Audiobook Narration for Poets (and Others)

This is in no sense a comprehensive guide to audiobook narration. It's a brief *introduction* designed to acquaint you with the terminology you may encounter.

Every author, publisher, and distributor will have unique requirements for audiobook production. What follows are *typical* requirements; you will find exceptions to everything stated here, but most of the time this is "how things are done."

The cardinal rule is, "When in doubt, ask the person who gave you the assignment — the author, publisher, or distributor."

The discussion falls into four parts. You may only be doing the narration itself — the first part of the discussion — but it's useful to know what else is involved in creating an audiobook. The parts we're going to talk about are:

- The reading itself — both *what to read* and *how to read it*.
- Technical specifications for the audio files you need to produce.
- The general workflow: preparation for the narration, the narration itself, "proof-listening" the narration, editing the audio, mastering the audio.
- The factors you need to consider if you're thinking about setting up a home studio.

At several points, we'll be linking to other sites where you'll find more in-depth information.

An especially rich source of information (and encouragement!) for any beginning narrator is the Narrator's Roadmap maintained by Karen Commins. Commins is an accomplished narrator in her own right, as well as a respected guide, and she has packed her web site with articles and links from a variety of sources about every aspect of the business. (Full access to the site requires a modest membership fee but is well worth it if you're considering audiobook narration as anything more than an occasional activity.)

The article "Become a Narrator" by Erin DeWard provides an extensive overview of the subject. (It may be helpful to read the rest of this article before turning to her review. It covers many of the same topics but in much more detail and from a more technical perspective.)

Sean Pratt has a short video that describes how to get a sense of what narrating feels like before you commit to it.

There are other site-specific resources that provide an overview of the process. The distributor Author's Republic has an Audiobook Self-Narration Guide. Audible's in-house production arm, ACX, includes a series of checklists you may find helpful even if you're not submitting a project to them.

What to Read

For audio purposes, books can be divided into five sections. In what follows, remember that authors, publishers, and distributors may have different requirements, and these may vary by book. If you have any questions about whether something should be included, *ask — before* you begin recording. Typically each of these sections (and subsections) will be in a separate audio file.

If possible, read the text from an electronic source. Avoid hardcopy if you can; the rustle of paper is something that would have to be edited out during post-production.

The opening credits

Publishers and distributors often have a "house style" for credits, so it's important to check about this before you begin. Here's one possible example: "[Title], by [author], narrated by [narrator]." If you're narrating your own book, you might say: "narrated by the author."

The front matter

Most of what's considered "front matter' is usually omitted.

- Don't read the Table of Contents.
- Read the Dedication only if specifically directed or requested to do so. (Obviously, if you're narrating your own book, this decision is partly up to you.)
- Read the "About the Author" blurb only if specifically directed to do so.
- Introductions are often included. Sometimes, for works of fiction and literature, introductions are moved to the end of the audiobook, especially if they contain "details of the plot." (You'd be surprised how many people get upset about "spoilers" even for classic fiction!) As always, check with the author/publisher/distributor before making any decisions about this. If you *do* move the introduction to the end, you might want to include a note at the beginning, with words to this effect: "Please note that [because it contains details of the plot,] the introduction appears at the end of the audiobook." Many of the recent entries in the Penguin Classics series do this.

The individual chapters of the book

Each chapter, story, or poem goes in a separate file.

Read the *title* of the chapter, story, or poem, followed by a brief pause and then the *text*. (We'll talk more about the timing of specific pauses later.)

In general, your obligation as a narrator is to read exactly what's written on the page, no more and no less. But there are some items that audiobooks, by convention, leave out.

- Omit footnotes.
- Don't introduce and close quotations with the words "Quote/End Quote." The fact that you're reading a quotation is usually indicated by a slight change in pitch. (See if making "air quotes" with your hands while you're reading helps. The listener may "hear" the difference.)
- Omit citations. (Scriptural citations are an exception, and there are specific conventions for reading them.)
- Omit references to charts, diagrams, and illustrations. Paraphrase if necessary to avoid confusion — but always *clear any changes to the text with the author/publisher/distributor ahead of time.*
- *Don't include music or sound effects* and *don't sing.* If your story makes reference to a popular song, you can quote some of the lyrics under fair-use laws, but the audio *cannot reproduce any part of the melody without written permission from the rights holder.*

Along with all of these *don'ts*, there's at least one thing to *do*. Expand abbreviations. For example, "e.g." is "for example" and "i.e." is "that is." But this extends to other abbreviations as well, especially acronyms — especially the first time they are used.

