Rocksmith PC Configuration and FAQ

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Rocksmith Minimum Specs

Rocksmith is built to run well on a majority of PCs released in the last 2-3 years. Our minimum PC specification is:

- Intel Core2Duo E4400 @ 2.00 Ghz or AMD Athlon64 3800+ @ 2.0 Ghz
- 2 GB
- 256MB NVIDIA GeForce 8600GT or AMD Radeon HD 2600XT video card
- USB 2.0
- Windows Vista or Windows 7

Our recommended PC specification is:

- Intel Core2Duo E6750 @ 2.6GHz or AMD Athlon 64 X2 6000+ @ 3.0GHz
- 4 GB Memory
- 512MB NVIDIA GeForce 200-series or AMD Radeon HD 3000-series video card
- USB 2.0
- Windows Vista or Windows 7

Our PC specifications are intended as rough guideline, and are based on mainstream desktop PCs using these specifications. Very often laptop or budget PC manufacturers may carry the same specifications but won't have nearly as good performance, so your experience running Rocksmith on a laptop or budget PC may be less than optimal.

Audio Device Configuration

Proper configuration of your audio hardware is important for achieving the best performance and gameplay experience with Rocksmith on your PC. If the audio system isn't configured correctly, you may experience a significant amount of lag or latency between strumming your guitar and hearing the sound.

For best results, you'll need to configure both your output device and the Rocksmith Real Tone Cable. Both devices should be set to operate using a sample rate of 48 kHz using a 16 bit sample size. Audio output should also be set for 2 channel playback. Finally, configure both devices to allow applications to take exclusive control of the device.

Configuring Audio Output

Open your Sound control panel, and select the "Playback" tab. Though different audio drivers provide a variety of configuration software, here's an example of what it should look like:



Your desired output device should be set as the "Default Device". Select that device and click the "Configure" button.

This will open the speaker configuration dialog. Use these dialogs to set your output device to 2 channel stereo. Here's what that dialog box might look like:

Playback Select	Recording Sounds Communications a playback device below to modify its settings: Speaker Setup Speaker Setup	
	Choose your configuration Select the speaker setup below that is most like the configuration on your computer. Audio channels: Stereo	
Cc		Click any speaker above to test it.
		Next Cancel

Once you have the output set to stereo, and you're back at the "Playback" tab of the Sound control panel, select the device again and click the "Properties" button.

In the Properties dialog, select the "Advanced" tab. In this dialog, you should set the output to 16 bit, 48000 Hz output. You should also set the device to allow exclusive mode to applications. If you have the option, set your audio device to give exclusive mode applications priority.

🏶 Soun	d X
Playba	ck Recording Sounds Communications
S .	
	Speakers Properties
0	Seneral Levels Advanced
	Default Format
	Select the sample rate and bit depth to be used when running in shared mode.
	16 bit, 48000 Hz (DVD Quality)
	Evclusive Mode
	Allow applications to take exclusive control of this device
	Give exclusive mode applications priority
	Signal Enhancements
L	Allows extra signal processing by the audio device
	Enable audio enhancements
_	
	Restore Defaults
	OK Cancel Apply
	······································

Once you've configured your audio output device, you'll need to configure your Rocksmith Real Tone cable.

Configuring Your Rocksmith Real Tone Cable

The game requires you to have a Rocksmith Real Tone Cable in order to play. Although other guitar input devices will take audio from your electric or bass guitar, Rocksmith only supports the Real Tone Cable.

From the sound control panel, select the "Recording" tab.

Here's an example of what it should look like:



If you have more than one Rocksmith Real Tone cable, you'll want to repeat this procedure for both cables. Select the device and then click the "Properties" button. In that dialog, select the "Advanced" tab.

Here's what that dialog should look like:

Sound				
Playback Recording Sounds Communications				
S Microphone Properties				
General Listen Levels Advanced				
Default Format Select the sample rate and bit depth to be used when running in shared mode.				
1 channel, 16 bit, 48000 Hz (DVD Quality)				
Exclusive Mode Allow applications to take exclusive control of this device Give exclusive mode applications priority				
OK Cancel Apply				

In that dialog, set the audio format to 1 channel, 16 bit, 48000 Hz. You should also set the device to allow exclusive mode to applications. If you have the option, set your audio device to give exclusive mode applications priority.

