



Beginner's Guide to Home Recording

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INTRODUCTION

The purpose of this guide is to provide a simple introduction to making music at home. It aims to demystify the bewildering array of hardware and software that confronts all newcomers, so that rather than feeling like this...



...you'll hopefully start to feel more like this:



And everyone wants to feel like that guy.

Before we start, here are some pointers to keep in mind:

- **Buy only what you need to begin with.** Don't go splurging loads of ca\$h on high end gear until you know exactly what you need... and you won't know that until you've been making music for some time (at least a year). High-end hardware/software can make your music sound better. But learning to properly use lower end hard/software can make your music sound even better. So keep your wallet in your pocket for the time being. Yeah, I know... but try!



^ You might want to wait a little while before investing in one of these.

- **Be patient.** Don't expect instant results just because you're using a computer - it's you who'll be doing all the work. As with any new skill: keep it simple, start by grasping the basics (one step at a time) and don't stop learning. Speaking of which...
- **Practice, practice, practice.** Music production can be compared to speaking a new language. You'll start off frustrated by not being able to express the sounds in your head; over time you'll become more fluent and the balance will shift from battling with technology to getting the most out of it, once the basics become second nature. All of which takes time and regular practice. Follow tutorials on YouTube. Read books and magazine articles. Hire a tutor. Ask questions on forums. Try some remix competitions. Hoover-up knowledge wherever and however you can.
- **Have fun!** I know that's a corny thing to say, but it's true. Why else would you want to make music at home, if not for enjoyment? Music production has the potential to reward you with huge amounts of creative freedom and satisfaction, enabling you to produce the music you always wanted to make (and without needing to rely on other band members). It also has potential to frustrate the bejesus out of you. So don't sweat it if you're struggling. There's nothing wrong with dipping your toe in the water and deciding it's not for you.

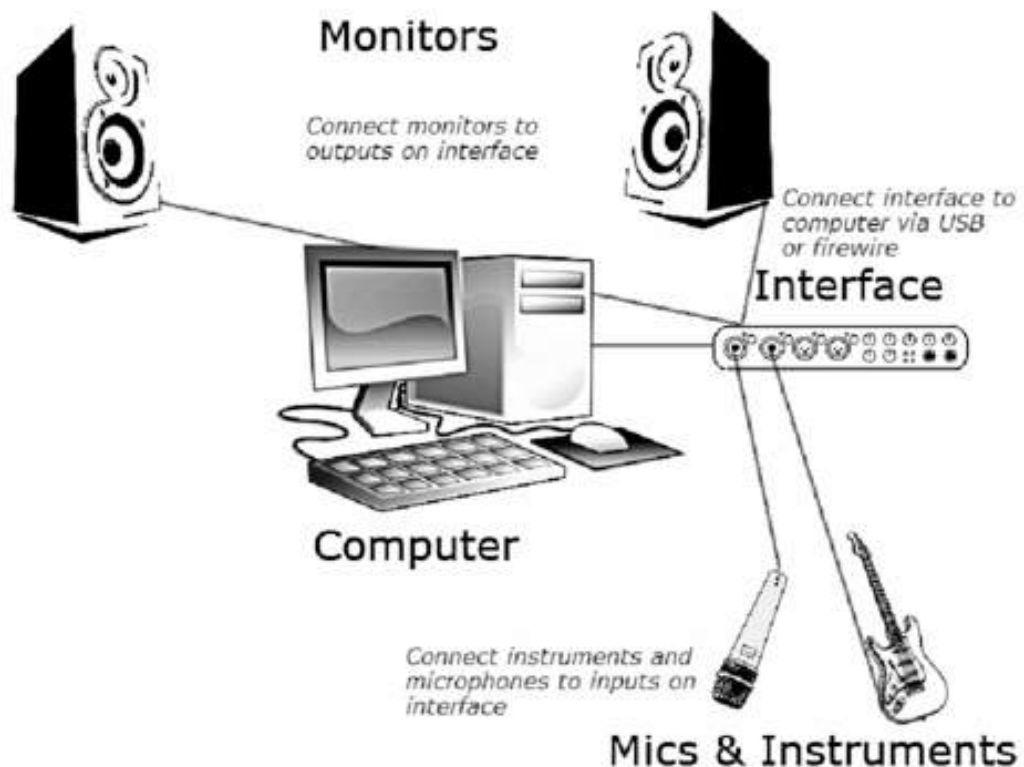
Right, enough of the babble. Let's go to work...

