Graphics cards</p>

Details Tab (continued)	
Item	Impact
Coronas	This options sets whether or not light coronas from light sources, such as lamps, are displayed. Not expected to have much impact.
Decal Stay	This option determines how long decals remain visible before fading out. Doesn't have much of an impact on performance.
Foliage	Determines whether or not to show foliage. Usually leave "On".
Use Blob Shadows	Specific to shadow handling – limited gain by having it "On".
Sound Tab	
Item	Impact
<i>Sound settings</i>	<p>Audio Mode. Options available for this setting are Software 3D Audio, Hardware 3D Audio, Hardware 3D Audio + EAX & Safe Mode.</p> <p>Software 3D Audio uses CPU – not recommended for CPUs smaller than 1Ghz. The two hardware options are dependent on your sound card – if you have a hardware OpenAL driver and/or EAX.</p>

Choosing a graphics driver

RO will run with either DirectX or OpenGL, being based on the UT2004 engine. The default is DirectX and this should work for most users. However, initial testing shows that some users may get better performance using OpenGL. This seems to apply to the older graphics cards, that were originally designed to work with OpenGL. See the notes below for how to change between them.

Settings in the RedOrchestra.ini file

NOTE 1: You MUST take a copy of the RedOrchestra.ini file before making changes to it. We will not be held responsible for anyone messing up their .ini file – and if you have no backup, you will end up re-installing RO !

NOTE 2: This is aimed at DirectX users, not those using OpenGL. If you are using OpenGL, please check carefully.

NOTE 3: Type "stat fps" in the console to see your frame rate. Type it again to toggle the fps display off again.

Advanced Graphics Options

Further adjustments can be made by making updates to your configuration file. In the UT2004\RedOrchestra\System directory, open the RedOrchestra.ini file with any text editor and scroll down to the [D3DDrv.D3DRenderDevice] section, some options available being:

UsePrecaching=x. When x is set to True this enables loading textures into Video memory during level loading, which can increase level loading time, though should provide smoothest gameplay as no textures will need to be uploaded during gameplay. For Graphics cards with 64MB or more of video memory I'd recommend True, though False should prove best for Graphics cards with less video memory as textures need only be loaded when required to.

UseTrilinear=x. When x is set to True trilinear texture filtering is enabled, which operates by taking 4 samples (texels) from 2 neighbouring Mipmaps, applies a bilinear filter to them & then interpolates the results. This results in improved image quality, with more seamless transitions between Mipmap levels & enhanced texture detail compared to bilinear filtering (False). Basically every modern Graphics cards that is supported by this game should be able to use trilinear with little performance issues, and as such you shouldn't need to set this to False unless using an old or out-dated Graphics card, e.g. 3dfx's (which couldn't simultaneously perform Multi-texturing & Trilinear filtering).

ReduceMouseLag=x. When x is set to True this may eliminate lag from mouse input, although can lower the frame rate as a result. If you aren't experiencing such mouse lag then set this to False to ensure optimal frame rate.

UseTripleBuffering=x. Setting this to True enables triple buffering, which allocates a third frame buffer, which can improve performance by allowing the graphics card to render at the same time that the 3D application performs other tasks. This is recommended as a result for optimal performance. That said if your Graphics card has 32MB or less Video memory you'd be best selecting False to ensure best performance (as the game itself requires a lot of Video memory).

UseHardwareTL=x. Should your Graphics card feature an onboard T&L unit set this to True (Basically every Graphics card since the original NVIDIA GeForce. Set to False if your video card is a pre-GeForce 2 - e.g. all 3dfx Graphics cards, NVIDIA TNTs.

UseHardwareVS=x. Should your Graphics card feature an onboard Vertex Shader set this to True (Basically every Graphics card since the NVIDIA GeForce 2), on other Graphics cards select False instead, e.g. all 3dfx Graphics cards, NVIDIA TNTs.

UseCubemaps=x. When x is set to True this enables the use of Cubemaps in levels for simulated reflectivity on surfaces, e.g. water. Should your Graphics card support this feature set this to True. With older Graphics card that do not support this feature should set this to False. UT 2004 uses Cubemaps a lot & as such it would be preferred if your Graphics card was capable of supporting it.

