

Professional Audio Recording for Information Publishers

By Mike Stewart, The Internet Audio Guy



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Hello, my name is Mike Stewart. I'm an audio engineer and musician with over 25 years experience in recording and now, an Internet audio developer for my company, Soundpages.com. I could list all my credits and credentials, but I'd rather you went to my website if you're interested to learn more about me. Just know that I've been a successful professional in this business for a long time. I've edited sound with a razor blade and a china marker on a splicing block for hours at a time, while strings of tape piled up all around me. In the last part of my career as an engineer, I watched with excitement as the digital audio age came into practical use. Then, came the Internet and I knew what I had to do. My life long mission is to show people how to tap the huge potential for audio that exists on the Internet, but which is not being used. So I set out to educate people and help them realize the value of the possibilities that exist. That's why I'm known as "The Internet Audio Guy." Your information is unique. Don't have your audience just read it. Let them hear it spoken, in your voice or someone else's, wherever you make it available!

Information Publishers are in the business of researching, proving and documenting information in a form that can be duplicated and sold to the public as a source of revenue to the author. Books are documents of text from an Information Publisher, but text is not always the best medium for most people when it comes to memory retention and comprehension. Dr. Michael Russo found in a study that human beings understand and comprehend only 10% of

what they read, but retain twice as much of what they hear. Support that with compelling visuals and the comprehension level increases to as much as 62%!

So if you're documenting information with only a word processor and distributing it in printed form, whether it's informational, educational, or just entertaining, your audience could miss 90% of what you have to say. I believe anyone who presently records information and ideas only in text form, should master the skill of recording that information in one of the many audio formats now available. Never before have the tools that provide high quality voice recordings been so affordable, easy to obtain and simple to use. If you publish written information, you probably use a computer to write it down in a word processing program. You can easily transform the machine you already own into high quality digital audio recording, mixing, and editing facility. It's easy.

In this e-book, I'll cover the different ways recordings have been made and explain why certain basic equipment is required to create studio-quality presentations. I'll look at applications that provide easy ways of duplicating and distributing your unique intellectual properties in order to create alternative income streams. In this day and age, speakers, authors, corporate trainers, songwriters, actors and virtually anyone who can articulate ideas, should learn to self-record professionally. Years ago, a CEO would dictate to his secretary because he didn't know how to type. Today, would a CEO tell his secretary to type his email because he doesn't know how? Let's hope not. Likewise, should professional Information Publishers forego the opportunity to create an audio

recording of their information because they don't know how? Should they ignore opportunities to reach their audiences effectively via the Internet because they don't know what equipment does what? Should they lose business because they think that going to a recording studio with exorbitant hourly fees is the only way to record? Of course not, and after reading this book, you will see that there's no longer any need to miss out on the immense audio opportunities that exist for the Internet.

Recording Your Voice

Audio narration, or what is called "voice over" in the industry, is the simplest and most common occurrence of recorded sound. When Thomas Edison invented the phonograph, human speech became the first sound ever recorded. Edison recorded, *Mary Had a Little Lamb*. In a quiet environment in his laboratory, he leaned toward his new invention and spoke the words of the child's poem, capturing it for the world to hear clearly from his talking machine. Today, Information Publishers will capture more human speech than any other sound. Advanced techniques exist for recording musical instruments, creating sound effects, adding complex layers of vocal performances and making quality music recordings, but that's not what I'm writing about here.

Edison couldn't afford to make any mistakes when he recited *Mary's Little Lamb*, because editing did not come about until years later. However, recording clear quality speech and editing out mistakes, is what you need most in creating your audio content. With today's computer audio software and hardware, you can

record small sessions and easily correct mistakes with undo features never before available in the audio recording world. You can build a series of small sessions over several days and make a final product that flows together seamlessly. When you grasp the concept of layering sound, you'll be able to add interlude music cuts, other voices, and sound effects for greater realism.

Why Learn to Record Yourself? Ah, the Benefits If You Do...

So, let's say you learn to record your voice and can capture and edit sound on your computer. Now, you need ideas for turning your unique intellectual property into a range of audio products. Below is a list of some of the things you could do with the proper equipment and the skill that comes from practice.

