Voice Recording Magic with the iPod

by Derrick Story, author of Digital Photography Hacks
06/22/2004

You'd have to be buried under a heap of old Dells to have missed the iPod phenomenon. Its ample disc space, robust battery life, and seamless integration with your host computer have made it the digital music player of choice.

What isn't as widely discussed is that this pocket jukebox is also a capable voice recorder. You can store hours of clean, 16-bit .wav files of just about any sound within reach of a microphone. All you have to do is add an inexpensive piece of hardware to a 3rd generation iPod, and you're in business. The recording software is already built into the iPod's operating system.

In this article I'll walk you through the set-up, then show you some creative ideas (beyond recording biology lectures) for leveraging this capability — such as capturing sounds of nature, recording snippets from loved ones, and even laying down audio tracks for digital movies then synchronizing them with the video (hey, tell me that isn't cool!). The only additional piece of software you'll need for all this magic is my standby favorite, QuickTime Pro. More on that later.

Figure 1: The Griffin iTalk (left) and the Belkin Voice Recorder mounted on 3rd Generation iPods.

Audio Hardware

Currently you need a 3rd generation iPod [http://www.apple.com/ipod/] for recording. These are the white models with the dock connector on the bottom. For the time being, you can't use iPod minis, but I suspect that will change in the future.

For input, you have a choice of three devices. The first is the Belkin Voice Recorder [http://catalog.belkin.com/IWCatProductPage.process?Merchant_Id=&Section_Id=201526&pcount=&Product_Id=158384] that lists for $50 USD. Griffin Technologies has also made the scene with their Griffin iTalk [http://www.griffintechnology.com/products/italk/], selling for $40 USD.

The Belkin has the advantage of being a bit more compact when not attached to the iPod, possibly fitting into your existing case without too much disruption. But it doesn't have an external headphone jack, so you have to remove the device to plug in your buds. It does, however, have a small speaker enabling you to review what you just recorded.

The Griffin iTalk seems a little more refined, both in appearance and function. I really like the chrome speaker grill on the iTalk (yes, it has a speaker, too), plus it has a handy external jack that's designed both for input and output. If you wish, you could leave the iTalk permanently mounted on your iPod, adding only a little height to the overall package, but lots of new functionality. I didn't have much luck with using the jack for input, none of my external microphones performed well. But for listening to music or voice, using the jack for headphones is a godsend.

Another device by Belkin seems to be the answer for those of us who want to use external mics with the iPod. The Universal Microphone Adapter plugs into the top of the iPod, similar to the iTalk and Belkin Voice Recorder, but instead of featuring a built-in microphone and speaker, the UMA has separate input and output jacks with a three-position input gain setting. According to Belkin, you don't need a battery-powered microphone to record clean audio.

Figure 2: The Belkin Universal Microphone Adapter for the iPod. [http://catalog.belkin.com/IWCatProduct-Page.process?Merchant_Id=&Section_Id=201526&pcount=&Product_Id=169368]

All of these devices capture 16-bit mono at 8 kHz. Not great for music concerts, but darn good for voice recording. To get started, all you have to do is mount them on top of your iPod. I've been using the built-in mic on the iTalk and Belkin VR, and I've found both to be quite respectable, especially when positioned between 2 and 4 feet from the source. These are not "hold up to your mouth and yell devices" as much as they are designed for placing on the table and talking normally.

QuickTime Pro
As long as your iPod has software version 2.1 or later, you don't need anything additional to record audio. It's all built in. But once you plug your iPod into the computer, you'll need QuickTime Pro [http://www.apple.com/quicktime/download/qtpro_faq.html] to put this content to use. Fortunately, most folks who dabble in digital media already have ponied up the $30 USD for QTP, and are all ready to go with this tutorial. If you haven't, do so. Consider this the perfect time to upgrade.

Getting Down to Business
When you plug any of these devices into your iPod, it recognizes that it's for audio input and presents you with the recording menu (see Figure 1, the iPod on the right). Simply choose Record and watch as the iPod keeps track of the length of time for the session. When you're finished, you can either hit Pause, or Stop and Save. Use Pause if you want to add more audio to that session; use Stop and Save when you're ready to end the session and have the iPod catalog it.

After the iPod has cataloged the session, it will list it in the Voice Memos menu referring to it by date and time, no descriptive title per se. You can either listen to or delete the session, or choose Record Now to capture another track. The controls are very simple and intuitive. You can access your recordings even when the microphone is not attached, by navigating to the Extras menu and choosing Voice Memos.

