



# Sound Healing Academy

**Recording sounds and music at home**

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## 1) Digital Audio Workstations (DAWs)

A Digital Audio Workstation (DAW) is a piece of software used for the recording, editing and producing of audio files. DAWs come in a wide variety of configurations from a single software program on a laptop to an integrated stand-alone unit, all the way to a highly complex configuration of numerous components controlled by a central computer. For the purposes of this guide, we will deal with the DAW in the context of a piece of software that you install on your computer.

DAWs are used for the production and recording of music, songs, speech, radio, television, soundtracks, podcasts, sound effects and nearly any other situation where recorded audio is needed and the complexity is more than just a “one off” unprocessed direct recording.

Much like you might choose Excel as a spreadsheet or Word as a Word-processor, you will choose a DAW as your “Audio Production software” of choice.

### ***Recommended DAWs:***

- 1) Reaper - very powerful, easy to use and a great price - \$60!  
See <http://www.reaper.fm> for more information
- 2) Logic (Mac) - I've not personally used this, but heard good things about from Mac users. \$199  
See <https://www.apple.com/uk/logic-pro/> for more information
- 3) For those on a tight-budget, you may want to check out Audacity, which is free:  
<http://www.audacityteam.org/>

## 2) Audio Interfaces

Without getting overly technical, an audio interface is a piece of hardware that handles the conversion from a digital audio signal to an analogue signal, and vice versa. A digital audio signal in your computer is composed of lots of 1s and 0s, and the interface needs to convert it to an analogue audio signal so that it can be sent out to your hi-fi speakers, studio monitors or headphones.

The reverse of that (Analogue to Digital) is also necessary - a guitar or microphone for example, outputs an Analogue audio signal, so when plugged into your audio interface, it gets converted to digital so the computer can “understand” it.

The conversion is done by a chip known as a DAC (Digital-to-Analog Converter), and the reverse of that, ADC (Analog-to-Digital Converter).

It’s possible to get great quality audio interfaces these days for very good prices.

### ***Recommended Audio Interfaces:***

- 1) Focusrite Scarlett 2i2 USB Audio Interface (approx £114)  
<https://www.amazon.co.uk/Focusrite-Scarlett-Audio-Interface-Tools/dp/B01E6T56EA>
- 2) Behringer U-PHORIA UMC204HD Audio Interface (approx £69)  
<https://www.amazon.co.uk/Behringer-U-PHORIA-UMC204HD-Audio-Interface/dp/B00SAV96JM>
- 3) Zoom U-44 USB Audio Interface (approx £79)  
<https://www.gear4music.com/Recording-and-Computers/Zoom-U-44-USB-Audio-Interface/1JNR>

### 3) Plug-ins

First of all, what is a plug-in? A plug-in is a software component that adds a specific feature to an existing computer. For example in Word you might install a plug-in to allow translation to a different language. If plug-ins existed in physical products, then a “reverse parking sensor” or “air-con” would be the equivalent of a plug-in if you were purchasing a new car.

An **audio plug-in**, therefore is a plug-in that can add or enhance audio-related functionality in a DAW. Such functionality may include Digital Signal Processing or Sound Synthesis - though the latter is covered in the next section “Virtual instruments”.

Audio plug-ins usually provide their own user interface, often representing what a hardware equivalent with knobs and sliders, so that there’s an element of familiarity with the visual appearance.

There are lots of different types of plug-ins available, but some of the most important / standard ones are:

#### 3 a) EQ

I’m sure everyone is familiar with the concept of EQ in it’s most basic form - nearly every TV, hi-fi and car stereo will have “bass” and “treble” controls - bass can boost or lower the “low” frequencies, and treble can boost or lower the high frequencies. However, just 2 controls is quite limited, and plug-in EQs often have 8 different “frequency bands” which can all be individually tweak. This allows you to dive into much more detail when producing audio, especially when working with lots of different sound sources at the same time. For example you might have made a recording featuring spoken word, ambient background keyboards and a variety of sound healing instruments, and find that the lower frequencies of the gong are “over-powering” everything else, and need to be “toned down” somewhat in order to not dominate what’s going on.

Most DAWs will have EQ built in, but if you want to take things to the next level and really delve deeply into EQ with something very powerful. I have included here a link to a list of 30 good EQ plug-ins, to suit all budgets:

<https://www.getthatprosound.com/30-of-the-best-eq-plugins-in-the-world/>

### 3 b) Reverb

*Reverberation*, or *reverb* for short, refers to the way sound waves reflect off various surfaces before reaching the listener's ear.

