

Book III

Rock Guitar

The 5th Wave

By Rich Tennant



"Now this little plant is called Emma. Emma blooms best to the scathing guitar riffs of Ted Nugent and Eddie Van Halen."

In this book . . .

So you wanna be a rock 'n' roll star . . . coming right up! This book covers the whole history of rock, from its beginnings in the mid-20th century right through to today. The best of the best guitar greats are covered here, and each one is analyzed with the purpose of discovering why they were so great and how they perfected their particular sound. You also get the goods on the workings of electric guitars and amps, playing lead, practicing riffs, and moving up the neck of your guitar. By the end, all you'll need are those distressed leather pants . . .

Here are the contents of Book III at a glance.

Chapter 1: It's Only Rock Guitar, but I Like It	153
Chapter 2: All about Amplifiers	169
Chapter 3: Playing Lead.....	191
Chapter 4: Groovin' on Riffs.....	213
Chapter 5: Playing Up the Neck.....	225
Chapter 6: Rock Guitar Legends, Styles, and Genres	245

Chapter 1

It's Only Rock Guitar, but I Like It

In This Chapter

- ▶ Hearing the difference between electric guitar and acoustic guitar tone
- ▶ Knowing the essential components of the electric guitar sound
- ▶ Getting the gear that goes with your guitar

Rock guitar does not have a dignified history in music. It doesn't come from a long lineage of historical development where composers such as Bach, Beethoven, and Brahms wrote lovingly for it, composing concertos and sonatas highlighting its piquant and gentle qualities. It wasn't played in the great European concert halls or in the parlors of fine households.

Not only was rock guitar unknown to the great composers of the ages, but they couldn't have even conceived of such a thing in their worst nightmares. Imagine what they would have thought of an Ozzy Osbourne concert — a nightmare no matter which century you hail from! Indeed, even if they could have heard, through some sort of time travel, an electric guitar banging out the riff to “Satisfaction,” they would have hardly recognized it as music.

Rock guitar is a mid-late-20th-century invention. It has no memory of a bygone era when youths were respectful of elders, music was a polite pursuit, and musicians cared about social acceptance. Rock guitar is for people who like their music loud, in your face, electric, and rebellious, and who owe no debt to history. Rock guitar is probably not the wisest choice of instruments to tackle if you want to garner acceptance from the music community.

So if you want respect, take up the flute. If you want to set the world on fire, attract adoring fans, and get back at your parents to boot — pick up an electric guitar and wail, baby, wail, because rock guitar will change your life.

First, though, you gotta learn how to play the thing.

Differentiating Between Rock and Acoustic Guitar: It Ain't Just Volume

When you see someone wailing away on rock guitar — on TV, in a film, or at a live concert — be aware that what you're seeing is only part of the story. Sure, someone playing rock guitar is holding an instrument with six strings, a neck, and a body — qualities that describe the instrument that classical guitarist Andrés Segovia played — but the sound couldn't be more different. That difference in sound is the key to understanding rock guitar. What's important is not the leather, the hair, the onstage theatrics, the posturing, the smoke bombs, or the bloody tongues — but the *sound* of that guitar.

It was the sound of the electric guitar — so different from that of its predecessor, the acoustic guitar — placed in the hands of some early, forward-looking visionaries that forced a cultural change, a musical modification, and a historical adjustment to the way we experience popular music. Songwriters had to write differently, recording engineers had to record differently, and listeners had to do a major attitude adjustment to get their ears around it. Heck, people even had to learn new dances.

But what makes the sound of an electric guitar so different from an acoustic one? If you didn't think about it, you might say, well, *volume*. Rock guitar is just a whole lot louder than its acoustic counterpart. Although that may be true most of the time, volume alone is not what makes rock guitar unique. True, you listen to rock at high volumes — its message tastes better served up loud — but volume is a byproduct, an after-effect, not what makes rock different or what drives it.

To really understand rock guitar, you need to explore some of its qualities *other* than volume. Don't worry, though; this chapter gets back to volume eventually.

Sound quality, or timbre

When guitarists “electrified” their acoustic guitars, they originally intended to give the guitar a fighting chance in the volume department. Unsatisfied with the results of placing a microphone in front of the guitar, they sent the guitar's sound to a speaker by placing a magnetic element called a *pickup* under the guitar's strings. (See “Signal” and “Distortion and sustain” later in this chapter for more on pickups.) Players quickly found, though, that, unlike a microphone, a pickup didn't just make the sound louder, it *changed* the tone too. How? It wasn't that obvious, but it was tangible.



The basic differences between a guitar coming out of a pickup and a guitar playing into a *mike* or *mic* (slang for *microphone*) are that the sound coming out of a pickup

- ✓ Is smoother and less woody.
- ✓ Is more electronic, with purer-sounding tones, like that of an organ.
- ✓ Has a less defined lifecycle, or *envelope* — a beginning, middle, and end. These stages, so clear in the sound of a plucked acoustic guitar string, are blurred together in an electric guitar.

Signal

When progressive-minded guitarists of the '30s and '40s first put electro-magnetic elements under their strings to “pick up” their vibrations and send them along a wire to an amplifier, they did a lot more than increase the volume — though they didn't know it at the time. They were on their way to creating one of those “happy accidents” so common in art and science (and this was a little of both, really).

Originally, jazz guitarists playing in the big bands of the day were merely seeking a way to cut through all the din of those blaring horns and thundering drums. The mellow guitar, regarded by most other musicians as a mere parlor instrument with dubious stage presence, was no match for the louder brass and percussion instruments. The banjo had a sharp, cutting quality, and was better at projecting on the bandstand, but its tone was falling out of fashion in favor of the more full-bodied, versatile tone of the guitar. Problem was, the guitar just wasn't that loud, so something had to be done.

Slapping on heavier-gauge (thicker) steel strings helped, but it still wasn't enough. Placing a mike in front of the guitar, as was done for vocalists, worked somewhat, but was cumbersome, and the mike picked up the surrounding sound as well as the guitar. Plus, who wanted to bother miking the lowly guitarist way over in the rhythm section when you had some hotshot crooner in the spotlight at center stage?

To avoid these problems, *luthiers* (guitar makers) got the idea to put a magnetic element just underneath the strings to carry the signal electronically to an amplifier. Because the strings were metal — specifically, electrically conductive magnetic metal — the sound of the strings traveled electronically through the *pickup* (so called because it picked up the sound of the vibrating string), down the attached wire, into a portable amplifier, and then out of a speaker.

The electric guitar was born, but getting from electrification to rock 'n' roll nirvana was still a bit of a journey. It would be some time before guitarists recognized the monster they had spawned from the unholy union of electricity and acoustic guitar. (Get used to imagery involving evil, wickedness, and other bad stuff; it's all part of rock 'n' roll lore.)

Distortion and sustain

When the six-string Dr. Frankensteins of the '30s and '40s were electrifying their guitars, they weren't envisioning what Jimi Hendrix would do decades later at Woodstock and Monterey. Just like the well-meaning doctor in Mary Shelley's novel, early electronic guitar designers were wholesome and good. These pioneer inventors wanted to reproduce the sound of the acoustic guitar as faithfully as possible. Fortunately for us, they failed miserably. But electronics' loss was music's gain, because even though the electric guitar sound was nothing like the acoustic sound — or the acoustic guitar sound as heard through a microphone — it nonetheless had a very pleasing and musically useful quality.

The effort to produce an exact, amplified match of the original acoustic guitar failed primarily because it introduced *distortion* (an untrue representation of the sound) into the sound. The louder the sound, or the more the guitar “worked” the electronic circuitry, the more distorted the sound got. As the electronic signal “heated up,” the sound became *fuzzier* (where the high frequencies became more muted), and the tone generally *warmed up* (sounding more rounded and less brittle). All of this distortion increased the *sustain* (the tendency for the tone to ring indefinitely at the same level), which was noticeable in even the lowest of volumes.

Distortion, normally a bad thing in just about any other electronic endeavor, had a nice effect for guitar tone. As the guitar became thought of more and more as a lead instrument, guitarists found they could work the distortion factor to their advantage. An electric guitar had a different, *better* tonal quality, called *timbre*.

This *timbre* (a musical term for tone, or sound quality), distortion, and increased sustain took the plunkiness out of the guitar's tone and made it more smoothly melodic — more like the buzzy, reedy qualities of, say, a saxophone or a blues vocalist, which is why so many early rock guitarists cut their musical teeth on the blues. Whereas the guitar had formerly been a rhythm instrument, owing to its clipped sound, rapid *decay* (the quality of a sound to die away), and strident tone, the “electronic” guitar now had properties more suited to melody-making. The guitar was poised to step out of the background and up to the spotlight itself. All it needed was some brave souls to tame this new sonic monster.



Plenty of acoustic guitarists at that time were playing melody, notably Django Reinhardt. Reinhardt even bent strings — something that would become the province of electric guitarists everywhere, but is generally shunned by classical guitarists who deem the technique “unacousticlike.”

Oh yes, and volume

Of course, electrifying a guitar did accomplish what it set out to do — make the guitar louder. Although it needed an electronic crutch, in the form of amplification through an external apparatus, this system of pickups, wires, and a portable amplifier (where the guitarist didn't need to rely on the auditorium's sound engineer) gave guitarists the freedom to play in all sorts of styles — melodic, rhythmic, and chordal — and freed them from the “rhythm section ghetto.”

An excellent example of an early electric guitarist who realized and exploited the newfound qualities of the electric guitar was jazz guitarist Charlie Christian. It's important to note that even though Christian was not a rock player (rock just didn't exist in the '30s), he is worshipped by electric guitarists everywhere — from blues to jazz to rock — as an incredible visionary who realized the power of the electric guitar's tone.

Some people may claim that Christian was, in part, responsible for inventing the electric guitar pickup, but this is just a myth. However, he certainly did his part to popularize the “pickup-configured” electronic guitar, and he is one of its best early practitioners, because he recognized — and exploited through his musical genius — its sustain qualities.

After the guitar could play as loud as the other, more charismatic instruments (such as the trumpet and saxophone), it wasn't long before the guitar would become a featured instrument, both from a personality perspective as well as an instrument for solo exhibitionism.

Book III**Rock
Guitar**

Listening examples

You can talk all you want about the tone of the electric guitar, but the best way to understand its tonal qualities is to listen to some classic examples.

- ✓ Led Zeppelin's “Stairway to Heaven” is not only a classic song, it's one of the best illustrations of the differences between electric and acoustic guitar. The song begins with a plaintive vocal by Robert Plant, accompanied by a Renaissance-sounding acoustic guitar. The accompaniment gradually builds, and then at 6:42 guitarist Jimmy Page launches into

the solo section with an opening *phrase* (a musically complete passage or thought of any given length) that sums up the essence of the electric guitar in just two measures. Listen to the first note, which seems to hang in midair and *sing*. The rest of the solo is a tour de force of technique, phrasing, and tone, but it's that opening *riff* (a self-contained musical phrase) that grabs you.

- ✓ Another well-known example is the guitar solo section of the Eagles' "Hotel California," played by Joe Walsh and Don Felder. This solo is given plenty of room to breathe by the accompaniment. The gliding quality at the end of Walsh's first short phrase (the fifth note in the opening sequence) is a *string bend*, where you stretch the string by pushing it out of its normal alignment causing the pitch to rise. Listen to how the note, again, *sings*. This quality, broken down to its component attributes, has a smooth sound (timbre); a reedy, fuzzy quality (distortion) that doesn't resemble the plucked sound of the acoustic guitar; and an elongated, non-decaying volume and intensity (sustain).

These examples are both in the melodic vein. Things really get weird when guitarists started abandoning melody altogether and choose to exploit timbre, distortion, and sustain for their own purposes. Jimi Hendrix, for example, took distortion and sustain to the nth degree.

Guitar, Amp, and Effects: The Power Trio

All right, the previous section helps you to understand the tonal differences of an electric guitar versus an acoustic one, and that an electric guitar has pickups (or magnetic elements) that carry the sound via an attached wire to a loudspeaker. What else do you need?

A burning question for most aspiring rock guitarists is, "Since I have an electric guitar here, does that mean I also have to have an amp?"



Yes, you do need an amplifier. Just as you can't hear a scream without ears, so, too, can you not hear a guitar without its amplifier and speaker (in guitar terms, an "amplifier" can refer to the amplifier circuitry *and* the speaker, which are often housed in the same box). Electric guitars can have the biggest, most-powerful, nuclear-charged pickups on board, but without an amp, the guitar will make no noise.

Sounds unbelievable, but it's true. No amp, no electric guitar sound. Anytime you see somebody walking around with an electric guitar, you can bet he or she is looking for an amp. Therefore, you must have at least two elements to even be audible on the electric guitar: the guitar itself and the amp. (Technically speaking, you also need a cord, or wire, to attach the electric guitar to the amp.)

Realistically, however, guitarists these days routinely introduce a third element into the *signal chain* (as the path from the originating guitar pickups to the terminating amp speaker is known): intermediary electronic gizmos known as *effects*. These typically sit between a guitar and an amp, and connect to each other with short cords, via in and out *jacks* (the electronic term for sockets, or something you can insert plugs into).

The electric guitar

The electric guitar is the principal player in the three-part system that comprises the rock guitar sound. And whether it has a natural mahogany finish or is painted Day-Glo green with purple lightning bolts across the body, all electric guitars have common properties. Like an acoustic guitar, an electric has a neck and a body, six strings, and tuning keys on the top of the neck that allow you to tighten or loosen the strings to the desired pitch — the process known as tuning. (See Chapter 1 in Book I for details.) Unlike the acoustic guitar, however, an electric guitar sports *pickups* (electromagnetic devices that “sense” the strings’ vibrations and create a small current), knobs, and switches for controlling the pickups, and possibly other hardware (such as a *bar*, described in the following bulleted list) that acoustic guitars don’t have. Figure 1-1 shows the various parts of the electric guitar.



Here’s a quick overview of the functions of the various parts of the electric guitar (refer to Chapter 1 in Book I for a fuller run-down).

- ✓ **Bar:** A metal rod or arm attached to the bridge that varies the string tension by tilting the bridge back and forth. It’s also called the tremolo bar, whammy bar, vibrato bar, and wang bar.
- ✓ **Body:** The large, shapely wooden mass that provides an anchor for the neck and bridge. The body can either be solid, hollow, or partially hollow, and houses the bridge assembly and electronics (pickups as well as tone and volume controls).
- ✓ **Bridge:** The metal assembly that anchors the strings to the body.
- ✓ **End pin:** A metal post screwed into the body, where the rear end of the strap connects. The other end of the strap connects to the strap pin.
- ✓ **Fretboard:** A flat, plank-like piece of wood that sits atop the neck and has frets embedded in it. This is where you place your left-hand fingers to produce notes and chords. It is also known as the fingerboard.
- ✓ **Frets:** Thin metal bars embedded perpendicular to the strings that shorten the effective vibrating length of a string, enabling it to produce different pitches.
- ✓ **Headstock:** The section that holds the tuning machines and provides a place for the manufacturer to display its logo.

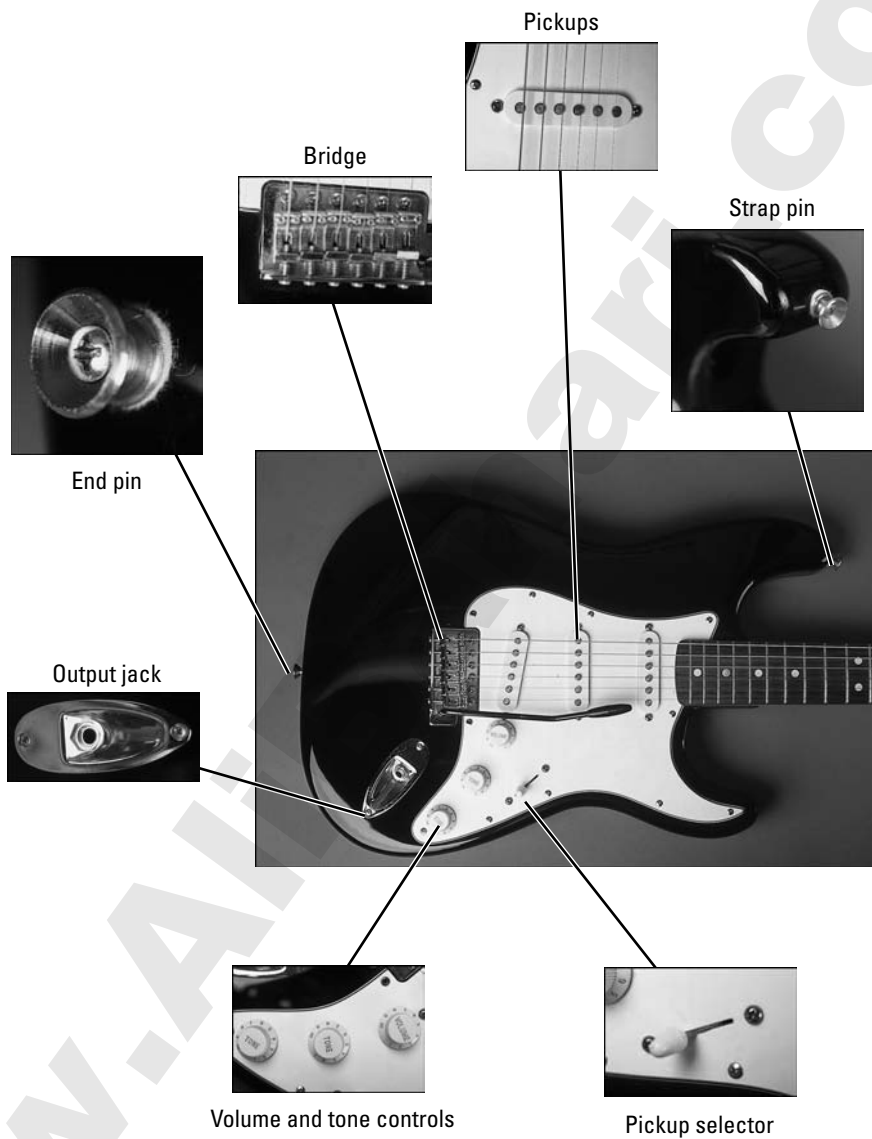


Figure 1-1:
A typical
electric gui-
tar with its
major parts
labeled.

Tuning machines/ Post



Tuning machines/
Tuning key



Headstock



Frets



Nut



Truss rod

- ✓ **Neck:** The long, club-like wooden piece that connects the headstock to the body. Some guitarists like to wield their guitars like clubs, and usually do so by holding them by the neck.
- ✓ **Nut:** A slotted sliver of stiff nylon or other synthetic substance that stops the strings from vibrating beyond the neck. The strings pass through the slots on their way to the tuners in the headstock. The nut is one of the two points at which the vibrating area of the string ends. (The bridge is the other.)
- ✓ **Output jack:** The insertion point, or jack, for the cord that connects the guitar to the amplifier or other electronic device. You will sometimes hear this jack called an *input* because guitarists think of putting a cord “into” the jack. Electronically speaking, however, this is an *output* jack because it carries signal out of the guitar.
- ✓ **Pickup selector:** A switch that determines which pickup or pickups are currently active.
- ✓ **Pickups:** Bar-like magnets that create the electrical current that the amplifier converts into musical sound.
- ✓ **Strap pin:** The metal post where the front, or top, end of the strap connects. The strap pin is screwed into either the guitar’s back (as on a Gibson Les Paul) or into the end of one of the “horns” (as on a Fender Stratocaster). The other end of the strap connects to a corresponding pin, the end pin.
- ✓ **Strings:** The six metal wires that, drawn taut, produce the notes of the guitar. Although not strictly part of the actual guitar (you attach and remove them at will), strings are an integral part of the whole system, and a guitar’s entire design and structure revolves around making the strings ring out with passion and musicality (and don’t forget volume!).
- ✓ **Top:** The face of the guitar’s body. The top is often a cosmetic or decorative cap that overlays the rest of the body material.
- ✓ **Trussrod:** An adjustable steel rod that can be rotated using a special wrench and which helps keep the neck straight. You gain access to the rod through a hole in the headstock or at the base of the neck.
- ✓ **Tuning machines:** Geared mechanisms that raise and lower the tension of the strings, drawing them to different pitches. The string wraps tightly around a post that sticks out through the top, or face, of the headstock. The post passes through to the back of the headstock, where gears connect it to a tuning key. Tuning machines are also known as tuners, tuning pegs, tuning keys, tuning knobs, and tuning gears.
- ✓ **Volume and tone controls:** Knobs that adjust the loudness of the guitar’s sound and its bass and treble frequencies.

The amplifier

The *amplifier* is an all-electronic device with no moving parts (except for its knobs and switches, which control the volume and tone of the incoming signal). You may think that those rather pedestrian-looking, geometrically plain boxes that do nothing but a lot of internal electrical processing are functional and necessary, but not particularly sexy (well, not by electric guitar standards, anyway). Amp lore, however, is every bit as epic and mythological as guitar lore. Entire subcultures (that all, curiously, seem to have an Internet newsgroup devoted to their cause) are devoted to assessing, proselytizing, and otherwise pondering the mysteries and myths of the perfect guitar amplifier. (See Chapter 2 in Book III for more on setting up your amp.)

In any quest for the perfect tone, you must have an amp in the equation, and the history and contributions of such legendary amp manufacturers as Fender, Marshall, and Vox are an inextricable part of the rock 'n' roll gear legacy. Plus, you have to have someplace to set your drink when you go onstage. Figure 1-2 shows the various parts of an electric guitar amplifier.



The following list tells you the functions of the various parts of an amplifier.

- ✓ **Cabinet:** The box that houses the speaker and electronic components. It's typically made of plywood or pressure-treated wood and encased in a durable protective covering.
- ✓ **Effects:** Many modern amps also include onboard digital signal processing, such as reverb, delay, chorus, and flange.
- ✓ **Front panel or face plate:** The metal plate through which knobs and switches protrude to protect the controls that sit just below the surface.
- ✓ **Grille cloth:** The mesh-like fabric, usually made of a synthetic weave, that allows sound to pass through, but keeps foreign, and potentially harmful, objects (such as a boot) away from sensitive speaker surfaces.
- ✓ **Input jack:** The socket where you put the cord from your electric guitar or the cord from the output of the last effect in your signal chain.
- ✓ **Power switch:** A switch that turns the amp on and off.
- ✓ **Tone switch:** Two-position, or toggle, switches (not rotary or continuous) that provide additional tonal control.
- ✓ **Volume and tone controls:** Rotary knobs that provide continuous control over the outgoing signal.



Figure 1-2:
A typical
guitar amp
with its
major parts
labeled.

Effects

The newest member of the triumvirate of principal players is the group whose members are electronic effects. These self-contained units range in size anywhere from a cigarette pack to a VCR deck. Figure 1-3 shows four of the most common electronic effects used by rock guitarists.

Here's what the four most common effects do:

- ✓ **Digital delay:** Creates an echo by digitally recording the signal and playing it back at adjustable times after the principal signal has sounded.
- ✓ **Chorus:** Creates a thick, swirly effect of two or more guitars playing in tandem, but not quite with the exact tuning or timing.

