

IN THIS CHAPTER

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

Chapter **1**

It's Only Rock Guitar . . . But I Like It

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 was not 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, even in their worst nightmares. (So 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 modern, late-20th-century invention, a phenomenon of the electronic and post-electronic age. It has no memory of a bygone era when youth was respectful of elders, music was a polite pursuit, and musicians gave a rusty E string about social acceptance. Forget all that!

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 oboe. But if you want to set the world on fire, attract throngs of 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 darn thing.

Differentiating Between Rock and Acoustic Guitar — It's Not Just Volume

When you see someone flailing away on rock guitar — on TV, in a film, or at a live concert — be aware that what you're seeing tells 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* coming from that guitar.

It was the *sound* of the electric guitar, so different from that of its predecessor, the acoustic guitar, and 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 adopt 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, rock is listened to at high volumes — its message tastes better served up loud — but volume is a by-product, an after-effect, not what makes rock different or what drives it.



PLAY THIS

To become familiar with the qualities of the electric guitar, try this simple test. Listen to Audio Track 60 of the audio files that accompany this book (found at www.dummies.com/go/rockguitarfd2e). As you listen, turn the volume down so that it's quiet, very quiet — quieter than you'd normally listen to music, rock or otherwise. You'll hear that the guitar sounds, well, just different. In fact, if you

have to strain a little bit to make out that what you're hearing is a guitar at all, you'll be aware that the *tone* (the quality, or character of the sound, independent of its pitch and volume), in spite of the low volume, doesn't sound like the guitar that your camp counselors strummed around the campfire when they led you in a rousing chorus of "She'll Be Comin' Around the Mountain" or "Oh Susannah."

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

Sound quality, or timbre

When guitarists "electrified" to 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* — so called because it "picked up" the sound of the vibrating strings — under the guitar's strings. (You can find out more about pickups and their function throughout this chapter.) Players quickly found, however, that, unlike a microphone, a pickup didn't just make the sound louder, it *changed* the tone too. But 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" (slang for microphone) are as follows:

- » The sound is smoother and less woody.
- » The sound is more electronic, with purer-sounding tones, like those of an organ.
- » The sound has a less defined life cycle, 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.

The following sections further explore how electrifying the instrument affected its sound — to the eventual benefit of rock guitarists.

Signal

When progressive-minded guitarists of the '30s and '40s first put electromagnetic 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 a little bit (an improvement over nylon strings), but it still wasn't enough. Placing a microphone 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, someone 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, an electrically conductive magnetic metal — the sound of the strings traveled electronically through the pickup, down the attached wire, into an amplifier, and then out of a speaker.



The sound of an electric guitar originates in the electronic domain, hence the term *signal*. The signal is the electronic impulse the electric guitar makes that travels down the line (or signal path) to the amplifier and out the speaker, where the signal then becomes an audible sound.

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

Distortion and sustain

When the six-string Dr. Franksteins 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 electric 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* (altered, impure qualities) 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 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 beneficial musical 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. A louder guitar wasn’t just louder; it had a different, *better* tonal quality than a guitar coming out of the same apparatus but at a lower volume.

This *timbre* (a fancy 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.

I must note that plenty of acoustic guitarists at that time were playing melody, notably Django Reinhardt. Reinhardt even bent strings (see Chapter 9), something that would become the province of electric guitarists everywhere but is generally shunned by classic 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 and ’40s), he is worshipped by electric guitarists everywhere — from blues to jazz to rock — for being an incredible visionary for realizing 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 (and not just volume) 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.

Listening to some classic electric guitar examples



LISTEN TO

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 rock 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 short measures. Listen to the first note, which seems to hang in mid-air and *sing* — as if powered by its own set of lungs. 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.



LISTEN TO

Another well-known example is the guitar solo section of the Eagles' "Hotel California," played by Don Felder and Joe Walsh. This solo is given plenty of room to breathe by the accompaniment. The gliding quality you hear at the end of Felder'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 singing quality, broken down to its component attributes, has a smooth sound (timbre); a reedy, fuzzy quality that does not resemble the plucked sound of the acoustic guitar (distortion); and an elongated, non-decaying volume and intensity (sustain).

