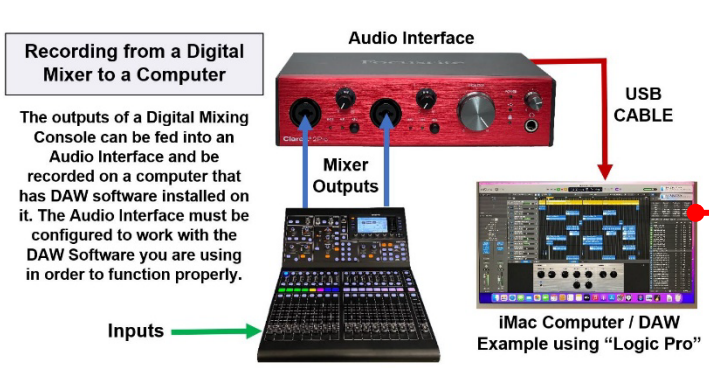
Digital Recording / DAWs (Digital Audio Workstations)

A DAW is music production software you can use to record, mix, edit, and even master music on your computer. Most types of DAW software will work on both Windows-based and Mac operating systems. DAWs are incredibly powerful recording tools, and even though they're used in home studios, they are also very relevant in Professional Recording Studios. If you are into recording your music or want to record other musicians' music, you will need a DAW. Let's take a look at some of the main functions of a DAW. For our examples, we will be using one of the most popular DAWs, "Logic Pro."



An Audio Interface converts analog audio signals from external sources (such as Mixing Boards, microphones, instruments) into digital audio signals.

[Video Clip!]

A "Control Surface" is an interface device that allows users to control digital audio workstations – which helps you work more creatively, and provide a more professional mix.

Main Functions of a DAW

1. Recording / Audio Editing / Mixing and Mastering Tracks – First and foremost, a DAW functions as a professional studio or home recording studio. You can record single or multiple tracks and then edit the tracks as needed. A good quality Audio Interface is the key to ensuring your recordings are clean and noise free. Once your recorded tracks are precisely how you want them, you can mix them inside the DAW. From there, you can even perform the final "mastering" of your tracks— a very powerful software at your fingertips.

Here are a couple of screenshots from the DAW "Logic Pro" showing the general workspace area (left) and the Mixer section (right). This easy-to-learn DAW is one of the most popular recording software's.

2. Effects – Every DAW will have effects that you can use to enhance, color, and process your recordings to your liking. A good number of effects will come "standard" with the DAW, but if you need more effects, you can purchase additional plug-ins called VSTs (Virtual Studio Technology). A great feature about these onboard effects is they will usually have pre-sets. Ex: If you're not sure how to set up a Compressor, you can just select one of the many pre-sets (canned settings) that professional recording engineers have created.

This is just one example of a "Compressor / Limiter used in the Apple DAW "Logic Pro"

[DAW Effects - Video Clip!]

There are hundreds of VST options available for sale. Before purchasing, you should ensure the VST plug-in is "compatible" with your DAW. You can even purchase additional "pre-sets" (for example, canned settings of effects) that were created (and are sold) by professional audio engineers as well.

"What are Loops"

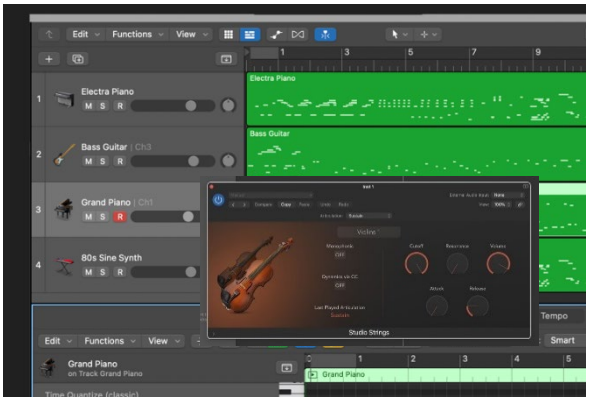
Loops are short, repeatable sections of music / sound effects that can be combined to form a longer piece of music. Used by many songwriters and composers in songs or to generate ideas. Loops usually come standard in DAW software and are also available for purchase online.

[Loop Examples - Video Clip!]

Software Instruments

This software can "replicate and generate" different sounds of musical instruments such as guitars, wind and string instruments (trumpets, tubas, violins, harps, cellos), pianos, drums/percussion, and more. Software instruments are controlled with MIDI Keyboards or a MIDI Guitar (such as the Jamstik). The Software Instrument receives MIDI information and then "translates" this information into the instrument sounds that the user selected and defined. The sounds are a very detailed "emulation" of the actual instruments. The image (right) is just one example showing Software Instruments in the "Logic Pro" DAW.

Video Clip!



"GarageBand" by Apple

If you are a beginner and have no experience with DAWs – I would suggest starting with "GarageBand" (left). If you have some knowledge and can get around a DAW – "Logic Pro" would be a great choice, and it is also very affordable!

"Logic Pro" by Apple

My home studio setup entails an iMac, a Focusrite interface (2-Channel shown, I also use an 8-Channel Focusrite), and a Behringer X-Touch Universal Control Surface for mixing capabilities. I also use "Logic Pro" as my DAW. Important Note: For playback, it is suggested that you invest in some "Studio Quality" monitors that produce a "Flat" frequency response. This will ensure that you are listening to the audio recordings with as much accuracy as possible. Poor-quality monitors can alter the sound in many ways, making it difficult to achieve the "intended" or "anticipated" final product.

DAWs are covered in this booklet to ensure that beginner Audio Technicians understand what they are all about and are likely to work with DAWs during their experiences in the audio world. To summarize: an Audio Engineer must thoroughly understand how DAWs and Control Surfaces operate and all the Effects / VSTs / Loops accompanying them. As an Audio Technician, you must understand enough basics regarding DAWs to assist Audio Engineers with troubleshooting issues when called upon. If you can perform both roles (Audio Engineer and Audio Technician) – you will become a valuable "Technical" asset.