String length and tension: Les Paul versus Stratocaster

One of the biggest differences between two icons of electric guitar models, the Gibson Les Paul and the Fender Stratocaster, is that their string lengths are different.

The Les Paul has a vibrating string length of 24.75 inches; the Strat (as it's known to its friends) has a vibrating length of 25.5 inches. Not much difference, maybe, but enough to make a perceptible difference to the hands.

Physics tells us that two different string lengths drawn to produce the same pitch (as they must to be in tune) will have different tensions. The Strat has the longer string length, and therefore has slightly higher string tension than does the Les Paul. This creates two key differences in playability for the electric guitarist: tighter, or springier, string response and larger frets in the Strat; and looser, or spongier, string response and smaller frets in the Les Paul.

Figure 1-3:
Four common effects (left to right): digital delay, chorus, distortion, wah-wah.



- ✓ **Distortion:** Simulates the sound of an amp that's played too loud to handle a signal cleanly. Distortion devices are convenient: The guitarist doesn't have to keep adjusting the amp controls to get a distorted sound.
- ✓ **Wah-wah:** A foot-pedal, rocked by the guitarist's foot, that creates a tonal variation that resembles a horn with a mute, or a human voice saying the phrase "wah wah" (thus the name).

Accessorizing Your Guitar

The accessories don't stop at effects. You may also want to acquire some other useful, but not essential, components, including various accessories that all serve to make rock guitar playing a little easier. Figure 1-4 shows an assortment of guitar accessories that any rock guitarist should have.

Figure 1-4: Clockwise, from top left: picks, strap, cord, electronic tuner, batteries, capo, slide, extra strings, peg winder, wire cutters.



Picks

An optional item for acoustic guitarists, a pick is a near-requirement for playing rock guitar (exceptions include Mark Knopfler and Jeff Beck, among others). Sometimes called a *plectrum*, a pick is a small triangular- or teardrop-shaped piece of thin plastic or nylon, about the size of a quarter, that's held between the thumb and index finger of the right, or strumming, hand. When you strum a chord or pluck a note, you use your pick to make contact.



You can buy guitar picks (there's no distinction between electric guitar and acoustic guitar picks) at any music store, in a variety of colors, shapes, and thickness (called *gauges*). Buy 'em by the bucketful, because you'll lose, break, give away, and squander plenty in your guitar-playing career.

Straps



A strap is also an absolute necessity, but under only one condition: if you plan to play while standing. Straps *can* be used while sitting, but that's a matter of personal preference. Most people who are interested in playing rock guitar live, however, will want to stand for at least some of that time. A strap is always a good thing to have rolled up and tucked away in your guitar case, even if you do most of your playing sitting down.

Straps come in all materials, from leather to fabric to space-age mesh, so you'll certainly be able find one that suits your sense of fashion. You can even have a custom-made strap with your initials or name emblazoned on the side that faces the audience. Looks great on TV.

Cords

A *cord*, sometimes referred to as a *cable*, is the technical term for the wire, or lead, that connects electric guitars to amps and other components, so you need at least one. If you use one electronic effects device you'll need two cords — one to connect the guitar to the effect's input, and one to connect the effect's output to the amp. If you have two effects, you'll need three cords, and so on. But whether you use effects or not, carrying an extra cable with you is always a good idea (like straps, cables can be coiled up and unobtrusively stashed in a guitar case). An extra cable is cheap insurance; a bad cable can silence you as quickly as a broken guitar neck or blown speaker.

Tuners

A tuner is a device that helps you to tune your instruments. It won't turn the pegs for you, but its meters tell you when a string is flat or sharp with much more accuracy than your ear can — even if you have perfect pitch. (Chapter 1 in Book I talks more about guitar tuners.) And what's the definition of perfect pitch, you ask? That's when you can toss a banjo into a Dumpster without hitting the sides.

Headphone and virtual amps

For \$20 to \$50 you can pick up a small device, such as the Vox Classic Rock headphone amp, and play as loud as you want without bothering your roommates or family. The battery-powered units plug right into your guitar and accept standard headphones, such as those for an iPod. Some of them come with effects, too, so choose according to your playing style.

You can also create classic amp and effects setups on your computer. Native Instruments' Guitar Rig 3, for example, is a hardware-software combo that connects your guitar with your computer via a foot pedal. The onboard soundcard sends the signal to the speakers. The software offers lots of classic amps, cabinets, microphones, and effects. The outfit currently sells for around \$550.

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Chapter 2

All about Amplifiers

In This Chapter

- ▶ Setting up your amp
 - ▶ Turning the amp on
 - ▶ Setting up your sound
 - ▶ Getting by without an amp
-

1 on Chappell here with a personal story: When I was a kid, I pined for an eternity (okay, it was one summer) for my first guitar, which hung, unattainable, in the music store window. After several agonizing months of paper routes, odd jobs, and bottle recycling, I finally bought my dream guitar. As the salesman pulled my hard-won treasure from the window, he commented casually, “Yeah, good guitar you’re getting here. Whatcha got for an amp?”

An *amp*? I’d never even thought about it! Did I need an amp? Of course I did, but all my energies had gone into buying this guitar. As the meaning of his words flooded over me like a giant tidal wave, I realized I hadn’t even considered that I needed something to plug into to be heard. My mom wasn’t about to spend one red cent more than she had already contributed to my musical cause, so she called an electrician friend who ran an appliance repair store across town. To my utter humiliation, we found ourselves in a washing machine fix-it shop buying what looked like a converted toaster oven. It took me six more months to get a *real* amp, which helped me to get up the nerve to play in front of my friends (junior high school kids can be so cruel, you know). So take it from one who’s been there, don’t forget the amp! It does wonders for your guitar sound (not to mention your self-esteem).

You may not think that the amp is a very flashy player in the cast of rock guitar characters, especially when it has to share the limelight with its more glamorous counterpart, the electric guitar. But amps are essential to creating a great rock guitar sound and literally contribute one half of the effort. The more you understand your amp, the more passionate you become. In this chapter, you think “inside the box,” separating the amp system into the smaller sections that all amps of various makes and models have in common. You then drill down one level to see how you can manipulate the controls that govern those parts. And don’t worry, you don’t need a driver’s license — or even a learner’s permit — to operate one of these babies.



Amps are all-electronic devices, and let's face it, that scares some people. Or at least it's intimidating enough that many beginner guitarists have a tougher time relating to an amp than, say, to something you can *play*, such as a guitar. Just as you can appreciate a sports car's power and performance without knowing the physics of the internal combustion engine, so, too, can you enjoy the "internal combustion" of an amp just by taking it for a ride. Like a well-made car, a great amp has a personality, responds to your every movement, and gives you the giddy sense that you're sitting atop something *really* powerful. Knowing just a little bit about what's going on under the hood of your amp increases not only your appreciation, but your pleasure as well.

Following the Signal Chain

An amp has a big job to do, when you think about it. It receives from the guitar a signal that is quite sensitive, having started life as a tiny current produced by skinny vibrating strings and a simple magnet. The amp must then respect the tiniest nuances of those vibrating strings, because you the player know exactly what you played, and if you don't hear that at the end of the process — coming out of the speakers — the amp has failed in its mission.

The amp, therefore, must shepherd the signal through an electronic journey, all the while preserving its integrity. The amp must then switch gears, applying huge amounts of power to this once-sensitive electrical impulse, to rock stadiums and pulverize screaming fans. That's not an easy task for a box with no moving parts.

A good amp can do all this, plus excite you as a listener and inspire you as a performer in the process. The electronic journey is called the *signal chain*. Technically speaking, the entire signal chain includes at its source the guitar, from whence the signal originates (by you striking the strings), and at its terminus the speaker (which, in a "combo" configuration, is housed in the same box), which converts the electrical signal back into acoustic energy — you know, earth-shattering, filling-rattling AC/DC riffs.

In this section, you find out what happens to the signal after it's inside the amplifier — this sets the stage (so to speak!) for you to better understand how to manipulate the controls and to shape the sound. A guitar signal's journey through the amp goes something like this: An anemic (by electrical standards) signal enters the guitar amp at the preamp stage where sensitive circuitry optimized for handling low levels boosts the signal and sends it through to the section where the amp shapes the tone and adds effects. The signal then goes into the power amp, which applies massive amounts of juice behind it to drive speakers and produce audible — often *extremely* audible — sound waves we can crowd surf to.

Preamp

Every amplifier, whether it's for a guitar or keyboard — or inside a home stereo receiver — has two stages to actually amplify, or boost, the signal: the preamp and the power amp (which is covered later in this chapter). In amp systems made for guitars, the *preamp* takes the puny signal from the guitar (which is, after all, produced by mere magnets), jacks it up so the power amp can deal with it, and turns it into the screaming tones of death that eventually burst forth from stressed-to-the-brink speakers. The result is the sound that blows back the hair of the audience in the first ten rows.

The preamp is the daycare center of signal processing, designed to foster and nurture small impulses and guide them in their first baby steps through amp land. Preamps respond very well to the sensitive but relatively weak messages from the pickups.

The power amp can't do much with an untreated guitar signal, which comes way under its radar, preferring instead to deal with levels that a preamp generates. The power amp takes whatever it sees coming at its input and attempts to churn out an exact copy, but thousands of times bigger (at a strength known as *line level* in electronic terms). A power amp may not be able to do justice to an untreated guitar signal, but it can take a preamp signal, puff it up, and use it to beat the stuffing out of a speaker.

Think of the preamp as a struggling talent agent and the power amp as a big Hollywood movie producer: The preamp polishes the talent of the small-time artist and prepares it for the big screen — er, speaker. The power amp doesn't muck about with the little people, but has the might to take the prepared talent and turn it into box-office dynamite.

The idea of two volume controls is unique to guitar amplification. Normally, household stereo amps don't give users separate access to the preamp and power amp controls. Stereo listeners just want the best *fidelity* (the most accurate signal) possible from their system. But in guitar amps, you can use the relationship of the preamp volume to the power amp volume to actually degrade the fidelity (in the form of distortion, or overdrive) to musical effect, as you find out later in this chapter.

Tone controls

After coming out of the preamp, the signal then passes through a series of electronic filters, which selectively increase or reduce the level of certain frequencies. Known collectively as the tone controls, these filters make up the *equalization*, or *EQ*, section. Applying EQ is sometimes referred to as *tone shaping*.



You sometimes hear the term EQ (pronounced “Ee-Cue”) when discussing tonal issues. EQ is short for “equalization” (the bass and treble components of the tone) or “equalizer” (a box or circuit that affects tone). Following are three different uses of the term “EQ” that guitarists often hear:

- ✓ **As an intangible noun (an entity):** “The overall EQ of your guitar sound makes me feel like I’m chewing aluminum foil. Can’t you make it less harsh?”
- ✓ **As a tangible noun (a device):** “Howdy! I’m your new bass player! Can we borrow your 10-band EQ? I forgot mine.”
- ✓ **As a verb:** “Can you *please* EQ that amp so that it doesn’t sound like a chainsaw on a blackboard? Thank you *so* much.”

The tone controls on your guitar amp act just like the bass and treble knobs of your stereo: They make your sound *boomier* or *tinnier*. Because these filters don’t affect all frequencies equally (which would result in an overall *volume* increase or reduction), but only in specific ranges, we hear the resultant sound as a *tonal* difference. Unlike a stereo receiver, however, a guitar amp has more than just a bass and treble control. Most amps feature at least one in-between knob called, logically enough, the *midrange* (usually abbreviated as *mid*) control. More sophisticated amps even have a *presence* control, which is between the midrange and treble control, and is especially suited to guitar frequencies. Still others have a contour control, and some have two knobs for the midrange that work in tandem — one to select the frequency and another to boost or cut the level of that frequency. But however a specific amp is configured, the controls in the tone-shaping section serve to change the bass, midrange, and treble content put out by the preamp.

Don’t worry too much about understanding the technical differences between the variously named tone controls. Good tone production involves knowing very little science (at least from the *player’s* perspective, anyway), because guitarists — even the best ones — just fiddle with the knobs until they find something they like. Fiddling with knobs is probably not the best way to deliver nuclear power to a city, but it works fine for guitarists searching for that special tone.

Effects

From the EQ, or tone-shaping section, the signal next proceeds to the effects section, which usually consists of at least a reverb control, and may have tremolo, vibrato, or chorus. You can use effects to subtly enhance a sound, giving it a certain ambience, warmth, fullness, or just a little more “life.”

Or not. You can also use effects to make your playing sound completely off the wall, alien, space age, underwater, distorted, tortured, or to give it any other wholly unnatural quality. How you use effects (on your amp and/or elsewhere in the signal chain) is strictly a matter of taste and depends on the response you want to evoke from your listeners. Ugly, scary, brutal, and just plain rude are all worthy qualities completely at home in rock guitar (especially for punk and heavy metal!), and you often enlist effects (along with sheer overpowering volume) to help you achieve your aesthetic goal. But unless you're going for a *really* wacky sound, you find, as your playing develops, that using effects subtly is best for most musical situations.

Power amp

The final stop on the signal's electrical journey to the speaker is the *power amp* — a robust, no-nonsense electrical place where treated but under-powered signals get pumped up into sound-wave warriors. The power amp adds very little color to the sound — at least compared to the three previous stages — because its primary function is to reproduce, as faithfully as possible, the signal it receives from the preamp, tone, and effects sections. You may think, therefore, that the power amp section is comprised of fairly straightforward, unimaginative stuff, which actually isn't the case.

Although its function may be simple to describe, the power amp's processing is a fairly complex and demanding electronic project. In more powerful amps, the power amp section is bigger, heavier, and more expensive to build. And in tube amps, which are objects of lust among amp aficionados, the power amp also adds a bit of color to the sound — something it's ideally not supposed to do (that task being the exclusive domain of the preamp tubes). But at least where tubes are concerned, the result is so musical that guitarists find it pleasing and make an exception — sort of like the famous adage about sausage: If you love it, you don't want to know how it's made.

Book III

Rock
Guitar

Taking a Guided Tour of the Amp

The following sections offer a walking tour through each of the amp's individual components. The sections here are grouped linearly, from start to finish. The exception is the preamp and power amp volume controls, which are tackled simultaneously because, although they are at the front and back of the amp's signal chain, respectively, you can best appreciate their functions and how they work together by dealing with them in tandem and in relation to each other — like bookends.

Boxing it in: The cabinet

The *cabinet* is a sturdy wooden box that houses the speaker, controls, and electrical guts so they don't fall all over the floor in a great big mess. The cabinet protects the speaker's surface with a grille cloth stretched taut across its front, serves as an anchor for the *chassis* (which houses the electronics) and the reverb tank (if present), and provides a frame for the *baffle* (the open-holed board that the speaker mounts to). The cabinet is also the acoustic place where the speaker lives and moves, however, and therefore contributes to the overall sound and performance of the amp. It also supports a sweating beverage bottle a *lot* better than the headstock of a guitar. Figure 2-1 shows the cabinet of a typical combo amp.

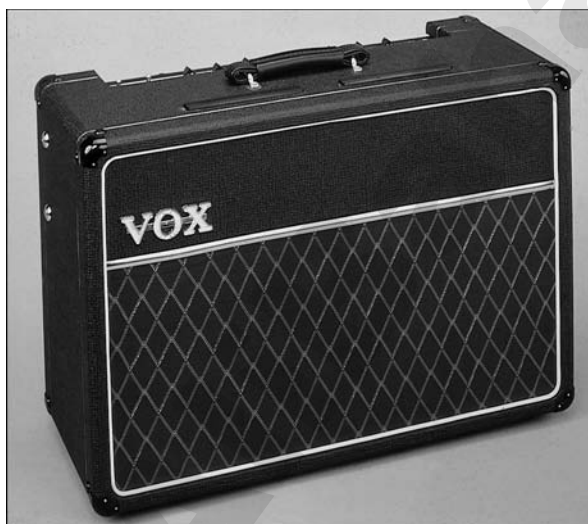


Figure 2-1:
The cabinet is the wooden box that houses the amp.



The cabinet can be open in the back (exposing the amp's interior and offering easy access to the speaker), closed, or sealed (leaving no opening), or "half back," which is like an open-back cab, but with a plank of wood across the opening. Sonically, an open back provides a rounder fuller tone, because sound escapes from both sides of the amp, back and front. A closed-back cab yields a punchier result because all sound is forced through the front of the amp (producing a boost in the bass frequencies in particular), and a half-back cab is a mix of the two sounds, but is closer to the open-back cab in quality.

Taking control: The control panel

The *control panel* is a metal plate that plays host to the amp's knobs, switches, and sockets. Under the knobs and sticking through holes in the control panel are *shanks*, or *spindles*, which rotate, sending messages to the electronic components within the *chassis* (the metal tray or compartment housing the amp's electronics). The control panel and its knobs are often recessed or angled in such a way to protect them from getting damaged. This helps keep them from getting sheared off as you load your amp into the trunk of a car and you don't quite clear the back of the trunk. (I *hate* when that happens.) The control panel is where the brains of the operation sit. It is to the signal chain what Houston is to a NASA space shuttle. Figure 2-2 shows a control panel of a typical combo amp.



Figure 2-2:

The control panel groups an amp's jacks, switches, and knobs.

Book III

Rock
Guitar

Channel inputs

Channel inputs are the sockets, or jacks, where you insert your guitar cord for access to a particular channel. A *channel* is an individual path through the amp's signal-processing sections. Many amps have two channels optimized for producing different sounds. Typically, one channel favors setting up a "clean" sound, the other a high-volume, distorted sound. One input often serves two channels, allowing you to switch between channels instantly via a footswitch, without having to re-plug (see the section on channel switching later in this chapter).

Some multichannel, multi-input amps even accept two instruments simultaneously — great for keeping handy two different types of guitars that you must switch between quickly, such as a 12-string and a six-string, or an acoustic-electric and a regular electric.

Preamp and power amp controls

The *preamp* takes a signal and boosts it so it can survive the journey through the tone-shaping and effects sections and wind up intact for the G-forces it's subjected to in the power amp section. The *power amp* determines the actual human-hearing volume coming out of the speaker. Guitarists control the output of each of these stages with separate level, or volume, knobs. Figure 2-3 shows the volume controls of the preamp and power amp.



Figure 2-3:
A tale of two
volumes:
preamp and
power amp,
channel,
and master.

Here's a list of preamp and power amp controls:

- ✓ **Gain/drive:** *Gain* and *drive* are synonymous terms that simply describe the volume controls for the preamp. The higher you turn *any* preamp volume control, the more distortion you introduce into the signal. Preamp volume distorts in musically pleasing ways, however, and rock guitarists use that as part of their tone quality and sustain. (See Chapter 1 in Book III for more detailed descriptions of the electric guitar's sustain and tone quality.)
- ✓ **Volume/master volume:** The power amp volume control determines the overall or absolute loudness of the amp. In amps containing more than one channel, the term *master volume* distinguishes the power amp control from the channels' preamp controls. If you run the master volume high (on high numbers, such as 6, 7, 8, 9, and 10), the sound coming out of the amp is loud. If you run the master volume low (1, 2, and 3), the amp is soft. This is important to remember when balancing the preamp channel volume with the power amp master volume (see the section on setting the controls later in this chapter).
- ✓ **Boost switch:** Often an amp has a switch that activates a boost circuit, which just jacks up the power amp's volume by a fixed level. A boost switch can be very handy because it keeps your basic sound intact,

retaining the specific tone and effects settings, and applies a volume increase. This way, a guitarist can have two versions of a carefully crafted sound: loud and really loud.

Tone controls

In the tone-shaping stage of an amp, various electronic filters add or subtract frequencies, giving the guitarist tonal control over the sound apart from what the volume and effects controls provide. Most of the tone controls are intuitively named and produce expected results. For example, when you turn up the treble you brighten the tone. Figure 2-4 shows the tone-shaping section of an amp's control panel.



Figure 2-4:
The tone controls of an amp's EQ, or tone-shaping, section.

Book III

Rock
Guitar

Check out the following tone controls:

- ✓ **Bass:** The bass control determines how low or boomy the sound is. Turning up the bass provides more “girth;” turning down the bass reduces “rumble.”
- ✓ **Middle or midrange:** For a fuller or warmer sound, guitarists reach for the midrange control. Conversely, to sharpen a sound, or to accentuate high highs and low lows, guitarists will cut, or “dial out,” midrange frequencies. Heavy metal bands such as Pantera and Metallica often cut, or “scoop,” their midrange frequencies.
- ✓ **Treble:** The highest of the tone controls, the treble can restore luster to a signal that’s become dull from passing through too many effects pedals. If a signal is too harsh sounding, cutting back the treble makes it mellower.
- ✓ **Presence:** Technically, this is a high-mid control that sonically resides somewhere between the mids and the treble. “Presence” is sort of a misnomer because applying it doesn’t really bring the sound any closer to

the listener; it just adds a gloss or sheen. Presence can really sweeten up a signal, but too much of it can fatigue the ears and create a saccharine sound.

- ✓ **Bright switch:** The bright switch is a two-position *toggle* (a switch that alternates between two states) that selects between the normal sound and a brighter sound. Most rock guitarists who have amps with bright switches keep them on all the time. For that occasional jazzy passage, however, you may want to flick it to the “normal” position.



Don't think that just because you adjust one control that you're affecting only one range of notes. For example, turning down the treble doesn't affect just the high notes; it affects the entire high frequency content of the signal. So even if you play only low notes, turning down the treble will affect the high end of those low notes, inhibiting their ability to “sparkle.”

Amp effects

Although most tone-shaping sections on amps are fairly standardized, amp manufacturers differ widely with respect to what effects they include. Following are some fairly universal effects found on many guitar amps.

- ✓ **Reverb:** *Reverb* is short for “reverberation” and is a basic staple guitar effect, one that is heard on virtually every recorded example of rock guitar music. Older amplifiers use metal springs (secured in a box or *tank* bolted to the inside of the cabinet) that will jiggle and make a crashing sound if you shake the amp. Newer amps deliver reverb through the less-costly technology of microchips and digital circuitry, but the intent is the same: to simulate the sound of a guitar played in different acoustical settings, from a small room to a concert stage to a giant cavern or cathedral. A single knob controls the intensity of the effect. Figure 2-5 shows the reverb control knob on an amp.



Figure 2-5: The control for amp reverb is usually limited to one knob.



- ✓ **Tremolo:** *Tremolo* is regular, rapid wavering of a signal's volume. Old Fender amps used two controls, *speed* (the rate of the fluctuations) and *intensity* (to determine the distance between the loud and soft portions of the sound). At lower settings, the sound has a slight quiver. With the intensity cranked, it sounds like you're playing through an electric fan. These days, newer amps include tremolo only if they're going for that vintage vibe.

You sometimes hear amp tremolo described as “vibrato,” but this is a misnomer. *Vibrato* is the rapid fluctuation of *pitch*; tremolo the rapid fluctuation of *volume*. Fender has an entire series of amps with the prefix “Vibro” to describe amps sporting a feature that is actually tremolo. Rock guitar is full of misnomers, but that's just part of its rebellious charm.