THE BASICS

You're going to need some 'stuff' in order to make music at home.

The amount of stuff you need to get started is actually very minimal. You might even own most of it already. The amount of stuff you think you need increases in proportion to: 1) the amount of time you've spent making music and 2) the size of your wallet. We'll discuss that another time. For now just ignore the pangs of gear acquisition syndrome (GAS), stick to the basics and you won't go far wrong.

In a nutshell, you want your starter set up to look like something this:



Now let's have a look at each of these things in turn...

HARDWARE

Instrument

(NB: this guide was originally written for bass players! Yes... some of them can read).



I'm assuming you own at least one of these. Ok, so we've got that covered.

Move along now please, move along...

Computer



Laptops are great if you spend a lot of time away from home, or have ambitions to take your 'home studio' onto the stage and gig.

Desktops typically offer the same amount of bang (or more) for less buck\$.

PC or Mac? That's a debate in itself. You'll need a Mac if you want to run Apple Logic software (more on that later), but in real terms it doesn't make a *huge* difference which you choose. Most 'pro' studios I've ever stuck my head into run Macs, but that might just be because people think they look nice. PCs are certainly cheaper and easier to customise, should you wish to do so. As with most things, shop around and buy the best you can afford. The faster the processor and the more RAM it has, the better. You'll also need some software - but we'll come to that in a moment.

Audio interface



This is the 'box' that allows you to connect your instruments and monitors (speakers) to your computer.

Audio interfaces typically offer the following inputs and outputs:

- **Inputs:** sockets for plugging in guitars/basses (1/4" jack), microphones (XLR) and synthesisers (MIDI). Nearly all interfaces also feature a separate input for plugging in headphones (1/4" jack).
- **Outputs:** line out (red/white RCA) and/or balanced speaker output (1/4") for connecting to monitors and other loudspeakers.

Most interfaces connect to your computer using a USB cable (some also use FireWire, ThunderBolt and other connectors, but let's not confuse things...).

Before you choose which interface to buy, make sure it features all of the input/output sockets you need to connect up your available instruments, mics and speakers (or those you're planning on buying). For reference - here's a handy list of the most common types of cable connectors, courtesy of Dawsons.

<http://www.dawsons.co.uk/blog/a-guide-to-types-of-cable>

Like all things, everyone has their own preference when it comes to choice of audio interface. I would personally recommend the Focusrite Scarlett 2i2 or 2i4 as being ideal for most starter set ups.

Monitor speakers and/or headphones



It goes without saying that you need to be able to hear the music you're making – that *really* does help! - and your computer's built-in speakers will assist that task with all the practicality of a chocolate teapot.

Yes, I know they might sound ok for most things... but trust me. Computer speakers **SUCK** when it comes to music production, largely because they are very poor at handling bass. And you want bass. Everyone wants bass. So what are the options?

It's always a good idea to use a set of dedicated monitor speakers - and this is one area where you certainly get what you pay for. Lots of options are available and as with everything, people tend to recommend what they use themselves. Here's a thread with a bunch of suggestions for monitors:

<http://basschat.co.uk/topic/245203-homestudio-monitors-best-affordable/>

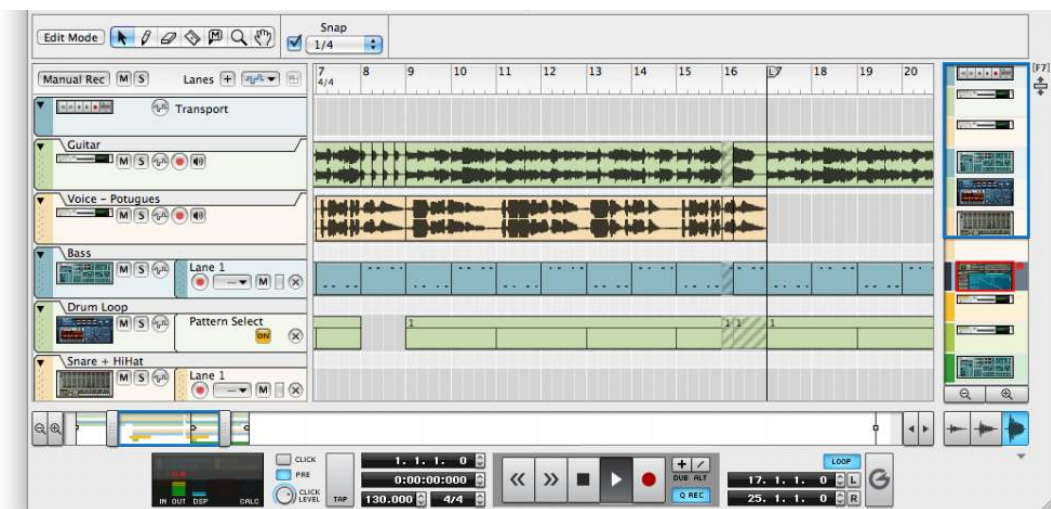
If you're not setting out to produce studio-quality mixes, you could hook up a pair of HiFi speakers to your computer. This isn't ideal... Why? Because HiFi speakers are designed to make music sound 'nice', rather than expose all the nasty stuff in a mix that you might want to fix. But as a starting point, HiFi speaker are ok and certainly better than no speakers at all.

As well as (or perhaps instead of) monitors, you'll also want a good pair of headphones. These are very useful for fine tuning your music, especially late at night when cranking up your monitors is likely to raise hell with other human beings.

'Open back' headphones (that don't completely cover your ears) are usually better suited to mixing. 'Closed back' headphones (like a big pair of ear muffs) are useful if you're doing a lot of vocal recording and don't want the backing track to be picked up by the vocal mic. Here's a thread with a bunch of suggestions for headphones:

<http://basschat.co.uk/topic/212370-headphones-for-mixing/>

SOFTWARE: CHOOSING YOUR DAW



You'll need what's called a **Digital Audio Workstation** (DAW) installed on your computer to begin making music.

A DAW is a piece of software that enables you to record, arrange, mix and produce music. It's your 'studio in a box' and the focal point of your home set up. There are a number of DAW softwares to choose from. They all do essentially the same thing - but they do it in different ways - so it's important to choose whichever product feels right for you.

Here's a list of the most popular DAW softwares. They all offer free demo versions, so you can try before you buy:

Ableton Live: Arguably the best DAW for live performance and DJing, but can equally be used for regular composition and production. Compact interface helps beginners to get started. <https://www.ableton.com>

Cubase: One of the oldest DAWs on the market (dating back to the Atari ST in 1989!) and for a long time the industry standard software for music production. Cubase is still going strong and comes bundled with a superb package of built-in FX. Perhaps not the easiest software to begin with, but holds deep potential for anyone willing to learn. <http://www.steinberg.net/en/products/cubase/start.html>

GarageBand (Mac only): A great place to start if you own a Mac, as it comes bundled for free! GarageBand is very easy to use and designed with beginners in mind. A good way to learn the basics of using a DAW and a stepping stone towards... <http://www.apple.com/uk/mac/garageband/>

Logic Pro (Mac only): Apple's flagship DAW product and one of the industry standards. Very well priced and comes packaged with high quality FX and audio samples. <http://www.apple.com/uk/logic-pro/>

Pro Tools: Arguably the current industry standard - this is the DAW that you'll find running in most professional studios. Powerful and modular, meaning it can be easily adapted to any purpose - from home projects to mixing the main stage at Glastonbury. One thing to note: using MIDI can be quite difficult in ProTools, as it's primarily an audio editor, So it might not be the best choice of DAW if you're wanting to compose in MIDI, as many home users do. <http://www.avid.com/us/products/family/pro-tools/>

