Home Studio Music Recording — Overview

By George Williams

A few months ago, one of my nieces asked my wife Sylvia and me to record some of our music on a CD for her. We had tried our hand at this once before using some hand-held recorders with less than satisfactory results, so I thought about getting some time in one of the local professional recording studios and realized it was going to cost a bundle of money — studio time generally goes for around $100 or more per hour, and you'd be amazed how much studio time is involved in producing even one song. Since I have some experience with live sound production (I have run the sound system of our HTMA coffeehouse concerts for much of roughly the last 15 years), I decided I would look into getting the necessary equipment to do the recording at home. After looking at the costs (hardware and software), I decided to go that route, and though it's been quite a learning experience, I've been pretty happy with the results. Jerry LeCroy suggested that I write about my experience for our HTMA newsletter, so here goes. There are a number of ways to go about recording your own music, so what I'll write about here is based on what I've done, and my experience learning through doing it the way I did.

I should say that this process is not for the faint at heart. There's a good bit of technical knowledge necessary to get the right equipment, set it up properly to make the recording, record one or more numbers, and then to edit the recorded sound into a final stereo recording that you might want to give to someone. But I don't think it's something that is beyond the capabilities of most home musicians. It just takes time and effort, and a relatively modest amount of money — although you could easily spend a lot more. I purchased all of my hardware and software for under $1,000, not counting my computer (which you'll need to record your music, edit it, and produce the final product).

After thinking about this a bit, I realized there's no way I can give even a quick introduction to home studio recording in a single newsletter article, so this article will give an outline, and the real meat will be published in a paper on the HTMA website:

http://www.huntsvillefolk.org/articles.html

In the paper, I'll explain what you need; how the recording and editing process works; and point you to resources on the web for free or inexpensive tools and advice. Here's the top-level overview of the topics I think I'll need to cover:

- necessary hardware and software
- setting up to record — recording environment, positioning microphones
- recording, mixing, and editing the recorded tracks, and producing the final results

Here's the outline of the paper, with a bit of explanation about what will be covered in each topic.

I.   Hardware: what you will need
    A.   Microphones: important characteristics; some good ones
    B.   Microphone stands: kinds of stands; some good ones

       C.   Interface to your computer: important functions; kinds of signals; preamps; how to choose
       D.   Microphone and instrument cables: kinds; how to choose
       E.   Computer: what you need
       F.   Speakers and headphones: what's important; how to choose

II.   Software
       A.   Digital audio workstation (*DAW*) software: some important capabilities; how to evaluate and choose
           1.   Recording: the basics; multiple takes
           2.   Editing: cut and paste; cross-fading; changing tempo; changing pitch
           3.   Normalizing: what it is; maximum volume level
           4.   Mixing: what it is; panning and the stereo field; depth and width
           5.   Busses and routing: what they are; why you'll want to use them
           6.   Extensions, especially plugins: what they are; examples
           7.   Automation: what it is; why you'll want to use it
       B.   A recommendation: the DAW I use; why I use it

III.   Your recording environment: preparing to record
       A.   Acoustic treatment: exterior sound reduction; sound reflection reduction
       B.   Arranging your room: positioning microphones
       C.   Using microphones: learning to use microphones; pointing your microphones; some potential problems and solutions
       D.   Using your DAW to record: adjusting gains; more about multiple takes; keep it simple

IV.   Post-production: what it is; some things I haven't already covered
       A.   Sound design: what it is
       B.   Mastering: what it is
       C.   Additional resources

Hopefully this overview tells you enough to interest you in reading the paper. Please give me feedback on this article and the paper posted on the HTMA website. My email is:

george.p.williams@pobox.com