- ✓ **Flanger:** A *flanger* gives a kind of swirling, spacey effect to a guitar's sound. It does this by mixing two identical signals, but time-delaying one by a varying amount to create a kind of sweeping, up-and-down-the-sound spectrum.
- ✓ **Chorus:** *Chorus* simulates the sound of many guitars playing at once, creating an overall fuller sound that's slightly swirly. Turning up the speed yields a warbling effect; increasing the intensity produces lush, whooshy sounds. Figure 2-6 shows the chorus controls of an amp made famous by its classic onboard chorus: the Roland JC-120.



Figure 2-6:
The two controls that modify the chorus here are *speed* and *depth*.

Book III

Rock
Guitar

Making a graceful exit

Other than pumping the signal out through a speaker, an amp can output a signal through other points. Knowing these different output destinations helps in understanding how the amp contributes to the quality of the sound, rather than just acting as a “guitar megaphone.” Alternate outputs allow for

options like sending your guitar signal to a P.A. (sound system), headphones, and mixing boards for recording. An amp's output jacks are typically found on the back panel.

Speaker out

The main *speaker out* is an output jack that connects the amp's power amp to its internal speaker (if it's a combo) or to the main cab (if the amp is in a separate housing from the speaker). Some amps offer additional speaker outs for hooking up additional cabs. Ninety-nine times out of 100, you want your amp sound coming out through the speaker, because this is how electric guitars are heard — realized through a speaker. This is different than, say, a piano, flute, or even *acoustic* guitar where we can experience them live, without the benefit of a speaker. It's only on recordings where we must enlist the aid of a speaker. But an electric guitar knows no audio reality — live *or* recorded — without a speaker. Even if a direct out is used (as described later in this section), a speaker simulator is thrown in to simulate the sound of the signal coming through a speaker.



Headphone out

In the iPod era, everyone understands the importance of listening to music through headphones. Many amp makers realize this too, and so provide a headphone output for speaker-less listening. By listening to your guitar through headphones, you can wail away to your heart's content (and experience thundering levels of distortion via an overdriven preamp) and still not disturb the person next to you watching TV. Headphone outputs are great for practicing late at night or in close proximity to other humans.

Direct out

You sometimes want the signal to not go into the power amp and through the speaker but to some other destination, such as a mixing board (for recording directly onto tape or hard disk) or even to another amp. You can't successfully plug a guitar directly into a mixer channel, because you need the treatment that the amp's preamp, tone-shaping, and possibly effects sections provide. But an amp's power amp and speaker exist only to make the sound audible in the room, which is not necessarily what you want when sending a *direct-out signal*. You want to route the signal to a mixer or recording deck where you can then *monitor* (listen to the resultant sound) from the mixer or deck's headphone jack or speakers.

Effects loop

You can insert an outboard effect device between the preamp and the power amp sections of the amp, which is the optimal place for many effects, like delay, chorus, and flange, that just sound better placed between the preamp and the power amp, rather than before the preamp, which is the situation when using pedals. If you desire an effect not provided by your amp's built-in circuitry, but that you have in an external box, you use the effects loop to "patch" it in.

The *effects loop* consists of two jacks, an output and an input. With an extra guitar cord you plug the output (sometimes called *send*) of the amp into the input of the external effects box. You then take another cord and plug the output of the effects box back into the amp, at the input (sometimes called the *return*) jack. The amp has provided a “loop” for you to route the signal out and back in, allowing you to enhance it along the way. Figure 2-7 shows the diagram for plugging in an external device via the effects loop.



Figure 2-7:
With an effects loop, you can route signals out for processing and then back in.

Book III

Rock
Guitar

Power amp in

You may have occasion to use your amp just for its power amp capabilities only — to make an external sound source (such as a CD player) audible by means of the amp’s speaker. In this case, the sound comes to the power amp from a source other than the amp’s onboard preamp. For those situations, you take the output of the external device and insert it into the *power amp in* jack. Doing this skips all the circuitry before the power amp stage (preamp, tone-shaping, and effects sections), which the CD player doesn’t need or want.



Use the power amp in jack to patch in a CD player (although you may have to tweak the tone controls to get a decent sound). This allows you to perform two common and useful tasks:

- ✓ Play recorded music in close proximity to your guitar-playing activities, instead of over the stereo speakers — wherever they are.
- ✓ Play recorded music through your amp on a gig during the break. (This is great if the venue has no “house system” of its own, or if you want to control what the audience hears — such as your newly minted demo!)

Various other “holes”

The preceding sections tackle the important jacks that appear on most amps, but you may discover amp models that have additional jacks.

- ✓ A *footswitch jack* allows you to plug in a pedal that you can operate with your foot for instantaneous and hands-free control. Typical footswitch jacks include channel switching, effects on/off, and, on digital amps, *preset advance* (where you can “step through” different setups you’ve created and stored in the amp’s memory).
- ✓ High-quality amps often include several places where you can *tap* (gain access to) the signal: after the preamp, after the power amp but at non-speaker-level (for additional processing), and speaker level (which can only be connected to a speaker, lest you risk damaging the amplifier’s circuitry).
- ✓ Some amps offer additional inputs, too, like an *aux in*, which allows you to plug in, say, a CD player so you can practice along with your favorite CD.

Sounding out: The speaker

The speaker’s function is pretty obvious to anyone who’s grown up around stereos, radios, and TVs: It magically converts that mystical stuff called electricity into acoustic sound waves that we can hear with our ears and feel in our bodies (if it’s loud enough).

For all the advancements in electronics, speakers today look and operate pretty much the same as they did half a century ago. Electricity passes through a cylindrical metal coil at the speaker’s center, surrounded by a doughnut-shaped magnet. This causes the coil to vibrate inside a magnetic field. The speaker’s cone of paper-like material exaggerates and amplifies this movement, creating audible sound. If this process sounds familiar it should: It’s essentially the way a pickup works — but in reverse (see Chapter 1 in Book III for more on the pickup’s workings).

Speakers are delicate by design, because they must react to the minute electrical fluctuations in the coil. Guitar amp speakers are called *woofers* (as opposed to their higher-pitched brethren, *tweeters*) and are suited for cranking out the midrange-rich frequencies of electric guitars. The majority of guitar speakers measure 12 inches in diameter, though 10 inches is quite popular too. In general, the larger the speaker, the louder and stronger it sounds. Figure 2-8 shows a typical guitar speaker.

Figure 2-8:
A 12-inch
speaker
built espe-
cially for a
guitar amp.



Plugging In and Turning On



Because an amplifier plugs into the wall, and because it's capable of delivering signals both electrical and acoustic in high doses, you must follow some simple but vital rules for operating an amp. Do not skip the following sections!

Safety first



First and foremost, a guitar amplifier is a high-voltage, electricity-driven device, such as any TV, stereo, radio, or appliance in your kitchen. Follow these directives to keep you and those near you safe and injury free.

- ✓ **Never stick your hands inside the amp to check connections, to find loose or rattling parts, or to otherwise poke around.** Even when you unplug the amp, its components store electricity for several minutes afterward.
- ✓ **Never operate an amp with water anywhere in the vicinity, either on your body or in an open container.** Mixing water with a plugged-in amp — even if it's not turned on — can be lethal. Treat the cord to the wall socket with respect and care. Always turn off the power switch when the amp is not in use for an extended period of time, and always turn off the power switch before unplugging the amp.
- ✓ **Never operate an amp in the rain or near a sprinkler or garden hose (which may happen if you play in a garage, backyard, or patio).** Have fun with your music, but always treat electricity with grave seriousness.

The six-step program

Following is a quick-start list of six steps for plugging your guitar in and turning it on in the right order. Doing this protects your speakers from sonic assaults and rude pops, and preserves your eardrums from unexpected, irritating — and potentially damaging — sonic blasts.

To turn on an amp:

1. **Turn all amp volume controls off or to their minimum position.**
2. **Plug one end of the guitar cord into the guitar, the other end into the amp.**
3. **Turn the amp's power switch on.**
4. **Turn the volume knob(s) of your guitar all the way up.**
5. **Turn up the amp's master volume to about 4 or 5, or up to about halfway.**
6. **Slowly turn the preamp or channel volume knob up and check for the presence of audible signal by strumming your guitar.**

Here's how you reverse the process to ensure a safe and pop-free shutdown routine. To shut off an amp:

1. **Turn off the guitar's volume knob(s).**
Do this as a courtesy so unintended sound won't escape from the ring-open strings as you reach over to the amp's controls.
2. **Turn down the amp's master volume controls.**
3. **Optional: Turn down the channel or preamp volume control(s).**
Do this as a courtesy to the next player — even if that's you — so she can make her own preamp adjustments. Conversely, you can *keep the preamp volume level where it is* to recall easily your sound upon restart.
4. **Turn off the power switch.**
5. **Optional: If you're leaving the amp unattended for a long period of time, or you can't predict who will be in the room with the amp when you're not there, unplug the amp from the wall socket.**
6. **Unplug the cord from the amp, and unplug the cord from the guitar.**

Additional hints:

- ✓ Never unplug a guitar cord — from either the guitar or the amp — without first turning down the master volume knob all the way.



Sudden loud noises in the form of “pops” from inopportune connected or disconnected cords can damage the speaker (and at the very least are amateurish and annoying).

- ✓ Never move an amp any significant distance without turning down the volume and shutting off the power. This is important to consider when you're attached to a long extension cord.
- ✓ When plugging different guitars into one amp in rapid succession (such as when you're auditioning a bunch of guitarists), turn down only the master volume control. This shuts off the signal from reaching the speaker. Note the volume knob's position before you bring it down so you can restore it to the same place after you have safely unplugged and plugged in the guitar cord.

Getting a Sound

When you have an understanding of the amp's different sections and the controls that govern them, use them to set up your own sound. You can't make any mistakes when creating a sound, so experiment until you find something you like — something that's not too loud or too soft, too muddy or too shrill. Then go from there.

First decide what kind of sound you want. Something clean and crisp, say, for chords? Or something raunchy and snarly for low-note Led Zeppelin-type *riffs* (self-contained single-note phrases). Always have a vision in your mind's eye — make that ear — of what you're seeking, rather than blindly spinning controls hoping to stumble onto something you like.

Book III

Rock
Guitar

Setting the controls



Start with your tone controls in the 12:00 position, or at “5,” so they're *flat* (adding no boost or cut). That will help you hear your basic guitar sound in the amp's most neutral setting. Turn off all effects too, so you hear the pure guitar signal through the circuitry. Then decide whether you want a sound that's *clean* or *distorted*. Figure 2-9 shows an amp with its controls in the neutral position.

- ✓ **Clean:** The term *clean* in guitar parlance simply means distortion free and is not necessarily better or worse than an *overdriven*, or heavily distorted, sound. You can obtain a clean sound by running the power amp volume (or master volume) high and the channel, or preamp, volume relatively low. If you want the sound louder, turn up the master volume, not the channel volume.



- ✓ **Distorted:** If you're trying to get a distorted sound from an older amp that has no separate volume controls for the channel and the master (sometimes referred to as *non-master-volume models*), you have but one choice: crank that sucker until the sound starts to break up. In the process, hope that the neighbors don't call the police. If your amp has two volume controls, though, your options are a little more versatile. Set up the master volume to about halfway, and bring up the channel volume to a comfortable listening level (whatever that is, depending on your environment).

To create a distorted sound using the two volume controls in conjunction with each other, turn up the channel volume and compensate for the increased volume by turning down the master volume. By turning down the master as you turn up the channel, your overall loudness should remain fairly constant. But as the preamp works harder and harder, it will begin to distort — even though the volume doesn't change. The twin-volume approach to distortion is a beautiful thing for guitarists, because it means you can achieve overdriven preamp distortion at low volumes.

Don't get too caught up in all the semantics and synonyms for distortion. Technically, *distortion* is the result of any signal that gets overdriven.

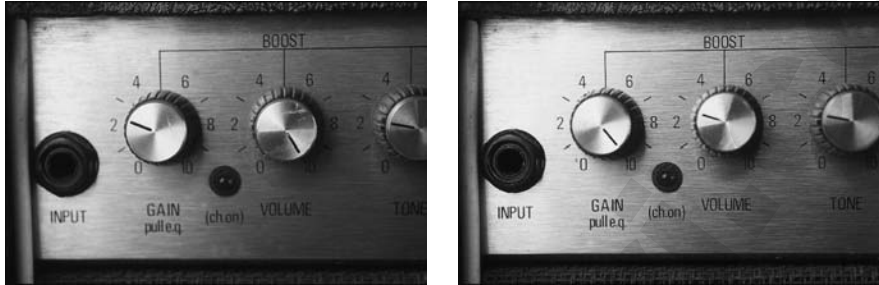
Figure 2-9:
Place the controls in a neutral position with the volume reduced, effects off, and tone controls “flat.”



Figure 2-10 shows two setups, one clean, and the other overdriven. In both settings the overall volume — or absolute loudness — is about the same. Only the distortion content changes.

Figure 2-10:

The left settings produce a clean, undistorted sound; the right gives distortion.



Channel switching

Most modern amps that allow you to create sounds on separate channels also allow you to switch between them by means of a front-panel switch. This enables you to set up two channels independently and switch between them instantly and at will. Typically, you assign two contrasting sounds for these channels, such as clean and distorted, or variations on those qualities (perhaps “ultra-sheen” and “super-stun”).

Careful crafting of two independent clean and distorted sounds may produce righteous tones on their own, but they aren’t much use to a guitarist who in the same song wants a clean sound on the verses (to, say, accompany a singer), and mondo-distortion for the Big Guitar Solo (and rock guitarists should *insist* every song include at least one of these). In a single-channel amp, reconfiguring the controls for real-time use between song sections is a practical impossibility, and in multiple channels, even throwing a front-panel switch requires the guitarist to take one hand off the instrument and reach for the amp. And hey, who has that kind of time?

The *footswitch* is an inexpensive (about \$20, if not already included with the amp), “stompable” device that sits on the floor and plugs in the back of your amp. Its sole purpose in life is to alternate between two states — 1 and 2, A and B, on and off, and so on. A footswitch allows the guitarist to play with both hands on the guitar the entire time, and when the moment comes to switch seamlessly from dutiful backup drudge to distortion-diva superstar, she can step surreptitiously on a pedal and have her sound magically and instantly launch into hyperspace.

A footswitch has other uses besides hands-free channel switching. You can use a footswitch to turn your effects on and off. Or you can try to step on two footswitches at once, to turn on the effects *and* to change channels. This sometimes poses a problem because you have to twist your foot sideways so your toe and heel can simultaneously press two switches at once. Miscalculation of this move may leave audience members wondering, “Why did that knock-kneed guitarist suddenly fall over just before the guitar solo?”

Making Do If You Don't Have an Amp

Certainly a guitar amp is an important thing to have. But sometimes you simply have to choose between getting a really good guitar now and waiting for an amp, or spending the same money for two pieces — and comprising on the quality of both.

For those who have faced this cosmic struggle, know that you have alternate means of amplification available to you that won't cost nearly as much as a quality amplifier. You may even have the technology right now and not even realize it. (Cue mysterious organ music.)

Plugging into a home stereo or boombox

You can get away without buying an amp at all, if you plug your electric guitar into the auxiliary input of your home stereo. All you need is a special, inexpensive adapter. You can readily purchase these devices at electronic or music stores for less than \$5. (Just tell the salesperson what you want to do, and he can supply the correct unit.) The adapter is just a metal or plastic-coated plug that has a female $\frac{1}{4}$ -inch jack on one end and a male RCA (sometimes called *phono*) plug on the other. Many boomboxes have inputs as well, but use a $\frac{1}{8}$ -inch connection, so for one of these you need a female $\frac{1}{4}$ -inch jack on one end and a male $\frac{1}{8}$ -inch stereo plug on the other. Make sure, if you buy your adapter at a place other than a music store, that the adapter's female end is mono; that's the end you plug your guitar cord into.



Before you go plugging anything in to a stereo or boombox, make sure the volume control on the receiver is all the way down. This precaution prevents any sudden pop or surge in the system, which can potentially damage the speakers.

Because you plug into, say, the left input of your receiver, you hear music only out of the left speaker. This is normal. Some higher-end receivers enable you to set the *output mode* (the stereo configuration) of the source signal. If you see a bunch of settings such as L, R, L+R, and so on, set that knob to L (which routes the left channel to both speakers). The resultant sound is not stereo, but it sounds fuller and more widely dispersed than if your guitar comes out of only one speaker. And hey, it's better than a converted toaster oven any day!

Figure 2-11 shows how to plug into the back of your receiver. Plug one end of the guitar cord into your guitar and the other end into the adapter. Check to see that the receiver's volume is down. Plug the adapter into the left auxiliary input in the back of your receiver. On the receiver's front panel,

select “Aux 1” or whatever is the corresponding name of the input into which you plugged your guitar. (It may be called “Tape 1” or some other name — check the input itself or your owner’s manual if in doubt.) Turn your guitar’s volume up full. Then slowly turn up the receiver’s volume knob until you hear sound at a comfortable listening level. You can adjust the receiver’s tone controls to better shape your sound as well.



Figure 2-11:
An adapter
allows you
to use your
stereo or
boombox as
an amp.

Book III

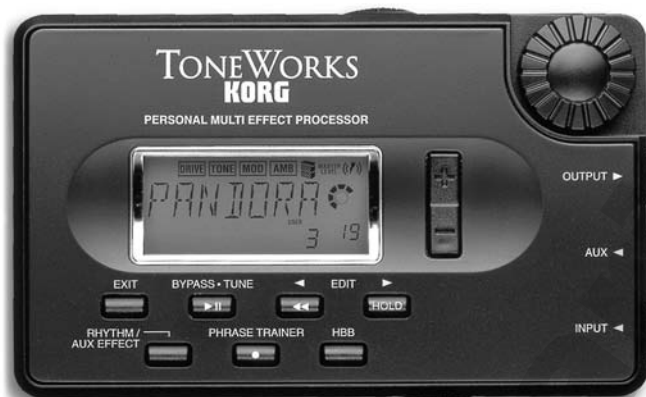
Rock
Guitar

Headphone amps

Because of the miniaturization of all things electronic, you can now get full-sounding, authentic guitar sounds from a unit the size of a disposable camera — as long as you listen to it through headphones (meaning that it has no speaker or power amp of its own). These strap-on wonders are battery powered for untethered practicing (great for walking into the bathroom and standing in front of the mirror to check your stage moves). And virtually all headphone amps offer distortion, EQ, reverb, and other digital effects, many of them simultaneously. So a headphone amp can usually double as a multi-effects processor, which is quite cool.

Headphone amps also provide numerous *presets* — sounds preprogrammed, or set up, by the manufacturer, plus full stereo sound (especially effective over headphones). Headphone amps are great for playing in a moving vehicle, at the beach, in a hotel room, or in the airport lounge, and they can even output the signal to tape or disk, suitable for recording. The cost starts from about \$200 (the Korg Pandora, Scholz Rockman, Ibanez Rock 'n' Play, and Zoom 9000 series are just some makes and models) and are well worth the price if portability, privacy, and authentic tone are important for your practice routine. Figure 2-12 shows a headphone amp for guitar.

Figure 2-12:
The Korg
Pandora
PX-3
features
several
types of dis-
tortion, EQ,
and effects.



Demystifying the Gizmology

Amp functions and their controls may seem daunting at first, but if you just remember to break them down to their basic sections, you'll have a much better time dealing with them. When you shop for an amp and are faced with myriad choices, remember that the rows of dials, knobs, and switches all have common purposes among models. Occasionally, you see something unique to that manufacturer or model, but if you come prepared in the basics, you should have an easier time recognizing what that feature is and to what section it belongs.



Above all, don't let the number of knobs intimidate or impress you. The important thing about an amp is how it sounds — and more specifically, how it sounds to you when you play your guitar through it. Some of the best amps in the world have very few knobs and look rather low tech.

So make sure you check out an amp the way you would a guitar — by listening to it as well as playing through it, and developing a rapport and feel for the vibe it produces.

Chapter 3

Playing Lead

In This Chapter

- ▶ Mastering scales, arpeggios, and lead patterns
 - ▶ Reading notation
 - ▶ Practicing riffs
 - ▶ Improvising good solos
-

Lead guitar is without a doubt the most spectacular and dazzling feature of rock guitar playing. Lead guitar can embody emotions that run the gamut from mournful and soulful to screaming, frenzied abandon — sometimes in the same solo. Whereas *riffs* are grounded, composed, and can manifest their power through their unflinching solidity, lead is beckoned by the music to launch into divinely inspired flights of fancy — to be forever soaring.

The greatest lead rock guitarists, from Eric Clapton and Jimi Hendrix to Eddie Van Halen and Steve Vai, have all been able to soar, but they have also all been disciplined masters of their instruments. They have resolved the ultimate artistic paradox: total freedom through total control.

Left-hand movement and precise single-string picking are the focus in this chapter. As you begin developing the basic technique for playing lead, never forget that your playing possesses the potential for evoking enormous emotional power. And kick over a few amplifiers while you're at it too!

Taking the Lead

You must play many before you can play one, Grasshopper.

This saying of unknown but vaguely Eastern origin certainly applies to rock guitar playing, because you need to learn to play *chords* (note groupings of at least three notes) before you can learn single notes — the stuff of leads.

Actually, you don't *have* to learn chords before lead, but in rock guitar it's a good idea, at least from a technical standpoint, because when playing rhythm you don't have to be as precise with your right-hand motions. Most beginning guitarists find striking multiple strings easier than plucking individual ones. (You can find the basics of rhythm techniques in Chapter 4 in Book II.)

Now, however, the time has come to venture into the world of single-note playing, where you pick only one string at a time, and which string you play is critical. Single-note playing also involves a lot more movement from the left hand.

Single-note takes on a number of different musical forms. Four of the most important ones for playing rock include the following:

- ✓ **Melody:** A major component of single-note playing on the guitar is melody. *Melody* can be the composed tune of the song played instrumentally, or it can be an improvised break or solo, using the melody as the point of departure.
- ✓ **Arpeggio:** An *arpeggio* is playing a chord one note at a time, so, by definition, it's a single-note technique. You can use arpeggios as an accompaniment figure (as you do in the fingerstyle example in Chapter 4 in Book II) or as lead material, as many hard rock and heavy metal guitarists, such as Eddie Van Halen and Randy Rhoads, have done. Lead guitarists burn up many a measure just by playing arpeggios in their lead breaks, and the results can be thrilling.
- ✓ **Riff:** A *riff* is a self-contained musical phrase, usually composed of single notes and used as a structural component of a song or song section. A riff straddles the line between melody and rhythm guitar because it contains elements of both. A riff is typically repeated and serves as a backing figure for a song section.

Think of the signature riffs to the Beatles' "Day Tripper" and "Birthday," the Rolling Stones' "Satisfaction," Aerosmith's "Walk This Way," Cream's "Sunshine of Your Love," Led Zeppelin's "Whole Lotta Love" and "Black Dog," Ozzy Osbourne's "Crazy Train," and Bon Jovi's "You Give Love a Bad Name." These are all songs based on highly identifiable and memorable riffs.

Riffs aren't always composed of just single notes. Deep Purple's "Smoke on the Water" and Black Sabbath's "Iron Man" are actually composed of multiple-sounding notes moving in unison. And two or more guitars can play riffs in harmony too. The Allman Brothers and the Eagles are famous for this.