DesiredRefreshRate=x. With Vsync enabled your monitor refresh rate limits your maximum frame rate to whatever the refresh rate is, e.g. With a monitor refresh rate of 60Hz, your maximum frame rate with Vsync enabled is 60. As a result you should set x here to whatever the maximum refresh rate your monitor is capable of at the resolution you intend to use, this may not improve your frame rate though more importantly can reduce eyestrain while playing. For most users maximum would be defined as 85 – 100 so as not to strain your monitor either.

OverrideDesktopRefreshRate=x. This works along with DesiredRefreshRate, above. If this is set to False, then the system's Desktop refresh rate will override your DesiredRefreshRate. Set this to True to have your new rate actually take effect. There is some debate about the possibility of all this changing of refresh rates either working or damaging monitors.

UseCompressedLightmaps=x. When set to True this enables Lightmaps to be compressed, which will increase level loading time, though can improve frame rate by reducing Video memory requirements for levels. If you have a Graphics card with 128MB or more Video memory you might want to set this to False to ensure Lightmap quality is at its greatest as you should have sufficient Video memory to use them uncompressed & with slightly improved level loading times as they won't have to be compressed during loading or if your Graphics card doesn't support texture compression, e.g. TNT 2 set this to False also.

UseVSync=x. With this option you can enable/disable Vsync in the game. Vsync effectively limits the frame rate to your current refresh rate at any given resolution. Frame rate can be perceivably increased when set to False (disabled), as frames are rendered as fast as they can be regardless of refresh rate, although you may experience image tearing &/or controller lag as a result. With this set to True (enabled) you won't experience either image tearing nor controller lag, although frame rate will be limited to your refresh rate. As such I'd recommend enabling Vsync for best image quality & disabling it when you intend to benchmark system/game performance.

DetailTextures=x. Setting this to True enables small textures (64x64, 128x128) that appear when you're close to another texture. This adds detail to the world. Setting to False will of course turn this off. There's not much performance increase unless you have a 64MB card or less.

HighDetailActors=x. Displays objects that run under high detail actors. False will increase performance.

SuperHighDetailActors=x. Displays objects that run under super high detail actors. False will increase performance.

Advanced Audio Settings

Once more open the open the Redorchestra.ini file & scroll down to the [ALAudio.ALAudioSubsystem] section, several options available being;

UseDefaultDriver=x. Should your Soundcard driver provide a hardware OpenAL driver (Verifiable by the existence of OpenAL32.dll in the Windows system directory, or not) set x to False to allow the game to use it, rather than the OpenAL wrapper (defOpenAL32.dll) provided by the game. Otherwise use True instead.

CompatibilityMode=x. If you are having severe problems with audio playback in the game try setting x to True to see if it resolves the problem. This shouldn't be required with most Soundcards, particularly more gaming oriented ones, so be sure to check for updated drivers if this occurs with, say an Audigy. Leave this set to False if you aren't having any audio playback problems.

UsePrecache=x. When x is set to True this enables loading sounds into memory during level loading, which can increase level loading time, though should provide smoothest gameplay as no sounds will need to be uploaded during gameplay. For systems with 128MB or more of RAM I'd recommend True, though False should prove best for systems with less than that amount of RAM as sounds need only be loaded when required.

UseEAX=x. Setting this to false will turn EAX off. Sound quality won't be as good but it may save you about 10-15fps with it off.

Use3DSound=x. Surround sound setting. We are not sure about how this works, but best kept to off for performance.

Channels=x. Set to 16 for lower CPU usage, 32 for Live!/Audigy cards and 64 for new cards like the Audigy 2.

LowQualitySound=x. This is intended for older sound cards not really designed to handle gaming. Set to True if you have a very old card!

Achieving maximum frame-rate

Therefore, the settings for MAXIMUM frame-rate (but with reductions in quality) are, given reasonably modern Graphics and Sound cards:

[D3DDrv.D3DRenderDevice]

DetailTextures=False if your card is 64MB or less
HighDetailActors=False
SuperHighDetailActors=False
UsePrecaching=False
UseTrilinear=True
ReduceMouseLag=False
UseTripleBuffering=False for 32 Mb card, otherwise True
UseHardwareTL=True
UseHardwareVS=True for NVIDIA GeForce 2 or later, False on all 3dfx cards, NVIDIA TNTs.
UseCubemaps=True
DesiredRefreshRate=75
UseCompressedLightmaps=True
UseVSync=False, unless you run into image tearing and/or controller lag

[ALAudio.ALAudioSubsystem]