That should configure your audio hardware for best results. Next, we'll configure Rocksmith audio settings.

Next up is configuring Rocksmith for the best results. You should be able to adjust the most important audio settings inside Rocksmith itself. Settings pertaining to audio are found under the Options tile of the main menu:



From there select the Sound & Display Settings tile:



In the Sound & Display Settings menu, you have two settings you can adjust. The first is Audio Engine Settings. This lets you adjust the size of one audio buffer the game uses. A smaller value will use a

smaller buffer. Smaller buffers mean lower latency, but increase the demands on your PC to avoid audio crackling. Most recent high performance PCs can handle a setting of 2. The fastest PCs might be able to run reliably at 1.



The other setting you have access to is Audio Exclusivity. This switch will tell Rocksmith whether you want the game to grab exclusive access to your audio devices. In general, exclusive access will allow the game more control over audio settings and allow the audio to run better. However, you will not hear any other sounds while the game is running. Additionally, some other applications may need to be restarted before they will play sounds again. If you're only playing the game, and can give exclusive access to Rocksmith, set this to "true". This is the default value. If you turn off Audio Exclusivity, you may need to increase the Audio Engine Settings value to get the best audio performance or to get rid of crackling.



Rocksmith Audio Configuration (Advanced Mode)

Although some audio options are accessible through the Rocksmith menus, for complete control, locate the **Rocksmith.INI** file. It's located in the same folder as the Rocksmith application. This will be **C:\Program Files\Steam\Steam\SteamApps\Common\Rocksmith** for the full game and **C:\Program**

Files\Steam\SteamApps\Common\Rocksmith Demo for the demo. Open that file in a text editor, and we'll walk through each of the options.

When changing these settings, change one setting at a time then launch the game and test out the audio in Amp Mode. If you hear crackling or other audio issues, back out your most recent change.

For more information on why you'd want to change these settings, check out the Troubleshooting section later in this document.

Rocksmith INI File Details

There are two major sections to the Rocksmith.INI file. The first controls the audio settings of Rocksmith:

- EnableMicrophone [default: 0] Set this value to 1 to enable the use of voice microphone. This is duplicated in the Rocksmith menus.
- LatencyBuffer [default: 4] This value allows you to adjust one of the audio buffers used by Rocksmith. A smaller value will use a smaller buffer. Smaller buffers mean lower latency, but increase the demands on your PC to avoid audio crackling. Most recent high performance PCs can handle a setting of 2. The fastest PCs might be able to run reliably at 1.
- ExclusiveMode [default: 1] Set this value to 0 if you want to have other audio programs running at the same time as Rocksmith. You may need to increase your LatencyBuffer setting to avoid audio issues.
- ForceWDM [default: 0] Set this value to 1 if you've tried the fine tuning configuration options and still cannot get good audio latency or have audio issues you cannot resolve. This will force the game to use the previous Windows mechanism to control your audio devices. It can impose higher latency than the default system, but is a good fallback.
- ForceDirectXSink [default: 0] Set this value to 1 if you've tried all other configuration options and still cannot get good audio. This forces the game to use an old Windows mechanism to control your audio devices. It will almost always impose high latency, but should allow you to run the game. Use this as your last option.
- DumpAudioLog [default: 0] Set this value to 1 if you need to send debugging information to Ubisoft. It will create a text file called audiodump.txt, located in the same directory as the Rocksmith application. Once you have run the game with this switched on, be sure to set the value back to 0. Leaving the audio log enabled can degrade performance so leave it set to 0 for normal gameplay.
- MaxOutputBufferSize [default: 0] A few audio devices have been found to have very large output buffers. In this case, the game does its best to choose a reliable audio buffer size. However, you might find that setting this variable will help to resolve audio issues. In its default setting of 0, it leaves the configuration of this value up to Rocksmith. Most audio cards end up using an audio buffer size of 1024. Fast PCs can usually run with this at 512. If you have disabled ExclusiveMode, you may need to use a higher setting for this. We haven't run into any specific issues regarding the choice of values for MaxOutputBufferSize, but you have have better luck using multiples of 8 or 32.