The back matter

Appendices, acknowledgements, and afterwords are usually omitted.

The closing credits

Again, check for any rules about "house style." A possible example: "You have been listening to: [Title], by [author], narrated by [narrator]. Book copyright 20XX by [author or publisher]. Audiobook copyright 20XX by [narrator or publisher]."

How to Read It

Audiobook narration is a form of *acting* — a specialized, intimate form of acting that's closer to closeup film work than to performing on stage.

Giving a *professional* performance as a narrator requires professional training; there is simply no way around that. If your time and budget allow for it, find a performance coach. Without endorsing any of the following, some of the better-known performance coaches include:

- Pat Fraley
- Chris Ciulla
- Sean Pratt
- Joel Leslie Froomkin
- Shannon Elizabeth Parks
- Jo Anna Perrin
- Carol Monda
- Peter Berkrot
- Johnny Heller
- Andi Arndt
- James Foster
- Paul Alan Ruben
- PJ Ochlan
- Kristine Hvam

Other coaches, such as Jeffrey Kafer and Tom Dheere, provide guidance on the business end of the profession. Some, like Paul Heitsch and James Romick, specialize in helping people with specific audio applications like ProTools and Reaper. Don Baarns does the same for Studio One and the Izotope RX suite of plugins. All of these people will be able to provide some useful advice on performance as well.

This is not a comprehensive list, only a sampling to give an indication of the kinds of mentoring available.

Some audiobook coaches charge hourly rates, others have long-term training programs that can run into considerable expense. The long-term programs are valuable — probably essential — investments *if* you've already decided you want to pursue narration as a career.

What if you're not there yet? What if you only have one or two books of your own you want to narrate?

Frankly most professional narrators will advise you *not* to narrate your own material. This is not simply a matter of being self-serving. One of the specialized skills a narrator brings to the task is the ability to sense when the language is doing the work on its own and when it needs a push from the performer. This requires a certain amount of objectivity, and it's a difficult skill to master; it becomes significantly more difficult to do this when you are reading your own material.

But we'll assume for the purposes of this discussion that you (or your publisher) have decided otherwise.

The first thing you need to keep in mind is that even professional narrators are rarely happy with their first efforts. If you are only planning to do one or two books, you need to manage your expectations.

But there are a handful of things you *can* do.

- One thing you're likely to hear from a professional coach is that "less is more." Your performance might be better, paradoxically, if you don't try to *perform*. Don't try to be an *announcer*. Sitting in front of the microphone, try to imagine that you're sitting at your dining-room table talking to a small group of close friends.
- One "trick" for accomplishing this is to have a "throwaway" catch phrase you can start off with: "Have I ever told you about…" or "Have you heard…" or even just "You know…" You can say this and *then* slide into your narration. The throwaway phrase may help you get into a more "conversational" mindset and can easily be edited out of the audio later. (Or you can practice saying it silently to yourself just before you begin the narration.)
- If possible, keep your hands free so you can gesture as you talk.
- If you can manage it, narrate without headphones. If you feel like you *must* use headphones, try wearing them over only one ear.
- If you're not sure how best to read a given passage, record several different versions and compare the results.
- Do *not* sit down at the microphone until you've read the text and know your way through it. Professional narrators often mark up the text with visual cues to indicate pauses, words to emphasize, emotional tone, or other useful information. Whether you actually make notations or not is a personal choice, but knowing your way through the text *before* you begin reading it is *not*.

In the section on *Workflow*, there are some more specific comments about the actual mechanics of narration — especially how to handle mistakes you make as you're reading.

Tips from Peter Berkrot

One narrator and coach, Peter Berkrot, sums up his performance advice in the following tips:

- Read slow.
- Punctuation is your friend.
- Narration is storytelling — not reading.
- The narrator is a character too.
- Dialogue is acting.
- Don't *report* information — the *narrative* is the *music*, the emotional *link* between characters and events.
- Make choices based on genre and style.
- For non-fiction, let *passion* drive the narrative.

Tips from Johnny Heller

Johnny Heller gives a slightly different slant, but in the same general direction.