These examples are both in the melodic vein. Things really got weird when guitarists started abandoning melody altogether and chose to exploit timbre, distortion, and sustain for their own purpose. Jimi Hendrix was one of those who took distortion and sustain to the *n*th degree, but I get to him in Chapter 11.

Knowing the Essentials: The Power Trio

All right, the preceding 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 (technically a signal) via an attached wire to an amp and 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, you can’t 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 more noise than if the pickups were absent completely.

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 they are 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 wire, or cord, 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). Effects perform their own magic on the signal.

Following are graphic illustrations and descriptions of the three essential components in rock guitar playing: the electric guitar, the amplifier, and electronic effects devices.

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 a “regular,” or acoustic, guitar, an electric guitar 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*. 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.

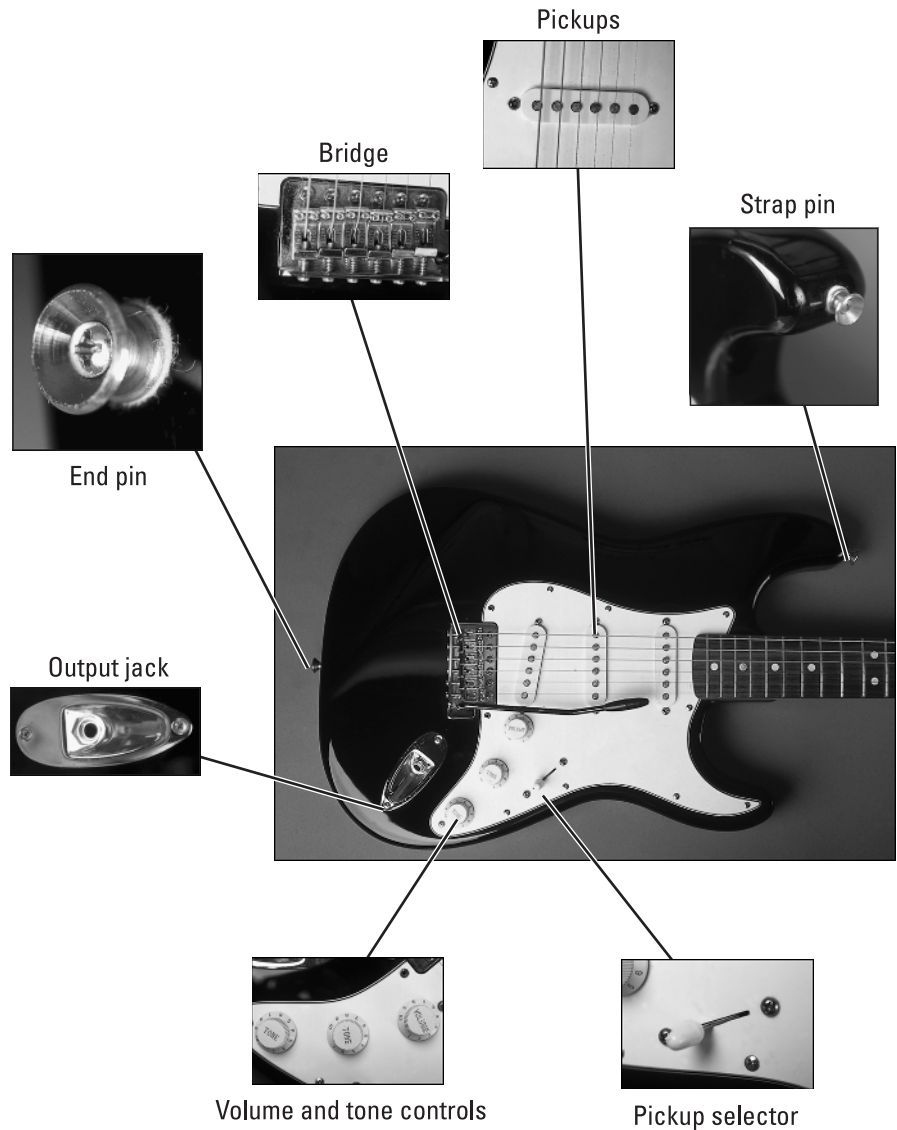


FIGURE 1-1:
A typical electric guitar with its major parts labeled.

