AudioQuest Dragonfly FAQs

What kind of audio content can I play through DragonFly?

From MP3 to MQA and Hi-Res, DragonFly adds life, meaning, and color to all of your music.

With all current-production models of AudioQuest's DragonFly USB DAC (Black, Red, Cobalt), music appreciation and exploration are limitless: Plug into an Apple or Windows® computer or connect to an iOS® or Android mobile device. Play YouTube or Vimeo videos. Go hunting on Bandcamp or SoundCloud. Explore playlists and podcasts on Spotify, Pandora, or Deezer. Stream high-res audio from Tidal or Qobuz.

No matter the choice of sonic pleasure, DragonFly unravels the emotional expression and nuance that makes music and movies so enjoyable.

How do I set volume level when using DragonFly?

When using DragonFly with headphones, powered speakers, or a power amplifier, start at a low (or zero) volume level, then slowly raise the volume until the desired level is achieved.

When using DragonFly with headphones, powered speakers, or a power amplifier, it functions in variable output mode, and we recommend the following steps:

Set the volume control of the associated music player application to maximum.
Set the computer's main (operating system) volume control to 25% of maximum.
Using the computer's main (operating system) volume control, adjust the volume to the desired level.

DragonFly Black is equipped with a 64-step analog volume control. With DragonFly Black connected to a PC or mobile device, adjusting the host's system volume control will, through proxy, control the DragonFly Black's onboard volume. This ensures maximum resolution and the highest sound quality, regardless of volume setting.

In DragonFly Red and Cobalt, we were able to employ a highly sophisticated 64-step, 64-bit, bit-perfect digital volume control. It works similarly: With DragonFly Red/Cobalt connected to a PC or mobile device, adjusting the host's system volume control will, through proxy, control the DragonFly's onboard volume. Here again, we've optimized the volume control to ensure maximum resolution and the highest sound quality, regardless of volume setting.

You can also use DragonFly as a traditional fixed-output source component (such as a CD player, DVD player, or Blu-ray player), connected to a standard input on a receiver or preamplifier. When used in this manner, DragonFly functions in fixed output mode, which

allows the overall volume level to be adjusted with the audio/video system's master volume control. For this application, both the music player's volume control and the computer's main (operating system) volume level should be set to maximum.

DragonFly can play audio data at four different sample rates. Which one should I choose?

DragonFly will play music or audio data at sample rates of 44.1kHz, 48kHz, 88.2kHz, or 96kHz.

For the best sound quality, the computer should be configured so that it sends music and audio data to DragonFly that matches the native rate of the music. For example, since all CDs use a sample rate of 44.1kHz, 44.1kHz tends to be the "native rate" of most digital music. In most cases, for most people, this will be the best sample rate to choose.

Choosing a sample rate that is higher than the native rate of a music file will convert the audio data using mathematical approximations that can potentially decrease the sound quality.

Conversely, if you have high-resolution music files, configuring your computer for 44.1kHz (or any other lower sample rate) will cause the computer to down-sample your music to a lower resolution.

When possible, always configure the computer to output the native sample rate of the music you are listening to. Many music player software suites on the market manage this process for you.

What do the various colors of DragonFly's LED indicate?

DragonFly's LED displays different colors to indicate status or sample rate of audio data. For DragonFlys Black and Red: Red = Standby; Green = 44.1kHz; Blue = 48kHz; Amber = 88.2kHz; Magenta = 96kHz; Purple = MQA. For DragonFly Cobalt: Red = Standby; Green = 44.1kHz; Blue = 48kHz; Yellow = 88.2kHz; Light Blue = 96kHz; Purple = MQA.

I purchased high-resolution music files at 24-bit/176.4kHz or 24-bit/192kHz. Can I play these files using my DragonFly? Yes. However, as mentioned above, DragonFly performs best when audio data is processed at its native sample rate.

If you have higher resolution files, it is important to choose the correct higher sample rate in order to maximize the benefit of those files. For the best performance with sampling rates above DragonFly's 96kHz ceiling, files should be played at a rate mathematically related to their native resolution. For instance, a 192kHz file should be played at 96kHz (i.e., 2 x 96000.0 = 192000.0).

By selecting sample rates that are directly divisible, the computer avoids having to do sonically degrading, complex math in its conversions, and allows DragonFly to sound its best.

What music player applications does AudioQuest recommend?

