

LEARNING MADE EASY



6th Edition

Home Recording

for
dummies[®]
A Wiley Brand



Record on a tablet or
in your home studio

Capture live sounds or
record virtual instruments

Edit, mix, and master
your final tracks

Jeff Strong

Musician, recording engineer, and
Director of the Strong Institute

Home Recording

**for
dummies[®]**
A Wiley Brand



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6th Edition

by Jeff Strong

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dummies[®]
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Home Recording For Dummies®, 6th Edition

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Introduction

If you're like most musicians, you've been noodling around on your instrument for a while and you've finally decided to take the plunge and get serious about recording your ideas. You may just want to throw a few ideas down onto tape (or hard drive) or capture those magical moments you have with your band. Or you may want to compose, record, produce, and release the next great platinum album. Either way, you'll find that having a home studio can give you hours of satisfaction.

Well, you've chosen a great time to get involved in audio recording. Not long ago, you needed to go to a commercial recording studio and spend thousands of dollars if you wanted to make a decent-sounding recording. Now you can set up a first-class recording studio in your garage or spare bedroom and create music that can sound as good as that coming out of top-notch studios (that is, if you know how to use the gear).

Home Recording For Dummies, 6th Edition, is a great place to start exploring the gear and techniques you need to create great recordings (if I do say so myself). This book introduces you to home recording and helps you to get your creative ideas out into the world.

About This Book

Home Recording For Dummies not only introduces you to the technology of home recording but also presents basic multitrack recording techniques. In the pages that follow, you find out about the many types of digital recording systems available, including computer-based systems, all-in-one recorder/mixer systems (called *studio-in-a-box* systems), and phone and tablet recording.

You get acquainted with the basic skills you need to make high-quality recordings. These skills can save you countless hours of experimenting and searching through owner's manuals. In this book, you discover

- » The ins and outs of using the various pieces of equipment in your studio
- » Tried-and-true engineering techniques, such as microphone choice and placement

- » The concepts of multitracking, mixing, and mastering
- » How to turn all your music into complete songs
- » How to assemble and release an album

Home Recording For Dummies puts you on the fast track toward creating great-sounding recordings because it concentrates on showing you skills that you can use right away and doesn't bother you with tons of technical jargon or useless facts.

Throughout the book, you see *sidebars* (text in gray boxes) and text marked with the Technical Stuff icon. Both of these are skippable — they provide interesting information, but it's not essential to your understanding of the subject at hand.

Finally, within this book, you may note that some web addresses break across two lines of text. If you're reading this book in print and want to visit one of these web pages, simply key in the web address exactly as it's noted in the text, pretending as though the line break doesn't exist. If you're reading this as an e-book, you've got it easy — just click the web address to be taken directly to the web page.

Foolish Assumptions

I have to admit that when I wrote this book, I made a couple of assumptions about you, the reader. First, I assume you're interested in recording your music (or someone else's) in your home and not interested in reading about underwater basket-weaving (a fascinating subject, I'm sure, but not appropriate for a book entitled *Home Recording For Dummies*).

I assume you'll most likely record your music using a digital hard drive recording system because these are the most common types of systems available. I also assume you're relatively new to the recording game and not a seasoned professional. (Although if you were, you'd find that this book is a great reference for many audio engineering fundamentals.) Oh, and I assume you play a musical instrument or are at least familiar with how instruments function and how sound is produced.

Other than these things, I don't assume you play a certain type of music or that you ever intend to try to "make it" in the music business (or even that you want to treat it as a business at all). If course, if you aspire to make music your career, you'll find the information in this book invaluable in helping you make the best sounding music possible.

Icons Used in This Book

Throughout this book, I use a few icons to help you along your way. These icons are as follows:



TIP

The Tip icon highlights expert advice and ideas that can help you to produce better recordings.



REMEMBER

Certain techniques are important and bear repeating. The Remember icon gives you those gentle nudges to keep you on track.



TECHNICAL
STUFF

Throughout the book, I include some technical background on a subject. The Technical Stuff icon shows up in those instances so that you know to brace yourself for some dense information.