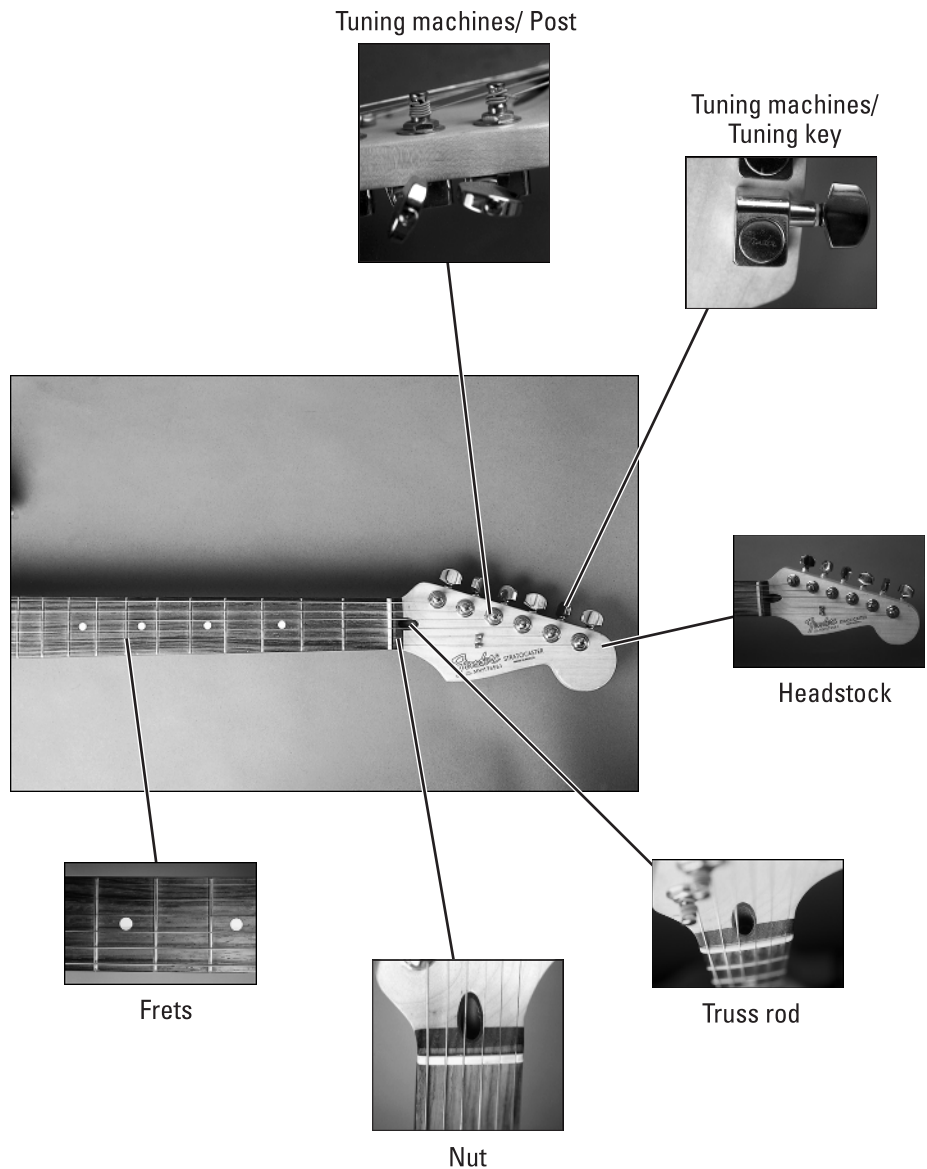


FIGURE 1-1:
(continued)

The following list tells you the functions of the various parts of the electric guitar:

- » **Bar:** A metal rod or arm attached to the bridge that varies the string tension by tilting the bridge back and forth. It is 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.
- » **Fret(s):** This term can be defined in any of the following ways:
 - Thin metal wires or bars running perpendicular to the strings that shorten the effective vibrating length of a string, enabling it to produce different pitches.
 - A verb describing the action of pressing the strings to the fretboard.
 - A verb describing a guitarist's anxiety, as in, "He frets because he thinks he'll have to replace the frets of his fingerboard so that it frets correctly."
- » **Headstock:** The section that holds the tuning machines and provides a place for the manufacturer to display its logo.
- » **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 bone, plastic, or other synthetic substance that stops the strings from vibrating beyond the neck. The strings pass through the nut 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, socket, or jack, for the cord that connects the guitar to the amplifier or other electronic device. You may 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 the signal out of the guitar.
- » **Pickup selector:** A switch that determines which pickup or pickups are currently active.
- » **Pickups:** Barlike magnets that create the electrical current that the amplifier converts into musical sound.
- » **Strap pin:** 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 SG) 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 sometimes a cosmetic or decorative cap that overlays the rest of the body material.
- » **Truss rod:** 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 it connects to a tuning machine.
- » **Volume and tone controls:** Knobs that vary 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 might 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 internet forums devoted to their cause) are devoted to assessing, proselytizing, and otherwise pondering the mysteries and myths of the perfect guitar amplifier. (See Chapter 3 for more details 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-and-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 the guitar amplifier:

- » **Cabinet:** The box that houses the speaker and electronic components. It is typically made of plywood or pressure-treated wood and encased in a durable protective covering.

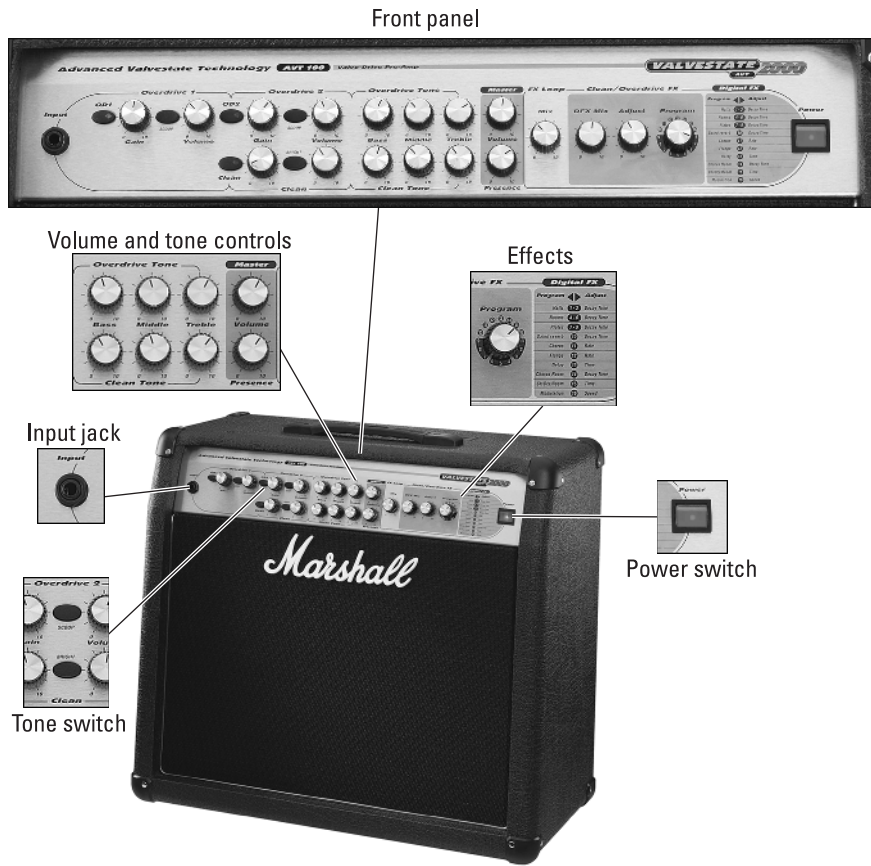


FIGURE 1-2:
A typical guitar amp with its major parts labeled.