1. Audio books

(The web site name MP3AudioBooks.com sold for \$8 million dollars a few years ago. Audio information products have a higher perceived value).

2. Custom presentations.
3. Custom demos.
4. Website audio.
5. On hold telephone messages.
6. Capture phone calls.
7. Capture tele-seminars.
8. Capture live seminars.
9. Produce seminars on tape, CD and online.
10. Interview once in a lifetime individuals.
11. Distance learning modules.

12. Narrations for video.
13. Narrations for self-running PowerPoint Slides.
14. Multimedia audio.
15. Record and produce radio shows.
16. Podcasts and audio Blogging
17. Prep audio for streaming on Internet radio.
18. Produce audio ads for yourself and your clients.
19. Capture audio customer testimonials.
20. Sales training CDs and tape programs.
21. Email audio responses for consultant responses to clients.
22. Create audio products to sell on CD and on your website as downloads.
23. Create song demos (if you are a musician).
24. Create audition CDs.
25. Prepare audio CD masters of your content for duplication.
26. Add music to your voice presentations.
27. Make MP3 audio files.
28. Digitally transfer, edit audio from audio CDs (known as ripping).
29. Create Pay Per View or Listen content via your website.
30. Create Pay Per Download audio content.
31. Archive client interviews.
32. Archive old cassettes, Reel-to-Reel Tapes before they disintegrate (tape does that in about 30-40 years).
33. Transfer scratchy 45s, 33s and 78 rpm records to CD.

34. Rip CDs and make best of CDs for personal use.
35. Mix and match your old content with new content.
36. Easily update old content with new material without having to redo what is still good.

What are the benefits to learning quality self-recording?

1. Recording and editing narration can be learned in less than 24 hours.
2. Works on all platforms PC or Mac.
3. Less expensive to own hardware and software than recording sessions of one major project.
4. Systems now cost 1/10 of what they did 10 years ago with superior features and quality.
5. You can work on your own schedule anywhere your computer.
6. You can make all the mistakes you need to with no studio fees ticking away.
7. If you can edit text on a word processor, you can learn to visually edit audio.
8. Works on laptops allowing true mobile studio capabilities never before available.
9. Is basically so small, it is a quality studio in a suitcase.
10. Work on projects while on the road in hotel rooms, conference rooms, or anywhere quiet.

11. Edit and clean up any digitized audio to sell to clients and the world via the web.
12. Mix music and sound effects to create any audio production with voice.
13. Record and edit music. Makes music cuts time to length, fade in and out on cue.
14. Create sound effects ambience.

The Equipment You Need & Why It Is Needed

The most important piece of hardware you need to record human speech is a high quality microphone. There are many brands and prices of microphones available with many different sound quality issues. It would be easy to distinguish between the quality of a voice recorded with a \$20 cassette microphone and that of one recorded with a \$2000 large diaphragm studio vocal microphone. But trust me here, you will need a large diaphragm studio quality microphone to capture the warmth, depth and nuances of the human voice and equal the standard of quality required for audio products you are selling or broadcasting. You can't go wrong with the best possible microphone you can afford and the good news is that there are several manufacturers of great sounding microphones with prices starting in the \$200 range. It's the first piece of equipment in the path to the recording device and the finished product. So don't skimp on it.



**Large Diaphragm
Condenser Mic**

Plugging a microphone directly into a recording device will work in most situations, but that gives you little or no control over quality of sound, volume level or the ability to send the power (known as “phantom power”) that’s needed to run most high quality studio mics. (UA-25 has phantom power built in)



Therefore, you must have an audio mixer or audio board with EQ, phantom power and pre-amp capabilities in order to produce a quality recording. OK, let me explain some of those terms: EQ means equalization and is identical to the treble and bass controls on your stereo system. Sound has frequencies that are high, mid and low. Shrill or crisp sounds are in the high frequencies. Almost all sound has mid-range frequencies and bass musical instruments and drums tend to be in the low frequencies. The thump of drums is mostly in the bass frequencies. But any sound you hear has elements of treble, mid and bass in the overall sound. When you equalize audio from a microphone source, the mixer enables you to raise or lower the amount of those frequencies by boosting or cutting their levels. You can add high end, or crispness, by adding high EQ. If the sound is too booming, you can cut the low frequencies to make it more natural.