WARNING

The Warning icon lets you know about those instances when you could damage your equipment, your ears, or your song.

Beyond the Book

In addition to what you're reading now, this book also comes with a free access-anywhere Cheat Sheet that gives you even more pointers on how to successfully record music in your home. To get this Cheat Sheet, simply go to www.dummies.com and search for "Home Recording For Dummies Cheat Sheet" in the Search box.

Where to Go from Here

This book is set up so that you can read it from cover to cover and progressively build on your knowledge, or you can jump around and read only those parts that interest you at the time. For instance, if you're getting ready to record your band and you need some ideas on how to get the best sound out of your microphones, go straight to Part 2. If you're new to this whole home recording thing and want to know what kind of gear to buy, check out Chapters 1 and 2.

For the most part, starting at Chapter 1 gets you up to speed on my way of thinking and can help you understand some of what I discuss in later chapters.

1

Getting Started with Home Recording

IN THIS PART . . .

Discover the gear you need to build your studio.

Understand how the home recording process works.

Choose the best recording system for your needs and goals.

Set up your studio so that it both sounds good and is easy to work in.

Get to know the way the signal flows through different systems.

Understand the purpose of all the knobs, buttons, and connectors in recording systems.

- » Exploring the components of a home studio
- » Peering into the process of recording
- » Making sense of mixing and mastering
- » Finishing up your project

Chapter **1**

Understanding Home Recording

Audio recording is a fun and exciting activity. Being able to put down your musical ideas and craft them into an album is nearly every musician's dream. The only problem is the learning curve that comes with being able to record your music at home; most musicians would rather spend their time and energy making music.

In this chapter, I help you get a handle on the basics of home recording and show you what's involved in the process. You discover the basic components of a recording studio and find out what gear you need to buy first. In addition, you explore the multitracking process and find out what's involved in mixing your tracks. You move on to exploring mastering and finding ways to share your music with your listeners.

Examining the Anatomy of a Home Studio

Whether it's a free phone app or a million-dollar commercial facility, all audio recording studios contain the same basic components. Understanding these basic components is an area where many people get lost and one about which I receive the most email. As you glimpse the recording world, you'll inevitably think that

recording your own music will cost way too much and be way too complicated. Well, it can be. But it can also be pretty simple and cost-efficient. In the following sections, I present a list of audio-recording essentials and offer insight into cost-saving and efficient systems that you can find on the market.

Exploring the recording essentials

To take the mystery out of recording gear, here are the essentials that you need to know:

- » **Sound source:** The sound source is your voice, your guitar, your ukulele, or any other of the many sound makers in existence. As a musician, you probably have at least one of these at your disposal right now.
- » **Input device:** Input devices are what you use to convert your sound into an electrical impulse that can then be recorded. Here are the four basic types of input devices:
 - **Instruments:** Your electric guitar, bass, synthesizer, and drum machines are typical instruments you plug into the mixer. These instruments constitute most of the input devices that you use in your studio. The synthesizer and drum machine can plug directly into your mixer or recorder, whereas your electric guitar and bass need a direct box (or its equivalent, such as an instrument or Hi-Z input in your audio interface) to plug into first. A *direct box* is an intermediary device that allows you to plug your guitar directly into the mixer. Chapter 9 explores instruments and their connections to your system.
 - **Microphones:** A microphone (or mic) enables you to record the sound of a voice or an acoustic instrument that you can't plug directly into the recorder. A microphone converts sound waves into electrical energy that can be understood by the recorder. I detail several types of microphones in Chapter 6.
 - **Sound modules:** Sound modules are special kinds of synthesizers and/or drum machines. What makes a sound module different from a regular synthesizer or drum machine is that a sound module contains no triggers or keys that you can play. Instead, sound modules are controlled externally by another synthesizer's keyboard or by a Musical Instrument Digital Interface (MIDI) controller (a specialized box designed to control MIDI instruments). Sound modules have MIDI ports (MIDI jacks) that enable you to connect them to other equipment. Chapter 11 digs into the details about sound modules.
 - **Software synthesizers:** Software synthesizers (also known as *softsynths*) are software programs that don't need hardware MIDI connections because the sound modules are stored on your computer's hard drive.