- Let the author tell the story. ("Actors will frequently push buttons that the author has already pushed. They will inject their personality and individual stamp on a story that is already perfectly well told. It is not just important to leave the heavy lifting to the author; it is imperative. It is not your story to tell. It is only yours to share.")
- Stop proclaiming. ("Actors — new and experienced — almost always feel a need to do weird vocal things when they begin their audiobook careers. Usually, they raise their voices both in pitch and volume as though they have become the local town crier. When one speaks into a microphone, one needn't shout from the proscenium to the cheap seats. In this, as in all things audiobook, less is more.")
- Characters are more than voices. ("To change your voice just to sound different is the same as changing your shirt and expecting me to think you are someone else all of a sudden. It's best … to find the character in the text and then the voice will follow. You need to find the clues to who a character is and to cast that character from your own frame of reference. Your job isn't to fool me with a fake mustache and a silly costume. Your job is to play a character in a scene. Your job is to act.")

- You can't tell a story you don't know. ("OF COURSE YOU HAVE TO READ THE BOOK FIRST! How can I tell a story when I have no idea who is in it? What they want? Who they are? Or, and this is really important — what happens?")

Tips from Sean Pratt

In an interview with Joanna Penn, Sean Pratt gives a few tips about narration.

- It's not reading, it's a performance.
- If possible, work with a coach.
- Writing and performing are different skills, and unfortunately they don't translate into each other. One of the difficulties writers sometimes face when narrating their own work is they're used to writing the way they think rather than the way they talk.
- Record it and play it back. How is it coming across?
- While it's good to slow down, the tempo doesn't have to be *super* slow. It's possible to narrate with clarity at normal conversational speed. But this assumes a degree of skill and training in parsing the text.
- Pacing is crucial. A paragraph, for example, is a meditation on a single idea, with a slight beat between each paragraph. The beats and the pauses are there to help the listener make transitions.
- Preparation is essential: the background of the author, the point of the whole book; details like the pronunciation of each word; how to read mathematical or scientific formulas — you have to sound like an expert; you need to parse the minutia of the text for clues about how the author feels about each moment. Is the author angry? Reflective? What's the main idea of each paragraph?
- As part of the preparation process, professional narrators learn to "score" the text for breathing, pace, and emphasis.
- If you can, time your sessions to match your biorhythms.
- Do vocal warm-up exercises before you begin your narration.

Free Audio Lessons from Pat Fraley

The narrator and coach Pat Fraley has posted a number of short, free audio lessons on on his web site. The sections "Audiobook Narration Skills" and "General Voice Over Lessons" include useful suggestions on pacing, breathing, projection, energy, emphasis, and style.

The Files You Need to Produce

This section lays out some very specific technical requirements. We're including them here, rather than in the section on setting up a home studio, in case (a) you're in a situation where you're only responsible for the narration, not the actual production, and (b) you're working with audio technicians who aren't familiar with the specific requirements for audiobooks.

The audio specifications

Every distributor will have specific requirements. The specifications listed here are *typical* and are given as examples only. Always check before you submit.

A note about *room tone*. At the beginning and end of each file, and between each word and sentence as you read, what the listener hears is "room tone" — a state of restful quiet, but *not* absolute silence. In an audiobook*, absolute silence sounds odd*. Moments of absolute silence scattered through your narration would give it a staccato, disorienting quality.

A note about *decibels*. Sound level — your audio's "volume" or "gain" — is measured in negative numbers. For audiobooks, *zero* is too loud; -90dB is too quiet. (It should come as no surprise that audiobook vendors have a maximum value for decibels; it may be surprising to know they have a minimum value as well.)

Specs for narration are typically given as "RMS" values. RMS is an acronym for "root mean square," but what it indicates in the audiobook world is simply "average loudness." There are other ways of measuring average loudness, but RMS is the standard commonly used for audiobooks. Generally speaking, the important thing is not the *moment-by-moment* volume — although there *is* a "peak level" you should not exceed — but the *average* volume of the audiobook.

Specifics:

- Each track should have a single chapter, story, or poem.
- Each file should have:
    - 0.5 seconds of room tone at the beginning;
    - 3.5 seconds of room tone at the end;
    - 2.5 seconds of room tone between the title and the beginning of the text, and between any major section breaks.

- The average volume — the RMS — should be between -23 and -18dB. Peak volume should not exceed -3dB.
- The noise floor (room tone — the quiet moments in the audio) should be greater than -90dB and less than -60dB.

The technical specifications

Working files

For your working files — the raw audio, and everything you edit up to and including the "final edit" of the book:

- Use WAV format,
- Files are recorded *in mono* (unless you're doing a stage play or some other production where placement is space is important).
- Bit depth should be 24. (Recently, some narrators have experimented with a bit depth of 32. This allows some flexibility in adjusting volume after the fact but takes up significantly more space. 24-bit is perfectly fine for audiobook work.)
- Sample rate should be 44.1 kHz.

