

ICON

STUDIO-QUALITY

USB STREAMING MICROPHONE

EARTHWORKS AUDIO

Follow us on social media **@EarthworksAudio**
For more information, please visit
earthworksaudio.com or call 1-603-654-2433.

Welcome to ICON

The ICON is a studio-grade microphone that brings simplicity, compatibility and digital connectivity that integrates effortlessly into a broad range of applications. There are no EQ settings that you need to fuss with, no gimmickry or DSP patterns to confuse you, but rather a phenomenal & flexible sound.

ICON is a plug & play class-compliant device. This means that it works on virtually any modern computer, tablet or phone that you can plug a USB peripheral into.

Uses and applications

REMOTE MEETINGS

ICON shines during remote meetings — your coworkers and clients will notice. But more importantly, so will your IT department. The ICON does not require you to download any apps, drivers or software bundles that could prevent or preclude you from using ICON on your company network. The mute button is also an invaluable feature that so many of the alternative solutions lack, which allows for users that aren't in arms-reach of the computer to mute and unmute with ease. A front-facing led indicator lets the user see when the mute is engaged, so you can be sure that you aren't "that person" with the hot mic distracting from a presentation or meeting (we've all been there).

REMOTE LESSONS

We also made sure to cater to a particular type of remote meeting, specifically online music classes and remote musical education. While online learning has been wonderful for access and convenience, teachers have had a very difficult time hearing the full tone and sound of the instruments remotely.

We worked closely with top colleges and conservatories throughout the world to understand both the needs of teachers and students, and we developed the ICON to address them all. Simply adjust the input gain to accommodate your instrument, and the ICON performs admirably as a USB instrument microphone. You can even capture extremely loud sources like drums with no issues as the ICON can handle high sound pressure levels. (More on the differences between the analog gain stage and the digital gain stage further on.)

PODCASTING & STREAMING

Podcasters and live streamers alike will LOVE the ICON, and compared to many of the available alternatives this microphone will feel like a breath of fresh air. With stunning transient detail, broad frequency response and compact format, your audience will instantly recognise and appreciate the broadcast-ready sound this mic will bring to your creative environment.

RECORDING

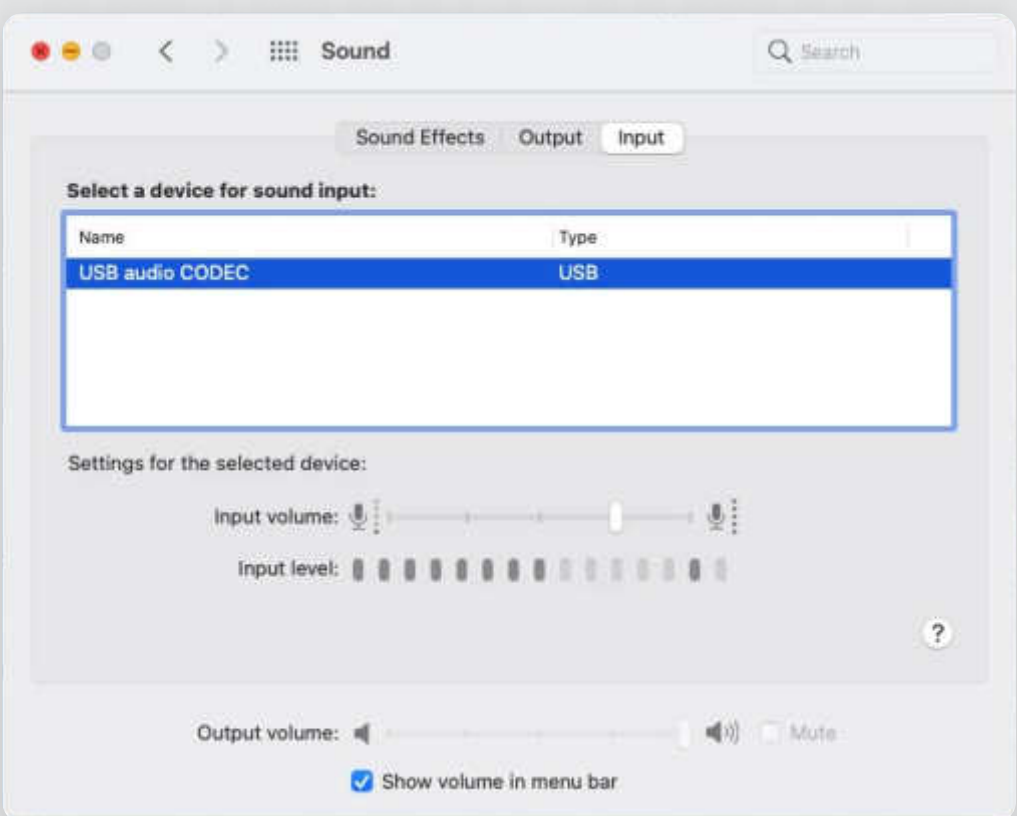
ICON is not meant to replace your studio microphones (although sonically it could) but it is meant to capture your ideas and to encourage creativity. Simply plug ICON into your computer, tablet or phone’s USB port, use your preferred recording software, adjust the gain for the optimal level, record and share!

