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Phase Switch

The *Phase Switch* changes the polarity of the microphone signal due to either a misplaced or mis-wired microphone. Set the switch to the position that has the most low end (see Figure 3.1). For more on phase, see Chapter 4.

High-Pass Filter/Low-Cut Filter

The *High-Pass Filter* allows only the high frequencies to pass, which means the the low frequencies are attenuated (which is why it's sometimes called a *Low-Cut Filter*). The frequencies that are attenuated are usually anywhere from 40Hz to 160Hz. They're cut off in order to eliminate unwanted low frequency noise like the rumble from heavy truck traffic (see Figure 3.1). On most preamps, this frequency is fixed, but on many models it's variable.

Phantom Power, 48V

It was pointed out in Chapter 2 that condenser microphones need some sort of power in order to operate. Mic preamps and recording consoles frequently supply that power (see Figure 3.1), which is a standard 48 volts, and that's why sometimes it's just labeled as "48V." This is called phantom power, and it's a pretty standard feature on most dedicated mic pres.

Instrument Input, Hi-Z, DI

Almost all mic preamps that are made these days have an input where you can plug an electric instrument like a guitar or bass to turn the unit into an active direct box. It's sometimes marked as "Hi-Z" because it's a high impedance input that's specifically matched to these kinds of instruments.

Setting Up The Mic Preamp

The best way to set the a mic preamp up is to adjust the *Gain* control until the clip LED flashes only on the loudest sections of the recording. In most cases, the overload indicator doesn't actually light at the onset of clipping, so it's OK if it flashes occasionally (but check the manual first to make sure that's what really happens instead of it indicating the onset of an overload). This gives you the best combination of low noise with the least distortion (unless, of course, you like distortion). If you set the gain of



Figure 3.2: A Daking Mic Pre One Microphone Preamp

Using The Compressor

Usually the *Input* or *Threshold* control will set the amount of compression occurring while the *Output* or *Make-Up Gain* control will control the output level. The *Ratio* control will also have a part in controlling the amount of compression that occurs. The timing of the *Attack* and *Release* is important, so here are a few steps to set up the compressor. *The idea is to make the compressor breathe in time with the song.*

Exercise Pod: Setting Up The Compressor

- E4.3:** A) Using the audio signal that you set up in E4.1, set the microphone up and insert the compressor into the signal chain, then slowly decrease the *Threshold* until the *Gain Reduction Meter* reads 2 dB. Can you hear the compression? What does the input meter of the DAW read? Can you hear a difference if you bypass the compressor?
- B) Increase the *Threshold* until the *Gain Reduction Meter* reads 10 dB. Can you hear the compression? What does the input meter of the DAW read? Can you hear a difference if you bypass the compressor?
- C) Return the *Threshold* control to where there's only 2 dB of gain reduction. Now increase the *Ratio* control from 2:1 to 6:1. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear a difference if you bypass the compressor?
- D) Now increase the *Ratio* control from 2:1 to 20:1. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?
- E) Return the *Ratio* control to 4:1 and increase the *Threshold* control until there's about 3 dB of gain reduction occurring. Now decrease the *Attack* time to as fast as it will go. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?
- F) Increase the *Attack* time to as slow as it will go. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?
- G) Now decrease the *Attack* time until the sound of the instrument just begins to dull. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?
- H) Increase the *Release* time to as slow as it will go. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?
- I) Decrease the *Release* time to as fast as it will go. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?
- J) Increase the *Release* time so it bounces with the pulse of the song. What does the gain reduction meter read now? What does the input meter of the DAW read? Can you hear the compression? Can you hear the difference if you bypass the compressor?

CHAPTER 7

RECORDING GUITAR AND BASS

If it were as easy as just placing a mic in one standard spot, then getting great guitar and bass sounds would never be much of a problem, but we all know that's not the case. Capturing the sound of an electric or acoustic guitar or bass can sometimes be madly frustrating, because unfortunately, recording the sound that you hear in the room is not always as easy as it seems. Of course, the player, the gear, the song, the arrangement and the studio all play a hand in getting a great sound, but here are some ways to get a better guitar sound almost every time.

Electric Guitar Recording

Electric guitar recording has evolved through the years, from miking the amplifier from a distance, to close miking, to using multiple mics, to recording direct and finally using an amplifier emulator. No one technique is better than another. In fact, multiple techniques are frequently used on the same recording.