- ✓ **Free improvisation:** This isn't a recognized technical term, but you can think of *free improvisation* as lead material not necessarily derived from the melody. It doesn't even have to be melodic in nature. Wide interval skips, percussive playing, effects used as music, and melodic note sequences (such as patterns of fast repeated notes, or even one note) can all contribute to an exciting lead guitar solo or passage.

The yin and yang of rhythm and lead

If a band has two guitarists, a logical division of duties is to have one guitarist play rhythm and the other play lead. Often, the better guitarist is the lead guitarist. Sometimes, though, you divide the duties not necessarily for reasons of musical talent, but because the rhythm guitarist is the principal songwriter (as in the case of

Tom Petty and Metallica). In many bands with two guitarists, the divisions of lead and rhythm are not clearly defined, as with Lynyrd Skynyrd, the Allman Brothers, and Judas Priest. In the following list, however, the duties between lead and rhythm are (or were) clearly separated.

Group	Rhythm	Lead
The Beatles	John Lennon	George Harrison
The Rolling Stones	Keith Richards	Brian Jones/Mick Taylor/ Ron Wood
The Kinks	Ray Davies	Dave Davies
The Grateful Dead	Bob Weir	Jerry Garcia
AC/DC	Malcolm Young	Angus Young
Creedence Clearwater Revival	Tom Fogerty	John Fogerty
Aerosmith	Brad Whitford	Joe Perry
Kiss	Paul Stanley	Ace Frehley
Tom Petty and the Heartbreakers	Tom Petty	Mike Campbell
The Cars	Ric Ocasek	Elliot Easton
The Clash	Joe Strummer	Mick Jones
Def Leppard	Steve Clark	Phil Collen
Bruce Springsteen and the E Street Band	Bruce Springsteen	Nils Lofgren
Metallica	James Hetfield	Kirk Hammett
Guns N' Roses	Izzy Stradlin	Slash

Book III

Rock
Guitar

The terms *lead*, *melody*, *single line*, *riff*, *solo*, and *improv* are all types of single-note playing and are often used interchangeably. The phrase *single-note playing* is a little cumbersome, so you can refer to any playing that is not rhythm playing as lead playing, even if it's to indicate playing a riff.



Strictly speaking, lead playing is the *featured* guitar, which is usually playing a single-note-based line. But it doesn't always have to be playing only single notes; it could be playing *double-stops*, which are two notes played together (they're introduced in Chapter 5 in Book II). Also, the designation *lead guitar* helps to distinguish that guitar from the other guitar(s) in the band that are playing rhythm guitar.

Sometimes the featured guitar can consist of a strummed chordal figure. The guitar break in Buddy Holly's "Peggy Sue" and the opening riff to the Who's "Pinball Wizard" are two standout examples of the rhythm guitar taking a featured role.

Holding the pick

You don't need to hold the pick any differently for lead playing than you do for rhythm playing. Have the tip of the pick extending perpendicularly from the side of your thumb and bring your hand close to the individual string you want to play. You may find yourself sometimes gripping the pick a little more firmly, especially when you dig in to play loudly or aggressively. This is fine. In time, the pick becomes almost like a natural extension of one of your fingers.

Attacking the problem

The sounding or striking of a note, in musical terms, is called an *attack*. It doesn't necessarily mean you have to do it aggressively; it's just a term that differentiates the beginning of the note from the *sustain* part (the part that rings, after the percussive sound).

To attack an individual string, position the pick so it touches or is slightly above the string's upper side (the side toward the ceiling) and bring it through with a quick, smooth motion. Use just enough force to clear the string, but not enough to sound the next string down. This motion is known as a downstroke, which is just like the downstroke discussed in Chapter 4 in Book II, except that here you strike only one string. To play an upstroke, simply reverse the motion.

The ups and downs of lead playing



Striking a string with a downward motion is called a *downstroke* and is indicated by the symbol ▮. Striking the string by bringing the hand up is called an *upstroke* and is indicated by the symbol ∨. In rock guitar, rhythm guitarists tend to favor downstrokes. Downstrokes are more forceful and are generally used to accentuate notes to play even, deliberate rhythms. Alternating downstrokes and upstrokes is called *alternate picking* (covered later in this chapter) and is essential for playing lead guitar.

Playing Single Notes

Playing chords involves a lot of arm and wrist movement. Single-note playing requires much less arm movement, because most of the energy comes from the wrist. You may be tempted to anchor the heel of your right hand on the bridge, which is okay as long as you don't unintentionally dampen the strings in the process.

As you move from playing notes on the lower strings to notes on the higher strings, your right-hand heel will naturally want to adjust itself and slide along the bridge. Of course, you don't *have* to anchor your hand on the strings at all, either; you can just let your hand float in the area above the bridge.



Even when you play loud and aggressively, your right-hand movements should remain fairly controlled and contained. When you see your favorite rock stars on stage flailing away, arms wildly windmilling in circular motions of large diameters, that's rhythm playing, not single-note playing.

In the following sections, you start out with some easy exercises for learning to play single notes on the guitar and then move to things that actually sound cool and are fun to play.

Single-note technique

Using all downstrokes, play the music in Figure 3-1. These are six passages, each on separate strings that require you to play three different notes. All the melodies are in quarter notes, which means the notes come one per beat (or one per foot tap if you're tapping along in tempo).

The trick here is to play single notes on individual strings accurately, without accidentally hitting the wrong string. You don't have to play any fancy rhythms or down- and upstroke combinations; you just have to hit the desired string cleanly. Obviously, it's harder to do that on the interior strings (2nd, 3rd, 4th, 5th) than on exterior ones (1st, 6th).



Each exercise is written in a different feel (as evidenced by the CD recording), but don't let that throw you. As long as you count out the quarter notes with the count-off on the CD (heard as the percussive click of the struck hi-hat cymbals, as a drummer would do when counting off a song) and focus on playing smooth, one-note-per-foot-tap notes, you should do fine.

Track 30, 0:00

Figure 3-1 displays six systems of musical notation, each consisting of a quarter-note melody on a single staff and a corresponding fretboard diagram below it. The diagrams use numbers 0-4 to represent fret positions on the strings.

System 1:

Melody: 0 1 0 1 | 3 1 0 1 | 3 0 1 3 | 0 3 1 0

System 2:

Melody: 0 1 3 1 | 0 3 1 3 | 0 3 0 1 | 3 0 1 0

System 3:

Melody: 0 2 0 4 | 4 2 2 4 | 0 4 2 4 | 0 4 2 0

System 4:

Melody: 0 3 0 2 | 3 2 0 3 | 2 0 3 2 | 3 0 0 2

System 5:

Melody: 3 0 3 2 | 3 0 0 2 | 3 0 2 0 | 3 2 2 3

System 6:

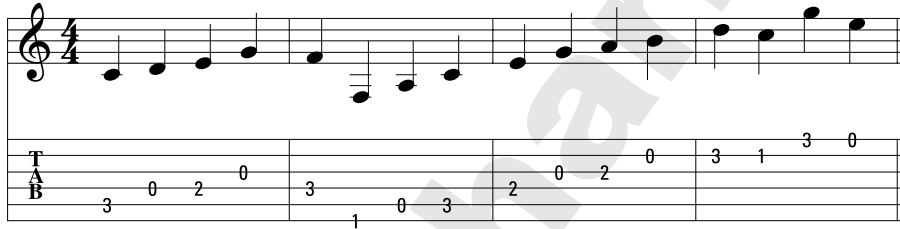
Melody: 0 0 0 3 | 1 3 0 1 | 0 1 3 1 | 3 0 1 0

Figure 3-1:
Quarter-note melodies on each of the guitar's six strings in open position.

The next exercise is a bit harder, because it requires you to switch strings as you play. When you play the example in Figure 3-2, try to go between the strings smoothly, without breaking the rhythm, and without varying your *dynamics* (the intensity of your pick attack) as you switch strings.

Track 30, 1:12

Figure 3-2:
A quarter-note melody played across different strings.



As a guitarist, you not only have to focus on keeping the rhythm steady between bars, but also when switching strings.

Alternate picking in down- and upstrokes

You double the pace by introducing eighth notes into your playing. Keep in mind that in rhythm playing, you can often play eighth notes by just speeding up your downstroke picking. But in lead playing, you must always play eighth notes using the technique called *alternate picking*.



Alternate picking requires you to follow a simple rule: Downbeat notes are played with downstrokes; upbeat notes are played with upstrokes. Sounds mundanely simple, but in practice, maintaining this strict alternating pattern while crossing — and even skipping — strings can be difficult. Still, alternate picking works, even when it seems illogical, or at least inefficient, and virtually every guitarist on the planet who plays with any facility uses alternate picking.

The alternate-picking technique doesn't care whether you have to cross strings or not. In an eighth-note melody, the alternate-picking technique requires that the downbeat notes take downstrokes and the upbeat notes (the ones that fall in between the beats) take upstrokes — which should be easy to remember.

Book III

Rock
Guitar

Scales

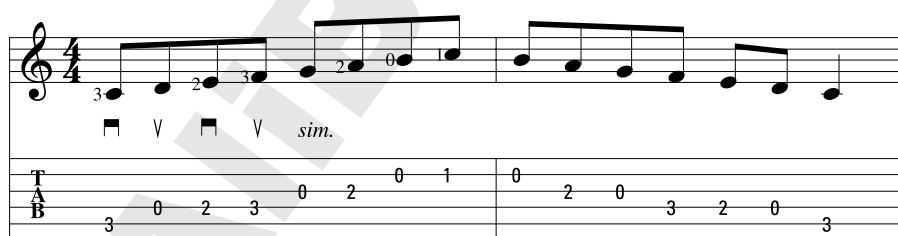
By definition, a *scale* proceeds in stepwise motion. Scales are the dreaded means of musical torture wielded by Dickensian disciplinarians (like your fourth-grade piano teacher), but they do serve a purpose. They're a great way to warm up your fingers within a recognizable structure, and they reveal available notes on the fingerboard within a key.

Plus, playing scales provides a familiar-sounding melody (*do re mi fa sol la ti do*) that yields a certain satisfaction upon correct execution — at least until you've done them two or three billion times and you can't stand it anymore. But for now, you're going to try an ascending, contiguously sequenced set of natural notes in the key of C beginning on the root (the 1st degree of the scale or chord) — a C major scale.

Playing in the majors

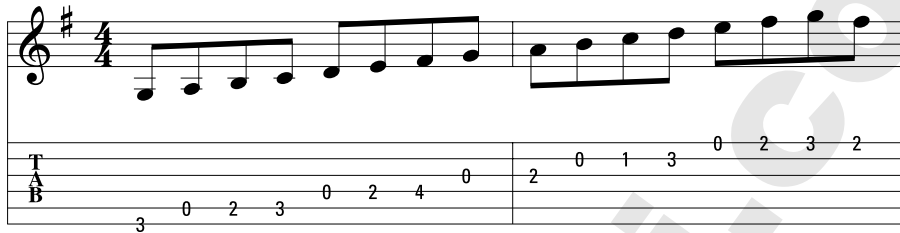
Figure 3-3 is a one-octave C major scale in eighth notes. Note that the pick-stroke indications are given for the first two beats, and then the term *sim.* (which is short for *simile*, or “in the same fashion”) tells you to continue on in the same way.

Figure 3-3:
A one-octave C major scale, ascending and descending.

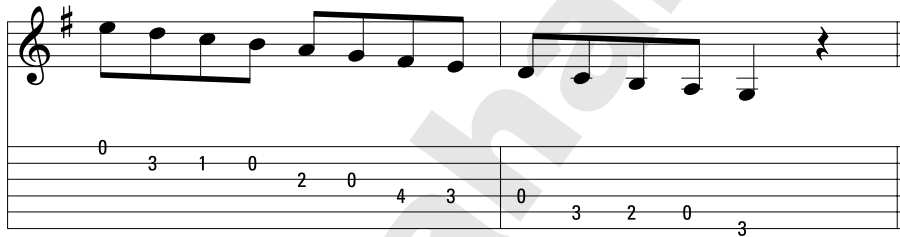


Left-hand fingerings are also provided in the standard music notation staff. The idea is not that you sight read all this stuff — the notes, the right- and left-hand indications, and so forth — but that you learn this C scale and play it whenever you feel like warming up. Or you can just play the scale when inspiration waits in the wing space of your mind, mute and mocking, and you can't think of anything else musically cohesive to play.

Now for another scale that's musically about the same, but in a different key, and somewhat harder to play. Figure 3-4 shows a two-octave G major scale, ascending and descending. What makes it harder is the left-hand fingering: You use all of your left-hand fingers for this scale, in a four-fret span.

**Figure 3-4:**

A two-octave G major scale, ascending and descending.



Keep your left hand fairly stationary above the strings, and let your fingers stretch and reach for their correspondingly numbered fret (the first, or index, finger plays the 1st fret; the second, or middle, finger, plays the 2nd fret; and so forth). As your hand becomes more agile, your finger span will widen and you'll be able to reach the frets comfortably while keeping your left hand almost perfectly stationary.

A minor adjustment

Because you backed into scales by way of stepwise motion, you should get equal time with the major scale's gloomier cousin, the minor scale.

Actually the "family" analogy isn't that far off because minor scales are related to major scales. Every major scale has a corresponding minor scale, the *relative minor*, which you can play in its entirety using the same key signature. In any major key, the *natural minor scale* (so called because you can play it naturally, with no altering of the major-scale notes) begins at the 6th degree. (For more on all of this, see Chapter 3 in Book VII.)

So in the key of C, the 6th degree would be A (remember the musical alphabet only goes up to G), so Am is the relative minor of C major. Figure 3-5 is a minor scale, in eighth notes, starting on the open 5th string, A.

Figure 3-5:
A one-octave A minor scale.

Skips

Skips are melodic movements of noncontiguous letter names, such as A, C, E, G, B. Skips can be of any interval and don't have to follow the notes of a chord. So all arpeggios are skips (but not all skips are arpeggios). Figure 3-6 shows an Am7 arpeggio. The notes of the chord are played one after the other: A-C-E-G.

Figure 3-6:
An Am7 arpeggio.

Combining steps and skips

Most melodies are composed of a mix of stepwise motion and skips, and sometimes melodies can include an arpeggio (such as in the Army bugle calls "Taps" and "Reveille"). Scales, again, are a series of notes organized by key, where you play the notes in order, ascending and/or descending. Arpeggios can be skips in any order, but are limited to the notes of the chord.

Starting at the Bottom: Low-Note Melodies

For some reason, all traditional guitar method books start with the guitar's top strings and work their way down to the low strings. But in the true rebellious spirit of both rock 'n' roll and the *For Dummies* series, this book starts at the bottom.

The reason for starting at the bottom is not just pure rebelliousness, either (although it certainly is fun to be contrary for its own sake!): It's because the impetus for so many of the world's greatest melodies, riffs, and rock rhythm figures have low-born origins (from a guitar perspective, anyway). Think of all the classic riffs already mentioned in this chapter — “Smoke on the Water,” “Iron Man,” “Day Tripper” — and how many of them are low-note riffs.

So in that spirit, try Figure 3-7, which is a low-note melody in the style of a classic-rock riff. Note how it almost revels in its own subterranean girth. Spinal Tap would be proud.

Track 31, 0:00

Figure 3-7:

A rocking low-note melody, exploiting the low strings of the guitar.



Book III

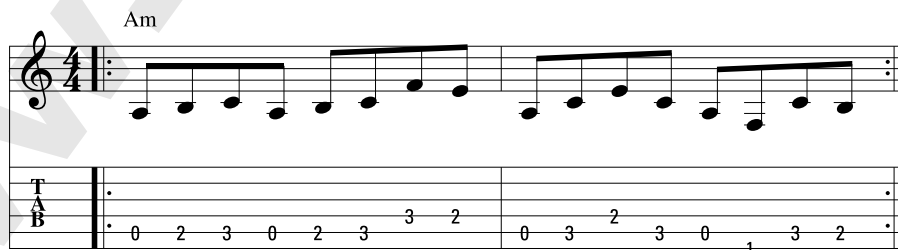
Rock
Guitar

Figure 3-8 is another melody, nimbler than the one in Figure 3-7. This figure moves in steady eighth notes and features some unexpected changes in direction. It also contains a series of melodic skips, which in this case is an arpeggio because it outlines the notes of an A minor chord.

Track 31, 0:11

Figure 3-8:

A low-note melody in moving eighth notes.



Going to the Top: High-Note Melodies

Lead playing typically exploits the upper registers of the guitar, where melodic material is most naturally situated. Before you get really high up on the neck, play the melodic example in Figure 3-9 to hear the ability of the guitar's upper registers to cut through the rhythm section's din.

Track 31, 0:26

Figure 3-9:
A high-note melody in open position.



If your guitar sounds twangy instead of smooth and creamy, try increasing the distortion factor of your sound. See Chapter 2 in Book III for information on how to dial up a more distorted sound if necessary.

Playing in Position

So far you've played all of your melodies and exercises in the lower regions of the neck, between the 1st and 4th frets. This is where it's easiest to place the notes that you see written on paper onto frets of the guitar neck.



But the guitar has many more frets on the neck than just the first four. Playing in the lowest regions of the neck is where you play most of your low-note riffs, a lot of chords, and some lead work, but the bulk of your lead playing takes place in the upper regions of the neck for two reasons:

- ✓ The higher on the neck you are, the higher the notes you can hit. The guitar is sort of a low instrument — in fact, the notes you read on the treble clef are actually an octave higher than the notes of the guitar. For this reason, it's a good idea to get as far up the neck as possible if you want to distinguish yourself melodically above the low-end rumble of basses, drums — and, of course, other guitars playing rhythm in the lower range.

- ✓ Up the neck the strings are more flexible and easily manipulated by the left hand, which means you have better expressive opportunities for bends, vibrato, hammer-ons, pull-offs, slides, and other expressive devices.

Open position

Playing in open position is where you've spent your time thus far, but by *design*. When you have complete command of the entire neck and you can play anywhere you can find the note, playing in open position will be a *choice*. In other words, ultimately you should play in open position only because you want to, because it suits your musical purpose.

Rock guitar uses both open position and the upper positions (the positions' names are defined by where the left-hand index finger falls) for the different musical colorings they offer. By contrast, jazz guitar tends to avoid open position completely, and folk guitar uses open position exclusively. But rock uses both, and so you need to understand the strengths offered by both open position and the upper positions.

Remember the G scale of Figure 3-4? That's an open position G scale because it uses the open strings of the guitar. Now it's time to explore playing the same exact notes in the same exact rhythm another way.

Movable, or closed, position

Playing in a *movable position* allows you to take a passage of music and play it anywhere on the neck. If you play a melody on all fretted strings (incorporating no open strings), it doesn't matter if you play it at the 1st fret or the 15th. The notes will preserve the same melodic relationship. It's sort of like swimming: After you learn the technique of keeping yourself afloat and moving, it doesn't matter if the water is 5 feet or 5 miles deep — except if you're in 5-mile deep water, it's probably a lot colder.

A movable position is sometimes called *closed position*, because it involves no open strings. After you play anything on all-fretted strings, you have created a great opportunity to slide it anywhere on the neck and have it play exactly the same — except of course that you're apt to find yourself in another key. This has equally profound implications for chords, as you find out in Chapter 3 in Book II in the sections on movable chords and barre chords.

The best part is the ability to move closed-position melodies around — instantly transposing their key — which is something that no piano player, trumpet player, or flute player can do easily, and they'll be eternally jealous of you.

To demonstrate a movable position, first take your two-octave G major scale and play exactly the same pitches, but place them on all fretted strings. Figure 3-10 is, then, a two-octave G major scale in 2nd position. It's 2nd position because the lowest fret played defines the position's name, and here it's the 2nd fret.

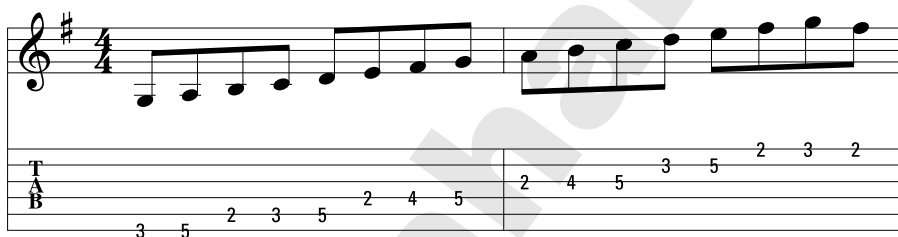
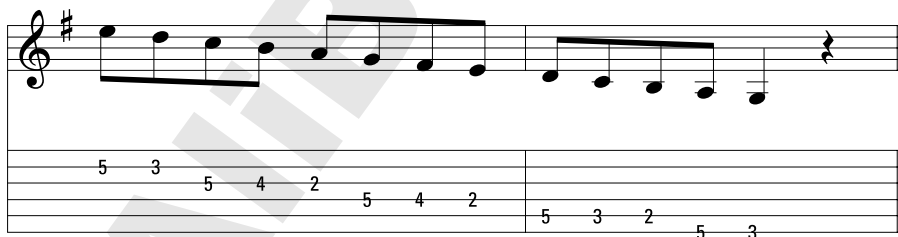


Figure 3-10:
A two-octave G major scale in 2nd position.



After you master Figure 3-10, try sliding your hand up and down the neck, playing the scale in different positions. By doing this you'll *transpose* your G major scale into other keys.

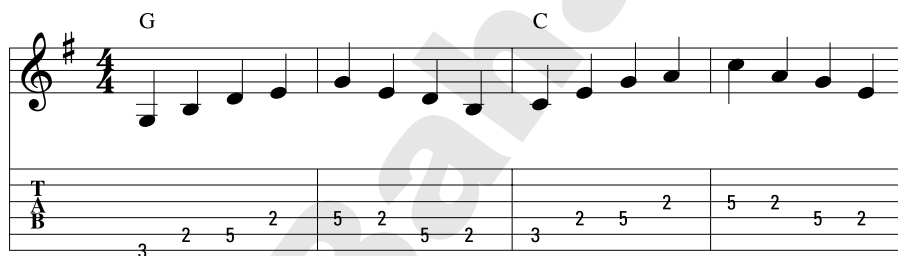
Getting in Tune with Lower Register Riffs

The example on low-note melodies earlier in this chapter tackles the topic of riffs, but now you should take a look at them in earnest — not because they help illustrate alternate picking or string-crossing strings, but for their own sake. Finally, you're making music to make music!

The best thing about the lower register of the guitar is its powerful bass notes. You simply have no better arsenal for grinding out earth-shattering, filling-rattling, brain-splattering tones than the lower register of the guitar, so this is where 99 percent of all the greatest riffs are written.

Start off with a classic riff in quarter notes, called, variously, *boogie-woogie*, *boogie*, or *walking bass*. Figure 3-11 is a classic boogie figure using only the notes of the chord, plus one, the 6th degree, in a fixed pattern for each chord. But notice that its repetition is its strength. Your ears want to hear the same pattern for each of the chords, so infectious is the sound!

Track 32



As its name implies, the pentatonic scale contains five notes, which is two notes shy of the normal seven-note major and minor scales. This creates a more open and less linear sound than either the major or minor scale. The pentatonic scale is also more ambiguous, but this is a good thing, because it means that it's harder to play *bad* notes — notes that, although they're within the key, may not fit well against any given chord in the progression. The pentatonic scale uses just the most universal note choices.