The environment in which sound is produced will have a massive impact on how it sounds when it reaches you. I'm sure you will have experienced the difference between talking to someone in a quiet country lane compared to a train announcement over a tannoy system at a busy station. The latter will be a lot more "echoey" and often harder to understand.

Having read that description above, you might be wondering why you would want to use reverb. Well, quite simply, if an instrument, or voice (unless it's in the context of an audio book for example) is recorded and nothing is added to it, in a musical context it will often sound a bit dull and lacking in depth. This is the same for many instruments too, adding reverb gives things a "sense of space" and of course makes things much more pleasing to the ear.

Here is a list of reverbs to suit all budgets, including a free one:

<https://www.getthatprosound.com/the-10-best-reverb-plugins-in-the-world/>

### 3 c) Dynamics

Dynamics can cover many different plugins, but the main one we'll focus on here is compression. You may have noticed that often music sounds a bit different on the radio to when you play the same song on a CD. It may sound a bit more "punchier" or "in your face" even. This is because all radio music is put through a compressor. The main reason for this is that they play a wide variety of music and there is a very wide discrepancy in "overall volume levels" between tracks. As technology has evolved over the years, music has got louder (and that's not necessarily a good thing, but that's a top for another day) - so if a radio station was to play a 1962 Beatles track, then follow it by the latest Dua Lipa song (or whatever is trendy today) - then the 2018 song - if you were to play the original tracks side by side from the CD - would be at least twice as loud, if not more.

Therefore anyone driving in a car would need to have their hand on the volume knob for most of the journey in order to turn it up or down every time a different song is played. [Or possibly off in some cases ;-) ]

So that's the reason we need compression - not just between different songs and styles of music, but also within one particular piece of music.

You may, for example, be creating and recording a sound-scape involving some keyboard strings, Koshi Bells, and a gong. When listening back after you've made the recording, you may find the gong is four times louder at the end compared to at the start of the track as you've been making a more intense sound throughout the track.

When translating this onto your average hi-fi, compression is needed to "tame the difference between the quiet bits and the loud bits". This wouldn't be so much of an issue if everyone in the world had a \$2000 hi-fi, but these days this is very rare, so it's important that what you produce is "as compatible as possible" with as many different pieces of equipment as possible.

Below is a link to lots of different compressor plug-ins:

<https://www.getthatprosound.com/45-of-the-best-compressor-plugins-in-the-world/>

## 4) Virtual Instruments

A Virtual Instrument is essentially an instrument that can be “emulated” by a computer without needing the real thing. One of the most obvious examples that works well is a piano. With the power of computers and technology, these days it’s relatively easy to get a very realistic sounding piano sound out of your computer. This is often done by the plug-in manufacturer recording each individual note of the piano, so that essentially you are getting the sound of a real piano, without the thousands of dollars/pounds expense that you would be necessary to buy the real thing!

Many other instruments are available, and while some instruments such as guitar cannot quite match “the real thing” due to the nature of how they are played, many instruments can be emulated very well - and of course virtual instruments are very well suited to the sort of “sound-scape / textural” sounds that are likely to be associated with sound healing. You might for example want to record a guided meditation with some nice relaxing “sound-scape” type music going on in the background.

There are a great variety of virtual instruments available to suit all budgets (including many free ones) - having a peruse of this site is a good starting point:

<https://www.timespace.com/>



## 5) Field Microphones

Field Microphones are a great idea if you want to capture sounds “on the go”. These might be soundbaths, workshops you are running, or perhaps the sounds of nature that would may want to use as an soundscape backdrop to a whole plethora of situations. You can of course use your iPhone/Android device for this, but the quality you’ll get will have its limitations.

There are many options though including i-XY which is a microphone that you can attach to Apple devices in order to use the device itself to store the recording.

<http://www.rode.com/microphones/ixy>

Many “stand alone” units are also available that allow you to record via built-in microphones directly to a device that can later be plugging into a computer in order for you to transfer the audio that you’ve recorded.

There are many devices that are very good quality and value, including the following:

1) Zoom H4N Pro

<https://www.zoom-na.com/products/field-video-recording/field-recording/zoom-h4n-pro-handy-recorder>

2) Roland R07

<https://www.gak.co.uk/en/roland-r-07-high-resolution-portable-audio-recorder-black/913938>

For a more detailed overview of Field Recording, this is a very good article.

<https://www.creativefieldrecording.com/2015/11/18/field-recording-gear-buyers-guide/>

## 6) Studio Microphones

There are many types of studio microphone available, but the main 2 different “types” of microphone are Large Diaphragm and Small Diaphragm mics.

