Quick-start guide

Connect the AudioQuest DragonFly® DAC to your computer’s USB port or mobile device (adapters are provided for iOS® and Android™ devices), and refer to the included instruction manual for set up.

Plug the Sennheiser headphones into the DragonFly, and turn your device’s volume down to a safe listening level.

Visit crutchfield.com/listeningkit to start listening.

Read the included music guide for tips on getting the most out of your experience.

Have any questions? Call us at 1-888-477-8155.
Tips for returning the Listening Kit

- Save both the brown shipping box as well as the Listening Kit box for your return.
- Ensure the headphones, DAC, and all three USB adapters are in the box before packing it back up.
- Your pre-paid UPS return label is included in the box. You’ll also receive a copy via email.

Give us a shout at 1-888-477-8155 if you have any questions, and thank you for using the Listening Kit!
Proposition 65 warning for California customers:

Sennheiser HD 280 Pro — Over-the-ear headphones

⚠️ **WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov.

AudioQuest DragonFly® Black v1.5 — USB DAC/headphone amplifier

⚠️ **WARNING:** Cancer and Reproductive Harm
- www.P65Warnings.ca.gov.

AudioQuest DragonTail USB-C Adapter

⚠️ **WARNING:** Cancer and Reproduction Harm
- www.P65Warnings.ca.gov.

AudioQuest DragonTail USB-Micro Adapter

⚠️ **WARNING:** Cancer and Reproductive Harm
- www.P65Warnings.ca.gov.

Screw mount zip ties

⚠️ **WARNING:** This product can expose you to chemicals including Di(2-ethylhexyl)phthalate (DEHP), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Welcome to the new frontier of speaker shopping

Since 1974, I've worked hard to give our customers all of the tools they need to choose the right gear. The virtual speaker technology that you’re about to experience is the culmination of years of groundbreaking research. It’s an entirely new way to shop for speakers online, and we think it’s our best tool yet. Thank you for choosing to explore this new audio frontier with us, and happy listening.

Bill Clinton-Field
About our musical selections

We’ve carefully chosen a variety of tracks for you to sample. We recommend demoing as many as possible to get a sense of how your selected speakers sound across different genres. We’ve proudly included tracks from Crutchfield employees who’ve contributed to this project by sharing their work and granting copyright permission.

What to listen for in each track

**Artist: Brightwork**
Genre: Modern pop

*Track notes:* Top-notch production and an “all-in” arrangement make this a good track to quickly highlight differences in the tonal character between speakers.

*What to listen for:* As you switch between speakers how do the vocals project? Does anything get harsh? Does anything get muddy? Do some details jump out? Does anything disappear?

**Artist: Avalanche**
Genre: Hip hop

*Track notes:* This rap track has a sparse mix, with a great sweeping boom in the bass that highlights the differences in low-frequency performance.

*What to listen for:* How does the balance between the vocals and bass change?

**Artist: Audioblocks**
Genre: Acoustic

*Track notes:* Three flamenco guitars panned left, center, and right along with some nice hand percussion make this track a great starting point to evaluate each speaker’s ability to handle fine acoustic detail.

*What to listen for:* As you switch from speaker to speaker, does the guitar soloist seem to stand out more or less? Does the “slap” of the drums sound more or less pronounced? What happens to the “thump” on the down beat? Do the strumming guitars sound fuller or more subdued?
**Artist: The Believers**  
Genre: Blues rock  
*Track notes:* This crisp, snappy, spacious mix really highlights a speaker’s capability to deliver clarity and detail.  
*What to listen for:* Listen for how the guitar and sax change across multiple speakers. Check out the “ping” in the ride cymbal under the sax solo.

**Artist: Sokoband**  
Genre: Modern jazz  
*Track notes:* This ensemble piece with piano, sax, bass, and drums is great for analyzing the “meat and potatoes” midrange performance of speakers.  
*What to listen for:* Note the balance between the saxophones and the bass as you audition different models. Does the piano sound fuller or brighter? Do the bass notes remain distinct?

**Artist: The Vailix**  
Genre: Heavy metal  
*Track notes:* Massive guitars and bass rock this track, with a dramatic bass sweep about 15 seconds in.  
*What to listen for:* The vocals in this track highlight midrange performance. How does this sound on each speaker?

**Artist: Mason Brothers**  
Genre: Americana  
*Track notes:* Two contrasting sections featuring slide and acoustic guitars with warm, breathy vocals that showcase speaker versatility.  
*What to listen for:* Does each speaker manage both the raucous electric sound of the intro and the subtle acoustic sound of the verse with finesse?

