

Ask the Techie

George Whittam of vostudiotech.com



What's a phone patch, do I need one and how do I use one?

Telephone patches aka phone hybrids come in many forms and price ranges. The purpose of phone patch device is to connect a telephone call to your pro audio equipment. This can be used with a standard POTS (plain old telephone system) landline from Ma-Bell, a mobile phone handsfree jack, even a Bluetooth connection. This allows you to speak to someone on the phone through your studio microphone and listen to the caller in your headphones. However, providing an appropriate way to tie your telephone signals into a mixer is only part of the equation.

Phone calls made over the PSTN (Public Switched Telephone Network), those that have a dial tone and use a standard analog telephone, mix the sound of the sender's voice with that of the received voice in the earpiece. When you speak, you can hear your own voice in the earphone. This is not usually a problem, unless you want to record one side of the conversation or the other (or both), and don't want your voice to be mixed in with the caller's voice. The hybrid, through a unique circuit design, can subtract much of the signal of the sender's from the receiver's that is heard in the earpiece, 50 dB or more of separation can be achieved. This is important so that when you listen to the mix of your mic and your caller's audio, the sound of your voice isn't heard in the telephone signal, which sounds like distortion.

But why would you need one? If you ever have a client who wants to direct your reads over the phone, a phone patch makes your life easy. Rather than using a speaker phone in your booth, which can emit unwanted noises at the wrong time and ruin a take, or holding a telephone handset to your head while doing your read, the phone patch brings your caller's voice into your headphones and sends your voice from the microphone back down the telephone line. Used in conjunction with a small audio mixer, you can even provide playback of your recorded takes to a picky client.

The easiest way to connect your phone patch to your mic and headphones is with a mixer board. Choices like the Mackie 802 VLZ3 or Behringer 1204 work really well for this. Briefly, here's how you connect your phone patch to the console. Use an Aux Send to feed audio from your microphone channel to the phone hybrid. Feed the output of the phone patch into a different channel. This creates a special channel called a "mix-minus", which lets you monitor the phone call without sending the caller's audio right back to them, creating a nasty feedback loop. Now to keep from recording the phone call mixed in with your clean mic track, simply pan your mic channel to the left and the phone patch channel to the right, and just record the left output of your mixer. You can keep the earpiece of



your headphones on one ear to monitor the caller. Another method is using the “Alt 3/4” bus feature of the mixer. Mute the phone patch channel and in the Control Room source selector choose Main and Alt 3/4. Now you can listen to yourself and the caller in both ears and record ONLY yourself.



As I mentioned at the top of the article, there are many flavors of phone patches. One of the most popular in voice-over for its relatively affordable price is the JK Audio AutoHybrid. It's completely passively powered by the telephone line itself, so no power supply is needed. You can adjust the level of separation of the send and receive signals with the “Null” trim pot. You patch the phone line into the Input jack, and your standard telephone base station into the Phone jack on the rear. When a call comes in, you can start by answering with your phone's handset. If the caller is someone who needs to hear your session, simply press the “Call” button, hang up your phone, and proceed with your session. If the caller needs to hear more volume from you, just turn up the Aux Send knob on your mic channel. Control the volume of the caller in your headphones with the channel that's fed by the phone hybrid. When the call is finished, just press “Drop” to release the line.

If sound quality of the caller is more of a concern because you are recording them for an interview or sending their audio over a webcast or broadcast, you may want to invest in a digital hybrid. The JK Audio Innkeeper LTD uses DSP (digital signal processing) to provide the best separation possible between send/receive signal. Where the AutoHybrid can achieve a little over 30 dB of separation, the quality digital hybrid can provide over 50 dB, a vast improvement.



What if you don't have a landline telephone? There's a few ways to address this. If you like to use your mobile phone, you can interface it with your mixer in a similar fashion. The JK Audio Daptor 2 & 3 do just this. The Daptor 2 uses a cable plugged into your phone's handsfree jack, and it works very well. Mobile phones make it easy because the send and receive signals are not mixed together like in a PSTN phone. If your phone doesn't have a compatible headphone jack, but it

does have Bluetooth, the Daptor 3 is your device of choice. Once paired with your phone it works like any Bluetooth earpiece, but sending the audio into your mixer.

My personal solution of choice doesn't require any special hardware at all. Since you are already feeding your audio into a computer and monitoring the output in your headphones, why not use use your computer to make the phone call? Enter Skype.

While Skype is widely used to make audio and video calls to other Skype users, many don't know that Skype also provides a VOIP



(Voice Over Internet Protocol) service called Skype Out (for placing calls to telephones) and Skype In (to receive calls). As long as you aren't using Pro Tools, which won't allow Skype to share with its Mbox, you can use any software and sound interface combination. Simply assign the Skype audio preferences to use the same audio I/O as your recording software. You can record yourself while in a Skype call without issues. If you need to record the caller for an interview, the easiest way is to use a Skype recording plug-in, such as "Call Recorder" for the Mac.

I like Skype so much that I use it for all of my business calls. When you call my office line, 310-574-2804, you are actually calling my Skype account. It only costs about \$30 year to have a Skype In number, and you can choose a number in your own area code. Skype Out unlimited calling is very cheap, and if you call internationally a lot it will save you a ton of long distance charges.

Got an idea for my next "Ask the Techie" column? Drop me a note on my website, vostudiotech.com.