If you don't have any studio microphones because you don't consider yourself to be a musician, we believe everyone inherently has something to say and the desire to create; tapping into this just requires the right tools at your disposal. Much of the existing technology for music production inhibits flow and collaboration, making the process difficult and intimidating. ICON changes that, so have fun exploring new avenues and outlets!

Initial setup

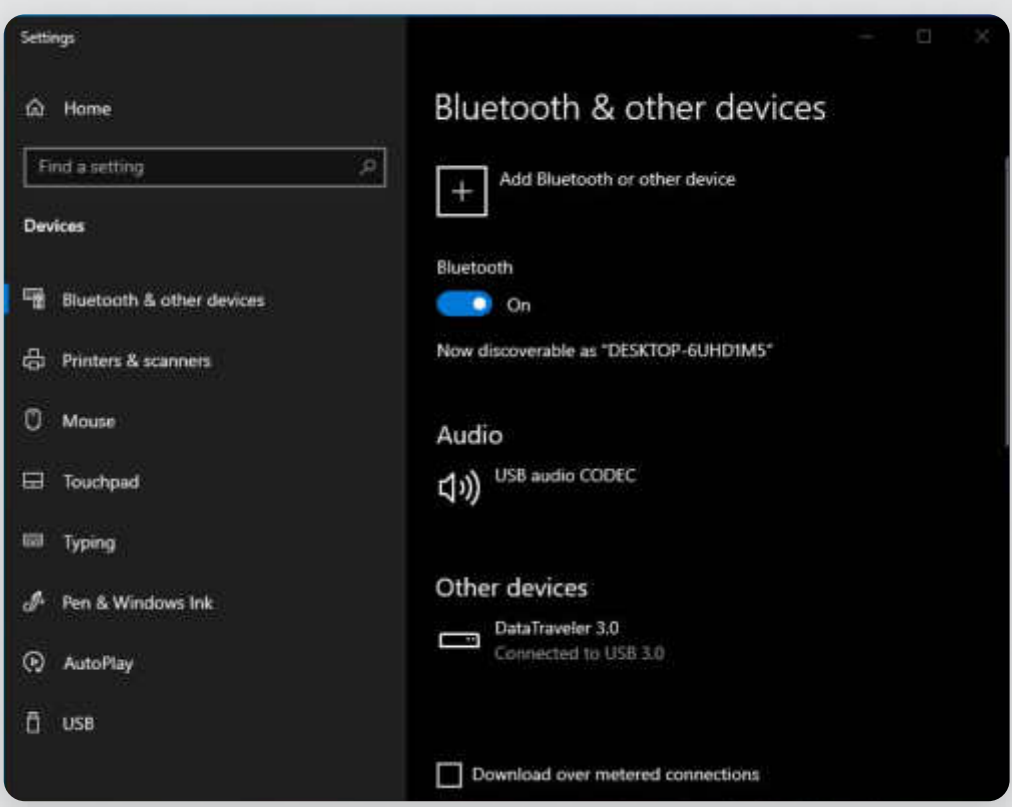
MacOS

For MacOS platforms, simply connect the included USB cable to the rear of the microphone, and the other end to the USB port of your Mac. Open System Preferences, select ‘Sound’ and then select first the Input and Output tabs. Make sure to select ‘USB audio CODEC’ as both the input AND the output device. If MacOS sound effects are passing through the ICON’s headphone jack and this is undesirable, select the ‘Sound Effects’ tab and choose ‘Internal Speakers’ and the noises native to MacOS operation (like that ‘ding’ you hear when an app is updated) will only pass through the computer’s built-in speakers. Once this is finished, audio should be passed in and out of the ICON by all of the on-board applications native to MacOS, and most 3rd party applications. Keep in mind that some 3rd party apps, like many Digital Audio Workstations, require the user to select this device in the app's preferences even after the steps mentioned above have been completed.



WINDOWS

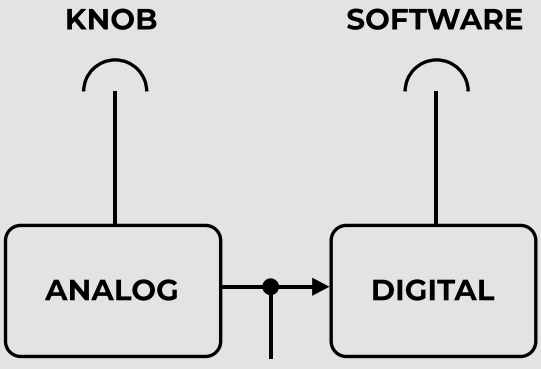
For Windows platforms, make sure your computer is powered on before connecting the ICON to the USB port for the first time, otherwise it may not automatically recognise the device. You will hear a ‘ding’ when the operating system recognizes the device, which will show up in notifications (lower right corner of screen) as ‘USB Audio Codec’. This can also be verified by opening on the Windows icon (lower left corner of screen) select ‘Settings’ (click on the gear graphic) then in the ‘Settings’ window choose ‘Devices’ where ‘USB Audio Codec’ should be an option, with a small speaker icon indicating