**Artist: Sub Seven**  
Genre: Alternative rock  
*Track notes:* Crunchy guitars, fat bass, and pounding drums drive this rocker for a gut check of the bass and low midrange.  
*What to listen for:* Do the guitars and vocals stand out more with one speaker than another? What about the “punch” of the bass and drums?
Switching between listening modes

Some speakers are more efficient than others. That means one pair of speakers may play louder than another when both are fed the same amount of power. To help you compare, we’ve equipped SpeakerCompare™ with two different listening modes. In “equal power” mode, you’ll hear these differences in volume as they naturally occur between speakers.

In “equal volume” mode, we’ve made the volume of each speaker about the same. This gives you a more direct comparison of voicing differences between speakers.

Nothing beats listening to speakers at home

SpeakerCompare gives you a sense of the sonic differences between speakers. But real-world speaker performance is affected by the acoustics of your car or home, your amplifier or receiver, your source, and other factors. We still believe that the gold standard for auditioning speakers is hearing them in your own environment — that’s why we offer a 60-day return policy on every speaker we sell.

We’re here to help

Our Virtual Audio™ technology is just one tool to help you find the right pair of speakers. If you have questions or need more help, you can call our advisors at 888-477-8155 for free, one-on-one advice.
Instructions for use

HD 280 PRO / HD 280-13
Thank you for choosing Sennheiser!

Over half a century of accumulated expertise in the design and manufacture of high-quality electro-acoustic equipment have made Sennheiser a world-leading company in this field. We have designed this product to give you reliable operation over many years.

Please take a few moments to read these instructions carefully, as we want you to enjoy your new Sennheiser product quickly and to the full.

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Headphone features

**HD 280 PRO headphones**

- Closed dynamic headphones
- Accurate, linear sound reproduction for critical monitoring applications
- Low impedance headphones (64 Ω impedance)
- Space-saving design features collapsible, rotating earcups
- Up to 32 dB of ambient noise attenuation
- Neodymium magnets for high maximum SPL (113 dB / 1 V_{rms})
- Very comfortable, even if used for long periods due to
  - very light weight
  - soft, circum-aural ear cushions
  - padded, adjustable headband
- Single-sided, coiled cable with 3.5 mm jack plug and lockable adapter to 1/4" (6.3 mm) jack plug
- Very rugged with user-replaceable parts

**HD 280-13 headphones**

As HD 280 PRO, but high impedance variant (300 Ω impedance).

Areas of application

The headphones not only effectively attenuate external noise but also minimise spillage from the headphones to the outside world. They are especially suitable for
- use as monitoring headphones in a noisy environment
- broadcast and TV applications
- film and theatre applications
- recording applications
Delivery includes

- Headphones
- Adapter to 1/4" (6.3 mm) jack plug
- Instructions for use

Attention! High volume!

This is a professional pair of headphones. Commercial use is subject to the rules and regulations of the trade association responsible. Sennheiser, as the manufacturer, is therefore obliged to expressly point out possible health risks arising from use.

This system is capable of producing sound pressure exceeding 85 dB(A). 85 dB(A) is the sound pressure corresponding to the maximum permissible volume which is by law (in some countries) allowed to affect your hearing for the duration of a working day. It is used as a basis according to the specifications of industrial medicine. Higher volumes or longer durations can damage your hearing. At higher volumes, the duration must be shortened in order to prevent damage.

The following are sure signs that you have been subjected to excessive noise for too long a time:

⚠️ You can hear ringing or whistling noise in your ears!

⚠️ You have the impression (even for a short time only) that you can no longer hear high frequencies!
Adjusting the headband

For good transmission quality and best possible comfort, the headband has to be adjusted to properly fit your head. To do so, adjust the headband via its snap-in locking mechanism.

Folding up the headphones

For space-saving transportation, the headphones can be folded up in three different ways:

1. To fold up the headphones as compact as possible, tuck the earcups between the headband (variant A and B).

   Note:
   To fold up the headphones as shown in variant B, pull out the headband completely.

2. To fold up the headphones as flat as possible, the earcups can be rotated by 90°.

Cleaning the headphones

To clean the headphones, use a soft, damp cloth. If necessary, the headphones can be cleaned with soapy water (use a mild cleanser such as washing-up liquid).

Note:
Never use solvent-containing cleansers.
Replacing spare parts

Available accessories and spare parts
- Ear cushions
- Headband padding
- Connecting cable

Replacing the ear cushions
Grasp behind the ear cushions and pull them up and away from the earcups. Slide the new ear cushions onto the earcups.