Audio Devices

While Rocksmith does support using USB speakers and headphones, we've noticed that some PCs need to use more conservative Rocksmith.INI values in order to keep the audio output from crackling. Several computers we've tested the game on have been able to use more aggressive latency settings when they use the analog audio ports than when they use USB-based audio output. The settings that needed to be increased were LatencyBuffer and MaxOutputBufferSize.

Rocksmith Video Configuration

There are a few video settings in the Options menu to let you tune your Rocksmith experience for best results. You have access to change the screen mode, screen resolution, and video quality settings. Adjusting these settings will let you change the balance between image quality and performance. You may need to try a few different combinations of Quality and Resolution to find the best balance for your PC.

The first option is Visual Quality. This is a simple control to adjust the detail of items being drawn. More recent and higher-end video cards can choose to switch to High quality, while older machines will probably want to use the Low quality setting. If you play the game and the gameplay is not smooth, consider changing to a lower quality setting, or a lower resolution for your screen. The default setting is Medium, and most of the computers should be able to run smoothly with the default settings.



The next option is Screen Resolution. Selecting this option will show you a list of the screen resolutions that your system can support. The default video setting for the game is 1280x720. Faster computers with more capable video cards will be able to run smoothly at higher resolutions. If your computer is not running smoothly at the resolution currently selected, you can drop the screen resolution down to improve performance.

The lowest resolution supported by Rocksmith is 800x600. If you choose a resolution that's not in the widescreen (16:9) aspect ratio, Rocksmith will letterbox the image in order to maintain its presentation proportions.



Finally there's Screen Mode. This lets you switch the game between fullscreen and windowed modes.



Rocksmith Video Configuration (Advanced Mode)

Although most video options are accessible through the Rocksmith menus, for complete control, locate the Rocksmith.INI file. It's located in the same folder as the Rocksmith application. Typically this is either C:\Program Files\Steam\SteamApps\Common\Rocksmith or C:\Program

Files\Steam\SteamApps\Common\Rocksmith Demo. If you happen to get your Rocksmith into a state where it won't load correctly, we've provided access to these settings just in case.

For more information on why you'd want to change these settings, check out the Troubleshooting section later in this document.

The second section Rocksmith.INI file controls video settings.

ScreenWidth [default: 1280] – Screen horizontal resolution, in pixels.

ScreenHeight [default: 720] - Screen vertical resolution, in pixels.

MinScreenWidth [default: 640] – Not currently used.

- MinScreenHeight [default: 480] Not currently used.
- Fullscreen [default: 1] Set this value to 0 if you want Rocksmith to run in windowed mode. Set it to 1 for fullscreen mode.
- VisualQuality [default: 4] Set this value to reflect the visual quality setting you'd like to use. The values correspond like this:
 - o 2 Low Quality
 - o 4 Medium Quality
 - o 8 High Quality

Rocksmith™ Real Tone Cable

The Rocksmith[™] Real Tone Cable is designed to be an easy-to-use device that "Just Works". Its extremely low latency audio circuitry provides excellent audio quality.

The cable is rated at 12 mb/second and needs a USB port that is configured for that speed or more. Most PCs these days should be equipped with USB ports that handle that transfer rate correctly, but it's possible that you have a mixture of fast and slow USB ports on your PC.

The cable also requires 100mA of power from the USB port. Some USB ports or hubs only provide 100 mA. For example, a popular computer manufacturer's keyboard has two USB ports on it. The whole keyboard is rated for 100 mA, and the keyboard part is using 20 mA of that amount.

For best results, plug your Rocksmith cables directly into a powered USB port on your PC. If you need to use a USB hub, make sure it's a good quality, powered hub. To check the status of USB devices on your system, open the System control panel and select "Device Manager". This will bring up a dialog box showing the devices that make up your PC. Under the "View" menu, select "Devices by connection" and it should bring up a listing similar to this one.