that the device has been selected as the primary audio device. Once this is set up, Voice Recorder and other native applications will automatically recognise and send audio to and from the ICON. Keep in mind that some 3rd party apps, like many Digital Audio Workstations, require the user to select this device in the app's preferences even after the steps mentioned above have been completed.



Volume control

2 STAGES OF GAIN

We designed ICON to give you the most creative flexibility for however you record or broadcast, and with this in mind we integrated an Analog gain stage and a Digital gain stage. It is crucial to understand how they interact as different workflows will use one or both stages. Gain, for those not familiar with the term, is the technical term for ‘volume’ control. An added benefit is that the 2 stages give ICON the cleanest sound with the lowest noise possible for every application. Below you’ll find a graphic illustrating the signal path and the gain stage structure, followed by an explanation of each:



ANALOG GAIN

The analog gain stage is controlled via the Mic Gain knob on the back of your unit. It has a range of -20dB (all the way left) to +20dB (all the way right) with ZERO at the center detent. Always start by setting your analog gain first. Keep in mind that everyone’s voice is unique, so trust your ears and use the guide below as a starting point:

Desktop Use: If you are using ICON on your desk with the included desktop microphone stand, have the analog gain turned up closer to the maximum level for everyday speaking levels, which is towards the right (looking at the rear of the mic). The further away your sitting position is, the higher this setting should be. The maximum gain setting here gives you the largest pickup pattern of sound.

Stand or Boom Mount: If you are boom or tripod-mounting the ICON and have it a few inches from your face, having the analog gain set to the zero position in the middle is a good starting point. You will feel a detent to let you know that you are in the middle. Of course you can add or reduce gain as necessary.