Replacing the headband padding
▷ Pull the Ziploc type fastening strips of the headband padding apart, as shown in the diagram on the left, and remove the worn headband padding.
▷ Put the new headband padding around the headband.
▷ Pull the two edges of the headband padding together so that the fastening strips slightly overlap.
▷ Join the fastening strips.
Replacing the connecting cable

Replace the connecting cable if it is damaged. To do so, please proceed as follows:

- Remove the ear cushion. Grasp behind the ear cushion and pull it up and away from the earcup.
- Loosen the screw (1) and remove it.
- Remove the cover from the earcup (2).
- Pull the connector (3) out of the socket.
- Remove the antikink protection of the connecting cable from the holding device (4).
- Insert the antikink protection of the new connecting cable into the holding device.
- Plug the connector (5) of the new connecting cable into the socket as shown in the diagram on the left.
- Put the cover back onto the earcup (3).
- Replace the screw (4) and tighten it.
- Slide the ear cushion onto the earcup.

Converting the headphones into a headset

If you wish to convert your headphones into a headset, please contact your Sennheiser service partner who will equip the headphones with a microphone.
## Specifications

<table>
<thead>
<tr>
<th>Classification (as per IEC 268-7)</th>
<th>HD 280 PRO</th>
<th>HD 280-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transducer principle</td>
<td>dynamic</td>
<td>dynamic</td>
</tr>
<tr>
<td>Impedance (as per IEC 268-7)</td>
<td>64 Ω</td>
<td>300 Ω</td>
</tr>
<tr>
<td>Long-term max. input power</td>
<td>0.5 W</td>
<td>0.5 W</td>
</tr>
<tr>
<td>Ear coupling</td>
<td>circum-aural</td>
<td>circum-aural</td>
</tr>
<tr>
<td>Frequency response (-10 dB referred to 1 kHz)</td>
<td>8 Hz – 25 kHz</td>
<td>8 Hz – 25 kHz</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>102 dB</td>
<td>102 dB</td>
</tr>
<tr>
<td></td>
<td>113 dB / 1 V&lt;sub&gt;rms&lt;/sub&gt;</td>
<td>107 dB / 1 V&lt;sub&gt;rms&lt;/sub&gt;</td>
</tr>
<tr>
<td>Ambient noise attenuation</td>
<td>max. 32 dB</td>
<td>max. 32 dB</td>
</tr>
<tr>
<td>THD</td>
<td>&lt;0.1 % (at 51 kHz, 100 dB SPL)</td>
<td>&lt;0.1 % (at 1 kHz, 100 dB SPL)</td>
</tr>
<tr>
<td>Weight</td>
<td>approx. 285 g</td>
<td>approx. 285 g</td>
</tr>
<tr>
<td>Contact pressure</td>
<td>approx. 6 N</td>
<td>approx. 6 N</td>
</tr>
<tr>
<td>Length of coiled cable</td>
<td>min. 1 m</td>
<td>min. 1 m</td>
</tr>
<tr>
<td></td>
<td>max. 3 m</td>
<td>max. 3 m</td>
</tr>
</tbody>
</table>

### Frequency response curve

**Diffuse field frequency response**

![Frequency response curve graph](image)
Instructions in English are available at the link below.

Las instrucciones de instalación en el español se encuentran disponibles en el enlace que se indica a continuación.

Les instructions d’installation en français sont disponibles au lien suivant.

Eine Anleitung in englischer Sprache ist unter dem unten stehenden Link verfügbar.

Instructies in het Nederlands zijn beschikbaar via onderstaande link.

安装說明請詳見下列網址連結.

日本語 のインストールガイドは下記リンク先でご覧いただけます。

한국어로 작성된 설치 지침은 아래 링크에서 볼 수 있습니다.

Инструкции по установке на русском языке можно найти по ссылке ниже.

Le istruzioni per l’installazione in italiano sono disponibili nel link indicato in basso.

Pode encontrar as instruções de instalação em português através do link em baixo.

Instrukcja w języku polskim są dostępne w linku poniżej.

คำแนะนำในการติดตั้งไทยมีจัดไว้ให้ผ่านลิ้งค์ด้านในนี้

www.audioquest.com/DragonFlyBlack/flight
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DragonFly Black v1.5 – Flight Manual

DragonFly Black is a USB digital-to-analog converter (DAC) designed to deliver cleaner, clearer, more naturally beautiful sound from any computer, smartphone, or tablet. DragonFly Black’s unique design allows for playback of any file type regardless of resolution. Natively, DragonFly Black is capable of decoding 24-bit/96kHz data. (For files with higher sample rates, your computer or mobile device, in conjunction with its playback software, will resample the data to a compatible resolution. For more details, see “Why is ‘Format’ Important.”)
DragonFly Black represents the culmination of several new and exciting achievements. Over the better part of three years, AudioQuest and acclaimed engineer Gordon Rankin have been tirelessly developing sophisticated software solutions that have allowed us to implement a new, high-performance class of USB microcontroller. We have chosen to work with Microchip®, a leading provider of microcontroller and analog semiconductors. With exceedingly low power consumption and extremely low-noise power supplies, the Microchip microcontrollers achieve unprecedented levels of efficiency and signal-to-noise ratio, regardless of bit- or sample-rate.