Device Manager	
File Action View Help	
ACPI X04-Dased PC	_
Intel(R) Xeon(R) CPU E5640 @ 2.67GHz	
Intel(R) Xeon(R) CPU E5640 @ 2.67GHz	
Intel(R) Xeon(R) CPU E5640 @ 2.67GHz	
Intel(R) Xeon(R) CPU E5640 @ 2.67GHz	
Microsoft Windows Management Interface for ACPI	
E PCI bus	
High Definition Audio Controller	
Intel(R) 5520/5500/X58 I/O Hub Control Status and RAS Registers - 3423	
Intel(R) 5520/5500/X58 I/O Hub GPIO and Scratch Pad Registers - 3422	
Intel(R) 5520/5500/X58 I/O Hub PCI Express Root Port 1 - 3408	
🕀 📲 Intel(R) 5520/5500/X58 I/O Hub PCI Express Root Port 3 - 340A	
🕀 📲 Intel(R) 5520/5500/X58 I/O Hub PCI Express Root Port 7 - 340E	
Intel(R) 5520/5500/X58 I/O Hub System Management Registers - 342E	
Intel(R) 5520/5500/X58 I/O Hub to ESI Port - 3406	
Intel(R) 82801 PCI Bridge - 244E	
Intel(R) Desktop/Workstation/Server Express Chipset SATA RAID Controller	
Intel(R) ICH10 Family PCI Express Root Port 1 - 3A40	
Intel(R) ICH10 Family PCI Express Root Port 6 - 3A4A	
Intel(R) ICH10 Family SMBus Controller - 3A30	
Intel(R) ICH10 Family USB Enhanced Host Controller - 3A3A	
Intel(R) ICH10 Family USB Enhanced Host Controller - 3A3C	
Intel(R) ICH10 Family USB Universal Host Controller - 3A35	
Intel(R) ICH10 Family USB Universal Host Controller - 3A36	
Intel(R) ICH 10 Family USB Universal Host Controller - 3A37	
Intel(R) ICH 10 Family USB Universal Host Controller - 3A38	
USB Composite Device	
Rocksmith USB Guitar Adapter	
Tatal(D) ICH 10 Earlin USB Universal Heat Controller 24/20	
Inter(k) ICH to Family USB Universal Host Controller - 5A39	
OSB KOULHUD	
	-1

You may need to expand the device tree by clicking on the small boxes with + signs in them. Look for your USB devices and expand them. If your Rocksmith cable is detected, you should see it listed in this screen as "Rocksmith USB Guitar Adapter". If it doesn't show up, try different USB ports until you find one that works; just give your PC a moment to recognize the device.

First, check the bandwidth available for your Rocksmith cable. Find the host controller that your cable is connected to. Mine is listed as "Intel® ICH10 Family USB Universal Host Controller – 3A38". Right click on the host controller and select "Properties". Under the "Advanced" tab, you should see how the bandwidth for that USB port is being allocated.

Intel(R) ICH10 Family USB Universal Host Controller - 3A38 Proper 🔀						
General Advanced Driver Details Resources						
The table below shows you how much bandwidth each USB controller is using. Each USB controller has a fixed amount of bandwidth, which all attached devices must share.						
Description	Bandwidth Used					
I System reserved	10%					
USB Composite Device	10%					
To update the list, click Refresh.	Refresh					
✓ Tell me if my device can perform faster						
Don't tell me about USB errors						
	OK Cancel					

Looking at this PC, we see that the Rocksmith cable (listed as a "USB Composite Device") is only consuming 10% of the bandwidth available. That port will be fine for handling the input from your guitar. Close the properties dialog for your host controller and return to the Device Manager.

Next, check the power availability and usage for your USB port. Locate the USB root hub listed under the host controller that your Rocksmith cable is connected to. In the Device Manager picture above, it's listed as "USB Root Hub". If you right-click on that root hub and select "Properties", then select the "Power" tab, you'll see the power information.

ISB Root Hub Properties					
General Power Advanced Driver Details	Power Management				
Hub information					
The hub is self-powered. Total power available: 500 mA per port					
Attached devices:					
Description	Power Required				
USB Composite Device	100 mA				
T port(s) available					
To update the list, click Refresh.	Refresh				
[OK Cancel				

This dialog shows that the USB root hub that I've connected my Rocksmith cable to is rated for 500 mA. That's plenty for the Rocksmith cable.