- » **Effects:** Many modern amps also include onboard digital signal processing, such as reverb, delay, chorus, and flanger.
- » **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 the toe of 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.

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 cellphone to a small furnace. The size and range of most effects, though, fall between a bar of soap and a toaster. (See Chapter 15 for more details on plugging into effects.) Figure 1-3 shows four of the most common electronic effects used by rock guitarists.

FIGURE 1-3:
Four common
electronic effects
used by guitarists
(left to right):
digital delay,
chorus,
distortion,
wah-wah.



The following list describes the functions of four effects commonly used by guitarists:

- » **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).
- » **Distortion:** Simulates the sound of an amp that's played too loud to handle a signal cleanly. Distortion devices are used for their convenience, so that the guitarist doesn't have to constantly adjust the amp controls to get a distorted sound.
- » **Chorus:** Creates a thick, swirly effect by simulating the sound of two or more guitars playing in tandem, but not quite with the exact tuning or timing.
- » **Digital delay:** Creates an echo by digitally recording the signal and playing it back at adjustable times after the principal signal has sounded.

Getting a Grasp on How Electric Guitars Work

Recognizing the different parts of the guitar is important, but knowing what makes an electric guitar work as a whole is essential to differentiate it from, say, a bassoon, accordion, or kazoo. Not that there's anything *wrong* with those instruments, but try doing a windmill (a showy strumming technique where you extend your right arm out and move it in a circular motion, striking the guitar strings once a cycle — Pete Townshend is the windmill's most famous practitioner) with a bassoon, and they'll cart you away quicker than your friends can ask the musical question, "Why is the bassoonist having a fit?"

String vibration and pitch

An electric guitar is a string, or stringed, instrument that creates musical sound through a vibrating string. Each string can produce a variety of different notes, but only one at a time. If you want to play two or more notes simultaneously, you must play them on different strings and strike them simultaneously. Because a standard electric guitar has six strings, it can play up to six simultaneous notes, but no more. (Consequently, we guitarists more than make up for this "limitation" by playing extremely *loud*.)

If you tighten a given length of string to a particular tension and then set it in motion (harpists by *plucking*, pianists by *striking*, violinists by *bowing*), the string will vibrate back and forth at a regular rate. This vibration produces a steady tone that we call *pitch*. The pitch remains the same as long as the string vibrates. As the string's vibrations lose power, or intensity, over time, the note gets quieter, but its pitch doesn't change.

Tension versus length

Two properties determine a string's pitch: tension and length. Therefore, you can change a string's pitch in one of two ways: by changing its tension (which you do when tuning or bending) or by changing its length (which you do when fretting — by changing the length of string allowed to vibrate). You must change pitch to play different notes, whether in a scale, a melody, or a chord progression.

You couldn't do very much with a guitar, however, if the only way to change pitches was to frantically adjust the tension every time you pluck a string. You'd end up looking like the musical equivalent of the circus performer who spins those plates on a stick. So guitarists resort to the other way to change a string's pitch — fretting.

And that's why we have all this fretting about fretting: *Fretting* is the way guitarists change notes on the electric guitar. Without left-hand fretting (see Chapter 2) we could strike the guitar and make a lot of noise, but all the notes would sound the same — worse even than a speech by a boring politician.

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, 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 be to be in tune) have different tensions. The Strat, because it has the longer string length, 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 slightly wider spaces between frets in the Strat; and looser, or spongier, string response and narrower spaces between frets in the Les Paul.

But before you attempt to draw any conclusions, these descriptions are not value judgments; they do not indicate whether one aspect is good or bad versus the other, and they sure as heck do not carry any endorsement by the author! Also, the differences in feel are rather small, even if they are perceptible in sensitive and experienced hands.

These qualities merely describe — hopefully without introducing bias or preference — the physical differences between the feel and playability of the different string tensions. Which one you prefer is just that — your preference. Most professional rock guitarists don't even have an absolute, one-choice-fits-all guitar. Instead, they select guitars based on the type of music they want to play and have many different guitars at their disposal to handle a variety of musical styles.