While DragonFly versions 1.0 and 1.2 achieved new standards of performance and portability in the high-fidelity audio world, many of our customers have longed for a similar product that could be reliably used with their handheld mobile devices. Previously, DragonFly’s power consumption limited its compatibility to Mac and Windows laptops and PCs. Now, with our developments in the field of microcontrollers, we are able to improve DragonFly’s performance while also offering compatibility with handheld Apple Mobile and Android devices. Improved performance and greater versatility!

DragonFly Black employs a unique clock system called a Hybrid-PLL. While not discrete, the Hybrid-PLL performs equal to, or better than, many discrete clock systems, at a fraction of their cost. This has allowed us to devote resources to more sophisticated components elsewhere.
Additionally, DragonFly Black is software upgradable. Our collaboration with Gordon Rankin and Microchip has now resulted in products that allow consumers to download new software if and when it ever becomes necessary. While we can’t reliably predict any necessary software changes, AudioQuest feels that it is important to provide long-term support for our customers and their investments in audio.

Finally, we simply cannot overstate the significance of Gordon Rankin’s contributions to AudioQuest. DragonFly Black represents many of Gordon’s most innovative, creative, and elegant solutions to date.

We encourage you to spend a few minutes reading through the Flight Manual and then sit back, relax, and get high on your favorite music!

AudioQuest
What’s Included?

- DragonFly Black v1.5 Asynchronous USB DAC
- Travel Pouch
- Flight Manual

Supported Operating Systems

- Apple OS X®
- Apple iOS®
- Microsoft Windows® (7, 8.1, 10)
- Android™
Setting Up DragonFly

DragonFly Black is designed to be “plug and play” with all major desktop and mobile devices and operating systems, such as Android, Apple, and Microsoft. No additional drivers are required for DragonFly Black to operate with any of these systems.

Additionally, 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.

For Use with Apple OS X®

(For Windows setup, skip to page 13; for Apple Mobile device setup, skip to page 17, for Android setup, skip to page 18.)

DragonFly Black is compatible with Mac OS X, versions 10.6.8 and later. OS X menus may appear slightly different from the screenshots shown below. Some have changed over the life of OS X, but their functionality has remained the same.
Setup for USB

Using “System Preferences” to send audio to DragonFly Black, while keeping alerts and sound effects on the computer’s speakers:

1. Insert DragonFly Black into your computer’s USB port.
2. Open “System Preferences” from the Dock or from the Apple® dropdown menu (top left).
3. Click on the “Sound” icon.
4. In the Sound panel, click on the “Output” tab. Select “AudioQuest DragonFly Black 1.5.”
5. Click on the Sound panel’s “Sound Effects” tab.
6. In the “Play sound effects through” menu, select “Internal Speakers.”
7. Close the window.
Setting up the “Audio MIDI Setup” so computer audio plays through DragonFly Black:

1. Open the “Applications” folder, and then the “Utilities” folder.
2. Within Utilities, double-click to open “Audio MIDI Setup.”
3. Within the “Audio Devices” panel, click on “AudioQuest DragonFly Black 1.5.”
4. Select, “Use this device for sound output”
5. Use the “Format” dropdown menu to choose a sample rate—most likely 44100.0 Hz. (See “Why is ‘Format’ important,” right.)
Why is “Format” Important?

CDs operate at a sampling frequency of 44100.0 Hz. Compressed MP3 and AAC music files and audio streams are typically encoded at three different quality levels—128kbps, 256kbps (iTunes Plus), and 320kbps—and are most often reconstructed as 44100.0 Hz files. Similarly, many music downloads and CDs ripped as Apple Lossless or FLAC files are reconstructed to 44100.0 Hz. 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 Black’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).

Some programs (such as NPR) use 48000.0 Hz. These 24-bit/48000.0 Hz files can sound amazingly close to higher sample-rate files. Some “high-res” files use 88200.0 Hz because it is a multiple of the CD standard sample rate (i.e., 2 x 44100.0 = 88200.0). Some “high-res” files use 96000.0 Hz because it is a multiple of the sample rates used on DVDs, Blu-rays, and in the computer world (i.e., 2 x 48000.0 = 96000.0).

DragonFly Black’s LED lights up in different colors to indicate status or sample rate:

- **Red:** Standby  
- **Green:** 44100.0 Hz  
- **Blue:** 48000.0 Hz  
- **Amber:** 88200.0 Hz  
- **Magenta:** 96000.0 Hz
**Apple OS X – continued**

**Making certain that sound effects are routed** to the computer’s speakers and not to DragonFly Black:

1. In the already open “Audio Devices” window, click first to highlight “Built-In Output.”
2. Click on the gear icon drop-down menu.
3. Check that “Play alerts and sound effects through this device” is grayed out.
4. If it is not, click to select it so the now appears next to “Built-In Output.”