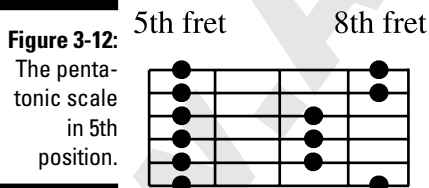


The importance of the pentatonic scale can't be emphasized enough. It ranks with anesthesia, the printing press, and the cordless screwdriver as indispensable to modern civilization.

The first scale you should learn is the A minor pentatonic. A minor pentatonic can be used as a lead scale over chord progressions in A minor, C major, and A blues ("blues" can imply a specific, six-note scale, as well as a chord progression). It also works pretty well over A major and C blues. Not bad for a scale that's two notes shy of a major scale.

Figure 3-12 is a neck diagram outlining a pentatonic scale form in 5th position. The neck is positioned as if you're facing a guitar that is laid on its side, with the neck to your left. So it looks like tablature in the sense that the first string is on top, but it's a schematic of the actual neck instead of the tab staff. On Track 33 on the CD, it's played from top (1st string, 8th fret) to bottom (6th string, 5th fret) in quarter notes. Try playing it, and don't worry about playing along in rhythm with the CD; the track is just there so you can make sure you're in the right position hitting the right notes.

Track 33





In the neck diagram, just like in a tab staff, the 1st string is the top line. This isn't a chord, but all the available notes for the pentatonic scale. The left-hand index finger plays all the notes on the 5th fret; the ring finger plays all the 7th-fret notes; and the little finger plays all the 8th-fret notes. In this particular scale pattern, the middle finger doesn't play at all.

Playing the Pentatonic Scale: Three Ways to Solo

In the following sections you learn to play one pentatonic scale pattern in three different musical contexts:

- ✓ A progression in a major key
- ✓ A progression in a minor key
- ✓ A blues progression

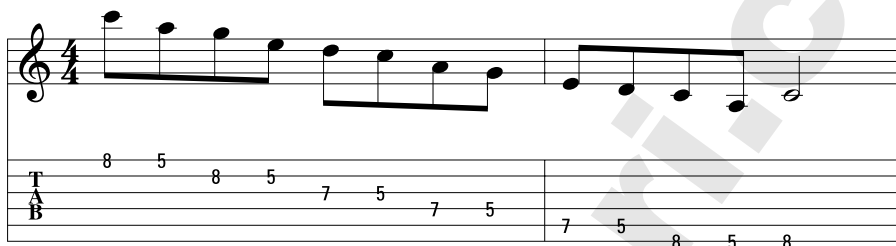
You can use just one pattern to satisfy all three musical settings. This is an unbelievable stroke of luck for beginning guitarists, and you can apply a shortcut, a quick mental calculation, that allows you to instantly wail away in a major-key song, a minor-key song, or a blues song — simply by performing what is essentially a musical parlor trick. This is a great quick-fix solution to get you playing decent-sounding music virtually instantly. As you get more into the music, however, you'll want to know why these notes are working the way they do. But until then, let's jam!

Place your index finger on the 5th fret, 1st string. Relax your hand so your other fingers naturally drape over the neck, hovering above the 6th, 7th, and 8th frets. You are now in 5th position, ready to play. Work to play each note singly, from top to bottom, so you get your fingers used to playing the frets and switching strings. Don't worry about playing downstrokes and upstrokes until you're comfortable moving your left-hand fingers up and down the strings, like a spider walking across its web.

Now try Figure 3-13, a descending scale in C pentatonic major in eighth notes, beginning with your left-hand little finger on the 1st string, 8th fret.

Track 34, 0:00

Figure 3-13:
A descending eighth-note C pentatonic major scale.



This particular pentatonic pattern allows you to keep your left hand stationary; all the fingers can reach their respective fret easily without stretching or requiring left-hand movement.

Now that you've played the scale, try it in a musical context. This is where you witness the magic that transpires when you play the same notes over different feels in different keys. Let the games begin!

Pentatonics over a major key

Figure 3-14 is a C major progression in a medium-tempo 4/4 groove. The written solo is a mix of quarter notes and eighth notes comprised of notes from the C major pentatonic scale, moving up and down the neck. The left channel of your CD has the rhythm instruments, and the right features the lead guitar. As soon as you get the idea about how the lead sounds, dial it out and try to play the melody against the recorded rhythm sound by yourself. Then check your work by dialing back in the right channel and see how close you got.

Pentatonics over a minor key

And now, as Monty Python once said, for something completely different. Or is it? In Figure 3-15, the feel changes (to a heavy back-beat 4/4), the key changes (to A minor), but you still play the same notes. Notice the strikingly different results.

Track 34, 0:11

Figure 3-14:
Solo in C
major over
a medium-
tempo 4/4.

Track 34, 0:35

Figure 3-15:
An A minor
solo over a
heavy back-
beat 4/4.

Book III

Rock
Guitar

Pentatonics over a blues progression

And here is yet another groove that works with the same scale. Figure 3-16 is an up-tempo blues shuffle in A. Note that the eighth notes in this example *swing* — they're to be played in a long-short scheme. Make it cry.

Track 34, 0:52

Shuffle feel ($\text{♩} = \text{♩}^3$)

First system of musical notation for an A blues solo. The key signature is A major (three sharps). The time signature is 4/4. The first staff shows the melody with chords A7, D7, and A7. The second staff shows the bass line with fret numbers: 5 5 8 5 | 5 5 8 5 | 5 8 5 8 5.

Second system of musical notation. The first staff shows the melody with a D7 chord. The second staff shows the bass line with fret numbers: 9 5 | 7 5 7 5 7 5 | 7 7 7 7 5 | 7 7 5 7 5 7 5.

Third system of musical notation. The first staff shows the melody with chords A7 and E7, and triplets. The second staff shows the bass line with fret numbers: 7 5 | 7 5 7 5 | 7 5 8 5 8 5 8 5 | 7 7 5 7 7 5 7.

Fourth system of musical notation. The first staff shows the melody with chords D7 and A. The second staff shows the bass line with fret numbers: 5 5 8 5 5 5 5 | 5 5 8 5 7 5 | 5 7 5 7.

Figure 3-16:
An A blues
solo over an
up-tempo
shuffle.

Improvising Leads

In rock, jazz, and blues, improvisation plays a great role. In fact, being a good improviser is much more important than being a good technician. It's much more important to create honest, credible, and inspired music through improvisation than it is to play with technical accuracy and perfection.

The best musicians in the world are the best improvisers, but they're not necessarily the best practitioners of the instrument. About the only thing that competes with the ability to improvise a good solo is the ability to write a song.

And so the last exercise in this chapter is devoted to improvising — where you take a collection of notes and turn it into music. To do this, use the 5th-position pentatonic scale you learned earlier in this chapter. Figure 3-17 is a slow, gutbucket blues shuffle in A. Don't forget to swing those eighth notes and remember the blues credo: You don't have to feel bad to play the blues . . . but it helps.

Track 35

Book III

Rock
Guitar

Shuffle feel (♩ = $\overline{\text{J}^3\text{J}}$)

Figure 3-17: A slow blues shuffle in A.



Improvising is, at the same time, one of the easiest things to do (just find your notes and go) and one of the hardest (try to make up a meaningful melody on the spot). The more note choices you have, the more vocabulary you'll be able to pull from to express your message.



Practice to get your fingers working smoothly through the notes up and down the neck. Try to surprise yourself by changing direction, skipping strings, and even repeating notes for dramatic effect. Some of the highest musical moments of your improvising career will be the results of something completely unintentional — a happy accident. But to have such “musical mishaps,” you must put yourself in harm’s way. Be bold, be daring, take chances, improvise.

The pentatonic scale is a great way to start making music immediately, but plenty of other scales exist to help you in your music making. And you still have to listen to other guitarists for ideas. Go outside any scale you use to get unusual notes, and learn passages of classic solos on recordings to see what makes them tick. Above all, you must develop your own sense of phrasing and your own voice.

Chapter 4

Groovin' on Riffs

In This Chapter

- ▶ Working out with basic riffs
- ▶ Doing double-time with double-stops
- ▶ Combining riffs and chords
- ▶ Playing rhythm figures

Riffs are often the most memorable component of a rock 'n' roll song and can form the perfect bridge between a chord progression and a melodic lead phrase. Although technically a short, self-contained musical phrase, a *riff* is much, much more than that. A riff sticks in your head long after you forget the lyrics — and even the melody — and at a noisy party, it is the riff that makes a song instantly recognizable when you can't quite make out the rest of the music. In many cases, the riff is the backbone of the song, its *raison d'être* (a fancy French term for *mojo*), and the rhythm, melody, and chords are all derived from the riff.

In this chapter, you venture deep into riff territory to see where rock 'n' roll *lives* and discover why riffs themselves are such a vital and inextricable component of rock 'n' roll. (Hey, where do you think the phrase “a riff-roarin' good time” came from?) This chapter also briefly looks at two other rock staples, the *power chord* and the *double-stop*. Power chords are actually easier to play than the open-position chords covered in Chapter 3 in Book II, and a *whole* lot easier than the dreaded barre chords also discussed in that chapter. (Oh, barre chords aren't *that* bad, really — at least for us electric guitarists.)

Then, just when you think having any more fun in this chapter couldn't possibly be legal, you find out how to combine riffs, power chords, and double-stops into full-blown, fully realized rhythm figures. *Rhythm figures* embody the total approach to rhythm guitar, and virtually any strumming or single-note technique you can come up with can be pressed into rhythm-guitar service and incorporated into a rhythm figure. And although lead guitar may be the brain surgery of the rock world — the glamorous specialty skill — rhythm guitar is the daily exercise and good living that keeps you healthy and prospering.

Getting Your Groove On: Basic Riffs

This chapter starts off with riffs that exploit the lower register of the guitar. Make sure you strike only one string at a time, but that your pick strokes carry the same confidence and power that they have when playing chords. Even if the riffs sound familiar, make sure you execute the rhythms and articulations precisely as written; don't let your ears allow you to gloss over the tricky parts.

Half- and whole-note riffs

A riff doesn't have to be flashy to be memorable. Figure 4-1, in the style of the band Black Sabbath, uses only half notes and whole notes to create an eerie, menacing effect.

Track 36, 0:00

Figure 4-1:
A powerful-sounding riff using only half notes and whole notes.

N.C.



You can give fretted notes with long values (half notes and whole notes) more life by applying left-hand *vibrato* to them. Gently pull and release the string (causing it to bend slightly) very rapidly, causing the note to waver. Vibrato helps give slower notes more intensity. A wavy line placed above the note (~~~~) tells you to apply vibrato.

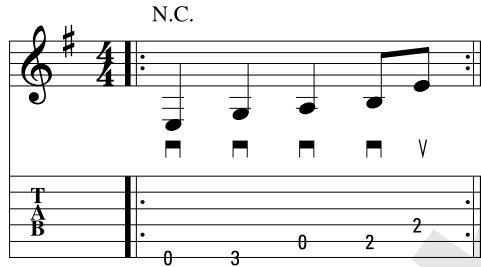
Eighth- and quarter-note riffs

Other than slow riffs created from half notes and whole notes, the simplest riffs to play are formed from the straightforward, nonsyncopated rhythmic

units of quarter notes and eighth notes. Figures 4-2 and 4-3 are riffs that mix quarter notes and eighth notes. Be sure to observe the pick-stroke indications for downstrokes and upstrokes (▮ and ∨, respectively).

Track 36, 0:11

Figure 4-2:
A riff comprised of mostly quarter notes, with one eighth-note pair.



Track 36, 0:19

Figure 4-3:
A riff comprised of mostly eighth notes, with one quarter note.



Book III

Rock
Guitar

Note the presence of F# in the key signature of Figures 4-2 and 4-3. This means that all Fs are sharpened, and that the key is either G major or E minor. So even though these two riffs don't contain any Fs, we can see that the examples are in E minor, because the riffs gravitate to and around the root note, E.

Now try the boogie riff in Figure 4-4 (an expansion of the boogie riffs presented in Chapter 3 in Book III), which is comprised of mostly quarter notes, but with a couple of shuffle eighth notes thrown in to give the groove an extra kick. The tempo is fairly bright here, so watch that you execute the long-short rhythm of the shuffle eighth notes correctly.

Triplet feel ($\text{♪} = \overline{\text{♪}^3\text{♪}}$)

Figure 4-4:

A boogie shuffle in quarter notes, with eighth notes thrown in.



Riffs that consist of all eighth notes create a sense of continuous motion and can really help propel a song along. Figure 4-5 is in all eighth notes, and notice how easily the end of the measure leads into the beginning of the second measure, creating a seamless sound. Note too the presence of the B $\flat$ and D $\sharp$ — two *chromatic*, or out of key, notes in E minor.

Track 36, 0:37

Figure 4-5:
A steady-
eighth-note
riff in E
minor.



While Figure 4-5 is a simple one-bar riff that repeats over and over, Figure 4-6 is a longer, steady eighth-note phrase that goes for two measures before repeating.



Because riffs are short and self-contained, they can be easily *looped*, or repeated back to back with no break. All the riffs in this chapter can be played seamlessly, and you're encouraged to play multiple repetitions until you execute the notes flawlessly — both from a technical standpoint (no missed or *fluffed* notes, no buzzing) as well as a rhythmic one. Pay particular attention when *rounding the corner* (going from the end of the riff back to the beginning). The barrier preventing a smooth transition can be more psychological than technical.

Track 36, 0:45

Figure 4-6:
A two-bar riff in steady eighth notes.

N.C.

It's one thing to maintain a steady, consistent delivery for two bars. It's quite another to stay solid over bars upon bars or minutes upon minutes of playing the same riff within a groove. So repeat the riffs in this chapter in a loop fashion; that is, play them numerous times until you're sure you've got the long-term as well as the short-term consistency considerations under control. Or at least repeat the riffs until you can't stand it anymore. Either way, it's good training for playing with any band claiming the Allman Brothers, the Grateful Dead, or Phish as an influence.

16th-note riffs

A 16th-note riff doesn't have to be fast or syncopated (for more on syncopation, see Chapter 4 in Book II) just because it contains 16th notes. Figure 4-7 is a riff that builds up speed by going first through quarter notes, then eighth notes, then 16ths. Does this riff sound familiar?

Track 36, 0:57

Figure 4-7:
A riff that steps through quarter, eighth, and 16th notes.

N.C.

Book III

Rock
Guitar

Many hard rock and heavy metal riffs are based in 16th notes, including the infamous “gallop” pattern. Figure 4-8 is a gallop riff that takes you on a wild ride. Buckle up — or should that be saddle up?

Track 36, 1:12

Figure 4-8:
A heavy metal gallop in eighth and 16th notes.

Then again, sometimes a riff written in 16th notes really is just plain dog-gone fast, such as the hard-rock groove in Figure 4-9. Be sure to observe the alternate-picking indications in this example.

Track 36, 1:23

Figure 4-9:
A fast 16th-note-based riff in a hard rock style.

Eighth-note syncopation



Technically, playing a syncopated riff is no harder than playing a nonsyncopated riff; it's just trickier to read in printed music. The more experience you have with syncopation, the more you can learn to recognize typical syncopation

patterns. So you don't have to count your brains out with every dot and tie that appears, you can use your memory to help you. Syncopation is not intentionally designed to trip you up (although it may seem like that at first); it's there to put a kick into the music. Learn a few patterns and combinations, and you'll start to recognize them when they reappear. Memorizing a vocabulary of pre-existing syncopation patterns helps so you don't have to reinvent the wheel every time you encounter a syncopated rhythm.

A great example of eighth-note syncopation occurs in the first line of the Beatles song "Eleanor Rigby." If you tap your hand or foot in time and sing, or say in rhythm, the words "Eleanor Rigby picks up the rice in the church where a wedding has been," you notice that the words "Rigby," "rice," "church," "wedding," and "been" all fall on the offbeat.

Figure 4-10 is a steady eighth-note figure where only the last eighth note in the bar is syncopated — here, through the use of a tie that binds it to the first note of the next measure. This particular syncopation device is called an *anticipation*, because it anticipates the downbeat, or first — and strongest — beat, of the measure. In fact, an anticipation is such a common and cool-sounding syncopation device that often players will introduce it, even when it's not written into the music. It's one of those rock 'n' roll situations where something can be justified simply because "it's a feel thing."

Track 36, 1:33

Figure 4-10:
Beat 1 is
tied over
from beat
four-and-a-
half.

Now, double your syncopation efforts and put anticipations before beat 3 (the beginning of the second half of the bar) as well as beat 1, in Figure 4-11.

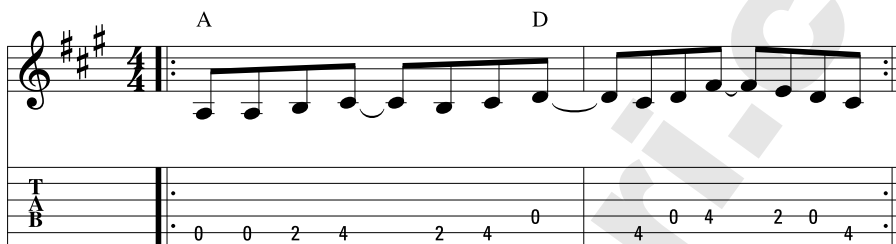
The melody to the Beatles' "Eleanor Rigby" is highly syncopated. In the same scheme as used in Figure 4-11, beats 1 and 3 are anticipated throughout the verse section.

Book III

Rock
Guitar

Track 36, 1:46

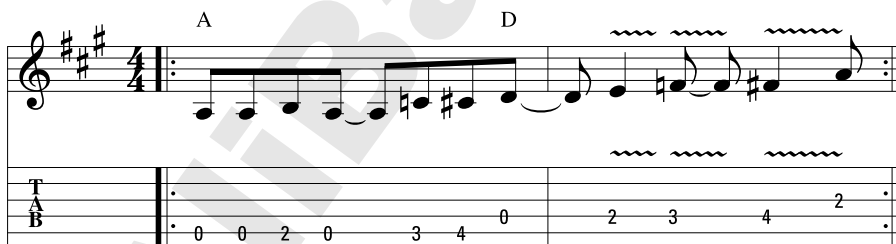
Figure 4-11:
An eighth-note riff with anticipations on beats 1 and 3.



Finally, Figure 4-12 is an ultra-syncopated figure where none of the notes in bar 2 fall on the beat; they all fall in between. The band Deep Purple wrote the riff to their classic hit, “Smoke on the Water,” using a similar syncopation scheme.

Track 36, 1:58

Figure 4-12:
A highly syncopated eighth-note riff.



Playing Two Notes Can Be Better than One: Double-Stops

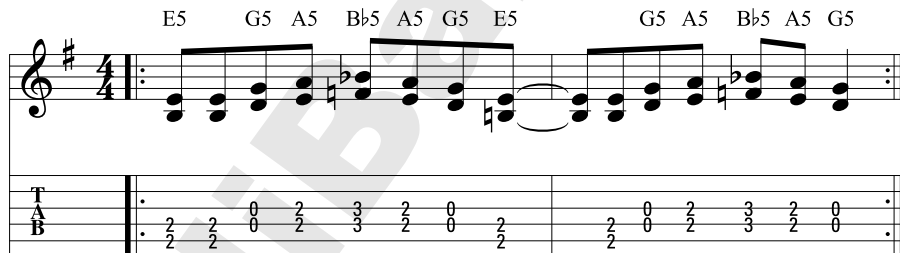
Stuck in a categorical netherworld between single notes and power chords is the two-note phenomenon known as the double-stop. A *double-stop* is simply two notes played simultaneously — on adjacent strings or separated by one to four (the maximum) strings in between.

Because it's obviously not a single note, and because a chord requires at least three notes, the double-stop wanders between the two camps like some musical double agent — sometimes masquerading as a chord, sometimes exhibiting single-note properties. As such, it's a tremendously useful tool in rhythm guitar playing. Because of its facile properties, you can use it for lead playing, too (which is covered in Chapter 3 in Book III).

Right now, though, you're going to employ double-stops in a rhythm context. A two-note power chord is technically a double-stop, because it's two strings played together. But conceptually, guitarists don't really think of power chords as double-stops. Figure 4-13 is more of a true double-stop, especially in its usage here. Note how its movement — between the fretted and open strings — is much easier to execute and less clunky than, say, switching between two chords (such as A and G) in the same tempo. Yet the double-stop movement still retains a chord-like sound and feel.

Track 37, 0:00

Figure 4-13:
A moving
double-stop
figure, used
as a chordal
device.



Book III

Rock
Guitar

Note that you've crept up, register-wise on the guitar. You're now not playing just low notes, but have moved to the midrange of open position.

Figure 4-14 is a chord progression based on A, D, and E minor, but the ascending double-stop movement lends a nice melodic, quasi-single-line feel to the passage. In this case, the double-stops aren't on adjacent strings, as in Figure 4-13. Here, they have a string separating them (the open 3rd string, G), so you have to "pinch" the 2nd and 4th strings with your right-hand middle finger, or, if you want to employ a little fingerstyle action, the middle or index finger and thumb.

Figure 4-14:
A double-stop figure on nonadjacent strings.

Figure 4-14: A double-stop figure on nonadjacent strings.



If you accidentally let the middle string (the open G) ring while playing Figure 4-14, you notice it doesn't sound half bad. So try playing the open G string intentionally, either by plucking all three strings, or by strumming the three interior strings (4th, 3rd, and 2nd) with your pick. The unchanging bass note (the open A string) sounded against changing ones (in this case the ascending double-stops) is called a *pedal tone*, or just a *pedal*, in music. Usually a pedal is the bass note, less often it's the highest note, but sometimes it's in the middle.

Combining Single-Note Riffs and Chords

Whereas lead guitar is a studied craft with an established orthodoxy (that is, you can buy books on the subject), rhythm guitar is a universe without many rules. No one can say for sure what makes up a good rhythm guitar part, but you sure know one when you hear it. The best rhythm players in rock — such as Pete Townshend, U2's The Edge, Andy Summers, Peter Dinklage, Neil Young, and Keith Richards, just to name a few — all play in styles that are hard to label or analyze. But part of that indefinable magic comes from the fact that these guitarists don't limit themselves to just chords when playing rhythm guitar. They mix a healthy dose of single notes into their playing.

Although he was known for his fiery leads and stage antics (such as playing with his teeth and lighting his guitar on fire), Jimi Hendrix was a superb rhythm player. In his ballads, notably “Little Wing” and “The Wind Cries Mary,” Hendrix plays lovely Curtis Mayfield–inspired R&B chords that sound like a cross between gospel, country, and piano figures. Hendrix also played his share of double-stops, too.

Figure 4-15 is a hard rock progression that mixes power chords, open position chords, and single notes into one cohesive part. Note how it builds up dramatic power by starting slow and becoming increasingly active.

Track 38

Figure 4-15 shows three systems of guitar riffs. The first system consists of two measures: the first measure has an A5 chord and the second measure has a G5 chord. The second system consists of four measures: the first measure has a G5 chord, the second measure has a D/F# chord, the third measure has an A5 chord, and the fourth measure has a G5 chord. The third system consists of two measures: the first measure has an A5 chord and the second measure has a D/F# chord. The tablature includes fret numbers (0, 2, 3) and techniques like triplets (indicated by a '3' over a group of notes) and arpeggios (indicated by slanted lines). Squiggly vertical lines in the second system indicate a quick arpeggio.