UseEAX=False
Use3DSound=False
UseDefaultDriver=True, unless your Soundcard driver provides a hardware OpenAL driver
CompatibilityMode=False
UsePrecache=False if you have 128MB or less of RAM, otherwise True
Channels=16
LowQualitySound=False, unless you have a very old card

Worked example

On the author's rather old machine, specs:
1.7Ghz Pentium 4, 256Mb RAM running Windows 2000
NVIDIA Geforce2 MX/MX 400 32Mb Graphics Card
Creative SB AudioPCI 64V Sound Card

Having installed RO, I set the screen resolution to 800x600, 16 bit colour, texture, character and physics to "Normal" and world detail to "High" and ran up two maps – one a "busy" city map (Berlin) and the other a more "open" map (Ponyri). Load times were 2.5-3 minutes and the frame-rates were 20+ and 25+, respectively.

Then, making the changes above, the load-times dropped by a full minute each and the frame-rates jumped to 35+ and 40+, which are perfectly respectable. However, I find play to be "jerky" with pre caching set off, as so much has to be loaded as I play.

I then set the two pre-caching options back on. The load times went back up – although not quite to where they were originally. The frame-rates held at 35+ and 40+, but without being so "jerky". Excellent stuff...

So – I thought I would try setting the resolution to 1024x768 and see how that played. Load times increased again, pretty much to where they were originally. The frame-rate was squeezed down again to 25+ and 30+ - after all, there is 60% more screen to render !

Conclusions: working through this certainly helped me – but more "trial and error" is required to get the optimum match of map load times, quality of sound and vision and frame-rate in-game.

Addendum: I found, when playing with a full load of Bots, that the load time and frame-rate slipped off again, presumably as the Bots ate up my CPU. So, I dropped back to 800x600, which improved things. And then, on a public server, no Bots, the frame-rate climbed back up to 35+ on Spartakovka. So – keep tweaking !!

Changing to OpenGL

Within the RedOrchestra.ini you will find the following section, as a default:

```
[Engine.Engine]
RenderDevice=D3DDrv.D3DRenderDevice
;RenderDevice=Engine.NullRenderDevice
;RenderDevice=OpenGLDrv.OpenGLRenderDevice
```

To switch to OpenGL, change this to:

```
[Engine.Engine]
;RenderDevice=D3DDrv.D3DRenderDevice
;RenderDevice=Engine.NullRenderDevice
RenderDevice=OpenGLDrv.OpenGLRenderDevice
```

Once changed, you may notice some improvements in frame-rates on old cards – and you may also find some anomalies and mis-handling of textures in-game, as UT2004 was built for DirectX, not for OpenGL.

The options from the configuration menu above can be changed in-game, while the following can also be changed in the RedOrchestra.ini, under the [OpenGLDrv.OpenGLRenderDevice] section:

```
DetailTextures=False
HighDetailActors=True
SuperHighDetailActors=False
UsePrecaching=True
UseCompressedLightmaps=True
UseTrilinear=True
ReduceMouseLag=True
DesiredRefreshRate=0
LowQualityTerrain=False
```

As far as we can tell to date, these act as the main D3DDrv options do – but would welcome more information!

Sources

- The ever-helpful <http://www.techspot.com/tweaks/ut2003/index.shtml> of course
- <http://www.tweaktown.com/document.php?dType=review&dId=392> - UT2003 tweaks on Tweaktown.

Console commands

To use console commands, press "~" while in game on a US-style keyboard, or the unshifted "@" symbol on a European-style keyboard. This will bring up the console in the upper half of the screen. Any of the following console commands can then be used, as described below.

Cheat Codes

Code	Notes
ALLAMMO	Gives full ammo for all weapons in UT2004 – just 999 grenades in RO !
ALLWEAPONS	Gives you all weapons in UT2004, just the Redeemer in RO !
FLY	You can fly around
GHOST	Move through walls
GOD	God Mode
LOADED	As "ALLAMMO" plus "ALLWEAPONS", plus 100 adrenaline
TELEPORT	Teleport to a random spot in the map
WALK	You stop flying

Player and Bot Commands

Code	Notes
ADDBOTS [number]	Adds the specified number of bots
KILLBOTS	Gets rid of all bots
PLAYERONLY	Freezes \ pauses the bots
BEHINDVIEW 1	Changes to third person view
BEHINDVIEW 0	Changes to first person view
SETNAME [playername]	Changes your player name
OPEN [IP address]	Connect to a specific server IP
OPEN [mapname]	Opens specified map
SWITCHLEVEL [mapname]	Switches to the specified level
SWITCHTEAM	Switch team, but does not bring up the Role menu
DISCONNECT	Disconnect from current server
RECONNECT	Reconnect to the current server, after reloading current map
EXIT	Quits the game
QUIT	Quits the game, with no "Confirm"
SUICIDE	Kills yourself
TEAMSAY [text]	Displays your message in team chat
SAY [text]	Displays your message in global chat