Musical Instruments and Loud Sources: If you are using ICON during online music classes or if you are using it to record loud sources like drums or trumpet, you can turn the analog gain down and to the left (looking at the rear of the mic) in order to prevent clipping or distortion. For more nuanced and quieter instruments, you can turn the knob to the right.

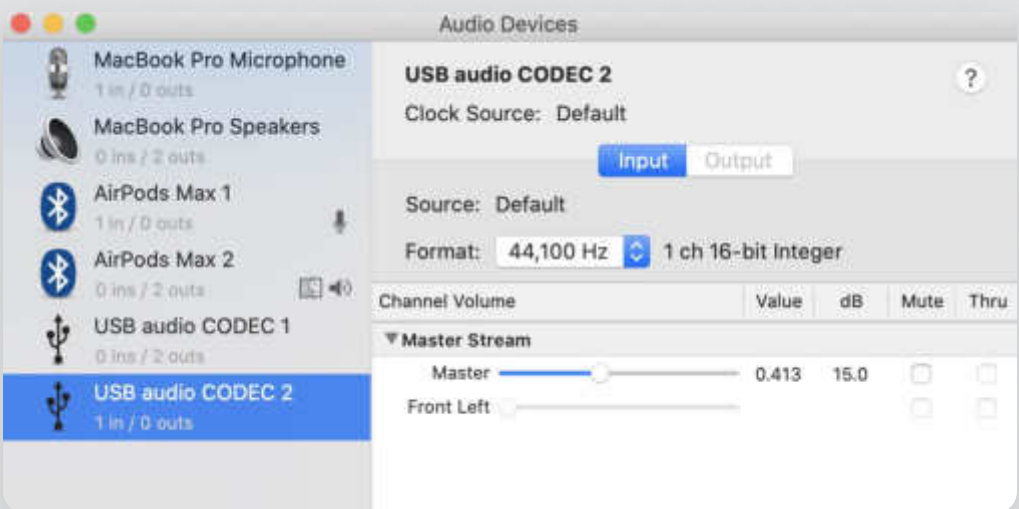
DIGITAL GAIN

The Digital Gain Stage is controlled through your device and/or software application, with adjustments that typically range from -12dB up to +30dB. Please note that each application or software controls the digital gain in different ways. Remote meeting conferencing software independently and automatically adjusts your digital gain to optimize its level for all participants in the conference. These adjustments are made in the background and will typically not be displayed to the user, because typical users won't have any control over their device's built-in microphone's sensitivity. With this in mind, it is critical to note that whenever you use an online conferencing software your system will change your digital gain from where it was last set.

For creative users of Digital Audio workstations, we recommend leaving this setting at its nominal value (0dB) and relying on the analog gain adjustment, or alternatively the DAW's volume controls rather than the methods detailed below:

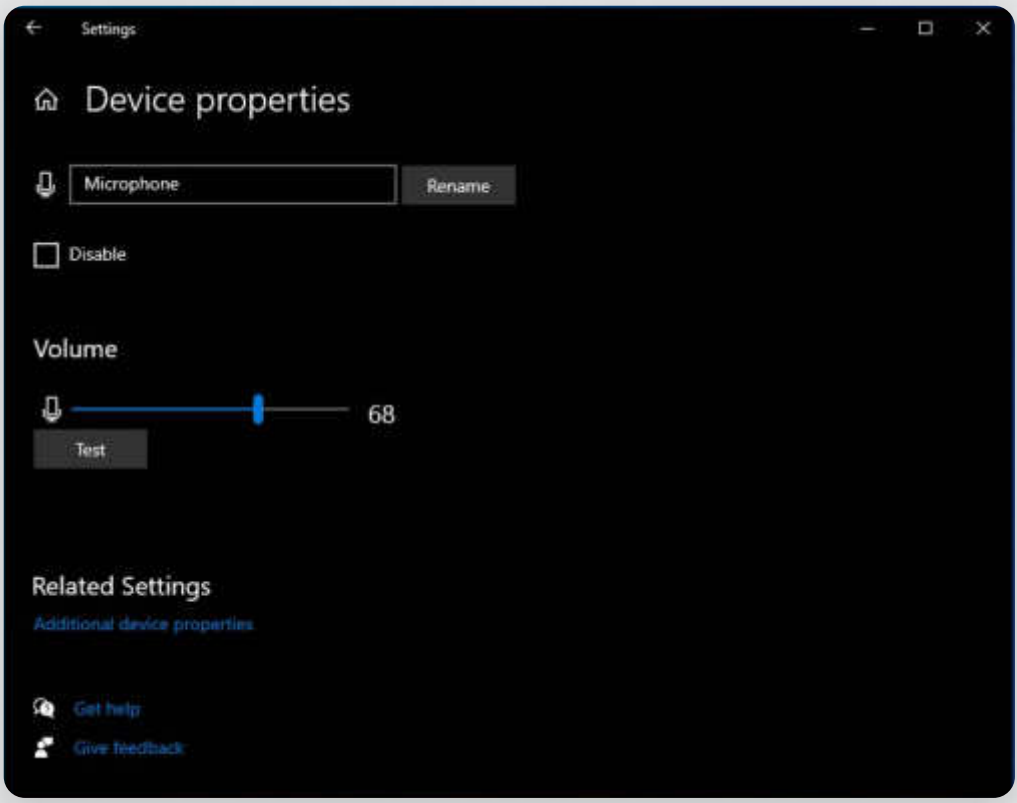
MacOS

For the MacOS platforms, users access the Digital Gain Stage by opening the built-in Audio Midi Setup application (Located in Applications>Utilities>Audio Midi Setup) . Choose the USB audio CODEC (1in / 0 outs) to set the master stream. Drag it all the way to the left for a digital mute or pull it to the right to augment the analog gain by up to +30dB.



WINDOWS

For the Windows platforms, users access the Digital Gain Stage by clicking the Windows button on the lower left-hand corner, click on 'System', then 'Sound'. Scroll down to Input, then select 'Device Properties' and the digital gain control for the mic (labeled volume) will be selectable on a 0-100 scale. Drag it all the way to the left for a digital mute or pull it to the right to augment the analog gain by up to +30dB.



ANALOG MUTE

Many conferencing programs give the moderator or administer control over the participants muting or unmuting, but we believe that a physical mute control is an essential feature for modern conferencing. It provides an additional layer of privacy and security, so we included one on the ICON.

This analog mute feature (part of the Analog gain stage) can be activated by pushing in on the gain knob on the back of the microphone. When enabled, mute is indicated by a front-facing LED blinking blue and green. When pressed, you will also hear an audible click sound to indicate you've been muted (the click sound will not occur when unmuting the microphone). Isolated from any remote software control capability, you'll be sure that your privacy is intact. Think of this as the microphone's E-Brake; when engaged, no sound will pass through to the device. We still recommend using the digital (software) mute for daily use, this is just for when you need an extra assurance.

Headphones & Monitoring

LATENCY & ICON

Zero latency monitor and confidence monitoring are both available on the ICON USB microphone. Unlike other manufacturers, this setting is not fixed on the ICON giving users the choice to select one or the other based on your application. Users must first establish which workflow is best for them and their workflow, below is a quick table outlining ideal use for each mode:

REAL-TIME MONITORING	CONFIDENCE MONITORING
Conferencing	Podcasting
Streaming	Music Recording
Lessons	ASMR