REAPER: The best-priced DAW by far (just \$60 for a starter license) and powerful/flexible enough to compete with any of the major brand names. The demo version is available as an unlimited and uncrippled free trial - meaning you can try the full version of the software for as long as you like, before buying it. Can't argue with that. <http://www.reaper.fm>

Reason: Offers a unique interface that mimics a 'real world' studio, complete with virtual hardware and cables - allowing instruments and FX to be connected in highly creative ways. Reason has its roots in electronic music, but has evolved to include all the functionality of any standard DAW. It features a proprietary plug-in format (Rack Extensions): the upside being that it's very stable and has low CPU usage; the downside being it's not compatible with standard VSTs. My own weapon of choice. <http://www.propellerheads.se>

Other DAWs you might like to have a look at include **ACID Pro**, **Adobe Audition**, **Cakewalk SONAR**, **FruityLoops Studio**, **PreSonus Studio One** and **Renoise**.

Oh... and download a copy of **Audacity**. It's a great piece of free software - not a DAW like those listed above (you can't really use it to compose music), but it's a very useful tool for recording and processing audio. <http://audacity.sourceforge.net>

Learning how to use your DAW

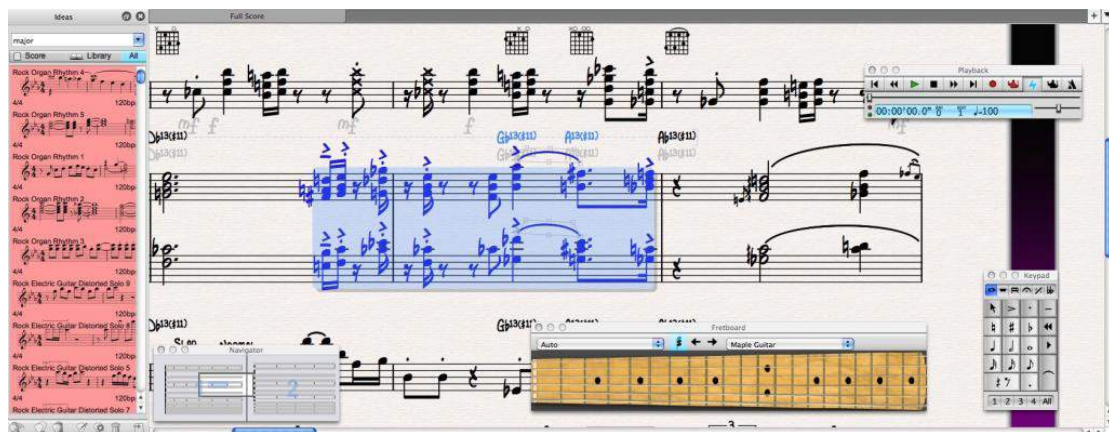
Whichever DAW you choose, my advice is NOT to begin learning by reading the manual... that's a surefire way to kill your enthusiasm for making music stone dead.

Instead, search on YouTube for tutorials and let other people guide you through the basics, which is a much more natural way of learning. Search for topics such as 'How to record a guitar using Reaper' or 'How to write a drum beat in Reason', or whatever. Then start digesting the manual once you're more familiar with your DAW software and want to start honing your skills further.

Face-to-face tuition is also a fast way to learn (just like it is with practising an instrument). Look for people offering tuition in your local area, or enroll on a training course specific to your DAW software of choice. There are plenty to choose from and most music colleges run regular courses.

If you get stuck, ask for help on forums.

NOTATION SOFTWARE



If you're savvy when it comes to reading and writing music, then you might prefer to pen your compositions using notation software.

This enables you to write scores on-screen and then output the results as MIDI files, which can be used to trigger virtual instruments in any Digital Audio Workstation (DAW). So you can compose your music using notation software and then let the virtual orchestra in your DAW bring it to life.

Leading products such as **Sibelius** (<http://www.sibelius.com/>) and **Finale** (<http://www.finalemusic.com>) function as stripped-down DAWs in their own right and are worth the investment if you want to work with notation.