Usually, learning to apply EQ correctly is a skill learned over time. If you have a good studio mic, I recommend that you record with the EQ flat, which means not

adding or cutting any frequency levels. You can make changes in most recording software when it comes to EQ.

Large diaphragm vocal microphones, which are also called condenser mics, need to have 48 volts of power. That is another function of a mixer: it allows you to send the electricity needed to power the mic. To do it correctly, you need this type of mic as well as EQ and phantom power.

All mixers have pre-amps. Pre-amps take the signal coming from your microphone and boost its sound level to be compatible with professional recording devices. I say “professional recording devices” to differentiate between what I consider consumer devices for non-professional recording applications and those that can be used to create professional quality audio products.

To help distinguish the difference, professional recording devices are:

- Cassette decks
- Open reel tape decks
- Open reel multi-track tape decks
- DAT tape decks
- Mini-disc recorders
- Hard drive digital units
- ADAT multi-track units
- Computers with recording/editing software (which is all you really concern yourself with this day and age)

Consumer recording devices are:

- Boom boxes
- Mini cassettes
- Digital hand held dictation units
- Phone answering machines
- Karaoke Machines
- Some MP3 players with record functions

They usually make a very low quality and low resolution recording. I would not suggest using them for making professional sound products.

You will need a professional recording device to create an acceptable product, so any item in the consumer range should not be considered. Many of the professional products have advantages and drawbacks depending on your intended recording projects. For the sake of this book, I'm going to focus on the major advantages and affordability of using the computer you already own as your recording device. In the chapter on digital versus analog recording, I'll look at why it makes more sense to master the computer approach than waste time on conventional analog or digital tape. Stand-alone hard drive systems are not as cost effective as using your own computer and are overkill for recording voice. Software computer systems can do everything you need and they are easier to learn, as well as having better visual editing systems. The computer is the way to go. If you have a laptop, you can now pack a whole recording studio into a suitcase. When I tell you how, you'll see that the era of miniature, portable

professional audio recording has arrived. And it can turn you into a self-sufficient recording artist!



Another piece of equipment you will need is a compressor limiter. (The UA 25 has one built in) A limiter takes the microphone signal and makes the volume audible on speakers by stopping high peaks and raising the volume of the signal when it gets below a preset threshold. In other words, it limits high volume sounds and compresses the low ones. Don't skimp on this one either. To record studio quality audio, a compressor limiter on your microphone, hooked to your audio mixer, is essential.

Digital Vs Analog (Tape)

The only way you could mix sounds prior to 1991 was with analog tape recording systems. Great recordings have been made on analog tape machines, but when software appeared on the market, it became possible to do something you couldn't do with tape: non-destructive editing. If you cut the wrong piece of tape, it was gone forever. But software came with an "undo" button that allowed you do the same edit over and over again until it sounded correct. That opened up endless sound design possibilities for audio engineers. Today, it means that if you can capture a particular piece at least once, you can manipulate it later to

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achieve perfection. And if you make a really bad mistake, you can always go back your original takes. This is the biggest advantage digital recording has over tape recording.

Also, tape has hiss - a noise that always comes with analog magnet tape. Many systems have been invented that improved the quality and playback of magnetic recording tape, but tape hiss will always be there. Cassettes are the worst culprits when it comes to hiss. Listen to recordings on CDs recorded pre-1990's and you will hear the hiss of the original masters. It was something we tolerated but, now it is gone. With digital recording, there is no hiss. Quality digital systems are completely quiet. There is none of the unavoidable noise that comes with tape that degrades your recording.

Hard drives and CD burners are inexpensive, so copies, backups and storage space are not a problem. A 60 gig hard drive will hold 120 hours of high quality audio and costs less than \$175. Blank CDs are cheaper than ever and will hold 70 minutes of sound. Reel-to-reel tape is still expensive compared to digital storage systems. Beyond any doubt, digital is the way to go.