Your hands

Guitar playing requires you to use two hands working together but performing different actions. This is different from playing, say, the piano or saxophone, where both hands perform the same type of action (striking keys and pressing keys, respectively). Guitar playing has the left hand (see Chapter 4) selecting which notes to sound (by pressing down the strings against frets) and the right hand (see Chapter 5) sounding those notes by striking (or plucking) the strings. And for you lefties, the ones who reverse the strings to play, please understand that I use “left” and “right” for the hand that frets and the hand that picks,

respectively. It's not that I'm prejudiced against lefties, it's just that guitar convention dictates using "left" and "right" rather than "fretting" and "picking." Hey, some of my best friends are southpaws (though as a right-hander, I've always resented that they're a full stride closer to first base when batting).

At first, this may seem like the musical equivalent of rubbing your stomach and patting your head, but after a while, performing two different actions to produce one sound becomes second nature, and you don't even have to think about it — like walking and chewing gum. And if you can't do *that*, maybe you should think about running for president instead of playing rock guitar.

Pickups and amplification

Vibrating strings produce the different tones on a guitar. You must be able to hear those tones, however, or you face one of those if-a-tree-falls-in-a-forest questions. For an acoustic guitar, hearing it is no problem because it provides its own amplifier in the form of the hollow sound chamber that boosts its sound . . . well, acoustically.

An electric guitar, on the other hand, makes virtually no acoustic sound at all. (Well, it makes a tiny bit, like a buzzing mosquito, but nowhere near enough to fill a stadium or anger your next-door neighbors.) An electric instrument creates its tones entirely through electronic means. The vibrating string is still the source of the sound, but a hollow wood chamber isn't what makes those vibrations audible. Instead, the vibrations disturb, or modulate, the magnetic field that the pickups — wire-wrapped magnets positioned underneath the strings — produce. As the vibrations of the strings modulate the pickup's magnetic field, the pickup produces a tiny electric current. This current becomes music as it's processed and output through your gear.



TECHNICAL
STUFF

If you remember from eighth-grade science, wrapping wire around a magnet creates a small current in the wire. If you then take any magnetic substance and disturb the magnetic field around that wire, you create fluctuations in the current itself. A taut steel string vibrating at the rate of 440 times per second creates a current that itself fluctuates 440 times per second. Pass that current through an amplifier and then a speaker and you hear the musical tone A. More specifically, you hear the A above middle C, which is the standard absolute tuning reference in modern music — from the New York Philharmonic to the Rolling Stones to Metallica (although I've heard that Metallica uses a tuning reference of 666 — just kidding, Metallica fans!). For more on tuning, see Chapter 2.

Accessorizing Your Guitar

Even though I've covered the crucial components in the rock guitar arsenal, the accessories don't stop there. 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.

FIGURE 1-4:
A gaggle of guitar gadgetry (clockwise, from top left): picks, strap, cord, electronic tuner, batteries, capo, slide, extra strings, peg winder, wire cutters.



The following sections give you the lowdown on a few of the accessories that go with the well-heeled rock guitarist.

Picks

An optional item for some acoustic guitarists, a pick is a requirement for most rock guitarists. Sometimes referred to as 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 thicknesses (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. (See Chapter 2 for more on how to hold the guitar.) Most people who are interested in playing rock guitar, however, want to stand for at least some of that time (especially if they plan to perform). 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 can certainly 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 for television.

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 — 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 cables; three effects, four cables, 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 indeed; a bad cable can silence you as quickly as a broken guitar neck or blown speaker.

Tuners

Not to be confused with tuning machines — the gizmos on your headstock that mechanically tighten and loosen your strings — a tuner of the electronic variety is a device that helps you to tune your instruments to the correct pitch. It won't turn the pegs for you (unless you have a guitar with “robotic tuners,” such as certain models by Gibson), but its display tells you when a string is flat or sharp with much more accuracy than your ear can — even if you have perfect pitch. (Chapter 2 deals a whole lot with how to use tuners.) And what's the definition of perfect pitch, you ask? Why, it's when you can toss a banjo into a dumpster without hitting the sides! (I hear you groan.)