Also worth checking out is **Notion** by PreSonus, which comes in both a desktop and iPad-friendly version so you can quite literally write your next symphony whilst on the toilet go. <http://www.presonus.com/products/Notion-5>

SOFTWARE: PLUG-INS AND SOUND LIBRARIES



Plug-ins

Plug-ins include virtual instruments (drum kits, synthesisers, samplers), dynamic effects (compressors, limiters, noise gates), distortion effects, guitar/bass amp simulators, EQ and filters, etc.

Plug-ins come in a variety of formats, not all of which may be compatible with your DAW of choice, so it's a good idea to check beforehand. The most common format for plug-ins is VST/VSTi. Other formats include Audio Units/AU (Mac only), AAX (exclusive to Pro Tools) and Rack Extension/Re (exclusive to Reason).

Commercial plug-ins can cost hundreds, even thousands of pounds, so it's important to know what you're buying - and importantly, what you need - before spending anywhere near that kind of money. The best advice is to:

Start by learning to use the plug-ins that come bundled with your DAW. Become familiar with them and how they work; get to know them inside and out (so to speak).

Experiment with the numerous free plug-ins that can be found online. To get you started, here's a bunch of great plug-ins compiled by mixing guru Mike Senior:

<http://www.cambridge-mt.com/ms-links.htm>

Sounds and Samples

Sample libraries containing sounds for use in your compositions are also available in abundance - both commercially and free of charge.

Loop Masters are one of the best-known sources of commercial libraries.

<http://www.loopmasters.com>

For free stuff, check out Freesound and other websites that offers sounds under Creative Commons license: <http://www.freesound.org>

Or search Google to your heart's content: <http://bit.ly/1aFRxna>

EXTRA STUFF

Once you have some stuff, you then need some extra stuff.

The world of home studios is littered with gear, much of which you don't really need but that won't stop you from wanting it!

Here are a few additions to your starter set up that you might like to consider – but which aren't really *essential* to begin with...

MIDI Keyboard



Useful if you want to play around with software synths and tinkle on the virtual ivories. A MIDI keyboard can improve your workflow, helping you to make music more efficiently. It's also worth considering if you like real keys, knobs and faders to play with.

MIDI keyboards can vary hugely in price. A good starter keyboard is the M-Audio Oxygen 25, but I'd recommend a larger 49 key 'board if budget/space allows (as playing across multiple octaves on a shorter keyboard is a pain in the butt).

Condenser Microphone



A trusty condenser mic can be used to record vocals, 'found sounds' around the house, or placed in front of your bass cab to record that low end rumble. You can pick up a simple Behringer C-1 for less than £50. Cheap and very cheerful.

Controller Pad



Useful if you want to unleash your 'inner drummer', work with samples, record original beats and/or produce music using a pattern sequencer. Native Instruments' Maschine range has cornered much of the market when it comes to controller pads and for good reason - they're great products (if a little expensive).

The Maschine Mikro is the most affordable of the NI gadgets, but it's still no giveaway at around £300. Worth considering if you're wanting a more 'hands on' approach to making music.

Check out 'controllerism' maestro Jeremy Ellis on YouTube if you want to feel inspired.

OTHER METHODS OF MAKING MUSIC

Handheld Digital Recorder

Handheld digital recorders, such as those manufactured by Zoom, can be used to record sounds 'in the moment' and are a good way of capturing acoustic sessions. They are relatively cheap, very portable and super-easy to use - you just press record (like you would on an 'old school' tape recorder) and away you go.

Most digital recorders include a built-in speaker and/or headphone socket, so you can play back and listen to what you've recorded. They also include the necessary cable(s) for connecting the device to a computer and copying over any recordings you've made.

If all you want to do is record yourself playing/singing solo, or capture rough copies of your band's practice sessions, then a handheld digital recorder is worth looking into. They're also great for field recording.

Just don't expect to base your home recording set up around a handheld recorder if you're wanting to compose and arrange music in any real sense - they're simply not geared up for that kind of thing.



Mobile/Tablet Apps

Using Apps can be a fun way of making music and there's an ever-increasing range of products to choose from, both free and commercial.

They're great for tinkering around with ideas whilst on the move and away from a desktop computer - on the bus, the beach, a lunch break at work, sat on the loo, or wherever. They also tend to be very tactile ('hands on') and can offer new ways of playing with sound that can't be achieved using a standard computer keyboard and mouse.