Final output

For the final, distribution-ready files:

- Use MP3 format.
- Sample rate is 44.1 kHz.
- Bit rate should be 192 or 256 kbps (constant bit rate).
- No file should be larger than 170 MB or longer than two hours. If a chapter exceeds this length, split it.

File organization and naming conventions

There are an infinite number of ways you can organize your files and folders. As always, it's important to check with the author/publisher/distributor to see what their standards are before setting up the project. Usually the files will be numbered sequentially and named in some way — possibly with an abbreviated book title and the chapter title.

Here's one possible way to set things up — but *check before you do this*.

- Set up a folder for the book.
- Within the folder, set up three folders: Raw, Edited, and Final.

- Keep two versions of every chapter in the appropriate folders: the original raw recording and the edited, corrected version. Both should be in WAV format.
- When the file has been fully mastered, you will have a third version to retain, the final, distribution-ready MP3 file.
- Keep the final, corrected WAV files and the final MP3 files somewhere even after the book has been submitted. What happens if at some point in the future you're asked to resubmit the files, or make a change to a supposedly completed project? *It happens.*

Some recording applications allow you to maintain multiple versions of a chapter as separate tracks within a single file. In that case, rather than having separate Raw and Edited files in separate folders, you might have separate Raw and Edited tracks within the same file. We'll talk more about recording applications in a moment.

You *must have backups*. This is non-negotiable. At least one backup system is essential; two — one local, one online — is even better. We'll talk more about backups when we discuss the requirements for setting up a home studio; for now, we are assuming that any audio technician you are working with will be taking appropriate steps to ensure that all work is recoverable.

Whatever method of organization you choose, there are three overriding goals:

- Never lose your work.
- Never accidentally overwrite one version of a file with another.
- Be able to put your hands quickly on any given chapter or section.

What about file names?

Files are commonly numbered sequentially, and the name typically includes some identifiable abbreviation for the book title, along with a short version of the chapter title (if any). If the book has a simple chapter structure, this could be (using *The Hobbit* as an example):

- 001 HOB Unexpected Party
- 002 HOB Roast Mutton
- 003 HOB Short Rest
- 004 HOB Over Hill and Under Hill

If there are multiple parts, it could be (using *20,000 Leagues under the Sea*):

- 1001 20K Shifting Reef

- 1002 20K Pros and Cons
- 1003 20K As Monsieur Wishes
- 2001 20K Indian Ocean
- 2002 20K New Invitation
- 2003 20K Two-Million Dollar Pearl

Use whatever scheme makes sense to you — and to your author/publisher/distributor — but be consistent.

A useful utility

The application 2nd Opinion, by Stephen Jay Cohen, checks your audio files using the criteria most commonly applied by distributors. It generates a text file reporting any exceptions. Although there are no guarantees, a "passing grade" from 2nd Opinion is usually an indication that the files are good to go.

A Typical Workflow

What we've covered so far are the basics that apply regardless of your situation — whether you're working with someone else or doing it all yourself. But even if your involvement ends when the narration is complete, it's useful to know what other steps are involved.

Preparing the Text

Do you need to read the whole book before you begin to record it? Yes. You need to read it *and* take notes.

It's your responsibility to get the pronunciation of every word and every proper name right, and this sometimes requires going an extra couple of miles. Don't make assumptions here: one famous test case is that Houston, Texas, and Houston Street in New York are not pronounced the same way.

If it's fiction, you need to take notes on the characters, background, and settings. You're not writing a dissertation, but you do need to pay attention to details. And this is one reason why you *must* read the whole book before you begin. You don't want to get to the last chapter and suddenly find out that a character named "Maria" pronounces her name "muh-RIGH-uh" (when you've been saying "muh-REE-uh" for nine hours).

If you're narrating someone else's book, this preparation stage is where you would engage in dialogue with the author or publisher about issues of tone, genre, pronunciation, background — any details that are not immediately obvious to you from reading the text. This is where you would find out whether introductions or appendices are to be included and make sure they understand and agree with how you plan to handle references to graphics and complex citations in the text.

Narrating the Text

When you're ready to begin, set up your files, position yourself in front of the microphone, and begin. It's common to do the narration chapter by chapter or in fixed blocks of time. One of the advantages of doing a whole chapter at a time is that are sometimes subtle differences in audio tone from one session to the next, and if you stop and start a chapter this can lead to a noticeable shift.

What if you make a mistake?

Inevitably, as you read, you'll suddenly realize that you misread a word, or left something out, or emphasized the wrong word, or mispronounced something.

