HIGH-PERFORMANCE COMPUTER AUDIO

Tips and Tricks For Optimizing Your Mac's Sound Quality

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For those who want the ultimate in sound quality from their music servers and are willing to sacrifice some functionality, we offer some advanced tips and tricks for tweaking a Mac music server.

Editor's note: After John Quick installed the dCS Vivaldi in my system last year (review in Issue 233), he expertly went into my Mac music server and began checking or changing a number of settings to optimize its sound quality. I asked him to share his expertise with TAS readers by creating a checklist of settings and essential tips to improve the Mac's audio performance.—Robert Harley

1. DISABLE ANY APPLICATIONS AND PROCESSES UNRELATED TO MUSIC PLAYBACK.

- Close all open programs and applications other than your music playback software (check what's running under Apple>Force Quit).
- Turn off WiFi and Bluetooth whenever possible.
- Under System Preferences>Spotlight, disable all search settings.
- Under System Preferences>Energy Saver, disable automatically putting the computer or hard disk to sleep.
- Under System Preferences>Sharing, disable all sharing and services (unless Screen Share is needed for control).
- If using iTunes, be sure Sound Enhancer, Sound Check, and Equalizer are off/disabled.

2. FILE TYPES, CONVERSION: USE WAV OR AIFF WHENEVER POSSIBLE.

- FLAC and Apple Lossless codecs require conversion before being processed by your DAC. WAV and AIFF do not. Although FLAC and Apple Lossless don't corrupt the audio data, they don't sound as good as uncompressed WAV and AIFF because the latter don't require "unzipping" on the fly during playback.
- AIFF is generally preferred on Macs due to its better handling of album artwork and metadata.

- For best playback performance, rip CDs and store music as either WAV or AIF/AIFF using XLD or MAX conversion programs (third-party software) and not iTunes. But if ripping CDs with iTunes, configure it to rip to AIFF format, select the Automatic setting, and enable error correction.
- To be sure CD ripping is done correctly, set System Preferences>CDs & DVDs to use XLD or MAX when a disc is loaded, and do the same in the ripping software's settings (where possible).

3. STORAGE AND CONNECTING YOUR COMPUTER TO YOUR DAC: EXTERNAL STORAGE AND SELECTING THE BEST PORT.

- Storing your music library on an external drive (rather than on the computer's built-in drive) is highly recommended for maximum flexibility and performance. When using a USB-based DAC, do not use a USB storage drive; use a Network Attached Storage (NAS) drive instead.
- Use a NAS on a dedicated network (or by connecting your computer and NAS to the same local switch or router). For best performance in USB-based systems where the only computer port available is USB, keep the USB bus free of as many devices as possible.
- FireWire or Thunderbolt external drives are strongly recommended. If possible use an external drive that has its own outboard power supply.
- Connect your USB-based DAC to the least "busy" USB port by checking its place on the computer's USB hub under About This Mac>System Details>USB. This is especially important on laptops where keyboard and track pad are always on the bus.

4. MUSIC PLAYER SOFTWARE BEYOND ITUNES: USE AMARRA, AUDIRVANA, OR PURE MUSIC.

- A music player beyond iTunes is mandatory for best performance. Basic programs improve performance by not allowing your Mac to perform sample-rate conversion (the Mac OS will lock to the maximum input data rate your device can handle and output everything at that frequency unless a third-party program is used), whereas programs such as Amarra, Audirvana, and Pure Music (and perhaps JRiver Media Center for Mac) do much, much more to vastly improve performance and add features.
- Before launching your music management program, connect your DAC and be sure it is selected as the Default Output device in both the Preferences>Sounds and Preferences>Audio MIDI panels, and ensure volume in the MIDI panel is at full output (i.e. "0.0," or no attenuation).
- Use Cache/Memory playback mode (selectable within the music player software) whenever possible.
- Consult dealer or software and DAC manufacturer for further advice on optimizing music player settings.

5. CABLES AND VIBRATION CONTROL.

- Make a big difference. See many TAS articles on the subject.

6. CHOOSING A MAC

- Better performance is realized with a Mac dedicated to, and optimized for, music playback.
- A Mac Mini or MacBook are better choices than the other Macs. The MacBook Pro is the best choice partly because it offers Thunderbolt and/or FireWire ports for external drives.
- Generally speaking, the faster the processor speed and the more RAM available, the better the performance.
- A solid-state internal drive (SSD) undeniably makes a big difference and is a worthwhile addition (or upgrade for an existing Mac).

Author's note: Many of these tips were picked up from experts in computer audio, including Scott Soloway and Chris Welsh (at Audio Consultants, Chicago, IL); Chris Connaker (founder of computeraudiophile.com); Jon Reichbach (Amarra); and Rob Robinson (Pure Music). tas