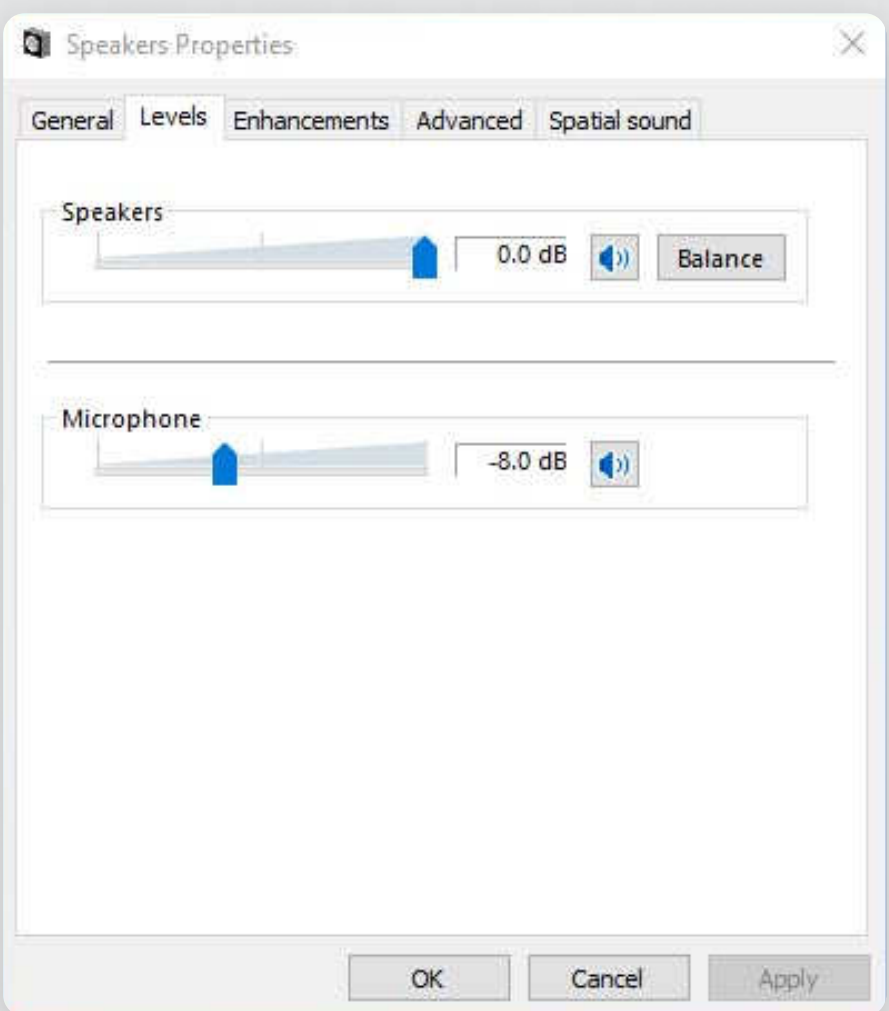
REAL-TIME MONITORING

Note: while Real-Time Monitoring can be enabled through Windows, that feature is not currently enabled or available currently on the MacOS platform.

Real-Time monitoring is available if you are conferencing or streaming live and require this feature, so we have made sure to include it even though the device is optimized for Confidence Monitoring to ensure maximum flexibility and compatibility. Real-Time monitoring is simply a passthrough — meaning that you're hearing the signal the microphone captures before it transfers to the ADC (Audio Digital Converter) and DAC (Digital Audio Converter). This means that you are hearing the microphone without latency, but at the expense of not hearing how your voice will sound recorded (or if it's being recorded at all).

This may seem like a good idea for music and podcasting recording at first, but you will not be able to enjoy hearing the equalization, compression, reverb and myriad other audio effects at your disposal.