What do you do? There are different ways of handling this.

"Back up and do it again"

You can simply pause and start the sentence over again, as many times as necessary to get it right, and edit the mistakes out later. There are two disadvantages to doing it this way:

- It takes longer.
- You run the risk of missing one of the mistakes.

The dog-clicker approach

Some people recommend using a "dog clicker" to signal when they've made a mistake. You make a mistake; you press the clicker; you repeat the phrase or sentence and (hopefully) get it right. Dog clickers leave a distinctive, visible wave form in the recording that's easy to spot when you're editing the audio; this *can* make removing mistakes faster and more reliable. As soon as you finish recording the chapter, you scan through the audio looking for the dog-clicker wave forms, and you delete the mistakes.

Punch-and-roll: the "professional way"

By and large most professional narrators recommend using the "punch and roll" technique. All apps that support audiobook narration include this function. Describing it will make it sound far more complicated than it is in practice.

With punch-and-roll:

- You position the cursor in the file to a point just before the mistake.
- If necessary, you tell the app you want to "punch and roll" rather than simply "record." (Note that some apps default to "punch and roll" for *all* recording activity.)
- The app backs up a fixed number of seconds (usually 5-10 seconds: you specify the amount in the preferences).
- It begins playing the audio.
- You repeat the words out loud as you hear them, to get your performance "up to speed."
- When the app hits the original mark, it automatically (and silently) switches over to Record mode. You continue speaking without a break, but this time — hopefully — you get it right.

If it's done well — and with a little practice you *will* get the hang of it — the correction will blend in smoothly.

Different apps handle what happens next differently: some automatically overwrite what was there before; some let you choose what to do on the spot; some keep both versions and let you decide later which to retain.

The advantage of P&R is that when you're finished recording the chapter, story, or poem, it's a clean recording: you don't have to go back and edit out the mistakes, because you corrected them as you went along.

Most of the time, when a professional company says they want "raw audio" from you, what they really want is "raw *punch-and-roll* audio" — in other words, audio that hasn't been through any post-processing steps, *but* with all known mistakes corrected. They *don't* want audio with all your stumbles and repeats in place.

Proofing the Audio

Whether you correct your mistakes on the fly or during your first pass through the file, you're bound to miss some of them. You won't catch *all* your mistakes until you listen to the audio later.

Your "mission," as noted earlier, is for the audio to match the text word for word, apart from any variations you and the author or publisher have agreed to in advance. This means that you — or *someone* — has to listen to the audio with the text in front of them and mark any misreads. These portions have to be re-recorded before the initial phase of the process can be considered complete.

It's extremely difficult for narrators to proof their own work, and there are people who provide this service for a fee; most professional narrators outsource their proofing. It makes sense to do this if you're getting paid a professional rate for your work; the cost of proofing is a modest charge against this, and the results in terms of efficiency and accuracy are worth it.

On the other hand, if the cost of proofing exceeds what you expect to be paid, or you have other financial constraints, this may not be possible, and you may have to do your own proofing. It's *possible* to do it, but it's time-consuming. You have to listen with care and discipline, and you absolutely *have* to repeat the process more than once; a single "proof listen" will never suffice. Copious amounts of caffeine may help.

There are automated speech recognition tools that can *assist* in this process, improving the accuracy of "home proofing." But *never*, under any circumstances, run an audio file through proofing software and accept its verdict as final. It's always a tool, never a substitute.

Whether using software to assist in proofing or not, either ***you or someone else*** *needs to listen to every word and visually compare it to the original text.* There is simply no other way to do it.

Editing the Audio

When all the mistakes have been cleaned up, there may or may not be additional editing that needs to be done. This final editing stage may be where the "room tone" at the beginning and end of each file is adjusted and where other pauses in the audio are lengthened or shortened as needed. Apart from the headers and trailers and other attributes required by specifications, this is largely a subjective process. If you got the pacing just right during the

narration, you may not need to do anything else. But if you need to make some small adjustments here and there, this is where you would do it.

This is another part of the process that professional, full-time narrators often outsource. If you are working for a publisher or studio that have their own arrangements for this, simply be aware that it's a step that needs to happen.

Mastering the Audio

Note that up to this point, everything you've done has been with unprocessed WAV files; no post-processing has been applied to the recording. No normalization, equalization, compression, noise reduction, or other technical adjustments have been made. These changes are applied only when the content of the audio is exactly the way you want it.

Mastering audio requires technical expertise. It either needs to be done by an audio engineer with audiobook experience, or it needs to be done using a script *developed* by an audio engineer with audiobook experience. Very few narrators have the training — or the ears — to do this on their own.