Electric guitars don't need anything fancy to capture their sound. The frequency response doesn't go that high or that low, and the more distorted it is, the fewer transients the signal has, making it somewhat easier to capture than other instruments. As a result, dynamic mics are frequently used with good results. That said, sometimes it's surprising just how good an amp can sound when a large diaphragm condenser or ribbon mic is used, so don't be afraid to experiment.

date can involve a lot more people than just a rhythm section. In the scenario in Figure 12.2, there are seven players plus a vocalist.

Most of us don't have the luxury of a large studio with lots of iso rooms, so the basic tracking session becomes a lot more modest. Figure 12.3 shows a typical scenario in a small home recording studio with only the drums, guitar, and vocal being recorded with the hopes of just getting a keeper drum track.

For a multi-day session, the first day of tracking is also setup day. Usually it takes about a half-day for everyone to feel comfortable, for the engineer to get sounds, and for the musicians to get their headphone mixes together. Somewhere during the second half of the day is when the band begins recording.

For a budget session where you only have a single day to record, you want to get set up and recording as soon as possible, certainly within the first hour after the musicians arrive. The best way to do this is to be sure of all the details of the session, such as how many players there will be, whether there will be more than one singer, whether the band is bringing their own disc drive, what recording format they prefer, and any additional gear expected. If the studio is already set up by the time the band arrives, the time it takes to get recording will be cut to a minimum.

Where To Place The Players In The Room

Regardless of how good the headphone system is, the players won't play their best unless they can see each other, so that becomes priority number one (see Figure 12.4). Even if the players know a song down cold, they can't react to any nuances without clean sight lines to each other. Plus, many players (especially studio veterans) rely on looking at the drummer playing the snare in order to stay locked in time.

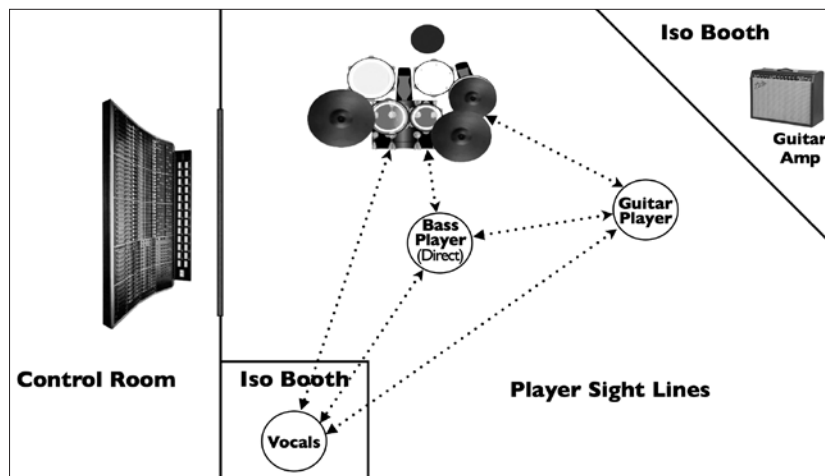


Figure 12.4: Player Sight Lines Are Important

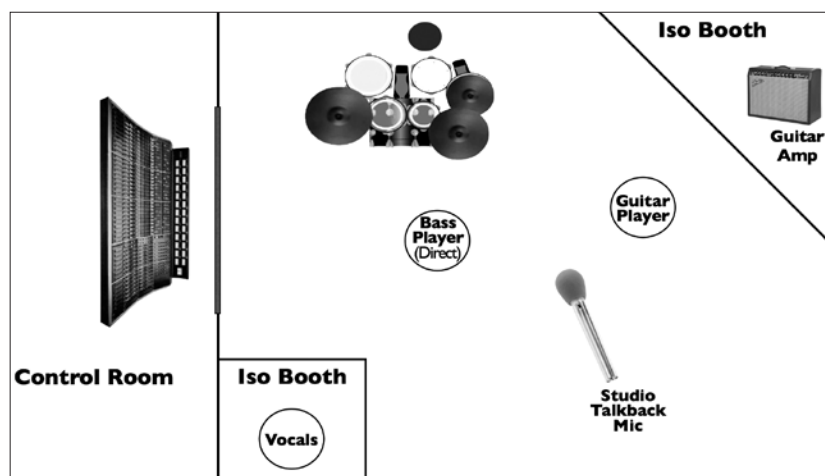


Figure 12.5: The Studio Talkback Mic