That brings me to the issue of how to change an analog sound signal from the microphone, mixer and compressor and feed it into your computer as a digital conversion. This is done with an audio sound card. Computers traditionally come with inexpensive soundcards. However, for quality recording purposes they are too noisy, because they don't have the right electronics to capture analog audio signals cleanly and digitize them to a high quality. These types of sound cards were mainly intended for playback of pre-recorded sounds and to capture low

quality sound from cheap microphones or headsets. A pro level audio sound card is another essential.

I recommend a USB (Universal Serial Bus) sound card, because it works with PCs, MACs, and laptops. There are many other pro level cards, but they have to be installed internally in your computer and they won't work with laptops. With USB cards, you just plug them in and they are ready to play. All new computers and laptops have USB ports, making this type of hardware easy to add.

UA-25 USB Mixer Sound Card



Complete system or by the piece at www.InternetAudioGuy.com

The USB soundcard I highly recommend is the Edirol UA 25 because it contains all the equipment you need in one unit. The mixer, EQ, phantom power, compressor limiter, and the USB soundcard, are included in one compact box and bonus features we will cover in future tutorials. Until the summer of 2002, it did not exist. I had been looking for a pro level soundcard for my laptop for years, but no one made one, until recently. I bought this system and I was so impressed, it prompted me to write this book. Together with my laptop, this unit

gives me a portable studio in a bag. Plug into my tower and it becomes powerful PC recording studio.

I've mentioned only hardware up until now, but digital recording on a computer also requires a recording software package.

Software that will capture digital data created by the USB sound card is vital to the self-recording process. There are many great programs, but I personally like, and endorse, Sony products. I

know them well and they have been around ever since

computer digital audio became a reality. PCs and MACs do not come with any of these quality programs as standard. Without one or the other of them, quality recording and non-destructive audio editing are impossible on a computer.



Advanced Tips and Tricks Learned Over the Years

How to record on a PC with Sound Forge, Studio Microphone & Edirol UA-25.

My recommended way of doing a recording studio quality on your PC or laptop.

There are other ways that are excellent solutions, but this is the way I do it.

For the purpose of explanation, this is the only approach I will present in this book.

1. Install Sony Audio Studio Software and the Edirol UA-25 driver software to make it a sound card option on you computer.
Watch video installation video at bottom of this webpage link below:
2. <http://www.internetaudioguy.com/bronzepackage.htm>
3. I recommend the Edirol UA-25 because it is the first all-in-one mixer with EQ, compressor-limiter, effects processor, high-end Analog to

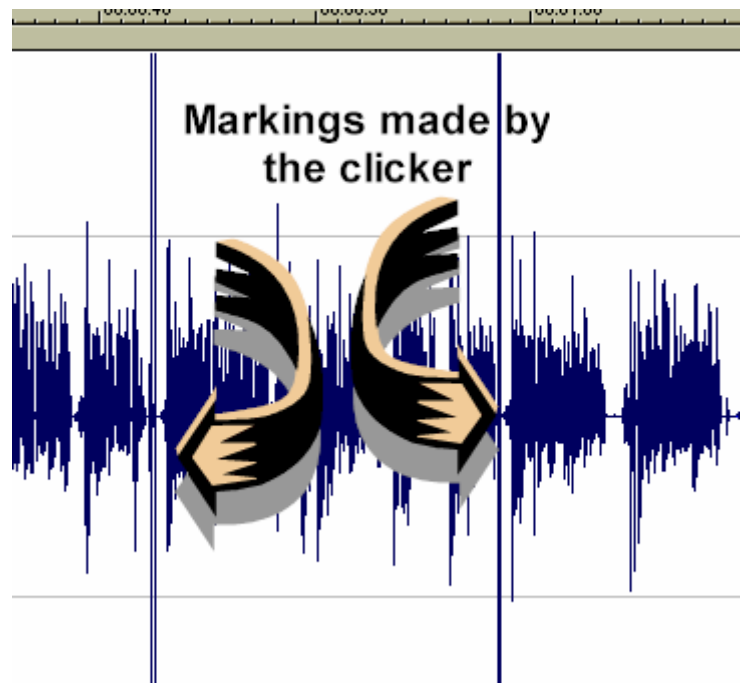
Digital conversion USB soundcard I've found for around \$300. Ten years ago, it took over \$25,000 to buy a digital recording, non-destructive editing audio system. You can now configure one for around \$2500, *including your PC*. If you already have a recent PC with Windows XP, at least 40 gigs of free hard drive space, and a CD/DVD burner, you just saved yourself about \$1500. All you need is the Edirol, Sony Audio Studio Software and the Studio Quality Microphone for around \$700. Visit <http://www.internetaudioguy.com> to get more information on this combination of products.