Plug in earbuds, headphones, or use a cable to connect DragonFly Black to your powered speakers or amplifier, and you are ready to listen!
For Use with Windows® 7, 8.1, and 10

Setup for USB

Using “Control Panel” “Sound” settings to send audio to DragonFly Black, while keeping alerts and sound effects on the computer’s speakers:

1. Insert DragonFly Black into your computer’s USB port.
2. Go to Start menu and launch “Control Panel.”
3. Open “Hardware and Sound” panel.
4. Select “Sound.”
5. For USB: The AudioQuest DragonFly Black is added as “Speakers.” Ensure it is the “Default Device.” Select “Speakers.”
6. Click “Properties” button for more setup options.
   a. Click “Advanced” tab. Use the dropdown menu to choose the sample rate—most likely 24-bit/44100.0 Hz.
(See “Why is ‘Format’ Important,” right.)

b. For “Exclusive Mode,” check both options, then click “OK.”

7. For Windows 8.1: Click “Enhancements” button.
   a. Select “Disable All Enhancements.”

8. For Windows 7: Setting chimes and alerts to play through the computer’s speakers and not DragonFly Black:
   a. Select “Sounds” tab.
   b. For “Sounds Scheme,” select “No Sounds.” This prevents chimes and computer alerts from playing back through DragonFly Black.
   c. Enter “DragonFly Black 1.5” as your “Sound Scheme” (optional). Click “OK.” Close window.
Why is “Format” Important?

CDs operate at a sample frequency of 44100 Hz. Compressed MP3 and AAC music files and audio streams are typically encoded at three different quality levels—128kbps, 256kbps (iTunes Plus), and 320kbps—and are most often reconstructed as 44100.0 Hz files. Similarly, many music downloads and CDs ripped as Apple Lossless or FLAC files are reconstructed to 44100 Hz. 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 Black 1.5’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., $2 \times 96000.0 = 192000.0$).

Some programs (such as NPR) use 48000 Hz. These 24-bit/48000 Hz files can sound amazingly close to higher sample-rate files. Some “high-res” files use 88200 Hz, but Windows 7 is not currently compatible with this sample rate. To play 88200 Hz music files, Windows 7 users must select 44100 Hz, 48000 Hz, or 96000 Hz, with 44100 recommended as optimal because it is a direct multiple of the native sample rate (i.e., $2 \times 44100.0 = 88200.0$). Windows 8 will play all sample rates. Windows-compatible third-party music players, such as JRiver and foobar2000 will play 88200 Hz files at their native sample rate. For support or more information about these music players, please visit jriver.com or foobar2000.org. Some “high-res” files use 96000 Hz because it is a multiple of the sample rates used on DVDs, Blu-rays and in the computer world (i.e., $2 \times 48000.0 = 96000.0$).
DragonFly Black 1.5’s LED lights up in different colors to indicate status or sample rate:

**Red:** Standby  **Green:** 44100 Hz  **Blue:** 48000 Hz  
**Amber:** 88200 Hz  **Magenta:** 96000 Hz

Plug in earbuds, headphones, or use a cable to connect DragonFly Black to your powered speakers or amplifier, and you are ready to listen!
For use with Apple Mobile devices

DragonFly Black will work with Apple’s mobile handheld devices. In order to connect DragonFly Black to an iPhone or iPad and play music, an Apple Lightning-to-USB Camera Adapter or Camera Connection Kit is required. For more info, visit http://www.apple.com/shop.

1. Plug the Camera Adapter/Connector into your Apple mobile device.
2. Plug DragonFly Black into the Camera Adaptor/Connector’s USB port.
3. Turn down the volume on your mobile device to at least 50%.
4. Select your desired music/media app, and then select your desired song or stream.
5. Adjust volume to desired level.
For Use with Android™ Devices

DragonFly Black 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: https://play.google.com/store/apps/details?id=org.tauruslabs.usbhostcheck.

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.

For a reliable media player that has its own built-in USB device driver, ensuring reliable connectivity to all USB DACs, we suggest the following application: http://www.extreamsd.com/index.php/2015-07-22-12-01-14/usb-audio-driver. This application is compatible with various audio formats and will manage music on both the Android’s internal memory and inserted SD cards. Additionally, with the phone connected to the Wi-Fi network, this application can find and connect to DLNA servers/libraries. Version 2.2.5 USB Pro Player now supports playback for Tidal Streaming.