To transfer these sessions to your computer, connect as usual through the FireWire port. If you've configured your iPod to "manually update," you'll get a notification that there are new voice memos on your device, then asking you if you want to add them to your iTunes library. I decline this offer. Since they are labeled only by date and time in iTunes, they're not very useful for tracking, and I don't really want to mix them in with my music.

The iPod "Dex's 40 GB iPod" contains new voice memos. Would you like to move these voice memos to your Music Library?

☐ Do not ask me again

[No] [Yes]

Figure 3: iTunes will alert you to new voice memos if you're using the "manually manage songs" option. I recommend you decline this offer.

If you're using automatic update, you won't have a choice. The voice memos will be added to your iTunes library with exciting titles such as "6/4/04 11:37 AM." For this reason, I suggest you change your preferences to "Manually manage songs and playlists" by clicking on the iPod icon in the lower right corner of iTunes when your iPod is mounted.

By choosing manual mode, you'll automatically activate "Enable disk use," which places an iPod icon on your Desktop and allows you to access your iPod like you would any FireWire hard drive. Double-click on the icon and look for the Recordings folder. Inside that folder are the audio sessions you've captured. They too will have easy-to-remember file names such as "20040621 123451.wav."

I've created a work folder named "iPod Recordings" inside of the Music directory in my Home environment. Since I want these .wav files to open in QuickTime Pro instead of iTunes, I clicked once on the file to highlight it, then Ctrl-clicked to display its contextual menu. I chose Get Info, and from the "Open with" dropdown menu, selected QuickTime Player. I then clicked on the Change All button so this mapping would be applied to all .wav files on my Mac.

Now when I double-click these files they open in QuickTime Pro where I can easily edit them. I also change the file name to something more searchable, such as "Biology Lecture.wav."

Since I've only copied the files off my iPod, I can either leave the originals there, or drag them into the trash if I want to free up space on my device.

You can create a workflow that's best for you. But I recommend that you keep iTunes out of the picture and organize your voice memos via folders in your Music directory. By remapping the default application that opens these files to QuickTime, you'll save yourself a little grief once you begin editing the recordings.

Editing in QuickTime Pro
As you can see, using the iPod as a digital recorder has the advantage of seamlessly integrating with your Mac. It only takes seconds to transfer the audio from the device to the computer, then have it open in QuickTime ready for editing.

Now that they're open, I'm going to provide you with a few simple editing tricks. If you like what you see and want more in-depth information, then check out Hack #56 (p. 160), Hack #59 (p. 169), and Hack #60 (p. 172) in Digital Photography Hacks. You'll find more than enough info there to begin your journey toward becoming a QuickTime magician.

But for now, here's how you get started. Select any portion of your audio track in QTP by moving the two bottom triangles on the scrubber bar to the beginning and ending points of the audio you want to work with.

Figure 4: The gray area between the endpoints (triangle markers on the bottom of the scrubber bar) is the section of audio you have selected.

Once you've selected your audio, you can either copy it or trim it. If you choose Copy (Edit > Copy), then that section of audio is put on the clipboard and can be added to another QuickTime file or placed in its own new file. Selecting Trim enables you to lop off everything outside of the gray selected area. This is an easy way to "clean up" your audio tracks by removing unwanted goop at the beginning and the end.
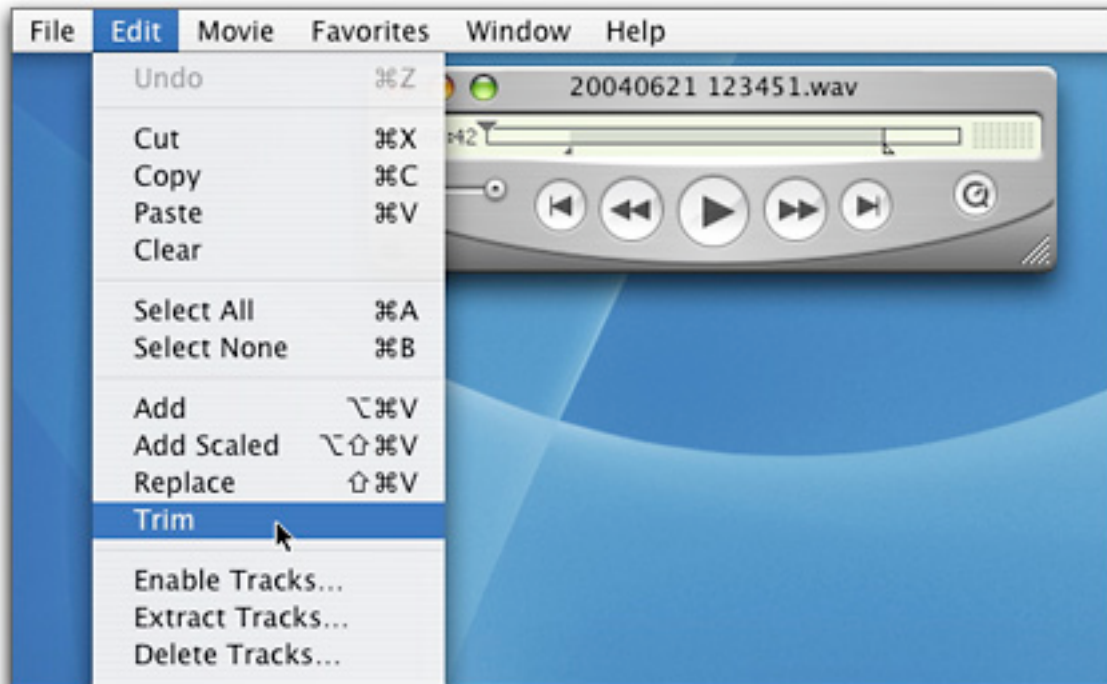