While iTunes was once the easy and obvious answer, a cottage industry of higher-performance, add-on applications have since sprouted up. These applications address OS X only.

Amarra
Audirvana Plus
Bit Perfect
Pure Music

Stand-alone media players (for Apple and Windows)

JRiver is a complete audio and video media player, offering both USB and Network (airplay and DLNA) connectivity.
Roon works seamlessly with a local media collection and Tidal Streaming services. Additionally, Roon enables streaming to multiple locations, and a complementary iPad application enables an external interface.
Tidal is a subscription-based, CD-quality (1411kbps) streaming service. It offers both music and high-definition video content, including full-length concerts.
Qobuz is a subscription-based streaming service that offers an outstanding selection of hi-resolution content.

For any technical support or questions regarding the functionality or use of these recommended playback applications, please contact the manufacturer. AudioQuest cannot provide technical support for any of these recommended playback applications.

Is it better to leave DragonFly constantly plugged in, or should I unplug it when it's not in use?

It is completely safe to leave DragonFly plugged in at all times. We hope that you will always want it connected to your music playback device!

While repeatedly plugging and unplugging DragonFly will not affect its lifespan or reliability, in general we have found that DACs measure and sound better after being left on for at least 24 hours.

Can I use DragonFly with Android devices?

Yes. DragonFly Black, Red, and Cobalt will work with most Android devices running on Lollipop OS (and some Android devices running on KitKat), provided that the device manufacturer has adhered to the USB specification and implementation, and supports audio over USB.

To verify that your Android device complies with isochronous USB audio, download and run USB Host Check.

In our early pre-production testing, we found that some Android devices (4.1 OS and newer) do not provide native support for audio over USB. If you find that your Android device (4.1 or newer) does not support audio over USB, we ask that you please contact the manufacturer of your device. To determine whether your device supports audio over USB, consult the user manual or visit the manufacturer's website.

Despite Android's support of USB audio output, there are still hardware manufacturers that do not completely adhere to the USB audio class specification. If you experience this, we recommend the USB Audio Player Pro application.

UAPP includes its own USB audio device driver that is compliant with the USB Organization's USB Audio Host Mode Class specification. Further, it is compatible with various audio formats and will manage music on both the Android's internal memory and inserted SD cards. With the phone connected to the Wi-Fi network, this application can also find and connect to DLNA servers/libraries. USB Audio Player PRO Version 5 now supports audio from Google Music, Tidal (including Tidal Masters), Qobuz, and Shoutcast, and includes an MQA Core Decoder, which will unfold MQA streams from 44.1/48kHz to 88.2/96 kHz and can be combined with DragonFly for further unfolding of even higher sample rates.

Can I use DragonFly with Mac OS X?

Yes. DragonFly Black, Red, and Cobalt are compatible with OS X (starting with OS 10.6.8 to present). There are no known compatibility issues with OS X.

Can I use DragonFly with Apple iOS devices?

Yes. DragonFly Black and Red can be used with Apple iOS devices.

Yes. DragonFly Black, Red, and Cobalt can be used with Apple iOS devices. An Apple Camera Adapter is required to connect DragonFly to an Apple Lightning device.

In our tests, Apple's Lightning-to-USB 3 Camera Adapter (with charging port) sounds better and is more reliable than Apple's less expensive Lightning-to-USB Camera Adapter, while also providing the ability to charge during playback. Your mileage may vary. Some users prefer the size of the smaller adapter, while others prefer the performance of the larger adapter. We encourage experimentation.

When DragonFly (Black, Red, Cobalt) is connected to an iOS device using Apple's older Lightning to USB Camera Connection Kit, I can hear clicks and pops in the background of the music. What should I do?

In some rare instances, the combination of an iOS device in conjunction with the standard CCK and DragonFly Black, Red, or Cobalt causes a clicking in the background of the music.

Neither we nor Apple have been able to determine why this is, but, in circumstances where this occurs, we've found that using Apple's Lightning-to-USB 3 Camera Adapter resolves the problem. In addition, this connector offers improved audio performance over the smaller unit and provides the ability to charge the attached iOS device while listening to music.

Can I use DragonFly with Windows operating systems?

Yes. DragonFly is compatible with Windows 7 and later. If you're running the Windows 10 Anniversary Update, please be sure to install the Cumulative Update for Windows 10 Version 1607 (August 9, 2016), to maintain optimal USB audio performance.