In order to connect your Android device to DragonFly Black:

1. Android devices use a USB format known as “OTG” (On the Go). OTG USB ports
require a unique 5-pin USB Micro to 4-pin USB A (Female) adaptor. In order to connect an Android device in USB Host Mode to a DAC, an OTG adaptor must be used. See www.audioquest.com/dragontailOTG

2. Select the appropriate cable for your Android device. AudioQuest offers a wide range of high-performance USB cables, with connectors suitable for Android devices (such as USB Micro and USB Mini). For more information, go to the USB Cables section at http://www.audioquest.com/digital-interconnects/. In some rare cases, a proprietary connection or adaptor will be required to transmit audio over USB. (Consult your device’s user manual or visit the manufacturer’s website.)

3. Turn down the volume on your Android device to at least 50%.

4. Select your desired music/media app, and then select your desired song or stream.

5. Adjust volume to desired level.
Desktop Device Manager Application
Available for Mac OS X and Windows 7, 8.1, and 10

The AudioQuest Desktop Device Manager Application allows you to identify your DragonFly’s serial number and software version to ensure that the device is up to date.

In order to install the AudioQuest Desktop Device Manager Application:

1. Go to: [http://www.audioquest.com/dragonfly/app](http://www.audioquest.com/dragonfly/app) and download the latest Device Manager available for your operating system.

2. Double-click the installer icon and follow the onscreen instructions until complete. The application’s icon will appear on your desktop.

3. To run the Device Manager Application, double-click the application’s icon.

4. A window will appear, asking you to connect a DragonFly Black device to your computer.

5. The Device Manager Application will automatically check for available software updates. However, if you’d like to manually check for updates, you can do so whenever you wish by clicking the “Check for Updates” button. If an update is available, the “Update Now” button will be enabled. Click this button to start the update process.
PLEASE DO NOT DISCONNECT YOUR DRAGONFLY BLACK DURING THE UPDATE PROCESS. Doing so can leave the DragonFly Black in a non-functional state. If, for any reason, your DragonFly Black is disconnected during the update process, or your computer unexpectedly shuts down during the update process, your DragonFly Black may be rendered unusable. To reset your DragonFly Black, click the Advanced button. (See below.)

RESETTING YOUR DRAGONFLY BLACK: With your DragonFly Black inserted in your computer’s USB port, click the Advanced button, located in the lower left hand corner of the Device Manager window. Select “Reset Now.” You will be asked to “Confirm” or “Cancel” this action. Select “Confirm” and wait for the application to finish the reset process. Again, please do not disconnect your DragonFly Black during the reset process. If, for any reason, your DragonFly Black is disconnected during the reset process, simply reinsert DragonFly Black and perform the reset process again.

Once the update/reset process is complete, the Device Manager Application will display the following message: The update is complete and it is safe to disconnect your device.

Once you have checked for updates and/or made your desired changes, disconnect the DragonFly Black and quit the Device Manager Application. Your DragonFly Black is ready to use.

Visit http://www.audioquest.com/computer-audio for advanced computer audio setup guides that include tips, tweaks, and techniques for getting the best sound from various music applications such as iTunes, Roon, JRiver, foobar2000, Pure Music, Decibel, and Bit Perfect.
Take DragonFly Higher

JitterBug USB Filter

Our JitterBug USB filter employs dual discrete noise-dissipation circuits to reduce the noise and ringing that plague both the power and data lines of USB ports throughout your audio system. It can be used with USB DACs, hard drives, NAS devices, routers, streamers, computer peripherals, and even with mobile devices into a car stereo! For those who already own DragonFly, JitterBug should be a fun, easy, and affordable upgrade: Simply plug JitterBug into an available USB port, then plug DragonFly into it.

Bridges & Falls Analog Cables

Determining the correct connection for your device, and finding a cable that’s commensurate in performance with your needs and desires, should be painless. Bridges & Falls cables honor the fact that today’s components require more connectivity options than ever before, while taking full advantage of the efficiencies in making single-ended stereo cables in a single jacket. With the appropriate Bridges & Falls cable, you can connect DragonFly to powered loudspeakers or a complete high-performance audio system! AudioQuest offers a comprehensive selection with a wide variety of modern connector configurations, such as 3.5mm to: •3.5mm •RCA •DIN
**DragonTail USB Extender Cable**

DragonTail is a USB extender cable that allows a USB device (such as DragonFly or a flash drive) to more easily and safely fit next to other occupied computer ports. Most importantly, like all AudioQuest products, DragonTail is designed and manufactured for low distortion and maximum performance. Sharing design elements with our Carbon USB cable, DragonTail uses solid conductors with silver plating that comprises 5% of the total conductor metal, foamed-polyethylene insulation to maintain critical signal-pair geometry, and direct-silver-plated USB contacts. In addition, DragonTail's signal-carrying conductors are controlled for digital-audio directionality for more engaging and immersive sound.