Figure 5: Once you've selected your section of audio, you can either copy it or trim off the excess goop.

You can build a continuous audio track from many different recordings by copying selected sections, then using the Add command (Edit > Add) to construct your soundtrack. The reason

why you use Add instead of Paste is because Paste will overwrite the existing track, while Add just inserts the new audio segment leaving the existing stuff alone.

When using either Add or Paste, the insertion happens at the point where the upper triangle on the scrubber bar is positioned. (See Figure 6.) Don't forget that! Where ever you place that upper triangle is where the audio (or a video track for that matter) will be inserted using the Add or Paste command.
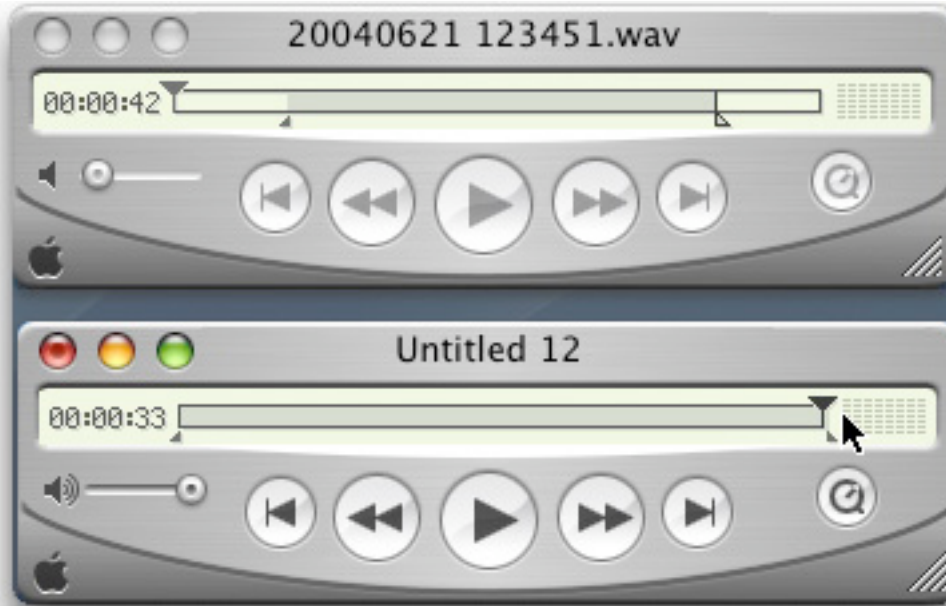

Figure 6: The selection from the iPod WAV file (top figure) has been copied and will be added to the end of the existing audio in my new QuickTime file (bottom figure) because I've placed the marker (large top triangle) at the end of the file that I'm adding it to.

