

PODCASTING HACKS™

*Tips & Tools for
Blogging Out Loud*



O'REILLY®

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HACK
#16

Podcast in Surround Sound

Use binaural microphones to give your podcast a three-dimensional sound field.

Podcasting brings listeners into your life. Podcasting with binaural microphones brings listeners into your head. The idea is simple: use two microphones to simulate your ears. The microphones [Hack #13] are usually small lavalier omnidirectionals that should sit as close to your ears as possible. Some people have even rewired headphones so that embedded lavaliers sit right on top of their ears. Others have gone as far as to build models of the human head with microphones that sit inside the ear canals.

Ideally, the two microphones will be matched exactly. Enthusiasts will go as far as to request two microphones with sequential serial numbers. Of course, this perfect matching costs money. A matched set starts at around \$200 or \$300. But cheaper unmatched sets that are suitable for experimentation and podcasting are available in the \$30 range.

Figure 3-10 shows the Low Cost Binaural Set (\$75) from Core Sound (<http://core-sound.com/>), hooked up through its filter and into a Marantz 660 solid-state recorder [Hack #69]. The recorder has a left and right XLR input, both of which are tied into the microphones that connect to either side of the glasses right above your ears.



Figure 3-10. A set of binaural microphones on glasses, attached to a Marantz 660

The signal from the left lavalier goes into the left channel of a stereo recording, and the signal from the right goes into the right channel. The recording must be in stereo, with no mix between the two channels. When you edit these files, apply effects to both channels equally. When you make cuts, be sure to cut from both channels equally.

You can connect the headset to your computer and record that way, just as you would with a standard stereo microphone. This type of recording is best suited for fieldwork, where you can share your world in stereo just as you experience it. You can attach a binaural headset to the line-in of your portable recording unit. If it sounds underpowered, you will need to buy the battery kit that is sold along with the binaural headset.

Because the idea of binaural recordings is to simulate your ears, you need to both record at your ears and play back at your ears. So, use headphones when listening to binaural recordings to get the full stereo effect, with no balance or fade adjustments.

Here are some fun things to do with binaural podcasts:

Soundseeing tours

Using binaural podcasts for a [soundseeing tour](#) [Hack #72] opens up a whole, new world. As people talk to the right or left or walk behind you, listeners will hear the sound exactly as you do.

Round tables

Interview a group of folks and have some seated to your left and others to your right. Your listeners will be able to distinguish guests by their location.

Parties

Go to a party and take in the small talk and conversation happening all around you.

Concerts and sporting events

Experience the [roar of the crowd](#) [Hack #71] next to and behind you, and hear the game or the music in front of you. Motor sports are particularly good, as the cars zoom across the stereo field.

Binaural recording opens up a world of podcasting opportunities. For a small investment, you can get some binaural microphones, or make your own from instructions on the Web using microphones from RadioShack.

Binaural Tips

Here are a few binaural recording tips:

Use windscreens

As with any microphone, you should use windscreens on the binaurals if you plan on walking around outside. Even if there is no wind, your movement will create wind that comes through as a [low-frequency whooshing sound](#) [Hack #59].

Keep your head steady

It's natural for people to move their head during a conversation. If people on your left and right are involved in a conversation with you, you naturally move your head from side to side, as you would if you were watching a tennis match, so that you can concentrate on the person who is talking. This is very confusing if you are recording binaurally. Keep your head steady, and let the surround effect work for you. The same goes for walking around on tours. Try to walk from one steady position to another.

Explain the microphones

For whatever reason, binaurals don't seem to grab people's attention the way that other microphones do. Unfortunately, the way you act with these headphones to get optimal recording, such as not moving your head around much, will get you some attention. So, it's worth explaining to people where the microphones are and what they are doing.

As with everything, it takes practice to get the best sound. So, keep trying and learning from your experiences, even if the result doesn't come out the way you want the first few times.