**DragonTail USB Adaptor For Android™ Devices**

DragonTail for Android is a USB adaptor designed to activate USB Host Mode on any Android-enabled device, allowing the device to transmit audio over USB to an outboard digital-to-analog converter (DAC). Use DragonTail for Android to connect any Android-enabled device to a USB DAC, such as DragonFly Red or DragonFly Black, for improved audio performance. Like DragonTail, DragonTail for Android shares design elements with our Carbon USB cable, including solid conductors with silver plating that comprises 5% of the total conductor metal, foamed-polyethylene insulation, and signal-carrying conductors that have been controlled for low-noise directionality.
Great news: Android devices that run Jelly Bean operating system (4.1 or newer) now support USB audio output, and your DragonFly Black or Red is pre-loaded with the latest firmware (1.03), which includes being optimized for use with Android devices.

If your DragonFly seems to have clearly too little output, then there’s more to do:

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 an app called USB Audio Player Pro (UAPP; currently $7.99 US): https://play.google.com/store/apps/details?id=com.extreamsd.usbaudioplayerpro. UAPP includes its own USB audio device driver, which is compliant with the USB Organization’s USB Audio Host Mode Class specification.

This application is compatible with various audio formats and will manage music on both the Android’s internal memory and inserted SD cards. Additionally, with the phone connected to the Wi-Fi network, this application can find and connect to DLNA servers/libraries. Version 2.2.5 USB Pro Player now supports playback for Tidal Streaming. UAPP offers no support for other third-party applications.

If you are not satisfied with this solution, your dealer will gladly refund your DragonFly purchase price.

We no longer recommend users to download and install USB Host Check on an Android device. Please ignore this step of our Flight Manual (p.18).

For more information on Android and USB audio compatibility, visit http://www.extreamsd.com/index.php/technology/usb-audio-driver
For Apple iOS Users

To connect DragonFly Black or DragonFly Red to any Apple iOS device, we highly recommend Apple’s Lightning-to-USB 3 Camera Adaptor. This device sounds better and is more reliable in this application than Apple’s slightly less expensive Lightning-to-USB 2.0 Camera Adaptor, while it also adds the ability to charge your iOS device during playback. For more info, visit [http://www.apple.com/shop/product/MK0W2AM/A/lightning-to-usb-3-camera-adapter](http://www.apple.com/shop/product/MK0W2AM/A/lightning-to-usb-3-camera-adapter).

Please disregard our previous recommendations for Apple’s Lightning-to-USB Camera Adaptor and 30-pin Camera Connection Kit (now discontinued), found on page 17 of the included Flight Manual. The latest firmware revision has no effect on iOS devices.
Terms and Conditions for the Crutchfield SpeakerCompare™ Listening Kit Rental Service (Service)

Last Modified: 12/17/2018

Please read these terms and conditions carefully. By clicking “I Agree” or otherwise using this service you agree to these terms and conditions. This is a binding Agreement between You and Crutchfield Corporation ("Crutchfield").

Through this service we are aiming to provide you with the tools needed to use our patented speaker simulation process and provide you with a method of evaluating different speaker systems through the use of a computer and the digital to analog converter and headset provided by our rental service. This service is only available to persons who are at least eighteen years old and can only be shipped to customers in the 50 United States, Washington D.C. and Puerto Rico.

Crutchfield may discontinue, modify or suspend this service or its terms and conditions at any time and for any reason without any prior notice.

Any use of this service is subject to Crutchfield's privacy policy located at (web address here). In addition, by using this service you are authorizing Crutchfield to use and transferring full ownership and rights to Crutchfield, to any review, comments, suggestions and any modification or changes to the Service which you may bring to Crutchfield’s attention.

General Conditions

This Section sets out terms and conditions that apply to your rental of products through the Service which currently consist of an AudioQuest Dragonfly® Black v1.5 digital to analog converter, one pair of Sennheiser HD-280 Pro headphones, and three USB adapters with a retail price of $269.95. The digital to analog converter, adapters, and headsets that are actually shipped and their retail pricing may change at any time without prior notification in the sole discretion of Crutchfield.

18 YEARS OR OLDER. We rent and sell only to adults, who may rent the products included in the Service with an accepted credit card. By clicking agreeing to these Terms, you represent that you are 18 years or older and that you are authorized to use the chosen credit card payment method for the purpose of renting the Service as described in these Terms.

LIMITS. You acknowledge and agree that we may place limits on the rental of the Service, including but not limited to restricting orders placed under a single customer account, payment card or billing or shipping address. We reserve the right to limit, cancel or prohibit any rentals for any reason in our sole discretion, including but not limited to availability and geographic concerns. There is a limit of one rental per address at any one period of time, and rentals are limited to the 50 United States, Washington D.C., and Puerto Rico.