4. Once all hardware is configured and tested with Sony Audio Studio, you can now set up your microphone to start recording your voice.
5. Set your volume levels. Stay in the same area and distance from the microphone. You must be aware of external sounds in your environment. Air conditioners, fans in your computer, people in your home, dogs barking, planes flying overhead, passing cars, trucks, trains, horns, beeping cell phones, a complaining spouse, etc. Anything that makes a noise while you're trying to record could ruin your take. If a mistake ruins your take, you can visually mark your edit point with the clicker (see step 6) and then proceed to re-record that section, making sure you're now in a quiet environment again for the fixed section. I have found that conference rooms, hotel rooms, home offices, and a private office can be quiet enough to capture acceptable voice recordings. However, you might consider building a soundproof area or booth to work in, to protect your microphone from external

noises. Studios have recording booths that use thick walls and sound-absorbing foam made by a company called Sonex. Just a couple of sheets of this sound-absorbing material in a quiet room of your house can create a great recording environment. As side note of trivia, Paul McCartney recorded his first solo album in his bedroom on his Scottish Farm in 1970. If the microphone is in a quiet room, all it will capture is your voice and nothing else. Listening for external noise is the key.

6. Speak clearly and prepare what you're going to record. Script it, unless you can speak naturally from an outline, off of the top of your head. If you use a script, be conscious of the noise papers make. Use them on a stand if possible. Don't shuffle them.
7. If you're recording unscripted material or scripted material, here is a tip

that has helped me in visually marking places in a voice recordings. In my years of recording narration, I discovered that using a child's noise clicker made a perfect line mark in the visual representation of the sound wave that the software shows you when you're editing. When you make a mistake, stop speaking



and use the clicker to mark the place. The clicker makes high spikes in the sound patterns you see when editing. So you can quickly find the spikes that represent mistakes you need to delete.

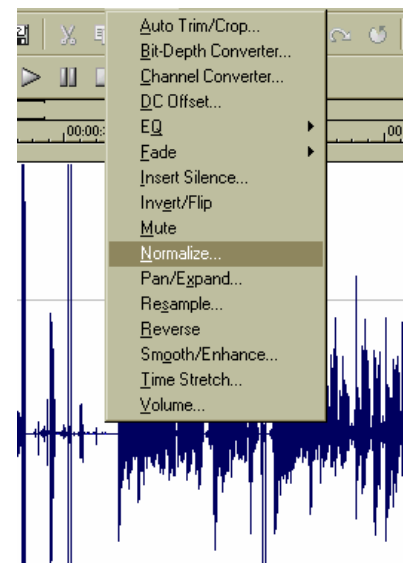
8. Knowing you don't have to achieve perfection on the first take, and you don't have to complete the whole project in one sitting, will take the pressure off. You should set a reasonable goal of how much you can effectively record at one sitting. I had a client who wanted to record a 12-hour tape program in 12 hours in my studio. Against my advice, he tried it anyway. He recorded in my booth for 16 solid hours and the recording was riddled with mistakes. We got through it, but both of us were exhausted at the end of the day. It took us 4 times longer to edit the piece, because he was unscripted and would not use the clicker. He was upset, because the first part of his session sounded good, but you could tell by the end that his voice was tired. There were more mistakes and there was no energy in his delivery. Why did he try to do too much? He thought he was saving money by saving studio time, but it was false economy. When it was complete, he was very disappointed in his performance. He was a nice person and didn't blame the equipment or me, but was never happy with the end product. Moral of the story is self-recording means you have unlimited studio time. Take your time. When you're doing it yourself, mistakes only cost time, not money, and they are great teachers.
9. Learn how to edit and save the audio edits as wav, mp3, real media and windows media files. These choices are in the drop down "Save

As' menu. Once saved, you will have all you really need to create income-producing audio products.