One final note--when plugging in Rocksmith cables, give your PC a chance to recognize the cable before plugging in another one. We've noticed that if you plug in more than one Rocksmith cable at the same time, Windows can fail to recognize one or more of the cables.

Troubleshooting

Solutions: Check your system specifications against the ones listed at the top of this document. One thing that we've noticed is that although some laptop computers fit the specs on paper, performance is lower than we would expect.

In general, you'll need to adjust the quality and resolution settings to reduce the processing load on your system. Rocksmith gives you access to change the screen resolution as well as the visual quality. Some machines might be able to handle lower quality at a higher resolution, or vice versa. In the worst case, you can reduce both the quality and resolution settings. If your computer meets our specifications and you can't get decent performance, contact Ubisoft support for more information.

- *Problem:* When I plug in my Rocksmith Real Tone Cable, it doesn't show up or Windows has trouble starting the device.
- Solutions: Make sure that the USB port that you're plugging the cable into is providing enough power to the cable and configured for Full Speed (12Mbit/s) or faster. Make sure that the Rocksmith cable is being listed in the "Recording" tab of the Sound control panel. If the cable is being recognized by Windows, then the game should be able to access it.

For best results, plug the Rocksmith cable directly into a powered USB port on your PC.

Problem: My audio crackles badly.

Solutions: The problem is that your PC is not keeping up with the audio demands of both the guitar input as well as the game audio output. The audio input and output streams are like buckets. For example, the output buffers are constantly being emptied by your sound card. As long as your PC gets back around to filling that bucket before the sound card empties it, you're fine. If the bucket goes empty, you get crackling audio. Input works in a similar manner, except the guitar input is filling the bucket and the game is emptying it. Getting the best audio performance from Rocksmith is about balancing the size of the buffers. Larger buffers are able to handle longer stretches of time between being emptied/filled by the game, but increase the latency between strumming the guitar and hearing the sound from your speakers.

First, check your "Audio Engine Settings" value in the game and try a higher setting, like 3 or 4. See if using a slightly higher setting will get rid of the crackling.

Check the MaxOutputBufferSize value in the Rocksmith.INI file and make sure it's set to 0. If that value is set to something other than 0, we trust you and we're capping the output buffer at that size. If it's set too low and your PC isn't keeping it full, you'll experience crackling.

Experiment with dialing back the video settings. If your framerate is too low, you might experience crackling.

Try setting the "ForceWDM" value in the Rocksmith.INI file to 1. This setting tells Rocksmith to use an older audio interface provided by Windows. If this is set, the audio settings for "Exclusive Mode", "LatencyBuffer" and "MaxOutputBufferSize" will be ignored.

If you've tried all the settings and still encounter crackling, contact Ubisoft support.

Problem: I contacted Ubisoft support and they are asking for the Audio log. How do I generate this?

Solutions: Check the "DumpAudioLog" value in the Rocksmith.INI file. Set it to 1 and run the game. This tells the game to generate a log file of all the interactions between Rocksmith and your audio hardware. A text file called AudioDump.TXT will be created in your Rocksmith folder that you can email to Ubisoft support. From that information we should be able to figure out what's going wrong and what your next steps should be.

However, do not leave this value set to 1. When it is keeping the audio log, there will be a slight drain on performance. If you're not actively tracking an issue, turn it off so your machine runs at its best.

- *Problem:* Does Rocksmith support Windows XP?
- Solutions: Rocksmith was designed to work with Windows Vista and Windows 7. Windows XP is not supported by Rocksmith at this time. However, you may have good luck with it.
- Problem: Does Rocksmith support Windows 8?
- Solutions: We developed Rocksmith on Windows 7 and Windows Vista. We are working on expanding our official support for Windows 8 at this time. Rocksmith will officially have Windows 8 support in a future update of Rocksmith.

If you are running Rocksmith on Windows 8, we'd like to hear about your experiences and problems.

- Problem: Does Rocksmith support other guitar input devices?
- *Solutions:* Rocksmith only works with the Real Tone Cable. This way we can guarantee the user experience matches our expectations.