DELIVERY. All deliveries will be through Crutchfield’s shipping partners, which may change from time to time at Crutchfield’s discretion. The shipping method used will be at the discretion of Crutchfield.

COLLECTIONS. If you do not pay the amounts you owe to Crutchfield when due, then Crutchfield will need to institute collection procedures. You agree to pay Crutchfield’s costs of collection, including without limitation reasonable attorneys’ fees.

COMMUNICATIONS. You consent to receive communications from us, including email, text messages, calls, and push notifications, including for the purposes of notifying you about the status of your order, sending you reminders, facilitating secondary authentication, and providing other information. We may contact you by telephone calls or text messages, including by an automatic telephone dialing system, at any of the telephone numbers provided by you. Standard message and data rates charged by your mobile carrier may apply to the text messages we send you.
RENTAL FEE. The rental fee ("Rental Fee") for the Service is currently $25 (twenty-five US Dollars) for your rental of the Service. When you place your rental order for the Service, you hereby authorize Crutchfield to charge your credit card for the Rental Fee. Crutchfield will charge your payment card the amount of the Rental Fee immediately upon the shipment of your rental order. In addition, at the time of your rental order for the Service, you hereby authorize Crutchfield to charge your credit card for an amount up to to 100% of the original retail value of the Product (when new) which is currently the sum of $269.95 ("Retail Value") plus applicable sales taxes, federal, state and local taxes, and other governmental assessments which shall be paid by you to Crutchfield in connection with your rental order; provided that Crutchfield will only charge your credit card for an amount greater than the Rental Fee as described below.

CANCELLATION POLICY. You may only cancel your rental order subject to the following cancellation fees and policies:

i. If you cancel prior to the time that your order has been processed and shipped, there is no cancellation fee and you will receive a full refund issued to the credit card you used for the order.

ii. If you cancel after the order has been shipped you will not receive any refund.

RETURN PACKAGING. With delivery of the Products, Crutchfield will provide you with a pre-paid, pre-addressed UPS mailing label as well as instructions for your use in returning the Products to Crutchfield. The Products should be securely packaged in the original shipment box and taken to a UPS store located in the United States with the mailing label attached by 12 p.m. on or before the date that the Product is due.

RECEIPT OF THE PRODUCTS. Until signed delivery to Crutchfield, you bear responsibility for the Products.

USE OF THE PRODUCTS. You agree to treat the Products with care, and to return them in "like-new" condition. You are responsible for loss, destruction or damage to the Products due to theft, mysterious disappearance, fire, water damage, or any other cause. If you return a Product that is damaged or not in "like-new" condition, or missing any packaging or accessories, then you agree that we shall charge you, and you shall pay, for the price for repairing or replacing the Product, as determined in our discretion, up to the Retail Value for the Product.

RETURN OF THE PRODUCTS. You agree to return the Products to Crutchfield on or before the return date for the Products which is currently thirty (30) days after the product has been shipped to you. You must return the Product by delivering the Product in the Return Packaging to any official UPS collection point located in the United States by 12 p.m. on or before the date that the Product is due.

NON RETURN. If you return the Products late your late return will be considered a non-return and Crutchfield will charge your payment card for the full retail price of the Products. Crutchfield will not charge you for more than an amount equal to 100% of the Retail Value plus the Rental Fee and any taxes, in the aggregate, for any charges arising excluding collection costs. If you pay Crutchfield an amount equal to 100% of the Retail Value and you still possess the Product, the Product is yours to keep, though on an "AS IS" basis without warranty of any kind. For the avoidance of doubt, the limitations of this clause shall not apply to the Rental Fee, which is charged separately from, and in addition to, any other charges payable by you.

LOST RETURN MAILING LABEL. If you lose the Return mailing label, you will be responsible for returning the item at your own expense by the expected return date, and providing Crutchfield with a tracking number.

LIMITED WARRANTIES. The following are the limited warranties Crutchfield provides in connection with Product rentals. Crutchfield’s liability to you for failure to comply with any of these warranties is limited to timely delivery of Product conforming to the warranties or a refund of the Rental Fee.

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GOVERNING LAW AND VENUE. These Terms are governed and interpreted pursuant to the laws of the Commonwealth of Virginia, notwithstanding any principles of conflicts of law. Any disputes in connection with these Terms that, notwithstanding the mandatory arbitration provision we have agreed to above, results in court action, shall be resolved exclusively by a state or federal court located in Albemarle County, Virginia, and you specifically consent to the personal jurisdiction of such courts and waive any claim of forum non conveniens.

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