However... whilst individual Apps can be quick and easy to use, don't be fooled into thinking that making music with Apps is easier than using a standard DAW-based computer set up. It's not. You can do simple things very easily using Apps, but anything beyond that tends to get horribly complicated very quickly.

For that reason I personally wouldn't recommend basing your home recording set up around Apps alone - but you can use Apps to add some fun and creativity to how you make music.

Here's a handful of Apps that I've had experience of using myself:

Amplitude: A great App that functions like an amp simulator and features a built-in tuner, metronome, drum kit (with a selection of beat loops) and a four-track recorder/mixer. It also links with your iTunes library, so you can import and jam along to songs. It does all of these things very well - it's nice and simple to use - but it's also quite limited in terms of what you can achieve with it. Don't expect to produce demo-quality tracks with this App. But it can be a handy little practice tool if you want to noodle on your bass/guitar without being sat near to your computer or amp.

<http://www.ikmultimedia.com/products/cat-view.php?C=family-amplitude>

Note that along with the App itself you'll also need an iRig adaptor, which enables you to connect your instrument to your phone/tablet device using a standard 1/4" jack lead.

NanoStudio: This is about as close as you're going to get in terms of having a full Digital Audio Workstation (DAW) on your phone or tablet. It features multiple tracks, a standard piano roll editor (for writing MIDI), a huge library of instruments and patches, good quality synths, FX, a mixing console and master bus. I was hugely impressed by this App when I bought it several years ago and it's still the best 'handheld DAW' on the market, in my opinion. You can use it to compose and mix complete tracks to a surprisingly high standard - and you can do so sat on the beach, if you wish (as I have done!). In a word: brilliant. <http://www.blipinteractive.co.uk>



Cubasis: Another top quality App that puts all the functionality of a desktop DAW in your pocket. Features unlimited audio and MIDI tracks, a huge library of sounds and loops, a virtual keyboard and drum pads, plus a high quality 32-bit/96 kHz audio engine. Import and export projects to its big sister product, Cubase. http://www.steinberg.net/en/products/mobile_apps/cubasis/start.html

iMaschine: A useful 'sketchpad' for capturing ideas in the moment, before those fleeting sparks of inspiration get forgotten. Based on its big sister hardware product, iMaschine allows you to write beats, melodies and even record vocals using a very quick and easy to use interface. It's not well suited to composing full tracks - but it's great for slinging together loops that can be exported as audio (or Maschine format files) and loaded into to your DAW of choice. <http://www.native-instruments.com/en/products/maschine/maschine-for-ios/imaschine/>

Figure, Take and ReBirth: A trio of great little Apps from Propellerhead Software (the people behind the Reason DAW). Similar in purpose to iMaschine, Figure is intended for capturing ideas 'on the fly' using a very innovative and easy-to-use interface, designed for people with little or no prior experience of making music. Choose a key to compose in, then proceed to write a drum pattern and a duo of synth loops quite literally in matter of seconds. Very immediate and loads of fun. Take is an equally slick and satisfying App, this time dedicated to recording vocals whilst on the move. Lastly, ReBirth is an exact miniature replica of the legendary 1990s emulator, comprising two

TB-303 synths and 808/909 drum machines. All the acid techno you could ever want, in your pocket. <https://www.propellerheads.se>

Jasuto: A crazy and highly inventive modular synth. Frustratingly complicated and geared more towards maths geeks than lowly laypeople like myself... but yet I still find it compelling to play with. You create the 'modules' of your synth as shapes, then automate how they interact by animating how the shapes move on the screen. There's a lot of fun to be had here - and one day I intend on having it. If modular synthesis is your thing, then this could be the Holy Grail you've been seeking...
<http://www.jasuto.com/main/>

Bebot: A superb little synthesiser, which you control by dragging your finger across the touchscreen, causing an animated robot (wearing a tuxedo, no less) to 'sing' the relevant note/pitch. And it sounds immense! You can also play chords by touching the screen with multiple fingers. Very easy to use and surprisingly powerful in terms of the sounds it can produce. Plus, it features a singing robot. As all synthesisers should, in an ideal world. <http://normalware.com>