Because every voice, microphone, and recording space is different, there is no such thing as a "generic" mastering script. The only way to achieve professional results is to have a professional customize it for your specific space and situation. (The good news is that once you have such a script, you can generally reuse it as often as necessary, until something about your recording space changes.) More about that in the next section.

Estimates

When you're estimating how long it will take you to complete a project, take your level of experience and the extent of your involvement into account.

If you're doing everything in-house — narrating, proofing, editing, mastering — it's not unusual, in the beginning, for it to take as long as 10 hours to produce a single hour of finished audio. With experience, this number will shrink. If you can outsource key parts of the process (like proofing and editing), it will shrink even further.

In the absence of direct personal experience, some good rules of thumb are as follows.

- Estimate about 150 words a minute (9000 words per hour). Using that as a basis, a 60,000-word book would result in an audiobook between 6 and 7 hours long.

- If you are doing a soup-to-nuts project, allow a ratio of 6:1 — in other words, six hours of work to produce one hour of finished audio. This includes prep time, narration, proofing, editing, and mastering. Using the 60,000-word-book example, that would mean about 40 hours of work. (Obviously if the book is highly technical or requires additional background research, the ratio would be higher.)
- How many hours a week can you spend doing this?

Plug in your numbers and you have a rough estimate of how many weeks it will take you to complete the project.

As always in project management, the golden rule is: *things take longer than they do*. So allow some padding when you promise delivery by a certain date.

Factors to Consider When Setting Up a Home Studio

So far, we've talked about the basic process of narration, listed the technical requirements for the files, and given a broad overview of the steps in the process. If your involvement in the process is simply to narrate, most of this will be FYI. But what if you've decided to take things to the next level and bring the whole process in-house? How do you go about setting up a home studio?

To begin with, be aware that setting up a home studio *can* cost thousands of dollars, and professional narrators, who rely on steady audiobook work as their chief source of income, will often make this investment, with a fully functional recording booth in their home, complete with LED lighting and air circulation.

Fortunately, it's possible, especially when starting out, to achieve *acceptable* results without going to that extreme.

A caveat, though. While it may not cost *thousands* of dollars, it's *still* likely to cost *hundreds* of dollars to meet minimum professional standards. You don't need a top-of-the-line microphone, but you do need a *decent* one; and as outlined below, you'll also need a computer, external storage, a good Internet connection, and a quiet space to do the recording.

As noted earlier, if you plan on recording at home, one expense you *must* allow for is the services of an audio engineer — preferably one with audiobook experience — who can listen to samples of your work and make recommendations. Unless you have specific technical skills in this area, this is non-negotiable.

An audio engineer can set up a script that will apply whatever adjustments are needed to bring the raw audio up to professional specifications. This usually requires one or two consultations, often over Zoom, that will result in a script you can apply to your work from that point forward. Most engineers can do this online over Zoom.

Without implying a specific endorsement, some of the audio engineers who provide this kind of service include:

- George ("George-the-Tech") Whittam
- Don Baarns
- Jim Edgar
- Dan Lenard
- Roy Yokelson

(Some of these people, and others, provide expertise on specific recording software. Don Baarns, for example, provides extensive training and template support for Studio One and Izotope RX. James Romick and Jennifer Blom coach people on the use of Reaper. Jack DeGolia and Jim Edgar support Twisted Wave. We'll have a bit more to say about recording applications in a moment.)

So what else do you need?

The recording space

While it may be ideal, it isn't *necessary* to have a soundproof booth. But you do need to set up your recording equipment in as small, closed-off, and echo-free an area in your home as possible. Some narrators use a walk-in closet. Others close off a section of an office or bedroom with acoustic blankets or panels or even heavy moving blankets draped over clothes racks or PVC tubing. Examples of *bad* choices would be kitchens and dining rooms.

Clap your hands and listen. The more of an echo you can hear, the more work you have ahead of you.

You can *sometimes* compensate for a less-than-ideal environment by making "noise reduction" adjustments to the audio using software. The technology for this is evolving rapidly, and it's often possible at this point to screen out traffic noise and even the rumble of a distant washing machine or airplane. But this remains a targeted, surgical process, not a global "one-pass-and-done" cleanup, and it's still better to get as close to the ideal "noise floor" naturally rather than depending on software after the fact. One piece of advice you are

likely to hear repeatedly is: *treat the space* before you even begin to think about upgrading equipment or software.