This is a massive topic of discuss, and can be very subjective and open to much debate but this quote from the article that I’ve shared a link to below sums things up quite brilliantly:

Small diaphragm condensers give you an uncoloured, neutral, very detailed sound image. Small diaphragm microphones are “realists”. Use them for anything that you want to capture just like it is.

Large diaphragm condensers are part microphone, part instrument. Their aim is to make the sound source appear bigger, more engaging, more beautiful and adorable. They will give you that “sounds like a record” feeling. Large diaphragm microphones are “romantics”. Use them to put vocals and other lead instruments into the spotlight.

Here’s the full article:

<http://www.neumann.com/homestudio/en/difference-between-large-and-small-diaphragm-microphones>

As is the case with most things there are options for as much as your budget allows.

Here’s a few worth checking out, covering a variety of budgets.

- 1) Audio Technica 2035 (\$149)

<https://www.amazon.com/Audio-Technica-AT2035-Diaphragm-Condenser-Microphone/dp/B002T45X1G>

- 2) Rode NT1A (£137)

[https://www.thomann.de/gb/rode\\_nt1a\\_complete\\_vocal\\_recording.htm](https://www.thomann.de/gb/rode_nt1a_complete_vocal_recording.htm)

- 3) Audio Technica 4050 (\$699)

<https://www.sweetwater.com/store/detail/AT4050--audio-technica-at4050-large-diaphragm-condenser-microphone>

- 4) Neumann TLM103

[https://www.thomann.de/gb/neumann\\_tlm\\_103\\_set\\_box\\_nick-el.htm?ref=search\\_rslt\\_TLM103\\_174067\\_0](https://www.thomann.de/gb/neumann_tlm_103_set_box_nick-el.htm?ref=search_rslt_TLM103_174067_0)

## 7) Pop-Shields

These are a very inexpensive, but very worthwhile purchase IF you intend to be recording either vocals or spoken word.

Everyone has heard microphone announcements ruined by loud popping and banging noises, but we never hear these noises when people speak normally. That begs the question, 'What are microphones hearing that we're not?' If these noises are inconvenient during live announcements, they can be disastrous in studio recordings, so how do we go about avoiding them?

It turns out that these pops and thumps occur mainly on what are known as 'plosive' sounds, prime examples being words that start with the letter 'B' or 'P'. If you were to hold a lighted candle in front of your lips while speaking or singing 'plosives', you'd see the flame flicker, because we tend to expel a blast of air when making these sounds. By contrast, if you sing a sustained 'Ahh' sound, the candle will barely flicker at all, because you're mainly just producing sound vibrations with your vocal cords and expelling very little air in the process.

The problem is made considerably worse if the mouth is very close to a microphone. The plosive air blast is obviously strongest close to the mouth, and when it slams into the microphone diaphragm it produces a very large asymmetrical output signal. This may be so large that it can saturate the microphone's output transformer (if present) or overload the mic preamp, making the sound even worse. Engaging the low-cut filter on the mic (ideally) or preamp may ease the overloading problem, but the basic cause of the popping will still remain.

The problem is made even worse because all directional microphones suffer from the 'proximity effect', a bass tip-up which makes the microphone considerably more sensitive to low-frequency sounds from very close sources. A plosive blast is essentially low-frequency energy, and hence it translates into a loud, low-frequency thumping sound. Capacitor mics of the type we use in the studio tend to be particularly susceptible to popping, because their diaphragms are very light, so some form of effective pop shield (or pop screen) is essential. Dynamic mics are a little more tolerant because of their more massive diaphragm assemblies, but they are by no means immune.

The way the pop screen works is simple — sound passes through the fine mesh with just a little high-frequency reduction, but plosives are stopped dead. As the puff of air from the mouth hits the mesh, it breaks up, becomes turbulent, and loses its coherence, so what starts off as an organised mass of air ends up being randomised so that the air molecules are no longer all pushing in the same direction. It's simple, but it works!

To make the screens even more effective, many designs incorporate two layers of mesh a short distance apart, so that anything that gets by the first layer is mopped up by the second. Such a screen will tame even the worst plosives. However, it is crucial that the windshield is spaced a couple of inches in front of the mic capsule — there has to be a

volume of still air between the pop shield and mic capsule.

*Budget option (£9):*

<https://www.maplin.co.uk/p/pop-shield-large-black-vw93b>

*Top of the Range option (£30):*

<https://www.absolutemusic.co.uk/se-electronics-dual-pro-pop-shield-with-metalfabric-shields-and-gooseneck.html>

## 8) Studio Monitors

Studio monitors are loudspeakers in speaker enclosures specifically designed for professional audio production applications, such as recording studios, film-making, television studios, radio studios and project or home studios, where accurate audio reproduction is crucial.