GarageBand: I haven't used this App myself, but I've heard great things about it so thought it should have a mention here. It includes a variety of virtual instruments and read-to-use loops that can be 'played' and arranged to compose complete tracks. It's not as 'deep' as NanoStudio (above), but I hear it excels at getting down ideas quickly and is great for people who are new to making music. You can also export files from the App and continue working on them in the desktop version of GarageBand.
<http://itunes.apple.com/gb/app/garageband/id408709785?mt=8>

Audiobus: An essential purchase for anyone serious about working with Apps. Audiobus allows live App-to-App audio routing, enabling you to chain together different Apps as part of your workflow. Very clever indeed. <http://audiob.us>

...and that's just scratching the surface of what's available.

Wax Cylinder Phonograph



...yeah, good luck with that guys!

LEARNING THE CRAFT

So... you've got the gear, everything is set up, switched on and ready to go. Now what?

The biggest stumbling block for any beginner is always learning how to use the software needed to record, arrange and mix music. That and getting your head around the process of music production - and all of the various gizmos and FX that entails. Make no mistake: it's a lot to take in!

What I can't do in this guide is provide step-by-step instructions on how to use every DAW software on the market. Your best option is to search on YouTube for tutorials and use DAW-specific forums to ask questions and seek advice from other users.

You'll feel like you're stumbling around in the dark for at least a day or two, maybe longer. But there is always light at the end of the tunnel! (...even if it turns out to be some smartass with a torch, bringing you more problems to solve).

What I can do here is point you in the direction of some useful resources that apply no matter what DAW software you're using. These include:

Websites

The Recording 101 Blog: Basschat's own beginner's guide to recording and mixing music, written by mixing/mastering engineer Simon Naish.
<http://basschat.co.uk/topic/225310-recording-101-blog-its-back/>

MusicRadar's free beginner's guides: a big list of useful 'how to' guides and factsheets on a wide range of topics relating to music production, originally published in Computer Music magazine (available for downloading in Adobe PDF format).
<http://www.musicradar.com/computermusic/free-beginner-pdfs-246054>

SoundOnSound: one of the more discerning and useful websites for news, advice and window shopping around all things studio-related. Especially useful for honest product reviews and the user forum is a good place to get advice on hardware and software from people in the know. <http://www.soundonsound.com>

Gearslutz: my second home... a super-useful resource for all things audio, frequented by beginners and professionals alike. CAUTION: can lead to involuntary spending of money on shiny new software and hardware. You have been warned!
<https://www.gearslutz.com/>

Recording Revolution: a collection of useful advice and resources made available by studio engineer Graham Cochrane. Includes numerous free articles on a range of mixing and production topics, with an emphasis on achieving "more with less". Also offers a range of reasonably-priced commercial tutorials.
<http://therecordingrevolution.com>

Books

Remember books? Yeah, those flappy, paper things. They're great. Here are some especially good ones:

Mixing Secrets for the Small Studio: the bible of making music at home, written by mixing engineer Mike Senior (who, incidentally, is a member of Basschat!). A clearly written, step-by-step guide that covers everything from choosing the right equipment, to getting the most out of your available software and FX. If you buy any one book about music production, then buy this one. I've read it cover-to-cover several times myself and I'm due another read-through very soon... it's *that* useful.

<http://www.cambridge-mt.com/MixingSecretsContents.htm>

Mixing Audio: Concepts, Practices and Tools by Roey Izhaki. Similar to 'Mixing Secrets...' (above), although perhaps a little more dry and technical, Izhaki's book provides a useful guide to mixing that includes case studies of different practical applications. Not ideally suited to beginners, but a worthwhile read once you've got the hang of the basics and are looking for something 'meaty' to sink your teeth into.

Zen and the Art of Mixing: not so much a book about how to produce music, but how to nurture the right mindset for making music. Full of useful and often hilarious insights into the workings of professional recording studios. A great toilet book - and I mean that in the most flattering way!



I'm always happy to answer any questions at basschat.co.uk or you can reach me via [my website](#). Have fun and keep tweaking ☺