Starting a recording session means turning off obvious things like televisions, radios, fans, and air conditioners, but it can also mean turning off — or leaving out of the room — other things that can cause electrical interference, like cell phones.

The equipment

The microphone

Everyone's voice is different, and everyone's budget is different. Your first priority should be getting your recording space as quiet and echo-free as possible: the most expensive microphone in the world won't compensate for a noisy environment.

Types of microphone

When you begin shopping for a microphone, there are two characteristics that will come up immediately.

The first is the difference between *dynamic* and *condenser* microphones.

Of the two, *condenser* microphones, and more specifically *large-diaphragm condenser* microphones, are more generally recommended for audiobook narration because they are better at picking up the nuances of the human voice. They are also, unfortunately, better at picking up room noise.

Some narrators use *dynamic* microphones instead, which do a better job of screening out extraneous noise but are more commonly used in broadcast work and podcasting. Some people complain that listening to long-form narration recorded by a dynamic mic can be tiring.

Another characteristic you will encounter right away is the type of connection. Cheaper microphones connect directly to your computer through a *USB* connection. More expensive (and generally higher-quality) microphones connect using *XLR cables*. Connecting with an XLR cable requires an additional piece of equipment (and entails additional expense): an *audio interface*, a small box that accepts the XLR cable, controls the input volume, usually has an output jack for headphones, and provides a USB port to connect to the computer.

Part of the difference in quality between the two types of connection is that *USB microphones* include a cheaper internal version of the audio interface components, eliminating the need for a separate unit. Historically the word "cheaper" has applied to both cost and quality, but as with other aspects of the craft, the technology is changing rapidly, and USB microphones are beginning to catch up.

Because results can vary so widely, try to make your purchases from a site with a reasonable return policy. You may need to try several different microphones before you find one that works well for you. (It goes without saying that you should save all the original packaging, parts, and instructions for the same reason.)

Positioning the microphone

Placement of the microphone is important. It depends on the design of the microphone, but angled slightly to the side and above rather than directly in front of your face is usually best; typically you will be speaking just *past* the microphone, which helps avoid "plosives" (the puffs of air from hard consonants like "p's" and "t's").

If plosives are an ongoing problem for you, you can get a mesh-like "pop shield" to place between you and the mic.

To get the microphone into the right position, you may need a boom arm to suspend it over the desk. Some boom arms stand on the floor, others attach with clamps to the side of the desk.

An audio engineer's expertise can make a huge difference in helping you find the right microphone and position it correctly in your space.

The computer

You don't need a desktop computer. But you *will* need something more powerful than a phone or a tablet. (Hang onto your phone or tablet, though; you may want to read from it during the narration.) Most laptops of recent vintage have enough processing power to handle narration.

One thing you need to take into consideration is fan noise. If your computer has a fan that comes on in the middle of your reading, you may need to leave it outside the recording area — which adds another level of complication in terms of organizing the space. (It *may* be possible to remove fan noise from the audio electronically, but any interventions like this run the risk of degrading the overall quality of the sound. Another point to consider is that if

you *do* make an after-the-fact adjustment for something like this, no matter how skillfully it's done, *your audio is no longer in its "raw" state*. If you've been asked to submit raw audio, you're allowed to fix *mistakes* but not modify the electronic characteristics of the audio itself.)

Whether you use Windows or Mac is a matter of personal preference. Professional software for narration is available for both platforms.

Headphones or speakers?

Obviously you'll need to listen to what you've recorded. Your computer's speakers will work for very rough proofing and doing punch-and-roll, but it's unlikely that they will be good enough to evaluate the actual quality of the audio (or catch stray background noise). Some external speakers *are* good enough for this purpose.

Most narrators who do their own editing use headphones. A wired connection is preferable to Bluetooth, because wireless connections almost invariably introduce a slight lag into the playback that can be disorienting.

Should you listen to yourself through headphones while you record? It's up to you. Some narrators do; others think it encourages an "announcer" voice. If listening to yourself through headphones makes you self-conscious, try using them on just one ear — or use external speakers during the recording stage and switch to headphones for editing.

External storage

Audio files take up a lot of space. As noted, all recording and editing should be done in WAV format, which is uncompressed; a 20- or 30-minute chapter can take up 150-200 Mb of storage. If you are keeping multiple versions of each chapter on hand while the book is in development, this can add up. As an example, for one 9-hour audiobook, the raw and edited WAV files took up more than 7 Gb.