Figure 4-15:
A hard rock
progression mixing
chords and
single notes.



The squiggly vertical lines in bar 2 of Figure 4-15 tell you to draw the pick across the string in a quick arpeggio, creating a *kerrang* sound. Experiment to see just how long you can drag out the strums without losing the sense of the rhythm.

Discovering Your Own Style

Don't be discouraged if you can't make the riffs you see written in the notation sound exactly like what you hear on the CD. As long as you can play the

correct pitches in the specified rhythm, you're doing fine. You have to find your own style. That's why even though Mozart wrote a piano sonata one way, there are as many interpretations for that written piece as there are musicians playing it. The same is true for rhythm guitar. Each guitarist will play a 12-bar blues, or a power-chord sequence, or a double-stop figure in a slightly different way. But as long as that individual guitarist believes in what he is doing, each rendition will be unique, honest, and heartfelt.



Don't forget to use a metronome if you get confused by any rhythm you're playing on guitar. But the most important thing when tackling these — or any — rhythm figures is to develop a natural feel for them. A natural, comfortable, and confident delivery in rhythm guitar playing is vitally important — more important even than in lead playing. So repeat these exercises till you know them cold, till you own them, and then relax and play them like it ain't no thang.

Chapter 5

Playing Up the Neck

In This Chapter

- ▶ Venturing up the neck
 - ▶ Learning lead scale patterns
 - ▶ Playing in position
 - ▶ Shifting positions
-

To sound like a true rock 'n' roller and to share the stratospheric heights frequented by the legions of wailing guitar heroes, you must learn to play up the neck — that is, the frets closest to the body of the guitar. We take you up the neck in Chapter 3 in Book III, which introduces the pentatonic scale, but in this chapter, you go beyond that and find out how to *think* up the neck.

Playing up the neck requires both a theoretical approach and a technical adjustment. In fact, it's probably a little harder on the brain (at least at first) to figure out what to play than it is for the fingers to fall in line. Those smart-alecky digits, which acclimate very quickly, just prove the old saying, "the flesh is willing but the spirit is weak." Or something like that.

Rock players play up the neck a lot — a whole lot. Many rock players play way, way up the neck, higher than any folk-based music would dare venture, and beyond the range of many jazz players. In many folk-based and singer-songwriter-type songs, you often don't have to play beyond open position at all. Or if you do, it's just to grab the occasional oddball, up-the-neck chord.

In rock, however, playing up the neck is essential, especially for lead playing. Playing up the neck not only gives you access to the higher-pitched and more brilliant-sounding notes, but also allows you to play the same notes many different ways. Barre chords (see Chapter 3 in Book II) also allow you to use chords of the same name but which appear in different parts of the neck (all of them "up" from open position). When you add barre chords you then have a complete picture of what it's like to play using the entire neck of the guitar. And to suddenly glimpse what it's like to have a command of the entire fretboard is a very exciting and empowering feeling.

Beyond Open Position: Going Up the Neck

You are now leaving the relatively safe haven of open position for the great unknown — that vast uncharted sea of wire and wood they call (cue dramatic music) . . . the upper frets! It's time to unbolt those training wheels, cut the apron strings, loose the surly bonds of earthbound music, and fly high. You're going up into the wild blue yonder.

Playing up the neck opens up a whole new world of possibilities for playing rock guitar music. If you know only one way to play an A chord — or to play a riff one way when you hear an A chord — then all of your music will have a certain sameness about it.

But if you have the entire neck at your disposal, are able to play A chords in several different places, can form lead lines in four or five places, and have opinions and associations on what effect you'll produce when you choose one over the other, then you're tapping the true potential of the possibilities the guitar neck has to offer.



When playing up the neck, you really need to keep an eye on what your left hand is doing, unlike playing chords and riffs in open position where you really don't need to (or shouldn't have to) keep an eye on your left hand. So get used to keeping your head cocked to the left (if you're right-handed) and really looking at — and learning the locations of — those fret markers (the dots or other decorative inlays on the side of the neck and sunk into the fingerboard). They'll be your signposts in your up-the-neck journeys.

Choking up on the neck

The best way to get moving up the neck is to start out with an exercise that doesn't introduce any new or intimidating techniques, either chordal or melodic. You're just going to get your left hand moving around the neck a little. So you start with some known chord forms that you can move up and down to good musical effect over an open-D-string pedal (see the explanation of *pedal tone* in Chapter 4 in Book III).

Figure 5-1 is a rhythm figure that pits an open D string against some chord forms that move up and down the neck. Notice that forms themselves are the familiar D, Dm, Dm7, and D7 shapes. But they move around the frets, rather than staying in one place, as they do when they're just doing "D" duty in open position. Be sure you observe carefully the fret-number indications in the diagrams.

Track 39, 0:00

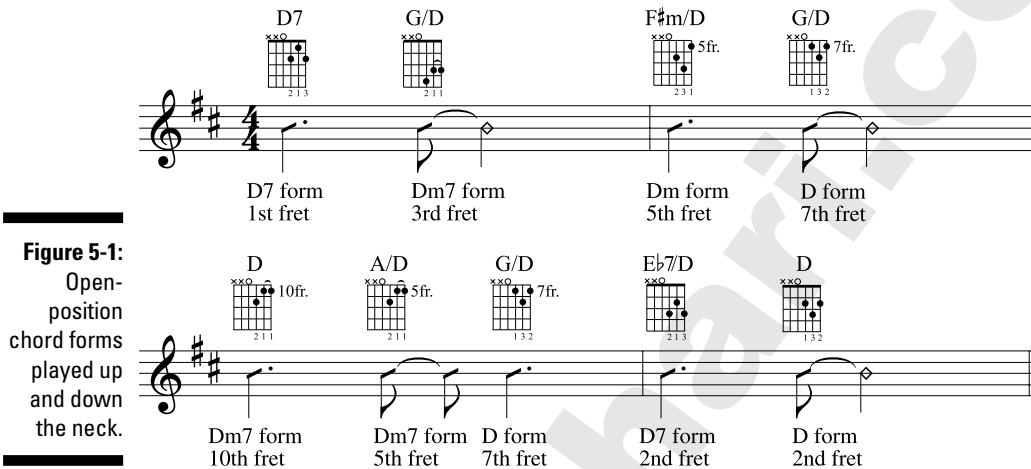


Figure 5-1:
Open-
position
chord forms
played up
and down
the neck.



Conveniently, you can refer to these forms by their open-position shapes: D, Dm, Dm7, and D7. But these forms don't necessarily *sound* like those chords, because they've been moved or transposed. When they're moved out of their original, open position, they now produce a different-sounding chord. When discussing chord forms, be aware of the difference between a *D shape* versus a *D chord*. A D shape played at the 7th position actually sounds like a G chord — for the very good reason that it *is* a G chord. You can play many different forms to create a given chord, so chords are named by their absolute sound — their *musical* result — not the shape used to create them.

Book III

Rock
Guitar

Playing double-stops on the move

Now move to the interior of the guitar's strings and play a rhythm figure comprised of moving double-stops on adjacent strings. Figure 5-2 is a hard-rock figure that creates drama by moving a series of melodic-oriented double-stops up and down two strings, the 3rd and the 4th, over an open-A pedal. This is a great exercise to get your eyes and left hand used to playing the up-the-neck frets accurately.



Because Figure 5-2 creates an interplay between the open A string and the moving double-stops, try increasing that sense of delineation by applying palm mutes (see Chapter 4 in Book II for an explanation of palm mutes) to the open A string and accents to the fretted double-stop notes. You can hear this effect on the CD performance.

Track 39, 0:13

N.C.

Figure 5-2:
Moving
double-
stops over
an A pedal.

After you've gotten a feel for what it's like to move around the neck, you can see that not only won't you get hurt, but also it's kind of cool to do. The next section shows some movable lead patterns that will get you sounding and thinking like a pro in no time.

Playing Closed-Position Lead Patterns

Playing in closed position means that you employ no open strings to play your chords, melodies, or riffs. That may seem like a restriction, but it actually frees you from the tyranny of open position, allowing you to transpose instantly and easily. But getting comfortable playing all fretted strings takes a bit of an adjustment.

The first lesson about playing up the neck is that you can no longer rely on your dear friends, the open strings. When you first learn the guitar, the open strings are like spin doctors to your politically incorrect blunders: They can shield your most embarrassing gaffes by running sonic interference. The open strings will ring through clearly while your fingers struggle with a tough chord change, muffling and buzzing their way to coherence.

But in up-the-neck playing, if you relax your left hand — even for the briefest moment — the sound disappears. So you have to be really sensitive to what's happening on both sides of the notes, the attack as well as the *cut-off* — the

point your finger leaves the current fret to go do something else. And without the benefit of open strings, you have to actively work to get the notes to connect to each other smoothly. You do that by employing legato.

Letting notes ring for their full term is called playing *legato*, and after guitarists no longer have ringing strings to provide the sonic glue, achieving legato turns from a passive let-it-just-happen affair into a concerted effort.



So as you begin playing up the neck, in closed position, keep an ear out for making the notes ring for their full value. Don't let a note stop ringing until it's time for the new note to take over. Often that's as simple as leaving full pressure on your finger before releasing it at the last possible moment to play a new note on the same string (if the next note is lower), or placing an additional finger down on the same string (if the next note is higher). We call this the "lazy-finger approach" — where a finger doesn't move — or release pressure — until it absolutely has to. So you are hereby granted permission to be "digitally lethargic" and practice the lazy-finger approach to develop a legato technique on closed, or fretted, strings.

Learning to play patterns that employ no open strings has big-time benefits. Playing all-fretted patterns presents a clear advantage in one respect: The pattern can be transposed easily.

Playing in Position

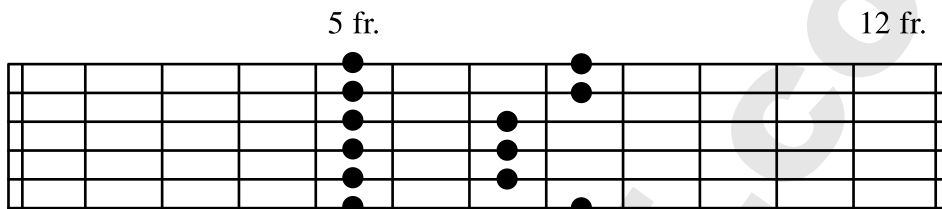
So you don't just go tearing up the neck willy-nilly, you need to know some zones, or positions, to give your up-the-neck forays some purpose. Guitarists don't just go up the neck because it's higher up there (although that's sometimes a desired result — to produce higher-pitched notes); they do so because a certain position gives them better access to the notes or figures they want to play. Going to a certain zone on the neck to better facilitate playing in a given key is called *playing in position*.

Positions defined

A *position* is defined as the lowest-numbered fret the left-hand index finger plays in a given passage. So to play in 5th position, place your left hand so the index finger can comfortably fret the 5th fret on any string. If your hand is relaxed and the ball-side of the ridge of knuckles on your left-hand palm is resting near the neck, parallel to it, your remaining fingers — the middle, ring, and little — should be able to fret comfortably the 6th, 7th, and 8th frets, respectively. Figure 5-3 shows a neck diagram outlining the available notes of the pentatonic scale in 5th position.

Figure 5-3:

The available pentatonic frets in 5th position.



A firm position

Now that you have the answer to what playing in position means, the next question is what specific benefits playing in position brings — other than allowing you access to higher-pitched notes not available in open position? The answer is that certain positions favor certain keys, scales, figures, or styles, better than other positions do. Here are the three most common criteria for determining the best position in which to play a given passage of music:

- ✓ **Key:** The chief way to determine at what position to play a certain piece of music is by its key. To use the example in Figures 5-3 and 5-4, 5th position favors very much the major keys of C and F. If you have melodic material in the key of C or F, you'd be well advised to first try playing it in 5th position. Chances are, you'd find the notes fall easily and naturally under your fingers. The relative minors of C and F, A minor and D minor, also fall very comfortably in 5th position. This is no accident, because these minor keys share the same key signature, which means they use exactly the same *pitch class* (a term you learn in music school for collection of notes, not necessarily in any given order) as their major-key counterparts.

The pitch class of the C major and A minor pentatonic scale is A C D E G. The order of the notes changes depending on the context. For example, in the key of C, where the root is C, the notes read C D E G A. In A minor, A is the root, so the notes are ordered as A C D E G. After you start to play, however, the order becomes less important than the collection of notes (which is exactly the same for both keys), because life would be pretty boring if music was played in order of the notes in the scale or key from which they were derived.

- ✓ **From a scale:** A scale can be derived from a key, but often the scale you want isn't extracted from a traditional major or minor key. For example, the blues scale is one of the most useful scales in rock, but it's not pulled from an existing major or minor key. So C *blues* is better played out of 8th position, not 5th.
- ✓ **From a chord:** Sometimes you may not care anything about scales or keys because you find a chord whose sound you can manipulate by pressing down additional fingers or lifting up existing fingers to create a



cool chord move. The technical term for this is a *cool chord move*, and often the movement doesn't involve melodic or scalar movement, just a neat way to move your fingers that results in a nice sound. Rock guitar moves are often discovered and adopted simply because they feel comfortable to perform or involve satisfying a natural impulse.

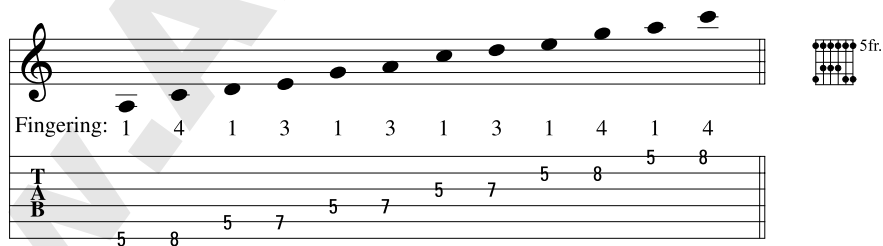
Using the Movable Pentatonic Scale

Probably the greatest invention ever created for lead rock guitarists is the pentatonic scale, to which we pay homage in Chapter 3 in Book III. Its construction and theory have spawned countless theoretical discussions, but for rock guitar purposes, it just sounds good, and you're going to focus your efforts on figuring out as many ways to use it as possible. The following sections focus on moving it around the neck at will, changing the fingering to fit all sorts of different positions. And you can do this while maintaining the same notes in the same key.

Staying at home position

The main position for the pentatonic scale is placed in 5th position. This is the home position of the pentatonic scale in C major or A minor. For simplicity's sake, one scale, A minor, is used in the pentatonic studies for the remainder of this chapter. But be aware that most of the same qualities discussed can be applied to C major as well. Figure 5-4 is the A minor pentatonic scale in 5th position.

Figure 5-4:
The A minor
pentatonic
scale in its
home, or
5th, position.



Although this scale looks to be positioned fairly high up the neck, only two of its notes — the 8th-fret C and 5th-fret A, both on the 1st string — are out of range in open position. The rest of the pitches can be found in other places in open position. For example, the 8th fret on the 2nd string is a G, which is the same G as the 1st string, 3rd fret — a note that's easily played in open position. So as you step through these notes in 5th position, be aware that you can play almost all of those same pitches in an open-position location as well.

The next step is to learn the various ways to play the same scale but in a different position, starting on a different note. This is known in music as an *inversion*. An inversion of something (a scale, a chord) is a different ordering of the same elements.

Going above home position

After the home position, you may feel restless and yearn to break out of the box. To extend your reach, learn the pentatonic scale in the position immediately above the home position. Figure 5-5 is a map of the A minor pentatonic scale in 7th position.

Figure 5-5: Notes of the A minor pentatonic scale in 7th position.

Fingering: 2 4 1 4 1 4 1 3 2 4 2 4

8 10 7 10 7 9 8 10 8 10

7fr.



These are exactly the same notes (except the highest note, the 1st string, 9th fret, which is out of the home position's range) as those found in 5th position.

Dropping below home position

To apply some symmetry in your life, learn the pentatonic scale form immediately below the home position. Figure 5-6 shows the scale form immediately below the home position. It's played out of 2nd position and has one note on the bottom that the 5th position doesn't have, the low G on the 6th string, 3rd fret.

Take a moment and see what you've accomplished so far. You can now play one scale, the A minor pentatonic, in three different positions: 2nd, 5th (the home position), and 7th. If you look at the neck diagram with all three patterns superimposed on the frets, it looks like Figure 5-7. It's presented in two ways: as three separate but interlocking patterns (triangles, dots, and squares), and the union of those patterns, the actual notes available (as just dots).

Figure 5-6:
The 2nd-
position
A minor
pentatonic
scale, just
below home
position.

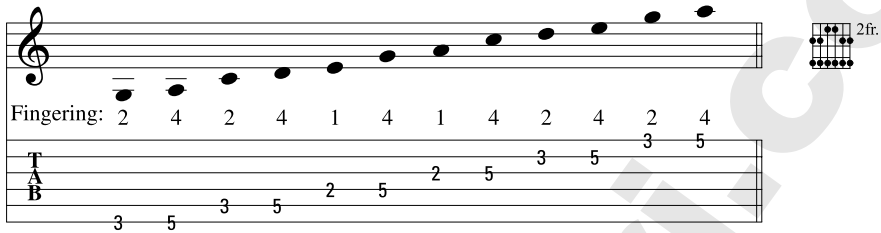
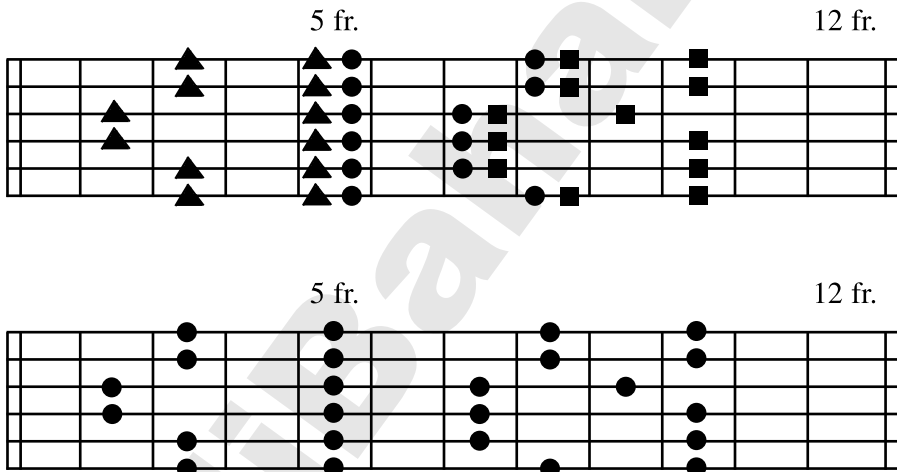


Figure 5-7:
Three
pentatonic
scale forms
shown as
interlocking
patterns and
notes.



Note how the patterns *dovetail*, or overlap: The bottom of the 5th position acts as the top of the 2nd position, and the top of the 5th position acts as the bottom of the 7th position. It's like Paul Simon once said: "One man's ceiling is another man's floor."

Moving between positions

Okay, you've seen the way to play a given pentatonic scale in three positions. Now it's time to put these patterns into motion by actually moving between them. This way you not only get to travel laterally, across the neck, but longitudinally, up and down the neck. Can you stand it?

The shift

Figure 5-8 shows two simple melodic segments that go from 2nd position to 5th position and 5th position to 7th position via a *shift*. To perform a shift, slide your left-hand finger from one fret to another above or below it, maintaining contact with the string. In the first segment, Figure 5-8a shifts up from the 5th fret to the 7th fret on the third finger of the left hand, hitching a ride on the 5th string. Shifting this way takes you from 2nd position to 5th position. In Figure 5-8b, slide up on the little finger.

Track 40, 0:00

a.

Track 40, 0:08

b.



Sometimes the finger you slide up with isn't the proper finger for that fret and string in the new position. But you can usually correct it easily enough on a subsequent move.

The slide, reach, and jump

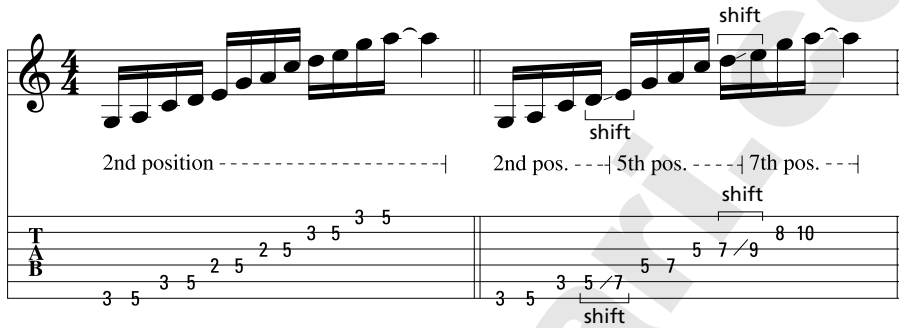
A *slide* is one of two ways to shift positions while playing. A *reach* is the other. When you reach, either upward or downward, you stretch your hand out so a left-hand finger can play a note out of position. You can always *jump* or *leap*, too, which just means that you don't leave any fingers down, or maintain any contact with the old position. Mostly, you just do whatever works.

Lateral versus longitudinal

Figure 5-9 is an example of an ascending melodic line that illustrates the difference between playing laterally versus longitudinally. The first ascending and descending sequence takes you across the fingerboard in a stationary position. Then on the second ascent, the line shifts to reach the upper notes, rather than playing to the upper strings on the same position. You have to play this one up to tempo to hear how the same pitches sound when played in two different places.

Track 40, 0:16

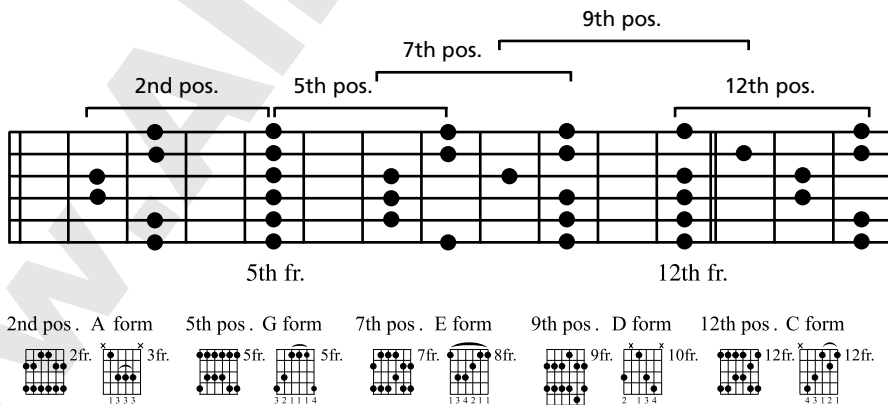
Figure 5-9:
An ascending
melodic
figure with
lateral and
longitudinal
motion.