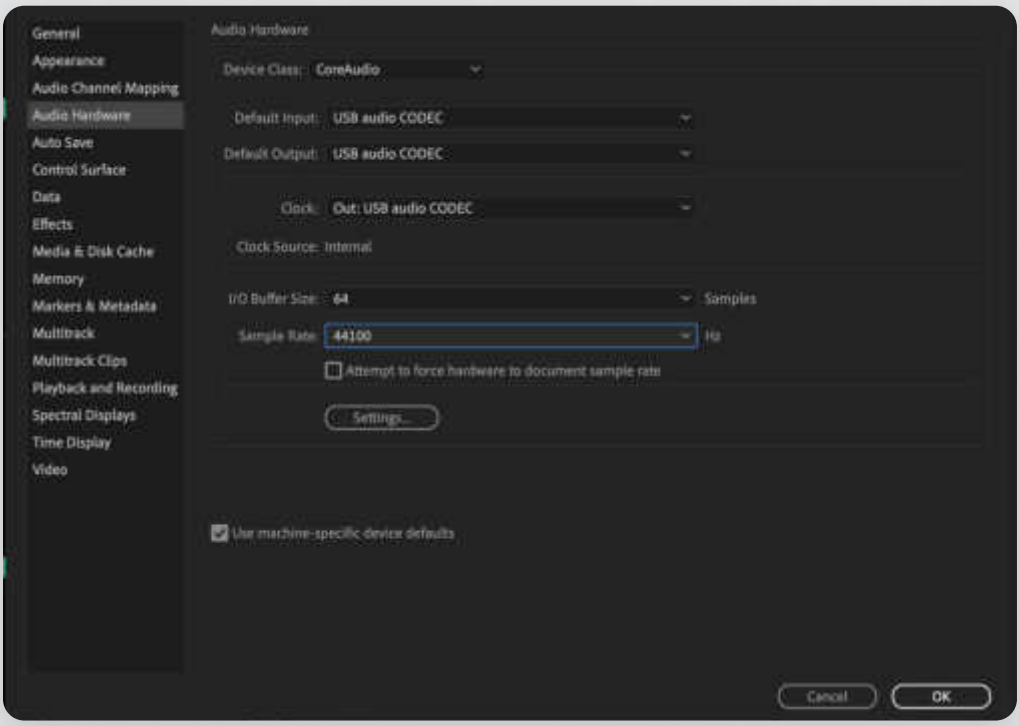
For the Windows 10 platforms, users access the Real-Time monitoring by clicking the Windows button on the lower left-hand corner, click on ‘System’, then ‘Sound’. Scroll down to Input, then select ‘Device properties’ and then select ‘Additional device properties’. In the ‘Speakers Properties’ window that appears, select the small speaker icon to the right of the digital gain control to enable/disable the real-time monitoring. By default, the Real-Time monitoring is off, and when activated you should hear yourself regardless of whether an audio application is in use or not. When using this feature with audio software, it's crucial that any audio fed back into your headphones by the software from your ICON is turned down or muted, or else doubles or echoes will be audible.



CONFIDENCE MONITORING

The default setting for ICON is for Confidence Monitoring. Confidence Monitoring is generally associated with professional audio applications such as music and dialog recording, when hearing the audio AFTER it reaches the recording platform is desirable. This must be selected through the user's software. Because ICON doesn't require the use of drivers or software, it relies on the operating System being able to recognize this feature on the chipset. Some operating systems (including MacOS) are currently not capable of seeing this feature on any product. Other manufacturers circumvent this MacOS limitation by hardwiring their device to only support Real-Time Monitoring (listening to the microphone BEFORE it reaches the computer) which makes for easy live streaming and conferencing, but unfortunately this prevents professional users (musicians & podcasters, we are talking about YOU here) from being able to use the Confidence Monitoring workflow entirely, and that those devices won’t actually let the user preview the sound as it will be recorded. Simply put, if you like being able to use (and hear) effects like reverb, compression etc. while you record, Confidence Monitoring is a must-have feature (which is why we feel so strongly about it).

To use confidence monitoring, plug your headphones into the back of ICON, open your favorite Digital Audio Workstation and open your audio hardware settings, which are often within the software’s preferences. Choose USB Audio CODEC for your default input and USB audio codec for your default output. Setting the I/O Buffer Size as low as it will go is crucial. Start at 64 samples and progressively work your way down, older computers may not be able to achieve as low a buffer as more modern ones, as this is a processor-dependent setting. If you begin to hear pops and clicks, you have exceeded what your computer is capable of delivering and should revert to the next highest buffer setting.



HEADPHONES

For confidence monitoring to work properly, ICON users must use the headphone jack on the rear of the microphone. Your output signal must be routed through the same device or else problems will inevitably arise. This principle applies not only to the ICON, but most other external audio interfaces. Earthworks took great care to include a high quality digital audio converter to ensure you get not only a class-leading microphone, but a fantastic headphone experience as well. When your headphones are plugged into ICON, simply control your headphone volume via your device's digital volume bar like you would with standard headphones/earbuds.