Among audio engineers, the term “monitor” implies that the speaker is designed to produce relatively flat (linear) phase and frequency responses. In other words, it exhibits minimal emphasis or de-emphasis of particular frequencies, the loudspeaker gives an accurate reproduction of the tonal qualities of the source audio thus, what you hear is a “pure” representation - often harsh and unforgiving, but honest.

Also, studio monitors are made in a more physically robust manner than home hi-fi loudspeakers; whereas home hi-fi loudspeakers often only have to reproduce compressed commercial recordings, studio monitors have to cope with the high volumes and sudden sound bursts that may happen in the studio when playing back unmastered mixes.

Hi-fi speakers will often sound more “pleasing to the ear” - that is the nature of their design, and they can initially be used for mixing, with a view to getting some studio monitors later down the line.

- 1) *Presonus Eris E5* (£200)

<https://www.gear4music.com/Recording-and-Computers/PreSonus-Eris-E5-Active-Studio-Monitors-Pair/YLR>

- 2) *Tannoy Reveal 502* (£163)

<https://www.gear4music.com/Recording-and-Computers/Tannoy-Reveal-502-Studio-Monitor-Single/WSG>

- 3) *KRK Rokit 5 G3* (£238)

<https://www.gear4music.com/Recording-and-Computers/KRK-Rokit-RP5-G3-Active-Monitors-with-Isolation-Pads-and-Cables-Pair/1MHT>

## 9) Headphones

Headphones are a pretty essential investment for recording - and there are 2 different uses to consider with headphones - will they be mainly for either mixing (if for example you are in a place where it's not convenient to others around you to make too much noise too often) or Recording - if you are recording instruments and vocals, you'll need to be listening to what you've already recorded in order to "play along to it" - so this might be the main purpose of your headphones. Quite often of course you may be using the headphones for both of these applications. For a really good performance and good value pair of headphones you can't go far wrong with the Beyer DT770s:

<https://www.amazon.co.uk/beyerdynamic-770-PRO-Studio-Headphones/dp/B0016MNAAI>

## 10) Reflection Filters

These are very clever inventions if you want to get a nice professional "uncoloured" sound - which is particularly important if you are recording vocals. Often, unless you have an "acoustically treated" room, the sound will reverberate off the walls and windows and generally might "go all over the place". Generally you don't want to capture this - although in some contexts it can work well in the realms of creativity - for example the vibrations from a singing bowl moving all around the room might sound very cool.

For a more uncoloured sound though, it's worth considering a reflection filter. There are plenty to choose from.

### 1) SE Electronics Reflexion filter

<https://www.amazon.co.uk/SE-Electronics-Reflexion-Ambience-Control/dp/B000FYUVV4>

### 2) CAD Audio AS32 Acousti-Shield 32

<https://www.amazon.com/CAD-Audio-AS32-Acousti-Shield-Enclosure/dp/B006YTZOOS>

### 3) Marantz Professional Sound Shield

<https://www.amazon.co.uk/dp/B01C05AL74>

## 11) Digital Distribution and What to do next.

Once you've completed your project - then you'll realise that you've done the easy bit! Getting it out there, marketing it and selling it are next!

For me, I believe in doing as good a job as it's possible / feasible to do at the place that you are in time. I could have settled for a something less, and spent a lot less time and effort in order "get it out there" with my albums, but for me I choose to spend as much time as possible getting them to sound as good as possible, and not settling for "that's good enough" - which often means doing things again if they're not quite up to scratch. I think this philosophy and initial time and effort investment will pay off in the long term - people will enjoy what you produce - if it's an album they'll want to buy the next one, and recommend it to their friends, and of course there's the digital world - it's taken a while but I'm now up to nearly 10,000 listens per month on Spotify [okay, it's still another few million years at the current rate before I catch up with Ed Sheeran ;-)] - and over time people will latch on to something that they can tell has had the time and effort put into it.

Digital distribution onto pretty much all the music platforms out there today has never been simpler. The two main outlets are Tunecore and CD Baby. The main difference is that CD Baby take a "one off" payment (around \$49 for an album) and for that they do everything for you - distribute to all the digital platforms and streaming sites. In return they take a cut of each stream and download (this cut being 9%)

CD Baby: <https://members.cdbaby.com/>

The other option is to use Tunecore - which is a similar service, but the main different is that you get to keep 100% of the profits from sales BUT you do have to pay a regular annual fee to them for every product you release.

Tunecore: <https://www.tunecore.com/home/b>

I do hope this has been helpful.

If you'd like any more information or to discuss any projects I might be of help with, please contact me:

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