

# Setting up a budget studio around a DAW

By Tal Herzberg

Back in the pre-DAW days, setting up a professional grade recording studio was a huge task that involved many different technical considerations, power requirements, complicated wiring, large space, and some very expensive pieces of gear. Nowadays it's possible to set up a budget-conscious record-making studio in a much smaller space, with much less technical hassle, and for a fraction of the cost, based around a Digital Audio Workstation. Let's examine some of the key elements involved in setting up such facility, establishing a basic checklist.

## TRACKING ROOM

The studio space doesn't have to be a large room to feel and sound good. A garage, guesthouse, or even office space can do the trick. My rule of thumb is: If you can't invest in professional acoustic treatment, make the room as dead sounding as possible, with no reflections (the reverb box and plug-ins will work extra hard in the mix!). Run a cable snake between the tracking and control rooms (if you have more than one room) so microphones, DI's, and headphones feeds can be easily connected.

## CONTROL ROOM

Same concepts apply here as above: A control room doesn't have to be large to feel and sound good. The smaller it is, the easier it is to soundproof and acoustically control. Consider using bass traps (a sofa might do the job), and diffusers to improve the room's response. Also invest in a desk, a few racks, and some comfortable chairs (support your back!).

## CONSOLE OR DAW CONTROLLER?

In order to efficiently interface with the DAW and any other piece of gear in the studio, I recommend using a tactile

hands-on control surface that provides controls and signal routing of some of the main functions and routines we regularly perform. Those include channels functions (level, pan, mute, solo), monitoring functions (switching between sets of speakers, separate volume control for each set, mute and dim, surround monitoring, headphone distribution and talkback), and source switching and routing between the

**A TRAINED SET OF EARS OPERATING A SIMPLE BUT EFFECTIVE SETUP LIKE THE ONE DESCRIBED ABOVE CAN DO A LOT OF "DAMAGE" WHILE KEEPING COSTS DOWN, AND WITHOUT COMPROMISING ON THE QUALITY.**

multitrack DAW and other record and playback devices (CD, DAT, video deck). These days we can choose between a traditional mixing console (analog or digital) or a dedicated DAW controller, or a combination of both. Either will most likely host the same monitoring and switching functions (depending on models, but even modestly priced products generally provide all that's needed), but will differ in the way we interface with the DAW tracks and the way we mix them down: Using a DAW controller we control the channels functions inside the DAW's internal software mixer, use plug-ins for signal processing, and sum it all "inside the box." Using an analog or digital hardware

mixer we need to connect multiple outputs from the DAW into multiple inputs of the mixer, and control it all on the console, which requires more audio interfaces and wiring.

Another aspect is automation: A DAW's mixer offers automation of almost every parameter, while most external mixers will have more limited automation functions (or none in the case of many analog mixers). Moving faders and rotary encoders are nice to have, and can be found on most DAW controllers and digital mixers.

Advantages of dedicated mixers include multiple preamps (to connect microphones or line level devices), and multitrack bussing (input routing to the DAW).

Finally, some users point at the difference between digital and analog summing, and may prefer the sound of one over the other. A great combination is achieved by using a DAW controller as a tactile surface, in conjunction with an analog rack mixer that's receiving individual DAW audio interface outputs, summing it all in the analog domain.

## PATCH BAY

It can be very convenient to have all inputs and outputs of every device in the studio come up on a patch bay. Interfacing is a breeze if all are properly labeled. And unless something breaks, there's never a need to reach to the back of the racks. Choose between TT or 1/4-inch models and make sure you have enough patch cords available.

## SPEAKERS

I recommend having two different sized sets of speakers to monitor through. The most convenient to use are self-powered speakers, which connect straight to the controller or mixer