Seeking Out the Five Positions of the Pentatonic Scale

Figure 5-10, for your amazement, lays out on one long neck diagram the five positions of the pentatonic scale. Although Figure 5-10 maps out the notes to only one key and its relative minor, you can fit this pattern to all 12 keys — and their relative majors or minors — simply by moving it up or down to the appropriate fret (for example, up three frets for E^b , down four frets to A^b , and so forth).

Figure 5-10:
The five
pentatonic
positions in
C major/A
minor with
their cor-
responding
chord forms.



Book III

Rock
Guitar

Almost as important, each of these patterns has an associated chord form. For example, the home position corresponds to an open position G chord. The scale just below the home position looks like an A chord. The position immediately above the home position is based on an E chord. The appropriate chords are also shown in Figure 5-10 relative to their corresponding scale forms.

You can begin to see how the many frets of the guitar neck begin to become demystified. This one scale occupies so many different positions on the neck. And this is only one scale, in one key, with only five notes. The shapes used to plot the notes help you to differentiate visually among the patterns.

With five positions of the same scale at your disposal, try Figure 5-11, which is a melody based on the pentatonic scale and can be played in all five positions. The rests separating the phrases should give you ample time to switch to the new position.

Track 41

C

2nd position

5th position

Fretboard diagrams for 2nd and 5th positions:

- 2nd position: G (5th fret, index), A (3rd fret, middle), B (5th fret, ring), C (5th fret, pinky), D (2nd fret, index).
- 5th position: G (5th fret, index), A (7th fret, middle), B (5th fret, ring), C (5th fret, pinky), D (7th fret, index).

Figure 5-11:
A pentatonic melody in all five positions.

7th position

9th position

12th position

Fretboard diagrams for 7th, 9th, and 12th positions:

- 7th position: G (7th fret, index), A (9th fret, middle), B (7th fret, ring), C (7th fret, pinky), D (9th fret, index).
- 9th position: G (9th fret, index), A (12th fret, middle), B (9th fret, ring), C (9th fret, pinky), D (12th fret, index).
- 12th position: G (12th fret, index), A (14th fret, middle), B (12th fret, ring), C (12th fret, pinky), D (14th fret, index).



In the Beatles' "Let It Be," lead guitarist George Harrison plays a terrific guitar solo in the middle of the song, based entirely in the C pentatonic scale. He shifts artfully between several different positions, proving he obviously had an advance copy (*way* advance) of *Rock Guitar For Dummies*.

Chord licks, lead licks

In rock, a *lick* is a short, self-contained melodic phrase. This may sound suspiciously close to the definition of a riff, but there is a slight difference. While “riff” and “lick” are often used interchangeably, most guitarists agree that a riff is a repeated figure that can be used to form the basis of a song, while a lick is more of a melodic snippet, fleeting in nature, and is not generally used to form the basis of a rhythm figure.

Like riffs, licks are usually single-note affairs. But sometimes a lick can be chord based. If the distinction between a riff and a lick is a little fuzzy on the single-note front, it’s even more obscure when dealing with chords. In other words, there’s not much difference from

a chord-based riff and a chord-based lick. It’s sort of like distinguishing between good tequila and bad tequila: It’s hard to do because the best tequila you’ve ever had in your life doesn’t taste a whole lot different than the worst tequila you’ve ever had in your life.

Nevertheless, in an effort to pigeonhole, classify, and label all things musical, some famous chord-based licks throughout the history of rock ‘n’ roll include the Doobie Brothers’ “Listen to the Music” and “Long Train Running,” Jimi Hendrix’s “Hey Joe,” “The Wind Cries Mary,” and “Little Wing,” and Led Zeppelin’s “Stairway to Heaven” (the section right before the line “Ooh, and it makes me wonder”).

Changing Your Position

What’s cool about playing up the neck is how often you get to shift positions while doing it. And make no mistake, shifting is cool. You get to move your whole hand instead of just your fingers. That looks really good on TV.

Now that you’ve gone from one pentatonic scale position to another via a shift, you’re ready to try some real licks. These licks aren’t limited to notes drawn from the pentatonic scale, as previous figures in the chapter were. Going forward, you’re allowed the luxury of some *chromatic* (out of key) additions. You’re playing real music now! Anything goes.

Licks that transport

Just like life, a lick can start you out in one location and take you to another unexpected place — often with delightful results. Figure 5-12 begins in 5th position, but quickly shoots up to 7th and finishes in 8th position with a bluesy flourish. The added chromatic note here is the flat five in A minor, E $\flat$, which is called a *blue note* (so named because it’s the note that creates a sad or blue sound). The left-hand fingering indications will help you to play this smoothly.

Track 42, 0:00

Figure 5-12:

A short blues lick starting in 5th position and ending up in 7th position.

Am



Adding E^b to the A minor pentatonic scale creates a six-note scale called the *blues scale*. The blues scale in that case is spelled A C D E^b E G. The numeric formula (the “interval recipe,” if you will) for the blues scale is 1 $\flat$ 3 4 $\flat$ 5 5 $\flat$ 7. The $\flat$ 5 can also be written as a $\sharp$ 4, the $\flat$ 5’s *enharmonic* equivalent. So, applying this formula to a C major scale (C D E F G A B) produces C E^b F G $\flat$ G B $\flat$, the C blues scale. (See Book IV for a whole lot more on the blues.)

Of course, you can start high and end low — which might be bad in the world of finance or investments but is perfectly fine in music. Figure 5-13 is a lick that begins in 5th position and takes an unexpected dip into 2nd position for some low-end gravity.

Track 42, 0:09

Figure 5-13:

A lick that dips down to 2nd position to get some “big bottom.”

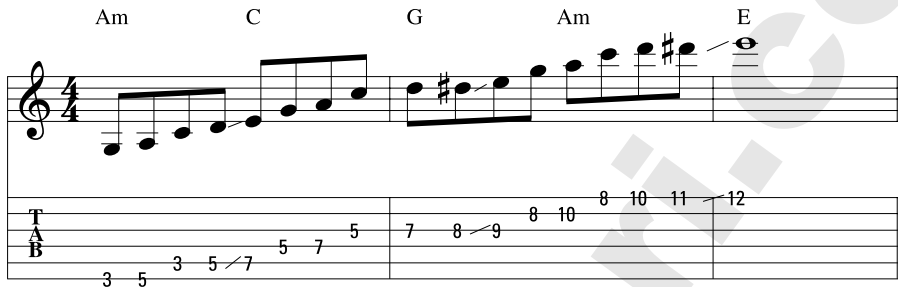
Am

From the depths to the heights

For the ultimate exercise in shifting, try Figure 5-14, which starts in 2nd position, goes through 5th position, then 7th, and finally winds up in 9th — ending on a high, 12th-fret E on the 1st string. This allows you to “end on a high note” (albeit through low humor).

Track 42, 0:18

Figure 5-14:
An ascending line that progresses through three position shifts.



Although you've practiced different positions, various ways to shift, and five versions of the pentatonic scale, you've never left the key of C major/A minor.

Knowing Where to Play

After you get your hand moving comfortably around the neck, and you have a solid foundation in the A minor pentatonic scale and its different positions, try playing the pentatonic scale in its various forms in different keys. To do that, you must know how to place the scale patterns on the different regions of the neck.

Associating keys with positions

Some keys just fall more comfortably in certain positions than in others, so this section starts with the obvious, default positions for three common keys. Remember, any pentatonic scale satisfies two (related) keys: a major and its relative minor, or a minor and its relative major, depending on your orientation.

G positions

The home position for G major falls in open position or 12th position (which is exactly an octave higher). Because these are two extremes of the neck (and the open-position version defeats the purpose of this exercise), you might try to play G-based stuff out of 7th position. Figure 5-15 is a riff in 7th-position G major pentatonic (with one out-of-key note, the A $\flat$ in bar 1), and its corresponding neck diagram.

Book III

Rock
Guitar

Track 43, 0:00

Figure 5-15:
A riff in 7th-position G major pentatonic.

Triplet feel (♩ = $\overset{\sim}{\text{♩}} \overset{\sim}{\text{♩}} \overset{\sim}{\text{♩}}$)

F positions

F is a common key for blues, especially if you jam with horn players. Figure 5-16 is a bluesy riff in F major, with an added flat 3, A $\flat$. This riff sits well in 7th-position F major pentatonic. Note that because F is one whole step down from G, its five pentatonic scale positions are the same as the key of G, but shifted down two frets.

Track 43, 0:08

Figure 5-16:
An F major lick with an added flat 3 in 7th position.

Triplet feel (♩ = $\overset{\sim}{\text{♩}} \overset{\sim}{\text{♩}} \overset{\sim}{\text{♩}}$)



Note that even though this lick is in 7th position, it's in F, not G, and so uses a different pentatonic scale form than the 7th-position form designated for G or E minor.

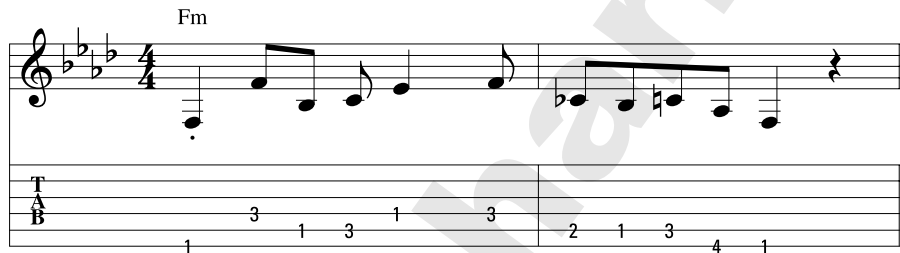
F minor positions

The key of F minor (and its relative major, A $\flat$) is the interval of a major 3rd (four frets) lower than our dearly beloved A minor, so all of its pentatonic scale positions are shifted down four frets, relative to A minor. Its home

position falls in 1st position, which means all subsequent positions are up from that. So even though the A minor example had a position lower than the home position, in the F minor example, that lower position gets “rotated” up the neck to the 10th position. Figure 5-17 is an earthy minor riff that takes advantage of its low position on the neck — the lowest possible closed-position pentatonic scale.

Track 43, 0:18

Figure 5-17:
A low riff in
1st-position
F minor
pentatonic.



Placing positions

One great advantage to the guitar is that after you learn one pattern, in any key, you can instantly adapt it to any other key without much thought at all. Unlike piano players, flute players, and trombonists — who have to transpose, remember key signatures, and create different fingerings to play the same phrase in another key — guitarists just have to shift their left hand up or down the neck a few frets. But the pattern — what you actually play — remains the same.

It's as if you wanted to learn a foreign language, but instead of learning new words for all the nouns and verbs you know in English, you simply had to raise or lower your voice. Speak in a high, squeaky voice, and you're talking French. Say the same words in a deep, booming voice and you're conversing in Chinese. That's what transposing is like for the guitarist.

To help you know which positions are good for which keys, look at the table in Figure 5-18. This table is by no means exhaustive and by no means the final word on where to place your pentatonic positions. It merely gives you a jumping off point to know in what general vicinity to put your hands to improvise in, say, the key of A $\flat$.

Book III

Rock
Guitar

<i>Major/minor key</i>	<i>Pentatonic pattern/fret #</i>	<i>Chord forms</i>
A major/F# minor	 2nd fret	G/Em
Bb major/G minor	 3rd fret	G/Em
B major/G# minor	 4th fret	G/Em
C major/A minor	 5th fret	G/Em
Db major/Bb minor	 6th fret	G/Em
D major/B minor	 7th fret	G/Em
Eb major/C minor	 8th fret	G/Em
E major/C# minor	 9th fret	G/Em
F major/D minor	 5th fret	C/Am
Gb major/Eb minor	 6th fret	C/Am
G major/E minor	 7th fret	C/Am
Ab major/F minor	 1st fret	G/Em

Figure 5-18:

A table showing the 12 keys and their relative minors, the fret number, appropriate pentatonic pattern, and chord form.

Putting the five positions into play



After you learn the pentatonic scale in five positions, you are more than 90 percent there, technically. The next hurdle is more mental than anything else. You simply have to be able to calculate where to play any given key, and which pentatonic pattern best suits your mood. Here are some exercises you can do to limber up your brain, learn the fretboard, and become acquainted with the differing characteristics offered by each of the five pentatonic positions:

- ✓ **Work out in different keys, spot transpose:** Don't just always play in A minor and C. Jam along to the radio, which often has strange (at least for guitarists) keys.
- ✓ **Arpeggiate the chords you're playing over:** Remember from Figure 5-10 that all these scale positions have associated chord forms. Try arpeggiating (playing one at a time) the notes of the chord whenever that chord comes up in the progression. This is a great way to break up linear playing, and it forces you to think of the notes of the chord, rather than playing memorized patterns.
- ✓ **Work out in different positions:** It's one thing to work out in different keys. It's another to work out in different positions. Make sure that you mix it up with respect to positions as well as keys.

We're all human and we tend to favor routines and tread familiar ground. With pentatonic scale patterns, the comfort zone lies in the home position and the ones immediately above and below. Make an effort to treat all the positions equally, however, so you can breeze through an ascending or descending line without hesitating as to where the correct notes are.

If you work to become fluid in all keys, all positions, and all patterns, the neck becomes your musical magic carpet and can transport you effortlessly to magical lands.



The fret markers on the neck are not just there to look pretty. They make it easier to find positions up the neck. Use them!

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Chapter 6

Rock Guitar Legends, Styles, and Genres

In This Chapter

- ▶ Delving into the early years of rock guitar
 - ▶ Witnessing the British invasion
 - ▶ Maturing with classic rock
 - ▶ Moving into metal and progressive styles
-

Rock 'n' roll was created from a hybrid of styles that included traditional blues, country and western, rhythm and blues (R&B), and mainstream popular music. Many rock pioneers, such as the Beatles, claim to have been influenced by the older blues players, yet their music was sunny, pop-ish, and of the stuff that made teenage girls giggle, scream, and faint. No prison chain-gang song, field holler, or other traditional blues form could do that. So clearly something else was going on.

Early rock songs clearly showed their roots, because a “universal rock style” hadn’t yet developed. Like immigrants meeting in a new land, everyone was there to pursue a common purpose, build a common community, and speak a common language, but they all still carried with them habits and dialects of the Old Country from which they came. Buddy Holly and Elvis had clear southern roots (Texas and Memphis, respectively), and Chuck Berry and Bo Diddley were definitely a product of more northern climes (Chicago’s Chess Records). Yet all were learning from each other, while converting listeners who heard them and influencing every guitarist who followed them. This early era in rock 'n' roll was a musical melting pot of styles.

Those styles led to an explosion of rock “genres” over the next half century, led by a procession of rock guitar gods. To try to cover just the best legends would easily take up several books. In this chapter, you get merely a taste of those musicians whose playing added significantly to rock guitar history.

Bo Diddley

One of the biggest influences in rock was rhythm and blues (or R&B), which would continue to develop on its own (see Book IV), but also had a profound effect on rock 'n' roll. Some performers, such as pianist/vocalist Fats Domino, weren't really rock musicians, but enjoyed mainstream success because radio playlists and record-sales charts hadn't distinguished between the two genres yet.

However, one of the biggest influences in bringing the R&B sound mainstream was the late Bo Diddley. Born Ellas McDaniel in McComb, Mississippi, Diddley grew up in Chicago, where he moved to at age 5. He was a self-invented phenomenon who played a homemade, rectangular-shaped guitar with his teeth and behind his back, brandishing it in a sexually suggestive manner — all techniques that would be brought to high art by Jimi Hendrix. One of Diddley's best-known songs was an anthem he composed for himself, named after himself, and which used a syncopated rhythm that became synonymous with his name. That must be some kind of record: a person, song, and a rhythm, all having the same name.

Figure 6-1 is a rhythm passage that employs the “Bo Diddley Beat.” Note how “scratchy” it is, and how the left-hand mutes are actually written as X-shaped noteheads in the notation. Above the music are *rhythm slashes*, which show what the rhythm section does to accompany the guitar figure below it.

Track 44

Figure 6-1:
The “Bo
Diddley
Beat.”

The musical notation for the Bo Diddley Beat is presented in three staves. The top staff is the guitar part, written in treble clef with a key signature of one flat (Bb). It features a syncopated rhythm with a series of eighth and sixteenth notes, and a final quarter note. The middle staff is the bass line, written in bass clef, with a similar syncopated rhythm. The bottom staff is the drum line, written in a simplified notation with X's for mutes and numbers for fingerings. Above the guitar part are rhythm slashes indicating the accompaniment. The guitar part is written in treble clef with a key signature of one flat (Bb). The bass line is written in bass clef. The drum line is written in a simplified notation with X's for mutes and numbers for fingerings.

Buddy Holly

The southern U.S. still has a regional flavor when it comes to its native-born musicians producing music, but it was even more pervasive in the 1950s.

Although the Deep South produced blues (the Delta blues being the most famous), “Texas twang” also had its place in rock development.

Everyone knows Lubbock-born Buddy Holly because of his unique status in rock ‘n’ roll history: He was part of the trio of rock performers (along with Ritchie Valens and the Big Bopper) that went down in the tragic plane crash in 1959 (immortalized in Don McLean’s song “American Pie” as “the day the music died”). He also composed and sang some memorable songs, including “That’ll Be the Day,” “Not Fade Away,” “Every Day,” and “Peggy Sue.” Holly made a lasting contribution to rock guitar, however, in addition to achieving mythic status as a rock martyr: He was one of the first to popularize the Fender Stratocaster; he played, wrote, and recorded his own music with his own band (being one of the first to use multi-tracking in the studio to enhance his performances); and he played the featured guitar himself. All while wearing thick-framed glasses.

Figure 6-2 shows a blues turnaround with a distinctly Holly-like treatment, followed by a boldly strummed chordal statement.

Figure 6-2:
A bluesy double-stop riff and a featured chordal figure.

Triplet feel (♩ = $\overset{\sim}{\text{3}}$ ♩)

N.C. E B7

let ring-----

Book III
Rock
Guitar

Chuck Berry

More than any other guitarist, Chuck Berry defines the single point at which rock ‘n’ roll guitar became a bona fide style. And he is considered a real innovator, a true hero, rubbing shoulders with the ranks of Eric Clapton, Jimi Hendrix, and Eddie Van Halen. Berry had down cold the entire ethos of rock ‘n’ roll: the rhythm, the lead, the attitude, the lyrical double-entendre, and the moves (his famous “duck walk”). And he did it many years before any of these guitar heroes were on the scene, between 1957 and 1960.

Figure 6-3 is the familiar-sounding rhythm figure, which owes its signature sound to the movement of the chord’s 5th degree momentarily up to the 6th degree, and then resolving back to the 5th. You can play the 5-to-6 movement on the I, IV, and V chords (for example A, D, and E), and in either a straight-eighth or shuffle feel. (See Chapter 4 in Book VII for more on the I, IV, and V

chords in relation to music theory.) It's a stationary, one-note adaptation of the boogie-woogie line played by R&B pianists and bass players. Chuck Berry didn't invent it, but he sure made it popular, and it's often referred to in various appellations using his name.

Track 45

The musical notation for Track 45 is presented in four systems, each consisting of a guitar staff and a corresponding tablature staff. The key signature is two sharps (F# and C#), and the time signature is 4/4. The chords are indicated above the guitar staff: A, D, A, D, A, E, D, A, E. The tablature shows the fret numbers for each note, with a double bar line indicating the end of the piece.

System 1: Chords A, D, A. The guitar staff shows a 5-to-6 rhythm figure. The tablature shows the fret numbers: 2 0 2 4 2 0 2 0 2 0 2 0.

System 2: Chords D, D, A. The guitar staff shows a 5-to-6 rhythm figure. The tablature shows the fret numbers: 2 0 2 4 2 0 2 0 2 0 2 0.

System 3: Chords A, E, D. The guitar staff shows a 5-to-6 rhythm figure. The tablature shows the fret numbers: 2 0 2 4 2 0 2 0 2 0 2 0.

System 4: Chords A, E. The guitar staff shows a 5-to-6 rhythm figure. The tablature shows the fret numbers: 2 0 2 4 2 0 2 0 2 0 2 0.

Figure 6-3:
The 5-to-6
rhythm
figure in
a 12-bar
blues.



Hold your left-hand first and third fingers stationary while reaching up with your fourth finger to momentarily fret the 6th degree of the chord. Be careful not to shift the already-fretted fingers as you fret and release the fourth finger.

John Lennon and George Harrison

The so-called *British Invasion* was a clever catch phrase and headline dreamed up by some savvy media type to describe the flood of British rock bands that gained popularity in the early to mid-'60s, the most famous being the Beatles from Liverpool. The band's guitarists, John Lennon on rhythm and George Harrison on lead, really built the bridge between early rock and classic rock. They did straight covers and knockoffs of Chuck Berry tunes, but later transcended early rock and came to master just about any sub-genre they touched until they broke up in 1970.

The rhythm riff to the early Beatles song "I Saw Her Standing There" is highly twangy and percussive-sounding. You just can't get this sound out of a barre chord, proving that open-position chords do indeed have their place in rock. Figure 6-4 requires a tightly controlled rhythm guitar approach, using open-position chords, while "keeping a lid on them" through heavy left-hand muting. The harder you hit the strings, the more dynamic and choppy-sounding (in a good way) your sound is, but the more potential it has to get out of control.

Track 46

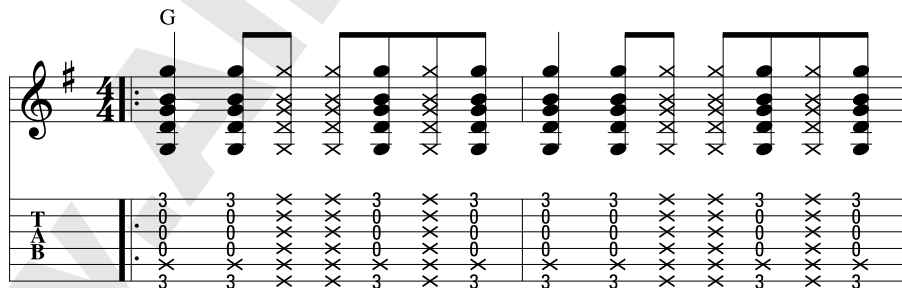
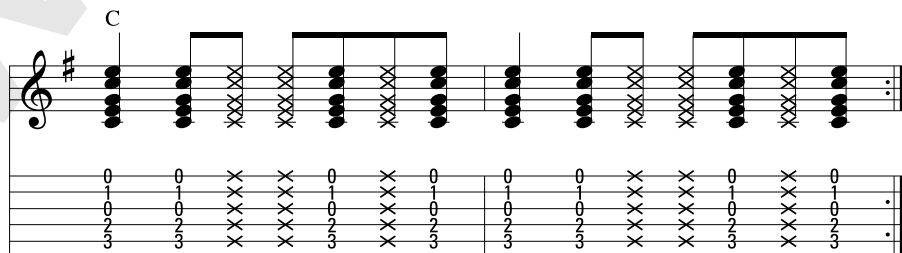


Figure 6-4:
A progression using all open-position chords for their twang factor.



Book III

Rock
Guitar



Instead of just strumming, you can use a slow pick drag — either as an up- or a downstroke — to draw out the notes in a quick arpeggio. You can hear this technique on the CD, although it's not written into the music.