Unless you have an unusually large amount of internal storage available, you will need some form of external storage to hold your work in progress. This can take the form of an external hard drive or cloud storage. But it doesn't stop there. You also need intermediate backups of your work. *This is another non-negotiable requirement.* It can also take the form of a (separate) external hard drive or a separate cloud backup service — or both.

One thing you absolutely do *not* want to risk is losing any of your work.

Once a book is done and published, you may decide not to keep *all* of your working files. But you should *always* keep editable versions of your final *un*mastered files (in WAV format), because one of the cardinal rules of the audiobook world is that *you just never know*. You may also want to keep a copy of the final, mastered MP3 files, although if you have the final WAV files and your mastering script, the MP3 files can always be regenerated as needed.

The "reading device"

If your computer is quiet enough to stay in your recording space, and your screen is wide enough — and "wide enough" is purely subjective — you can split the screen between the recording software and the text you're reading. Otherwise you will need a tablet or phone to read from. Don't try to read from a paper copy of the book; the rustling of the pages will have to be edited out later.

Software

For audiobook narration, there are *many* programs to choose from. Some are free; a couple are sold outright; several are available on a subscription basis.

One thing to be aware of is that most audio recording programs were developed for music production. They are likely to include bells and whistles — sometimes *hundreds* of bells and whistles — that serve no purpose for audiobook narration and can make the app overwhelming and confusing. (There are, for example, some audio apps in common use for audiobook production that still refer to chapter tracks as "songs" and may even use an electronic metronome for timing.) Fortunately, most of these applications have audiobook gurus and champions who have developed templates and training videos to guide you in their use for narration.

The DAW

You will see the term DAW: Digital Audio Workstation. This is an artifact of recording history, when there were hardware workstations dedicated to the work now being done by apps. A DAW is simply the app you use to record and edit your audiobook.

We are not endorsing a specific application; this is a personal decision, and you need to be guided by your specific requirements and the recommendations of the coaches and engineers you consult. A basic list of DAWs in common use for audiobook narration would include, in no implied order:

- Studio One
- Twisted Wave

- Adobe Audition
- Hindenburg Narrator
- Reaper
- ProTools
- Audacity

The last item on the list is free. It has extensive online support and can get the job done, but has a steep learning curve and is not widely used by professional narrators.

One free program for the Mac that is sometimes used but is *not* recommended for this purpose is GarageBand.

Using any of these applications — Audacity included — requires at least some training. The last thing in the world you should do is download one of the apps and try to figure out how to use it by trial and error. Don't re-invent the wheel. You will almost certainly need to pay for templates or training sessions to be able to use them effectively, but some *initial* help is often available through YouTube and FaceBook. Most of the applications have support groups online where you can ask questions and get help from other users — and sometimes even from the developers.

All of the applications have their advocates and champions. The difficulty will be, not finding an application that will do what you need done, but screening out all the competing voices. This is an area where some combination of trusting your audio engineer *and* your gut instinct is your best bet.

Plugins, Mastering, and Post-Processing

All the DAWs currently on the market support third-party plugins that extend their functionality. Many companies make plugins that perform equalization, compression, noise reduction, and other vital post-processing functions. Most are compatible with both Mac and Windows environments.

One company whose products are widely used by audiobook narrators is Izotope; it is described here not as an endorsement but as an example of what's available. Their RX-brand plugins include *De-noise, De-ess, De-click*, and *Mouth De-Click* modules. (The Mouth De-Click plugin is widely used to remove the smacking and clicking noises that some narrators are prone to.) They are compatible with most DAWs, but they can also be run inside Izotope's standalone RX application. (As a side note, while it *can* record audio, the RX application does not function well on its own as a DAW; its primary use is to organize "post-production" work.)

Most DAWs include a “batch” function. In batch mode, you can string a number of plugins together in a “mastering script” and apply them to a list — a “batch” — of files in a single operation. The list of files could (for example) comprise an entire, fully-edited audiobook. Batch processing usually includes the ability to save the mastered audio files to a new location *and* convert copies of them to final MP3 specifications.

Depending on the vendor and the specific plugins you use, these “audio editing and repair” plugins and applications can end up costing far more than the DAW itself. Although it’s tempting to download, install, and tinker with many of these plugins, an audio engineer can help you decide which ones would be most useful in your specific situation.

Designing a cover

One last consideration for the soup-to-nuts operation.

If you’re producing the audiobook entirely on your own, don’t design your own cover — unless you’re a graphic artist with training in cover design. There are commercial artists who specialize in this and can produce attractive covers very inexpensively. Author’s Republic has an overview of the technical requirements and some of the resources available for this.