Game Settings

Code	Notes
BRIGHTNESS [number]	Changes the brightness level to the specified number
CDTRACK [number]	Plays the specified CD track number
CONTRAST [number]	Changes the contrast level to the specified number
FOV [number]	Changes the field of view to the specified number
GAMMA [number]	Changes the gamma level to the specified number
NETSPEED [number]	Sets the net speed, default is 10000
PREFERENCES	Opens advanced settings
SETSENSITIVITY [number]	Sets the mouse sensitivity to the specified number
SETRES [WxHxD]	Sets your screen resolution to the specified width, height, and color depth
TOGGLEFULLSCREEN	Toggles fullscreen mode
TYPE [text]	Displays the specified text on the console

Statistics, Debug and Testing

Code	Notes
MEMSTAT	Displays Windows memory usage
STAT AUDIO	Shows audio stats
STAT FPS	Displays your frames per second
STAT GAME	Displays game stats
STAT HARDWARE	Shows hardware stats
STAT NET	Shows network game play stats
STAT RENDER	Displays rendering statistics
STAT ALL	Shows all stats
STAT NONE	Turns off all stats
DEBUG CRASH	Test crashes the game with an error
DEBUG EATMEM	Tests memory allocation until full
DEBUG GPF	Test crashes the game with a general protection fault error
DEBUG RECURSE	Test crashes the game by infinite recursion
DUMPCACHE	Displays the memory cache contents
CONFIGHASH	Displays configuration info
SHOWDEBUG	Displays RO-specific information, when enabled in code
FIXEDVISIBILITY	For use when testing your own level. Fixes the engine's visibility from your current point of view. You can then walk around and see exactly what is being drawn, check that antiportals are working etc. Enter it again to turn it off.
GETCOLORDEPTHS	Displays the maximum color depth supported by your hardware
GETCURRENTCOLORDEPTHS	Displays your current color depth
GETCURRENTRES	Displays your current resolution
GETCURRENTTICKRATE	Displays your current tick rate
GETMAXTICKRATE	Displays the maximum allowed tick rate
OBJ CLASSES	Displays a list of object classes
OBJ GARBAGE	Collects and purges objects no longer in use
OBJ HASH	Displays object hashing statistics
OBJ LINKERS	Displays a list of active linkers
PAUSESOUNDS	Pauses all sounds
FLUSH	Flushes all caches and relights
RELAUNCH	Relaunches the engine
RENDEREMULATE [gf1/gf2]	Lets you see how your level will look on different cards (ex. if some of your shaders are too complicated and don't have fallbacks).
REPORT	Copies a report of the current game to clipboard
SET [class variable value]	Sets a specified class and variable with the specified value
EXEC [filename]	Executes a file in the UT2004 /system/ directory by default
SLOMO 1	Sets the speed of the game back to normal real time speed
SLOMO 2	Sets speed to double. Increase number to go faster
SLOMO .5	Sets speed to half. Decrease number to go slower
SOCKETS	Displays a list of sockets in use
UNPAUSESOUNDS	Un-pauses all sounds

Demo Commands

Code	Notes
DEMOPLAY [demoname]	Plays the specified demo
DEMOREC [demoname]	Records a demo using the demoname you type
STOPDEMO	Stop recording a demo

Server Admin Commands

Code	Notes
ADMIN SWITCHLEVEL [mapname?game=gametype?mutator=mutator]	Changes the current level to the specified level, game type and mutators
ADMIN [command]	Performs the specified command
ADMINLOGIN [password]	Logs the administrator onto the server using the specified password
ADMINLOGOUT	Logs the administrator off the server.
ADMIN SET UWeb.Websvr bEnabled True	Enables the remote admin webserver (after level change)
ADMIN SET UWeb.Websvr bEnabled False	Disables the remote admin webserver (after level change)
KICK [playername]	Kicks the specified player from the server
KICKBAN [playername]	Kicks and bans the specified player from the server using their IP address. To unban the player, edit the server.ini or use the web admin interface