10. Learn how to mix in sound effects and music to enhance the production value of your masters. For a list of legal music and sound effects, go to Soundpages.com where there is a current resource list for buy-out music and sound effects. Music and sound effects can be legally licensed inexpensively over the Internet. Otherwise, you would need to purchase a CD library of music and effects.

Advanced audio editing tips:

1. Using audio software to smooth out volume with the normalizing function. Zoom in on the waveform patterns to make micro edits. Always keep non-destructive mode on, which gives you the ability to “undo” if the edit result is not what you expected.



2. Use a clicker to visually mark edits while recording narratives. This enables the speaker to keep recording and start a section over again without losing train of thought and continuing flow of information.

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Mistakes of flow can quickly and easily be removed during editing, leaving a flawless performance for the master.

3. Since audio is digital, no take has to be deleted, and can easily be backed up on a data CD ROM.
4. It is advisable to get the EQ sounding right while recording to hard drive, but non-destructive adjustments can be auditioned and applied after recording, within in the software. This advanced technique can improve or change a recorded file if necessary.
5. Reverb gives the sound of different rooms, large or small. It is also called ambience. When recording a narration, you want as little room ambience as possible. This is called dry. When you have a dry ambient vocal, you can then apply unlimited amounts of digitally created ambience later. For example, you may want to create the illusion that a section was from a live presentation in a large meeting hall. When you add large room reverb, clean and dry audio will sound as if it was recorded in a large, live auditorium.
6. Adding sound effects can create interesting audio illusions. Add crickets and the crackling of a fire to create the ambience of a fireside campsite. Add traffic noise and you can say you're in downtown Manhattan. Add the sounds of a kitchen with pans, pots, and oven doors opening, and your audience will almost smell the food you're talking about. Sound effects are available on CD libraries such as Hollywood Edge movie sound effects at HollywoodEdge.com. The best online download library of all is at <http://www.sound-effects-library.com>.

7. Noise reduction and noise gating are techniques for removing and cleaning up some forms of noise on a recording that has external noise problems.

Final Thoughts

Human beings remember 10% of what they read, 20% of what they hear, and 62% of what they see and hear, according to a Stanford University study.

Consistently produced audiovisuals deliver the message the information publisher intended, without variance. Because audio can be delivered via CDs, multimedia CD ROMs, streaming media via the Internet, the download of MP3 audio files, (and if anybody still owns one, audio cassettes), the distribution of content is better than ever before in the history of information publishing.

When audio is digitized, you can synchronize visuals to that audio in video editing programs such as Sony Vegas Video, MixCraft From www.AudioAdMaker.com , Camtasia Screen Capture software, PowerPoint, and literally hundreds of other audiovisual software tools. Once your add visuals to your audio, you raise the bar on delivery and increase the effectiveness of your information. You create content that has value and the potential to generate income.

Audio will not eliminate or replace printed information, any more than the Internet will replace or eliminate other forms of communication. It just raises standards of communication and can inform more listeners quickly and easily, with greater memory retention than the written word.

Hire someone to type your text and learn to record yourself professionally. If you present your information only in text format, 50% of your audience won't get your message with one reading. Will they go back and read it again? I doubt it. But they will probably listen to it again on their computer, in their car, on their personal stereo while they're jogging or walking, or on their mp3 player or iPod.

So get into self-recording as soon as you can and start rolling out those money-spinning products. It's a sound idea!

Visit all my websites for more info

Be sure to join my mailing list!

www.FromTheDeskOfMikeStewart.com

(Blog on audio and video – lots of free learning and fun)

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