Pete Townshend

You don't have to "carve" wailing leads to be a rock player. The Who's Pete Townshend didn't play stellar lead, for example, but he had the best rhythm sound in rock. He elevated rhythm guitar to a high art. And it was great theater in the best rock tradition. To add emphasis or a sense of excitement, Townshend often threw in a quick 16th-note-strummed flourish with a quick down-up-down-stroked sequence in his right hand. Guitarists often describe this sound to each other as *chick-a-CHOW* (you won't find *that* in any college music-theory book). Even quarter notes would be treated to the "windmill," where Townshend would fully extend his long arm and make large sweeping circular motions, striking the strings as his hand passed his midsection.

Figure 6-5 shows a rhythm guitar part in the Pete Townshend style with plenty of dynamics and syncopations.

Track 47

Figure 6-5: A dynamic all-chord rhythm part.

Book III

Rock
Guitar

Keith Richards

Keith Richards is a founder and musical anchor of one of the most enduring and successful rock bands of all time, the Rolling Stones. He is a highly original musician who plays chiefly rhythm guitar. The riff to “Satisfaction” (1965), which Richards composed, is arguably one of the most recognizable and classic of all time. It proved that rock didn’t have to use clever and inventive melodies to be effective. This riff is only three different notes having a range of 1½ steps. On paper (to coin a phrase), it didn’t seem all that distinctive, and yet it launched a huge number-one hit and was a harbinger of the petulant and rebellious future of rock. The Rolling Stones presented rock ‘n’ roll as it was meant to be: simple, grammatically incorrect, and immortal.

Keith Richards is a human riff machine, creating memorable hooks to such immortal songs as “Start Me Up,” “Honky-tonk Women,” “Jumping Jack Flash,” “Last Time,” and “Brown Sugar.” The aforementioned songs all benefited from Richards’s patented “chordal riff” approach, where the musical motion, interest, and impetus comes from not moving chords — nor single lines based on chords — but available movement within a left-hand chord form. Figure 6-6 is a blend of chordal riffs, played within a fairly stationary left-hand chord-form setting.

[illegible]

Figure 6-6:
Chordal riffing inside assorted left-hand chord forms.

Figure 6-6: Chordal riffing inside assorted left-hand chord forms.

Eric Clapton

One of the primary forces that defined the post-British Invasion classic-rock era was the maturing of the electric blues style, as typified by Eric Clapton, Jimmy Page, and Jimi Hendrix. Many bands had readily acknowledged R&B and early rock greats Chuck Berry and Bo Diddley as influences, but either covered their material directly or ignored it completely in favor of a pop sound. But with the coming of age of Clapton, Page, and Hendrix, a new synthesis was taking place where the electric blues was about to enjoy not only a renaissance, but a transformation.

Clapton got his start in the Yardbirds (as did Jeff Beck and Jimmy Page), but left to join John Mayall's Bluesbreakers where he honed soulful and lyrical lead skills. He became a bona fide superstar of the guitar (and was the first "guitar god" — all over London graffiti artists scrawled "Clapton Is God") and helped revive popular interest in many of the blues legends he drew inspiration from, including Robert Johnson, Blind Lemon Jefferson, Son House, Skip James, Elmore James, Freddie King, Buddy Guy, B.B. King, Otis Rush, Albert King, and many others.

Clapton earned the nickname "Slowhand" because of his supreme ease in playing and the effortless way he moved over the fretboard. Following his stint with the Bluesbreakers, he founded Cream, often credited as the first true supergroup comprised of recognized virtuosos. The heaviness of their hit songs, including "White Room," "Sunshine of Your Love," and "Badge," helped to define the era of the "power trio" and to establish the blues as viable rock material, both creatively and commercially. "Crossroads," a song by Robert Johnson, captured in a live version on the album *Wheels of Fire* (1968), contains one of the greatest guitar solos of all time. Eddie Van Halen learned it note for note and, in concert, would drop it into a song's improvisational section as a tribute.

Figure 6-7 is a bluesy solo, employing many of the techniques Clapton used to infuse his solos with expression: bends, hammers, pulls, slides, and left-hand vibrato. Notice that much of this solo takes place comfortably in the home position of the pentatonic scale. This is the way Clapton plays: not with gratuitous flash, but with restraint, precision, and taste.

Figure 6-7:
A blues-based lead solo in the style of Eric Clapton.

The musical notation is divided into two systems, each with a treble clef staff and a six-string guitar staff below it. The key signature has two sharps (F# and C#).

First System:

- Staff 1:** Starts with an E7 chord, followed by a series of eighth notes with string bends. Then a D7 chord, followed by eighth notes, including one marked "8va" (octave up) and another marked "1/4".
- Staff 2:** Shows fret numbers: 17, 17, 18, 19, 17, 18, 17. Then 17, 19, 19, 20, 20, 17, 19, 17, 20.

Second System:

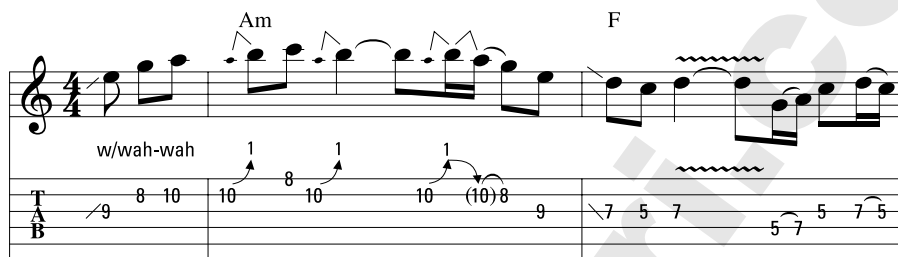
- Staff 1:** Starts with an A7 (8va) chord, followed by eighth notes with string bends. Then a "loco" section with eighth notes. Ends with an E7 chord and a wavy line indicating a wah-wah pedal effect.
- Staff 2:** Shows fret numbers: 17, 20, 17, 19, 17, 20, 17, 19, (19), 17, 19, 17, 19, 17. Then 17, 17, 19, 17, 19.

Jimi Hendrix

Jimi Hendrix is hailed as perhaps the greatest rock guitarist of all time. He combined the best elements of electric blues, psychedelic abandon, sonic sculpting, and pure inspiration. Although he died at only 27 in 1970, his legacy is the most enduring and studied of any guitarist. He started off in the R&B circuit as a sideman, playing with the Isley Brothers and Little Richard, to name two, but quickly developed his own style and became a local legend revered for his other-worldly technique and far-out stage performances.

Hendrix was a superior showman as well as guitarist, and could play the guitar behind his back and with his teeth. Like Jimmy Page and Jeff Beck, Hendrix saw the guitar as a total sonic instrument and was a master of marshaling such effects as distortion, *feedback* (the high-pitched howl that occurs when you face the guitar's pickups directly at a cranked-up amp), and the wah-wah pedal. Hendrix recorded three albums, *Are You Experienced* (1967), *Axis: Bold As Love* (1967), and *Electric Ladyland* (1968), containing such classics as "Purple Haze," "Hey Joe," "All Along the Watchtower," "Little Wing," and "Voodoo Child (Slight Return)." He played left-handed, using a "flipped" right-handed guitar (usually a Strat), restrung.

Figure 6-8 is a lead figure using several techniques of which Hendrix was an acknowledged master: blues playing, string bending, whammy bar manipulation, and effects use (wah-wah pedal and distortion).

**Figure 6-8:**

A Hendrix-style lead featuring bent notes and whammy bar moves.



Try getting the pitches and rhythms under your fingers first, before incorporating the bar moves. Then work to make the combination of blues soloing, whammy bar manipulation, and effects use as cohesive as possible.

Jimmy Page

Jimmy Page was a seasoned sideman and session player, and, perhaps because of this, was able to drive his band Led Zeppelin into producing the ultimate in finely crafted songs and perfectly orchestrated instrumental parts. Although a virtuoso, Page never overplayed, preferring to showcase his genius through his composed riffs, arranging skill, and songwriting savvy. Led Zeppelin could seemingly take on any music form and make it work: traditional blues-based material (“Since I’ve Been Loving You”), Eastern-influenced music (“Kashmir”), folk influences (“Bron-Y-Aur Stomp”), flat-out rockers (“Whole Lotta Love,” “Heartbreaker”), trippy psychedelia (“Dazed and Confused”), and epic anthems (“Stairway to Heaven”). Many people consider Zeppelin to be the prototype for heavy metal.

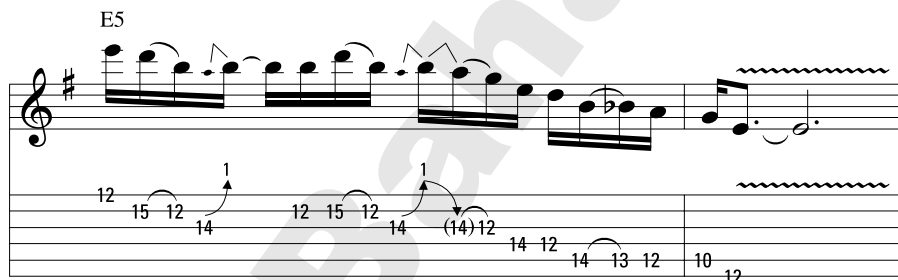
If you had to pick one band from the entire classic rock era that encompassed everything — great blues-based guitar playing, immortal riffs, successfully eclectic material (from blues to folk to exotic to metal), and superior songwriting, it would have to be Led Zeppelin. No other band comes close in defining the classic rock era.

Figure 6-9 is a riff based on the Led Zeppelin sound — massively heavy, tinged with blues, and with a dash of the exotic thrown in.

Track 50



Figure 6-9:
A heavy
low-note
riff, followed
by a blues-
based
solo riff.



Book III
Rock
Guitar

Carlos Santana

Mexican-born Carlos Santana rose to prominence in the early 1970s, leading a big band that played Latin rock, but with a guitar sound so lyrical, so big, so mature, he became an unavoidable and irresistible influence for any other guitarist who heard him. Santana was equally at home playing in a flashy, virtuosic style as he was in a slower, more soulful one, but it was his thick, creamy, blues-based sound that most people associate him with. His minor-key lines were especially achingly expressive. Through his hits “Evil Ways” (1970), “Black Magic Woman” (1970), and “Oye Como Va” (1971, written by Latin percussion great Tito Puente), Santana established himself as a true guitar hero along the lines of Clapton and Page.

Figure 6-10 is a lyrical, melodic line played over a Latin-rock-flavored beat. The progression here outlines the Dorian mode, which is like the minor scale but with a raised 6th degree. The quarter-note triplets (which are twice as long as eighth-note triplets, or three for every two beats) help lend an expressive, lyrical quality to the line.

Figure 6-10:
A minor-key,
Latin-flavored
lead line.

Stevie Ray Vaughan

Although primarily considered a blues guitarist and coming later than classic rock's acknowledged heyday, the brilliant Stevie Ray Vaughan simply demands inclusion in any discussion about rock, because he played with as much exuberance and abandon as any rock player since Hendrix. He revived the dying blues movement in the early 1980s, after, improbably, getting his professional start as a sideman with the godfather of glam, David Bowie. He was profoundly influenced by Jimi Hendrix and often performed Hendrix's famed ballad "Little Wing." Vaughan was an inspiration to fellow-Texan and guitar great Eric Johnson, as well as any rock player who's ever heard him and tried to fuse together the already-close sensibilities of electric blues and rock. He fronted his own band, playing inspired rhythm as well as lead, and was at the height of his career before his death in a helicopter crash in 1990.

Figure 6-11 is a rhythm riff in the style of Stevie Ray Vaughan that features a hard-swinging rhythm part punctuated with short single-note phrases, followed by an aggressive lead phrase. The key here is to dig in on the notes, with both the right and left hands, especially on the lead parts. Part of what gave Vaughan his sound was that he strung his guitar with heavy-gauge

strings. This produced a big, fat tone, to be sure, but required him to really attack the guitar aggressively to subordinate the string tension that fought him, especially when bending strings. But you could see in his performances that he enjoyed working hard at it, that he loved the struggle.

Track 51

Triplet feel (♩ = $\overset{\sim}{\underset{\sim}{\text{J}}} \overset{\sim}{\underset{\sim}{\text{J}}} \overset{\sim}{\underset{\sim}{\text{J}}}$)

Cm7

*Thumb on 6th string

Figure 6-11:

A rhythm figure and lead passage in the style of Stevie Ray Vaughan.

Ab9 G9

Book III

Rock
Guitar

U2's *The Edge*

Hailing from Dublin, Ireland, U2 is one of the world's biggest bands, packing stadiums and creating multi-platinum-selling albums such as *War*, *Unforgettable Fire*, *The Joshua Tree*, *Rattle and Hum*, *Achtung Baby*, and *Zooropa*. The band won two Grammy Awards in 1987, including Album of the Year (*The Joshua Tree*). The band's success continues with their most recent Grammy Awards for *How to Dismantle an Atomic Bomb*, released in 2004.

U2's guitarist David Evans, known as The Edge, is a strikingly original player whose style is difficult to categorize. He is the master of treating the guitar as an ensemble instrument and a leader in the group of expert effects users and minimalists that includes Brian May of Queen, Andy Summers of the Police,

and Robert Fripp of King Crimson. He uses signal processors and effects to high art, and it's often hard to tell that what you're listening to is even a guitar. He regards the guitar as a tool for creating texture rather than just as a weapon to pound out chords or a device for taking the obligatory single-line solo. The Edge was a lightning bolt of creative inspiration to rock, making the guitar important again in ways no one imagined.

Figure 6-12 is a rhythm figure in the style of The Edge, using some of his hallmarks: an arpeggiated treatment of an exotic chord progression, a deftly placed harmonic, and a reliance of outboard effects to achieve a rich, textured approach to rhythm-track layering.

Track 52

Bm(add4) Asus4 G6

Figure 6-12:
An arpeggiated rhythm figure in the style of U2's The Edge.

let ring w/delay & chorus

Harm. ---|



Let the arpeggios ring out as long as possible and play exactly in rhythm so the delay repeats stay in sync with the played notes. Work to make the final harmonic speak out among the normally picked notes.

Tony Iommi

Led Zeppelin may have been the driving force behind 1970s heavy metal, but none would dispute Black Sabbath's place in the grand metal pantheon. The members of Sabbath distilled a grim view of reality and turned it into something darker and more sinister sounding than anything Jimmy Page ever came up with. Fronting Black Sabbath was the twin force of vocalist Ozzy Osbourne and guitarist Tony Iommi. Although Ozzy was barely a singer in technical terms, he proved a devastatingly effective and charismatic frontman. Iommi, who could turn the basic power chord into a towering wall of doom and gloom, was a surprisingly nimble soloist — especially for a guy missing parts of some fingers. (Remember that when you're whining about fingering!)

Iommi's combination of distorted, two-note power chords and fast pentatonic-based solos (on a Gibson SG) helped carve out the sound of early metal. Iommi uses this signature approach on such classic Sabbath tracks as "Paranoid," "War Pigs," "N.I.B.," and the FM radio staple "Iron Man."

In all, Black Sabbath was a group that played a brand of rock 'n' roll that was grimy, violent, and full of darkness. As such, you can see why contemporary thrash acts such as Metallica and Megadeth preferred the killer riffs of Sabbath over the polished guitar licks of Led Zeppelin. Figure 6-13 shows a power-chord riff that is very much in the style of Iommi — simple, heavy, and menacing. Amazingly, Tony himself is a very sweet-natured, charming man in person. Just goes to show that you can't judge a metalhead by his riffs.

Figure 6-13:
Dark, menacing heavy metal power chords.

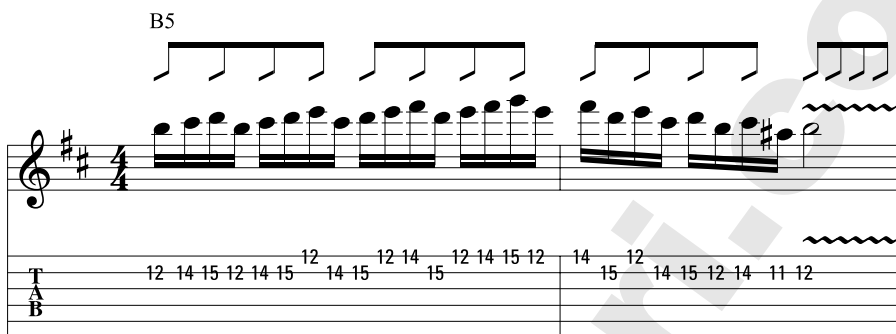
Measure	Chord	Fret
Measure 1	B5	4
	D5	7
	F5	10
	E5	9
Measure 2	B5	4
	D5	7
	A5	7
	B5	9

Ritchie Blackmore

Deep Purple was another top metal band of the 1970s, inspiring everyone from Judas Priest to Yngwie Malmsteen. Purple guitarist Ritchie Blackmore is very influential, being the first major player to meld a heavy guitar tone with classical technique and harmony. He also follows Jimi Hendrix's example and uses a Stratocaster through Marshalls (most early metal players preferred a solid body with humbuckers, such as a Gibson Les Paul). Deep Purple's most celebrated song is "Smoke on the Water," a 1972 hit with dead-simple riffs and slippery Blackmore solos. Other tracks — such as "Strange Kind of Woman," "Mistreated," "Woman from Tokyo," and "Burn" — also display Blackmore's fast hammer-on runs, violent vibrato bar, and melodic phrasing.

One of the best examples of his classical side is on "Highway Star" (from *Machine Head*). Here, Blackmore weaves quickly picked intervals based on Bach into his lead. The lick in Figure 6-14 offers a simplified Baroque-era-influenced phrase in the Blackmore tradition. Try it slowly at first and then bring it up to speed.

Figure 6-14:
Rock and
Baroque
music
blended into
a formidable
whole.



Eddie Van Halen

Rock guitar was getting pretty stale and boring in the late 1970s, with most rock guitarists relying on the same pentatonic-blues scales for their solos that Clapton, Beck, Page, and Hendrix had introduced a decade earlier. Then came Eddie Van Halen. Fronting his band of the same name, Eddie Van Halen strapped on a homemade Strat-style electric and blasted out solos of fluid hammer-ons, crazed whammy bar dives, and a wacky two-handed striking technique.

Perhaps the most obvious Van Halen trademark is the two-handed tap (where notes are sounded using the right-hand fingertips to slam the string onto the fretboard, rather than brushing the strings). A right-hand tap is always followed by a right-hand pull-off, either to a fretted or an open string. Then a left-hand finger hammers and pulls off as well. This produces a strikingly fluid sound and enables the guitarist to play wider intervals than possible with conventional left-hand technique.

Figure 6-15 is an example of right-hand tapping technique over an eight-bar, classically constructed chord progression. The taps arpeggiate the chords in a smooth and fluid manner that conventional techniques can't emulate.

Track 53

Figure 6-15: Two-handed tapping lick in the classic Van Halen style.

Book III

Rock
Guitar

Angus Young

During the 1980s, when speed and virtuoso technique dominated most rock guitarists' styles, the Australian band AC/DC rocked the globe with clean power chords, economical rhythm arrangements, and aggressive, blues-based solos. With his brother Malcolm playing kick-ass power chords, Angus Young relies on slow solos and Chuck Berry-style double-stops in solos to hard-rocking anthems such as "You Shook Me All Night Long," "Highway to Hell," and "Shoot to Thrill." The key to emulating Angus's solos is not to listen to other metal players, but instead blues guitarists such as B.B. King, Eric Clapton, or Stevie Ray Vaughan and bend the strings with soul.

Figure 6-16 shows a simple, bluesy lick in the style of Angus Young. Here again, the emphasis is on feel over speed.

Figure 6-16:
Straight-ahead blues-rock.

The figure displays a musical score for a guitar solo. The top staff is in G major (one sharp) and 4/4 time. It features a melody with the following chords indicated above: A, D/F#, G5, D/F#, and G5. The bottom staff shows the guitar solo with string bends and fret numbers. The solo starts on the 13th fret, bends up a half step (1/2) to the 14th fret, then back down to the 13th fret. This pattern repeats. The solo ends with a wavy line indicating a bend, followed by the fret numbers 10, 8, 5, 8, 5, 7, and 5.

David Gilmour

If Pink Floyd is the ultimate “space rock” band, then David Gilmour is its pilot. While other progressive rock players exude strange and exotic influences in their solos, Gilmour is on the traditional side, more of a bluesy guitarist in the mold of Eric Clapton than a sonic revolutionary. Nevertheless, his haunting solos help define the Floyd sound as much as the obscure lyrics and ethereal synthesizers.

Listen to “Time” (from the mega-platinum *Dark Side of the Moon*), where Gilmour cuts an echoey lead laced with string bends. “Shine On You Crazy Diamond” (from 1975’s *Wish You Were Here*) includes a series of soulful solos over a basic minor-blues backbeat. His best-known break, however, is in the power ballad from *The Wall*, “Comfortably Numb.” Technically, it’s a basic blues-rock solo, but one that’s elevated to operatic proportions due to a highly dramatic chord progression. In Figure 6-17, the secret to success is that it’s in a “space rock” context, however — not a conventional blues one. Imagine B.B. King jamming with Yanni and you’ll get the picture.

Track 55

Em(add9) Rhy. Fig. 1 Em Em(add9) Em

Cmaj7(#11) Cmaj7 Cmaj7(#11) Cmaj7 End Rhy. Fig. 1

w/Rhy. Fig. 1 Em(add9) Em Em(add9) Em 8va -----

Cmaj7(#11) Cmaj7 Cmaj7(#11) Cmaj7

Figure 6-17:
A bluesy
lick placed
within a
progressive
format.

Alex Lifeson

A powerhouse player, Alex Lifeson remains among the most innovative rock guitarists of the last three decades. His work with the Canadian power trio Rush is marked by blazing melodic solos, shimmering rhythm parts, and a frequent use of chorus and echo. Some of his best electric solos are in tracks such as “La Villa Strangiato,” a complex instrumental, and “Limelight,” which includes tasteful tremolo bar effects and a strong sense of melody.

In addition to his fiery lead work, Lifeson is also a skilled rhythm guitarist and makes extensive use of chorus effects in his arpeggiated chord progressions. He is equally at home with electric, acoustic, or classical guitars. A veritable jack-of-all-guitar-trades, Lifeson often pushes the envelope of rock guitar — and licks and stamps it, too.

Figure 6-18 concentrates on Lifeson’s unique chord parts. Instead of block barre chords, Lifeson often lets the upper E and B strings ring open, making his 6-string guitars sound like 12-strings. Add a chorus pedal to heighten the effect.

The figure displays two musical examples of "airy" electric chords. The first example features a melodic line in treble clef with a 6/8 time signature. Below it, a guitar staff shows fret numbers: 4, 0, 0, 0, 4. The instruction "let ring" is written below the staff. Above the staff, the chords are labeled "Eadd2/G#" and "Esus2". The second example shows a similar melodic line. Below it, a guitar staff shows fret numbers: 4, 4, 0, 0, 4, and a 2-finger barre at the bottom. Above the staff, the chords are labeled "1., 2., 3. F#7sus4" and "4. F#7add4".

Figure 6-18: Airy electric chords that use ringing open strings and a full strumming technique.