Once you've finished editing your audio, be sure to Save As and click on the radio button marked "Make movie self-contained." This will put all of the components you've added to your project into one container so you can save it and share with other people.
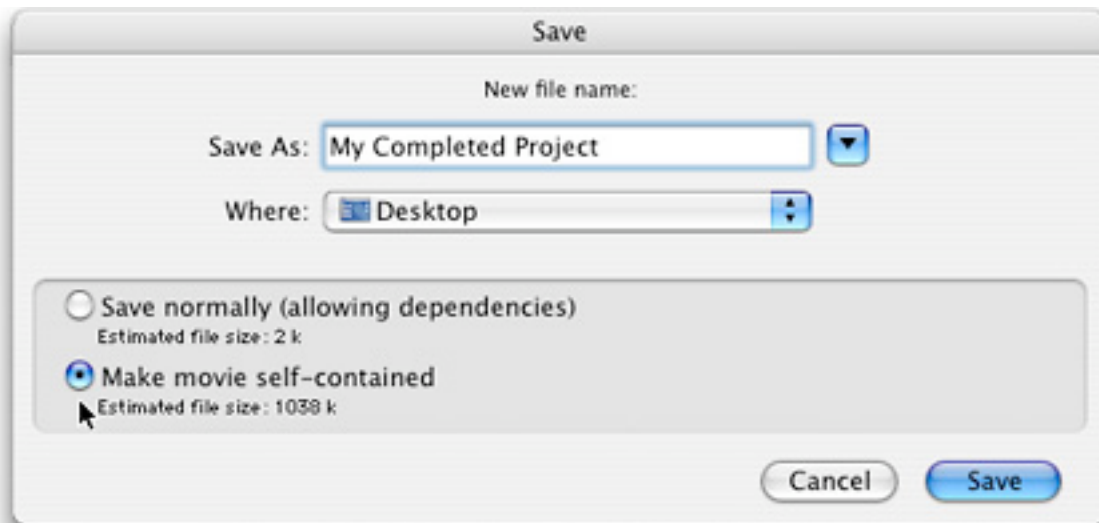

Figure 7: Be sure to check the self-contained radio button when saving your completed project.

As you can see, by using these few basic commands you have taken control of the audio that you recorded with your iPod. Keep in mind that you can add nearly an unlimited number of tracks

to a single QuickTime File. And you're not limited to just audio files. If you have QuickTime video or slideshows, you can add audio to those too. See where I'm going with all of this. This goes beyond simple voice recording. Your iPod can become a valuable component in your entire digital media workflow. Let's explore this further.

Getting Creative

Indeed the iPod is handy for recording lectures and other practical applications. The audio is easy to transfer, label, and edit. But, as you know, I live to go beyond the merely practical. Here are a few creative uses to contemplate.

Voiceover for Slideshows — Imagine that you're taking pictures at a family wedding. You have lots of great shots of relatives and friends. You've built a cool slideshow in iPhoto and exported it to QuickTime. (You can also build your QuickTime slideshow from scratch. Either way, see Hack #54 on page 154 in Digital Photography Hacks [http://www.oreilly.com/promos/getgoodfast/digphotohks.html] for detailed instructions.) Don't forget to bring your iPod to this event! Capture short audio snippets of your relatives and add them as voiceover tracks to your slideshow (Hack #60 on p. 172). Simply copy the audio snippet to the clipboard, open your slideshow, and position the top marker on the scrubber bar to where the picture of that person appears. Then choose Add from the Edit menu. Now you have both their face and their voice. What a family treasure that could be. *Remember to keep those audio snippets short so they don't run longer than the series of images they are associated with.*

Ambient Sounds of Nature — Bring your iPod when you go hiking too. You can photograph birds while capturing the sweet melody of their calls. Imagine what an excellent teaching tool this would be to have both picture and call in a short QuickTime file. (See how to make these "audio postcards" in the article Sound Is Half the Picture. [http://www.macdevcenter.com/pub/a/mac/2003/01/28/digicam_chronicles.html]) Landscape photographers can use this technique too. Audio snippets of running water, wind in the canyon, and the morning chatter of birds add a new dimension to picturesque slideshows.

Movie Making with Digital Cameras — I'm a big fan of making full motion QuickTime videos with my digital still camera. The movie mode on cameras such as the Contax SL300R T* [http://www.macdevcenter.com/pub/a/mac/2004/03/09/contax.html] is nothing short of amazing (640 x 480 at 15 or 30 fps). And many current models by Nikon, Canon, Olympus, and Sony offer impressive movie capabilities too. The problem is that the recorded audio is often sub par with these cameras. What I like to do is record an additional audio track with my iPod, then substitute it for the sub par track that the camera captures. To easily synchronize the iPod audio with the digital camera video, all I do is start both devices, look directly into the camera and clap my hands twice. This provides me with an audio and visual marker that I can use to precisely combine the tracks later in QuickTime Pro. It works, and it's very effective. *Here's a tip: you can turn off the original sub par audio track that the camera captured by using the Enabled command. Go to Edit > Enable Tracks to turn off and on the tracks in your production.*

And the list goes on and on. Truly, the only limitation is your creativity.

Final Thoughts
When I demonstrate these techniques in my digital photography workshops, one question I always hear is, "Do I need an iPod to have this capability?" The answer is "No, you don't need an iPod." You can use just about any digital audio recording device, as long as you can figure out a way to get the audio tracks into your Mac and convert them to QuickTime.

But I like to use the iPod. It's easy, fast, and I already have one with me anyway. I'm a true believer that visual productions with audio are far more compelling than those without. The iPod with audio input has become an important tool in my digital media bag of tricks.