REMEMBER

Depending on what your sound source is, it may also be an input device. For example, an electric guitar has pickups that allow you to plug it directly into a mixer input without having to use a microphone. On the other hand, your voice can't accept a cord, so you need to use a mic to turn your singing into an electrical impulse that can be picked up by your mixer or equivalent device. You can find out more about input devices in Chapter 9.

- » **Mixer:** You use a mixer to send the electrical signal of your input device into your recorder and to route signals in a variety of ways. Traditionally, a mixer serves the following purposes:
 - **Routing your signals into your recorder:** This allows you to set the proper level for each input device so that it's recorded with the best possible sound. Chapter 4 explores the different mixer-type devices for this purpose.
 - **Blending (mixing) your individual tracks into a *stereo pair* (the left and right tracks of your stereo mix) or surround sound channels:** This role of the mixer is where your vision as a music producer takes center stage and where you can turn raw tracks into a polished piece of music. Chapter 16 explores this use of a mixer.
- » **Recorder:** The recorder stores your audio data. For most home recordists, the recorder is digital. You can find out more about the different types of recorders in the next section of this chapter.
- » **Signal processors:** Most of the time, you have to tweak your recorded tracks. Signal processors give you the power to do this. Signal processors can be divided into the following basic categories:
 - **Equalizers:** Equalizers let you adjust the frequency balance of your tracks. This is important for making your instruments sound as clear as possible and for getting all your tracks to blend well.
 - **Dynamics processors:** Dynamics processors are used to control the balance between the softest and loudest parts of your tracks. They have many uses in the studio to help you make your tracks sit well together and to keep from overloading your system. Chapters 9, 19, and 22 explore ways to use dynamics processors in your music.
 - **Effects processors:** Effects processors allow you to change your tracks in a variety of ways, such as to create a more realistic sound or unusual effects. Typical effects processors include reverb, delay, chorus, and pitch shifting. You can find out more about these processors in Chapter 19.

- » **Monitors:** Monitors, such as quality headphones or speakers, enable you to hear the quality of your recording and mixing. Monitors come in three basic designs:
 - **Headphones:** Headphones come in an astonishing variety. Some are good for listening to music, while others are good for recording and mixing music. Most home recordists start with headphones because they typically cost a lot less than speakers and serve the double duty of allowing you to hear yourself while you record and allowing you to hear the mix when all your tracks are done.
 - **Passive:** Passive monitors are like your stereo speakers in that you also need some sort of amplifier to run them. A ton of options are available with prices from around \$100. Just remember that if you go this route, you need to budget money for an amp, which can run a few hundred dollars or more.
 - **Active:** Active monitors have an integrated amplifier in each speaker cabinet. Having a built-in amp has its advantages, including just the right amount of power for the speakers and short runs of wire from the amp itself to the speakers (this is kind of a tweaky area that some people claim produces a better sound). You can find quite a few active monitors on the market starting at just a couple hundred dollars.

Checking out recording system types

With the long list of equipment that I present in the previous section, you may think that you need to spend a ton of money to get everything you need. Fortunately, home-recording systems are available that contain many of the components you need, so you don't have to buy everything separately. I go into detail about these systems in Chapter 2, but here's a basic overview:

- » **Studio-in-a-box (SIAB) systems:** These are all-in-one units that have everything in them except for the sound source, input device, and monitors. For very little money (starting well under \$500), you get almost everything you need to start recording. These types of systems are also easy for a beginner to use and are great for musicians who don't want to spend a ton of energy tweaking their setups.
- » **Computer-based systems:** These systems, often referred to as Digital Audio Workstations (DAWs) use the processing power of your computer to record, mix, and process your music. Computer-based systems, similar to the SIAB systems, perform many of the typical recording functions at once. When you have one of these systems, you only need your sound source, your input devices, and your monitors.