**If you experience any sonic issues with legacy TRRS conferencing headphones (diminished volume, out of phase audio, etc.) please contact us directly and we will send you a complimentary headphone adapter.*

USB Cables

WHY USB MICRO?

For your ICON, we intentionally picked a USB chipset that has been around for awhile in order to maximize compatibility with as many devices as possible. Many other manufacturers leave you tethered with pitifully short cable runs, which make them all but unusable for anything but the most pedestrian of workflows. Taking this into consideration, we chose a micro USB output because of its ability to support longer cable runs. We found that users doing more intricate recording and broadcast work requested and appreciated this. 20-40 feet of cable may sound excessive if you have this parked on your desk on its included mount, but for professional users who implement booms/arms to get aesthetically clean (cable-free) shots for video streaming and podcasting, it's a dealbreaker.

ICON: USB VS. PRO

WHICH IS BEST FOR ME?

If you’re a serious professional user who has a studio or podcasting environment already equipped with XLR connectivity, audio interfaces and cabling infrastructure; the ICON may not be the ideal choice for your workflow. In anticipation of this situation, Earthworks also sells the ICON Pro microphone which has the same form factor and sound of the ICON, but omits the digital USB connectivity altogether and instead has an industry-standard 3-pin XLR connector on the back. For example, if you're a podcaster and set up with a microphone, stand/boom, audio interface and monitoring already, the ICON Pro will swap out effortlessly with virtually any microphone you may be using.

Just enable the 48V phantom power on your interface, adjust the gain control to taste and you will be enjoying the ICON PRO within minutes. The included M2-R ball mount will integrate and enhance any stand, boom or boom arm that you may already be using.

Bit depth & ICON USB

RECORDING

In order to ensure the broadest compatibility across computers and mobile devices both new and old, we decided that the ICON would be best as a 16-bit device. For reference, 16-bit audio is standard for CDs and the vast majority of streaming audio consumers hear today. With a dynamic range of 96dB this is more than adequate for most workflows where a compact Plug & Play driverless device is desirable or necessary. If you have a 24-bit session and you wish to add and record with the ICON, simply record 24-bit audio and there is no sonic penalty for doing so (but make sure to read the next section carefully). If you're doing professional recording and already own a 24-bit audio interface you like, we recommend an upgrade to the ICON Pro.

PLAYBACK

For the vast majority of conferencing, streaming, remote lessons and podcasting, your playback source will likely be 16-bit. However, if you plan on using a Digital Audio Workstation like Logic Pro or Pro Tools, setting your DAW to 16-bit playback is crucial to normal operation of the ICON. If you have a 24-bit session and you wish to add and record with the ICON, make sure you apply 16-bit dithering on the master output bus to ensure you don’t experience truncation (all professional DAWs offer this option typically as a plug-in). If your workflow is exclusively 24-bit, odds are you already own a 24-bit audio interface. In that case, the ICON Pro will likely be a more appropriate choice for your workflow.

SPECIFICATIONS

Frequency Response
20Hz - 20kHz

Polar Pattern
Cardioid

Peak Acoustic Input
132dB SPL

Connection
Micro USB to USB A and micro to USBC

Power Source
USB Bus Power

Power Consumption
70 mA at 5V (Bus Power)

Typical Headphone Impedance
16 Ohms

Headphone Output Power
50 mW (at 16 Ohms)

Color
Stainless Steel

Dimensions L x D
5.53" x 1.6"

Weight
1.5lb (0.68kg)

WARRANTY

The ICON and ICON Pro carry a two-year limited warranty (parts and labor). Please register your warranty at: **earthworksaudio.com/register**. If you have any problems with your Earthworks products, please contact our warranty/repair department by email at: **service@earthworksaudio.com**

NOTE

This warranty only applies to Earthworks microphones purchased brand new. For microphones purchased/received second-hand, please contact us via our website.

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EARTHWORKS AUDIO